ADUSUMILLI GOPALAKRISHNAIAH & SUGAR CANE GROWERS SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU-521165, KRISHNA Dt., A.P. (AUTONOMOUS)

DEPARTMENT OF COMPUTER SCIENCE

2018-2019

BOARD OF STUDIES

Minutes of Meeting

11-04-2018

Minutes of the meeting of Board of Studies in Computer Science for I B.Sc.(MPCs, MCCs), B.Com.(C.A.) and Foundation Course of AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru, held at 10.30 A.M on 11-04-2018 in the Department of Computer Science.

Sri Ch. Mohan Babu ... Presiding

Members Present:

1)..... (Ch. Mohan Babu)	Chairman	Head, Department of Computer Science AG & SG Siddhartha Degree College of Arts & Science Vuyyuru-521165
2)..... (Prof. S. Pallam Setty)	University Nominee	Professor, Dept of Computer Science, Andhra University, Visakapatnam.
3)..... (P. L. Ramesh)	Academic Council Nominee	Head, Department of Computer Science, K.B. N. College Vijayawada.
4)..... (K. Sridhar)	Academic Council Nominee	Head, Department of Computer Science, P.B. Siddhartha College of Arts & Science, Vijayawada.
5)..... (T.Naga Prasada Rao)	Member	Lecturer in Computer Science AG & SG Siddhartha Degree College of Arts & Science Vuyyuru-521165
6)..... (R. Sowjanya)	Member	Lecturer in Computer Science AG & SG Siddhartha Degree College of Arts & Science Vuyyuru-521165
7)..... (S. Devi Sushma)	Member	Lecturer in Computer Science AG & SG Siddhartha Degree College of Arts & Science Vuyyuru-521165
8)..... (V. Naga Malleswara Rao)	Member	Lecturer in Computer Science AG & SG Siddhartha Degree College of Arts & Science Vuyyuru-521165

Agenda for B.O.S Meeting.

1. To recommend syllabi for I and II Semesters of I year Degree B.Sc.(MPCs, MCCs.), B.Com (C.A.), II & III Semesters of II year B.Sc.(MCCs), B.Com.(C.A), & V & VI Semester of III year B.Com.(C.A) Courses under Choice Based Credit System With Effect From Academic Year 2018-19.

2. To recommend the Model Question Papers, Lab programs list and Blue print of I and II Semesters of I year Degree B.Sc.(MPCs, MCCs.),B.Com (C.A.) , II & III Semesters of II year B.Sc.(MCCs), II B.Com.(C.A), and V & VI Semester of III year B.Com.(C.A) Courses under Choice Based Credit System With Effect From Academic Year 2018-19.

3. To recommend the Guidelines to be followed by the question paper setters in Computer Science for I and II Semesters of I year Degree B.Sc.(MPCs, MCCs.), B.Com (C.A.), II & III Semesters of II year B.Sc.(MCCs), B.Com(C.A) V & VI Semester of III year B.Com.(C.A) Courses under Choice Based Credit System With Effect From Academic Year 2018-19.

4. To recommend any changes in the syllabi for I, II,III,IV,V& VI Semesters of I,II.III year Degree B.Sc.(MPCs) and B.Com.(C.A.).

5. To recommend any changes in the syllabi for I, II, III ,IV,V& VI Semesters of I ,II .III Degree B.Sc.(MPCs) and B.Com.(C.A.)

6. To recommend the teaching and evaluation methods to be followed under Autonomous status.

7. To recommend the certificate courses for all Computer Science and Non-Computer Science studentsAny suggestions regarding seminars, workshops, Guest lecturers to be organized.

8. To recommend the panel of paper setters and examiners to the controller of the examinations of autonomous courses of AG&SG Siddhartha Degree College of Arts & Science College, Vuyyuru.

9. To recommend the syllabus for III & IV semester of B.Sc MCCS

Resolutions

1) Discussed and recommended as per the APSCHE guidelines and their instructions it is resolved to implement syllabi for V and VI Semesters of III Year Degree B.Sc. (MPCs), B.Com. (C.A.) Courses under Choice Based Credit System with Effect From Academic Year 2017-18.

2) **To recommend New course in Semester V with Course Code "COM-CSC-507" and Paper Title "Web Technologies" for B.COM(C.A)**

3) Discussed and recommended as per the APSCHE guidelines and their instructions it is resolved to implement Model Question Papers, Lab Programs List and blue print for V and VI Semesters of III Year Degree B.Sc. (MPCs), B.Com. (C.A.) Courses under Choice Based Credit System with Effect from Academic Year 2017-18.

4) Discussed and recommended the guidelines to be followed by Question Paper Setters in Computer Science for V and VI Semesters of III Year Degree B.Sc. (MPCs), B.Com.(C.A.) Courses under Choice Based Credit System With Effect From Academic Year 2017-18.

5) Discussed and recommended the same syllabi without changes for I, II, III and IV Semesters of I &II Year Degree B.Sc. (MPCs), B.Com (C.A.) and Foundation Course for All Degree Courses under Choice Based Credit System with Effect from Academic Year 2017-18.

6) To recommend syllabi for V and VI Semesters of II year Degree B.Sc.(MPCS), B.Com (C.A.) Courses under Choice Based Credit System With Effect From Academic Year 2016-17

7) Discussed and recommended the teaching and evaluation methods for approval of Academic Council.

8) Discussed and recommended for organizing Seminars, Guest lectures, Work-shops to upgrade the knowledge of students, for the approval of the Academic Council. Discussed and recommended to conduct certificate courses for Computer Science and Non-Computer Science students separately.

9) **Discussed and Recommend to introduce Value Added Course in "COMPILER DESIGN " with Course Code "CDVAC101" for II MPC'S.**

10) It is resolved to introduce new program B.Sc MCCS from the Academic year 2017-18.The papers for I & II semester are the same as MPCS.

11) Resolved to introduce new syllabus in CSC-602CE, CSC-603CE in VI semester

Chairman

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COMPUTER SCIENCE	**CSC-101C**	**2018-19**	**B.Sc.(MPCs, MCCs.)**

SEMESTER – I PAPER – I Max. Marks 70Pass Marks 28Total Hrs 60

Syllabus: Computer Fundamentals & Photoshop NO. Of. Hours: 4 Credits:3

UNIT-I: 12Hrs

Introduction to computers,characteristics and limitations of computer, Block diagram of computer, types of computers, uses of computers, computer generations. Number systems: binary, hexa and octal numbering system.

UNIT-II: 12Hrs

Input and output devices: Keyboard and mouse, inputting data in other ways, Types ofSoftware: system software, Application software, commercial, open source, domain and freeware software, Memories: primary, secondary and cache memory. Windows basics: desktop, start menu, icons.

Unit –III: 15Hrs

Introduction to Adobe Photoshop, Getting started with Photoshop, creating and saving a document in Photoshop, page layout and back ground, Photoshop program window-title bar, menu bar ,option bar ,image window ,image title bar ,status bar, ruler ,paletts, tool box ,screen modes ,saving files ,reverting files ,closing files.

Unit –IV: 10Hrs

Images: working with images, image size and resolution, image editing, colour modes and adjustments, Zooming & Panning an Image, Rulers, Guides & Grids- Cropping & Straightening an Image, image backgrounds, making selections.

Working with tool box: working with pen tool, save and load selection-working with erasers-working with text and brushes-Colour manipulations: colour modes- Levels Curves - Seeing Colour accurately - Patch tool – Cropping-Reading your palettes - Dust and scratches- Advanced Retouching- smoothing skin.

Unit-V: 11Hrs

Layers: Working with layers- layer styles- opacity-adjustment layers

Filters: The filter menu, Working with filters- Editing your photo shoot, presentation –how to create adds , artstic filter, blur filter, brush store filter, distort filters, noice filters, pixelate filters, light effects, difference clouds, sharpen filters, printing.

Reference Books:

1. Fundamentals of Computers by Reema Thareja from Oxford University Press
2. Adobe Photoshop Class Room in a Book by Adobe Creative Team.
3. Photoshop: Beginner's Guide for Photoshop - Digital Photography, Photo Editing, Colour Grading & Graphic...19 February 2016 by David Maxwell

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COMPUTER SCIENCE	**CSC-101C**	**2018-19**	**B.Sc.(MPCs, MCCs.)**

SEMESTER – I PAPER – I Max. Marks 70 Pass Marks 28

Model Paper **Computer Fundamentals & Photoshop** **NO Of Hours: 4 Credits: 3**

Section- A

Answer FOUR Questions. Each Question carries FIVE Marks. 4*5=20M

1. Explain Characteristics and limitations of Computer?
2. Explain desktop, start menu, icons?
3. Describe Cache Memory?
4. Explain saving, retrieving and closing files in Photoshop?
5. Write a short note on Pen tool?
6. Explain working with Layers?

Section- B

Answer FIVE the Questions. Each Question carries TEN Marks. 5*10=50M

7. Explain Block Diagram of Computer?
8. Explain Types of Computers?
9. Explain about Input Devices?
10. Explain about Computer Memory?
11. Explain title-bar, menu-bar, option- bar and image window in Photoshop?
12. Explain Rulers, Guide and Grid-Cropping options for an Image?
13. Explain Colour modes – Levels and Curves?
14. Explain different Filters Photoshop?

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COMPUTER SCIENCE	CSC-101	2018-'19	B.Sc.(MPCs., MCCs.)

SEMESTER – I PAPER – I Max. Marks 70

Guidelines for paper setting **'COMPUTER FUNDAMENTALS & PHOTOSHOP'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	**CSC-101P**	**2018-19**	**B.Sc.(MPCs, MCCs.)**

SEMESTER – I PAPER – I Max. Marks : 50 Pass Marks 25

No. of Hours per week: 2 External: 25 Internal: 25 Credits: 2

Lab List *Photo Shop Lab*

1. Create your Visiting card
2. Create Cover page for any text book
3. Create a Paper add for advertising of any commercial agency
4. Design a Passport photo
5. Create a Pamphlet for any program to be conducted by an organization
6. Create Broacher for you college
7. Create Titles for any forthcoming film
8. Custom shapes creation
9. Create a Web template for your college
10. Convert colour photo to black and white photo
11. Enhance and reduce the given Image size
12. Background changes
13. Design Box package cover
14. Design Texture and patterns
15. Filter effects & Eraser effects

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COMPUTER SCIENCE	**CSC-201C**	**2018-'19**	**B.Sc.(MPCs, MCCs.)**

SEMESTER – II PAPER – IIMax. Marks 70Pass Marks 28 Total Hrs: 60

SyllabusPROGRAMMING IN C NO. Of. Hours: 4Credits:3

UNIT- I **15Hrs**

Introduction to Algorithms and Programming Languages: Algorithm – Key features ofAlgorithms - Some more Algorithms – Flow Charts – Pseudo code – Programming Languages – Generation of Programming Languages – Structured Programming Language.

Introduction to C: Introduction – Structure of C Program – Writing the first C Program –File used in C Program – Compiling and Executing C Programs – Using Comments –Keywords – Identifiers – Basic Data Types in C – Variables – Constants – I/O Statements inC- Operators in C- Programming Examples – Type Conversion and Type Casting

UNIT- II **15Hrs**

Decision Control and Looping Statements: Introduction to Decision Control Statements –Conditional Branching Statements – Iterative Statements – Nested Loops – Break andContinue Statement – Goto Statement**Functions**: Introduction – using functions – Function declaration/ prototype – Functiondefinition – function call – return statement – Passing parameters – Scope of variables –Storage Classes Recursive functions – Type of recursion – Towers of Hanoi – Recursion vsIteration

UNIT -III **10Hrs**

Arrays: Introduction – Declaration of Arrays – Accessing elements of the Array – StoringValues in Array – Calculating the length of the Array – Operations on Array – onedimensional array for inter-function communication – Two dimensional Arrays –Operationson Two Dimensional Arrays - Two Dimensional Arrays for inter-function communication –Multidimensional Arrays – SparseMatrices**Strings:** Introduction –Suppressive Input – String Taxonomy – String Operations – Miscellaneous String and Character functions

UNIT- IV **10Hrs**

Pointers: Understanding Computer Memory – Introduction to Pointers – declaring PointerVariables – Pointer Expressions and Pointer Arithmetic – Null Pointers – Generic Pointers -Passing Arguments to Functions using Pointer – Pointer and Arrays – Passing Array toFunction – Difference between Array Name and Pointer – Pointers and Strings – Array ofpointers – Memory Allocation in C Programs – MemoryUsage – Dynamic Memory Allocation – Drawbacks of Pointers

Structure, Union, and Enumerated Data Types: Introduction – Nested Structures – Arraysof Structures – Structures and Functions – Self referential Structures – Union – Arrays ofUnions Variables – Unions inside Structures – Enumerated Data Types

UNIT -V **10Hrs**

Files: Introduction to Files – Using Files in C – Reading Data from Files – Writing Data from Files – Detecting the End-of-file – Error Handling during File Operations – AcceptingCommand Line Arguments – Functions for Selecting a Record Randomly - Remove() –Renaming a File – Creating a Temporary File

REFERENCE BOOKS

1. Introduction to C programming by REEMA THAREJA from OXFORD UNIVERSITY PRESS
2. E Balagurusamy: ―COMPUTING FUNDAMENTALS & C PROGRAMMING – Tata McGraw-Hill, Second Reprint 2008, ISBN 978-0-07-066909-3.
3. Ashok N Kamthane: Programming with ANSI and Turbo C, Pearson Edition Publ, 2002.
4. Henry Mullish & Huubert L.Cooper: The Spirit of C An Introduction to modern Programming, Jaico Pub. House,1996.

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COMPUTER SCIENCE	**CSC-201C**	**2018-'19**	**B.Sc.(MPCs, MCCs.)**

SEMESTER – II PAPER – II Max. Marks 70Pass Marks 28

SyllabusPROGRAMMING IN C NO. Of. Hours: 4Credits:3

Section- A

Answer FOUR Questions. Each Question carries FOUR Marks. 4*5=20M

1. Write a short note on Flowchart?
2. Explain about input and output Statements?
3. Explain storage classes?
4. Explain one dimensional array with example?
5. Explain dynamic memory allocation?
6. How to open a file?

Section- B

Answer FIVE the Questions. Each Question carries EIGHT Marks 5*10=50M

7. Explain different types of programming languages?
8. Explain about different Categories of Operators in 'C'?
9. Explain decision making Looping statements with examples?
10. Explain different categories of functions?
11. Write about two dimension arrays? Give an example program?
12. Explain briefly about string function in 'C'?
13. Difference between structures and unions?
14. Explain different file modes?

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COMPUTER SCIENCE	CSC-201c	2018-'19	B.Sc.(MPC's,MCCS)

SEMESTER – II PAPER – II Max. Marks 70

Guidelines for paper setting **'PROGRAMMING IN C'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	2
Unit-4	1	1
Unit -5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	**CSC-201P**	**2018-'19**	**B.Sc.(MPCs,MCCs.)**

SEMESTER – II PAPER – II Max. Marks 50 Pass Marks 25

LABLISTPROGRAMMING IN C

No. of Hours per week: 2 External: 25 Internal: 25 Credits: 2

1. Find out the given number is perfect number or not using c program.
2. Write a C program to check whether the given number is Armstrong or not.
3. Write a program to find roots of quadratic equation.

   Root 1 = (-b + sqrt (b^2 - 4ac) / 2a Root 2 = (-b - sqrt (b^2 - 4ac) / 2a
4. Write a C program to find the sum of individual digits of a positive integer.
5. Write a C program to print the Fibonacci series
6. Write a C program to generate the first n terms of the Fibonacci sequence.
7. Write a program to find factorial of a given number using recursion
8. Write a program to perform all arithmetic operations using switch case
9. Write a C program to generate all the prime numbers between 1 and n, where n is a Value supplied by the user.
10. Write a C program to find both the largest and smallest number in a list of integers.
11. Write a C program that uses functions to perform the following:
    a. Addition of Two Matrices
    b. Multiplication of Two Matrices
12. Write a program to perform various string operations
13. Write a program to swap two numbers using pointers.
14. Write C program that implements searching of given item in a given list
15. Write a C program to sort a given list of integers in ascending order

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COMPUTER SCIENCE	**CCSC-103C**	**2018-19**	**B.Com.(C.A)**

SEMESTER – I PAPER – I Max. Marks 70Pass Marks 28 Total Hrs 60

Syllabus:Computer Fundamentals & Photoshop NO. Of. Hours: 5Credits:3

UNIT-I: 12Hrs

Introduction to computers,characteristics and limitations of computer, Block diagram of computer, types of computers, uses of computers, computer generations. Number systems: binary, hexa and octal numbering system.

UNIT-II: 12Hrs

Input and output devices: Keyboard and mouse, inputting data in other ways, Types ofSoftware: system software, Application software, commercial, open source, domain and freeware software, Memories: primary, secondary and cache memory. Windows basics: desktop, start menu, icons.

Unit –III: 15Hrs

Introduction to Adobe Photoshop, Getting started with Photoshop, creating and saving a document in Photoshop, page layout and back ground, Photoshop program window-title bar, menu bar ,option bar ,image window ,image title bar ,status bar, ruler ,paletts, tool box ,screen modes ,saving files ,reverting files ,closing files.

Unit –IV: 10Hrs

Images: working with images, image size and resolution, image editing, colour modes and adjustments, Zooming & Panning an Image, Rulers, Guides & Grids- Cropping & Straightening an Image, image backgrounds, making selections.

Working with tool box: working with pen tool, save and load selection-working with erasers-working with text and brushes-Colour manipulations: colour modes- Levels Curves - Seeing Colour accurately - Patch tool – Cropping-Reading your palettes - Dust and scratches- Advanced Retouching- smoothing skin.

Unit-V: 11Hrs

Layers: Working with layers- layer styles- opacity-adjustment layers

Filters: The filter menu, Working with filters- Editing your photo shoot, presentation –how to create adds , artstic filter, blur filter, brush store filter, distort filters, noice filters, pixelate filters, light effects, difference clouds, sharpen filters, printing.

Reference Books:

1. Fundamentals of Computers by Reema Thareja from Oxford University Press
2. Adobe Photoshop Class Room in a Book by Adobe Creative Team.
3. Photoshop: Beginner's Guide for Photoshop - Digital Photography, Photo Editing, Colour Grading & Graphic...19 February 2016 by David Maxwell

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COMPUTER SCIENCE	**CCSC-103C**	**2018-'19**	**B.Com.(C.A)**

SEMESTER – I PAPER – I Max. Marks 70 Pass Marks 28

Model Paper **Computer Fundamentals & Photoshop** **NO Of Hours: 5 Credits: 3**

Section- A

Answer FOUR Questions. Each Question carries FIVE Marks. 4*5=20M

1. Explain Characteristics and limitations of Computer?
2. Explain desktop, start menu, icons?
3. Describe Cache Memory?
4. Explain saving, retrieving and closing files in Photoshop?
5. Write a short note on Pen tool?
6. Explain working with Layers?

Section- B

Answer FIVE the Questions. Each Question carries TEN Marks. 5*10=50M

7. Explain Block Diagram of Computer?
8. Explain Types of Computers?
9. Explain about Input Devices?
10. Explain about Computer Memory?
11. Explain title-bar, menu-bar, option- bar and image window in Photoshop?
12. Explain Rulers, Guide and Grid-Cropping options for an Image?
13. Explain Colour modes – Levels and Curves?
14. Explain different Filters Photoshop?

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COMPUTER SCIENCE	CCSC-103C	2018-'19	B.Com.(C.A)

SEMESTER – I PAPER – I Max. Marks 70

Guidelines for paper setting '**COMPUTER FUNDAMENTALS & PHOTOSHOP'**

Unit wise weightage of Marks	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	2
Unit-4	1	1
Unit -5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	**CCSC-103P**	**2018-19**	**B.Com. (CA.)**

SEMESTER – I PAPER – I Max. Marks : 50 Pass Marks 25

No. of Hours per week: 2 External: 25 Internal: 25 Credits: 2

Lab List ***Photo Shop Lab***

1. Create your Visiting card
2. Create Cover page for any text book
3. Create a Paper add for advertising of any commercial agency
4. Design a Passport photo
5. Create a Pamphlet for any program to be conducted by an organization
6. Create Broacher for you college
7. Create Titles for any forthcoming film
8. Custom shapes creation
9. Convert colour photo to black and white photo
10. Background changes
11. Design Texture and patterns
12. Filter effects & Eraser effects

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COMPUTER SCIENCE	**CCSC-203C**	**2018-'19**	**B.Com.(C.A)**

SEMESTER –II PAPER – II Max. Marks 70Pass Marks 28 Total Hrs 60

Syllabus:ENTERPRISE RESOURCE PLANNING NO. Of. Hours: 5Credits:4

Unit-I: Introduction: **12Hrs**

Overview of enterprise systems – Evolution - Risks and benefits - Fundamental technology - Issues to be consider in planning design and implementation of cross functional integrated ERP systems.

Unit- II: **ERP Solutions and Functional Modules:** **12Hrs**

Overview of ERP software solutions- Small, medium and large enterprise vendor solutions, BPR and best business practices - Business process Management, Functional modules.

Unit-III:ERP Implementation: **12Hrs**

Planning Evaluation and selection of ERP systems -Implementation life cycle - ERP implementation, Methodology and Frame work- Training – Data Migration - People Organization in implementation- Consultants, Vendors and employees.

Unit-IV:Post Implementation: **10Hrs**

Maintenance of ERP- Organizational and Industrial impact; Success and Failure factors of ERP Implementation.

Unit-V: **Emerging Trends on ERP**: **14Hrs**

Extended ERP systems and ERP add-ons -CRM, SCM, Business analytics - Future trends in ERP systems-web enabled, Wireless technologies, cloud computing.

References:

1. Alexis Leon, ERP demystified, second Edition Tata McGraw-Hill, 2008.
2. Sinha P. Magal and Jeffery Word, Essentials of Business Process and Information System, Wiley India, 2012
3. Jagan Nathan Vaman, ERP in Practice, Tata McGraw-Hill, 2008
4. Alexis Leon, Enterprise Resource Planning, second edition, Tata McGraw-Hill, 2008.
5. Mahadeo Jaiswal and Ganesh Vanapalli, ERP Macmillan India, 2009
6. Vinod Kumar Grag and N.K. Venkitakrishnan, ERP- Concepts and Practice, PHI, 2006.
7. Summer, ERP, Pearson Education, 2008

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COMPUTER SCIENCE	**CCSC-203C**	**2018-'19**	B.Com. (C.A)

SEMESTER – II PAPER – II Max. Marks 70 Pass Marks 28

Model Paper **Enterprise Resource Planning** **NO Of Hours: 5 Credits: 4**

Section- A

Answer FOUR Questions. Each Question carries FIVE Marks. 4*5=20M

1. Explain the Overview of ERP?
2. Write a short note on Small, Medium Business Vendor solution?
3. Explain Data Migration?
4. Explain Methodology and Frame work of ERP Implementation?
5. Explain Organizational impact on maintains of ERP?
6. Explain cloud computing?

Section- B

Answer FIVE the Questions. Each Question carries EIGHT Marks. 5*10=50M

7. Explain Evolution of ERP.
8. Advantages and disadvantages of ERP.
9. Explain about functional Modules in ERP
10. Explain about Implementation life Cycle
11. Explain people Organisation in ERP implementation
12. Explain success and failure factors of ERP Implementation
13. Explain about Consumer Relation Ship Management (CRM) & Supply Chain Management (SCM)?
14. What are future trends in ERP system?

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COMPUTER SCIENCE	COM-CSC-203	2018-'19	B.Com.(C.A)

SEMESTER – II PAPER – II Max. Marks 70

Guidelines for paper setting **'**ENTERPRISE RESOURCE PLANNING'

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	1	2
Unit-2	1	1
Unit-3	2	2
Unit-4	1	1
Unit -5	1	2

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	**ICT-I-201**	**2018-'19**	**B.A, B.Com, B.Sc.**

SEMESTER – IIPAPER – IMax. Marks 50 Pass Marks 20 Total Hrs: 30

SyllabusComputer Fundamentals & Office Tools NO. Of Hrs: **2Credits**: **2**

Unit-I : Basics of Computers **6 Hrs**

Definition of a Computer - Characteristics and Applications of Computers – BlockDiagram of a Digital Computer – Classification of Computers based on size and workingCentral Processing Unit – Input, Output and I/O Devices

Unit-II: Memory Devices & Operating Systems **6Hrs**

Primary, Auxiliary and Cache Memory – Memory Devices – Software, Hardware, Firmware and People ware –Definition and Types of Operating System – Functions of an Operating System – MS-DOS MS-Windows – Desktop, Computer, Documents, Pictures, Music, Videos, Recycle Bin, Task Bar – Control Pane

Unit-III: MS-Word **6 Hrs**

Features of MS-Word – MS-Word Window Components – Creating, Editing, Formattingand Printing of Documents – Headers and Footers – Insert/Draw Tables, Table Auto format – Page Borders and Shading – Inserting Symbols, Shapes, Word Art, PageNumbers, Equations – Spelling and Grammar – Thesaurus – Mail Merge

Unit-IV: MS-PowerPoint **6 Hrs**

Features of PowerPoint – Creating a Blank Presentation - Creating a Presentation usinga Template - Inserting and Deleting Slides in a Presentation – Adding Clip Art/Pictures -Inserting Other Objects, Audio, Video - Resizing and Scaling of an Object – SlideTransition – Custom Animation

Unit-V : MS-Excel **6 Hrs**

Overview of Excel features – Creating a new worksheet, Selecting cells, Entering and editing Text, Numbers, Formulae, Referencing cells – Inserting Rows/Columns – Changing column widths and row heights, auto format, changing font sizes, colors, shading and attributes – Data Sorting and Filters – Functions – Functions requiring Addins, Functions by category Creating different types of Charts

Reference Books :

1. Fundamentals of Computers by V.Raja Raman, Publishers : PHI
2. Fundamentals of Computers by Reema Thareja, Publishers : Oxford UniversityPress, India
3. Microsoft Office 2010 Bible by John Walkenbach, Herb Tyson, Michael R.Grohand Faithe Wempen, Publishers : Wiley

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.

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(With Effect from Academic Year **2017-'18**)

COMPUTER SCIENCE	**ICT-I-201C**	**2018-'19**	**B.A, B.Com, B.Sc.**

SEMESTER – II PAPER – I Max. Marks 50 Pass Marks 20

Model paperComputer Fundamentals & Office Tools NO. Of Hrs: **2Credits**: **2**

SECTION-A

Answer FOUR of the following questions 4x5=20M

1. Explain characteristics of Computer?
2. Explain any five Input devices?
3. Write about Desktop, Computer, Documents, Recycle Bin?
4. Explain about Cache Memory?
5. Explain inserting Headers and Footers in MS-Word?
6. How to Insert/Draw table in MS-Word?
7. Inserting and Deleting slides in presentation?
8. Explain inserting charts in MS-Excel?

SECTION-B

Answer THREEof the following questions 3X10=30M

9. Explain Block diagram of a Digital Computer?
10. Explain Classification of Computers?
11. Explain Computer Memory?
12. Explain MS-Word Window Components with neat Diagram?
13. Creating power point presentation using Template?
14. Explain Excel Functions

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SEMESTER – II PAPER – I Max. Marks 50

Guidelines for paper setting **'COMPUTER FUNDAMENTALS & OFFICE TOOLS'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	1
Unit-3	2	1
Unit-4	1	1
Unit -5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	**CSC-301C**	**2018-19**	**B.Sc.(MPCs, MCCs.)**

SEMESTER – IIIPAPER – III Max. Marks 75 Pass Marks 30

SyllabusOBJECT ORIENTED PROGRAMMING USING JAVA Total Hrs: 60

NO. Of. Hours: 4Credits: 3

UNIT-I 15Hrs

Fundamentals of Object – Oriented Programming: Introduction, Object Oriented paradigm, Basic Concepts of OOP, Benefits of OOP, Applications of OOP, Java features: **Overview of Java Language**: Introduction, Simple Java program structure, Java tokens, Java Statements, Implementing a Java Program, Java Virtual Machine, Command line arguments. **Constants, Variables & Data Types:** Introduction, Constants, Variables, Data Types, Declaration of Variables, Giving Value to Variables, Scope of variables, Symbolic Constants, Type casting, Getting Value of Variables, Standard Default values; **Operators & Expressions**.

UNIT-II 15 Hrs

Decision Making & Branching: Introduction, Decision making with if statement, Simple if statement, if-Else statement, Nesting of if-else statements, the else if ladder, the switch statement, the conditional operator. **Looping**: Introduction, While statement, do-while statement, for statement, Jumps in loops. **Classes, Objects & Methods**: Introduction, Defining a class, Adding variables, Adding methods, Creating objects, Accessing class members, Constructors, Method overloading, Static members, Nesting of methods;

UNIT-III 10 Hrs

Inheritance: Extending a Class, Overriding Methods, Final Variables and Methods, FinalClasses, Abstract Methods and Classes; **Arrays, Strings And Vectors:** Arrays, One-dimensional arrays, Creating an array, Two – dimensional arrays, Strings, Vectors, Wrapper classes; **Interfaces**: **Multiple Inheritance**: Introduction, Defining interfaces, Extending
interfaces, Implementing interfaces, Assessing interface variables;

UNIT-IV 10 Hrs

Multithreaded Programming: Introduction, Creating Threads, Extending the Threads, Stopping and Blocking a Thread, Lifecycle of a Thread, Using Thread Methods, Thread Exceptions, Thread Priority, Synchronization, Implementing the 'Runnable' Interface.

Managing Errors And Exceptions: Types of errors: Compile-time errors, Runtime errors, Exceptions, Exception handling, Multiple Catch Statements, Using finally statement,

UNIT-V 10 Hrs

Applet Programming: local and remote applets, Applets and Applications, Building Applet code, Applet Life cycle: Initialization state, Running state, Idle or stopped state, Dead state, Display state. **Packages:** Introduction, Java API Packages, Using System Packages, Naming
conventions, Creating Packages, Accessing a Package, using a Package. **Managing Input/ Output Files in Java:** Introduction, Concept of Streams, Stream classes, Byte Stream Classes, Input Stream Classes, Output Stream Classes, Character Stream classes: Reader stream classes, Writer Stream classes, Using Streams;

Prescribed Text Book:

1. E.Balaguruswamy, Programmingwith JAVA, A primer, 3e, TATA McGraw-Hill Company.

Reference Books

1. Programming In Java By Sachin Malhotra And Saurabh Choudhary From Oxford University Press
2. Object Oriented Programming Through Java by P. Radha Krishna, Universities Press
3. John R. Hubbard, Programming with Java, Second Edition, Schaum's outline Series,
4. Deitel &Deitel. Java TM: How to Program, PHI (2007)
5. Java Programming: From Problem Analysis to Program Design- D.S Mallik

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COMPUTER SCIENCE	**CSC-301C**	**2018-19**	**B.Sc.(MPCs, MCCs.)**

SEMESTER – IIIPAPER – III **Max. Marks 75** **Pass Marks 30**

MODEL PAPEROBJECT ORIENTED PROGRAMMING USING JAVA

NO Of Hours: 4Credits: 3 **Total Hrs:60**

Section- A

Answer FIVE Questions. Each Question carries FIVE Marks. **5*5=25M**

1. Explain the structure of a java program?
2. Explain different data types in java?
3. Write a short note on if statement
4. Explain about Constructors?
5. Differences between arrays and vectors?
6. Explain about Exception handling?
7. Explain the applet life cycle?
8. How to create and accessing a package?

Section- B

Answer FIVE the Questions. Each Question carries TEN Marks **5*10=50M**

9. Explain the Concepts of Object Oriented Programming?
10. Explain java Features?
11. Explain Looping statements with example
12. Explain Method overloading with an example program
13. Explain about inheritance
14. Explain the concept of interface?
15. Explain life cycle of a thread?
16. Explain about Byte Stream Classes?

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SEMESTER – III PAPER – III Max. Marks 75

Guidelines for paper setting '**OBJECT ORIENTED PROGRAMMING USING JAVA'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	1	2
Unit-4	1	1
Unit-5	2	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	**CSC-301P**	**2018-'19**	**B.Sc.(MPCs., MCCs.)**

SEMESTER – III **PAPER – III** **Max. Marks 50**

Lab List OBJECT ORIENTED PROGRAMMING USING JAVA Pass Marks 25

No. of Hours per week: 2 External: 25 Internal: 25 Credits: 2

1. Write a program to perform various String Operations
2. Write a program to print the given number is Armstrong or not?
3. Prompt for the cost and selling price of an article and display the profit (or) loss
4. Write a program to print the numbers given by command line arguments
5. Write a program on class and object in java
6. Illustrate the method overriding in JAVA
7. Write a program to find the Simple Interest using Multilevel Inheritance
8. Write a program to display matrix multiplication.
9. Write a program to implement Exception handling
10. Write a program to create packages in Java
11. Write a program on interface in java
12. Write a program to Create Multiple Threads in Java
13. Write a program to Write Applets to draw the various polygons
14. Write a program to assign priorities to threads in java
15. Write an Applet Program to design a Simple Calculator.

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COMPUTER SCIENCE	**ICT-II-301C**	**2018-'19**	**B.A, B.Com, B.Sc.**

SEMESTER – III PAPER – II Max. Marks 50 Pass Marks 20 Total Hrs 30

SyllabusInternet Fundamentals and Web ToolsNO. Of Hrs: **2Credits**: **2**

Unit-I : **6Hrs**

Fundamentals of Internet : Networking Concepts, Data Communication – Types ofNetworking, Internet and its Services, Internet Addressing – Internet Applications –Computer Viruses and its types – Browser –Types of Browsers.

Unit-II: **6Hrs**

Internet applications: Using Internet Explorer, Standard Internet Explorer Buttons,Entering a Web Site Address, Searching the Internet – Introduction to SocialNetworking: twitter, tumbler, LinkedIn, face book, flicker, Skype, yelp, vimeo, yahoo,Google+, YouTube, WhatsApp, etc.

Unit-III : **6Hrs**

E-mail : Definition of E-mail - Advantages and Disadvantages – User-Ids, Passwords,Email Addresses, Domain Names, Mailers, Message Components, MessageComposition, Mail Management, Email Inner Workings.

Unit IV: **6Hrs**

WWW- Web Applications, Web Terminologies, Web Browsers, URL – Components ofURL, Searching WWW – Search Engines and Examples

Unit-V : **6Hrs**

Basic HTML: Basic HTML – Web Terminology – Structure of a HTML Document –HTML, Head and Body tags – Semantic and Syntactic Tags – HR, Heading, Font,Image and Anchor Tags –Different types of Lists using tags – Table Tags, Imageformats – Creation of simple HTML Documents.

Reference Books :

1. In-line/On-line : Fundamentals of the Internet and the World Wide Web, 2/e - by Raymond Greenlaw and Ellen Hepp, Publishers : TMH

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SEMESTER – III PAPER – II Max.Marks 50 Pass Marks: 20 Total: 30 Hrs

Modal Paper:Internet Fundamentals and Web Tools NO. Of Hrs: 2Credits: 2

Section- A

Answer FOUR Questions. Each Question carries FIVE marks. 4X5=20M

1. Explain types of Browsers?
2. Explain Internet Applications.
3. Write a short note on Internet Explorer?
4. Explain User Id and Password of e-mail?
5. Explain Advantages and disadvantages of electronic mail.
6. Explain about WWW?
7. Explain briefly about web application.
8. Explain Head and Body tags in HTML Document?

Section- B

Answer Any THREEQuestions. Each Question carries TEN Marks. 3×10=30M

9. Explain types of Networking?
10. Explain Internet Services?
11. Explain any 10 Social Net Working Sites
12. Explain Message Composition.
13. Explain different types of Search Engines.
14. Explain different lists in HTML.

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SEMESTER – III PAPER – II Max. Marks 50

Guidelines for paper setting **'INTERNET FUNDAMENTALS AND WEB TOOLS'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	1
Unit-3	2	1
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	CSC-401C	2018-'19	B.Sc.(MPCs. , MCCs.)

SEMESTER – IV PAPER – IV Max. Marks 75 Pass Marks 30 Total Hrs 60

SyllabusDATA STRUCTURES NO Of Hours: 4 Credits: 4

UNIT I **15 Hrs**

Concept of Abstract Data Types (ADTs)- Data Types, Data Structures, Storage Structures, and File Structures, Primitive and Non-primitive Data Structures, Linear and Non-linear Structures. **Linear Lists** - ADT, Array and Linked representations, Pointers.

Arrays - ADT, Mappings, Representations, Sparse Matrices, Sets - ADT, OperationsLinked Lists: Single Linked List, Double Linked List, Circular Linked List, applications

UNIT II **10 Hrs**

Stacks: Definition, ADT, Array and Linked representations, Implementations and Applications

Queues: Definition, ADT, Array and Linked representations, Circular Queues, De-queues, Priority Queues, Implementations and Applications.

UNIT III **15 Hrs**

Trees: Binary Tree, Definition, Properties, ADT, Array and Linked representations, Implementations and Applications. Binary Search Trees (BST) - Definition, ADT, Operations and Implementations, BST Applications. Threaded Binary Trees, Heap trees

UNIT IV **10Hrs**

Graphs – Graph and its Representation, Graph Traversals, Connected Components, Basic Searching Techniques, Minimal Spanning Trees

UNIT- V **10 Hrs**

Sorting and Searching: Selection, Insertion, Bubble, Merge, Quick, Heap sort, SequentialAnd Binary Searching.

TEXT BOOKS

1. Hubbard John R. and Hurray Anita, Data Structures with Java Paperback Prentice-Hall 2005 ISBN-10: 8120327454
2. Samanta D, Classic Data Structures, Prentice-Hall of India, 2001.
3. David Cousins, Introducing Data Structures with Java Kindle Edition, Pearson Education; First edition, 2011, ISBN-10: 8131758648, 464 pages

REFERENCE BOOKS

1. Sahani S, Data Structures, Algorithms and Applications in C++, McGraw-Hill, 2002
2. D S Malik, Data Structures Using C++, Thomson, India Edition 2006
3. Tremblay P, and Sorenson P G, Introduction to Data Structures with Applications, Tata McGraw-Hill,

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SEMESTER – IV PAPER – IV Max. Marks 75 Pass Marks 30 Total Hrs 60

Model PaperDATA STRUCTURES NO Of Hours: 4 Credits: 3

Section- A

Answer FIVE Questions. Each Question carries FIVE Marks. 5*5=25M

1. Explain about Primitive & Non primitive Data Structures?
2. Explain about Single Linked List?
3. Write about Applications of Stack?
4. Explain about D-Queue?
5. Write a Short note on Binary tree?
6. Explain ADT?
7. What is Graph? How to represent the Graph
8. Write a program to sort the elements in bubble sort?

Section- B

Answer FIVE the Questions. Each Question carries TEN Marks 5*10=50M

9. Explain Linked represents with array? With an Example?
10. Explain Sparse Matrices?
11. Explain stack operations?
12. What is a Queue? Explain Queue implementation?
13. Explain Tree traversing methods?
14. Explain Binary search tree?
15. Explain about BFS and DFS?
16. Explain about sequential and binary searching?

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SEMESTER – IV PAPER – IV Max. Marks 75

Guidelines for paper setting '**DATA STRUCTURES'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit -5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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SEMESTER – IV PAPER – IV Max. Marks 50 Pass Marks 25 TotalHrss:30

LAB LIST **DATA STRUCTURES**

No. of Hours per week: 2 External: 25 Internal: 25 Credits: 2

1. Write a Program to implement the Linked List operations
2. Write a Program to implement the Stack operations using an array.
3. Write Programs to implement the Queue operations using an array.
4. Write Programs to implement the Stack operations using a singly linked list.
5. Write Programs to implement the Queue operations using a singly linked list.
6. Write a program to search an item in a given list using Linear Search and Binary Search
7. Write a program for Quick Sort
8. Write a program for Merge Sort
9. Write a program for insertion sort
10. Write a program for Bubble Sort.
11. Write a program for selection Sort.
12. Write a program for Graph traversals

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COMPUTER SCIENCE	**CCSC-303C**	**2018-'19**	**B.Com. (C.A)**

SEMESTER – III PAPER – III Max. Marks 75 Pass Marks 30 Total Hrs: 60

Syllabus Office Automation Tools NO. Of. Hours: 5Credits:4

Unit-I: 12Hrs

MS-Excel: features of Ms-Excel, Parts of MS-Excel window, entering and editing data in worksheet, number formatting in excel, different cell references, how to enter and edit formula in excel, auto fill and custom fill, printing options.

Unit-II: 12 HrsFormatting

options: Different formatting options, change row height, formulae and Functions, **Functions:** Meaning and advantages of functions, different types of functions available in Excel.

Unit-III: 12Hrs

Charts: Different types of charts, Parts of chart, chart creation using wizard, chart operations, data maps, graphs, data sorting, filtering. Excel sub totals, scenarios, what-if analysis.

Macro: Meaning and advantages of Macros, creation, editing and deletion of macros - Creating a macro, how to run, how to delete a macro.

Unit-IV: 12Hrs

MS Access: Creating a Simple Database and Tables: Features of Ms-Access, Creating a Database, Parts of Access. **Tables:** table creation using design view, table wizard, data sheet view, import table, link table. **Forms:** The Form Wizard, design view, columnar, tabular, data sheet, chart wizard.

Unit- V: 12Hrs

Finding, Sorting and Displaying Data: Queries and Dynasts, Creating and using select queries, Returning to the Query Design, Multi-level sorts, Finding incomplete matches, showing All records after a Query, saving queries - Crosstab Queries. **Printing Reports:** Form and Database Printing..

Reference Books:

1.Ron Mansfield, Working in Microsoft Office, Tata McGraw Hill(2008)

2.Ed Bott, Woody Leonhard, Using Microsoft Office 2007, Pearson Education(2007)

3. Sanjay Saxsena, Microsoft Office, 4.Microsoft Office, BPB Publications

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SEMESTER – III PAPER – III Max. Marks 75 Pass Marks 30 Total Hrs: 60

Model PaperOffice Automation Tools NO Of Hours: 5 Credits: 4

Section- A

Answer FIVE Questions. Each Question carries FIVE Marks. 5*5=25M

1. Explain Features of Excel?
2. Explain Number Formatting in Excel?
3. Explain How to Change row Height??
4. What are advantages of Functions?
5. Explain what is sorting?
6. Explain how to delete Macro?
7. Write any 5 Features of Access?
8. Describe Query used in MS-Access?

Section- B

Answer FIVE the Questions. Each Question carries TEN Marks. 5*10=50M

9. Explain Parts of Excel Sheet with neat Diagram.
10. Explain AutoFill and Custom Fill Options in Excel.
11. Explain different types of Functions available.
12. Explain different Formatting options.
13. What is Chart? Explain different types of Charts.
14. What is Macro? Explain Creating and Editing of Macro.
15. What is Form? Explain Creating Form using Form Wizard.
16. Explain How to Create a Query, Showing, all records after Query and Saving Query.

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COMPUTER SCIENCE	CCSC-303C	2018-'19	B.Com. (C.A)

SEMESTER – III PAPER – III Max. Marks 75

Guidelines for paper setting '**OFFICE AUTOMATION TOOLS'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit -5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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SEMESTER – III PAPER – III Max. Marks 50Pass Marks 20 Total Hrs: 30

Lab list Office Automation Tools

Ms-Word

1. Create a vesting Card
2. Create a template for organization using header & footer
3. Mail merge Procedure

Ms-Excel

1. Create an electronic spreadsheet in which you enter the following decimal numbers and convert into Octal, Hexadecimal and Binary numbers vice versa. Decimal Numbers: 35, 68, 95, 165, 225, 355, 375, 465. Binary Numbers: 101, 1101, 111011, 10001, 110011001, 111011111.

2. The ABC Company shows the sales of different products for 5 years. Create column chart, 3D-column and Bar chart for the following data
YEAR PRODUCT-1 PRODUCT-2 PRODUCT-3 PRODUCT-4
2003 1000 800 900 10002004 800 80 500 9002005 1200 190 400 8002006 400 200 300 1000
2007 1800 400 400 1200

3. Create a suitable examination data base and find the sum of the marks(total) of each student and respective class secured by the student rules:
Pass if marks in each subject >=35
Distinction if average>=75
First class if average>=60 but <75
Second class if average>=50 but <60
Third class if average>=35 but <50
Fail if marks in any subject is <35
Display average marks of the class, subject wise and pass percentage

4. Create an electronic spread sheet in which you enter date and time functions in Excel

5. Create a electronic spread sheet in statistical and mathematical functions in Excel

MS-PowerPoint

1. Make a Power point presentation on your strengths, weaknesses, hobbies, factors that waste your time.

2. Make a Power point presentation to represent your College profile.

3. Make a Power point presentation of all the details of the books that you had studied in B.Sc. First Year.

4. Create a Presentation without Animation.

MS-ACCESS

1. Create a database using MS-ACCESS with at least 5 records table1 structure: register number , name, dob, gender, class table2 structure: register number m1 m2 m3 m4 m5 total maintain the relationship between two tables with register number as a primary key and answer the following quarries: show the list of students with the following fields as one query register number name gender total marks

2. Maintain the relationship between above two tables with register number as a primary key and answer the following reports: reports must have following columns report1 with register number, name, marks of all subjects and 90 hrs (3 hrs/ week) computer science 10 of 44 total report2 with register number, total , percentage.

3. Create a database using ms-access with at least 5 records table1 structure: emp-code emp-name age gender dob table2 structure: emp-code basic-pay maintain the relationship between two tables with emp-code as a primary key generate the following reports: report1: emp-code emp-name basic-pay da,hra gross-salary report2: emp-code emp-name age gender gross-salary

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COMPUTER SCIENCE	**CCSC-403C**	**2018-'19**	**B.Com.(C.A)**

SEMESTER –IV PAPER – IV Max. Marks 75 Pass Marks 30 Total Hrs 60

Syllabus: **Business Analytics** **NO. Of. Hours: 5 Credits:4**

Unit-I: **12Hrs**

Introduction - Business Analytics Life Cycle - Business Analytics Process - Data concepts - Data exploration & visualization - Business Analytics as Solution for Business Challenges .

Unit-II: **12Hrs**

Automated Data Analysis: Tabulation and Cross Tabulation of Data: Univariate, Bivariate and Multivariate Data Analysis – ANOVA.

Unit-III: **12Hrs**

Hypothesis Testing: Type 1 & 2 errors - T-test, ANOVA, Chi-Square and correlation- Linear Regression Analysis - Logistic Regression - Cluster Analysis - Market Basket Analysis.

Unit-IV: **14Hrs**

Business Data Management: Master Data Management: Data Warehousing and kinds of Architecture – Data Extraction – Transformation and Up-loading of Data – Data Mining – Meta Data – Data Marts – Creating Data Marts – Data Integration – OLTP and OLAP.

Unit-V: **10Hrs**

SPSS Packages – Applications and Case Studies.

Suggested Books:

1. Gupta S.P. "Statistical Methods", Sultan Chand, New Delhi, 2010.
2. K.V. Rao, "Research Methodology in Commerce and Management", Sterling Publishers, New Delhi, 2012.
3. T.S. Wilkinson & P.L. Bhandarkar, "Methodology and Techniques of Social Research", 2010.
4. Richard A.Johnson & Dean W.Wichern, "Applied Multivariate Statistical Analysis", Prentice Hall International Inc., 2007.
5. R.N Prasad and Seema Acharya, "Fundaments of Business Analytics", Wiley India
6. Pang-Ning Tan, Michael Steinbach & Vipin Kumar, "Introduction to Data Mining", Pearson, 2009.
7. Alex Berson, Stephen Smith & Kurt Thearling, "Building Data Mining Application forCRM", Tata McGraw Hill, New Delhi,2000.

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COMPUTER SCIENCE	**CCSC-403C**	**2018-'19**	**B.Com. (C.A)**

SEMESTER – IV PAPER – IVMax. Marks 75 Pass Marks 30 Total Hrs: 60

Model Paper Business Analytics NO Of Hours: 5 Credits: 4

Section- A

Answer FIVE Questions. Each Question carries FIVE Marks. 5*5=25M

1. What is the role of Business Analyst?
2. Write a short note on Pivot table?
3. Explain methods of Tabulation?
4. Write a short note on ANOVA?
5. What is T-Test?
6. Explain Scatter diagram method?
7. Describe Data Warehouse?
8. Write a short note on SPSS?

Section- B

Answer FIVE the Questions. Each Question carries TEN Marks. 5*10=50M

9. Explain Business Analytics life cycle?
10. Define Data? Explain about different types of data?
11. Explain different types of Tabulation?
12. What is Hypothesis Testing? Explain One Tailed and Two Tailed test?
13. What is Regression? Explain Logistic Regression?
14. Explain about Data Marts?
15. Explain Different types of OLAP Architecture?
16. Explain Basic steps in working with SPSS?

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COMPUTER SCIENCE	CCSC-403	2018-'19	B.Com.(C.A.)

SEMESTER – IV PAPER – III Max. Marks 75

Guidelines for paper setting '**BUSINESS ANALYTICS**'

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	1
Unit-3	2	2
Unit-4	1	2
Unit -5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.

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COMPUTER SCIENCE	**CSC-501C**	**2018-'19**	**B.Sc.(MPCs)**

SEMESTER – V **PAPER – V** **Max. Marks 75**

Syllabus **DATA BASE MANAGEMENT SYSTEMS**

NOOf Hours:4No Of Credits:3Pass Marks 30

Course Objective: Design & develop database for large volumes & varieties of data with optimized data processing techniques.

Unit – I: Database Systems Introduction **12Hrs**

Database Systems: Introducing the database and DBMS, Why the database is important, *Historical Roots:* Files and File Systems, Problems with File System, Data Management, Database Systems. *Data Models:* The importance of Data models, Data Model Basic Building Blocks,The evaluation of Data Models, Degree of Data Abstraction.

Unit - II: Relational Database & Data Modelling **12 Hrs**

The Relational Database Model: A logical view of Data, Keys, Integrity Rules, Relational Set Operators, The Data Dictionary and the system Catalog, Indexes, Codd's relational database rules.*Entity Relationship Model:* The ER Model***Advanced Data Modelling****:* The Extended Entity Relationship Model, Entity clustering, Entity integrity.

Unit-III:Normalization and Database Design **14 Hrs**

*Normalization of database tables:*Data base Tables and Normalization, The need for Normalization, The Normalization Process, High level Normal Forms, Normalization and database design, de normalization.

Database Design: The Information System, The Systems Development Life Cycle, The Database Life Cycle, Centralized Vs Decentralized design.

Unit-IV:Structured Query Language **12 Hrs**

Introduction to SQL: Data Definition Commands, Data Manipulation Commands, Select queries, Advanced Data Definition Commands, Advanced Select queries, Virtual Tables, SQL Join Operators, Sub queries and correlated queries, SQL Functions.

Unit-V: Procedural SQL

10Hrs*Introduction to PL/SQL:* Triggers, Stored Procedures, Pl/ SQL Stored Functions

Prescribed Text Book:

1. **P**eter Rob, Carlos Coronel, Database Systems Design, Implementation and Management, Seventh Edition, Thomson (2007).

Reference Books:

1. Elimasri / Navathe, Fundamentals of Database Systems, Fifth Edition, Pearson Addison Wesley 2. Raman A Mata – Toledo/Panline K Cushman, Database Management Systems, .
2. C.J.Date, A.Kannan, S.Swamynathan, An Introduction to Database Systems, Eight edition,
3. "DatabaseSystemConcepts" by AbrahamSilberschatz, Henry Korth, and S.Sudarshan,
4. Atul Kahate, Introduction to Database Management Systems, Pearson Education (2006).

Student Activity: 1. Create your college database for placement purpose. 2. Create faculty database of your college with their academic performance scores

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COMPUTER SCIENCE	**CSC-501C**	**2018-'19**	**B.Sc.(MPCs)**

SEMESTER – V **PAPER – V** **Max. Marks 75**

Model Paper **DATA BASE MANAGEMENT SYSTEMS**

NO Of Hours: 4No Of Credits: 3 **Pass Marks 30**

Section-A

Answer any **FIVE** Questions. Each question carries **FIVE** Marks **5x5=25M**

1. Explain the Components of Database System.
2. Explain Relational Data Model.
3. Write about Relational Set Operators.
4. Explain Integrity Rules.
5. Describe BCNF.
6. Differences between Centralized and Decentralized design.
7. Write about Special Functions.
8. Explain Stored Procedures.

Section-B

Answer any **FIVE** Questions. Each question carries **TEN** Marks **5X10=50M**

9. What is File? Explain the problems with File system
10. Explain the Degree of Data Abstraction.
11. Explain E.F.CODDs' rules.
12. Explain Extended Entity Relationship Model.
13. Explain the concept of Normal Forms.
14. Explain about SDLC.
15. Explain DDL and DML commands.
16. Explain about triggers.

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COMPUTER SCIENCE	CSC-501C	2018-'19	B.Sc.(MPCs)

SEMESTER – VPAPER – V Max. Marks 75 Pass Marks 30

Guidelines for paper setting '**DATA BASE MANAGEMENT SYSTEMS'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	CSC-501P	2018-'19	B.Sc.(MPCS)

SEMESTER – V **PAPER – V** **Max. Marks 50**

Lab List DATA BASE MANAGEMENT SYSTEMS Pass Marks 25

No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

1. Creation of college database and establish relationships between tables
2. Explain various data type in Oracle.
3. Show the structure of the Emp table.
4. Show the structure of the DEPT table.
5. Explain the syntax of SELECT statement.
6. Create a query to display the name, job, hiredate and employee number from emp table.
7. Create a query to display unique jobs from the emp table.
8. Create a query to display the empno as EMP#, ename as EMPLOYEE and Hire_date from emp.
9. Create a query to display all the data from the EMP table. Separate each column by a comma and name the column THE_OUTPUT.
10. Create a query to display the name and salary of employees earning more than 2850.
11. Create a query to display the name and salary for all employees whose salary is not in the range of 1500 and 2850.
12. Display the employee name, job and start date of employees hired between February 20 ,1981 and May 1, 1981. Order the query in ascending order of start date
13. Display the employee name and department number of all the employees in departments 10 and 30 in alphabetical order by name.
14. List the name and salary of employees who earn more than 1500 & are in department 10 or 30.
15. Display the name, salary and commissions and sort data in descending order of salary and commission.
16. Display the name and job title of all employees who do not have a manager.
17. Display the name, job and salary for all employees whose job is Clerk or Analyst and their salary is not equal to 1000, 3000 or 5000.
18. Display the names of all employees where the third letter of their name is an 'A'.
19. Display the names of all employees who have two 'L's in their name and are in department 30 or their manager is 7782.
20. Display the name , salary and commission for all employees whose commission amount is grater than their salary increased by 10%.
21. Explain all the character functions.
22. Explain all the number functions.
23. Explain all the Date functions.
24. Explain different types of JOIN.
25. Write a query to display the name, department number and department name for all employees.
26. Create a unique listing of all jobs that are in department 30. and include the location of department 30 in the output.
27. Write a query to display the employee name, department name and location of all employees who earn a commission.
28. Write a query to display the name ,job department number and department name for all employees who work in 'DALLAS'.

29. Create a query to display the name and hire date of any employee
30. hired after employee BLAKE.
31. . Display all employees names and hire dates along with their manager's name and hire date for all employees who were hired before their managers.
32. Create your own users and give permissions to you and explain GRANT and REVOKE Commands.

A. Create MOVIE database using the following tables.

MOVIE:Movie no: primary key, varchar2Movie name: NOT NULL, varchar2Movie Type: varchar2Star: Varchar2

CUSTOMER: Customer No: primary key, varchar2 Customer Name: NOT NULL, varchar2 Address: NOT NULL Phone no: Number INVOICE: Invoice no: Varchar2, primary key Movie no: foreign key Customer no: foreign key

Price: NOT NULL, Number

Queries:

1. List the movie names that starts with 'p'
2. List the number of the movies those price ranges from 15000 and 20000
3. List the customers who have phone numbers.
4. List the customers who have no phone numbers.
5. Display the following string
   (a) A Customer "customer number" has bought the "movie number" "movie name" with "Price"
6. List the customers by calculating price as (price*tax)/100 where tax=0.5 and rename the column as 'tax'.
7. List the movies, which are owned by 2 customers.
8. List the customers, who bought 2 picture names.
9. List the customers, who are not the range of 15000 and 20000.

B. Create Student database using the following tables.

STUDENT: Sno : primary key, numberSname : NOT NULL, varchar2Address: Varchar2

COURSE: Sno : Foreign key.Course Name : varchar2

Queries:

1. Alter table by adding a column fees in table COURSE.
2. Alter table by modifying the address to VARCHAR2(20)
3. Create a view on which the students who joined in one course only.

PL/SQL.

1. Write A Pl/Sql Program To Swap Two Numbers Without Using Third Variable.
2. Write A Pl/Sql Program To Generate Multiplication Tables For Numbers 2,4 And 6
3. Write A Pl/Sql Program To Display Sum Of Even Numbers And Sum Of Odd Numbers In The Given Range.
4. Write A Pl/Sql Program To Check The Given Number Is Pollinndrome Or Not.
5. Write A Pl/Sql Program To Display Top 10 Rows In Emp Table Based On Their Job And Salary.
6. Write A Procedure Update The Salary Of Employee, Who is Not Getting Commission by 10%.

Reference Books:

1. Oracle Pl/Sql By Example. Benjamin Rosenzweig, Elena Silvestrova, Pearsoneducation 3rd Edition
2. Sql & Pl/Sql For Oracle 10g, Black Book, Dr.P.S. Deshpande

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COMPUTER SCIENCE	**CSC-502C**	**2018-'19**	**B.Sc.(MPCs)**

SEMESTER – V **PAPER – VI Max. Marks 75** **Syllabus**

SOFTWARE ENGINEERING

NO of Hours: 4No Of Credits: 3 **Pass Marks 30**

Course Objectives

The Objective of the course is to assist the student in understanding the basic theory of software engineering, and to apply these basic theoretical principles to a group software development project.

UNIT-I: Introduction to Software Engineering & Process **12Hrs**

The Evolving Role of Software– Software - The Changing Nature of Software, Software Myths, Legacy Software.

Process: Software Engineering-A Layered Technology - A Process Framework - The Capability Maturity Model Integration (CMMI) - Process Patterns, Process Assessments - Personal And Team Process Models: Personal Software Process(PSP), Team Software Process (TSP).

Unit-II: Process Models **12Hrs**

The Waterfall Models - Increment Process Models: The Increment Model, The RAD Model - Evolutionary Process Models: Prototyping, The Spiral Model, The Concurrent Development Model - The Unified Process: Phases of The United Process, Unified Process Work Products.

Unit-III: Requirements Engineering **14 Hrs**

Requirements Engineering Tasks - Initiating The Requirements Engineering Process - Eliciting Requirements: Collaborative Requirements Gathering, Quality Function Deployment, User Scenarios, Elicitation Work Products - Negotiating Requirements - Validating Requirements.

Unit-IV: Analysis Model **12Hrs**

Requirements Analysis -Analysis Modelling Approaches - Data Modelling Concepts - Object-Oriented Analysis - Scenario-based Modelling - Flow-Oriented Modelling - Class-Based Modelling- Creating a Behavioural Model: Identifying Events with the Use-Case, State Representations.

Unit-V: Design Engineering **10Hrs**

Design Process And Design Quality - Design Concepts - The Design Model: Data Design Elements, Architectural Design Elements, Interface Design Elements, Component-Level Design Elements, Deployment-Level Design Elements.

Prescribed Text Book:

1. Software Engineering – A Practitioner's Approach, Sixth Edition - Roger S Pressman, TATA McGrawHill: Chapters: 1,2,3,7,8 and 9)

Reference Books:

1. Software Engineering Principles and Practice by Deepak Jain Oxford University Press
2. Sommerville, "Software Engineering", Eighth Edition, Pearson Education, 2007

Student Activity: Visit any financial organization nearby and prepare requirement analysis report 2. Visit any industrial organization and prepare risk chart.

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COMPUTER SCIENCE	**CSC-502C**	**2018-'19**	**B.Sc.(MPCs)**

SEMESTER – V **PAPER – VI** **Max. Marks 75**

Model Paper **SOFTWARE ENGINEERING**

NO of Hours: 4No Of Credits: 3 **Pass Marks 30**

Section – A

Answer any **FIVE** Questions. Each question carries **FIVE** Marks **4x5=25M**

1. Write about Software Layered Technology
2. Explain about Process Framework?
3. Explain about RAD Model
4. Explain about Component Based Development Model
5. Write about Requirement Analysis?
6. Explain Validating Requirements
7. Explain about Domain Analysis?
8. Explain about Modularity?

Section – B

Answer any **FIVE** Questions. Each question carries **TEN** Marks **5X10=50M**

9. Explain about CMMI
10. Explain about Software Myths
11. Explain about Incremental Model
12. Explain about Unified Process
13. Explain about Requirements Engineering Tasks
14. Explain Eliciting Requirements.
15. Explain Scenario based Modelling.
16. Write about design concepts in design engineering.

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COMPUTER SCIENCE	CSC-502	2018-'19	B.Sc.(MPCs)

SEMESTER – VPAPER – V Max. Marks 75 Pass Marks 30

Guidelines for paper setting '**SOFTWARE ENGINEERING'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	CSC-502C	2018-'19	B.Sc.(MPCS)

SEMESTER – V **PAPER – VI** **Max. Marks 50**

Lab List **SOFTWARE ENGNEERING** **Pass Marks 25**

No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

A. ATM

1.Objective of an ATM System. 2. Use-case Diagram of an ATM System

3. Class Diagram of an ATM System 4. Sequence Diagram of an ATM System

5. Activity Diagram of an ATM System 6. State Diagram of an ATM System

7. Deployment Diagram of an ATM System 8. ER Diagram of an ATM System

B. Library management System

1. Objective of Librarymanagement System.2. Use-case Diagram of Librarymanagement

3. Class Diagram of Library management System4. Sequence Diagram of Library management

5. Activity Diagram of Library management System6. State Diagram of Library management

7. Deployment Diagram of Library management System8. ER Diagram of Library management

C. Barcode Reader

1. Objective of Barcode Reader 2. Use-case Diagram of Barcode Reader

3. Class Diagram of Barcode Reader 4. Sequence Diagram of Barcode Reader

5. Activity Diagram ofBarcode Reader 6. State Diagram ofBarcode Reader

7. Deployment Diagram ofBarcode Reader 8. ER Diagram ofBarcode Reader

D .Safe Home System

1. Objective of Safe Home System. 2. Use-case Diagram of Safe Home System

3. Class Diagram of Safe Home System 4. Sequence Diagram of Safe Home System

5. Activity Diagram ofSafe Home System 6. State Diagram ofSafe Home System

7. Deployment Diagram of Safe Home System 8. ER Diagram of Safe Home System

E. Online Book Store System

1. Objective of Online Book Store System 2. Use-case Diagram of Online Book Store System

3. Class Diagram of Online Book Store System 4. Sequence Diagram of Online Book Store

5. Activity Diagram ofOnline Book Store System6. State Diagram ofOnline Book Store System

7. Deployment Diagram of Online Book Store System8. ER Diagram of Online Book Store

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COMPUTER SCIENCE	**CSC-601(GE)**	**2018-'19**	**B.Sc.(MPCs)**

SEMESTER – VI PAPER – VII Max. Marks 75

Syllabus **WEB TECHNOLOGIES**

NO Of Hours: 4No of Credits: 3 **Pass Marks 30**

Course Objectives:

1. To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.
2. To provide skills to design interactive and dynamic web sites.

Unit -I Introduction to XHTML: 12 Hrs

Introduction to HTML, Basic html, Document body text, Hyper links, Adding more formatting Lists, Tables, Images, Multimedia Objects, Frames, Forms and XHTML.

Unit- II: CSS: 12 Hrs

Cascading Style Sheets: Introduction, Defining your own styles, properties and values in styles, Formatting blocks of information, Layers.

Java Script: java Script, the basics, Variables, String Manipulations, Mathematical functions, Statements, Operators, Arrays, Functions.

Unit –III: Objects in Java Script & Dynamic HTML with Java Script 12 Hrs

Objects in Java Script: Data and objects in java script, Regular expressions, Exception Handling, Built in objects, Events.

Dynamic HTML with Java Script: Data validation, Opening a new window, Messages and Confirmations, The status bar, Writing to a different frame, Rollover buttons, Moving images, Multiple pages in a single download, A text-only menu system, Floating logos.

Unit –IV: XML Defining Data for Web Applications 12 Hrs

XML: Introduction to XML, Basic XML, document type definition, XML Schema, Document object model, presenting XML, Using XML parser.

UNIT-V: JSP: JSP Lifecycle, Basic Syntax, EL (Expression Language), EL Syntax, Using EL Variables

Prescribed Books:

1. Chris Bates, Web Programming Building Internet Application, Second Edition, Wiley (2007)
2. Head First Servlets and JSP 2nd Edition, Bryan Basham, Kathy Sierra
3. Uttam Kumar Roy, Web Technologies from Oxford University Press

Student Activities:

1. Prepare a web site for your college
2. Prepare your personal website

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COMPUTER SCIENCE	**CSC-601(GE)**	**2018-'19**	**B.Sc.(MPCs)**

SEMESTER – VI **PAPER – VII** **Max. Marks 75**

Model Paper **WEB TECHNOLOGIES**

No Of Hours: 4No of Credits: 3 Pass Marks 30

Section -A

Answer **FIVE**Questions. Each Question carries **FIVE** Marks. **5 X 5=25M**

1. Write about structure of HTML Document with an example
2. Explain about lists in HTML
3. Write about properties used in Style Sheet
4. Write about arrays in Java Script
5. Describe Data Object
6. Write about Rollover buttons
7. Describe XML Elements
8. Write the syntax of EL and EL variables

Section- B

Answer **FIVE**the Questions. Each Question carries **TEN** Marks **5 X 10=50M**

9. Explain about hyper links? Write about how to link another pages
10. What is Form? Explain about forms with examples
11. What is CSS? How to design Cascading style sheet
12. Explain about Mathematical Functions
13. Explain about Regular Expressions
14. Write about Data validations in DHTML
15. Explain about Document Object Model
16. Explain about JSP Lifecycle with neat diagram

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COMPUTER SCIENCE	CSC-601(GE)	2018-'19	B.Sc.(MPCs)

SEMESTER – VI PAPER – VII Max. Marks 75 Pass Marks 30

Guidelines for paper setting '**WEB TECHNOLOGIES'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	**CSC-601(GE)**	**2018-'19**	**B.Sc.(MPCs)**

SEMESTER – VI **PAPER – VI** **Max. Marks 50**

Lab List **WEB TECHNOLOGIES** **Pass Marks 25**

No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

1. Write an HTML program to demonstrate text formatting, working with images and hyper links
2. Write an HTML program to create Student Marks sheet preparation.
3. Write an HTML program to explain String manipulation-using functions.
4. Write an HTML program to explain <form> events
5. Write an HTML program to perform all arithmetic operations using java script.
6. Develop a HTML Form, which accepts any Mathematical expression. Write JavaScript code to Evaluates the expression and Displays the result.
7. Create a form for Student information. Write JavaScript code to find Total, Average, Result and Grade.
8. Create a form for Employee information. Write JavaScript code to find DA, HRA, PF, TAX, Gross pay, Deduction and Net pay.
9. Create a form consists of a Multiple choice questions that validates the answer dynamically and displaying result using java script.
10. Write a java script to work with following

a. Date display b. Calendar c. Copy Selected Text

b. IP Address

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COMPUTER SCIENCE	**CSC-602CE**	**2018-'19**	**B.Sc.(MPCs)**

SEMESTER – VI **PAPER – VIII** **Max. Marks 75**

Syllabus PHP, MySql & Word Press
NO Of Hours:4Credits: 3 **Pass Marks 30**

Course Objective: To introduce the concept of PHP and to give basic Knowledge of PHP. Learn about PHP Syntax., Arrays, PHP Loops, PHP and MySQL connectivity, PHP form validation, PHP form handling. Overview of MySQL and PHPMyAdmin, Understand basic concepts of how a database stores information via tables, Understanding of SQL syntax used with MySQL, Learn how to retrieve and manipulate data from one or more tables, Know how to filter data based upon multiple conditions, Updating and inserting data into existing tables, Learning how the relationships between tables will affect the SQL, The advantages of store procedures with storing data using variables and functions, How SQL can be used with programming languages like PHP to create dynamic websites for visitors, Review of some sample PHP projects interacting with MySQL.

UNIT-1: **Installing and Configuring MySQL**: **10 Hrs**

Current and Future Versions of MySQL, How to Get MySQL, Installing MySQL on Windows, Trouble Shooting your Installation, Basic Security Guidelines, Introducing MySQL Privilege System, Working with User Privileges. Installing and Configuring Apache: Current and future versions of Apache, Choosing the Appropriate Installation Method, Installing Apache on Windows, Apache Configuration File Structure, Apache Log Files, Apache Related Commands, Trouble Shooting. Installing and Configuring PHP: Building PHP with Apache on Windows, php.ini.Basics, The Basics of PHP scripts. The Building blocks of PHP: Variables, Data Types, Operators and Expressions, Constants. Flow Control Functions in PHP: Switching Flow, Loops, Code Blocks and Browser Output.

Unit – II: Working with Functions: **10 Hrs**

What is function?, Calling functions, Defining Functions, Returning the values from User-Defined Functions, Variable Scope, Saving state between Function calls with the static statement, more about arguments. Working with Arrays: What are Arrays? Creating Arrays, Some Array-Related Functions. Working with Objects: Creating Objects, Object Instance Working with Strings, Dates and Time: Formatting strings with PHP, Investigating Strings with PHP, Manipulating Strings with PHP, Using Date and Time Functions in PHP.

Unit – III: Working with Forms: **15 Hrs**

Creating Forms, Accessing Form Input with User defined Arrays, Combining HTML and PHP code on a single Page, Using Hidden Fields to save state, Redirecting the user, Sending Mail on Form Submission, Working with File Uploads. Working with Cookies and User Sessions: Introducing Cookies, Setting a Cookie with PHP, Session Function Overview, Starting a Session, Working with session variables, passing session IDs in the Query String, Destroying Sessions and Unsetting Variables, Using Sessions in an Environment with Registered Users. Working with Files and Directories: Including Files with inclue(), Validating Files, Creating and Deleting Files, Opening a File for Writing, Reading or Appending, Reading from Files, Writing or Appending to a File, Working with Directories.

Unit – IV: Introduction to MySQL **15Hrs**

Introduction to My SQLand Interfacing with Databases through PHP Understanding the database design process: The Importance of Good Database Design, Types of Table Relationships, Understanding Normalization. Learning basic SQL Commands: Learning the MySQL Data types, Learning the Table Creation Syntax, Using Insert Command, Using SELECT Command, Using WHERE in your Queries, Selecting from Multiple Tables, Using the UPDATE command to modify records, Using RELACE Command, Using the DELETE Command, Frequently used string functions in MySQL, Using Date and Time Functions in MySQL. Interacting with MySQL using PHP: MySQL Versus MySQLi Functions, Connecting to MySQL with PHP, Working with MySQL Data. **Unit – V:Word press**

10Hrs

Word press: Introduction to word press, servers like wamp, bitnami e.tc, installing and configuring word press, understanding admin panel, working with posts and pages, using editor, text formatting with shortcuts, working with media-Adding, editing, deleting media elements, working with widgets, menus. Working with themes-parent and child themes, using featured images, configuring settings.

References:

1. Julie C. Meloni, PHP MySQL and Apache, SAMS Teach yourself, Pearson Education (2007).
2. Xue Bai Michael Ekedahl, The web warrior guide to Web Programming, Thomson (2006).

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COMPUTER SCIENCE	CSC-602CE	2018-'19	B.Sc.(MPCs)

SEMESTER – VI **PAPER – VIII** **Max. Marks 75**

Model PaperPHP, MySql & Word Press

NO Of Hours:3 **No Of Credits: 3** **Pass Marks 30**

Section- A

Answer **FIVE** Questions. Each Question carries **FIVE** Marks. **5*5=25M**

1 .Define variable and list the standard data types in PHP.

2. What is Break and Continue statements in PHP.

3. Define Function and write a program for Function?

4. Write programs to pass an argument to function by Value and Reference in PHP.

5. Explain how to create a simple form in PHP.

6. What is Cookie and explain how to accessing cookie in PHP.

7. Describe Update Command in MySQL with Example.

8. Write a short notes on Word Press.

Section- B

Answer **FIVE** Questions. Each Question carries **TEN** Marks **5*10=50M**

9. Explain about Operators and Expressions available in PHP with examples.

10. Explain about Loops and switching statements in PHP with examples.

11. Explain about Arrays and related functions to arrays in PHP with examples.

12. Explain the following Strings functions with examples

    a. strlen() b. strstr() c. strpos() d. substr() e. strtok()

13. Explain how to send Mail on form submission in PHP.

14. Explain how to work with Sessions in PHP.

15. Explain how to insert & retrieve data with MySql in PHP.

16. Explain how to work with Themes and also featured images in Word Press.

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SEMESTER – VI PAPER – VIII Max. Marks 75 Pass Marks 30

Guidelines for paper setting **' PHP, MySql & Word Press '**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (Essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.

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SEMESTER – VI **PAPER – VIII** **Max. Marks 50**

Lab List PHP, MySQL& Word Press LabPass Marks 25

No. of Hours per week: 3 **External: 25** **Internal: 25** **Credits: 2**

MySQL Lab Cycle

Cycle -1

An Enterprise wishes to maintain the details about his suppliers and other corresponding details. For that he uses the following details.
Suppliers (sid: Integer, sname: string, address: string)
Parts (pid: Integer, pname: string, color: string)
Catalog (sid: integer, pid: integer, cost: real)

The catalog relation lists the prices charged for parts by suppliers.

Write the following queries in SQL:

1. Find the pnames of parts for which there is some supplier.
2. Find the snames of suppliers who supply every part.
3. Find the snames of supplier who supply every red part.
4. Find the pnames of parts supplied by London Supplier abd by no one else.
5. Find the sid's of suppliers who charge more for some part than the average cost of that part.
6. For each part, find the sname of the supplier who charges the most for that part.
7. Find the sid's of suppliers who supply only red parts.
8. Find the sid's of suppliers who supply a red and a green part.
9. Find the sid's of suppliers who supply a red or green part.
10. Find the total amount has to pay for that suppler by part located from London.

Cycle – 2

An organisation wishes to maintain the status about the working hours made by his employees. For that he uses the following tables.

Emp (eid: integer, ename: string, age: integer, salary: real)
Works (eid: integer, did: integer, pct_time: integer)
Dept (did: integer, budget: real, managerid: integer)
An employee can work in more than one department; the pct_time field of the works relation shows the percentage of time that a given employee works in a given department.

Resolve the following queries.

1. Print the names and ages of each employee who works in both Hardware and Software departments.
2. For each department with more than 20 full time equivalent employees (i.e., where the part-time and full-time employees add up to at least that many full-time employees), print the did's together with the number of employees that work in that department.

3. Print the name of each employee whose salary exceeds the budget of all of the departments that he or she work in.
4. Find the managerid's of managers who manage only departments with budgets greater than 1,000,000.
5. Find the enames of managers who manage the departments with largest budget.
6. If a manager manages more than one department, he or she controls the sum of all the budgets for those departments. Find the managerid's of managers who control more than 5,000,000.
7. Find the managerid's of managers who control the highest amount.
8. Find the average manager salary.

PHP Lab Cycle

1. Write a PHP program to Display "Hello"
2. Write a PHP Program to display the today's date.
3. Write a PHP Program to read the employee details.
4. Write a PHP Program to display the
5. Write a PHP program to prepare the student marks list.
6. Write a PHP program to generate the multiplication of two matrices.
7. Write a PHP Application to perform demonstrate the college website.
8. Write a PHP application to add new Rows in a Table.
9. Write a PHP application to modify the Rows in a Table.
10. Write a PHP application to delete the Rows from a Table.
11. Write a PHP application to fetch the Rows in a Table.
12. Develop an PHP application to make following Operations
    i. Registration of Users.
    ii. Insert the details of the Users.
    iii. Modify the Details.
    iv. Transaction Maintenance.
        a) No of times Logged in
        b) Time Spent on each login.
        c) Restrict the user for three trials only.
        d) Delete the user if he spent more than 100 Hrs of transaction.

Wordpress Lab

1. Installation and configuration of word press.
2. Create a site and add a theme to it.

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SEMESTER – VI **PAPER – VIII** **Max. Marks 75**

Syllabus Advanced java Script: JQUERY/AJAX/JSON/ANGULAR JS
NO Of Hours:4Credits: 3 **Pass Marks 30**

Course Objective: To impart knowledge in designing a webpage in a structured way by using advanced java script ie., using different scripting languages

UNIT-1:JQuery – Basics: **10 Hrs**

String, Numbers, Boolean, Objects, Arrays, Functions, Arguments, Scope, Built-in Functions. jQuerySelectors: CSS Element Selector, CSS Element ID Selector, CSS Element Class Selector, CSS Universal Selector, Multiple Elements E, F, G Selector, Callback Functions. jQuery – DOM Attributes: Get Attribute Value, Set Attribute Value. jQuery – DOM Traversing : Find Elements by index, Filtering out Elements, Locating Descendent Elements, JQuery DOM Traversing Methods.

Unit – II: jQuery – CSS Methods : **10 Hrs**

Apply CSS Properties, Apply Multiple CSS Properties, Setting Element Width & Height, JQuery CSS Methods. jQuery – DOM Manipulation Methods: Content Manipulation, DOM Element Replacement, Removing DOM Elements, Inserting DOM elements, DOM Manipulation Methods. jQuery – Events Handling: Binding event handlers, Removing event handlers, Event Types, The Event Object, The Event Attributes. jQuery – Effects: JQuery Effect Methods, jQuery Hide and Show, jQuery Toggle, jQuery Slide – slideDown, slideUp, slideToggle, jQuery Fade – fadeIn, fadeOut, fadeTo, jQuery Custom Animations

Unit – III: Intro to jQuery UI **15 Hrs**

, Need of jQuery UI in real web sites, Downloading jQuery UI, Importing jQuery UI, Draggable, Droppable, Resizable, Selectable, Sortable, Accordion, Auto Complete, Button Setϖ, Date Picker, Dialog, Menu, Progress Bar, Slider, Spinner, Tabs, Tooltip, Color Animation, Easing Effects, addClass, removeClass, Effects, jQuery UI themes, Customizing jQuery UI widgets / plug-ins, jQuery UI with CDN, Consuming jQuery Plug-ins from 3rd party web sites jQuery Validations, Intro to jQuery validation plug-in, Using jQuery validation plug-in, Regular expressions.

Unit – IV: Intro to AJAX **15 Hrs**

Need of AJAX in real web sites, Getting database data using jQueryAJAX, Inserting, Updating, Deleting database data using jQuery-AJAX Grid Development using jQuery-AJAX Intro to JSON JSON syntax, Need of JSON in real web sites, JSON object, JSON array, Complex JSON objects, Reading JSON objects using jQuery.

Unit – V: Intro to AngularJS **15 Hrs**

Need of AngularJS in real web sites, Downloading AngularJS, AngularJS first example, AngularJS built-in directives, AngularJS expressions, AngularJS modules, AngularJS controllers, AngularJS scope AngularJS dependency injection AngularJS, bootstrapping AngularJS data bindings, AngularJS $watch, AngularJS filters, AngularJS events, AngularJS AJAX, Ng-repeat, AngularJS with json arrays, AngularJS registration form and login form, AngularJS CRUD operations, AngularJS Animations, AngularJS validationsϖ AngularJS $q, AngularJS custom values, AngularJS custom factories, AngularJS custom services, AngularJS custom directives, AngularJS custom providers, AngularJS Routing, AngularUI Routing.

References:

1. jQuery UI 1.8: The User Interface Library for jQuery by Dan Wellman
2. jQuery Fundamentals by Rebecca Murphey 3. Ajax: The Complete Reference by Thomas A. Powell

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SEMESTER – VI **PAPER – VIII** **Max. Marks 75**

Model PaperAdvanced java Script: JQUERY/AJAX/JSON/ANGULAR JS

NO Of Hours:3 **No Of Credits: 3** **Pass Marks 30**

Section- A

Answer **FIVE** Questions. Each Question carries **FIVE** Marks. **5*5=25M**

1 .What is jquery? Write a simple program to display welcome message.

2. Write a jquery-dom attributes.

3. How we can apply css properties in j query?

4. Write a program for jquery fade In, fade Out.

5. Discuss in detail about jquery UI categorization.

6. Write a need of AJAX in real websites.

7. What is ISON? Write a syntax &need of ISON in real websites.

8. Write a short notes angularJS built-in directives.

Section- B

Answer **FIVE** Questions. Each Question carries **TEN** Marks **5*10=50M**

9. Explain in detail about DOM traversing methods.

10. Explain detail about jquery-dom manipulation methods.

11. Explain detail about jquery even handling methods.

12. Write a program for droppable , resizable using jquery UI.

13. How can we manipulate the data in a database using jquery-AJAX.

14. What is JSON object ? Discuss in detail about complex JSON objects.

15. What is angular JS ? Need of angular JS in real websites &write any example program.

16. Write a program for registration from and login from using Angular JS.

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SEMESTER – VI PAPER – VIII Max. Marks 75 Pass Marks 30

Guidelines for paper setting –'**Advanced java Script: JQUERY/AJAX/JSON/ANGULAR JS'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (Essay questions)
Unit-1	2	1
Unit-2	2	2
Unit-3	1	1
Unit-4	2	2
Unit-5	1	2

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.

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SEMESTER – VI **PAPER – VIII** **Max. Marks 50**

Lab ListAdvanced java Script: JQUERY/AJAX/JSON/ANGULAR JS **Pass Marks 25**

No. of Hours per week: 3 **External: 25** **Internal: 25**

Credits: 2

1. Using jQuery find all textareas, and makes a border.Then adds all paragraphs to the jQuery object to set their borders red.
2. Using jQuery add the class "w3r_font_color" and w3r_background to the last paragraph element.
3. Using jQuery add a new class to an element that already has a class.
4. Using jQuery insert some HTML after all paragraphs.
5. Using jQuery insert a DOM element after all paragraphs.
6. Convert three headers and content panels into an accordion. Initialize the accordion
   And specify the animate option
7. Convert three headers and content panels into an accordion. Initialize the accordion and specify the height.
8. Create a pre-populated list of values and delay in milliseconds between a keystroke occurs and a search is performed.
9. Initialize the button and specify the disable option.
10. Initialize the button and specify an icon on the button.
11. Initialize the button and do not show the label.
12. Create a simple jQuery UI Datepicker. Now pick a date and store it in a textbox.
13. Initialize the date picker and specify a text to display for the week of the year column heading.

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COMPUTER SCIENCE	**CSC-601(EL-A)**	**2018-'19**	**B.Sc.(MPCs, MCCs)**

SEMESTER – VI **PAPER – VII Max. Marks 75**

Syllabus **OPERATING SYSTEMS**

No Of Hours 3 **Credits 3** **Pass Marks 30**

Course Objectives

1. To understand the services provided by and the design of an operating system.
2. To understand the structure and organization of the file system.
3. To understand what a process is and how processes are synchronized and scheduled.
4. To understand different approaches to memory management.
5. Students should be able to use system calls for managing processes, memory and the file system.

Unit – I: Operating System Introduction: **12 Hrs**

Operating Systems Objectives and functions, Computer System Architecture, OS Structure, OS Operations, Evolution of Operating Systems - Simple Batch, Multi programmed, time shared, Parallel, Distributed Systems, Real-Time Systems, Operating System services.

Unit – II: Process and CPU Scheduling: **12 Hrs**

Process concepts - The Process, Process State, Process Control Block, Threads, Process Scheduling - Scheduling Queues, Schedulers, Context Switch, Pre-emptive Scheduling, Dispatcher, Scheduling Criteria, Scheduling algorithms, Case studies: Linux, Windows.Process Coordination - Process Synchronization, The Critical section Problem, Synchronization Hardware, Semaphores, and Classic Problems of Synchronization, Monitors.Case Studies: Linux, Windows.

Unit – III: Memory Management and Virtual Memory Management **14 Hrs**

Logical & physical Address Space, Swapping, Contiguous Allocation, Paging, Structure of Page Table. Segmentation, Segmentation with Paging, Virtual Memory, Demand Paging, Performance of Demanding Paging, Page Replacement Page Replacement Algorithms, Allocation of Frames.

Unit – IV: File System Interface and Mass Storage Structure **12 Hrs**

The Concept of a File, Access methods, Directory Structure, File System Mounting, File Sharing, Protection, File System Structure. Overview of Mass Storage Structure, Disk Structure, Disk Attachment, Disk Scheduling.

Unit - V: Deadlocks **10 Hrs**

System Model, Deadlock Characterization, Methods for Handling Deadlocks, Deadlock Prevention, Deadlock Avoidance, Deadlock Detection and Recovery from Deadlock.

Prescribed Text Book:

1. Operating System Principles,Abraham Silberchatz,Peter B. Galvin, Greg Gagne 8th Edition.

Reference Books:

2. Principles of Operating Systems by Naresh Chauhan, OXFORD University Press
3. Operating systems - Internals and Design Principles, W. Stallings, 6th Edition, Pearson.
4. Modern Operating Systems, Andrew S Tanenbaum 3rd Edition PHI.
5. Operating Systems A concept - based Approach, 2nd Edition, D. M. Dhamdhere, TMH.
6. Principles of Operating Systems, B. L. Stuart, Cengage learning, India Edition.

Student Activity: 1. Load any new operating system into your computer.

2. Partition the memory in your system 3. Create a semaphore for process synchronization

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SEMESTER – VI **PAPER – VII Max. Marks 75**

Model Paper **OPERATING SYSTEMS**

NO Of Hours: 3No Of Credits: 3 **Pass Marks 30**

Section- A

Answer **FIVE**Questions. Each Question carries **FIVE** Marks. **5X5=25M**

1. What is Operating System? Explain Operating System structure?
2. Describe Operating System Operations?
3. Explain process control Blocks.
4. Write about Dining Philosophers Problem?
5. Differences between Logical Address and Physical Address Spaces
6. Write about Virtual Memory?
7. Write about file Operations?
8. Write about Banker's Algorithm?

Section- B

Answer **FIVE**the Questions. Each Question carries **TEN** Marks **5X10=50M**

9. Explain Computer System Architecture?
10. Explain different types of Operating Systems?
11. Explain about process Scheduling?
12. Explain about Semaphore?
13. Explain about Swapping?
14. Explain about page Replacement?
15. Explain about Disk Scheduling?
16. Explain dead lock Characterisation?

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SEMESTER – VI **PAPER – VII** **Max. Marks 75**

Syllabus **COMPUTER NETWORKS**

NO Of Hours:3 Credits: 3 **Pass Marks 30**

Course Objectives:

1. To provide an introduction to the fundamental concepts on data communication and the design of computer networks.
2. To get familiarized with the basic protocols of computer networks.

Unit – I: Introduction & The Physical Layer: **12 Hrs**

Uses of Computer Networks, Network Hardware, Network Software, Reference Models, Example Networks. The Theoretical Basis for Data Communication, Guided Transmission Media, Wireless Transmission, The Public Switched Telephone Network,

Unit – II: The Data Link Layer & The Medium Access Control Sub-layer: **12 Hrs**

Data Link Layer Design Issues, Error Detection and Correction, Sliding Window Protocols.
The Channel Allocation Problem, Multiple Access Protocols, Ethernet, Data Link Layer Switching.

Unit – III: The Network Layer: **12 Hrs**

Network Layer Design Issues, Routing Algorithms, Congestion Control Algorithms, Quality of Service Internet Working, Network Layer in the Internet.

Unit – IV: The Transport Layer: **12 Hrs**

The Transport Service, Elements of Transport Protocols, Congestion Control Algorithms, The Internet Transport Protocols: UDP, The Internet Transport Protocols: TCP.

Unit – V: The Application Layer: **12 Hrs**

DNS – The Domain Name System, Electronic Mail, The World Wide Web, Real Time Audio & Video, Content Delivery & Peer-to-Peer.

Prescribed Text Book:

1. Andrew S. Tanenbaum, "Computer Networks", Fifth Edition, Pearson Education.

Reference Books:

2. Bhushan Trivedi, Computer Networks , Oxford University Press
3. James F.Kurose, Keith W.Ross, "Computer Networking", Third Edition, Pearson Education
4. Behrouz A Forouzan, "Data Communications and Networking", Fourth Edition, TMH (2007).
5. Kurose & Ross, "COMPUTER NETWORKS" – A Top-down approach featuring the Internet", Pearson Education – Alberto Leon – Garciak.

Student Activity:

1. Study the functioning of network devices available in your organization .
2. Prepare a pictorial chart of LAN connections in your organization

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SEMESTER – VI **PAPER – VII** **Max. Marks 75**

Model Paper **COMPUTER NETWORKS**

NO Of Hours:3 **No Of Credits: 3** **Pass Marks 30**

Section- A

Answer **FIVE** Questions. Each Question carries **FIVE** Marks. **5*5=25M**

1. What is Network? Write about Wireless Network?
2. Describe Time Division Multiplexing?
3. Write a short note on Framing?
4. Write about Manchester Encoding?
5. Describe Fragmentation
6. Write about Store and Forward Packet Switching?
7. Write about UDP?
8. Describe Domain Name System and Domain Name Space?

Section- B

Answer **FIVE**Questions. Each Question carries **TEN** Marks **5*10=50M**

9. Explain about OSI Reference Model?
10. Explain about different types of Guided Transmission Media?
11. What is Sliding Window Protocols? Explain One Bit Sliding Window Protocol.
12. Explain about Spanning Tree Bridges and Remote Bridges?
13. What is Routing Algorithm? Explain about any Three Routing Algorithms
14. Explain about Network layers in the Internet
15. What is TCP Protocol? Write about how to connect TCP Establishment
16. Explain about World Wide Web

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SEMESTER – VI **PAPER – VIII** **Max. Marks 75**

Syllabus **FOUNDATION OF DATA SCIENCE** **[Cluster A]**

Course Objective:

Modern scientific, engineering, and business applications are increasingly dependent on data, existing traditional data analysis technologies were not designed for the complexity of the modern world. Data Science has emerged as a new, exciting, and fast-paced discipline that explores novel statistical, algorithmic, and implementation challenges that emerge in processing, storing, and extracting knowledge from Big Data

Unit – I: Introduction to Data Science **12 Hrs**

Introduction to Data Science: Data science process – roles, stages in data science project – working with data from files – working with relational databases –exploring data – managing data – cleaning and sampling for modelling and validation –introduction to No SQL.

Unit – II: Modelling Methods **12 Hrs**

Modelling Methods: Choosing and evaluating models – mapping problems to machine learning, evaluating clustering models, validating models – cluster analysis – Kmeansalgorithm, Naïve Bayes Memorization Methods – Linear and logistic regression –unsupervised methods.

Unit – III: Introduction to R Language **12 Hrs**

Introduction to R Language: Reading and getting data into R – ordered and unordered factors – arrays and matrices – lists and data frames – reading data from files – probability distributions – statistical models in R - manipulating objects – data distribution.

Unit – IV: Map Reduce **12 Hrs**

Map Reduce: Introduction – distributed file system – algorithms using map reduce, Matrix-Vector Multiplication by Map Reduce – Hadoop - Understanding the Map Reduce architecture - Writing Hadoop Map Reduce Programs - Loading data into HDFS – Executing the Map phase - Shuffling and sorting - Reducing phase execution.

Unit – V: Delivering Results **12 Hrs**

Delivering Results: Documentation and deployment – producing effective presentations– Introduction to graphical analysis – plot() function – displaying multivariate data – matrix plots – multiple plots in one window - exporting graph - using graphics parameters. Case studies.

Reference Books

1.Nina Zumel, John Mount, "Practical Data Science with R", Manning Publications, 2014.
2.Jure Leskovec, AnandRajaraman, Jeffrey D.Ullman, "Mining of Massive Datasets", Cambridge University Press, 2014.
3.Mark Gardener, "Beginning R - The Statistical Programming Language", John Wiley & Sons, Inc., 2012.
4.W. N. Venables, D. M. Smith and the R Core Team, "An Introduction to R", 2013.
5.Tony Ojeda, Sean Patrick Murphy, Benjamin Bengfort, AbhijitDasgupta, "Practical Data Science Cookbook", Packt Publishing Ltd., 2014.

Student Activity:

1. Collect data from any real time system and create clusters using any clustering algorithm
2. Read the student exam data in R perform statistical analysis on data and print results.

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SEMESTER – VI **PAPER – VIII** **Max. Marks 75**

Model Paper **FOUNDATION OF DATA SCIENCE** **[Cluster A]**

Section-A

Answer **FIVE** Questions. Each Question carries **FIVE** Marks. **5 X 5=25M**

1. Write about working with data from files?
2. Describe Transaction statements in NoSQL.
3. Write about Memorization methods.
4. Write about Unsupervised methods.
5. Write about data distributed.
6. Describes Haddop
7. Write about Shuffling and sorting.
8. How to Exporting Graphs.

Section-B

Answer **FIVE** Questions. Each Question carries **TEN** Marks. **5 X 10=50M**

9. Write about Data exploring, Data Managing , Data Cleaning
10. Explain about data science process roles
11. Write about Clustering models and validating models.
12. Explain about Linear and logistic regression.
13. Write about types of arrays along with Matrix multiplication program in R.
14. Explain about List and data frames.
15. Write a simple Hadoop Map Reduce Program with proper explanation
16. What is plot() function ? How can we display multivariate data?

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SEMESTER – VI **PAPER – VIII** **Max. Marks 75**

Syllabus **BIG DATA TECHONOLOGY** **[Cluster A]**

Course Objective

The Objective of this course is to provide practical foundation level training that enables immediate and effective participation in big data projects. The course provides grounding in basic and advanced methods to big data technology and tools, including MapReduce and Hadoop and its ecosystem

Unit-I: Introduction to Big Data **12 Hrs**

Introduction to Big Data: Introduction – distributed file system – Big Data and its importance, Four V's in bigdata, Drivers for Big data, Big data analytics, Big data applications. Algorithms using map reduce, Matrix-Vector Multiplication by Map Reduce.

Unit-II: Introduction Hadoop **12 Hrs**

Introduction Hadoop : Big Data – Apache Hadoop & Hadoop EcoSystem – Moving Data in and out of Hadoop – Understanding inputs and outputs of MapReduce - Data Serialization.

Unit- III : Hadoop Architecture **12 Hrs**

Hadoop Architecture: Hadoop Architecture, Hadoop Storage: HDFS, Common Hadoop Shell commands , Anatomy of File Write and Read., NameNode, Secondary NameNode, and DataNode, Hadoop MapReduce paradigm, Map and Reduce tasks, Job, Task trackers - Cluster Setup – SSH & Hadoop Configuration – HDFS Administering – Monitoring & Maintenance.

Unit-IV: Hadoop Ecosystem and Yarn **12 Hrs**

Hadoop Ecosystem And Yarn :Hadoop ecosystem components - Schedulers - Fair and Capacity, Hadoop 2.0 New Features- NameNode High Availability, HDFS Federation, MRv2, YARN, Running MRv1 in YARN.

Unit-V: Hive and Hiveql, Hbase **12 Hrs**

Hive And Hiveql, Hbase:-Hive Architecture and Installation, Comparison with Traditional Database, HiveQL - Querying Data - Sorting And Aggregating, Map Reduce Scripts, Joins & Subqueries, HBase concepts- Advanced Usage, Schema Design, Advance Indexing - PIG, Zookeeper - how it helps in monitoring a cluster, HBase uses Zookeeper and how to Build Applications with Zookeeper.

Reference Books

1. Boris lublinsky, Kevin t. Smith, Alexey Yakubovich, "Professional Hadoop Solutions", Wiley, ISBN: 9788126551071, 2015.
2. Chris Eaton, Dirk deroos et al. , "Understanding Big data ", McGraw Hill, 2012.
3. Tom White, "HADOOP: The definitive Guide" , O Reilly 2012.
4. Vignesh Prajapati, "Big Data Analytics with R and Haoop", Packet Publishing 2013.
5. Tom Plunkett, Brian Macdonald et al, "Oracle Big Data Handbook", Oracle Press, 2014.
6. Jy Liebowitz, "Big Data and Business analytics",CRC press, 2013.

Student Activity:

1. Collect real time data and justify how it has become Big Data
2. Reduce the dimensionality of a big data using your own map reducer

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COMPUTER SCIENCE	**CSC-602 (CL-B)**	**2018-'19**	**B.Sc.(MPCs,MCCs)**

SEMESTER – VI **PAPER – VIII** **Max. Marks 75**

Model Paper **BIG DATA TECHONOLOGY** **[Cluster A]**

Section-A

Answer**FIVE** Questions. Each Question carries **FIVE** Marks. 5 X 5=25M

1. Explain about Distributed file system?
2. Explain about Big data applications?
3. Explain Data Serialization?
4. Explain Moving Data in Hadoop?
5. Write a short note on Task trackers?
6. Explain Secondary Name Node?
7. Explain about Hadoop 2.0 New Features?
8. Explain Joins & Sub queries?

Section -B

Answer **FIVE** Questions. Each Question carries **TEN M**arks. 5 X 10=50M

9. What is Big data? And explain Four V's in big data?
10. What is Big data analytics?
11. What is Hadoop? Explain the Inputs and Outputs of map Reduce?
12. Explain Apache Hadoop and Hadoop Eco System?
13. Explain the Hadoop architecture?
14. Explain common Hadoop Shell Commands?
15. What is Hadoop ecosystem? Explain about components?
16. Explain the Hive Architecture and HS Installation?

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COMPUTER SCIENCE	**CSC-602(CL-C)**	**2018-'19**	**B.Sc.(MPCs,MCCs)**

SEMESTER – VI **PAPER – VIII** **Max. Marks 75**

Syllabus COMPUTING FOR DATA ANALYTICS [Cluster A]

Course Objectives
The objective of this course is to teach fundamental concepts and tools needed to understand the emerging role of business analytics in Organizations.

Unit – I: Data Analytics Life Cycle **12 Hrs**

Data Analytics Life Cycle: Introduction to Big data Business Analytics – State of the practice in analytics role of data scientists - Key roles for successful analytic project - Main phases of life cycle - Developing core deliverables for stakeholders.

Unit – II: Statistics Sampling Techniques **12 Hrs**
Statistics Sampling Techniques : Data classification, Tabulation, Frequency and Graphic representation - Measures of central value - Arithmetic mean, Geometric mean, Harmonic mean, Mode, Median, Quartiles, Deciles, Percentile - Measures of variation – Range, IQR, Quartile deviation, Mean deviation, standard deviation, coefficient variance, skewness, Moments & Kurtosis.

Unit – III : Probability and Hypothesis Testing **12 Hrs**
Probability and Hypothesis Testing: Random variable, distributions, two dimensional R.V, joint probability function, marginal density function. Random vectors - Some special probability distribution - Binomial, Poison, Geometric, uniform, exponential, normal, gamma and Erlang. Multivariate normal distribution - Sampling distribution – Estimation - point, confidence – Test of significance, 1& 2 tailed test, uses of t-distribution, F-distribution, $\chi 2$distribution.

Unit – IV: Predictive Analytics **12 Hrs**
Predictive Analytics: Predictive modeling and Analysis - Regression Analysis, Multicollinearity, Correlation analysis, Rank correlation coefficient, Multiple correlation, Least square, Curve fitting and goodness of fit.

Unit – V: Time Series Forecasting and Design of Experiments **12 Hrs**
Time Series Forecasting And Design Of Experiments: Forecasting Models for Time series: MA, SES, TS with trend, season - Design of Experiments, one way classification, two way classification, ANOVA, Latin square, Factorial Design.

Reference Books:
1. Chris Eaton, Dirk Deroos, Tom Deutsch etal., "Understanding Big Data", McGrawHIll,2012.
2. Alberto Cordoba , "Understanding the Predictive Analytics Lifecycle", Wiley, 2014.
3. Eric Siegel, Thomas H. Davenport , "Predictive Analytics: The Power to Predict Who Will Click, Buy, Lie, or Die", Wiley, 2013.
4. James R Evans, "Business Analytics – Methods, Models and Decisions", Pearson 2013.

Student Activity:
1. Collect data from any real time system and create clusters using any clustering algorithm
2. Read the student exam data in R perform statistical analysis on data and print results

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SEMESTER – VI **PAPER – VIII** **Max. Marks 75**

Model Paper COMPUTING FOR DATA ANALYTICS [Cluster A]

Section-A

Answer**FIVE** Questions. Each Question carries **FIVE** Marks. 5 X 5=25M

1. Describe Big data Business analytics
2. What are the roles for Successful Analytic Project
3. Write about frequency and Graphic representation
4. Describe Measures of variation
5. Write a short note on Tabulations
6. Describe sampling distribution
7. Explain Rank Correlation
8. Write about ANOVA

Section - B

Answer**FIVE** Questions. Each Question carries **TEN** Marks. 5 X 10=50M

9. Explain Main Phases of Life Cycle Analytical Project
10. Explain Developing core deliverables for stakeholders
11. Explain Arithmetic , Geometric & Harmonic mean
12. Explain about Coefficient variance
13. Explain Sampling distribution
14. Write about Two dimensional R.V
15. Explain about Regression Analysis
16. Explain forecasting models for time series

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COMPUTER SCIENCE	CSC-603 (CL-A)	2018-'19	B.Sc.(MPCs,MCCs)

SEMESTER – VI **PAPER – VIII** **Max. Marks 75**

Syllabus **DISTRIBUTED SYSTEM** **[Cluster B]**

Course Objectives

1. To expose the fundamentals of distributed computer systems, assuming the availability of facilities for data transmission.
2. To discuss multiple levels of distributed algorithms, distributed file systems, distributed databases, security and protection

Unit-I: **12 Hrs**

Introduction to Distributed Computing Systems, System Models, and Issues in Designing a Distributed Operating System, Examples of distributed systems.

Unit-II: **12 Hrs**

Features of Message Passing System, Synchronization and Buffering, Introduction to RPC and its models, Transparency of RPC, Implementation Mechanism, Stub Generation and RPC Messages, Server Management, Call Semantics, Communication Protocols and Client Server Binding.

Unit-III: **12 Hrs**

Introduction, Design and implementation of DSM system, Granularity and Consistency Model, Advantages of DSM, Clock Synchronization, Event Ordering, Mutual exclusion, Deadlock, Election Algorithms.

Unit-IV: **12 Hrs**

Task Assignment Approach, Load Balancing Approach, Load Sharing Approach, Process Migration and Threads.

Unit-V: **12 Hrs**

File Models, File Accessing Models, File Sharing Semantics, File Caching Schemes, File Replication, Atomic Transactions, Cryptography, Authentication, Access control and Digital Signatures.

Reference Books

1.Pradeep. K. Sinha: " Distributed Operating Systems: Concepts and Design " , PHI, 2007.
2 .George Coulouris, Jean Dollimore, Tim Kindberg: " Distributed Systems" , Concept and Design, 3rd Edition, Pearson Education, 2005.

Student Activity:

1. Implementation of Distributed Mutual Exclusion Algorithm.
2. Create a Distributed Simulation Environment.

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COMPUTER SCIENCE	**CSC-603 (CL-A)**	**2018-'19**	**B.Sc.(MPCs,MCCs)**

SEMESTER – VI **PAPER – VIII** **Max. Marks 75**

Model Paper **DISTRIBUTED SYSTEM** **[Cluster B]**

Model Paper

Section -A

Answer **FIVE** Questions. Each Question carries **FIVE** Marks. 5 X 5=25M

1. Write short notes on distributed system?
2. What is work station Model?
3. Explain about RPC?
4. Explain Communication Protocols?
5. Write Advantages of DSM?
6. Describe Clock Synchronization
7. Write a short note on Thread
8. Explain Cryptography?

Section -B

Answer **FIVE** Questions. Each Question carries **TEN** Marks. 5 X 10=50M

9. Explain different models in distributed System
10. Explain issues in distributed operating System
11. Explain Client Server Binding?
12. Explain Transparency of RPC in Distributed Systems
13. Explain Design and implementation of DSM system
14. Explain about deadlock?
15. Describe theLoad – Balancing Approach
16. Explain File Accessing model?

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COMPUTER SCIENCE	CSC-603 (CL-B)	2018-'19	B.Sc.(MPCs,MCCs)

SEMESTER – VI **PAPER – VIII** **Max. Marks 75**

Syllabus **CLOUD COMPUTING** **[Cluster B]**

Course Objectives: The student will learn about the cloud environment, building software systems and components that scale to millions of users in modern internet, cloud concepts capabilities across the various cloud service models including Iaas, Paas, Saas, and developing cloud based software applications on top of cloud platforms.

Unit-I **12 Hrs**

Cloud Computing Overview – Origins of Cloud computing – Cloud components - Essential characteristics – On-demand self-service , Broad network access , Location independent resource pooling , Rapid elasticity , Measured service

Unit-II **12 Hrs**

Cloud scenarios – Benefits: scalability , simplicity , vendors ,security. Limitations – Sensitive information - Application development – Security concerns - privacy concern with a third party - security level of third party - security benefits Regularity issues: Government policies

Unit-III **12 Hrs**

Cloud architecture: Cloud delivery model – SPI framework , SPI evolution , SPI vs. traditional IT Model Software as a Service (SaaS): SaaS service providers – Google App Engine, Salesforce.com and google platfrom – Benefits – Operational benefits - Economic benefits – Evaluating SaaS Platform as a Service (PaaS): PaaS service providers – Right Scale – Salesforce.com – Rackspace – Force.com – Services and Benefits

Unit-IV **12 Hrs**

Infrastructure as a Service (IaaS): IaaS service providers – Amazon EC2 , GoGrid – Microsoft soft implementation and support – Amazon EC service level agreement – Recent developments – **Benefits Cloud deployment model** : Public clouds – Private clouds – Community clouds - Hybrid clouds - Advantages of Cloud computing

Unit-V **12 Hrs**

Virtualization: Virtualization and cloud computing - Need of virtualization – cost , administration , fast deployment , reduce infrastructure cost - limitations
Types of hardware virtualization: Full virtualization - partial virtualization - para virtualization
Desktop virtualization: Software virtualization – Memory virtualization - Storage virtualization – Data virtualization – Network virtualization Microsoft Implementation: Microsoft Hyper V – Vmware features and infrastructure – Virtual Box - Thin client
Reference Books

1. Cloud computing a practical approach - Anthony T.Velte , Toby J. Velte Robert Elsenpeter TATA McGraw- Hill , New Delhi - 2010

2. Cloud Computing: Web-Based Applications That Change the Way You Work and Collaborate Online - Michael Miller - Que 2008

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SEMESTER – VI **PAPER – VIII** **Max. Marks 75**

Model Paper **CLOUD COMPUTING** **[Cluster B]**

Section -A

Answer **FIVE**Questions. Each Question carries **FIVE** Marks. **5 X 5=25M**

1. What are the components of Cloud Computing?
2. Write about Broad-Network Access?
3. Write about Scalability?
4. Explain Government Policies?
5. Explain Google App Engine
6. Explain PaaS Service Providers?
7. Write about Amazon EC2?
8. Write about need of Virtualization?

Section -B

Answer **FIVE** Questions. Each Question carries **TEN** Marks. **5 X 10=50M**

9. What is Cloud Computing? Explain about essential Characteristics?
10. Explain about Measured service in Cloud Computing?
11. Explain Limitations of Cloud Computing
12. Explain Security concern and Privacy concern with third party
13. Explain SPI Framework
14. Explain Evaluating SaaS?
15. Explain Cloud deployment model
16. Explain different types of virtualization?

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COMPUTER SCIENCE	CSC-603 (CL-C)	2018-'19	B.Sc.(MPCs,MCCs)

SEMESTER – VI PAPER – VIII Max. Marks 75

Syllabus **GRID COMPUTING** **[Cluster B]**

Course Objectives:

The student will learn about the Grid environment, building software systems and components that scale to millions of users in modern internet, Grid concepts capabilities across the various Grid services..

Unit-I: Concepts and Architecture **12 Hrs**

Concepts And Architecture :Introduction-Parallel and Distributed Computing-Cluster Computing-Grid Computing- Anatomy and Physiology of Grid- Web and Grid Services-Grid Standards - OGSA-WSRF - Trends, Challenges and applications.

Unit- II : Grid Monitoring **12 Hrs**

Grid Monitoring :Grid Monitoring Architecture (GMA) - An Overview of Grid Monitoring Systems- R-GMA –Grid ICE – MDS- Service Level Agreements (SLAs) -Other Monitoring Systems- Ganglia, Grid Mon, Hawkeye and Network Weather Service.

Unit-III: Grid Security and Resource Management **12 Hrs**

Grid Security and Resource Management: Grid Security-A Brief Security Primer-PKI-X509 Certificates-Grid Security-Grid Scheduling and Resource Management, Grid way and Grid bus Broker-principles of Local Schedulers- Overview of Condor, SGE, PBS, LSF -Grid Scheduling with Qo**S.**

Unit-IV Data Management and Grid Portals **12 Hrs**

Data Management And Grid Portals :Data Management-Categories and Origins of Structured Data-Data Management Challenges-Architectural Approaches-Collective Data Management Services-Federation Services-Grid Portals-Generations of Grid Portals.

Unit-V Grid Middleware **12 Hrs**

Grid Middleware: List of globally available Middleware's - Case Studies-Recent version of Globus Toolkit and gLite - Architecture, Components and Features. Features of Next generation grid.

Reference Books

1. Ian Foster, Carl Kesselman, The Grid 2: Blueprint for a New Computing Infrastructure, Elsevier Series, 2004.

2. Vladimir Silva, Grid Computing for Developers, Charles River Media, January 2006.

3. Parvin Asadzadeh, Rajkumar Buyya, Chun Ling Kei,Deepa Nayar, and Srikumar Venugopal, Global Grids and Software Toolkits: A Study of Four Grid Middleware Technologies, High Performance Computing : Paradigm and Infrastructure, Laurence Yang and Minyi Guo (editor s), Wiley Press, New Jersey, USA, June 2005.

Student Activity:

1. Implement and analyze any one Grid Resource Sharing algorithm.
2. List out various security issues with Grid

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SEMESTER – VI **PAPER – VIII** **Max. Marks 75**

Model Paper **GRID COMPUTING** **[Cluster B]**

Section-A

Answer **FIVE** Questions. Each Question carries **FIVE** Marks. **5 X 5=25M**

1. Explain Cluster computing?
2. Explain Grid services?
3. Write about SLAs?
4. Explain about MDS?
5. Explain Grid security?
6. Write about Grid Scheduling with QoS?
7. Explain the Generations of Grid Portals?
8. What are the features of Next Generation Grid?

Section -B

Answer **FIVE** Questions. Each Question carries **TEN** Marks. **5 X 10=50M**

9. What is Grid Computing? Explain the Parallel and Distributed Computing?
10. Explain about Grid Standards and Applications?
11. Explain Grid Monitoring Architecture?
12. Explain Ganglia, Grid Mon and Hawkeye Services?
13. Explain Grid scheduling and Resource Management?
14. Explain about Grid way and Grid Bus Broker?
15. Explain Categories and Origins of structured Data Management?
16. Explain list of globally available Middleware's?

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COMPUTER SCIENCE	**CSC PROJ-602P**	**2018-'19**	**B.Sc.(MPCs)**

SEMESTER – VI PROJECT(PHP & MYSQL)Max. Marks 100

OBJECTIVE

The objective of the Project Course is to help the students to study, analyze and design software or utility for different problems or applications. This will improve the skills of software development of the students.

MARKS FOR PROJECT EVALUATION

The project course will be evaluated for **100** Marks, of which **75**marks are meant for the practical evaluation of a project and **25** marks are allotted for attending viva-voce examination. The passing minimum in the project work will be 50% of the total mark. i.e. the student should get minimum 50% marks in the project evaluation and the viva-voce examination. Thus, the minimum mark the student is required to obtain is 50 out of 100 marks.

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COMPUTER SCIENCE	CCSC 505C	2018-'19	B.Com.(C.A.)

SEMESTER – V PAPER – V Max. Marks 75

Syllabus **PROGMAMMING IN C**

NO Of Hours: 5No Of Credits: 3 **Pass Marks 30**

Unit- I: Introduction to Algorithms and Programming Languages: 12 Hrs

Algorithm – Key features of Algorithms – Some more Algorithms – Flow Charts. Introduction to C: Structure of C Program – Writing the first C Program – File used in C Program – Compiling andExecuting C Programs Using Comments – Keywords – Identifiers – Basic Data Types in C – Variables Constants – I/O Statements in C- Operators in C- Programming Examples – Type Conversion and Type Casting

Unit-II: Decision Control and Looping Statements 12 Hrs

Introduction to Decision Control Statements – Conditional Branching Statements – Iterative Statements – Nested Loops – Break and Continue Statement – Go to Statement

Unit- III: Functions 12 Hrs

Introduction – using functions – Function declaration/ prototype – Function definition – function call – return statement – Passing parameters – Scope of variables – Storage Classes – Recursive function

Unit- IV: Arrays 12 Hrs

Introduction – Declaration of Arrays – Accessing elements of the Array – Storing Values in Array Calculating the length of the Array – Operations on Array – one dimensional array for inter-function communication – Two dimensional Arrays –Operations on Two Dimensional Arrays

Strings: Introduction String and Character functions

Unit-V: Pointers: 12 Hrs

Understanding Computer Memory – Introduction to Pointers – declaring Pointer Variables Passing Arguments to Functions using Pointer.

Structure, Union, and Enumerated Data Types: Introduction – Nested Structures – Unions – Enumerated Data Types.

Reference Books:

1. Reema Thareja, Introduction to C programming, Oxford University Press.

2. E Balagurusamy, Computing Fundamentals & C Programming – Tata McGraw-Hill, 2008. 3. Ashok N Kamthane, Programming with ANSI and Turbo C, Pearson Publisher, 2002. 4. Henry Mulish & Hubert L.Coo Reema Thareja: The Spirit of C: An Introduction to Modern Programming, Jaico Publishing House,1996.

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COMPUTER SCIENCE	**CCSC 505C**	**2018-'19**	**B.Com.(C.A.)**

SEMESTER – V **PAPER – V** **Max. Marks 75**

Model Paper **PROGMAMMING IN C**

Section- A

Answer **FIVE** Questions. Each Question carries **FIVE** Marks. **5*5=25M**

1. Write a short note on Algorithm?
2. Explain data types in C?
3. Explain Jump Statements?
4. Write a short note on 'if'- statements?
5. Explain Call by Value and Call by Reference
6. Describe recursive function with an example?
7. Explain one dimensional array with example?
8. Write about pointers

Section- B

Answer **FIVE** the Questions. Each Question carries **TEN** Marks **5*10=50M**

9. Explain different types of programming languages?
10. Explain about different Categories of Operators in 'C'?
11. Explain Decision Making Looping statements with examples?
12. Explain different categories of functions?
13. Explain about Storage Classes?
14. Write about two dimension arrays? Give an example program?
15. Explain briefly about String function in 'C'?
16. Difference between Structures and Unions?

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COMPUTER SCIENCE	CCSC 505C	2018-'19	B.Com.(C.A.)

SEMESTER – V PAPER – V Max. Marks 75 Pass Marks 30

Guidelines for paper setting **'PROGMAMMING IN C'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	CCSC-505P	2018-'19	B.Com.(C.A.)

SEMESTER – V PAPER – I IIMax. Marks 50 Pass Marks 25

LABLISTPROGRAMMING IN C

No. of Hours per week: 2 External: 25 Internal: 25 Credits: 2

1. Find out the given number is perfect number or not using c program.
2. Write a C program to check whether the given number is Armstrong or not.
3. Write a program to find roots of quadratic equation.

   Root 1 = (-b + sqrt (b^2 - 4ac) / 2a Root 2 = (-b - sqrt (b^2 - 4ac) / 2a
4. Write a C program to find the sum of individual digits of a positive integer.
5. Write a C program to print the Fibonacci series
6. Write a C program to generate the first n terms of the Fibonacci sequence.
7. Write a program to find factorial of a given number using recursion
8. Write a program to perform all arithmetic operations using switch case
9. Write a C program to generate all the prime numbers between 1 and n, where n is a Value supplied by the user.
10. Write a C program to find both the largest and smallest number in a list of integers.
11. Write a C program that uses functions to perform the following:
    a. Addition of Two Matrices
    b. Multiplication of Two Matrices
12. Write a program to perform various string operations
13. Write a program to swap two numbers using pointers.
14. Write C program that implements searching of given item in a given list
15. Write a C program to sort a given list of integers in ascending order

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COMPUTER SCIENCE	CCSC 506C	2018-'19	B.Com.(C.A.)

SEMESTER – V PAPER – VI Max. Marks 75

Syllabus **DATA BASE MANAGEMENT SYSTEMS**

NO Of Hours: 5No Of Credits: 3 **Pass Marks 30**

Course Objective: Design & develop database for large volumes & varieties of data with optimized data processing techniques.

Unit – 1: Database Systems Introduction **12Hrs**

Database Systems: Introducing the database and DBMS, Why the database is important,
Historical Roots: Files and File Systems, Problems with File System, Data Management, Database Systems. *Data Models:* The importance of Data models, Data Model Basic Building Blocks, The evaluation of Data Models.

Unit - II: Relational Database & Data Modelling **12 Hrs**

The Relational Database Model: A logical view of Data, Keys, Integrity Rules, Relational Set Operators, Indexes, Codd's relational database rules.*Entity Relationship Model:* The ER Model
Advanced Data Modelling: The Extended Entity Relationship Model, Entity clustering.

Unit-III: Normalization and Database Design **14 Hrs**

Normalization of database tables: Database Tables and Normalization, The need for Normalization, The Normalization Process, High level Normal Forms, Normalization and database design, de normalization.

Unit-IV: Structured Query Language **12 Hrs**

Introduction to SQL: Data Definition Commands, Data Manipulation Commands, Select queries, Advanced Data Definition Commands, Advanced Select queries, Virtual Tables, SQL Join Operators,

Unit-V: Procedural SQL **10 Hrs**

Introduction to PL/SQL : Triggers, Stored Procedures, Pl/ SQL Stored Functions

Prescribed Text Book:

1. **Peter Rob, Carlos Coronel, Database Systems Design, Implementation and Management, Seventh Edition, Thomson (2007).**

Reference Books:

3. Elimasri / Navathe, Fundamentals of Database Systems, Fifth Edition, Pearson Addison Wesley
4. Raman A Mata – Toledo/Panline K Cushman, Database Management Systems, Schaum's Outlibe series, Tata McGraw Hill (2007).
5. C.J.Date, A.Kannan, S.Swamynathan, An Introduction to Database Systems, Eight edition, Pearson Education (2006).
6. "DatabaseSystemConcepts" by AbrahamSilberschatz, Henry Korth, and S.Sudarshan, McGrawhill
7. Atul Kahate, Introduction to Database Management Systems, Pearson Education (2006).

Student Activity:

1. Create your college database for placement purpose.
2. Create faculty database of your college with their academic performance scores

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SEMESTER – V **PAPER – VI Max. Marks 75**

Model Paper **DATA BASE MANAGEMENT SYSTEMS**

NO Of Hours: 5No Of Credits: 3 **Pass Marks 30**

Section-A

Answer any **FIVE** Questions. Each question carries **FIVE** Marks **4x5=25M**

1. Explain the Components of Database System.
2. Explain Entity Relationship Model .
3. Write about Relational Set Operators.
4. Explain Integrity rules.
5. Describe BCNF.
6. Write about D Normalization.
7. Write about Special Functions.
8. Explain Stored Procedures.

Section-B

Answer any **FIVE** Questions. Each question carries **TEN** Marks **5X10=50M**

9. What is File? Explain the problems with File system
10. Explain any three different Data Models
11. Explain E.F.CODDs' rules.
12. Explain Extended Entity Relationship Model.
13. Explain the concept of Normal Forms.
14. Explain different join operators
15. Explain DDL and DML commands.
16. Explain about triggers.

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COMPUTER SCIENCE	CCSC 506C	2018-'19	B.Com.(C.A.)

SEMESTER – V PAPER – VI Max. Marks 75 Pass Marks 30

Guidelines for paper setting '**DATA BASE MANAGEMENT SYSTEMS'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	CCSC-506P	2018-'19	B.Com(CA)

SEMESTER – V **PAPER – IV** **Max. Marks 50**

Lab List DATA BASE MANAGEMENT SYSTEMS Pass Marks 25

No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

1. Creation of college database and establish relationships between tables
2. Explain various data type in Oracle.
3. Show the structure of the Emp table.
4. Show the structure of the DEPT table.
5. Explain the syntax of SELECT statement.
6. Create a query to display the name, job, hiredate and employee number from emp table.
7. Create a query to display unique jobs from the emp table.
8. Create a query to display the empno as EMP#, ename as EMPLOYEE and Hire_date from emp.
9. Create a query to display all the data from the EMP table. Separate each column by a comma and name the column THE_OUTPUT.
10. Create a query to display the name and salary of employees earning more than 2850.
11. Create a query to display the name and salary for all employees whose salary is not in the range of 1500 and 2850.
12. Display the employee name, job and start date of employees hired between February 20 ,1981 and May 1, 1981. Order the query in ascending order of start date
13. Display the employee name and department number of all the employees in departments 10 and 30 in alphabetical order by name.
14. List the name and salary of employees who earn more than 1500 & are in department 10 or 30.
15. Display the name, salary and commissions and sort data in descending order of salary and commission.
16. Display the name and job title of all employees who do not have a manager.
17. Display the name, job and salary for all employees whose job is Clerk or Analyst and their salary is not equal to 1000, 3000 or 5000.
18. Display the names of all employees where the third letter of their name is an 'A'.
19. Display the names of all employees who have two 'L's in their name and are in department 30 or their manager is 7782.
20. Display the name , salary and commission for all employees whose commission amount is grater than their salary increased by 10%.
21. Explain all the character functions.
22. Explain all the number functions.
23. Explain all the Date functions.

Create Student database using the following tables.

STUDENT: Sno : primary key, numberSname : NOT NULL, varchar2 Address: Varchar2

COURSE: Sno : Foreign key.Course Name : varchar2

Queries:

1. Alter table by adding a column fees in table COURSE.
2. Alter table by modifying the address to VARCHAR2(20)

3. Create a view on which the students who joined in one course only.

PL/SQL.

1. Write A Pl/Sql Program To Swap Two Numbers Without Using Third Variable.
2. Write A Pl/Sql Program To Generate Multiplication Tables For Numbers 2,4 And 6
3. Write A Pl/Sql Program To Display Sum Of Even Numbers And Sum Of Odd Numbers In The Given Range.
4. Write A Pl/Sql Program To Check The Given Number Is Pollinndrome Or Not.
5. Write A Pl/Sql Program To Display Top 10 Rows In Emp Table Based On Their Job And Salary.

Reference Books:

1. Oracle Pl/Sql By Example. Benjamin Rosenzweig, Elena Silvestrova, Pearsoneducation 3rd Edition

2. Sql & Pl/Sql For Oracle 10g, Black Book, Dr.P.S. Deshpande

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COMPUTER SCIENCE	**CCSC-507C**	**2018-'19**	**B.Com.(CA)**

SEMESTER – V **PAPER – VIII** **Max. Marks 75**

Syllabus **WEB TECHNOLOGIES**

NO Of Hours: 5No of Credits: 3 **Pass Marks 30**

Unit -I Introduction to XHTML:
Introduction to HTML, Basic html, Document body text, Hyper links, Adding more formatting Lists, Tables, Images, Multimedia Objects, Frames, Forms and XHTML.

Unit- II: CSS:
Cascading Style Sheets: Introduction, Defining your own styles, properties and values in styles, Formatting blocks of information, Layers.
Java Script: java Script, the basics, Variables, String Manipulations, Mathematical functions, Statements, Operators, Arrays, Functions.

Unit –III: Objects in Java Script & Dynamic HTML with Java Script
Objects in Java Script: Data and objects in java script, Regular expressions, Exception Handling, Built in objects, Events.
Dynamic HTML with Java Script: Data validation, Opening a new window, Messages and Confirmations, The status bar, Writing to a different frame, Rollover buttons, Moving images, Multiple pages in a single download, A text-only menu system, Floating logos.

Unit –IV: XML Defining Data for Web Applications

XML: Introduction to XML, Basic XML, document type definition, XML Schema, Document object model, presenting XML, Using XML parser.

Unit -V:JSP:

JSP Lifecycle, Basic Syntax, EL (Expression Language), EL Syntax, Using EL Variables

Prescribed Books:

1.Chris Bates, Web Programming Building Internet Application, Second Edition, Wiley
2.Head First Servlets and JSP 2nd Edition, Bryan Basham, Kathy Sierra
2. Uttam Kumar Roy, Web Technologies from Oxford University Press

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COMPUTER SCIENCE	**CCSC-507C**	**2018-'19**	**B.Com(CA)**

SEMESTER – V **PAPER – VIII** **Max. Marks 75**

Model Paper **WEB TECHNOLOGIES**

No of Credits: 3 **Pass Marks 30**

Section-A

Answer **FIVE** Questions. Each Question carries **FIVE** Marks. 5 X 5=25M

1. Write about structure of HTML Document with an example
2. Explain about lists in HTML
3. Write about properties used in Style Sheet
4. Write about arrays in Java Script
5. Describe Data Object
6. Write about Rollover buttons
7. Describe XML Elements
8. Write the syntax of EL and EL variables

Section-B

Answer **FIVE** Questions. Each Question carries **TEN** Marks. 5 X 10=50M

9. Explain about hyper links? Write about how to link another pages
10. What is Form? Explain about forms with examples
11. What is CSS? How to design Cascading style sheet
12. Explain about Mathematical Functions
13. Explain about Regular Expressions
14. Write about Data validations in DHTML
15. Explain about Document Object Model
16. Explain about JSP Lifecycle with neat diagram

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COMPUTER SCIENCE	CCSC-507C	2018-'19	B.Com(CA)

SEMESTER – VI PAPER – VIII Max. Marks 75 Pass Marks 30

Guidelines for paper setting **'WEB TECHNOLOGIES'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	1	2
Unit-4	2	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
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COMPUTER SCIENCE	COM-CSC-605	2018-19	B.Com (C.A)

SEMESTER –VI **PAPER – IX** **Total: 60 Hrs**

Syllabus **TALLY**

Credits 3 **NO Of Hours 5** **Pass Marks 30**

Unit-I: Introduction to Tally: **12Hrs**

Introduction, Software versions of Tally, Terminology related to Accounts credit & Debit, Journal, Ledger, Voucher, Group etc. Difference between Manual Accounting and Accounting Packages. Features and advantages of Tally.

Unit-II: Introduction of Tally Software **12Hrs**

Introduction of Tally Software Creation of a company, Gateway of Tally, Accounts Information, Groups, pre defined Groups, Creation of New Groups, Creation of sub Group.

Unit-III: Ledgers **12Hrs**

Ledger Creation Single and multiple Ledgers, Displaying & altering Ledgers, configure Ledger, Stock Ledger, Ledgers and their Group Allocation.

Unit-IV: Vouchers **12Hrs**

Types of vouchers – recording of vouchers – entry of payment voucher, Receipt voucher, sales voucher, purchase voucher, Journal Voucher, Contra Voucher, Debit & Credit Note. Creating New Voucher types, customizing the Existing voucher types, Alternation of Voucher, Deletion of Voucher.

Unit-V: Final Accounts **12Hrs**

Customizing the final accounts – Profit and Loss Account, Balance Sheet. Key board shortcuts in Tally. Generating the Reports from Tally, Trial Balance, Account Books, Sales, Purchase, Journal Registers, Statement of Accounts, Day Book, List of Accounts.

Reference Books:

1. K. Kiran Kumar, Tally ERP9.
2. Tally 9 In Simple Steps, Kogent solutions Inc., John Wiley & Sons, 2008.
3. Narmata Agarwal, Financial Accounting on Computers Using Tally, Dreamtech Press, 2000.
4. Tally 9.0, Google eBook, Computer World.
5. Vikas Gupta, Comdex Computer and Financial Accounting with Tally 9.0, 2007.
6. Tally ERP 9 Made Simple Basic Financial Accounting, BPB Publisher.
7. Avichi Krishnan, Tally ERP 9 for Real Time Accounting, Book Ganga.

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COMPUTER SCIENCE	**COM-CSC-605**	**2017-18**	**B.Com (C.A)**

SEMESTER –VI **PAPER – IX** **Total: 60 Hrs**

Model Paper TALLY

Credits 3 **NO Of Hours 5** **Pass Marks 30**

Answer **FIVE** Questions. Each Question carries **FIVE** Marks. **5x5=25M**

1. Differentiate between Manual Accounting and Accounting Packages?
2. What are the features of Tally?
3. How to maintain account information? Explain
4. How to create a new group in Tally
5. Explain how to create a stock ledger?
6. How to display and alter a ledger?
7. Explain contra Voucher
8. Write a short note on Day Book

Section- B

Answer **FIVE**the Questions. Each Question carries **TEN** Marks 5 X 10=50M

9. Explain evolution of Tally and what are the features and advantages of Tally
10. Explain versions of Tally software
11. Explain about Gateway of Tally
12. Explain about Group and predefined Groups
13. Explain ledger creation
14. How to create a single and multiple ledgers
15. Explain different types of vouchers?
16. Explain how to generate the reports from Tally?

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COMPUTER SCIENCE	**CCSC-605CE**	**2018-19**	**B.Com (C.A)**

SEMESTER –VI **PAPER – IX** **Max. Marks 75** **Pass Marks 30**

Guidelines for paper setting **'TALLY'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	COMCSC-605P	2017-18	B.Com.(C.A.)

SEMESTER – VI **PAPER – V** **Max. Marks:50**
Pass Mark: 25

TALLY

No. Of Hours per week: 3 **External: 25** **Internal: 25** **Credits: 2**
Lab list

1. Architecture and customization of Tally
2. Configuration of Tally
3. Tally Screens and Menus
4. Creation of new company and groups.
5. Preparation of voucher entries.
    a. Payment voucher creation
    b. Receipt voucher creation
    c. Sales voucher creation
    d. Purchase voucher creation
    e. Contra voucher creation
    f. Journal voucher creation
6. Ledger Creation.
7. Preparation of VAT
8. Preparation of TDS
7. Preparation of Trail balance
8. Preparation of Profit and loss statement.
9. Preparation of Balance Sheet
10. Preparation of Bank Reconciliation Statement.
11. Example Exercise

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COMPUTER SCIENCE	COM-CSC-606	2017-18	B.Com (C.A)

SEMESTER –VI **PAPER – X** **Total: 60 Hrs**

Syllabus **E-COMMERCE**

Credits 3 **NO Of Hours 5** **Pass Marks 30**

Unit-I: **Introduction to E-Commerce**

Scope, Definition, e-Commerce and the Trade Cycle, Electronic Markets, Electronic Data Interchange, Internet Commerce. Business Strategy in an Electronic Age: Supply Chains, Porter's Value Chain Model, Inter Organizational Value Chains, Competitive Strategy, First Mover Advantage – Sustainable Competitive Advantage, Competitive Advantage using E-Commerce – Business Strategy.

Unit-II:Business-to-Business Electronic Commerce

Characteristics of B2B EC, Models of B2B EC, Procurement Management by using the Buyer's Internal Market place, Just in Time Delivery, Other B2B Models, Auctions and Services from traditional to Internet Based EDI, Integration with Back-end Information System, Role of Software Agents for B2B EC, Electronic marketing in B2B, Solutions of B2B EC, Managerial Issues, Electronic Data Interchange (EDI), EDI: Nuts and Bolts EDI and Business.

Unit-III: Internet and Extranet

Automotive Network Exchange, Largest Extranet, Architecture of the Internet, Intranet and Extranet, Intranet software, Applications of Intranets, intranet Application Case Studies, Considerations in Intranet Deployment, Extranets, Structures of Extranets, Extranet products and services, Applications of Extranets, Business Models of Extranet Applications, Managerial Issues. Electronic Payment Systems: Issues and Challenges .

Unit-IV:Public Policy:

From Legal Issues to Privacy : Legal Incidents, Ethical and Other public Policy Issues, Protecting Privacy, Protecting Intellectual Property, Free speech, Internet Indecency and Censorship, Taxation and Encryption Policies, Other Legal Issues: Contracts, Gambling and More, Consumer and Seller Protection in EC.

Unit-V:Infrastructure For EC

Network of Networks, Internet Protocols, Web- Based client/Server, Internet Security, Selling on the Web, Chatting on the Web, Multimedia delivery, Analyzing Web Visits, Managerial Issues, Equipment required for establishing EC Sites – problems in Operation – Future of EC.

Reference Books

1. David Whiteley, "E-Commerce", Tata McGraw Hill, 2000.
2. E Business by Parag Kulakarni and Sunitha Jahirabadkar from Oxford University Press.
3. E Business by Jonathan Reynolds from Oxford University Press.
4. Eframi Turban, Jae Lee, David King, K. Michael Chung, "Electronic Commerce",
5. Pearson Education, 2000.

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COMPUTER SCIENCE	**COM-CSC-606**	**2017-18**	**B.Com (C.A)**

SEMESTER –VI **PAPER – X** **Total: 60 Hrs**
Syllabus **E-COMMERCE**

Credits 3 **NO Of Hours5** **Pass Marks 30**

Section-A

Answer **FIVE** Questions. Each Question carries **FIVE** Marks. **5*5=25M**

1. Explain Electronic data interchange?
2. Write about Value Chain Model
3. What are the characteristics of B2B Electronic Commerce
4. What is the role of software agents for B2B Electronic Commerce?
5. Write about applications of Intranet?
6. Explain the structure of Extranet?
7. Explain encryption policies?
8. Write about Internet protocols?

Section-B

Answer **FIVE** Questions. Each Question carries **TEN** Marks. **5*10=50M**

9. What are the advantages and limitations of E-commerce?
10. Write Business Strategy in an Electronic age
11. Explain Electronic Data Interchange(EDI)
12. Explain different Models of B2B Electronic Commerce?
13. Explain the Architecture of Internet?
14. Explain Business Models of Extranet Applications?
15. Explain Ethical and Other public Policy Issues?
16. Explain about the future of EC

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COMPUTER SCIENCE	**COM-CSC-606**	**2017-18**	**B.Com (C.A)**

SEMESTER –VI **PAPER – X** **Max. Marks 75** **Pass Marks 30**

Guidelines for paper setting **'E-COMMERCE'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

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COMPUTER SCIENCE	CCSC-607CE	2018-19	B.Com (C.A)

SEMESTER –VI **PAPER – XI**

Syllabus **PHP& MY SQL**

Credits 5

Unit-I: Building blocks of PHP:

Variables, Data Types, Operators and Expressions, Constants. Flow Control Functions in PHP: Switching Flow, Loops, Code Blocks and Browser Output. Working with Functions: Defining Functions, Calling functions, returning the values from UserDefined Functions, Variable Scope, Saving State between Function calls with the Static statement, more about arguments.

Unit-II: Working with Arrays:

Arrays, Creating Arrays, Some Array-Related Functions. Working with Objects: Creating Objects, Object Instance. Working with Strings, Dates and Time: Formatting Strings with PHP, Investigating Strings with PHP, Manipulating Strings with PHP, Using Date and Time Functions in PHP.

Unit-III: Working with Forms:

Creating Forms, Accessing Form – Input with User defined Arrays, Combining HTML and PHP code on a single Page, Using Hidden Fields to save state, Redirecting the user, Sending Mail on Form Submission, Working with File Uploads. Working with Cookies and User Sessions: Introducing Cookies, Setting a Cookie with PHP, Session Function Overview, Starting a Session, Working with session variables, passing session Ids in the Query String, Destroying Sessions and Unsetting Variables, Using Sessions in an Environment with Registered Users.

Unit-IV: Working with Files and Directories:

Including Files with include(), Validating Files, Creating and Deleting Files, Opening a File for Writing, Reading or Appending, Reading from Files, Writing or Appending to a File, Working with Directories, Open Pipes to and from Process Using popen (), Running Commands with exec(), Running Commands with system ( ) or passthru ( ). Working with Images: Understanding the Image-Creation Process, Necessary Modifications to PHP, Drawing a New Image, Getting Fancy with Pie Charts, Modifying Existing Images, Image Creation from User Input.

Unit-V:Interacting with MySQL using PHP:

MySQL Versus MySQLi Functions, Connecting to MySQL with PHP, Working with MySQL Data. Creating an Online Address Book: Planning and Creating Database Tables, Creating Menu, Creating Record Addition Mechanism, Viewing Records, Creating the Record Deletion Mechanism, Adding Sub-entities to a Record.

References:

1. Julie C. Meloni, PHP MySQL and Apache, SAMS Teach Yourself, Pearson Education (2007).
2. Xue Bai Michael Ekedahl, The Web Warrior Guide to Web Programming, Thomson (2006).

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COMPUTER SCIENCE	**COM-CSC-607**	**2017-18**	**B.Com (C.A)**

SEMESTER –VI **PAPER – XI** **Total: 60 Hrs**
Syllabus PHP & MYSQL

Credits 5 **NO Of Hours 5** **Pass Marks 30**

Section-A

Answer **FIVE** Questions. Each Question carries **FIVE** Marks. 5*5=25M

1. Explain about different data types available in PHP?
2. Define function? Explain how to call the function?
3. Write a short note on Creating Objects
4. Explain about date and time functions?
5. Write about Session Function?
6. Explain about cookies?
7. Explain about Reading from files?
8. Describe how to create the Record AdditionMechanism?

Section-B

Answer **FIVE** Questions. Each Question carries **TEN** Marks. 5*10=50M

9. Explain different types of Operators in PHP?
10. Explain flow control functions in PHP?
11. What is an Array? Explain about array related functions.
12. Explain different string functions in PHP?
13. Explain about how to create and access a form in PHP?
14. Describe the working with session variables?
15. Explain working with Directories?
16. Explain about how to insert and retrieve the data in PHP?

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COMPUTEzR SCIENCE	COM-CSC-607	2017-18	B.Com (C.A)

SEMESTER –VI PAPER – XI Max. Marks 75 Pass Marks 30

Guidelines for paper setting **'PHP & MYSQL'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

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COMPUTER SCIENCE	**CCSC-607**	**2017-18**	**B.Com (C.A)**

SEMESTER –VI **PAPER – VI** **Total: 60 Hrs**

Lab List PHP, MySQL **Pass Marks 25**
No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

MySQL Lab Cycle

Cycle -1
An Enterprise wishes to maintain the details about his suppliers and other corresponding details. For that he uses the following details.
Suppliers (sid: Integer, sname: string, address: string)
Parts (pid: Integer, pname: string, color: string)
Catalog (sid: integer, pid: integer, cost: real)

The catalog relation lists the prices charged for parts by suppliers.

Write the following queries in SQL:

1. Find the pnames of parts for which there is some supplier.
2. Find the snames of suppliers who supply every part.
3. Find the snames of supplier who supply every red part.
4. Find the pnames of parts supplied by London Supplier abd by no one else.
5. Find the sid's of suppliers who charge more for some part than the average cost of that part.
6. For each part, find the sname of the supplier who charges the most for that part.
7. Find the sid's of suppliers who supply only red parts.
8. Find the sid's of suppliers who supply a red and a green part.
9. Find the sid's of suppliers who supply a red or green part.
10. Find the total amount has to pay for that suppler by part located from London.

Cycle – 2

An organisation wishes to maintain the status about the working hours made by his employees. For that he uses the following tables.

Emp (eid: integer, ename: string, age: integer, salary: real)
Works (eid: integer, did: integer, pct_time: integer)
Dept (did: integer, budget: real, managerid: integer)
An employee can work in more than one department; the pct_time field of the works relation shows the percentage of time that a given employee works in a given department.

Resolve the following queries.

1. Print the names and ages of each employee who works in both Hardware and Software departments.
2. For each department with more than 20 full time equivalent employees (i.e., where the part-time and full-time employees add up to at least that many full-time employees), print the did's together with the number of employees that work in that department.

3. Print the name of each employee whose salary exceeds the budget of all of the departments that he or she work in.
4. Find the managerid's of managers who manage only departments with budgets greater than 1,000,000.
5. Find the enames of managers who manage the departments with largest budget.
6. If a manager manages more than one department, he or she controls the sum of all the budgets for those departments. Find the managerid's of managers who control more than 5,000,000.
7. Find the managerid's of managers who control the highest amount.
8. Find the average manager salary.

PHP Lab Cycle

1. Write a PHP program to Display "Hello"
2. Write a PHP Program to display the today's date.
3. Write a PHP Program to read the employee details.
4. Write a PHP Program to display the
5. Write a PHP program to prepare the student marks list.
6. Write a PHP program to generate the multiplication of two matrices.
7. Write a PHP Application to perform demonstrate the college website.
8. Write a PHP application to add new Rows in a Table.
9. Write a PHP application to modify the Rows in a Table.
10. Write a PHP application to delete the Rows from a Table.
11. Write a PHP application to fetch the Rows in a Table.
12. Develop an PHP application to make following Operations
    i. Registration of Users.
    ii. Insert the details of the Users.
    iii. Modify the Details.
    iv. Transaction Maintenance.
        a) No of times Logged in
        b) Time Spent on each login.
        c) Restrict the user for three trials only.
        d) Delete the user if he spent more than 100 Hrs of transaction.

→Discussed and recommended the teaching and evaluation methods for approval of Academic Council.

Teaching methods:

Besides the conventional methods of teaching, we use modern technology i.e. Using of LMS and LCD projector to display on power board etc..for better understanding of concepts.

Evaluation of a student is done by the following procedure:

There are two components in the Valuation and Assessment of a student – Internal Assessment (**IA**) Semester Examinations (**SE). For the Batch of Students Admitted from 2018-19**.

Internal Assessment (IA)

- The maximum mark for IA is 30 and SE is 70 for theory; and for practical papers 50.
- Each IA written examination is of 1 hour's duration for 20 marks. The tests will be conducted centrally. The average of two such IA is calculated for 20 marks.
- Other Innovative Components will be for 5 Marks. The innovative component is for 5 marks, conducted during the class hours by the staff member/ in charge of the subject, in the form of assignments/ quiz/ seminars /ppt/Online- assignments/Open Book/Viva Voce/ Group work/ Mini Project/ Exhibition, etc. The topic and time for submission/ presentation will be announced by the staff member/ in charge of the subject in advance. Each student should explain and defend his/her presentation. For attendance 5 Marks are allotted.
- The semester examination will be of 3 hours with maximum 70 marks.
- There is no passing minimum marks for IA.

Semester Examinations (SE)

- A student should register himself/herself to appear for the Semester Examinations by payment of the prescribed fee.
- The Semester Examinations will be in the form of a comprehensive examination covering the entire syllabus in each subject. It will be of 3 hours duration & Foundation course 2 hours irrespective of the number of credits allotted to it.
- If a candidate fails to obtain pass marks even after the due to less mark in the IA examination, the marks of the next examination will be converted to be out of 100.
- Even though the candidate is absent for two IA exams/obtain zero marks the external marks are considered (if he/she gets 40/70) and the result shall be declared as 'PASS'.
- The maximum marks for each Paper shall be 100.

Evaluation of a student is done by the following procedurefor All II & III Year B.Sc. (MPCs) &B.Com.(C.A). For the Batch of Students Admitted from 2016-17.

Internal Assessment Examinations:

i) Out of maximum 100 marks in each paper, 25 marks shall be allocated for internal assessment.

ii) Out of these 25 marks, 20 marks are allocated for announced internal tests. Two announced internal tests will be conducted and average of these two tests shall be deemed as the marks obtained by the student, remaining 5 marks are allocated on the basis of candidate's percentage of attendance.

Semester-End Examinations:

i) The maximum marks for Semester-End examinations shall be 75 marks and duration of the examination shall be 3 Hours.

ii) Semester-End examinations shall be conducted in theory papers and the practical papers are conducted at the end of every Semester for II & III B.Sc. (MPCs) only.

iii) Odd semester practical end examinations are to be evaluated by Internal Examiners and Even semester practical end examinations are to be evaluated by External Examiners.

iv) V semester end **C** practical examination are to be evaluated by Internal Examiners and Even semester **Tally** Practical examinations are to be evaluated by External Examiner forIII B.Com (Computers) students only.

Question paper guide lines for Practical Examinations at the end of Semesters III &IV
Two Practical Programs to be conducted out of 15 programs at the end of Semester III & IV
Practical Examination time 3Hrs and Maximum Marks 50
Scheme of valuation Semesters – II & IV B.Sc. (M.P.Cs), B.Com (Computers)

Computer Science Practical's - External (Time: 3 hrs.) Total Marks: 25M

1. Programs Writing (2)	:	10 marks,
2. Viva voice	:	5 marks
3. Execution &Result	:	10 marks
Total Marks	:	25

Computer Science Practical's- Internal Total Marks: 25M

1. Attendance	:	5 marks
2. Record	:	10 marks
3. Day to day observation	:	5marks
4. Problem solving and Execution	:	5 marks
Total Marks	:	25

1. Discussed and recommended for organizing Seminars, Guest lectures, Work-shops to upgrade the knowledge of students, for the approval of the Academic Council.Discussed and recommended to conduct certificate courses for Computer Science and Non-Computer Science students separately like TALLY ACCOUNTING PACKAGE, ADOBE PHOTOSHOP, DESKTOP PUBLISHING, COMPUTER HARDWARE AND NETWORKING, WEB DESIGNING, OPERATING SYSTEMS, ETC...
2. Discussed and empowered the HOD to suggest the panel of the paper setters and examiners to the controller of the examinations.
3. Nil.

Chairman

A.G& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

VUYYURU-521165, KRISHNA Dt., A.P.(Autonomous)

Accredited by NAAC with "A" Grade

2019-2020

DEPARTMENT OF COMPUTER SCIENCE

MINUTES OF BOARD OF STUDIES

EVEN SEMESTER

29-10-2019

Minutes of the meeting of Board of Studies in Computer Science for II B.Sc.(MPCs, MCCs), B.Com.(C.A.) and Foundation Course of AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru, held at 10.30 A.M on 29-10-2019 in the Department of Computer Science.

Sri T.Naga PrasadaRao ... Presiding

Members Present:

1)..... (T.Naga PrasadaRao)	Chairman	Head, Department of Computer Science AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
2)..... (Dr. R Kiran Kumar)	University Nominee	Professor, Dept of Computer Science, Krishna University, Machilipatnam.
3)..... (Dr. Suresh Sundaradasu)	Academic Council Nominee	Head, Department of Computer Science& Engineering, Dhanekula Institute of Engineering & Technology, Ganguru, JNTU(K), Vijayawada.
4)..... (Dr. K Bhagvan)	Academic Council Nominee	Professor, Department of Computer Science K.B.N College, Vijayawada.
5)..... (R. Sowjanya)	Industrial Excepert	.Net Developer, Mavensoft Systems Private limited Madaapur, Hyderabad.
6)..... (K Srikanth)	Member	Lecturer in Computer Science, AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165.
7)..... (L.Pujitha)	Member	Lecturer in Computer Science, AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
8)..... (A. Sravani)	Member	Lecturer in Computer Science, AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
9)..... (S.Prabhavathi)	Member	Lecturer in Computer Science, AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
10)..... (Ch. Sowmya Krishna)	Member	Lecturer in Computer Science, AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
11)..... (A.Precthi)	Member	Student in M.Sc. Computer Science, AG& SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
12)..... (G. Sai Maha Lakshmi)	Member	Student in B.Sc. Computer Science, AG& SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165

Agenda for B.O.S Meeting.

1. To recommend syllabi for II semester of I year, IV Semester of II year Degree B.Sc. (MPCs, MCCs.), B.Com (C.A.), & VI Semester of III year Degree B.Sc.(MCCs) Courses under Choice Based Credit System With Effect From Academic Year 2019-20.

2. To recommend the Model Question Papers, Lab programs list and Blue print of II semester of I year, IV Semester of II year Degree B.Sc.(MPCs, MCCs.), B.Com (C.A.), & VI Semester of III year Degree B.Sc.(MCCs) Courses under Choice Based Credit System With Effect From Academic Year 2019-20.

3. To recommend the Guidelines to be followed by the question paper setters in Computer Science for II semester of I year, IV Semesters of II year Degree B.Sc.(MPCs, MCCs.), B.Com (C.A.) & VI Semester of III year Degree B.Sc.(MCCs) Courses under Choice Based Credit System With Effect From Academic Year 2019-20.

4. To recommend any changes in the syllabi for II, IV, VI Semesters of I, II, III year Degree B.Sc.(MPCs, MCCs) and B.Com.(C.A.).

5. To recommend the teaching and evaluation methods to be followed under Autonomous status.

6. To recommend the certificate courses for all Computer Science and Non-Computer Science students any suggestions regarding seminars, workshops, Guest lecturers to be organized.

7. To recommend the panel of paper setters and examiners to the controller of the examinations of autonomous courses of AG & SG Siddhartha Degree College of Arts & Science College, Vuyyuru.

8. Discuss and recommend to introduce a Certificate course in "Computer Fundamentals & MS Office"

9. Any other matter.

Resolutions

1) Discussed and recommended as per the APSCHE guidelines and their instructions it is resolved to implement syllabi for II semester of I year, IV Semester of II year Degree B.Sc.(MPCs, MCCs.), B.Com (C.A.), & VI Semester of III year Degree B.Sc.(MCCs) Courses under Choice Based Credit System with Effect from Academic Year 2019-20.

2) Discussed and recommended as per the APSCHE guidelines and their instructions it is resolved to implement Model Question Papers, Lab Programs List and blue print for II semester of I year, IV Semester of II year Degree B.Sc.(MPCs, MCCs.), B.Com (C.A.), & VI Semesters of III year Degree B.Sc.(MCCs) Courses under Choice Based Credit System with Effect from Academic Year 2019-20.

3) Discussed and recommended the guidelines to be followed by Question Paper Setters in Computer Science for II semester of I year, IV Semester of II year Degree B.Sc.(MPCs, MCCs.), B.Com (C.A.), & VI Semesters of III year Degree B.Sc.(MCCs) Courses under Choice Based Credit System With Effect From Academic Year 2019-20.

4) Discussed and recommended the NO changes appeared as per previous paper in the syllabi ,Question Paper & Lab Cycle for

   - **II Semester of I Year B.Sc. (MPCs, MCCs) & B.Com.(CA).**
   - **IV Semester of II Year B.Sc. (MPCs,MCC's) & B.Com.(CA).**
   - **VI Semester of III Year B.Sc. (MPCs) & B.Com.(CA).**
   - **Foundation Course for All Degree Courses under Choice Based Credit System with Effect from Academic Year 2018-19.**

5) Discussed and recommended the teaching and evaluation methods for approval of Academic Council.

6) Discussed and recommended for organizing Seminars, Guest lectures, Work-shops to upgrade the knowledge of students, for the approval of the Academic Council. Discussed and recommended to conduct certificate courses for Computer Science and Non-Computer Science students separately.

7) **Discussed and recommended to introduce Certificate Course on "Basic Computer Applications & MS Office" with course code "BCAM102" for I MPC's.**

8) **Discussed and recommended to introduce Certificate Course on "Hardware and Networking" with course code "HANCC12" for II MPC's,MCC's,MPC,B.COM(CA).**

9) **Discussed and recommended to introduce Certificate Course on "AWS" with course code "CCAWS-01" for III MPC's ,MCC's & III B.COM(CA)**

10) It is resolved to suggest the panel of the paper setters and examiners to the controller of the examinations.

Chairman

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect from Academic Year 2018-'19)

COMPUTER SCIENCE	CSC-201C	2019-20	B.Sc. (MPCs, MCCs.)

SEMESTER – II PAPER – II Max. Marks 70 Pass Marks 28 Total Hrs: 60

Syllabus **PROGRAMMING IN C NO. Of. Hours: 4 Credits: 3**

UNIT I **15Hrs**

Introduction to Algorithms and Programming Languages: Algorithm – Key features of Algorithms - Some more Algorithms – Flow Charts – Pseudo code – Programming Languages – Generation of Programming Languages – Structured Programming Language.

Introduction to C: Introduction – Structure of C Program – Writing the first C Program –File used in C Program – Compiling and Executing C Programs – Using Comments – Keywords – Identifiers – Basic Data Types in C – Variables – Constants – I/O Statements in C- Operators in C- Programming Examples – Type Conversion and Type Casting

UNIT II **15Hrs**

Decision Control and Looping Statements: Introduction to Decision Control Statements –Conditional Branching Statements – Iterative Statements – Nested Loops – Break and Continue Statement – Goto Statement **Functions**: Introduction – using functions – Function declaration/ prototype – Function definition – function call – return statement – Passing parameters – Scope of variables –Storage Classes Recursive functions – Type of recursion – Towers of Hanoi – Recursion vs Iteration

UNIT III **10Hrs**

Arrays: Introduction – Declaration of Arrays – Accessing elements of the Array – Storing Values in Array – Calculating the length of the Array – Operations on Array – one dimensional array for inter-function communication – Two dimensional Arrays –Operations on Two Dimensional Arrays - Two Dimensional Arrays for inter-function communication – Multidimensional Arrays – Sparse Matrices

Strings: Introduction –Suppressive Input – String Taxonomy – String Operations – Miscellaneous String and Character functions

UNIT IV **10Hrs**

Pointers: Understanding Computer Memory – Introduction to Pointers – declaring Pointer Variables – Pointer Expressions and Pointer Arithmetic – Null Pointers – Generic Pointers - Passing Arguments to Functions using Pointer – Pointer and Arrays – Passing Array to Function – Difference between Array Name and Pointer – Pointers and Strings – Array of pointers – Memory Allocation in C Programs – Memory Usage – Dynamic Memory Allocation – Drawbacks of Pointers

Structure, Union, and Enumerated Data Types: Introduction – Nested Structures – Arrays of Structures – Structures and Functions – Self referential Structures – Union – Arrays of Unions Variables – Unions inside Structures – Enumerated Data Types

UNIT V **10Hrs**

Files: Introduction to Files – Using Files in C – Reading Data from Files – Writing Data from Files – Detecting the End-of-file – Error Handling during File Operations – Accepting Command Line Arguments – Functions for Selecting a Record Randomly - Remove() – Renaming a File – Creating a Temporary File

REFERENCE BOOKS

1. Introduction to C programming by REEMA THAREJA from OXFORD UNIVERSITY PRESS
2. E Balagurusamy: ―COMPUTING FUNDAMENTALS & C PROGRAMMING – Tata McGraw-Hill, Second Reprint 2008, ISBN 978-0-07-066909-3.
3. Ashok N Kamthane: Programming with ANSI and Turbo C, Pearson Edition Publ, 2002.
4. Henry Mullish & Huubert L.Cooper: The Spirit of C An Introduction to modern Programming, Jaico Pub. House,1996.

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COMPUTER SCIENCE	**CSC-201C**	**2019-20**	**B.Sc.(MPCs, MCCs.)**

SEMESTER – II **PAPER – II** **Max. Marks 70** **Pass Marks 28**

Syllabus **PROGRAMMING IN C** **NO. Of. Hours: 4** **Credits: 3**

Section- A

Answer FOUR Questions. Each Question carries FOUR Marks. 4*5=20M

1. Write a short note on Flowchart?
2. Explain about input and output Statements?
3. Explain storage classes?
4. Explain one dimensional array with example?
5. Explain dynamic memory allocation?
6. How to open a file?

Section- B

Answer FIVE the Questions. Each Question carries EIGHT Marks 5*10=50M

7. Explain different types of programming languages?
8. Explain about different Categories of Operators in 'C'?
9. Explain decision making Looping statements with examples?
10. Explain different categories of functions?
11. Write about two dimension arrays? Give an example program?
12. Explain briefly about string function in 'C'?
13. Difference between structures and unions?
14. Explain different file modes?

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COMPUTER SCIENCE	CSC-201c	2019-'20	B.Sc.(MPC's, MCCS)

SEMESTER – II PAPER – II Max. Marks 75

Guidelines for paper setting **'PROGRAMMING IN C'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	2
Unit-4	1	1
Unit -5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	CSC-201P	2019-'20	B.Sc.(MPCs, MCCs.)

SEMESTER – II PAPER – II Max. Marks 50 Pass Marks 25

LABLIST PROGRAMMING IN C

No. of Hours per week: 2 External: 25 Internal: 25 Credits: 2

1. Find out the given number is perfect number or not using c program.
2. Write a C program to check whether the given number is Armstrong or not.
3. Write a program to find roots of quadratic equation.
   Root 1 = (-b + sqrt (b^2 - 4ac) / 2a Root 2 = (-b - sqrt (b^2 - 4ac) / 2a
4. Write a C program to find the sum of individual digits of a positive integer.
5. Write a C program to print the Fibonacci series
6. Write a C program to generate the first n terms of the Fibonacci sequence.
7. Write a program to find factorial of a given number using recursion
8. Write a program to perform all arithmetic operations using switch case
9. Write a C program to generate all the prime numbers between 1 and n, where n is a Value supplied by the user.
10. Write a C program to find both the largest and smallest number in a list of integers.
11. Write a C program that uses functions to perform the following:
    a. Addition of Two Matrices
    b. Multiplication of Two Matrices
12. Write a program to perform various string operations
13. Write a program to swap two numbers using pointers.
14. Write C program that implements searching of given item in a given list
15. Write a C program to sort a given list of integers in ascending order

(With Effect from Academic Year 2018-'19)

COMPUTER SCIENCE	CCSC-203C	2019-20	B.Com.(C.A)

SEMESTER –II PAPER – II Max. Marks 70 Pass Marks 28 Totals Hrs 60

Syllabus: **ENTERPRISE RESOURCE PLANNING NO. Of. Hours: 5 Credits: 4**

Unit-I: Introduction: **12Hrs**
Overview of enterprise systems – Evolution - Risks and benefits - Fundamental technology - Issues to be consider in planning design and implementation of cross functional integrated ERP systems.

Unit- II: **ERP Solutions and Functional Modules:** **12Hrs**
Overview of ERP software solutions- Small, medium and large enterprise vendor solutions, BPR and best business practices - Business process Management, Functional modules.

Unit-III: ERP Implementation: **12Hrs**
Planning Evaluation and selection of ERP systems -Implementation life cycle - ERP implementation, Methodology and Frame work- Training – Data Migration - People Organization in implementation- Consultants, Vendors and employees.

Unit-IV: Post Implementation: **10Hrs**
Maintenance of ERP- Organizational and Industrial impact; Success and Failure factors of ERP Implementation.

Unit-V: **Emerging Trends on ERP**: **14Hrs**
Extended ERP systems and ERP add-ons -CRM, SCM, Business analytics - Future trends in ERP systems-web enabled, Wireless technologies, cloud computing.

References:
1. Alexis Leon, ERP demystified, second Edition Tata McGraw-Hill, 2008.
2. Sinha P. Magal and Jeffery Word, Essentials of Business Process and Information System, Wiley India, 2012
3. Jagan Nathan Vaman, ERP in Practice, Tata McGraw-Hill, 2008
4. Alexis Leon, Enterprise Resource Planning, second edition, Tata McGraw-Hill, 2008.
5. Mahadeo Jaiswal and Ganesh Vanapalli, ERP Macmillan India, 2009
6. Vinod Kumar Grag and N.K. Venkitakrishnan, ERP- Concepts and Practice, PHI, 2006.
7. Summer, ERP, Pearson Education, 2008

(With Effect from Academic Year 2018-'19)

COMPUTER SCIENCE	CCSC-203C	2019-'20	B.Com. (C.A)

SEMESTER – II **PAPER – II** **Max. Marks 70** **Pass Marks 28**

Model Paper **Enterprise Resource Planning** **NO Of Hours: 5 Credits: 4**

Section- A

Answer FOUR Questions. Each Question carries FIVE Marks. **4*5=20M**

1. Explain the Overview of ERP?
2. Write a short note on Small, Medium Business Vendor solution?
3. Explain Data Migration?
4. Explain Methodology and Frame work of ERP Implementation?
5. Explain Organizational impact on maintains of ERP?
6. Explain cloud computing?

Section- B

Answer FIVE the Questions. Each Question carries EIGHT Marks. **5*10=50M**

7. Explain Evolution of ERP.
8. Advantages and disadvantages of ERP.
9. Explain about functional Modules in ERP
10. Explain about Implementation life Cycle
11. Explain people Organisation in ERP implementation
12. Explain success and failure factors of ERP Implementation
13. Explain about Consumer Relation Ship Management (CRM) & Supply Chain Management (SCM)?
14. What are future trends in ERP system?

(With Effect from Academic Year 2018-'19)

COMPUTER SCIENCE	COM-CSC-203	2019-'20	B.Com.(C.A)

SEMESTER – II PAPER – II Max. Marks 75

Guidelines for paper setting **'**ENTERPRISE RESOURCE PLANNING'

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	1	2
Unit-2	1	1
Unit-3	2	2
Unit-4	1	1
Unit -5	1	2

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

COMPUTER SCIENCE	ICT-I-201	2019-'20	B.A, B.Com, B.Sc.

SEMESTER – II PAPER – I Max. Marks 50 Pass Marks 20 Total Hrs: 30

Syllabus Computer Fundamentals & Office Tools NO. Of Hrs: 2 Credits: 2

Unit-I : Basics of Computers 6 Hrs

Definition of a Computer - Characteristics and Applications of Computers – Block Diagram of a Digital Computer – Classification of Computers based on size and working Central Processing Unit – Input, Output and I/O Devices

Unit-II: Memory Devices & Operating Systems 6Hrs

Primary, Auxiliary and Cache Memory – Memory Devices – Software, Hardware, Firmware and People ware –Definition and Types of Operating System – Functions of an Operating System – MS-DOS MS-Windows – Desktop, Computer, Documents, Pictures, Music, Videos, Recycle Bin, Task Bar – Control Pane

Unit-III: MS-Word 6 Hrs

Features of MS-Word – MS-Word Window Components – Creating, Editing, Formatting and Printing of Documents – Headers and Footers – Insert/Draw Tables, Table Auto format – Page Borders and Shading – Inserting Symbols, Shapes, Word Art, Page Numbers, Equations – Spelling and Grammar – Thesaurus – Mail Merge

Unit-IV: MS-PowerPoint 6 Hrs

Features of PowerPoint – Creating a Blank Presentation - Creating a Presentation using a Template - Inserting and Deleting Slides in a Presentation – Adding Clip Art/Pictures - Inserting Other Objects, Audio, Video - Resizing and Scaling of an Object – Slide Transition – Custom Animation

Unit-V : MS-Excel 6 Hrs

Overview of Excel features – Creating a new worksheet, Selecting cells, Entering and editing Text, Numbers, Formulae, Referencing cells – Inserting Rows/Columns – Changing column widths and row heights, auto format, changing font sizes, colors, shading and attributes – Data Sorting and Filters – Functions – Functions requiring Addins, Functions by category Creating different types of Charts

Reference Books :

1. Fundamentals of Computers by V.Raja Raman, Publishers : PHI
2. Fundamentals of Computers by Reema Thareja, Publishers : Oxford University Press, India
3. Microsoft Office 2010 Bible by John Walkenbach, Herb Tyson, Michael R.Groh and Faithe Wempen, Publishers : Wiley

COMPUTER SCIENCE	ICT-I-201C	2019-'20	B.A, B.Com, B.Sc.

SEMESTER – II **PAPER – I** **Max. Marks 50** **Pass Marks 20**

Model paper **Computer Fundamentals & Office Tools** **NO. Of Hrs: 2** **Credits: 2**

SECTION-A

Answer FOUR of the following questions **4x5=20M**

1. Explain characteristics of Computer?
2. Explain any five Input devices?
3. Write about Desktop, Computer, Documents, Recycle Bin?
4. Explain about Cache Memory?
5. Explain inserting Headers and Footers in MS-Word?
6. How to Insert/Draw table in MS-Word?
7. Inserting and Deleting slides in presentation?
8. Explain inserting charts in MS-Excel?

SECTION-B

Answer THREE of the following questions **3X10=30M**

9. Explain Block diagram of a Digital Computer?
10. Explain Classification of Computers?
11. Explain Computer Memory?
12. Explain MS-Word Window Components with neat Diagram?
13. Creating power point presentation using Template?
14. Explain Excel Functions

COMPUTER SCIENCE	ICT-I-201	2019-'20	B.A, B.Com., B.Sc.

SEMESTER – II PAPER – I Max. Marks 50

Guidelines for paper setting **'COMPUTER FUNDAMENTALS & OFFICE TOOLS '**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	1
Unit-3	2	1
Unit-4	1	1
Unit -5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

COMPUTER SCIENCE	CSC-401C	2019-'20	B.Sc.(MPCs. , MCCs.)

SEMESTER – IV PAPER – IV Max. Marks 75 Pass Marks 30 Total Hrs 60

Syllabus DATA STRUCTURES NO Of Hours: 4 Credits: 4

UNIT I **15 Hrs**

Concept of Abstract Data Types (ADTs)- Data Types, Data Structures, Storage Structures, and File Structures, Primitive and Non-primitive Data Structures, Linear and Non-linear Structures. **Linear Lists** - ADT, Array and Linked representations, Pointers.

Arrays - ADT, Mappings, Representations, Sparse Matrices, Sets - ADT, Operations Linked Lists: Single Linked List, Double Linked List, Circular Linked List, applications

UNIT II **10 Hrs**

Stacks: Definition, ADT, Array and Linked representations, Implementations and Applications

Queues: Definition, ADT, Array and Linked representations, Circular Queues, De-queues, Priority Queues, Implementations and Applications.

UNIT III **15 Hrs**

Trees: Binary Tree, Definition, Properties, ADT, Array and Linked representations, Implementations and Applications. Binary Search Trees (BST) - Definition, ADT, Operations and Implementations, BST Applications. Threaded Binary Trees, Heap trees

UNIT IV **10Hrs**

Graphs – Graph and its Representation, Graph Traversals, Connected Components, Basic Searching Techniques, Minimal Spanning Trees

UNIT- V **10 Hrs**

Sorting and Searching: Selection, Insertion, Bubble, Merge, Quick, Heap sort, Sequential And Binary Searching.

TEXT BOOKS

1. Hubbard John R. and Hurray Anita, Data Structures with Java Paperback Prentice-Hall 2005 ISBN-10: 8120327454
2. Samanta D, Classic Data Structures, Prentice-Hall of India, 2001.
3. David Cousins, Introducing Data Structures with Java Kindle Edition, Pearson Education; First edition, 2011, ISBN-10: 8131758648, 464 pages

REFERENCE BOOKS

1. Sahani S, Data Structures, Algorithms and Applications in C++, McGraw-Hill, 2002
2. D S Malik, Data Structures Using C++, Thomson, India Edition 2006
3. Tremblay P, and Sorenson P G, Introduction to Data Structures with Applications, Tata McGraw-Hill,

COMPUTER SCIENCE	CSC-401C	2019-'20	B.Sc.(MPCs., MCCs.)

SEMESTER – IV PAPER – IV Max. Marks 75 Pass Marks 30 Total Hrs 60

Model Paper **DATA STRUCTURES NO Of Hours: 4 Credits: 3**

Section- A

Answer FIVE Questions. Each Question carries FIVE Marks. 5*5=25M

1. Explain about Primitive & Non primitive Data Structures?
2. Explain about Single Linked List?
3. Write about Applications of Stack?
4. Explain about D-Queue?
5. Write a Short note on Binary tree?
6. Explain ADT?
7. What is Graph? How to represent the Graph
8. Write a program to sort the elements in bubble sort?

Section- B

Answer FIVE the Questions. Each Question carries TEN Marks 5*10=50M

9. Explain Linked represents with array? With an Example?
10. Explain Sparse Matrices?
11. Explain stack operations?
12. What is a Queue? Explain Queue implementation?
13. Explain Tree traversing methods?
14. Explain Binary search tree?
15. Explain about BFS and DFS?
16. Explain about sequential and binary searching?

COMPUTER SCIENCE	CSC-401C	2019-'20	B.Sc.(MPCs., MCCs.)

SEMESTER – IV PAPER – IV Max. Marks 75

Guidelines for paper setting '**DATA STRUCTURES'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit -5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

COMPUTER SCIENCE	CSC-401P	2019-‘20	B.Sc.(MPCs., MCCs.)

SEMESTER – IV PAPER – IV Max. Marks 50 Pass Marks 25 TotalHrss:30

LAB LIST **DATA STRUCTURES**

No. of Hours per week: 2 External: 25 Internal: 25 Credits: 2

1. Write a Program to implement the Linked List operations
2. Write a Program to implement the Stack operations using an array.
3. Write Programs to implement the Queue operations using an array.
4. Write Programs to implement the Stack operations using a singly linked list.
5. Write Programs to implement the Queue operations using a singly linked list.
6. Write a program to search an item in a given list using Linear Search and Binary Search
7. Write a program for Quick Sort
8. Write a program for Merge Sort
9. Write a program for insertion sort
10. Write a program for Bubble Sort.
11. Write a program for selection Sort.
12. Write a program for Graph traversals

COMPUTER SCIENCE	CCSC-403C	2019-'20	B.Com.(C.A)

SEMESTER –IV PAPER – IV Max. Marks 75 Pass Marks 30 Total Hrs 60

Syllabus: **Business Analytics** **NO. Of. Hours: 5 Credits: 4**

Unit-I: **12Hrs**

Introduction - Business Analytics Life Cycle - Business Analytics Process - Data concepts - Data exploration & visualization - Business Analytics as Solution for Business Challenges .

Unit-II: **12Hrs**

Automated Data Analysis: Tabulation and Cross Tabulation of Data: Univariate, Bivariate and Multivariate Data Analysis – ANOVA.

Unit-III: **12Hrs**

Hypothesis Testing: Type 1 & 2 errors - T-test, ANOVA, Chi-Square and correlation- Linear Regression Analysis - Logistic Regression - Cluster Analysis - Market Basket Analysis.

Unit-IV: **14Hrs**

Business Data Management: Master Data Management: Data Warehousing and kinds of Architecture – Data Extraction – Transformation and Up-loading of Data – Data Mining – Meta Data – Data Marts – Creating Data Marts – Data Integration – OLTP and OLAP.

Unit-V: **10Hrs**

SPSS Packages – Applications and Case Studies.

Suggested Books:

1. Gupta S.P. "Statistical Methods", Sultan Chand, New Delhi, 2010.
2. K.V. Rao, "Research Methodology in Commerce and Management", Sterling Publishers, New Delhi, 2012.
3. T.S. Wilkinson & P.L. Bhandarkar, "Methodology and Techniques of Social Research", 2010.
4. Richard A.Johnson & Dean W.Wichern, "Applied Multivariate Statistical Analysis", Prentice Hall International Inc., 2007.
5. R.N Prasad and Seema Acharya, "Fundaments of Business Analytics", Wiley India
6. Pang-Ning Tan, Michael Steinbach & Vipin Kumar, "Introduction to Data Mining", Pearson, 2009.
7. Alex Berson, Stephen Smith & Kurt Thearling, "Building Data Mining Application forCRM", Tata McGraw Hill, New Delhi,2000.

COMPUTER SCIENCE	CCSC-403C	2019-'20	B.Com. (C.A)

SEMESTER – IV PAPER – IV Max. Marks 75 Pass Marks 30 Total Hrs: 60

Model Paper Business Analytics NO Of Hours: 5 Credits: 4

Section- A

Answer FIVE Questions. Each Question carries FIVE Marks. 5*5=25M

1. What is the role of Business Analyst?
2. Write a short note on Pivot table?
3. Explain methods of Tabulation?
4. Write a short note on ANOVA?
5. What is T-Test?
6. Explain Scatter diagram method?
7. Describe Data Warehouse?
8. Write a short note on SPSS?

Section- B

Answer FIVE the Questions. Each Question carries TEN Marks. 5*10=50M

9. Explain Business Analytics life cycle?
10. Define Data? Explain about different types of data?
11. Explain different types of Tabulation?
12. What is Hypothesis Testing? Explain One Tailed and Two Tailed test?
13. What is Regression? Explain Logistic Regression?
14. Explain about Data Marts?
15. Explain Different types of OLAP Architecture?
16. Explain Basic steps in working with SPSS?

(With Effect from Academic Year 2018-'19)

COMPUTER SCIENCE	CCSC-403	2019-'20	B.Com.(C.A.)

SEMESTER – IV PAPER – III Max. Marks 75

Guidelines for paper setting '**BUSINESS ANALYTICS**'

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	1
Unit-3	2	2
Unit-4	1	2
Unit -5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.

COMPUTER SCIENCE	CSC-601(GE)	2019-'20	B.Sc.(MPCs)

SEMESTER – VI **PAPER – VII** **Max. Marks 75**

Syllabus **WEB TECHNOLOGIES**

NO Of Hours: 4 **No of Credits: 3** **Pass Marks 30**

Course Objectives:

1. To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.
2. To provide skills to design interactive and dynamic web sites.

Unit -I Introduction to XHTML: 12 Hrs

Introduction to HTML, Basic html, Document body text, Hyper links, Adding more formatting Lists, Tables, Images, Multimedia Objects, Frames, Forms and XHTML.

Unit- II: CSS: 12 Hrs

Cascading Style Sheets: Introduction, Defining your own styles, properties and values in styles, Formatting blocks of information, Layers.

Java Script: java Script, the basics, Variables, String Manipulations, Mathematical functions, Statements, Operators, Arrays, Functions.

Unit –III: Objects in Java Script & Dynamic HTML with Java Script 12 Hrs

Objects in Java Script: Data and objects in java script, Regular expressions, Exception Handling, Built in objects, Events.

Dynamic HTML with Java Script: Data validation, Opening a new window, Messages and Confirmations, The status bar, Writing to a different frame, Rollover buttons, Moving images, Multiple pages in a single download, A text-only menu system, Floating logos.

Unit –IV: XML Defining Data for Web Applications 12 Hrs

XML: Introduction to XML, Basic XML, document type definition, XML Schema, Document object model, presenting XML, Using XML parser.

UNIT-V: JSP: JSP Lifecycle, Basic Syntax, EL (Expression Language), EL Syntax, Using EL Variables

Prescribed Books:

1. Chris Bates, Web Programming Building Internet Application, Second Edition, Wiley (2007)
2. Head First Servlets and JSP 2nd Edition, Bryan Basham, Kathy Sierra
3. Uttam Kumar Roy, Web Technologies from Oxford University Press

Student Activities:

1. Prepare a web site for your college
2. Prepare your personal website

SEMESTER – VI **PAPER – VII** **Max. Marks 75**

Model Paper **WEB TECHNOLOGIES**

No Of Hours: 4 **No of Credits: 3** **Pass Marks 30**

Section -A

Answer **FIVE** Questions. Each Question carries **FIVE** Marks. **5 X 5=25M**

1. Write about structure of HTML Document with an example
2. Explain about lists in HTML
3. Write about properties used in Style Sheet
4. Write about arrays in Java Script
5. Describe Data Object
6. Write about Rollover buttons
7. Describe XML Elements
8. Write the syntax of EL and EL variables

Section- B

Answer **FIVE** the Questions. Each Question carries **TEN** Marks **5 X 10=50M**

9. Explain about hyper links? Write about how to link another pages
10. What is Form? Explain about forms with examples
11. What is CSS? How to design Cascading style sheet
12. Explain about Mathematical Functions
13. Explain about Regular Expressions
14. Write about Data validations in DHTML
15. Explain about Document Object Model
16. Explain about JSP Lifecycle with neat diagram

SEMESTER – VI PAPER – VII Max. Marks 75 Pass Marks 30

Guidelines for paper setting '**WEB TECHNOLOGIES'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	**CSC-601(GE)**	**2019-'20**	**B.Sc.(MPCS)**

SEMESTER – VI **PAPER – VI** **Max. Marks 50**

Lab List **WEB TECHNOLOGIES** **Pass Marks 25**
No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

1. Write an HTML program to demonstrate text formatting, working with images and hyper links
2. Write an HTML program to create Student Marks sheet preparation.
3. Write an HTML program to explain String manipulation-using functions.
4. Write an HTML program to explain <form> events
5. Write an HTML program to perform all arithmetic operations using java script.
6. Develop a HTML Form, which accepts any Mathematical expression. Write JavaScript code to Evaluates the expression and Displays the result.
7. Create a form for Student information. Write JavaScript code to find Total, Average, Result and Grade.
8. Create a form for Employee information. Write JavaScript code to find DA, HRA, PF, TAX, Gross pay, Deduction and Net pay.
9. Create a form consists of a Multiple choice questions that validates the answer dynamically and displaying result using java script.
10. Write a java script to work with following

a. Date display b. Calendar c. Copy Selected Text

b. IP Address

Model Paper **PHP, MySql & Word Press**

NO Of Hours:3 **No Of Credits: 3** **Pass Marks 30**

Section- A

Answer **FIVE** Questions. Each Question carries **FIVE** Marks. **5*5=25M**

1 .Define variable and list the standard data types in PHP.

2. What is Break and Continue statements in PHP.

3. Define Function and write a program for Function?

4. Write programs to pass an argument to function by Value and Reference in PHP.

5. Explain how to create a simple form in PHP.

6. What is Cookie and explain how to accessing cookie in PHP.

7. Describe Update Command in MySQL with Example.

8. Write a short notes on Word Press.

Section- B

Answer **FIVE** Questions. Each Question carries **TEN** Marks **5*10=50M**

9. Explain about Operators and Expressions available in PHP with examples.

10. Explain about Loops and switching statements in PHP with examples.

11. Explain about Arrays and related functions to arrays in PHP with examples.

12. Explain the following Strings functions with examples

    a. strlen() b. strstr() c. strpos() d. substr() e. strtok()

13. Explain how to send Mail on form submission in PHP.

14. Explain how to work with Sessions in PHP.

15. Explain how to insert & retrieve data with MySql in PHP.

16. Explain how to work with Themes and also featured images in Word Press.

Guidelines for paper setting **‘ PHP, MySql & Word Press ’**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (Essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.

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COMPUTER SCIENCE	**CSC-602CE**	**2019-‘20**	**B.Sc.(MPCS)**

SEMESTER – VI **PAPER – VIII** **Max. Marks 50**

Lab List **PHP, MySQL & Word Press Lab** **Pass Marks 25**

No. of Hours per week: 3 **External: 25** **Internal: 25** **Credits: 2**

MySQL Lab Cycle

Cycle -1

An Enterprise wishes to maintain the details about his suppliers and other corresponding details. For that he uses the following details.
Suppliers (sid: Integer, sname: string, address: string)
Parts (pid: Integer, pname: string, color: string)
Catalog (sid: integer, pid: integer, cost: real)

The catalog relation lists the prices charged for parts by suppliers.

Write the following queries in SQL:

1. Find the pnames of parts for which there is some supplier.
2. Find the snames of suppliers who supply every part.
3. Find the snames of supplier who supply every red part.
4. Find the pnames of parts supplied by London Supplier abd by no one else.
5. Find the sid's of suppliers who charge more for some part than the average cost of that part.
6. For each part, find the sname of the supplier who charges the most for that part.
7. Find the sid's of suppliers who supply only red parts.
8. Find the sid's of suppliers who supply a red and a green part.
9. Find the sid's of suppliers who supply a red or green part.
10. Find the total amount has to pay for that suppler by part located from London.

Cycle – 2

An organisation wishes to maintain the status about the working hours made by his employees. For that he uses the following tables.

Emp (eid: integer, ename: string, age: integer, salary: real)
Works (eid: integer, did: integer, pct_time: integer)
Dept (did: integer, budget: real, managerid: integer)
An employee can work in more than one department; the pct_time field of the works relation shows the percentage of time that a given employee works in a given department.

Resolve the following queries.

1. Print the names and ages of each employee who works in both Hardware and Software departments.
2. For each department with more than 20 full time equivalent employees (i.e., where the part-time and full-time employees add up to at least that many full-time employees), print the did's together with the number of employees that work in that department.

3. Print the name of each employee whose salary exceeds the budget of all of the departments that he or she work in.
4. Find the managerid's of managers who manage only departments with budgets greater than 1,000,000.
5. Find the enames of managers who manage the departments with largest budget.
6. If a manager manages more than one department, he or she controls the sum of

all the budgets for those departments. Find the managerid's of managers who control more than 5,000,000.
7. Find the managerid's of managers who control the highest amount.
8. Find the average manager salary.

PHP Lab Cycle

1. Write a PHP program to Display "Hello"
2. Write a PHP Program to display the today's date.
3. Write a PHP Program to read the employee details.
4. Write a PHP Program to display the
5. Write a PHP program to prepare the student marks list.
6. Write a PHP program to generate the multiplication of two matrices.
7. Write a PHP Application to perform demonstrate the college website.
8. Write a PHP application to add new Rows in a Table.
9. Write a PHP application to modify the Rows in a Table.
10. Write a PHP application to delete the Rows from a Table.
11. Write a PHP application to fetch the Rows in a Table.
12. Develop an PHP application to make following Operations
    i. Registration of Users.
    ii. Insert the details of the Users.
    iii. Modify the Details.
    iv. Transaction Maintenance.
        a) No of times Logged in
        b) Time Spent on each login.
        c) Restrict the user for three trials only.
        d) Delete the user if he spent more than 100 Hrs of transaction.

Wordpress Lab

1. Installation and configuration of word press.
2. Create a site and add a theme to it.

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COMPUTER SCIENCE	**CSC-603CE**	**2019-'20**	**B.Sc.(MPCs)**

SEMESTER – VI **PAPER – VIII** **Max. Marks 75**

Syllabus **Advanced java Script: JQUERY/AJAX/JSON/ANGULAR JS**

NO Of Hours:4 **Credits: 3** **Pass Marks 30**

Course Objective: To impart knowledge in designing a webpage in a structured way by using advanced java script ie., using different scripting languages

UNIT-1: JQuery – Basics: **10 Hrs**

String, Numbers, Boolean, Objects, Arrays, Functions, Arguments, Scope, Built-in Functions. jQuerySelectors: CSS Element Selector, CSS Element ID Selector, CSS Element Class Selector, CSS Universal Selector, Multiple Elements E, F, G Selector, Callback Functions. jQuery – DOM Attributes: Get Attribute Value, Set Attribute Value. jQuery – DOM Traversing : Find Elements by index, Filtering out Elements, Locating Descendent Elements, JQuery DOM Traversing Methods.

Unit – II: jQuery – CSS Methods : **10 Hrs**

Apply CSS Properties, Apply Multiple CSS Properties, Setting Element Width & Height, JQuery CSS Methods. jQuery – DOM Manipulation Methods: Content Manipulation, DOM Element Replacement, Removing DOM Elements, Inserting DOM elements, DOM Manipulation Methods. jQuery – Events Handling: Binding event handlers, Removing event handlers, Event Types, The Event Object, The Event Attributes. jQuery – Effects: JQuery Effect Methods, jQuery Hide and Show, jQuery Toggle, jQuery Slide – slideDown, slideUp, slideToggle, jQuery Fade – fadeIn, fadeOut, fadeTo, jQuery Custom Animations

Unit – III: Intro to jQuery UI **15 Hrs**

, Need of jQuery UI in real web sites, Downloading jQuery UI, Importing jQuery UI, Draggable, Droppable, Resizable, Selectable, Sortable, Accordion, Auto Complete, Button Setϖ, Date Picker, Dialog, Menu, Progress Bar, Slider, Spinner, Tabs, Tooltip, Color Animation, Easing Effects, addClass, removeClass, Effects, jQuery UI themes, Customizing jQuery UI widgets / plug-ins, jQuery UI with CDN, Consuming jQuery Plug-ins from 3rd party web sites jQuery Validations, Intro to jQuery validation plug-in, Using jQuery validation plug-in, Regular expressions.

Unit – IV: Intro to AJAX **15 Hrs**

Need of AJAX in real web sites, Getting database data using jQueryAJAX, Inserting, Updating, Deleting database data using jQuery-AJAX Grid Development using jQuery-AJAX Intro to JSON JSON syntax, Need of JSON in real web sites, JSON object, JSON array, Complex JSON objects, Reading JSON objects using jQuery.

Unit – V: Intro to AngularJS **15 Hrs**

Need of AngularJS in real web sites, Downloading AngularJS, AngularJS first example, AngularJS built-in directives, AngularJS expressions, AngularJS modules, AngularJS controllers, AngularJS scope AngularJS dependency injection AngularJS, bootstrapping AngularJS data bindings, AngularJS $watch, AngularJS filters, AngularJS events, AngularJS AJAX, Ng-repeat, AngularJS with json arrays, AngularJS registration form and login form, AngularJS CRUD operations, AngularJS Animations, AngularJS validationsϖ AngularJS $q, AngularJS custom values, AngularJS custom factories, AngularJS custom services, AngularJS custom directives, AngularJS custom providers, AngularJS Routing, AngularUI Routing.

References:

1. jQuery UI 1.8: The User Interface Library for jQuery by Dan Wellman

2. jQuery Fundamentals by Rebecca Murphey 3. Ajax: The Complete Reference by Thomas A. Powell

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COMPUTER SCIENCE	**CSC-603CE**	**2019-'20**	**B.Sc.(MPCs)**

SEMESTER – VI **PAPER – VIII** **Max. Marks 75**

Model Paper **Advanced java Script: JQUERY/AJAX/JSON/ANGULAR JS**

NO Of Hours:3 **No Of Credits: 3** **Pass Marks 30**

Section- A

Answer **FIVE** Questions. Each Question carries **FIVE** Marks. **5*5=25M**

1 .What is jquery? Write a simple program to display welcome message.

2. Write a jquery-dom attributes.

3. How we can apply css properties in j query?

4. Write a program for jquery fade In, fade Out.

5. Discuss in detail about jquery UI categorization.

6. Write a need of AJAX in real websites.

7. What is ISON? Write a syntax &need of ISON in real websites.

8. Write a short notes angularJS built-in directives.

Section- B

Answer **FIVE** Questions. Each Question carries **TEN** Marks **5*10=50M**

9. Explain in detail about DOM traversing methods.

10. Explain detail about jquery-dom manipulation methods.

11. Explain detail about jquery even handling methods.

12. Write a program for droppable , resizable using jquery UI.

13. How can we manipulate the data in a database using jquery-AJAX.

14. What is JSON object ? Discuss in detail about complex JSON objects.

15. What is angular JS ? Need of angular JS in real websites &write any example program.

16. Write a program for registration from and login from using Angular JS.

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COMPUTER SCIENCE	CSC-603CE	2019-'20	B.Sc.(MPCs)

SEMESTER – VI PAPER – VIII Max. Marks 75 Pass Marks 30

Guidelines for paper setting –'**Advanced java Script: JQUERY/AJAX/JSON/ANGULAR JS**'

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (Essay questions)
Unit-1	2	1
Unit-2	2	2
Unit-3	1	1
Unit-4	2	2
Unit-5	1	2

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.

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COMPUTER SCIENCE	**CSC-603CE**	**2019-'20**	**B.Sc.(MPCS)**

SEMESTER – VI **PAPER – VIII** **Max. Marks 50**

Lab List Advanced java Script: JQUERY/AJAX/JSON/ANGULAR JS **Pass Marks 25**
No. of Hours per week: 3 **External: 25** **Internal: 25**

Credits: 2

1. Using jQuery find all textareas, and makes a border.Then adds all paragraphs to the jQuery object to set their borders red.
2. Using jQuery add the class "w3r_font_color" and w3r_background to the last paragraph element.
3. Using jQuery add a new class to an element that already has a class.
4. Using jQuery insert some HTML after all paragraphs.
5. Using jQuery insert a DOM element after all paragraphs.
6. Convert three headers and content panels into an accordion. Initialize the accordion
   And specify the animate option
7. Convert three headers and content panels into an accordion. Initialize the accordion and specify the height.
8. Create a pre-populated list of values and delay in milliseconds between a keystroke occurs and a search is performed.
9. Initialize the button and specify the disable option.
10. Initialize the button and specify an icon on the button.
11. Initialize the button and do not show the label.
12. Create a simple jQuery UI Datepicker. Now pick a date and store it in a textbox.
13. Initialize the date picker and specify a text to display for the week of the year column heading.

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COMPUTER SCIENCE	**CSC PROJ-602 P**	**2019-'20**	**B.Sc.(MPCs)**

SEMESTER – VI **PROJECT (PHP & MYSQL)** **Max. Marks 100**

OBJECTIVE

The objective of the Project Course is to help the students to study, analyze and design software or utility for different problems or applications. This will improve the skills of software development of the students.

MARKS FOR PROJECT EVALUATION

The project course will be evaluated for **100** Marks, of which **75** marks are meant for the practical evaluation of a project and **25** marks are allotted for attending viva-voce examination. The passing minimum in the project work will be 50% of the total mark. i.e. the student should get minimum 50% marks in the project evaluation and the viva-voce examination. Thus, the minimum mark the student is required to obtain is 50 out of 100 marks.

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COMPUTER SCIENCE	CCSC-507C	2019-'20	B.Sc.(MPCs)

SEMESTER – VI PAPER – VIII Max. Marks 75 Pass Marks 30

Guidelines for paper setting '**WEB TECHNOLOGIES'**

Unit wise weightage of Marks

	Section-A	Section-B

	(Short answer questions)	(essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	1	2
Unit-4	2	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	**COM-CSC-605**	**2019-20**	**B.Com (C.A)**

SEMESTER –VI **PAPER – IX** **Total: 60 Hrs**

Syllabus **TALLY**

Credits 3 **NO Of Hours 5** **Pass Marks 30**

Unit-I: Introduction to Tally: **12Hrs**

Introduction, Software versions of Tally, Terminology related to Accounts credit & Debit, Journal, Ledger, Voucher, Group etc. Difference between Manual Accounting and Accounting Packages. Features and advantages of Tally.

Unit-II: Introduction of Tally Software **12Hrs**

Introduction of Tally Software Creation of a company, Gateway of Tally, Accounts Information, Groups, pre defined Groups, Creation of New Groups, Creation of sub Group.

Unit-III: Ledgers **12Hrs**

Ledger Creation Single and multiple Ledgers, Displaying & altering Ledgers, configure Ledger, Stock Ledger, Ledgers and their Group Allocation.

Unit-IV: Vouchers **12Hrs**

Types of vouchers – recording of vouchers – entry of payment voucher, Receipt voucher, sales voucher, purchase voucher, Journal Voucher, Contra Voucher, Debit & Credit Note. Creating New Voucher types, customizing the Existing voucher types, Alternation of Voucher, Deletion of Voucher.

Unit-V: Final Accounts **12Hrs**

Customizing the final accounts – Profit and Loss Account, Balance Sheet. Key board shortcuts in Tally. Generating the Reports from Tally, Trial Balance, Account Books, Sales, Purchase, Journal Registers, Statement of Accounts, Day Book, List of Accounts.

Reference Books:

1. K. Kiran Kumar, Tally ERP9.
2. Tally 9 In Simple Steps, Kogent solutions Inc., John Wiley & Sons, 2008.
3. Narmata Agarwal, Financial Accounting on Computers Using Tally, Dreamtech Press, 2000.
4. Tally 9.0, Google eBook, Computer World.
5. Vikas Gupta, Comdex Computer and Financial Accounting with Tally 9.0, 2007.
6. Tally ERP 9 Made Simple Basic Financial Accounting, BPB Publisher.
7. Avichi Krishnan, Tally ERP 9 for Real Time Accounting, Book Ganga.

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COMPUTER SCIENCE	**COM-CSC-605**	**2019-20**	**B.Com (C.A)**

SEMESTER –VI **PAPER – IX** **Total: 60 Hrs**

Model Paper **TALLY**

Credits 3 **NO Of Hours 5** **Pass Marks 30**

Answer **FIVE** Questions. Each Question carries **FIVE** Marks. **5x5=25M**

1. Differentiate between Manual Accounting and Accounting Packages?
2. What are the features of Tally?
3. How to maintain account information? Explain
4. How to create a new group in Tally
5. Explain how to create a stock ledger?
6. How to display and alter a ledger?
7. Explain contra Voucher
8. Write a short note on Day Book

Section- B

Answer **FIVE** the Questions. Each Question carries **TEN** Marks 5 X 10=50M

9. Explain evolution of Tally and what are the features and advantages of Tally
10. Explain versions of Tally software
11. Explain about Gateway of Tally
12. Explain about Group and predefined Groups
13. Explain ledger creation
14. How to create a single and multiple ledgers
15. Explain different types of vouchers?
16. Explain how to generate the reports from Tally?

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COMPUTER SCIENCE	CCSC-605CE	**2019-20**	B.Com (C.A)

SEMESTER –VI PAPER – IX Max. Marks 75 Pass Marks 30

Guidelines for paper setting **' TALLY'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	**COMCSC-605P**	**2019-20**	**B.Com.(C.A.)**

SEMESTER – VI **PAPER – V** **Max. Marks:50**
Pass Mark: 25

TALLY

No. Of Hours per week: 3 **External: 25** **Internal: 25** **Credits: 2**
Lab list

1. Architecture and customization of Tally
2. Configuration of Tally
3. Tally Screens and Menus
4. Creation of new company and groups.
5. Preparation of voucher entries.
    a. Payment voucher creation
    b. Receipt voucher creation
    c. Sales voucher creation
    d. Purchase voucher creation
    e. Contra voucher creation
    f. Journal voucher creation
6. Ledger Creation.
7. Preparation of VAT
8. Preparation of TDS
7. Preparation of Trail balance
8. Preparation of Profit and loss statement.
9. Preparation of Balance Sheet
10. Preparation of Bank Reconciliation Statement.
11. Example Exercise

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COMPUTER SCIENCE	**COM-CSC-606**	**2019-20**	**B.Com (C.A)**

SEMESTER –VI **PAPER – X** **Total: 60 Hrs**

Syllabus **E-COMMERCE**

Credits 3 **NO Of Hours 5** **Pass Marks 30**

Unit-I: **Introduction to E-Commerce**

Scope, Definition, e-Commerce and the Trade Cycle, Electronic Markets, Electronic Data Interchange, Internet Commerce. Business Strategy in an Electronic Age: Supply Chains, Porter's Value Chain Model, Inter Organizational Value Chains, Competitive Strategy, First Mover Advantage – Sustainable Competitive Advantage, Competitive Advantage using E-Commerce – Business Strategy.

Unit-II: Business-to-Business Electronic Commerce

Characteristics of B2B EC, Models of B2B EC, Procurement Management by using the Buyer's Internal Market place, Just in Time Delivery, Other B2B Models, Auctions and Services from traditional to Internet Based EDI, Integration with Back-end Information System, Role of Software Agents for B2B EC, Electronic marketing in B2B, Solutions of B2B EC, Managerial Issues, Electronic Data Interchange (EDI), EDI: Nuts and Bolts EDI and Business.

Unit-III: Internet and Extranet

Automotive Network Exchange, Largest Extranet, Architecture of the Internet, Intranet and Extranet, Intranet software, Applications of Intranets, intranet Application Case Studies, Considerations in Intranet Deployment, Extranets, Structures of Extranets, Extranet products and services, Applications of Extranets, Business Models of Extranet Applications, Managerial Issues. Electronic Payment Systems: Issues and Challenges .

Unit-IV: Public Policy:

From Legal Issues to Privacy : Legal Incidents, Ethical and Other public Policy Issues, Protecting Privacy, Protecting Intellectual Property, Free speech, Internet Indecency and Censorship, Taxation and Encryption Policies, Other Legal Issues: Contracts, Gambling and More, Consumer and Seller Protection in EC.

Unit-V: Infrastructure For EC

Network of Networks, Internet Protocols, Web- Based client/Server, Internet Security, Selling on the Web, Chatting on the Web, Multimedia delivery, Analyzing Web Visits, Managerial Issues, Equipment required for establishing EC Sites – problems in Operation – Future of EC.

Reference Books

1. David Whiteley, "E-Commerce", Tata McGraw Hill, 2000.
2. E Business by Parag Kulakarni and Sunitha Jahirabadkar from Oxford University Press.
3. E Business by Jonathan Reynolds from Oxford University Press.
4. Eframi Turban, Jae Lee, David King, K. Michael Chung, "Electronic Commerce",
5. Pearson Education, 2000.

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES – VUYYURU.

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(With Effect From Academic Year 2017-2018)

COMPUTER SCIENCE	**COM-CSC-606**	**2019-20**	**B.Com (C.A)**

SEMESTER –VI **PAPER – X** **Total: 60 Hrs**

Syllabus **E-COMMERCE**

Credits 3 **NO Of Hours5** **Pass Marks 30**

Section-A

Answer **FIVE** Questions. Each Question carries **FIVE** Marks. **5*5=25M**

1. Explain Electronic data interchange?
2. Write about Value Chain Model
3. What are the characteristics of B2B Electronic Commerce
4. What is the role of software agents for B2B Electronic Commerce?
5. Write about applications of Intranet?
6. Explain the structure of Extranet?
7. Explain encryption policies?
8. Write about Internet protocols?

Section-B

Answer **FIVE** Questions. Each Question carries **TEN** Marks. **5*10=50M**

9. What are the advantages and limitations of E-commerce?
10. Write Business Strategy in an Electronic age
11. Explain Electronic Data Interchange(EDI)
12. Explain different Models of B2B Electronic Commerce?
13. Explain the Architecture of Internet?
14. Explain Business Models of Extranet Applications?
15. Explain Ethical and Other public Policy Issues?
16. Explain about the future of EC

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COMPUTER SCIENCE	COM-CSC-606	**2019-20**	B.Com (C.A)

SEMESTER –VI PAPER – X Max. Marks 75 Pass Marks 30

Guidelines for paper setting **'E-COMMERCE'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES – VUYYURU.
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COMPUTER SCIENCE	**CCSC-607CE**	**2019-20**	**B.Com (C.A)**

SEMESTER –VI **PAPER – XI**

Syllabus **PHP& MY SQL**

Credits 5

Unit-I: Building blocks of PHP:

Variables, Data Types, Operators and Expressions, Constants. Flow Control Functions in PHP: Switching Flow, Loops, Code Blocks and Browser Output. Working with Functions: Defining Functions, Calling functions, returning the values from UserDefined Functions, Variable Scope, Saving State between Function calls with the Static statement, more about arguments.

Unit-II: Working with Arrays:

Arrays, Creating Arrays, Some Array-Related Functions. Working with Objects: Creating Objects, Object Instance. Working with Strings, Dates and Time: Formatting Strings with PHP, Investigating Strings with PHP, Manipulating Strings with PHP, Using Date and Time Functions in PHP.

Unit-III: Working with Forms:

Creating Forms, Accessing Form – Input with User defined Arrays, Combining HTML and PHP code on a single Page, Using Hidden Fields to save state, Redirecting the user, Sending Mail on Form Submission, Working with File Uploads. Working with Cookies and User Sessions: Introducing Cookies, Setting a Cookie with PHP, Session Function Overview, Starting a Session, Working with session variables, passing session Ids in the Query String, Destroying Sessions and Unsetting Variables, Using Sessions in an Environment with Registered Users.

Unit-IV: Working with Files and Directories:

Including Files with include(), Validating Files, Creating and Deleting Files, Opening a File for Writing, Reading or Appending, Reading from Files, Writing or Appending to a File, Working with Directories, Open Pipes to and from Process Using popen (), Running Commands with exec(), Running Commands with system ( ) or passthru ( ). Working with Images: Understanding the Image-Creation Process, Necessary Modifications to PHP, Drawing a New Image, Getting Fancy with Pie Charts, Modifying Existing Images, Image Creation from User Input.

Unit-V: Interacting with MySQL using PHP:

MySQL Versus MySQLi Functions, Connecting to MySQL with PHP, Working with MySQL Data. Creating an Online Address Book: Planning and Creating Database Tables, Creating Menu, Creating Record Addition Mechanism, Viewing Records, Creating the Record Deletion Mechanism, Adding Sub-entities to a Record.

References:

1. Julie C. Meloni, PHP MySQL and Apache, SAMS Teach Yourself, Pearson Education (2007).
2. Xue Bai Michael Ekedahl, The Web Warrior Guide to Web Programming, Thomson (2006).

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COMPUTER SCIENCE	**COM-CSC-607**	**2019-20**	**B.Com (C.A)**

SEMESTER –VI **PAPER – XI** **Total: 60 Hrs**

Syllabus **PHP & MYSQL**

Credits 5 **NO Of Hours 5** **Pass Marks 30**

Section-A

Answer **FIVE** Questions. Each Question carries **FIVE** Marks. 5*5=25M

1. Explain about different data types available in PHP?
2. Define function? Explain how to call the function?
3. Write a short note on Creating Objects
4. Explain about date and time functions?
5. Write about Session Function?
6. Explain about cookies?
7. Explain about Reading from files?
8. Describe how to create the Record Addition Mechanism?

Section-B

Answer **FIVE** Questions. Each Question carries **TEN** Marks. 5*10=50M

9. Explain different types of Operators in PHP?
10. Explain flow control functions in PHP?
11. What is an Array? Explain about array related functions.
12. Explain different string functions in PHP?
13. Explain about how to create and access a form in PHP?
14. Describe the working with session variables?
15. Explain working with Directories?
16. Explain about how to insert and retrieve the data in PHP?

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COMPUTEzR SCIENCE	COM-CSC-607	**2019-20**	B.Com (C.A)

SEMESTER –VI PAPER – XI Max. Marks 75 Pass Marks 30

Guidelines for paper setting '**PHP & MYSQL'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)

Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

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COMPUTER SCIENCE	**CCSC-607**	**2019-20**	**B.Com (C.A)**

SEMESTER –VI **PAPER – VI** **Total: 60 Hrs**

Lab List PHP, MySQL **Pass Marks 25**
No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

MySQL Lab Cycle

Cycle -1

An Enterprise wishes to maintain the details about his suppliers and other corresponding details. For that he uses the following details.
Suppliers (sid: Integer, sname: string, address: string)
Parts (pid: Integer, pname: string, color: string)
Catalog (sid: integer, pid: integer, cost: real)

The catalog relation lists the prices charged for parts by suppliers.

Write the following queries in SQL:

1. Find the pnames of parts for which there is some supplier.
2. Find the snames of suppliers who supply every part.
3. Find the snames of supplier who supply every red part.
4. Find the pnames of parts supplied by London Supplier abd by no one else.
5. Find the sid's of suppliers who charge more for some part than the average cost of that part.
6. For each part, find the sname of the supplier who charges the most for that part.
7. Find the sid's of suppliers who supply only red parts.
8. Find the sid's of suppliers who supply a red and a green part.
9. Find the sid's of suppliers who supply a red or green part.
10. Find the total amount has to pay for that suppler by part located from London.

Cycle – 2

An organisation wishes to maintain the status about the working hours made by his employees. For that he uses the following tables.

Emp (eid: integer, ename: string, age: integer, salary: real)
Works (eid: integer, did: integer, pct_time: integer)
Dept (did: integer, budget: real, managerid: integer)
An employee can work in more than one department; the pct_time field of the works relation shows the percentage of time that a given employee works in a given department.

Resolve the following queries.

1. Print the names and ages of each employee who works in both Hardware and Software departments.
2. For each department with more than 20 full time equivalent employees (i.e., where the part-time and full-time employees add up to at least that many full-time employees), print the did's together with the number of employees that work in that department.
3. Print the name of each employee whose salary exceeds the budget of all of the departments that he or she work in.
4. Find the managerid's of managers who manage only departments with budgets greater than 1,000,000.
5. Find the enames of managers who manage the departments with largest budget.
6. If a manager manages more than one department, he or she controls the sum of all the budgets for those departments. Find the managerid's of managers who control more than 5,000,000.
7. Find the managerid's of managers who control the highest amount.
8. Find the average manager salary.

PHP Lab Cycle

1. Write a PHP program to Display “Hello”
2. Write a PHP Program to display the today’s date.
3. Write a PHP Program to read the employee details.
4. Write a PHP Program to display the
5. Write a PHP program to prepare the student marks list.
6. Write a PHP program to generate the multiplication of two matrices.
7. Write a PHP Application to perform demonstrate the college website.
8. Write a PHP application to add new Rows in a Table.
9. Write a PHP application to modify the Rows in a Table.
10. Write a PHP application to delete the Rows from a Table.
11. Write a PHP application to fetch the Rows in a Table.
12. Develop an PHP application to make following Operations
    i. Registration of Users.
    ii. Insert the details of the Users.
    iii. Modify the Details.
    iv. Transaction Maintenance.
        a) No of times Logged in
        b) Time Spent on each login.
        c) Restrict the user for three trials only.
        d) Delete the user if he spent more than 100 Hrs of transaction.

→Discussed and recommended the teaching and evaluation methods for approval of Academic Council.

Teaching methods:

Besides the conventional methods of teaching, we use modern technology i.e. Using of LMS and LCD projector to display on power board etc..for better understanding of concepts.

Evaluation of a student is done by the following procedure:

There are two components in the Valuation and Assessment of a student – Internal Assessment (**IA**) Semester Examinations (**SE). For the Batch of Students Admitted from 2018-19**.

Internal Assessment (IA)

- The maximum mark for IA is 30 and SE is 70 for theory; and for practical papers 50.
- Each IA written examination is of 1 hour's duration for 20 marks. The tests will be conducted centrally. The average of two such IA is calculated for 20 marks.
- Other Innovative Components will be for 5 Marks. The innovative component is for 5 marks, conducted during the class hours by the staff member/ in charge of the subject, in the form of assignments/ quiz/ seminars /ppt/Online- assignments/Open Book/Viva Voce/ Group work/ Mini Project/ Exhibition, etc. The topic and time for submission/ presentation will be announced by the staff member/ in charge of the subject in advance. Each student should explain and defend his/her presentation. For attendance 5 Marks are allotted.
- The semester examination will be of 3 hours with maximum 70 marks.
- There is no passing minimum marks for IA.

Semester Examinations (SE)

- A student should register himself/herself to appear for the Semester Examinations by payment of the prescribed fee.
- The Semester Examinations will be in the form of a comprehensive examination covering the entire syllabus in each subject. It will be of 3 hours duration & Foundation course 2 hours irrespective of the number of credits allotted to it.
- If a candidate fails to obtain pass marks even after the due to less mark in the IA examination, the marks of the next examination will be converted to be out of 100.
- Even though the candidate is absent for two IA exams/obtain zero marks the external marks are considered (if he/she gets 40/70) and the result shall be declared as 'PASS'.
- The maximum marks for each Paper shall be 100.

Evaluation of a student is done by the following procedure for All II & III Year B.Sc. (MPCs) & B.Com. (C.A). For the Batch of Students Admitted from 2016-17.

Internal Assessment Examinations:

i) Out of maximum 100 marks in each paper, 25 marks shall be allocated for internal assessment.

ii) Out of these 25 marks, 20 marks are allocated for announced internal tests. Two announced internal tests will be conducted and average of these two tests shall be deemed as the marks obtained by the student, remaining 5 marks are allocated on the basis of candidate's percentage of attendance.

Semester-End Examinations:

i) The maximum marks for Semester-End examinations shall be 75 marks and duration of the examination shall be 3 Hours.

ii) Semester-End examinations shall be conducted in theory papers and the practical papers are conducted at the end of every Semester for II & III B.Sc. (MPCs) only.

iii) Odd semester practical end examinations are to be evaluated by Internal Examiners and Even semester practical end examinations are to be evaluated by External Examiners.

iv) V semester end **C** practical examination are to be evaluated by Internal Examiners and Even semester **Tally** Practical examinations are to be evaluated by External Examiner for III B.Com (Computers) students only.

Question paper guide lines for Practical Examinations at the end of Semesters III &IV
Two Practical Programs to be conducted out of 15 programs at the end of Semester III & IV
Practical Examination time 3Hrs and Maximum Marks 50
Scheme of valuation Semesters – II & IV B.Sc. (M.P.Cs), B.Com (Computers)

Computer Science Practical's - External (Time: 3 hrs.) **Total Marks: 25M**

1. Programs Writing (2)	:	10 marks,
2. Viva voice	:	5 marks
3. Execution & Result	:	10 marks
Total Marks `	:	25

Computer Science Practical's- Internal **Total Marks: 25M**

1. Attendance	:	5 marks
2. Record	:	10 marks
3. Day to day observation	:	5 marks
4. Problem solving and Execution	:	5 marks
Total Marks	:	25

1. Discussed and recommended for organizing Seminars, Guest lectures, Work-shops to upgrade the knowledge of students, for the approval of the Academic Council. Discussed and recommended to conduct certificate courses for Computer Science and Non-Computer Science students separately like TALLY ACCOUNTING PACKAGE, ADOBE PHOTOSHOP, DESKTOP PUBLISHING, COMPUTER HARDWARE AND NETWORKING, WEB DESIGNING, OPERATING SYSTEMS, ETC...
2. Discussed and empowered the HOD to suggest the panel of the paper setters and examiners to the controller of the examinations.
3. Nil.

Chairman

A.G& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

VUYYURU-521165, KRISHNA Dt., A.P.(Autonomous)

Accredited by NAAC with "A" Grade

2019-2020

DEPARTMENT OF COMPUTER SCIENCE

MINUTES OF BOARD OF STUDIES

ODD SEMESTER

17-04-2019

2

Minutes of the meeting of Board of Studies in Computer Science for IIB.Sc.(MPCs, MCCs), B.Com.(C.A.) and Foundation Course of AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru, held at 10.00 A.M on 17-04-2019 in the Department of Computer Science.

Sri Ch. Mohan Babu ... Presiding

Members Present:

1)..... (Ch. Mohan Babu)	Chairman	Head, Department of Computer Science AG & SG Siddhartha Degree College of Arts & Science Vuyyuru-521165
2)..... (Dr. R Kiran Kumar)	University Nominee	Professor, Dept of Computer Science, Krishna University, Machilipatnam.
3)..... (Dr. Suresh Sundaradasu)	Academic Council Nominee	Head, Department of Computer Science& Engineering, Dhanekula Institute of Engineering & Technology, Ganguru, JNTU(K), Vijayawada.
4)..... (Dr. K Bhagvan)	Academic Council Nominee	Professor, Department of Computer Science & Engineering, Lingaya's Institute of Management & Technology, JNTU(K) Vijayawada.
5)..... (R. Sowjanya)	Industrial Expert	Microsoft Dynamics CRM,Maven Soft System Private Ltd.Madapur,Hyderbad.
6)..... (T.Naga Prasada Rao)	Member	Lecturer in Computer Science, AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165.
7)..... (K Srikanth)	Member	Lecturer in Computer Science, AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165.
8)..... (L.Pujitha)	Member	Lecturer in Computer Science, AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
9)..... (Ch. Sowmya Krishna)	Member	Lecturer in Computer Science, AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
10)..... (Sharmila Begum)	Member	Student in M.Sc. Computer Science, AG& SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
11)..... (S. Mounika)	Member	Student in B.Sc. Computer Science, AG& SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165

Agenda for B.O.S Meeting.

1. To recommend syllabi for I Semester of I year, III Semester of II year Degree B.Sc. (MPCs, MCCs.), B.Com (C.A.), & V Semester of III year Degree B.Sc.(MCCs) Courses under Choice Based Credit System With Effect From Academic Year 2019-20.

2. To recommend the Model Question Papers, Lab programs list and Blue print of I Semester of I year, III Semester of II year Degree B.Sc.(MPCs, MCCs.),B.Com (C.A.), & V Semester of III year Degree B.Sc.(MCCs) Courses under Choice Based Credit System With Effect From Academic Year 2019-20.

3. To recommend the Guidelines to be followed by the question paper setters in Computer Science for I Semester of I year, III Semesters of II year Degree B.Sc.(MPCs, MCCs.), B.Com (C.A.) & V Semester of III year Degree B.Sc.(MCCs) Courses under Choice Based Credit System With Effect From Academic Year 2019-20.

4. To recommend the teaching and evaluation methods to be followed under Autonomous status.

5. To recommend the certificate courses for all Computer Science and Non-Computer Science students any suggestions regarding seminars, workshops, Guest lecturers to be organized.

6. To recommend the panel of paper setters and examiners to the controller of the examinations of autonomous courses of AG & SG Siddhartha Degree College of Arts & Science College, Vuyyuru.

7. Any other matter.

Resolutions

1) Discussed and recommended as per the APSCHE guidelines and their instructions it is resolved to implement syllabi for I Semester of I year, III Semester of II year Degree B.Sc.(MPCs, MCCs.), B.Com (C.A.), & V Semester of III year Degree B.Sc.(MCCs) Courses under Choice Based Credit System with Effect from Academic Year 2019-20.

2) Discussed and recommended as per the APSCHE guidelines and their instructions it is resolved to implement Model Question Papers, Lab Programs List and blue print for I Semester of I year, III Semester of II year Degree B.Sc.(MPCs, MCCs.), B.Com (C.A.), & V Semesters of III year Degree B.Sc.(MCCs) Courses under Choice Based Credit System with Effect from Academic Year 2019-20.

3) Discussed and recommended the guidelines to be followed by Question Paper Setters in Computer Science for I Semester of I year, III Semester of II year Degree B.Sc.(MPCs, MCCs.), B.Com (C.A.), & V Semesters of III year Degree B.Sc.(MCCs) Courses under Choice Based Credit System With Effect From Academic Year 2019-20.

4) Discussed and recommended the NO changes appeared as per previous paper in the syllabi ,Question Paper & Lab Cycle for

   - **I Semester of I Year B.Sc. (MPCs, MCCs) & B.Com.(CA).**
   - **III Semester of II Year B.Sc. (MPCs,MCC's) & B.Com.(CA).**
   - **V Semester of III Year B.Sc. (MPCs) & B.Com.(CA).**
   - **Foundation Course for All Degree Courses under Choice Based Credit System with Effect from Academic Year 2018-19.**

5) Discussed and recommended the teaching and evaluation methods for approval of Academic Council.

6) Discussed and recommended for organizing Seminars, Guest lectures, Work-shops to upgrade the knowledge of students, for the approval of the Academic Council. Discussed and recommended to conduct certificate courses for Computer Science and Non-Computer Science students separately.

7) **Discussed and recommended to introduce Certificate Course on "Basic Computer Applications & MS Office" with course code "BCAM102" for I MPC's.**

8) **Discussed and recommended to introduce Certificate Course on "Hardware and Networking" with course code "HANCC12" for II MPC's,MCC's,MPC,B.COM(CA).**

9) **Discussed and recommended to introduce Certificate Course on "AWS" with course code "CCAWS-01" for III MPC's ,MCC's & III B.COM(CA).**

10) It is resolved to suggest the panel of the paper setters and examiners to the controller of the examinations.

Chairman

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COMPUTER SCIENCE	CSC-501C	2019-20	B.Sc.(MPCs)

SEMESTER – V **PAPER – V** **Max. Marks 75**

Syllabus **DATA BASE MANAGEMENT SYSTEMS**

NO Of Hours: 4 **No Of Credits: 3** **Pass Marks 30**

Course Objective: Design & develop database for large volumes & varieties of data with optimized data processing techniques.

Unit – I: Database Systems Introduction **12Hrs**

Database Systems: Introducing the database and DBMS, Why the database is important, *Historical Roots:* Files and File Systems, Problems with File System, Data Management, Database Systems. *Data Models:* The importance of Data models, Data Model Basic Building Blocks, The evaluation of Data Models, Degree of Data Abstraction.

Unit - II: Relational Database & Data Modelling **12 Hrs**

The Relational Database Model: A logical view of Data, Keys, Integrity Rules, Relational Set Operators, The Data Dictionary and the system Catalog, Indexes, Codd's relational database rules. *Entity Relationship Model:* The ER Model ***Advanced Data Modelling****:* The Extended Entity Relationship Model, Entity clustering, Entity integrity.

Unit- III: Normalization and Database Design **14 Hrs**

Normalization of database tables: Data base Tables and Normalization, The need for Normalization, The Normalization Process, High level Normal Forms, Normalization and database design, de normalization.

Database Design: The Information System, The Systems Development Life Cycle, The Database Life Cycle, Centralized Vs Decentralized design.

Unit-IV: Structured Query Language **12 Hrs**

Introduction to SQL: Data Definition Commands, Data Manipulation Commands, Select queries, Advanced Data Definition Commands, Advanced Select queries, Virtual Tables, SQL Join Operators, Sub queries and correlated queries, SQL Functions.

Unit-V: Procedural SQL **10 Hrs**

Introduction to PL/SQL: Triggers, Stored Procedures, Pl/ SQL Stored Functions

Prescribed Text Book:

1. **P**eter Rob, Carlos Coronel, Database Systems Design, Implementation and Management, Seventh Edition, Thomson (2007).

Reference Books:

1. Elimasri / Navathe, Fundamentals of Database Systems, Fifth Edition, Pearson Addison Wesley 2. Raman A Mata – Toledo/Panline K Cushman, Database Management Systems, .
2. C.J.Date, A.Kannan, S.Swamynathan, An Introduction to Database Systems, Eight edition,
3. "DatabaseSystemConcepts" by AbrahamSilberschatz, Henry Korth, and S.Sudarshan,
4. Atul Kahate, Introduction to Database Management Systems, Pearson Education (2006).

Student Activity: 1. Create your college database for placement purpose. 2. Create faculty database of your college with their academic performance scores

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COMPUTER SCIENCE	CSC-501C	2019-20	B.Sc.(MPCs)

SEMESTER – V **PAPER – V** **Max. Marks 75**

Model Paper **DATA BASE MANAGEMENT SYSTEMS**

NO Of Hours: 4 **No Of Credits: 3** **Pass Marks 30**

Section-A

Answer any **FIVE** Questions. Each question carries **FIVE** Marks **5x5=25M**

1. Explain the Components of Database System.
2. Explain Relational Data Model.
3. Write about Relational Set Operators.
4. Explain Integrity Rules.
5. Describe BCNF.
6. Differences between Centralized and Decentralized design.
7. Write about Special Functions.
8. Explain Stored Procedures.

Section-B

Answer any **FIVE** Questions. Each question carries **TEN** Marks **5X10=50M**

9. What is File? Explain the problems with File system
10. Explain the Degree of Data Abstraction.
11. Explain E.F.CODDs' rules.
12. Explain Extended Entity Relationship Model.
13. Explain the concept of Normal Forms.
14. Explain about SDLC.
15. Explain DDL and DML commands.
16. Explain about triggers.

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COMPUTER SCIENCE	CSC-501C	**2019-20**	B.Sc.(MPCs)

SEMESTER – V PAPER – V Max. Marks 75 Pass Marks 30

Guidelines for paper setting '**DATA BASE MANAGEMENT SYSTEMS'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	CSC-501P	2019-20	B.Sc.(MPCS)

SEMESTER – V **PAPER – V** **Max. Marks 50**

Lab List **DATA BASE MANAGEMENT SYSTEMS** **Pass Marks 25**

No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

1. Creation of college database and establish relationships between tables
2. Explain various data type in Oracle.
3. Show the structure of the Emp table.
4. Show the structure of the DEPT table.
5. Explain the syntax of SELECT statement.
6. Create a query to display the name, job, hiredate and employee number from emp table.
7. Create a query to display unique jobs from the emp table.
8. Create a query to display the empno as EMP#, ename as EMPLOYEE and Hire_date from emp.
9. Create a query to display all the data from the EMP table. Separate each column by a comma and name the column THE_OUTPUT.
10. Create a query to display the name and salary of employees earning more than 2850.
11. Create a query to display the name and salary for all employees whose salary is not in the range of 1500 and 2850.
12. Display the employee name, job and start date of employees hired between February 20 ,1981 and May 1, 1981. Order the query in ascending order of start date
13. Display the employee name and department number of all the employees in departments 10 and 30 in alphabetical order by name.
14. List the name and salary of employees who earn more than 1500 & are in department 10 or 30.
15. Display the name, salary and commissions and sort data in descending order of salary and commission.
16. Display the name and job title of all employees who do not have a manager.
17. Display the name, job and salary for all employees whose job is Clerk or Analyst and their salary is not equal to 1000, 3000 or 5000.
18. Display the names of all employees where the third letter of their name is an 'A'.
19. Display the names of all employees who have two 'L's in their name and are in department 30 or their manager is 7782.
20. Display the name , salary and commission for all employees whose commission amount is grater than their salary increased by 10%.
21. Explain all the character functions.
22. Explain all the number functions.
23. Explain all the Date functions.
24. Explain different types of JOIN.
25. Write a query to display the name, department number and department name for all employees.
26. Create a unique listing of all jobs that are in department 30. and include the location of department 30 in the output.

27. Write a query to display the employee name, department name and location of all employees who earn a commission.
28. Write a query to display the name ,job department number and department name for all employees who work in 'DALLAS'.
29. Create a query to display the name and hire date of any employee
30. hired after employee BLAKE.
31. . Display all employees names and hire dates along with their manager's name and hire date for all employees who were hired before their managers.
32. Create your own users and give permissions to you and explain GRANT and REVOKE Commands.

A. Create MOVIE database using the following tables.

MOVIE: Movie no: primary key, varchar2 Movie name: NOT NULL, varchar2 Movie Type: varchar2 Star: Varchar2

CUSTOMER: Customer No: primary key, varchar2 Customer Name: NOT NULL, varchar2 Address: NOT NULL Phone no: Number INVOICE: Invoice no: Varchar2, primary key Movie no: foreign key Customer no: foreign key Price: NOT NULL, Number

Queries:

1. List the movie names that starts with 'p'
2. List the number of the movies those price ranges from 15000 and 20000
3. List the customers who have phone numbers.
4. List the customers who have no phone numbers.
5. Display the following string
   (a) A Customer "customer number" has bought the "movie number" "movie name" with "Price"
6. List the customers by calculating price as (price*tax)/100 where tax=0.5 and rename the column as 'tax'.
7. List the movies, which are owned by 2 customers.
8. List the customers, who bought 2 picture names.
9. List the customers, who are not the range of 15000 and 20000.

B. Create Student database using the following tables.

STUDENT: Sno : primary key, number Sname : NOT NULL, varchar2 Address: Varchar2

COURSE: Sno : Foreign key. Course Name : varchar2

Queries:

1. Alter table by adding a column fees in table COURSE.
2. Alter table by modifying the address to VARCHAR2(20)
3. Create a view on which the students who joined in one course only.

PL/SQL.

1. Write A Pl/Sql Program To Swap Two Numbers Without Using Third Variable.
2. Write A Pl/Sql Program To Generate Multiplication Tables For Numbers 2,4 And 6
3. Write A Pl/Sql Program To Display Sum Of Even Numbers And Sum Of Odd Numbers In The Given Range.
4. Write A Pl/Sql Program To Check The Given Number Is Pollinndrome Or Not.
5. Write A Pl/Sql Program To Display Top 10 Rows In Emp Table Based On Their Job And Salary.
6. Write A Procedure Update The Salary Of Employee, Who is Not Getting Commission by 10%.

Reference Books:

1. Oracle Pl/Sql By Example. Benjamin Rosenzweig, Elena Silvestrova, Pearsoneducation 3rd Edition

2. Sql & Pl/Sql For Oracle 10g, Black Book, Dr.P.S. Deshpande

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COMPUTER SCIENCE	CSC-502C	2019-20	B.Sc.(MPCs)

SEMESTER – V **PAPER – VI** **Max. Marks 75**

Syllabus **SOFTWARE ENGINEERING**

NO of Hours: 4 **No Of Credits: 3** **Pass Marks 30**

Course Objectives

The Objective of the course is to assist the student in understanding the basic theory of software engineering, and to apply these basic theoretical principles to a group software development project.

UNIT-I: Introduction to Software Engineering & Process **12Hrs**

The Evolving Role of Software– Software - The Changing Nature of Software, Software Myths, Legacy Software.

Process: Software Engineering-A Layered Technology - A Process Framework - The Capability Maturity Model Integration (CMMI) - Process Patterns, Process Assessments - Personal And Team Process Models: Personal Software Process(PSP), Team Software Process (TSP).

Unit-II: Process Models **12Hrs**

The Waterfall Models - Increment Process Models: The Increment Model, The RAD Model - Evolutionary Process Models: Prototyping, The Spiral Model, The Concurrent Development Model - The Unified Process: Phases of The United Process, Unified Process Work Products.

Unit-III: Requirements Engineering **14 Hrs**

Requirements Engineering Tasks - Initiating The Requirements Engineering Process - Eliciting Requirements: Collaborative Requirements Gathering, Quality Function Deployment, User Scenarios, Elicitation Work Products - Negotiating Requirements - Validating Requirements.

Unit-IV: Analysis Model **12 Hrs**

Requirements Analysis -Analysis Modelling Approaches - Data Modelling Concepts - Object-Oriented Analysis - Scenario-based Modelling - Flow-Oriented Modelling - Class-Based Modelling - Creating a Behavioural Model: Identifying Events with the Use-Case, State Representations.

Unit-V: Design Engineering **10Hrs**

Design Process And Design Quality - Design Concepts - The Design Model: Data Design Elements, Architectural Design Elements, Interface Design Elements, Component-Level Design Elements, Deployment -Level Design Elements.

Prescribed Text Book:

1. Software Engineering – A Practitioner's Approach, Sixth Edition - Roger S Pressman, TATA McGrawHill: Chapters: 1,2,3,7,8 and 9)

Reference Books:

1. Software Engineering Principles and Practice by Deepak Jain Oxford University Press
2. Sommerville, "Software Engineering", Eighth Edition, Pearson Education, 2007

Student Activity: Visit any financial organization nearby and prepare requirement analysis report
2. Visit any industrial organization and prepare risk chart.

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COMPUTER SCIENCE	CSC-502C	2019-20	B.Sc.(MPCs)

SEMESTER – V **PAPER – VI** **Max. Marks 75**

Model Paper **SOFTWARE ENGINEERING**

NO of Hours: 4 **No Of Credits: 3** **Pass Marks 30**

Section – A

Answer any **FIVE** Questions. Each question carries **FIVE** Marks **4x5=25M**

1. Write about Software Layered Technology
2. Explain about Process Framework?
3. Explain about RAD Model
4. Explain about Component Based Development Model
5. Write about Requirement Analysis?
6. Explain Validating Requirements
7. Explain about Domain Analysis?
8. Explain about Modularity?

Section – B

Answer any **FIVE** Questions. Each question carries **TEN** Marks **5X10=50M**

9. Explain about CMMI
10. Explain about Software Myths
11. Explain about Incremental Model
12. Explain about Unified Process
13. Explain about Requirements Engineering Tasks
14. Explain Eliciting Requirements.
15. Explain Scenario based Modelling.
16. Write about design concepts in design engineering.

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COMPUTER SCIENCE	CSC-502	**2019-20**	B.Sc.(MPCs)

SEMESTER – V PAPER – V Max. Marks 75 Pass Marks 30

Guidelines for paper setting '**SOFTWARE ENGINEERING'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	CSC-502C	2019-20	B.Sc.(MPCS)

SEMESTER – V **PAPER – VI** **Max. Marks 50**

Lab List **SOFTWARE ENGNEERING** **Pass Marks 25**
No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

A. ATM

1. Objective of an ATM System.
2. Use-case Diagram of an ATM System
3. Class Diagram of an ATM System
4. Sequence Diagram of an ATM System
5. Activity Diagram of an ATM System
6. State Diagram of an ATM System
7. Deployment Diagram of an ATM System
8. ER Diagram of an ATM System

B. Library management System

1. Objective of Library management System.
2. Use-case Diagram of Library management
3. Class Diagram of Library management System
4. Sequence Diagram of Library management
5. Activity Diagram of Library management System
6. State Diagram of Library management
7. Deployment Diagram of Library management System
8. ER Diagram of Library management

C. Barcode Reader

1. Objective of Barcode Reader
2. Use-case Diagram of Barcode Reader
3. Class Diagram of Barcode Reader
4. Sequence Diagram of Barcode Reader
5. Activity Diagram of Barcode Reader
6. State Diagram of Barcode Reader
7. Deployment Diagram of Barcode Reader
8. ER Diagram of Barcode Reader

D .Safe Home System

1. Objective of Safe Home System.
2. Use-case Diagram of Safe Home System
3. Class Diagram of Safe Home System
4. Sequence Diagram of Safe Home System
5. Activity Diagram of Safe Home System
6. State Diagram of Safe Home System
7. Deployment Diagram of Safe Home System
8. ER Diagram of Safe Home System

E. Online Book Store System

1. Objective of Online Book Store System
2. Use-case Diagram of Online Book Store System
3. Class Diagram of Online Book Store System
4. Sequence Diagram of Online Book Store
5. Activity Diagram of Online Book Store System
6. State Diagram of Online Book Store System
7. Deployment Diagram of Online Book Store System
8. ER Diagram of Online Book Store

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COMPUTER SCIENCE	CCSC 505C	2019-20	B.Com.(C.A.)

SEMESTER – V **PAPER – V** **Max. Marks 75**

Syllabus **PROGMAMMING IN C**

NO Of Hours: 5 **No Of Credits: 3** **Pass Marks 30**

Unit- I: Introduction to Algorithms and Programming Languages: 12 Hrs

Algorithm – Key features of Algorithms – Some more Algorithms – Flow Charts. Introduction to C: Structure of C Program – Writing the first C Program – File used in C Program – Compiling and Executing C Programs Using Comments – Keywords – Identifiers – Basic Data Types in C – Variables Constants – I/O Statements in C- Operators in C- Programming Examples – Type Conversion and Type Casting

Unit-II: Decision Control and Looping Statements 12 Hrs

Introduction to Decision Control Statements – Conditional Branching Statements – Iterative Statements – Nested Loops – Break and Continue Statement – Go to Statement

Unit- III: Functions 12 Hrs

Introduction – using functions – Function declaration/ prototype – Function definition – function call – return statement – Passing parameters – Scope of variables – Storage Classes – Recursive function

Unit- IV: Arrays 12 Hrs

Introduction – Declaration of Arrays – Accessing elements of the Array – Storing Values in Array Calculating the length of the Array – Operations on Array – one dimensional array for inter-function communication – Two dimensional Arrays –Operations on Two Dimensional Arrays

Strings: Introduction String and Character functions

Unit-V: Pointers: 12 Hrs

Understanding Computer Memory – Introduction to Pointers – declaring Pointer Variables Passing Arguments to Functions using Pointer.

Structure, Union, and Enumerated Data Types: Introduction – Nested Structures – Unions – Enumerated Data Types.

Reference Books:

1. Reema Thareja, Introduction to C programming, Oxford University Press.

2. E Balagurusamy, Computing Fundamentals & C Programming – Tata McGraw-Hill, 2008. 3. Ashok N Kamthane, Programming with ANSI and Turbo C, Pearson Publisher, 2002. 4. Henry Mulish & Hubert L.Coo Reema Thareja: The Spirit of C: An Introduction to Modern Programming, Jaico Publishing House,1996.

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COMPUTER SCIENCE	CCSC 505C	2019-20	B.Com.(C.A.)

SEMESTER – V **PAPER – V** **Max. Marks 75**

Model Paper **PROGMAMMING IN C**

Section- A

Answer **FIVE** Questions. Each Question carries **FIVE** Marks. **5*5=25M**

1. Write a short note on Algorithm?
2. Explain data types in C?
3. Explain Jump Statements?
4. Write a short note on 'if'- statements?
5. Explain Call by Value and Call by Reference
6. Describe recursive function with an example?
7. Explain one dimensional array with example?
8. Write about pointers

Section- B

Answer **FIVE** the Questions. Each Question carries **TEN** Marks **5*10=50M**

9. Explain different types of programming languages?
10. Explain about different Categories of Operators in 'C'?
11. Explain Decision Making Looping statements with examples?
12. Explain different categories of functions?
13. Explain about Storage Classes?
14. Write about two dimension arrays? Give an example program?
15. Explain briefly about String function in 'C'?
16. Difference between Structures and Unions?

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SEMESTER – V PAPER – V Max. Marks 75 Pass Marks 30

Guidelines for paper setting '**PROGMAMMING IN C'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	CCSC-505P	2019-20	B.Com.(C.A.)

SEMESTER – V **PAPER – III** **Max. Marks 50** **Pass Marks 25**

LABLIST **PROGRAMMING IN C**

No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

1. Find out the given number is perfect number or not using c program.
2. Write a C program to check whether the given number is Armstrong or not.
3. Write a program to find roots of quadratic equation.

   Root 1 = (-b + sqrt (b^2 - 4ac) / 2a Root 2 = (-b - sqrt (b^2 - 4ac) / 2a
4. Write a C program to find the sum of individual digits of a positive integer.
5. Write a C program to print the Fibonacci series
6. Write a C program to generate the first n terms of the Fibonacci sequence.
7. Write a program to find factorial of a given number using recursion
8. Write a program to perform all arithmetic operations using switch case
9. Write a C program to generate all the prime numbers between 1 and n, where n is a Value supplied by the user.
10. Write a C program to find both the largest and smallest number in a list of integers.
11. Write a C program that uses functions to perform the following:
    a. Addition of Two Matrices
    b. Multiplication of Two Matrices
12. Write a program to perform various string operations
13. Write a program to swap two numbers using pointers.
14. Write C program that implements searching of given item in a given list
15. Write a C program to sort a given list of integers in ascending order

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COMPUTER SCIENCE	**CCSC 506C**	**2019-20**	**B.Com.(C.A.)**

SEMESTER – V **PAPER – VI** **Max. Marks 75**

Syllabus **DATA BASE MANAGEMENT SYSTEMS**

NO Of Hours: 5 **No Of Credits: 3** **Pass Marks 30**

Course Objective: Design & develop database for large volumes & varieties of data with optimized data processing techniques.

Unit – 1: Database Systems Introduction **12Hrs**

Database Systems: Introducing the database and DBMS, Why the database is important,
Historical Roots: Files and File Systems, Problems with File System, Data Management, Database Systems. *Data Models:* The importance of Data models, Data Model Basic Building Blocks, The evaluation of Data Models.

Unit - II: Relational Database & Data Modelling **12 Hrs**

The Relational Database Model: A logical view of Data, Keys, Integrity Rules, Relational Set Operators, Indexes, Codd's relational database rules. *Entity Relationship Model:* The ER Model
Advanced Data Modelling: The Extended Entity Relationship Model, Entity clustering.

Unit-III: Normalization and Database Design **14 Hrs**

Normalization of database tables: Database Tables and Normalization, The need for Normalization, The Normalization Process, High level Normal Forms, Normalization and database design, de normalization.

Unit-IV: Structured Query Language **12 Hrs**

Introduction to SQL: Data Definition Commands, Data Manipulation Commands, Select queries, Advanced Data Definition Commands, Advanced Select queries, Virtual Tables, SQL Join Operators,

Unit-V: Procedural SQL **10 Hrs**

Introduction to PL/SQL : Triggers, Stored Procedures, Pl/ SQL Stored Functions

Prescribed Text Book:

1. **Peter Rob, Carlos Coronel, Database Systems Design, Implementation and Management, Seventh Edition, Thomson (2007).**

Reference Books:

3. Elimasri / Navathe, Fundamentals of Database Systems, Fifth Edition, Pearson Addison Wesley
4. Raman A Mata – Toledo/Panline K Cushman, Database Management Systems, Schaum's Outlibe series, Tata McGraw Hill (2007).
5. C.J.Date, A.Kannan, S.Swamynathan, An Introduction to Database Systems, Eight edition, Pearson Education (2006).
6. "DatabaseSystemConcepts" by AbrahamSilberschatz, Henry Korth, and S.Sudarshan, McGrawhill
7. Atul Kahate, Introduction to Database Management Systems, Pearson Education (2006).

Student Activity:

1. Create your college database for placement purpose.
2. Create faculty database of your college with their academic performance scores

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COMPUTER SCIENCE	CCSC 506C	2019-20	B.Com.(C.A.)

SEMESTER – V **PAPER – VI** **Max. Marks 75**

Model Paper **DATA BASE MANAGEMENT SYSTEMS**

NO Of Hours: 5 **No Of Credits: 3** **Pass Marks 30**

Section-A

Answer any **FIVE** Questions. Each question carries **FIVE** Marks **4x5=25M**

1. Explain the Components of Database System.
2. Explain Entity Relationship Model .
3. Write about Relational Set Operators.
4. Explain Integrity rules.
5. Describe BCNF.
6. Write about D Normalization.
7. Write about Special Functions.
8. Explain Stored Procedures.

Section-B

Answer any **FIVE** Questions. Each question carries **TEN** Marks **5X10=50M**

9. What is File? Explain the problems with File system
10. Explain any three different Data Models
11. Explain E.F.CODDs' rules.
12. Explain Extended Entity Relationship Model.
13. Explain the concept of Normal Forms.
14. Explain different join operators
15. Explain DDL and DML commands.
16. Explain about triggers.

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COMPUTER SCIENCE	CCSC 506C	**2019-20**	B.Com.(C.A.)

SEMESTER – V PAPER – VI Max. Marks 75 Pass Marks 30

Guidelines for paper setting '**DATA BASE MANAGEMENT SYSTEMS'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	CCSC-505P	2019-20	B.Sc.(MPCS)

SEMESTER – V **PAPER – IV** **Max. Marks 50**

Lab List **DATA BASE MANAGEMENT SYSTEMS** **Pass Marks 25**

No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

1. Creation of college database and establish relationships between tables
2. Explain various data type in Oracle.
3. Show the structure of the Emp table.
4. Show the structure of the DEPT table.
5. Explain the syntax of SELECT statement.
6. Create a query to display the name, job, hiredate and employee number from emp table.
7. Create a query to display unique jobs from the emp table.
8. Create a query to display the empno as EMP#, ename as EMPLOYEE and Hire_date from emp.
9. Create a query to display all the data from the EMP table. Separate each column by a comma and name the column THE_OUTPUT.
10. Create a query to display the name and salary of employees earning more than 2850.
11. Create a query to display the name and salary for all employees whose salary is not in the range of 1500 and 2850.
12. Display the employee name, job and start date of employees hired between February 20 ,1981 and May 1, 1981. Order the query in ascending order of start date
13. Display the employee name and department number of all the employees in departments 10 and 30 in alphabetical order by name.
14. List the name and salary of employees who earn more than 1500 & are in department 10 or 30.
15. Display the name, salary and commissions and sort data in descending order of salary and commission.
16. Display the name and job title of all employees who do not have a manager.
17. Display the name, job and salary for all employees whose job is Clerk or Analyst and their salary is not equal to 1000, 3000 or 5000.
18. Display the names of all employees where the third letter of their name is an 'A'.
19. Display the names of all employees who have two 'L's in their name and are in department 30 or their manager is 7782.
20. Display the name , salary and commission for all employees whose commission amount is grater than their salary increased by 10%.
21. Explain all the character functions.
22. Explain all the number functions.
23. Explain all the Date functions.

<u>Create Student database using the following tables.</u>

STUDENT: Sno : primary key, number Sname : NOT NULL, varchar2 Address: Varchar2

COURSE: Sno : Foreign key. Course Name : varchar2

Queries:

1. Alter table by adding a column fees in table COURSE.
2. Alter table by modifying the address to VARCHAR2(20)

3. Create a view on which the students who joined in one course only.

PL/SQL.

1. Write A Pl/Sql Program To Swap Two Numbers Without Using Third Variable.
2. Write A Pl/Sql Program To Generate Multiplication Tables For Numbers 2,4 And 6
3. Write A Pl/Sql Program To Display Sum Of Even Numbers And Sum Of Odd Numbers In The Given Range.
4. Write A Pl/Sql Program To Check The Given Number Is Pollinndrome Or Not.
5. Write A Pl/Sql Program To Display Top 10 Rows In Emp Table Based On Their Job And Salary.

Reference Books:

1. Oracle Pl/Sql By Example. Benjamin Rosenzweig, Elena Silvestrova, Pearsoneducation 3rd Edition

2. Sql & Pl/Sql For Oracle 10g, Black Book, Dr.P.S. Deshpande

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COMPUTER SCIENCE	**CCSC-507C**	**2019-20**	**B.Com.(CA)**

SEMESTER – V **PAPER – VIII** **Max. Marks 75**

Syllabus **WEB TECHNOLOGIES**

NO Of Hours: 5 **No of Credits: 3** **Pass Marks 30**

Unit -I Introduction to XHTML:
Introduction to HTML, Basic html, Document body text, Hyper links, Adding more formatting Lists, Tables, Images, Multimedia Objects, Frames, Forms and XHTML.

Unit- II: CSS:
Cascading Style Sheets: Introduction, Defining your own styles, properties and values in styles, Formatting blocks of information, Layers.
Java Script: java Script, the basics, Variables, String Manipulations, Mathematical functions, Statements, Operators, Arrays, Functions.

Unit –III: Objects in Java Script & Dynamic HTML with Java Script
Objects in Java Script: Data and objects in java script, Regular expressions, Exception Handling, Built in objects, Events.
Dynamic HTML with Java Script: Data validation, Opening a new window, Messages and Confirmations, The status bar, Writing to a different frame, Rollover buttons, Moving images, Multiple pages in a single download, A text-only menu system, Floating logos.

Unit –IV: XML Defining Data for Web Applications

XML: Introduction to XML, Basic XML, document type definition, XML Schema, Document object model, presenting XML, Using XML parser.

Unit -V: JSP:

JSP Lifecycle, Basic Syntax, EL (Expression Language), EL Syntax, Using EL Variables

Prescribed Books:

1.Chris Bates, Web Programming Building Internet Application, Second Edition, Wiley
2.Head First Servlets and JSP 2nd Edition, Bryan Basham, Kathy Sierra
2. Uttam Kumar Roy, Web Technologies from Oxford University Press

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COMPUTER SCIENCE	CCSC-507C	2019-20	B.Sc.(MPCs)

SEMESTER – V **PAPER – VIII** **Max. Marks 75**

Model Paper **WEB TECHNOLOGIES**
No of Credits: 3 **Pass Marks 30**

Section-A

Answer **FIVE** Questions. Each Question carries **FIVE** Marks. 5 X 5=25M

1. Write about structure of HTML Document with an example
2. Explain about lists in HTML
3. Write about properties used in Style Sheet
4. Write about arrays in Java Script
5. Describe Data Object
6. Write about Rollover buttons
7. Describe XML Elements
8. Write the syntax of EL and EL variables

Section-B

Answer **FIVE** Questions. Each Question carries **TEN** Marks. 5 X 10=50M

9. Explain about hyper links? Write about how to link another pages
10. What is Form? Explain about forms with examples
11. What is CSS? How to design Cascading style sheet
12. Explain about Mathematical Functions
13. Explain about Regular Expressions
14. Write about Data validations in DHTML
15. Explain about Document Object Model
16. Explain about JSP Lifecycle with neat diagram

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COMPUTER SCIENCE	CCSC-507C	**2019-20**	B.Sc.(MPCs)

SEMESTER – V PAPER – VIII Max. Marks 75 Pass Marks 30

Guidelines for paper setting **'WEB TECHNOLOGIES'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	1	2
Unit-4	2	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	CSC-301C	2019-20	B.Sc.(MPCs, MCCs.)

SEMESTER – III PAPER – III Max. Marks 70 Pass Marks 28

Syllabus OBJECT ORIENTED PROGRAMMING USING JAVA Total Hrs: 60

NO. Of. Hours: 4 Credits: 3

UNIT-I 15Hrs

Fundamentals of Object – Oriented Programming: Introduction, Object Oriented paradigm, Basic Concepts of OOP, Benefits of OOP, Applications of OOP, Java features: **Overview of Java Language**: Introduction, Simple Java program structure, Java tokens, Java Statements, Implementing a Java Program, Java Virtual Machine, Command line arguments. **Constants, Variables & Data Types:** Introduction, Constants, Variables, Data Types, Declaration of Variables, Giving Value to Variables, Scope of variables, Symbolic Constants, Type casting, Getting Value of Variables, Standard Default values; **Operators & Expressions**.

UNIT-II 15 Hrs

Decision Making & Branching: Introduction, Decision making with if statement, Simple if statement, if-Else statement, Nesting of if-else statements, the else if ladder, the switch statement, the conditional operator. **Looping**: Introduction, While statement, do-while statement, for statement, Jumps in loops. **Classes, Objects & Methods**: Introduction, Defining a class, Adding variables, Adding methods, Creating objects, Accessing class members, Constructors, Method overloading, Static members, Nesting of methods;

UNIT-III 10 Hrs

Inheritance: Extending a Class, Overriding Methods, Final Variables and Methods, Final Classes, Abstract Methods and Classes; **Arrays, Strings And Vectors:** Arrays, One-dimensional arrays, Creating an array, Two – dimensional arrays, Strings, Vectors, Wrapper classes; **Interfaces**: **Multiple Inheritance**: Introduction, Defining interfaces, Extending interfaces, Implementing interfaces, Assessing interface variables;

UNIT-IV 10 Hrs

Multithreaded Programming: Introduction, Creating Threads, Extending the Threads, Stopping and Blocking a Thread, Lifecycle of a Thread, Using Thread Methods, Thread Exceptions, Thread Priority, Synchronization, Implementing the 'Runnable' Interface.

Managing Errors And Exceptions: Types of errors: Compile-time errors, Runtime errors, Exceptions, Exception handling, Multiple Catch Statements, Using finally statement,

UNIT-V 10 Hrs

Applet Programming: local and remote applets, Applets and Applications, Building Applet code, Applet Life cycle: Initialization state, Running state, Idle or stopped state, Dead state, Display state. **Packages:** Introduction, Java API Packages, Using System Packages, Naming conventions, Creating Packages, Accessing a Package, using a Package. **Managing Input/ Output Files in Java:** Introduction, Concept of Streams, Stream classes, Byte Stream Classes, Input Stream Classes, Output Stream Classes, Character Stream classes: Reader stream classes, Writer Stream classes, Using Streams;

Prescribed Text Book:

1. E.Balaguruswamy, Programmingwith JAVA, A primer, 3e, TATA McGraw-Hill Company.

Reference Books

1. Programming In Java By Sachin Malhotra And Saurabh Choudhary From Oxford University Press
2. Object Oriented Programming Through Java by P. Radha Krishna, Universities Press
3. John R. Hubbard, Programming with Java, Second Edition, Schaum's outline Series,
4. Deitel &Deitel. Java TM: How to Program, PHI (2007)
5. Java Programming: From Problem Analysis to Program Design- D.S Mallik

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.

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(With Effect from Academic Year 2019-'20)

COMPUTER SCIENCE	**CSC-301C**	**2019-'20**	**B.Sc.(MPCs, MCCs.)**

SEMESTER – III **PAPER – III** **Max. Marks 70** **Pass Marks 28**

MODEL PAPER **OBJECT ORIENTED PROGRAMMING USING JAVA**

NO Of Hours: 4 **Credits: 3** **Total Hrs: 60**

Section- A

Answer FOUR Questions. Each Question carries FIVE Marks. 4*5=20M

1. Explain the structure of a java program?
2. Explain different data types in java?
3. Explain about Constructors?
4. Differences between arrays and vectors?
5. Explain about Exception handling?
6. Explain the applet life cycle?

Section- B

Answer FIVE the Questions. Each Question carries TEN Marks 5*10=50M

7. Explain the Concepts of Object Oriented Programming?
8. Explain java Features?
9. Explain Looping statements with example
10. Explain Method overloading with an example program
11. Explain about inheritance
12. Explain the concept of interface?
13. Explain life cycle of a thread?
14. Explain about Byte Stream Classes?

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COMPUTER SCIENCE	CSC-301C	2019-'20	B.Sc.(MPCs., MCCs.)

SEMESTER – III PAPER – III Max. Marks 70

Guidelines for paper setting '**OBJECT ORIENTED PROGRAMMING USING JAVA'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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SEMESTER – III **PAPER – III** **Max. Marks 50**

Lab List **OBJECT ORIENTED PROGRAMMING USING JAVA** **Pass Marks 25**

No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

1. Write a program to perform various String Operations
2. Write a program to print the given number is Armstrong or not?
3. Prompt for the cost and selling price of an article and display the profit (or) loss
4. Write a program to print the numbers given by command line arguments
5. Write a program on class and object in java
6. Illustrate the method overriding in JAVA
7. Write a program to find the Simple Interest using Multilevel Inheritance
8. Write a program to display matrix multiplication.
9. Write a program to implement Exception handling
10. Write a program to create packages in Java
11. Write a program on interface in java
12. Write a program to Create Multiple Threads in Java
13. Write a program to Write Applets to draw the various polygons
14. Write a program to assign priorities to threads in java
15. Write an Applet Program to design a Simple Calculator.

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COMPUTER SCIENCE	ICT-II-301C	2019-'20	B.A, B.Com, B.Sc.

SEMESTER – III PAPER – II Max. Marks 50 Pass Marks 20 Total Hrs 30

Syllabus Internet Fundamentals and Web Tools NO. Of Hrs: 2 Credits: 2

Unit-I : 6Hrs

Fundamentals of Internet : Networking Concepts, Data Communication – Types of Networking, Internet and its Services, Internet Addressing – Internet Applications – Computer Viruses and its types – Browser –Types of Browsers.

Unit-II: 6Hrs

Internet applications: Using Internet Explorer, Standard Internet Explorer Buttons, Entering a Web Site Address, Searching the Internet – Introduction to Social Networking: twitter, tumbler, LinkedIn, face book, flicker, Skype, yelp, vimeo, yahoo, Google+, YouTube, WhatsApp, etc.

Unit-III : 6Hrs

E-mail : Definition of E-mail - Advantages and Disadvantages – User-Ids, Passwords, Email Addresses, Domain Names, Mailers, Message Components, Message Composition, Mail Management, Email Inner Workings.

Unit IV: 6Hrs

WWW- Web Applications, Web Terminologies, Web Browsers, URL – Components of URL, Searching WWW – Search Engines and Examples

Unit-V : 6Hrs

Basic HTML: Basic HTML – Web Terminology – Structure of a HTML Document – HTML, Head and Body tags – Semantic and Syntactic Tags – HR, Heading, Font, Image and Anchor Tags – Different types of Lists using tags – Table Tags, Image formats – Creation of simple HTML Documents.

Reference Books :

1. In-line/On-line : Fundamentals of the Internet and the World Wide Web, 2/e - by Raymond Greenlaw and Ellen Hepp, Publishers : TMH

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SEMESTER – III PAPER – II Max.Marks 50 Pass Marks: 20 Total: 30 Hrs

Modal Paper: Internet Fundamentals and Web Tools NO. Of Hrs: 2 Credits: 2

Section- A

Answer FOUR Questions. Each Question carries FIVE marks. 4X5=20M

1. Explain types of Browsers?
2. Explain Internet Applications.
3. Write a short note on Internet Explorer?
4. Explain User Id and Password of e-mail?
5. Explain Advantages and disadvantages of electronic mail.4
6. Explain about WWW?
7. Explain briefly about web application.
8. Explain Head and Body tags in HTML Document?

Section- B

Answer Any THREE Questions. Each Question carries TEN Marks. 3×10=30M

9. Explain types of Networking?
10. Explain Internet Services?
11. Explain any 10 Social Net Working Sites
12. Explain Message Composition.
13. Explain different types of Search Engines.
14. Explain different lists in HTML.

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COMPUTER SCIENCE	CCSC-303C	2019-'20	B.Com. (C.A)

SEMESTER – III PAPER – III Max. Marks 70 Pass Marks 28 Total Hrs: 60

Syllabus **Office Automation Tools** **NO. Of. Hours: 5** **Credits: 4**

Unit-I:

12Hrs

MS-Excel: features of Ms-Excel, Parts of MS-Excel window, entering and editing data in worksheet, number formatting in excel, different cell references, how to enter and edit formula in excel, auto fill and custom fill, printing options.

Unit-II: **12**

Hrs Formatting options: Different formatting options, change row height, formulae and Functions,

Functions: Meaning and advantages of functions, different types of functions available in Excel.

Unit-III:

12Hrs

Charts: Different types of charts, Parts of chart, chart creation using wizard, chart operations, data maps, graphs, data sorting, filtering. Excel sub totals, scenarios, what-if analysis.

Macro: Meaning and advantages of Macros, creation, editing and deletion of macros - Creating a macro, how to run, how to delete a macro.

Unit-IV:

12Hrs

MS Access: Creating a Simple Database and Tables: Features of Ms-Access, Creating a Database, Parts of Access. **Tables:** table creation using design view, table wizard, data sheet view, import table, link table. **Forms:** The Form Wizard, design view, columnar, tabular, data sheet, chart wizard.

Unit- V:

12Hrs

Finding, Sorting and Displaying Data: Queries and Dynasts, Creating and using select queries, Returning to the Query Design, Multi-level sorts, Finding incomplete matches, showing All records after a Query, saving queries - Crosstab Queries. **Printing Reports:** Form and Database Printing..

Reference Books:

1.Ron Mansfield, Working in Microsoft Office, Tata McGraw Hill(2008)

2.Ed Bott, Woody Leonhard, Using Microsoft Office 2007, Pearson Education(2007)

3. Sanjay Saxsena, Microsoft Office, 4.Microsoft Office, BPB Publications

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SEMESTER – III PAPER – III Max. Marks 70 Pass Marks 28 Total Hrs: 60

Model Paper **Office Automation Tools** **NO Of Hours: 5 Credits: 4**

Section- A

Answer FOUR Questions. Each Question carries FIVE Marks. 4*5=20M

1. Explain Features of Excel?
2. What are advantages of Functions?
3. Explain what is sorting?
4. Explain how to delete Macro?
5. Write any 5 Features of Access?
6. Describe Query used in MS-Access?

Section- B

Answer FIVE the Questions. Each Question carries TEN Marks. 5*10=50M

7. Explain Parts of Excel Sheet with neat Diagram.
8. Explain AutoFill and Custom Fill Options in Excel.
9. Explain different types of Functions available.
10. Explain different Formatting options.
11. What is Chart? Explain different types of Charts.
12. What is Macro? Explain Creating and Editing of Macro.
13. What is Form? Explain Creating Form using Form Wizard.
14. Explain How to Create a Query, Showing, all records after Query and Saving Query.

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COMPUTER SCIENCE	ICT-II-301	2019-'20	B.A, B.Com, B.Sc.

SEMESTER – III PAPER – II Max. Marks 50

Guidelines for paper setting **'INTERNET FUNDAMENTALS AND WEB TOOLS'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	1
Unit-3	2	1
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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SEMESTER – III PAPER – III Max. Marks 50 Pass Marks 20 Total Hrs: 30

Lab list Office Automation Tools

Ms-Word

1. Create a vesting Card
2. Create a template for organization using Header & Footer
3. Mail merge Procedure

Ms-Excel

1. Create an electronic spreadsheet in which you enter the following decimal numbers and convert into Octal, Hexadecimal and Binary numbers vice versa. Decimal Numbers: 35, 68, 95, 165, 225, 355, 375, 465. Binary Numbers: 101, 1101, 111011, 10001, 110011001, 111011111.

2. The ABC Company shows the sales of different products for 5 years. Create column chart, 3D-column and Bar chart for the following data
YEAR PRODUCT-1 PRODUCT-2 PRODUCT-3 PRODUCT-4
2003 1000 800 900 1000 2004 800 80 500 900 2005 1200 190 400 800 2006 400 200 300 1000 2007 1800 400 400 1200

3. Create a suitable examination data base and find the sum of the marks(total) of each student and respective class secured by the student rules:
Pass if marks in each subject >=35
Distinction if average>=75
First class if average>=60 but <75
Second class if average>=50 but <60
Third class if average>=35 but <50
Fail if marks in any subject is <35
Display average marks of the class, subject wise and pass percentage

4. Create an electronic spread sheet in which you enter date and time functions in Excel

5. Create a electronic spread sheet in statistical and mathematical functions in Excel

MS-PowerPoint

1. Make a Power point presentation on your strengths, weaknesses, hobbies, factors that waste your time.

2. Make a Power point presentation to represent your College profile.

3. Make a Power point presentation of all the details of the books that you had studied in B.Sc. First Year.

4. Create a Presentation without Animation.

MS-ACCESS

1. Create a database using MS-ACCESS with at least 5 records table1 structure: register number , name, dob, gender, class table2 structure: register number m1 m2 m3 m4 m5 total maintain the relationship between two tables with register number as a primary key and answer the following quarries: show the list of students with the following fields as one query register number name gender total marks

2. Maintain the relationship between above two tables with register number as a primary key and answer the following reports: reports must have following columns report1 with register number, name, marks of all subjects and 90 hrs (3 hrs/ week) computer science 10 of 44 total report2 with register number, total , percentage.

3. Create a database using ms-access with at least 5 records table1 structure: emp-code emp-name age gender dob table2 structure: emp-code basic-pay maintain the relationship between two tables with emp-code as a primary key generate the following reports: report1: emp-code emp-name basic-pay da,hra gross-salary report2: emp-code emp-name age gender gross-salary

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SEMESTER – III PAPER – II Max. Marks 50 Pass Marks 20 Total Hrs 30

Syllabus Internet Fundamentals and Web Tools NO. Of Hrs: 2 Credits: 2

Unit-I : 6Hrs

Fundamentals of Internet : Networking Concepts, Data Communication – Types of Networking, Internet and its Services, Internet Addressing – Internet Applications – Computer Viruses and its types – Browser –Types of Browsers.

Unit-II: 6Hrs

Internet applications: Using Internet Explorer, Standard Internet Explorer Buttons, Entering a Web Site Address, Searching the Internet – Introduction to Social Networking: twitter, tumbler, LinkedIn, face book, flicker, Skype, yelp, vimeo, yahoo, Google+, YouTube, WhatsApp, etc.

Unit-III : 6Hrs

E-mail : Definition of E-mail - Advantages and Disadvantages – User-Ids, Passwords, Email Addresses, Domain Names, Mailers, Message Components, Message Composition, Mail Management, Email Inner Workings.

Unit IV: 6Hrs

WWW- Web Applications, Web Terminologies, Web Browsers, URL – Components of URL, Searching WWW – Search Engines and Examples

Unit-V : 6Hrs

Basic HTML: Basic HTML – Web Terminology – Structure of a HTML Document – HTML, Head and Body tags – Semantic and Syntactic Tags – HR, Heading, Font, Image and Anchor Tags – Different types of Lists using tags – Table Tags, Image formats – Creation of simple HTML Documents.

Reference Books :

1. In-line/On-line : Fundamentals of the Internet and the World Wide Web, 2/e - by Raymond Greenlaw and Ellen Hepp, Publishers : TMH

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SEMESTER – III PAPER – II Max.Marks 50 Pass Marks: 20 Total: 30 Hrs

Modal Paper: Internet Fundamentals and Web Tools NO. Of Hrs: 2 Credits: 2

Section- A

Answer FOUR Questions. Each Question carries FIVE marks. 4X5=20M

1. Explain types of Browsers?
2. Explain Internet Applications.
3. Write a short note on Internet Explorer?
4. Explain User Id and Password of e-mail?
5. Explain Advantages and disadvantages of electronic mail.4
6. Explain about WWW?
7. Explain briefly about web application.
8. Explain Head and Body tags in HTML Document?

Section- B

Answer Any THREE Questions. Each Question carries TEN Marks. 3×10=30M

9. Explain types of Networking?
10. Explain Internet Services?
11. Explain any 10 Social Net Working Sites
12. Explain Message Composition.
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SEMESTER – III PAPER – II Max. Marks 50

Guidelines for paper setting **'INTERNET FUNDAMENTALS AND WEB TOOLS'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	1
Unit-3	2	1
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	CSC-301C	2019-20	B.Sc.(MPCs, MCCs.)

SEMESTER – III PAPER – III Max. Marks 75 Pass Marks 30

Syllabus OBJECT ORIENTED PROGRAMMING USING JAVA Total Hrs: 60

NO. Of. Hours: 4 Credits: 3

UNIT-I 15Hrs

Fundamentals of Object – Oriented Programming: Introduction, Object Oriented paradigm, Basic Concepts of OOP, Benefits of OOP, Applications of OOP, Java features: **Overview of Java Language**: Introduction, Simple Java program structure, Java tokens, Java Statements, Implementing a Java Program, Java Virtual Machine, Command line arguments. **Constants, Variables & Data Types:** Introduction, Constants, Variables, Data Types, Declaration of Variables, Giving Value to Variables, Scope of variables, Symbolic Constants, Type casting, Getting Value of Variables, Standard Default values; **Operators & Expressions**.

UNIT-II 15 Hrs

Decision Making & Branching: Introduction, Decision making with if statement, Simple if statement, if-Else statement, Nesting of if-else statements, the else if ladder, the switch statement, the conditional operator. **Looping**: Introduction, While statement, do-while statement, for statement, Jumps in loops. **Classes, Objects & Methods**: Introduction, Defining a class, Adding variables, Adding methods, Creating objects, Accessing class members, Constructors, Method overloading, Static members, Nesting of methods;

UNIT-III 10 Hrs

Inheritance: Extending a Class, Overriding Methods, Final Variables and Methods, Final Classes, Abstract Methods and Classes; **Arrays, Strings And Vectors:** Arrays, One-dimensional arrays, Creating an array, Two – dimensional arrays, Strings, Vectors, Wrapper classes; **Interfaces**: **Multiple Inheritance**: Introduction, Defining interfaces, Extending interfaces, Implementing interfaces, Assessing interface variables;

UNIT-IV 10 Hrs

Multithreaded Programming: Introduction, Creating Threads, Extending the Threads, Stopping and Blocking a Thread, Lifecycle of a Thread, Using Thread Methods, Thread Exceptions, Thread Priority, Synchronization, Implementing the 'Runnable' Interface.

Managing Errors And Exceptions: Types of errors: Compile-time errors, Runtime errors, Exceptions, Exception handling, Multiple Catch Statements, Using finally statement,

UNIT-V 10 Hrs

Applet Programming: local and remote applets, Applets and Applications, Building Applet code, Applet Life cycle: Initialization state, Running state, Idle or stopped state, Dead state, Display state. **Packages:** Introduction, Java API Packages, Using System Packages, Naming conventions, Creating Packages, Accessing a Package, using a Package. **Managing Input/ Output Files in Java:** Introduction, Concept of Streams, Stream classes, Byte Stream Classes, Input Stream Classes, Output Stream Classes, Character Stream classes: Reader stream classes, Writer Stream classes, Using Streams;

Prescribed Text Book:

1. E.Balaguruswamy, Programmingwith JAVA, A primer, 3e, TATA McGraw-Hill Company.

Reference Books

6. Programming In Java By Sachin Malhotra And Saurabh Choudhary From Oxford University Press
7. Object Oriented Programming Through Java by P. Radha Krishna, Universities Press
8. John R. Hubbard, Programming with Java, Second Edition, Schaum's outline Series,
9. Deitel &Deitel. Java TM: How to Program, PHI (2007)
10. Java Programming: From Problem Analysis to Program Design- D.S Mallik

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SEMESTER – III PAPER – III Max. Marks 75 Pass Marks 30

MODEL PAPER OBJECT ORIENTED PROGRAMMING USING JAVA

NO Of Hours: 4 Credits: 3 Total Hrs: 60

Section- A

Answer FIVE Questions. Each Question carries FIVE Marks. 5*5=25M

15. Explain the structure of a java program?
16. Explain different data types in java?
17. Write a short note on if statement
18. Explain about Constructors?
19. Differences between arrays and vectors?
20. Explain about Exception handling?
21. Explain the applet life cycle?
22. How to create and accessing a package?

Section- B

Answer FIVE the Questions. Each Question carries TEN Marks 5*10=50M

23. Explain the Concepts of Object Oriented Programming?
24. Explain java Features?
25. Explain Looping statements with example
26. Explain Method overloading with an example program
27. Explain about inheritance
28. Explain the concept of interface?
29. Explain life cycle of a thread?
30. Explain about Byte Stream Classes?

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Unit-2	2	2
Unit-3	1	2
Unit-4	1	1
Unit-5	2	1

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No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

16. Write a program to perform various String Operations
17. Write a program to print the given number is Armstrong or not?
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24. Write a program to implement Exception handling
25. Write a program to create packages in Java
26. Write a program on interface in java
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WWW- Web Applications, Web Terminologies, Web Browsers, URL – Components of URL, Searching WWW – Search Engines and Examples

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1. In-line/On-line : Fundamentals of the Internet and the World Wide Web, 2/e - by Raymond Greenlaw and Ellen Hepp, Publishers : TMH

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(With Effect From Academic Year 2018-'19)

COMPUTER SCIENCE	ICT-II-301C	2019-20	B.A, B.Com, B.Sc.

SEMESTER – III PAPER – II Max.Marks 50 Pass Marks: 20 Total: 30 Hrs

Modal Paper: Internet Fundamentals and Web Tools NO. Of Hrs: 2 Credits: 2

Section- A

Answer FOUR Questions. Each Question carries FIVE marks. 4X5=20M

15. Explain types of Browsers?
16. Explain Internet Applications.
17. Write a short note on Internet Explorer?
18. Explain User Id and Password of e-mail?
19. Explain Advantages and disadvantages of electronic mail.4
20. Explain about WWW?
21. Explain briefly about web application.
22. Explain Head and Body tags in HTML Document?

Section- B

Answer Any THREE Questions. Each Question carries TEN Marks. 3×10=30M

23. Explain types of Networking?
24. Explain Internet Services?
25. Explain any 10 Social Net Working Sites
26. Explain Message Composition.
27. Explain different types of Search Engines.
28. Explain different lists in HTML.

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COMPUTER SCIENCE	ICT-II-301	**2019-20**	B.A, B.Com, B.Sc.

SEMESTER – III PAPER – II Max. Marks 50

Guidelines for paper setting **'INTERNET FUNDAMENTALS AND WEB TOOLS'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	1
Unit-3	2	1
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	CCSC-303C	2019-20	B.Com. (C.A)

SEMESTER – III PAPER – III Max. Marks 75 Pass Marks 30 Total Hrs: 60

Syllabus **Office Automation Tools** **NO. Of. Hours: 5** **Credits: 4**

Unit-I:

12Hrs

MS-Excel: features of Ms-Excel, Parts of MS-Excel window, entering and editing data in worksheet, number formatting in excel, different cell references, how to enter and edit formula in excel, auto fill and custom fill, printing options.

Unit-II: **12**

Hrs Formatting options: Different formatting options, change row height, formulae and Functions,

Functions: Meaning and advantages of functions, different types of functions available in Excel.

Unit-III:

12Hrs

Charts: Different types of charts, Parts of chart, chart creation using wizard, chart operations, data maps, graphs, data sorting, filtering. Excel sub totals, scenarios, what-if analysis.

Macro: Meaning and advantages of Macros, creation, editing and deletion of macros - Creating a macro, how to run, how to delete a macro.

Unit-IV:

12Hrs

MS Access: Creating a Simple Database and Tables: Features of Ms-Access, Creating a Database, Parts of Access. **Tables:** table creation using design view, table wizard, data sheet view, import table, link table. **Forms:** The Form Wizard, design view, columnar, tabular, data sheet, chart wizard.

Unit- V:

12Hrs

Finding, Sorting and Displaying Data: Queries and Dynasts, Creating and using select queries, Returning to the Query Design, Multi-level sorts, Finding incomplete matches, showing All records after a Query, saving queries - Crosstab Queries. **Printing Reports:** Form and Database Printing..

Reference Books:

1.Ron Mansfield, Working in Microsoft Office, Tata McGraw Hill(2008)

2.Ed Bott, Woody Leonhard, Using Microsoft Office 2007, Pearson Education(2007)

3. Sanjay Saxsena, Microsoft Office, 4.Microsoft Office, BPB Publications

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COMPUTER SCIENCE	CCSC-303C	2019-20	B.Com. (C.A)

SEMESTER – III PAPER – III Max. Marks 75 Pass Marks 30 Total Hrs: 60

Model Paper **Office Automation Tools** **NO Of Hours: 5 Credits: 4**

Section- A

Answer FIVE Questions. Each Question carries FIVE Marks. 5*5=25M

15. Explain Features of Excel?
16. Explain Number Formatting in Excel?
17. Explain How to Change row Height??
18. What are advantages of Functions?
19. Explain what is sorting?
20. Explain how to delete Macro?
21. Write any 5 Features of Access?
22. Describe Query used in MS-Access?

Section- B

Answer FIVE the Questions. Each Question carries TEN Marks. 5*10=50M

23. Explain Parts of Excel Sheet with neat Diagram.
24. Explain AutoFill and Custom Fill Options in Excel.
25. Explain different types of Functions available.
26. Explain different Formatting options.
27. What is Chart? Explain different types of Charts.
28. What is Macro? Explain Creating and Editing of Macro.
29. What is Form? Explain Creating Form using Form Wizard.
30. Explain How to Create a Query, Showing, all records after Query and Saving Query.

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COMPUTER SCIENCE	CCSC-303C	**2019-20**	B.Com. (C.A)

SEMESTER – III PAPER – III Max. Marks 75

Guidelines for paper setting '**OFFICE AUTOMATION TOOLS'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit -5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	**CCSC-303P**	**2019-20**	**B.Com. (C.A)**

SEMESTER – III PAPER – III Max. Marks 50 Pass Marks 20 Total Hrs: 30

Lab list Office Automation Tools

Ms-Word

4. Create a vesting Card
5. Create a template for organization using header & footer
6. Mail merge Procedure

Ms-Excel

1. Create an electronic spreadsheet in which you enter the following decimal numbers and convert into Octal, Hexadecimal and Binary numbers vice versa. Decimal Numbers: 35, 68, 95, 165, 225, 355, 375, 465. Binary Numbers: 101, 1101, 111011, 10001, 110011001, 111011111.

2. The ABC Company shows the sales of different products for 5 years. Create column chart, 3D-column and Bar chart for the following data
YEAR PRODUCT-1 PRODUCT-2 PRODUCT-3 PRODUCT-4
2003 1000 800 900 1000 2004 800 80 500 900 2005 1200 190 400 800 2006 400 200 300 1000 2007 1800 400 400 1200

3. Create a suitable examination data base and find the sum of the marks(total) of each student and respective class secured by the student rules:
Pass if marks in each subject >=35
Distinction if average>=75
First class if average>=60 but <75
Second class if average>=50 but <60
Third class if average>=35 but <50
Fail if marks in any subject is <35
Display average marks of the class, subject wise and pass percentage

4. Create an electronic spread sheet in which you enter date and time functions in Excel

5. Create a electronic spread sheet in statistical and mathematical functions in Excel

MS-PowerPoint

1. Make a Power point presentation on your strengths, weaknesses, hobbies, factors that waste your time.

2. Make a Power point presentation to represent your College profile.

3. Make a Power point presentation of all the details of the books that you had studied in B.Sc. First Year.

4. Create a Presentation without Animation.

MS-ACCESS

1. Create a database using MS-ACCESS with at least 5 records table1 structure: register number , name, dob, gender, class table2 structure: register number m1 m2 m3 m4 m5 total maintain the relationship between two tables with register number as a primary key and answer the following quarries: show the list of students with the following fields as one query register number name gender total marks

2. Maintain the relationship between above two tables with register number as a primary key and answer the following reports: reports must have following columns report1 with register number, name, marks of all subjects and 90 hrs (3 hrs/ week) computer science 10 of 44 total report2 with register number, total , percentage.

3. Create a database using ms-access with at least 5 records table1 structure: emp-code emp-name age gender dob table2 structure: emp-code basic-pay maintain the relationship between two tables with emp-code as a primary key generate the following reports: report1: emp-code emp-name basic-pay da,hra gross-salary report2: emp-code emp-name age gender gross-salary

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COMPUTER SCIENCE	CSC-101C	2019-20	B.Sc.(MPCs, MCCs.)

SEMESTER – I PAPER – I Max. Marks 70 Pass Marks 28 Total Hrs 60

Syllabus: **Computer Fundamentals & Photoshop NO. Of. Hours: 4 Credits: 3**

UNIT-I:

12Hrs

Introduction to computers, characteristics and limitations of computer, Block diagram of computer, types of computers, uses of computers, computer generations. Number systems: binary, hexa and octal numbering system.

UNIT-II:

12Hrs

Input and output devices: Keyboard and mouse, inputting data in other ways, Types of Software: system software, Application software, commercial, open source, domain and freeware software, Memories: primary, secondary and cache memory. Windows basics: desktop, start menu, icons.

Unit –III:

15Hrs

Introduction to Adobe Photoshop, Getting started with Photoshop, creating and saving a document in Photoshop, page layout and back ground, Photoshop program window-title bar, menu bar ,option bar ,image window ,image title bar ,status bar, ruler ,paletts, tool box ,screen modes ,saving files ,reverting files ,closing files.

Unit –IV:

10Hrs

Images: working with images, image size and resolution, image editing, colour modes and adjustments, Zooming & Panning an Image, Rulers, Guides & Grids- Cropping & Straightening an Image, image backgrounds, making selections.

Working with tool box: working with pen tool, save and load selection-working with erasers-working with text and brushes-Colour manipulations: colour modes- Levels Curves - Seeing Colour accurately - Patch tool – Cropping-Reading your palettes - Dust and scratches- Advanced Retouching- smoothing skin.

Unit-V:

11Hrs

Layers: Working with layers- layer styles- opacity-adjustment layers

Filters: The filter menu, Working with filters- Editing your photo shoot, presentation –how to create adds , artstic filter, blur filter, brush store filter, distort filters, noice filters, pixelate filters, light effects, difference clouds, sharpen filters, printing.

Reference Books:

1. Fundamentals of Computers by Reema Thareja from Oxford University Press
2. Adobe Photoshop Class Room in a Book by Adobe Creative Team.
3. Photoshop: Beginner's Guide for Photoshop - Digital Photography, Photo Editing, Colour Grading & Graphic...19 February 2016 by David Maxwell

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COMPUTER SCIENCE	**CSC-101C**	**2019-'20**	**B.Sc.(MPCs, MCCs.)**

SEMESTER – I **PAPER – I** **Max. Marks 70** **Pass Marks 28**

Model Paper **Computer Fundamentals & Photoshop** **NO Of Hours: 4 Credits: 3**

Section- A

Answer FOUR Questions. Each Question carries FIVE Marks. 4*5=20M

1. Explain Characteristics and limitations of Computer?
2. Explain desktop, start menu, icons?
3. Describe Cache Memory?
4. Explain saving, retrieving and closing files in Photoshop?
5. Write a short note on Pen tool?
6. Explain working with Layers?

Section- B

Answer FIVE the Questions. Each Question carries TEN Marks. 5*10=50M

7. Explain Block Diagram of Computer?
8. Explain Types of Computers?
9. Explain about Input Devices?
10. Explain about Computer Memory?
11. Explain title-bar, menu-bar, option- bar and image window in Photoshop?
12. Explain Rulers, Guide and Grid-Cropping options for an Image?
13. Explain Colour modes – Levels and Curves?
14. Explain different Filters Photoshop?

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COMPUTER SCIENCE	CSC-101	**2019-20**	B.Sc.(MPCs., MCCs.)

SEMESTER – I PAPER – I Max. Marks 70

Guidelines for paper setting **'COMPUTER FUNDAMENTALS & PHOTOSHOP'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	CSC-101P	2019-20	B.Sc.(MPCs, MCCs.)

SEMESTER – I PAPER – I Max. Marks : 50 Pass Marks 25

No. of Hours per week: 2 External: 25 Internal: 25 Credits: 2

Lab List *Photo Shop Lab*

1. Create your Visiting card
2. Create Cover page for any text book
3. Create a Paper add for advertising of any commercial agency
4. Design a Passport photo
5. Create a Pamphlet for any program to be conducted by an organization
6. Create Broacher for you college
7. Create Titles for any forthcoming film
8. Custom shapes creation
9. Create a Web template for your college
10. Convert colour photo to black and white photo
11. Enhance and reduce the given Image size
12. Background changes
13. Design Box package cover
14. Design Texture and patterns
15. Filter effects & Eraser effects

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COMPUTER SCIENCE	CCSC-103C	2019-20	B.Com.(C.A)

SEMESTER – I PAPER – I Max. Marks 70 Pass Marks 28 Total Hrs 60

Syllabus: **Computer Fundamentals & Photoshop NO. Of. Hours: 4 Credits: 3**

UNIT-I: **12Hrs**

Introduction to computers, characteristics and limitations of computer, Block diagram of computer, types of computers, uses of computers, computer generations. Number systems: binary, hexa and octal numbering system.

UNIT-II: **12Hrs**

Input and output devices: Keyboard and mouse, inputting data in other ways, Types of Software: system software, Application software, commercial, open source, domain and freeware software, Memories: primary, secondary and cache memory. Windows basics: desktop, start menu, icons.

Unit –III: **15Hrs**

Introduction to Adobe Photoshop, Getting started with Photoshop, creating and saving a document in Photoshop, page layout and back ground, Photoshop program window-title bar, menu bar ,option bar ,image window ,image title bar ,status bar, ruler ,paletts, tool box ,screen modes ,saving files ,reverting files ,closing files.

Unit –IV: **10Hrs**

Images: working with images, image size and resolution, image editing, colour modes and adjustments, Zooming & Panning an Image, Rulers, Guides & Grids- Cropping & Straightening an Image, image backgrounds, making selections.

Working with tool box: working with pen tool, save and load selection-working with erasers-working with text and brushes-Colour manipulations: colour modes- Levels Curves - Seeing Colour accurately - Patch tool – Cropping-Reading your palettes - Dust and scratches- Advanced Retouching- smoothing skin.

Unit-V: **11Hrs**

Layers: Working with layers- layer styles- opacity-adjustment layers

Filters: The filter menu, Working with filters- Editing your photo shoot, presentation –how to create adds , artstic filter, blur filter, brush store filter, distort filters, noice filters, pixelate filters, light effects, difference clouds, sharpen filters, printing.

Reference Books:

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COMPUTER SCIENCE	**CCSC-103C**	**2019-20**	**B.Com.(C.A)**

SEMESTER – I PAPER – I Max. Marks 70 Pass Marks 28

Model Paper **Computer Fundamentals & Photoshop** **NO Of Hours: 4 Credits: 3**

Section- A

Answer FOUR Questions. Each Question carries FIVE Marks. 4*5=20M

1. Explain Characteristics and limitations of Computer?
2. Explain desktop, start menu, icons?
3. Describe Cache Memory?
4. Explain saving, retrieving and closing files in Photoshop?
5. Write a short note on Pen tool?
6. Explain working with Layers?

Section- B

Answer FIVE the Questions. Each Question carries TEN Marks. 5*10=50M

7. Explain Block Diagram of Computer?
8. Explain Types of Computers?
9. Explain about Input Devices?
10. Explain about Computer Memory?
11. Explain title-bar, menu-bar, option- bar and image window in Photoshop?
12. Explain Rulers, Guide and Grid-Cropping options for an Image?
13. Explain Colour modes – Levels and Curves?
14. Explain different Filters Photoshop?

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COMPUTER SCIENCE	CCSC-103C	**2019-20**	B.Com.(C.A)

SEMESTER – I PAPER – I Max. Marks 70

Guidelines for paper setting '**COMPUTER FUNDAMENTALS & PHOTOSHOP'**

Unit wise weightage of Marks	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	2
Unit-4	1	1
Unit -5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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(With Effect from Academic Year 2018-'19)

COMPUTER SCIENCE	**CCSC-103P**	**2019-20**	**B.Com. (CA.)**

SEMESTER – I **PAPER – I** **Max. Marks : 50** **Pass Marks 25**

No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

Lab List ***Photo Shop Lab***

1. Create your Visiting card
2. Create Cover page for any text book
3. Create a Paper add for advertising of any commercial agency
4. Design a Passport photo
5. Create a Pamphlet for any program to be conducted by an organization
6. Create Broacher for you college
7. Create Titles for any forthcoming film
8. Custom shapes creation
9. Convert colour photo to black and white photo
10. Background changes
11. Design Texture and patterns
12. Filter effects & Eraser effects

→Discussed and recommended the teaching and evaluation methods for approval of Academic Council.

Teaching methods:

Besides the conventional methods of teaching, we use modern technology i.e. Using of LMS and LCD projector to display on power board etc..for better understanding of concepts.

Evaluation of a student is done by the following procedure:

There are two components in the Valuation and Assessment of a student – Internal Assessment (**IA**) Semester Examinations (**SE). For the Batch of Students Admitted from 2018-19**.

Internal Assessment (IA)

- The maximum mark for IA is 30 and SE is 70 for theory; and for practical papers 50.
- Each IA written examination is of 1 hour's duration for 20 marks. The tests will be conducted centrally. The average of two such IA is calculated for 20 marks.
- Other Innovative Components will be for 5 Marks. The innovative component is for 5 marks, conducted during the class hours by the staff member/ in charge of the subject, in the form of assignments/ quiz/ seminars /ppt/Online- assignments/Open Book/Viva Voce/ Group work/ Mini Project/ Exhibition, etc. The topic and time for submission/ presentation will be announced by the staff member/ in charge of the subject in advance. Each student should explain and defend his/her presentation. For attendance 5 Marks are allotted.
- The semester examination will be of 3 hours with maximum 70 marks.
- There is no passing minimum marks for IA.

Semester Examinations (SE)

- A student should register himself/herself to appear for the Semester Examinations by payment of the prescribed fee.
- The Semester Examinations will be in the form of a comprehensive examination covering the entire syllabus in each subject. It will be of 3 hours duration & Foundation course 2 hours irrespective of the number of credits allotted to it.
- If a candidate fails to obtain pass marks even after the due to less mark in the IA examination, the marks of the next examination will be converted to be out of 100.
- Even though the candidate is absent for two IA exams/obtain zero marks the external marks are considered (if he/she gets 40/70) and the result shall be declared as 'PASS'.
- The maximum marks for each Paper shall be 100.

Evaluation of a student is done by the following procedure for All II & III Year B.Sc. (MPCs) & B.Com. (C.A). For the Batch of Students Admitted from 2016-17.

Internal Assessment Examinations:

i) Out of maximum 100 marks in each paper, 25 marks shall be allocated for internal assessment.

ii) Out of these 25 marks, 20 marks are allocated for announced internal tests. Two announced internal tests will be conducted and average of these two tests shall be deemed as the marks obtained by the student, remaining 5 marks are allocated on the basis of candidate's percentage of attendance.

Semester-End Examinations:

i) The maximum marks for Semester-End examinations shall be 75 marks and duration of the examination shall be 3 Hours.

ii) Semester-End examinations shall be conducted in theory papers and the practical papers are conducted at the end of every Semester for II & III B.Sc. (MPCs) only.

iii) Odd semester practical end examinations are to be evaluated by Internal Examiners and Even semester practical end examinations are to be evaluated by External Examiners.

iv) V semester end **C** practical examination are to be evaluated by Internal Examiners and Even semester **Tally** Practical examinations are to be evaluated by External Examiner for III B.Com (Computers) students only.

Question paper guide lines for Practical Examinations at the end of Semesters III &IV
Two Practical Programs to be conducted out of 15 programs at the end of Semester III & IV
Practical Examination time 3Hrs and Maximum Marks 50
Scheme of valuation Semesters – II & IV B.Sc. (M.P.Cs), B.Com (Computers)

Computer Science Practical's - External (Time: 3 hrs.) **Total Marks: 25M**

1. Programs Writing (2)	:	10 marks,
2. Viva voice	:	5 marks
3. Execution & Result	:	10 marks
Total Marks `	:	25

Computer Science Practical's- Internal **Total Marks: 25M**

1. Attendance	:	5 marks
2. Record	:	10 marks
3. Day to day observation	:	5 marks
4. Problem solving and Execution	:	5 marks
Total Marks	:	25

1. Discussed and recommended for organizing Seminars, Guest lectures, Work-shops to upgrade the knowledge of students, for the approval of the Academic Council. Discussed and recommended to conduct certificate courses for Computer Science and Non-Computer Science students separately like TALLY ACCOUNTING PACKAGE, ADOBE PHOTOSHOP, DESKTOP PUBLISHING, COMPUTER HARDWARE AND NETWORKING, WEB DESIGNING, OPERATING SYSTEMS, ETC...
2. Discussed and empowered the HOD to suggest the panel of the paper setters and examiners to the controller of the examinations.
3. Nil.

Chairman

A.G& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

VUYYURU-521165, KRISHNA Dt., A.P.(Autonomous)

Accredited by NAAC with "A" Grade

2020-2021

DEPARTMENT OF COMPUTER SCIENCE

MINUTES OF BOARD OF STUDIES

ODD SEMESTER

18-07-2020

Minutes of the meeting of Board of Studies in Computer Science for the Autonomous courses of AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru, held at 10.30 A.M on 18-07-2020 through Online Video Conference Cisco WebEx Meeting

Sri T.Naga PrasadaRao ..... Presiding

Members Present:

1)..... (T.NagaPrasadaRao)	Chairman	Head, Department of Computer Science, AG&SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
2)..... (Dr. R.Kiran Kumar)	University Nominee	Professor, Dept of Computer Science, Krishna University, Machilipatnam.
3)..... (Dr. Suresh Sundaradasu)	Academic Council Nominee	Head, Department of Computer Science& Engineering, Dhanekula Institute of Engineering & Technology, Ganguru, JNTU(K), Vijayawada.
4)..... (Dr. K Bhagvan)	Academic Council Nominee	Professor, Department of Computer Science K.B.N College, Vijayawada.
5)..... (R. Sowjanya)	Industrial Excepert	.Net Developer, Mavensoft Systems Private limited Madaapur, Hyderabad.
6)..... (K Srikanth)	Member	Lecturer in Computer Science,AG&SG Siddhartha Degree College of Arts &Science, Vuyyuru-521165.
7)..... (T.Keerthi)	Member	Lecturer in Computer Science,AG&SG Siddhartha Degree College of Arts &Science, Vuyyuru-521165
8)..... (A. Sravani)	Member	Lecturer in Computer Science,AG&SG Siddhartha Degree College of Arts &Science, Vuyyuru-521165
9)..... (S.Prabhavathi)	Member	Lecturer in Computer Science,AG&SG Siddhartha Degree College of Arts &Science, Vuyyuru-521165
10)..... (V. N. MalleswaraRao)	Member	Lecturer in Computer Science,AG&SG Siddhartha Degree College of Arts &Science, Vuyyuru-521165
11)..... (A.Preethi)	Member	Student in M.Sc. Computer Science, AG& SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
12)..... (A GirijaSuma)	Member	Student in B.Sc. Computer Science, AG&.SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165

Agenda for B.O.S Meeting.

1. To recommend syllabi for V Semester of III year Degree B.Sc(MPCs, MCCs.) & B.Com (C.A) as per the guidelines and instructions under CBCS prescribed by Krishna University from the Academic Year 2020-21.
2. To recommend the Model Question Papers, Lab programs list and Blue print of Semester of III year Degree B.Sc. (MPCs, MCCs.)&B.Com (C.A) as per the guidelines and instructions under CBCS prescribed by Krishna University from the Academic Year 2020-21.

3. To recommend the Guidelines to be followed by the question paper setters in Computer Science for III year Degree B.Sc.(MPCs, MCCs.)&B.Com (C.A) as per the guidelines and instructions under CBCS prescribed by Krishna University from the Academic Year 2020-21.

4. To recommend any changes in the syllabi for I, III, V Semesters of I, II, III year Degree B.Sc.(MPCs, MCCs) and B.Com.(C.A.).

5. To recommend the new paper for III BCOM (C.A) in Semester V Syllabi, Model Question paper, Lab programs list and Blue print, Guidelines to be followed by the question paper setters in Computer Science for III Year Degree B.Com. (C.A) with effect from the Academic Year 2020-21.

6. To recommend the teaching and evaluation methods to be followed under Autonomous status.

7. Any suggestions regarding the certificate courses for all Computer Science and Non-Computer Science students, seminars, workshops, Guest lecturers to be organized.

8. Any other matter.

Resolutions

1) Discussed and recommended, to implement same syllabi for V Semester of III year Degree B.Sc.(MPCs, MCCs.), B.Com (C.A.) as per the APSCHE guidelines and their instructions under CBCS prescribed by Krishna University from the Academic Year 2020-21 except one paper in III B.Com (CA)
2) Discussed and recommended to introduce a new paper titled "Object Oriented Programming with Java" for III BCOM(C.A) in Semester V, Syllabi, Model Question paper, Lab programs list and Blue print, Guidelines to be followed by the question paper setters in Computer Science for III Year Degree B.Com.(C.A) with effect from the Academic Year 2020-21.
3) Discussed and recommended, to implement Model Question Papers, Lab Programs List and blue print for V Semester of III year Degree B.Sc.(MPCs, MCCs.), B.Com (C.A.) as per the APSCHE guidelines and their instructions under CBCS prescribed by Krishna University from the Academic Year 2020-21.
4) Discussed and recommended the syllabi without any changes for the following semesters
   - I Semester of I Year B.Sc. (MPCs, MCCs) & B.Com.(CA).
   - IIISemester of II Year B.Sc. (MPCs,MCCs) & B.Com.(CA).
   - Foundation Course for All Degree Courses under Choice Based Credit System with Effect from Academic Year 2020-21.
5) Discussed and recommended the teaching and evaluation methods for approval of Academic Council.
6) **It Is Resolved And Recommended to follow the New Syllabi And Model Question Paper of Regulations of 2020-21 in I Semester Of I Year Degree Bsc(Mpcs,Mccs) And Bcom(CA).**
7) **It is Resolved and Recommended NO changes in the Syllabi for III Semester of II Year Degree Bcom(CA),BA,BSC,BSC(MPCS,MCCS).**

Teaching methods:

Besides the conventional methods of teaching, we use modern technology i.e. Using of LMS and LCD projector to display on power board etc.. for better understanding of concepts.

Evaluation of a student is done by the following procedure for All III Year B.Sc. (MPCs,MCCs) &B.Com. (C.A). For the Batch of Students Admitted from Academic year 2018-19.

There are two components in the Valuation and Assessment of a student – Internal Assessment (**IA**) Semester Examinations (**SE).**

Internal Assessment (IA)

i. The maximum mark for IA is 30 and SE is 70 for theory; and for practical papers 50.
ii. Each IA written examination is of 1 hour's duration for 20 marks. The tests will be conducted centrally. The average of two such IA is calculated for 20 marks.
iii. Other Innovative Components will be for 5 Marks. The innovative component is for 5 marks, conducted during the class hours by the staff member/ in charge of the subject, in the form of assignments/ quiz/ seminars /ppt/Online- assignments/Open Book/Viva Voce/ Group work/ Mini Project/ Exhibition, etc. The topic and time for submission/ presentation will be announced by the staff member/ in charge of the subject in advance. Each student should explain and defend his/her presentation. For attendance 5 Marks are allotted.
iv. The semester examination will be of 3 hours with maximum 70 marks.
v. There is no passing minimum marks for IA.

Semester-End Examinations: A student should register himself/herself to appear for the Semester Examinations by payment of the prescribed fee.

i) The Semester Examinations will be in the form of a comprehensive examination covering the entire syllabus in each subject. It will be of 3 hours duration & Foundation course 2 hours irrespective of the number of credits allotted to it.

ii) If a candidate fails to obtained pass marks even after the due to less mark in the IA examination, the marks of the next examination will be converted to be out of 100.

iii) Even though the candidate is absent for two IA exams/obtain zero marks the external marks are considered (if he/she gets 40/70) and the result shall be declared as 'PASS'.

iv) The maximum marks for each Paper shall be 100.

v) The maximum marks for Semester-End examinations shall be 70 marks and duration of the examination shall be 3 Hours.

vi) Semester-End examinations shall be conducted in theory papers and the practical papers are conducted at the end of every Semester for B.Sc. (MPCs,MCCs)& B.Com.(C.A) only.

vii) Odd semester practical end examinations are to be evaluated by Internal Examiners and Even semester practical end examinations are to be evaluated by External Examiners.

Question paper guide lines for Practical Examinations at the end of Semesters Two Practical Programs to be conducted out of 15 programs at the end of Semester Practical Examination time 3Hrs&Maximum Marks 50 Scheme of valuation Semesters – B.Sc. (MPCs, MCCs), B. Com (CA)

Computer Science Practical's - External (Time: 3 hrs.) **Total Marks: 25M**

1. Programs Writing (2)	:	10 marks,
2. Viva voice	:	5 marks
3. Execution &Result	:	10 marks
Total Marks	:	25

Computer Science Practical's- Internal **Total Marks: 25M**

1. Attendance	: 5 marks
2. Record	: 10 marks
3. Day to day observation	: 5marks
4. Problem solving and Execution	: 5 marks
Total Marks	: 25

7). Discussed and recommended to organize certificate courses for Computer Science and Non-Computer Science students separately, Seminars, Guest lectures, Work-shops to upgrade the knowledge of students, for the approval of the Academic Council.

8) It is resolve to follow further changes if any in the syllabus by competent authority.

9) Discussed and Recommend to introduce Value Added Course on "**BASIC COMPUTER APPLICATIONS & MS OFFICE**" with Course Code "**BCAM101**" for 1ST MPC's & MCC's -1ST SEM

10) Discussed and Recommend to introduce Value Added Course on "**AWS**" with Course Code "**VACAWS-01**" for II MPC's &MCC's-3rd SEM

11) Discussed and Recommend to introduce Value Added Course on "**CLOUD COMPUTING**" with Course Code "**VACCC12**" for IIIBCOM(CA)-5TH SEM

12) Suggestions To recommend Online certificate courses such as NPTL, APSSDC - PYTHON, R-Programming, Amazon Web services and JAVA ------etc. To fill the curriculum gaps from II Year Degree on words.

Chairman

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
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COMPUTER SCIENCE	**CSC-501C**	**2020-'21**	**B.Sc.(MPCs,MCCs)**

SEMESTER – V **PAPER – V** **Max. Marks 70**

Syllabus **DATA BASE MANAGEMENT SYSTEMS**

NO Of Hours: 4 **No Of Credits: 3** **Pass Marks 28**

Course Objective: Design & develop database for large volumes & varieties of data with optimized data processing techniques.

Unit – I: Database Systems Introduction **12Hrs**

Database Systems: Introducing the database and DBMS, Why the database is important, *Historical Roots:* Files and File Systems, Problems with File System, Data Management, Database Systems. *Data Models:* The importance of Data models, Data Model Basic Building Blocks, The evaluation of Data Models, Degree of Data Abstraction.

Unit - II: Relational Database & Data Modelling **12 Hrs**

The Relational Database Model: A logical view of Data, Keys, Integrity Rules, Relational Set Operators, The Data Dictionary and the system Catalog, Indexes, Codd's relational database rules.*Entity Relationship Model:* The ER Model***Advanced Data Modelling****:* The Extended Entity Relationship Model, Entity clustering, Entity integrity.

Unit-III:Normalization and Database Design **14 Hrs**

Data base Tables and Normalization, The need Normalization, The Normalization Process, High level Normal Forms, Normalization and database design, de normalization.

Database Design: The Information System, The Systems Development Life Cycle, The Database Life Cycle, Centralized Vs Decentralized design.

Unit-IV:Structured Query Language **12 Hrs**

Introduction to SQL: Data Definition Commands, Data Manipulation Commands, Select queries, Advanced Data Definition Commands, Advanced Select queries, Virtual Tables, SQL Join Operators, Sub queries and correlated queries, SQL Functions.

Unit-V: Procedural SQL

10Hrs*Introduction to PL/SQL:* Triggers, Stored Procedures, Pl/ SQL Stored Functions

Prescribed Text Book:

1. **P**eter Rob, Carlos Coronel, Database Systems Design, Implementation and Management, Seventh Edition, Thomson (2007).

Reference Books:

1. Elimasri / Navathe, Fundamentals of Database Systems, Fifth Edition, Pearson Addison Wesley 2. Raman A Mata – Toledo/Panline K Cushman, Database Management Systems, .
2. C.J.Date, A.Kannan, S.Swamynathan, An Introduction to Database Systems, Eight edition,
3. "DatabaseSystemConcepts" by AbrahamSilberschatz, Henry Korth, and S.Sudarshan,
4. Atul Kahate, Introduction to Database Management Systems, Pearson Education (2006).

Student Activity: 1. Create your college database for placement purpose. 2. Create faculty database of your college with their academic performance scores

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COMPUTER SCIENCE	CSC-501C	2020-'21	B.Sc.(MPCs,MCCs)

SEMESTER – V **PAPER – V** **Max. Marks 70**

Model Paper **DATA BASE MANAGEMENT SYSTEMS**

NO Of Hours: 4 **No Of Credits: 3** **Pass Marks 28**

Section-A

Answer any **FOUR** Questions. Each question carries **FIVE** Marks **4x5=20M**

1. Explain the Components of Database System?
2. Explain Relational Data Model?
3. Write about Relational Set Operators?
4. Describe BCNF?
5. Write about Special Functions?
6. Explain Stored Procedures?

Section-B

Answer any **FIVE** Questions. Each question carries **TEN** Marks **5X10=50M**

7. What is File? Explain the problems with File system
8. Explain the Degree of Data Abstraction.
9. Explain E.F.CODDs' rules.
10. Explain Extended Entity Relationship Model.
11. Explain the concept of Normal Forms.
12. Explain about SDLC.
13. Explain DDL and DML commands.
14. Explain about triggers.

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COMPUTER SCIENCE	CSC-501C	2020-'21	B.Sc.(MPCs,MCCs)

SEMESTER – V PAPER – V Max. Marks 70 Pass Marks 28

Guidelines for paper setting '**DATA BASE MANAGEMENT SYSTEMS'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	**CSC-501P**	**2020-'21**	**B.Sc.(MPCS,MCCs)**

SEMESTER – V **PAPER – V** **Max. Marks 50**

Lab List DATA BASE MANAGEMENT SYSTEMS **Pass Marks 25**

No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

1. Creation of college database and establish relationships between tables
2. Explain various data type in Oracle.
3. Show the structure of the Emp table.
4. Show the structure of the DEPT table.
5. Explain the syntax of SELECT statement.
6. Create a query to display the name, job, hiredate and employee number from emp table.
7. Create a query to display unique jobs from the emp table.
8. Create a query to display the empno as EMP#, ename as EMPLOYEE and Hire_date from emp.
9. Create a query to display all the data from the EMP table. Separate each column by a comma and name the column THE_OUTPUT.
10. Create a query to display the name and salary of employees earning more than 2850.
11. Create a query to display the name and salary for all employees whose salary is not in the range of 1500 and 2850.
12. Display the employee name, job and start date of employees hired between February 20 ,1981 and May 1, 1981. Order the query in ascending order of start date
13. Display the employee name and department number of all the employees in departments 10 and 30 in alphabetical order by name.
14. List the name and salary of employees who earn more than 1500 & are in department 10 or 30.
15. Display the name, salary and commissions and sort data in descending order of salary and commission.
16. Display the name and job title of all employees who do not have a manager.
17. Display the name, job and salary for all employees whose job is Clerk or Analyst and their salary is not equal to 1000, 3000 or 5000.
18. Display the names of all employees where the third letter of their name is an 'A'.
19. Display the names of all employees who have two 'L's in their name and are in department 30 or their manager is 7782.
20. Display the name , salary and commission for all employees whose commission amount is grater than their salary increased by 10%.
21. Explain all the character functions.
22. Explain all the number functions.
23. Explain all the Date functions.
24. Explain different types of JOIN.
25. Write a query to display the name, department number and department name for all employees.
26. Create a unique listing of all jobs that are in department 30. and include the location of department 30 in the output.
27. Write a query to display the employee name, department name and location of all employees who earn a commission.
28. Write a query to display the name ,job department number and department name for all employees who work in 'DALLAS'.

29. Create a query to display the name and hire date of any employee hired after employee BLAKE.
30. . Display all employees names and hire dates along with their manager's name and hire date for all employees who were hired before their managers.
31. Create your own users and give permissions to you and explain GRANT and REVOKE Commands.

A. Create MOVIE database using the following tables.

MOVIE:Movie no: primary key, varchar2Movie name: NOT NULL, varchar2Movie Type: varchar2Star: Varchar2

CUSTOMER: Customer No: primary key, varchar2 Customer Name: NOT NULL, varchar2 Address: NOT NULL Phone no: Number INVOICE: Invoice no: Varchar2, primary key Movie no: foreign key Customer no: foreign key Price: NOT NULL, Number

Queries:

1. List the movie names that starts with 'p'
2. List the number of the movies those price ranges from 15000 and 20000
3. List the customers who have phone numbers.
4. List the customers who have no phone numbers.
5. Display the following string
   (a) A Customer "customer number" has bought the "movie number" "movie name" with "Price"
6. List the customers by calculating price as (price*tax)/100 where tax=0.5 and rename the column as 'tax'.
7. List the movies, which are owned by 2 customers.
8. List the customers, who bought 2 picture names.
9. List the customers, who are not the range of 15000 and 20000.

B. Create Student database using the following tables.

STUDENT: Sno : primary key, numberSname : NOT NULL, varchar2 Address: Varchar2

COURSE:Sno : Foreign key.Course Name : varchar2

Queries:

1. Alter table by adding a column fees in table COURSE.
2. Alter table by modifying the address to VARCHAR2(20)
3. Create a view on which the students who joined in one course only.

PL/SQL.

1. Write A Pl/Sql Program To Swap Two Numbers Without Using Third Variable.
2. Write A Pl/Sql Program To Generate Multiplication Tables For Numbers 2,4 And 6
3. Write A Pl/Sql Program To Display Sum Of Even Numbers And Sum Of Odd Numbers In The Given Range.
4. Write A Pl/Sql Program To Check The Given Number Is Pollinndrome Or Not.
5. Write A Pl/Sql Program To Display Top 10 Rows In Emp Table Based On Their Job And Salary.
6. Write A Procedure Update The Salary Of Employee, Who is Not Getting Commission by 10%.

Reference Books:

1. Oracle Pl/Sql By Example. Benjamin Rosenzweig, Elena Silvestrova, Pearsoneducation 3rd Edition
2. Sql& Pl/Sql For Oracle 10g, Black Book, Dr.P.S. Deshpande

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COMPUTER SCIENCE	CSC-502C	2020-'21	B.Sc.(MPCs,MCCs)

SEMESTER – V **PAPER – VI** **Max. Marks 70**

Syllabus **SOFTWARE ENGINEERING**

NO of Hours: 4 **No Of Credits: 3** **Pass Marks 28**

Course Objectives

The Objective of the course is to assist the student in understanding the basic theory of software engineering, and to apply these basic theoretical principles to a group software development project.

UNIT-I: Introduction to Software Engineering & Process **12Hrs**

The Evolving Role of Software– Software - The Changing Nature of Software, Software Myths, Legacy Software.

Process: Software Engineering-A Layered Technology - A Process Framework - The Capability Maturity Model Integration (CMMI) - Process Patterns, Process Assessments - Personal Software Process(PSP), Team Software Process (TSP).

Unit-II: Process Models **12Hrs**

The Waterfall Models - Increment Process Models: The Increment Model, The RAD Model - Evolutionary Process Models: Prototyping, The Spiral Model, The Concurrent Development Model- The Unified Process: Phases of The United Process, Unified Process Work Products.

Unit-III: Requirements Engineering **14 Hrs**

Requirements Engineering Tasks - Initiating The Requirements Engineering Process - Eliciting Requirements: Collaborative Requirements Gathering, Quality Function Deployment, User Scenarios, Elicitation Work Products - Negotiating Requirements - Validating Requirements.

Unit-IV: Design Engineering **10Hrs**

Design Process And Design Quality - Design Concepts - The Design Model: Data Design Elements, Architectural Design Elements, Interface Design Elements, Component-Level Design Elements, Deployment -Level Design Elements.

Unit-V:Software Quality: **12Hrs**

Quality and Quality Concepts, Software Quality Assurance (SQA), Software Reviews, Formal Technical Reviews, Formal Approaches to SQA and SSQA, Software Reliability, The ISO 9000 Quality Standards, The SQA Plan.

Prescribed Text Book:

1. Software Engineering – A Practitioner's Approach, Sixth Edition - Roger S Pressman, TATA McGrawHill: Chapters: 1,2,3,7,8 and 9)

Reference Books:

1. Software Engineering Principles and Practice by Deepak Jain Oxford University Press
2. Sommerville, "Software Engineering", Eighth Edition, Pearson Education, 2007

Student Activity: Visit any financial organization nearby and prepare requirement analysis report 2. Visit any industrial organization and prepare risk chart.

A.G. & S.G. Siddhartha Degree College of Arts & Science

Vuyyuru-521165, Krishna District, Andhra Pradesh

(An Autonomous institution in the jurisdiction of Krishna University, Machilipatam)

NAAC "A" Grade, ISO 9001:2015 Certified Institution

DEPARTMENTOFCOMPUTERSCIENCE

Minutes of the meeting of Board of Studies in Computer Science for PG held on 06-04-2023 in theDepartmentofComputerScience.

Semester	:	II	Programme	:	M.Sc (Comp. Sci.)
Course	:	Web Technologies	Course Code	:	22CS2T3
Course delivery method	:	Class room / Blended	Credits	:	4
Credits	:	4	CIA marks	:	30
No. of lecture hours / week	:	4	Semester end exam	:	70
Total no. of lecture hours	:	60	Total marks	:	100
Year of Introduction	:	2020-21	Year of Revision	:	2022-23
% of revision	:	30%			

Course content suggested by APSCHE	Additions	Deletions
UNIT-I: Introduction to Software Engineering & Process	NIL	NIL
Unit-II: Process Models		**VB Script:**
Unit-III: Requirements Engineering		
Unit-IV: Analysis Model		**Analysis Model**
Unit-V: Design Engineering	**Design Engineering moved to unit-4** **Software Quality**	

It is resolved and recommend the changes in the syllabus of course code: 22CS2T3, Course: Web Technologies from the academic year 2022-23 onwards for I M.Sc (Computer Science), II Semester.

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COMPUTER SCIENCE	**CSC-502C**	**2020-'21**	**B.Sc.(MPCs,MCCs)**

SEMESTER – V **PAPER – VI** **Max. Marks 70**

Model Paper **SOFTWARE ENGINEERING**

NO of Hours: 4 **No Of Credits: 3** **Pass Marks 28**

Section – A

Answer any **FIVE** Questions. Each question carries **FIVE** Marks **4x5=20M**

1. Write about Software Layered Technology?
2. Explain about Process Framework?
3. Explain about RAD Model?
4. Explain Validating Requirements
5. Explain about Modularity?
6. Write about Software Reliability?

Section – B

Answer any **FIVE** Questions. Each question carries **TEN** Marks **5X10=50M**

7. Explain about CMMI?
8. Explain about Software Myths?
9. Explain about Incremental Model?
10. Explain about Spiral Model?
11. Explain about Requirements Engineering Tasks?
12. Write about design concepts in design engineering?
13. Explain about Quality and Quality Concepts?
14. Write about SSQA?

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COMPUTER SCIENCE	CSC-502C	2020-'21	B.Sc.(MPCs,MCCs)

SEMESTER – V PAPER – VI Max. Marks 70 Pass Marks 28

Guidelines for paper setting '**SOFTWARE ENGINEERING'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	1
Unit-4	1	1
Unit-5	1	2

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	CSC-502C	2020-'21	B.Sc.(MPCS,MCCs)

SEMESTER – V **PAPER – VI** **Max. Marks 50**

Lab List **SOFTWARE ENGNEERING** **Pass Marks 25**
No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

A. ATM

1.Objective of an ATM System. 2. Use-case Diagram of an ATM System

3. Class Diagram of an ATM System 4. Sequence Diagram of an ATM System

5. Activity Diagram of an ATM System 6. State Diagram of an ATM System

7. Deployment Diagram of an ATM System 8. ER Diagram of an ATM System

B. Library management System

1. Objective of Librarymanagement System.2. Use-case Diagram of Librarymanagement

3. Class Diagram of Library management System4. Sequence Diagram of Library management

5. Activity Diagram of Library management System6. State Diagram of Library management

7. Deployment Diagram of Library management System8. ER Diagram of Library management

C. Barcode Reader

1. Objective of Barcode Reader 2. Use-case Diagram of Barcode Reader

3. Class Diagram of Barcode Reader 4. Sequence Diagram of Barcode Reader

5. Activity Diagram ofBarcode Reader 6. State Diagram ofBarcode Reader

7. Deployment Diagram ofBarcode Reader 8. ER Diagram ofBarcode Reader

D .Safe Home System

1. Objective of Safe Home System. 2. Use-case Diagram of Safe Home System

3. Class Diagram of Safe Home System 4. Sequence Diagram of Safe Home System

5. Activity Diagram ofSafe Home System 6. State Diagram ofSafe Home System

7. Deployment Diagram of Safe Home System 8. ER Diagram of Safe Home System

E. Online Book Store System

1. Objective of Online Book Store System 2. Use-case Diagram of Online Book Store System

3. Class Diagram of Online Book Store System 4. Sequence Diagram of Online Book Store

5. Activity Diagram ofOnline Book Store System 6. State Diagram ofOnline Book Store System

7. Deployment Diagram of Online Book Store System 8. ER Diagram of Online Book Store

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COMPUTER SCIENCE	**CCSC-505C**	**2020-21**	**B. Com (CA)**

SEMESTER – V **PAPER – V** **Max. Marks 70** **Pass Marks 28**

Syllabus **OBJECT ORIENTED PROGRAMMING USING JAVA**

Total Hrs: 60 **NO. Of. Hours: 5** **Credits: 3**

UNIT-I **10Hrs**

Fundamentals of Object – Oriented Programming: Introduction, Object Oriented paradigm, Basic Concepts of OOP, Benefits of OOP, Applications of OOP, Java features:

UNIT-II **14Hrs**

Overview of Java Language: Introduction, Simple Java program structure, Java tokens, Java Statements, Implementing a Java Program, Java Virtual Machine, Command line arguments. **Constants, Variables & Data Types:** Introduction, Constants, Variables, Data Types, Declaration of Variables, Giving Value to Variables, Scope of variables, Type casting, Getting Value of Variables, **Operators.**

UNIT-III **12Hrs**

Decision Making & Branching: Introduction, Decision making with if statement, Simple if statement, if-Else statement, Nesting of if-else statements, the else if ladder, the switch statement, the conditional operator. **Looping**: Introduction, while statement, do-while statement, for statement, Jumps in loops.

UNIT-IV **12 Hrs**

Classes, Objects & Methods: Introduction, defining a class, adding variables, adding methods, creating objects, Accessing class members, Constructors, Method overloading, Method Overriding, Static members, Nesting of methods;

UNIT-V **12Hrs**

Inheritance: Extending a Class, Overriding Methods, Final Variables and Methods, Final Classes, Abstract Methods and Classes; **Arrays, Strings And Vectors:** Arrays, One-dimensional arrays, Creating an array, Two – dimensional arrays, Strings, Vectors, Wrapper classes; **Interfaces**: **Multiple Inheritance**: Introduction, Defining interfaces, Extending interfaces, Implementing interfaces, Assessing interface variables;

Prescribed Text Book:

1. E. Balaguruswamy, Programming with JAVA, A primer, 3e, TATA McGraw-Hill Company.

Reference Books

1. Programming In Java By Sachin Malhotra And Saurabh Choudhary From Oxford University Press
2. Object Oriented Programming Through Java by P. Radha Krishna, Universities Press
3. John R. Hubbard, Programming with Java, Second Edition, Schaum's outline Series,
4. Deitel&Deitel. Java TM: How to Program, PHI (2007)
5. Java Programming: From Problem Analysis to Program Design- D.S Mallik

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COMPUTER SCIENCE	**CCSC-505C**	**2020-21**	**B. Com (CA)**

SEMESTER – V PAPER – V Max. Marks 70 Pass Marks 28

Syllabus **OBJECT ORIENTED PROGRAMMING USING JAVA**

Total Hrs: 60 **NO. Of. Hours: 4** **Credits: 3**

Section- A

Answer FOUR Questions. Each Question carries FIVE Marks. 4*5=20M

1. What are the Applications of OOP?
2. What is a variable? Explain its rules?
3. Explain different data types in java?
4. Write about switch statement?
5. Explain about Constructors?
6. Differences between arrays and vectors?

Section- B

Answer FIVE the Questions. Each Question carries TEN Marks 5*10=50M

7. Explain the Concepts of Object Oriented Programming?
8. Explain java Features?
9. Explain the structure of java program?
10. Explain different types of Operators in Java with Examples?
11. Explain about Decision Making Statements with examples?
12. Explain Looping statements with example?
13. Explain Method overloading with an example program?
14. Explain about inheritance?

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COMPUTER SCIENCE	**CCSC-505C**	**2020-21**	**B. Com (CA)**

SEMESTER – V PAPER – V Max. Marks 70 Pass Marks 28

Syllabus OBJECT ORIENTED PROGRAMMING USING JAVA

Total Hrs: 60 NO. Of. Hours: 4 Credits: 3

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	1	2
Unit-2	2	2
Unit-3	1	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	**CCSC-505C**	**2020-21**	**B. Com (CA)**

SEMESTER – VPAPER – V

Lab List OBJECT ORIENTED PROGRAMMING USING JAVA Pass Marks 25

No. of Hours per week: 2 External: 25 Internal: 25 Credits: 2

1. Write a program to perform various String Operations
2. Write a program to print the given number is Armstrong or not?
3. Prompt for the cost and selling price of an article and display the profit (or) loss
4. Write a program to print the numbers given by command line arguments
5. Write a program on class and object in java
6. Illustrate the method overriding in JAVA
7. Write a program to find the Simple Interest using Multilevel Inheritance
8. Write a program to display matrix multiplication.
9. Write a program on interface in java
10. Write a program on inheritance

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COMPUTER SCIENCE	CCSC 506C	2020-'21	B.Com.(C.A.)

SEMESTER – V **PAPER – VI** **Max. Marks 70**

Syllabus **DATA BASE MANAGEMENT SYSTEMS**

NO Of Hours: 5 **No Of Credits: 3** **Pass Marks 28**

Course Objective: Design & develop database for large volumes & varieties of data with optimized data processing techniques.

Unit – 1: Database Systems Introduction **12Hrs**

Database Systems: Introducing the database and DBMS, Why the database is important,
Historical Roots: Files and File Systems, Problems with File System, Data Management, Database Systems.
Data Models: The importance of Data models, Data Model Basic Building Blocks, The evaluation of Data Models.

Unit - II: Relational Database & Data Modelling **12 Hrs**

The Relational Database Model: A logical view of Data, Keys, Integrity Rules, Relational Set Operators, Indexes, Codd's relational database rules.*Entity Relationship Model:* The ER Model
Advanced Data Modelling: The Extended Entity Relationship Model, Entity clustering.

Unit-III: Normalization and Database Design **14 Hrs**

Normalization of database tables: Database Tables and Normalization, The need for Normalization, The Normalization Process, High level Normal Forms, Normalization and database design, de normalization.

Unit-IV: Structured Query Language **12 Hrs**

Introduction to SQL: Data Definition Commands, Data Manipulation Commands, Select queries, Advanced Data Definition Commands, Advanced Select queries, Virtual Tables, SQL Join Operators,

Unit-V: Procedural SQL **10 Hrs**

Introduction to PL/SQL : Triggers, Stored Procedures, Pl/ SQL Stored Functions

Prescribed Text Book:

1. **Peter Rob, Carlos Coronel, Database Systems Design, Implementation and Management, Seventh Edition, Thomson (2007).**

Reference Books:

3. Elimasri / Navathe, Fundamentals of Database Systems, Fifth Edition, Pearson Addison Wesley
4. Raman A Mata – Toledo/Panline K Cushman, Database Management Systems, Schaum'sOutlibe series, Tata McGraw Hill (2007).
5. C.J.Date, A.Kannan, S.Swamynathan, An Introduction to Database Systems, Eight edition, Pearson Education (2006).
6. "DatabaseSystemConcepts" by AbrahamSilberschatz, Henry Korth, and S.Sudarshan, McGrawhill
7. Atul Kahate, Introduction to Database Management Systems, Pearson Education (2006).

Student Activity:

1. Create your college database for placement purpose.
2. Create faculty database of your college with their academic performance scores

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COMPUTER SCIENCE	**CCSC 506C**	**2020-'21**	**B.Com.(C.A.)**

SEMESTER – V **PAPER – VI** **Max. Marks 70**

Model Paper **DATA BASE MANAGEMENT SYSTEMS**

NO Of Hours: 5 **No Of Credits: 3** **Pass Marks 28**

Section-A

Answer any **FOUR** Questions. Each question carries **FIVE** Marks **4x5=20M**

1. Explain the Components of Database System?
2. Explain Entity Relationship Model?
3. Write about Relational Set Operators?
4. Describe BCNF?
5. Write about Special Functions?
6. Explain Stored Procedures?

Section-B

Answer any **FIVE** Questions. Each question carries **TEN** Marks **5X10=50M**

7. What is File? Explain the problems with File system?
8. Explain any three different Data Models?
9. Explain E.F. CODDs' rules?
10. Explain Extended Entity Relationship Model?
11. Explain the concept of Normal Forms?
12. Explain different join operators?
13. Explain DDL and DML commands?
14. Explain about triggers?

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SEMESTER – V PAPER – VI Max. Marks 70 Pass Marks 28

Guidelines for paper setting '**DATA BASE MANAGEMENT SYSTEMS'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	1
Unit-4	1	2
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	**CCSC-506P**	**2020-'21**	**B. COM(CA)**

SEMESTER – V **PAPER – VI** **Max. Marks 50**

Lab List DATA BASE MANAGEMENT SYSTEMS Pass Marks 25

No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

1. Creation of college database and establish relationships between tables
2. Explain various data type in Oracle.
3. Show the structure of the Emp table.
4. Show the structure of the DEPT table.
5. Explain the syntax of SELECT statement.
6. Create a query to display the name, job, hiredate and employee number from emp table.
7. Create a query to display unique jobs from the emp table.
8. Create a query to display the empno as EMP#, ename as EMPLOYEE and Hire_date from emp.
9. Create a query to display all the data from the EMP table. Separate each column by a comma and name the column THE_OUTPUT.
10. Create a query to display the name and salary of employees earning more than 2850.
11. Create a query to display the name and salary for all employees whose salary is not in the range of 1500 and 2850.
12. Display the employee name, job and start date of employees hired between February 20 ,1981 and May 1, 1981. Order the query in ascending order of start date
13. Display the employee name and department number of all the employees in departments 10 and 30 in alphabetical order by name.
14. List the name and salary of employees who earn more than 1500 & are in department 10 or 30.
15. Display the name, salary and commissions and sort data in descending order of salary and commission.
16. Display the name and job title of all employees who do not have a manager.
17. Display the name, job and salary for all employees whose job is Clerk or Analyst and their salary is not equal to 1000, 3000 or 5000.
18. Display the names of all employees where the third letter of their name is an 'A'.
19. Display the names of all employees who have two 'L's in their name and are in department 30 or their manager is 7782.
20. Display the name , salary and commission for all employees whose commission amount is grater than their salary increased by 10%.
21. Explain all the character functions.
22. Explain all the number functions.
23. Explain all the Date functions.

<u>Create Student database using the following tables.</u>

STUDENT: Sno : primary key, numberSname : NOT NULL, varchar2 Address: Varchar2

COURSE:Sno : Foreign key.Course Name : varchar2

Queries:

1. Alter table by adding a column fees in table COURSE.
2. Alter table by modifying the address to VARCHAR2(20)
3. Create a view on which the students who joined in one course only.

PL/SQL.

1. Write A Pl/Sql Program To Swap Two Numbers Without Using Third Variable.
2. Write A Pl/Sql Program To Generate Multiplication Tables For Numbers 2,4 And 6
3. Write A Pl/Sql Program To Display Sum Of Even Numbers And Sum Of Odd Numbers In The Given Range.
4. Write A Pl/Sql Program To Check The Given Number Is Pollinndrome Or Not.
5. Write A Pl/Sql Program To Display Top 10 Rows In Emp Table Based On Their Job And Salary.

Reference Books:

1. Oracle Pl/Sql By Example. Benjamin Rosenzweig, Elena Silvestrova, Pearsoneducation 3rd Edition

2. Sql& Pl/Sql For Oracle 10g, Black Book, Dr.P.S. Deshpande

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COMPUTER SCIENCE	**CCSC-507C**	**2020-'21**	**B.Com.(CA)**

SEMESTER – V **PAPER – VII** **Max. Marks 70**

Syllabus **WEB TECHNOLOGIES**

NO Of Hours: 5 **No of Credits: 3** **Pass Marks 28**

Unit -I Introduction to XHTML:
Introduction to HTML, Basic html, Document body text, Hyperlinks, Lists, Tables, Images,Frames, Forms and XHTML.

Unit- II: CSS:
Cascading Style Sheets: Introduction, Defining your own styles, properties and values in styles, Formatting blocks of information, Layers.
Java Script: java Script, the basics, Variables, String Manipulations, Mathematical functions, Statements, Operators.

Unit –III: Objects in Java Script & Dynamic HTML with Java Script
Objects in Java Script: Data and objects in java script, Regular expressions, Exception Handling, built in objects, Events.
Dynamic HTML with Java Script: Data validation, Rollover buttons, Moving images.
Unit –IV: XML Defining Data for Web Applications

XML: Introduction to XML, Basic XML, document type definition, XML Schema, Document object model, Using XML parser.

Unit -V:JSP:

JSP Lifecycle, Basic Syntax, EL (Expression Language), EL Syntax, Using EL Variables

Prescribed Books:

1.Chris Bates, Web Programming Building Internet Application, Second Edition, Wiley
2.Head First Servlets and JSP 2nd Edition, Bryan Basham, Kathy Sierra
2. Uttam Kumar Roy, Web Technologies from Oxford University Press

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COMPUTER SCIENCE	**CCSC-507C**	**2020-'21**	**B.Sc.(MPCs)**

SEMESTER – V **PAPER – VII** **Max. Marks 70**

Model Paper **WEB TECHNOLOGIES**
No of Credits: 3 **Pass Marks 28**

Section-A

Answer **FOUR**Questions. Each Question carries **FIVE** Marks. 5 X 4=20M

1. Write about structure of HTML Document with an example?
2. Explain about lists in HTML?
3. Write about java script statements?
4. Write about Rollover buttons?
5. Describe XML Elements?
6. Write the syntax of EL and EL variables?

Section-B

Answer **FIVE** Questions. Each Question carries **TEN** Marks. 5 X 10=50M

7. Explain about hyper links? Write about how to link another pages
8. What is Form? Explain about forms with examples
9. What is CSS? How to design Cascading style sheet
10. Explain about Mathematical Functions
11. Explain about Regular Expressions
12. Write about Data validations in DHTML
13. Explain about Document Object Model
14. Explain about JSP Lifecycle with neat diagram

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COMPUTER SCIENCE	CCSC-507C	2020-'21	B.COM(CA)

SEMESTER – VI PAPER – VII Max. Marks 70 Pass Marks 28

Guidelines for paper setting '**WEB TECHNOLOGIES'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	CSC-301C	2020-21	B.Sc.(MPCs, MCCs.)

SEMESTER – III PAPER – III Max. Marks 70 Pass Marks 28

Syllabus OBJECT ORIENTED PROGRAMMING USING JAVA Total Hrs: 60

NO. Of. Hours: 4 Credits: 3

UNIT-I 15Hrs

Fundamentals of Object – Oriented Programming: Introduction, Object Oriented paradigm, Basic Concepts of OOP, Benefits of OOP, Applications of OOP, Java features: **Overview of Java Language**: Introduction, Simple Java program structure, Java tokens, Java Statements, Implementing a Java Program, Java Virtual Machine, Command line arguments. **Constants, Variables & Data Types:** Introduction, Constants, Variables, Data Types, Declaration of Variables, Giving Value to Variables, Scope of variables, Type casting, Getting Value of Variables; **Operators & Expressions**.

UNIT-II 15 Hrs

Decision Making & Branching: Introduction, Decision making with if statement, Simple if statement, if-Else statement, Nesting of if-else statements, the else if ladder, the switch statement, the conditional operator. **Looping**: Introduction, While statement, do-while statement, for statement, Jumps in loops. **Classes, Objects & Methods**: Introduction, Defining a class, Adding variables, Adding methods, Creating objects, Accessing class members, Constructors, Method overloading, Static members, Nesting of methods;

UNIT-III 10 Hrs

Inheritance: Extending a Class, Overriding Methods, Final Variables and Methods, Final Classes, Abstract Methods and Classes; **Arrays, Strings And Vectors:** Arrays, One-dimensional arrays, Creating an array, Two – dimensional arrays, Strings, Vectors, Wrapper classes; **Interfaces**: **Multiple Inheritance**: Introduction, Defining interfaces, Extending interfaces, Implementing interfaces, Assessing interface variables;

UNIT-IV 10 Hrs

Multithreaded Programming: Introduction, Creating Threads, Extending the Threads, Stopping and Blocking a Thread, Lifecycle of a Thread, Using Thread Methods, Thread Exceptions, Thread Priority, Synchronization, Implementing the 'Runnable' Interface.

Managing Errors And Exceptions: Types of errors: Compile-time errors, Runtime errors, Exceptions, Exception handling, Multiple Catch Statements, Using finally statement,

UNIT-V 10 Hrs

Applet Programming: local and remote applets, Applets and Applications, Building Applet code, Applet Life cycle: Initialization state, Running state, Idle or stopped state, Dead state, Display state. **Packages:** Introduction, Java API Packages, Using System Packages, Namingconventions, Creating Packages, Accessing a Package, using a Package. **Managing Input/ Output Files in Java:** Introduction, Concept of Streams, Stream classes, Byte Stream Classes, Input Stream Classes, Output Stream Classes, Character Stream classes: Reader stream classes, Writer Stream classes, Using Streams;

Prescribed Text Book:

1. E.Balaguruswamy, Programmingwith JAVA, A primer, 3e, TATA McGraw-Hill Compan

Reference Books

1. Programming In Java By Sachin Malhotra And Saurabh Choudhary From Oxford UP
2. Object Oriented Programming Through Java by P. Radha Krishna, Universities Press
3. John R. Hubbard, Programming with Java, Second Edition, Schaum's outline Series,
4. Deitel&Deitel. Java TM: How to Program, PHI (2007)
5. Java Programming: From Problem Analysis to Program Design- D.S Mallik

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COMPUTER SCIENCE	CSC-301C	2020-21	B.sc(MPCs,MCCs)

SEMESTER – III PAPER – III Max. Marks 70 Pass Marks 28

Syllabus: OBJECT ORIENTED PROGRAMMING USING JAVA

Total Hrs: 60 NO. Of. Hours: 4 Credits: 3

Section- A

Answer FOUR Questions. Each Question carries FIVE Marks. 4*5=20M

1.Explain the structure of a java program?

2.Explain different data types in java?

3.Explain about Constructors?

4.Differences between arrays and vectors?

5.Explain about Exception handling?

6.Explain the applet life cycle?

Section- B

Answer FIVE the Questions. Each Question carries TEN Marks 5*10=50M

7.Explain the Concepts of Object-Oriented Programming?

8.Explain java Features?

9.Explain Looping statements with example

10.Explain Method overloading with an example program

11.Explain about inheritance

12.Explain the concept of interface?

13.Explain life cycle of a thread?

14.Explain about Byte Stream Classes?

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COMPUTER SCIENCE	**CSC-301C**	**2020-21**	**B. Com (CA)**

SEMESTER – III **PAPER – III** **Max. Marks 70** **Pass Marks 28**

Syllabus **OBJECT ORIENTED PROGRAMMING USING JAVA**

Total Hrs: 60 **NO. Of. Hours: 4** **Credits: 3**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	**CSC-301C**	**2020-21**	**B.Sc.(MPCS&MCCS)**

SEMESTER – III **PAPER – III** **Max. Marks:50**

Lab List OBJECT ORIENTED PROGRAMMING USING JAVA **Pass Marks 25**

No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

1.Write a program to perform various String Operations

2.Write a program to print the given number is Armstrong or not?

3.Prompt for the cost and selling price of an article and display the profit (or) loss

4.Write a program to print the numbers given by command line arguments

5.Write a program on class and object in java

6.Illustrate the method overriding in JAVA

7.Write a program to find the Simple Interest using Multilevel Inheritance

8.Write a program to display matrix multiplication.

9.Write a program to implement Exception handling

10.Write a program to create packages in Java

11.Write a program on interface in java

12.Write a program to Create Multiple Threads in Java

13. Write a program to assign priorities to threads in java

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COMPUTER SCIENCE	**ICT-II-301C**	**2020-'21**	**B.A, B.Com, B.Sc.**

SEMESTER – III PAPER – II Max. Marks 50 Pass Marks 20 Total Hrs 30

Syllabus Internet Fundamentals and Web Tools NO. Of Hrs: **2 Credits**: **2**

Unit-I : 6Hrs

Fundamentals of Internet : Networking Concepts, Data Communication – Types ofNetworking, Internet and its Services, Internet Addressing – Internet Applications –Computer Viruses and its types – Browser – Types of Browsers.

Unit-II: 6Hrs

Internet applications: Using Internet Explorer, Standard Internet Explorer Buttons,Entering a Web Site Address, Searching the Internet – Introduction to SocialNetworking: twitter, tumbler, LinkedIn, face book, flicker, Skype, yelp, vimeo, yahoo,Google+, YouTube, WhatsApp, etc.

Unit-III : 6Hrs

E-mail : Definition of E-mail - Advantages and Disadvantages – User-Ids, Passwords,Email Addresses, Domain Names, Mailers, Message Components, MessageComposition, Mail Management, Email Inner Workings.

Unit IV: 6Hrs

WWW- Web Applications, Web Terminologies, Web Browsers, URL – Components ofURL, Searching WWW – Search Engines and Examples

Unit-V : 6Hrs

Basic HTML: Basic HTML – Web Terminology – Structure of a HTML Document –HTML, Head and Body tags – Semantic and Syntactic Tags – HR, Heading, Font,Image and Anchor Tags –Different types of Lists using tags – Table Tags, Imageformats – Creation of simple HTML Documents.

Reference Books :

1. In-line/On-line : Fundamentals of the Internet and the World Wide Web, 2/e - by Raymond Greenlaw and Ellen Hepp, Publishers : TMH

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COMPUTER SCIENCE	ICT-II-301C	2020-'21	B.A, B.Com, B.Sc.

SEMESTER – III PAPER – II Max.Marks 50 Pass Marks: 20 Total: 30 Hrs

Modal Paper: Internet Fundamentals and Web Tools NO. Of Hrs: 2Credits: 2

Section- A

Answer FOUR Questions. Each Question carries FIVE marks. 4X5=20M

1. Explain types of Browsers?
2. Explain Internet Applications.
3. Write a short note on Internet Explorer?
4. Explain User Id and Password of e-mail?
5. Explain Advantages and disadvantages of electronic mail.4
6. Explain about WWW?
7. Explain briefly about web application.
8. Explain Head and Body tags in HTML Document?

Section- B

Answer Any THREE Questions. Each Question carries TEN Marks. 3×10=30M

9. Explain types of Networking?
10. Explain Internet Services?
11. Explain any 10 Social Net Working Sites
12. Explain Message Composition.
13. Explain different types of Search Engines.
14. Explain different lists in HTML.

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COMPUTER SCIENCE	ICT-II-301	2020-'21	B.A, B.Com, B.Sc.

SEMESTER – III PAPER – II Max. Marks 50

Guidelines for paper setting **'INTERNET FUNDAMENTALS AND WEB TOOLS'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	1
Unit-3	2	1
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	**CCSC-303C**	**2020-'21**	**B.Com. (C.A)**

SEMESTER – III PAPER – III Max. Marks 70 Pass Marks 28 Total Hrs: 60

Syllabus Office Automation Tools NO. Of. Hours: 5Credits:4

Unit-I: 12Hrs

MS-Excel: features of Ms-Excel, Parts of MS-Excel window, entering and editing data in worksheet, number formatting in excel, different cell references, how to enter and edit formula in excel, auto fill and custom fill, printing options.

Unit-II: 12 Hrs

Formatting options: Different formatting options, change row height, formulae and Functions,

Functions: Meaning and advantages of functions, different types of functions available in Excel.

Unit-III: 12Hrs

Charts: Different types of charts, Parts of chart, chart creation using wizard, chart operations, data maps, graphs, data sorting, filtering. Excel sub totals, scenarios, what-if analysis.

Macro: Meaning and advantages of Macros, creation, editing and deletion of macros - Creating a macro, how to run, how to delete a macro.

Unit-IV: 12Hrs

MS Access: Creating a Simple Database and Tables: Features of Ms-Access, Creating a Database, Parts of Access. **Tables:** table creation using design view, table wizard, data sheet view, import table, link table. **Forms:** The Form Wizard, design view, columnar, tabular, data sheet, chart wizard.

Unit- V: 12Hrs

Finding, Sorting and Displaying Data: Queries and Dynasts, Creating and using select queries, Returning to the Query Design, Multi-level sorts, Finding incomplete matches, showing All records after a Query, saving queries - Crosstab Queries. **Printing Reports:** Form and Database Printing..

Reference Books:

1.Ron Mansfield, Working in Microsoft Office, Tata McGraw Hill(2008)

2.Ed Bott, Woody Leonhard, Using Microsoft Office 2007, Pearson Education(2007)

3. Sanjay Saxsena, Microsoft Office, 4.Microsoft Office, BPB Publications

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COMPUTER SCIENCE	CCSC-303C	2020-'21	B.Com. (C.A)

SEMESTER – III PAPER – III Max. Marks 70 Pass Marks 28 Total Hrs: 60

Model PaperOffice Automation Tools NO Of Hours: 5 Credits: 4

Section- A

Answer FOUR Questions. Each Question carries FIVE Marks. 4*5=20M

1. Explain Features of Excel?
2. What are advantages of Functions?
3. Explain what is sorting?
4. Explain how to delete Macro?
5. Write any 5 Features of Access?
6. Describe Query used in MS-Access?

Section- B

Answer FIVE the Questions. Each Question carries TEN Marks. 5*10=50M

7. Explain Parts of Excel Sheet with neat Diagram.
8. Explain AutoFill and Custom Fill Options in Excel.
9. Explain different types of Functions available.
10. Explain different Formatting options.
11. What is Chart? Explain different types of Charts.
12. What is Macro? Explain Creating and Editing of Macro.
13. What is Form? Explain Creating Form using Form Wizard.
14. Explain How to Create a Query, Showing, all records after Query and Saving Query.

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COMPUTER SCIENCE	CCSC-303C	2019-'20	B.Com. (C.A)

SEMESTER – III PAPER – III Max. Marks 70

Guidelines for paper setting '**OFFICE AUTOMATION TOOLS'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	2
Unit-4	1	1
Unit -5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	CCSC-303P	2020-'21	B.Com. (C.A)

SEMESTER – III PAPER – III Max. Marks 50 Pass Marks 20 Total Hrs: 30

Lab list Office Automation Tools

Ms-Word

1. Create a vesting Card
2. Create a template for organization using Header & Footer
3. Mail merge Procedure

Ms-Excel

1. Create an electronic spreadsheet in which you enter the following decimal numbers and convert into Octal, Hexadecimal and Binary numbers vice versa. Decimal Numbers: 35, 68, 95, 165, 225, 355, 375, 465. Binary Numbers: 101, 1101, 111011, 10001, 110011001, 111011111.

2. The ABC Company shows the sales of different products for 5 years. Create column chart, 3D-column and Bar chart for the following data
YEAR PRODUCT-1 PRODUCT-2 PRODUCT-3 PRODUCT-4
2003 1000 800 900 10002004 800 80 500 9002005 1200 190 400 8002006 400 200 300 1000
2007 1800 400 400 1200

3. Create a suitable examination data base and find the sum of the marks(total) of each student and respective class secured by the student rules:
Pass if marks in each subject >=35
Distinction if average>=75
First class if average>=60 but <75
Second class if average>=50 but <60
Third class if average>=35 but <50
Fail if marks in any subject is <35
Display average marks of the class, subject wise and pass percentage

4. Create an electronic spread sheet in which you enter date and time functions in Excel

5. Create a electronic spread sheet in statistical and mathematical functions in Excel

MS-PowerPoint

1. Make a Power point presentation on your strengths, weaknesses, hobbies, factors that waste your time.

2. Make a Power point presentation to represent your College profile.

3. Make a Power point presentation of all the details of the books that you had studied in B.Sc. First Year.

4. Create a Presentation without Animation.

MS-ACCESS

1. Create a database using MS-ACCESS with at least 5 records table1 structure: register number , name, dob, gender, class table2 structure: register number m1 m2 m3 m4 m5 total maintain the relationship between two tables with register number as a primary key and answer the following quarries: show the list of students with the following fields as one query register number name gender total marks

2. Maintain the relationship between above two tables with register number as a primary key and answer the following reports: reports must have following columns report1 with register number, name, marks of all subjects and 90 hrs (3 hrs/ week) computer science 10 of 44 total report2 with register number, total , percentage.

3. Create a database using ms-access with at least 5 records table1 structure: emp-code emp-name age gender dob table2 structure: emp-code basic-pay maintain the relationship between two tables with emp-code as a primary key generate the following reports: report1: emp-code emp-name basic-pay da,hra gross-salary report2: emp-code emp-name age gender gross-salary

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
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(With Effect from Academic Year 2020-21)

COMPUTER SCIENCE	CSC-101C	2020-'21	B.Sc (MPCs & MCCs)

SEMESTER – I **PAPER – I** **Max. Marks 70**

Syllabus: Problem Solving in 'C'

NO of Hours: 4 **No Of Credits: 3** **Pass Marks 28**

UNIT-I: General Fundamentals& Programming Languages **10Hrs**

General Fundamentals: Introduction to computers: Block diagram of a computer, characteristics and limitations of computers, applications of computers, types of computers, computer generations.

Introduction to Algorithms and Programming Languages: Algorithm – Key features of Algorithms, Flow Charts, **Programming Languages** – Generations of Programming Languages – Structured Programming Language- Design and Implementation of Correct, Efficient and MaintainablePrograms.

UNIT- II: Introduction To C & Decision Making control Statements **12Hrs**

Introduction to C: Introduction – Structure of C Program – Writing the first C Program – File used in C Program – Compiling and Executing C Programs – Using Comment , Keywords – Identifiers – Basic Data Types in C – Variables – Constants – I/O Statements in C-Operators in C- Programming Examples.

Decision Control and Looping Statements: Introduction to Decision Control Statements– Conditional Branching Statements – Iterative Statements – Nested Loops – Break and Continue Statement – Goto Statement.

UNIT III: Arrays **10 Hrs**

Arrays: Introduction – Declaration of Arrays – Accessing elements of the Array – Storing Values in Array– Operations on Arrays – one dimensional, two dimensional and multi dimensional arrays, character handling and strings.

UNIT-IV:Functions & Structures **13Hrs**

Functions: Introduction – using functions – Function declaration/ prototype – Function definition – function call – return statement – Passing parameters – Scope of variables – Storage Classes – Recursive functions.

Structure, Union, and Enumerated Data Types: Introduction – Nested Structures – Arrays of Structures – Structures and Functions– Union – Arrays of Unions Variables – Unions inside Structures – Enumerated DataTypes.

UNIT-V:**Pointes&Files** **15Hrs**

Pointers: Understanding Computer Memory – Introduction to Pointers – declaring Pointer Variables – Pointer Expressions and Pointer Arithmetic – Null Pointers -– Memory Allocation in C Programs – Memory Usage – Dynamic Memory Allocation – Drawbacks of Pointers

Files: Introduction to Files – Using Files in C – Reading Data from Files – Writing Data to Files – Detecting the End-of-file – Error Handling during File Operations – Accepting Command Line Arguments.

BOOKS

1. E Balagurusamy – Programming in ANSIC – Tata McGraw-Hillpublications.
2. Brain W Kernighan and Dennis M Ritchie - The 'C' Programming language" - Pearsonpublications.
3. Ashok N Kamthane: Programming with ANSI and Turbo C, Pearson Edition Publications.
4. YashavantKanetkar - Let Us 'C' – BPBPublications.

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SEMESTER – I PAPER – II Max. Marks 70 Pass Marks 28

Syllabus Problem Solving in 'C' NO. Of. Hours: 4 Credits:3

Section- A

Answer FOUR Questions. Each Question carries FOUR Marks. 4*5=20M

1. Explain different types of programming languages?
2. Explain about Data types in C?
3. Write about Break and Continue Statement?
4. Explain one dimensional array with example?
5. Explain Storage Classes in C?
6. Explain dynamic memory allocation?

Section- B

Answer FIVE the Questions. Each Question carries EIGHT Marks 5*10=50M

7. Draw and Explain Block Diagram of Computer?
8. Explain about Algorithm and Flowchart with Examples?
9. Explain decision making Looping statements with examples?
10. Explain Structure of C Program with Example?
11. Write about two dimension arrays? Give an example program?
12. Write Passing Parameters Techniques in Functions?
13. Difference between structures and unions?
14. What is File? Explain different File Modes?

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SEMESTER – I PAPER – I Max. Marks 70

Guidelines for paper setting '**Problem Solving in C'**

Unit wise weight age of Marks	Section-A (Short answer questions)	Section-B (essay questions)
Unit-I	1	2
Unit-II	2	2
Unit-III	1	1
Unit-IV	1	2
Unit -V	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

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COMPUTER SCIENCE	CSC-101P	2020-'21	B.Sc. (MPCs, MCCs.)

SEMESTER – I PAPER – I Max. Marks: 50 Pass Marks 25

No. of Hours per week: 2 External: 25 Internal: 25 Credits: 2

Lab List:Problem solving in C LAB

1. Write a program to check whether the given number is Armstrong ornot.
2. Write a program to find the sum of individual digits of a positiveinteger.
3. Write a program to generate the first n terms of the Fibonaccisequence.
4. Write a program to find both the largest and smallest number in a list of integervalues
5. Write a program to demonstrate refection of parameters in swapping of two integer values using **Call by Value** &**Call byAddress**
6. Write a program that uses functions to add twomatrices.
7. Write a program to calculate factorial of given integer value using recursivefunctions
8. Write a program for multiplication of two N X Nmatrices.
9. Write a program to perform various stringoperations.
10. Write a program to search an element in a given list ofvalues.
11. Write a program to sort a given list of integers in ascendingorder.
12. Write a program to calculate the salaries of all employees using ***Employee (ID, Name, Designation, Basic Pay, DA, HRA, Gross Salary, Deduction, Net Salary)*** structure.
    DA is 30 % of BasicPay
    HRA is 15% of BasicPay
    Deduction is 10% of (Basic Pay +DA)
    Gross Salary = Basic Pay + DA+HRA
    Net Salary = Gross Salary -Deduction
13. Write a program to illustrate pointerarithmetic.
14. Write a program to read the data character by character from afile.
15. Write a program to create ***Book (ISBN, Title, Author, Price, Pages, Publisher)***structure and store book details in a file and perform the following operations
    Add bookdetails
    Search a book details for a given ISBN and display book details, ifavailable
    Update a book details usingISBN
    Delete book details for a given ISBN and display list of remainingBooks

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COMPUTER SCIENCE	**CCSC-103C**	**2020-'21**	**B.Com(CA)**

SEMESTER – I **PAPER – I** **Max. Marks 70**

Syllabus: INTRODUCTION TO INFORMATION TECHNOLOGY

NO of Hours: 4 **No Of Credits: 3** **Pass Marks 28**

Unit – I: Database Systems Introduction Computer Basics **13H'rs**

Introduction, Evolution of Computers, Generations of Computers, Classification of Computers, Computer Concepts, Applications Of Computers, Central Processing Unit.

Memory Representation:

Random Access Memory, Read Only Memory, Magnetic Tape, Magnetic Disk, Types of Magnetic Disks, Types of Optical Disk, USB.

UNIT-II: Input/output Devices &Operating Systems 15H'rs

Input/output Devices: Types of Input Devices, Types Of Output Devices, Programming Languages: Types of Programming Languages, Generations of Programming Languages

Software: Definition Of Software, Relationship Between Software And Hardware, Categories Of Software**,**

Operating Systems: Introduction, Types of Operating Systems

UNIT-III: Information Technology&Internet Applications: **12H'rs**

Information Technology: Components Of Information Technology**,** Role Of Information Technology, Information Technology In Business, Manufacturing, Mobile Computing, Public Sector, Defence Sectors, Media, Education, Publication.

Internet Applications: Evolution Of Internet, Basic Internet Terms, Internet Applications.

Introduction, E-mail, Information Browsing Service, The World Wide Web, Information Retrieval from the World Wide Web, Other Facilities Provided by Browsers, Audio on the Internet, Pictures, Animation and Video viaInternet

UNIT-IV: Data Communications **10H'rs**

Introduction, Data Communication, Components Of Data Communication, Data Transmission Mode, Analog To Digital Data Transmission, Data Communication Measurement, Transmission Media, Guided/Wired Media, Unguided/Wireless Media.

UNIT-V: Computer Networks: **10H'rs**

Introduction to Computer Networks, Types of Computer Networks, Network Topologies, OSI Model, TCP/IP Model.

Text Book:

1. Introduction To Information Technology (Second Edition) , Pearson, ITI Education Solutions Limited.
2. Introduction of Information Technology, by V. Rajaraman, PHI Learning Private Limited.

Reference Book:

1. Fundamentals Of Computers, Balagurusamy, McGraw Hill Education (India) Private Limited.
2. Fundamentals Of Computers , Reema Thareja Oxford University

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COMPUTER SCIENCE	**CCSC-103C**	**2020-'21**	**B.Com(CA)**

SEMESTER – II PAPER – II Max. Marks 70 Pass Marks 28

Syllabus:INTRODUCTION TO INFORMATION TECHNOLOGY

NO. Of. Hours: 4Credits:3

Section- A

Answer <u>FOUR</u> Questions. Each Question carries FOUR Marks. 4*5=20M

1. What are the Applications of Computer?
2. Explain the types of Programming Languages?
3. What is Software? Explain Different Categories of Software?
4. What is the Role of Information Technology (IT)?
5. What are the components of Data Communication?
6. Explain different types of Topologies?

Section- B

Answer <u>FIVE</u> the Questions. Each Question carries EIGHT Marks 5*10=50M

7. What is Computer? Explain the classification Computer?
8. What is Memory? Explain different types of Memories?
9. Explain different types of Input & Output Devices?
10. What is an Operating System? Explain different types of Operating System?
11. What are the Components of Information Technology (IT)?
12. Write a Procedure to create an E-Mail?
13. Explain Data Transmission Modes?
14. Explain about OSI Model?

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COMPUTER SCIENCE	**CCSC-103C**	**2020-'21**	**B.Com(CA)**

SEMESTER – I **PAPER – I** **Max. Marks 70**

Guidelines for paper setting IIT

Unit wise weight age of Marks	Section-A (Short answer questions)	Section-B (essay questions)
Unit-I	1	2
Unit-II	2	2
Unit-III	1	2
Unit-IV	1	1
Unit -V	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

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COMPUTER SCIENCE	**CCSC-103C**	**2020-'21**	B.Com. (C.A)

SEMESTER – I PAPER – I Max. Marks 50 Pass Marks 20

Lab List Introduction to Information Technology & Internet NO Of Hours: 2 Credits: 2

1. Introduction to Computers.
2. Block Diagram of a Digital Computer
3. Memory Devices
4. Software & Hardware
5. MS-DOS.
    b) Internal Commands
    c) External Commands
6. Windows.
7. MS-Word:
    a) Creating a letter pad.
    b) Creating a visiting card.
    c) Prepare a time table.
    d) Header & footers
    e) Mail Merge.

8. MS-Power Point:
    a) Power point presentation for Fourth National Games.
    b) Power point presentation for Indian Education System.
    c) Power point presentation to represent your College profile.
    d) Power point presentation using Multimedia.
    e) Power point presentation to represent your department
9. How to create E-mail, Information Browsing Service
10. World Wide Web, Information Retrieval from the World Wide Web
11. Data Transmission Modes
12. Network Topologies

A.G& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

VUYYURU-521165, KRISHNA Dt., A.P.(Autonomous)

Accredited by NAAC with "A" Grade

2020-2021

DEPARTMENT OF COMPUTER SCIENCE

MINUTES OF BOARD OF STUDIES

EVEN SEMESTER

18-04-2020

Minutes of the meeting of Board of Studies in Computer Science for the Autonomous courses of AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru, held at 10.30 A.M on 18-04-2020 through Online Video Conference Cisco WebEx Meeting

Sri T.Naga PrasadaRao ..... Presiding

Members Present:

1)..... (T.NagaPrasadaRao)	Chairman	Head, Department of Computer Science, AG&SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
2)..... (Dr. R.Kiran Kumar)	University Nominee	Professor, Dept of Computer Science, Krishna University, Machilipatnam.
3)..... (Dr. Suresh Sundaradasu)	Academic Council Nominee	Head, Department of Computer Science& Engineering, Dhanekula Institute of Engineering & Technology, Ganguru, JNTU(K), Vijayawada.
4)..... (Dr. K Bhagvan)	Academic Council Nominee	Professor, Department of Computer Science K.B.N College, Vijayawada.
5)..... (R. Sowjanya)	Industrial Excepert	.Net Developer, Mavensoft Systems Private limited Madaapur, Hyderabad.
6)..... (K Srikanth)	Member	Lecturer in Computer Science,AG&SG Siddhartha Degree College of Arts &Science, Vuyyuru-521165.
7)..... (T.Keerthi)	Member	Lecturer in Computer Science,AG&SG Siddhartha Degree College of Arts &Science, Vuyyuru-521165
8)..... (A. Sravani)	Member	Lecturer in Computer Science,AG&SG Siddhartha Degree College of Arts &Science, Vuyyuru-521165
9)..... (S.Prabhavathi)	Member	Lecturer in Computer Science,AG&SG Siddhartha Degree College of Arts &Science, Vuyyuru-521165
10)..... (V. N. MalleswaraRao)	Member	Lecturer in Computer Science,AG&SG Siddhartha Degree College of Arts &Science, Vuyyuru-521165
11)..... (A.Preethi)	Member	Student in M.Sc. Computer Science, AG& SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
12)..... (A GirijaSuma)	Member	Student in B.Sc. Computer Science, AG&.SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165

Agenda for B.O.S Meeting.

1. To recommend syllabi for VI Semester of III year Degree B.Sc.(MPCs, MCCs.) & B.Com (C.A). As per the guidelines and instructions under CBCS prescribed by Krishna University from the Academic Year 2020-21.
2. To recommend the Model Question Papers, Lab programs list and Blue print of Semester of III year Degree B.Sc. (MPCs, MCCs.)&B.Com (C.A). As per the guidelines and instructions under CBCS prescribed by Krishna University from the Academic Year 2020-21.

3. To recommend the Guidelines to be followed by the question paper setters in Computer Science for III year Degree B.Sc.(MPCs, MCCs.)&B.Com (C.A). As per the guidelines and instructions under CBCS prescribed by Krishna University from the Academic Year 2020-21.

4. To recommend any changes in the syllabi for II, IV, VI Semesters of I, II, III year Degree B.Sc.(MPCs, MCCs) and B.Com.(C.A.).

5. To recommend the teaching and evaluation methods to be followed under Autonomous status.

6. To recommend the certificate courses for all Computer Science and Non-Computer Science students any suggestions regarding seminars, workshops, Guest lecturers to be organized.

7. To recommend the panel of paper setters and examiners to the controller of the examinations of autonomous courses of AG & SG Siddhartha Degree College of Arts & Science College, Vuyyuru.

8. Any other matter
   - To be proposed to introduce new course for B.Sc. Program (MSCs) in the Academic year 2021-22.

Resolutions

1) Discussed and recommended as per the APSCHE guidelines and their instructions it is resolved to implement syllabi for VI Semester of III year Degree B.Sc.(MPCs, MCCs.), B.Com (C.A.), Course under Choice Based Credit System with Effect from Academic Year 2020-21.

2) Discussed and recommended as per the APSCHE guidelines and their instructions it is resolved to implement Model Question Papers, Lab Programs List and blue print for VI Semester of III year Degree B.Sc.(MPCs, MCCs.), B.Com (C.A.), Courses under Choice Based Credit System with Effect from Academic Year 2020-21.

3) Discussed and recommended the guidelines to be followed by Question Paper Setters in Computer Science for IV Semester of II year Degree B.Sc.(MPCs, MCCs.), B.Com (C.A.), Courses under Choice Based Credit System With Effect From Academic Year 2020-21.

4) Discussed and recommended as per the APSCHE guidelines and their instructions it is resolved to implement syllabi for II Semester of I Year Degree B.Sc. (MPCs, MCCs.), B.Com (C.A.), and Course under Choice Based Credit System with Effect from Academic Year 2020-21.

- Discussed and recommended the NO changes in the syllabi for IV Semester of II Year B.Sc. (MPCs, MCCs) & B.Com.(CA)., VI Semester of III Year B.Sc. (MPCs, MCCs) & B.Com.(CA).

5) Foundation Course for All Degree Courses under Choice Based Credit System with Effect from Academic Year 2020-21.

- **To recommeded the NEW COURCES INTRODUCED in II &IV SEM these are**
  - **II sem-B.A,BCOM,BSC- INFORMATION & COMMUNICATION TECHNOLOGY.**
  - **IIsem-BCOM(CA)- E-COMMERCE & WEB DESIGNING.**
  - **IVsem-BCOM(CA)-PROGRAMMING IN C**
  - **REMAINING IV AND VI Sem Papers are same as 2019.**

→Discussed and recommended the teaching and evaluation methods for approval of Academic Council.

Teaching methods:

Besides the conventional methods of teaching, we use modern technology i.e. Using of LMS and LCD projector to display on power board etc..for better understanding of concepts.

Evaluation of a student is done by the following procedure:

There are two components in the Valuation and Assessment of a student – Internal Assessment (**IA**) Semester Examinations (**SE). For the Batch of Students Admitted from 2018-19**.

Internal Assessment (IA)

- The maximum mark for IA is 30 and SE is 70 for theory; and for practical papers 50 Marks.
- Each IA written examination is of 1 hour 30 minutes duration for 20 marks. The tests will be conducted centrally. The average of two such IA is calculated for 20 marks.
- Other Innovative Components will be for 5 Marks. The innovative component is for 5 marks, conducted during the class hours by the staff member/ in charge of the subject, in the form of

assignments/ quiz/ seminars /PPT/Online- assignments/Open Book/Viva Voce/ Group work/ Mini Project/ Exhibition, etc. The topic and time for submission/ presentation will be announced by the staff member/ in charge of the subject in advance. Each student should explain and defend his/her presentation.

- For attendance 5 Marks are allotted.
- The semester examination will be of 3 hours with maximum 70 marks.
- There are no passing minimum marks for IA.

Semester Examinations (SE)

- A student should register himself/herself to appear for the Semester Examinations by payment of the prescribed fee.
- The Semester Examinations will be in the form of a comprehensive examination covering the entire syllabus in each subject. It will be of 3 hours duration & Foundation course 2 hours irrespective of the number of credits allotted to it.
- If a candidate fails to obtain pass marks even after the due to less mark in the IA examination, the marks of the next examination will be converted to be out of 100.
- Even though the candidate is absent for two IA exams/obtain zero marks the external marks are considered (if he/she gets 40/70) and the result shall be declared as 'PASS'.
- The maximum marks for each Paper shall be 100.

Question paper guide lines for Practical Examinations at the end of Semesters II, IV & VI

Two Practical Programs to be conducted out of 15 programs at the end of Semester II, IV&VI

Practical Examination time 3Hrs and Maximum Marks 50

Scheme of valuation Semesters – II, IV&VI B.Sc.(MPCs, MCCs) & B.Com.(C.A).

Computer Science Practical's - External (Time: 3 hrs.) **Total Marks: 25M**

1. Programs Writing (2)	:	10 marks,
2. Viva voice	:	5 marks
3. Execution & Result	:	10 marks
Total Marks	` :	25

Computer Science Practical's- Internal **Total Marks: 25M**

1. Attendance	:	5 marks
2. Record	:	10 marks
3. Day to day observation	:	5 marks
4. Problem solving and Execution	:	5 marks
Total Marks	:	25

6.) Discussed and recommended for organizing Seminars, Guest lectures, Work-shops to upgrade the knowledge of students, for the approval of the Academic Council. Discussed and recommended to conduct certificate courses for Computer Science and Non-Computer Science students separately like TALLY ACCOUNTING PACKAGE, ADOBE PHOTOSHOP, DESKTOP PUBLISHING, COMPUTER HARDWARE AND NETWORKING, WEB DESIGNING, OPERATING SYSTEMS, ETC...

7) Discussed and empowered the HOD to suggest the panel of the paper setters and examiners to the controller of the examinations.

8). We implemented online certificate courses such as NPTL, APSSDC - PYTHON, R- Programming, Amazon Web services and JAVA ------etc. To fill the curriculum gaps from II year Degree on words

9) Discussed and Recommend to introduce Value Added Course in "**BASIC COMPUTER APPLICATIONS & MS OFFICE**" with Course Code "**BCAM101**" for 1ST MPC's & MCC's -1ST SEM

10) Discussed and Recommend to introduce Value Added Course in "**AWS**" with Course Code "**VACAWS-01**" for II MPC's &MCC's-3rd SEM

11) Discussed and Recommend to introduce Value Added Course in "**CLOUD COMPUTING**" with Course Code "**VACCC12**" for IIIBCOM(CA)-5TH SEM

12). Suggestions

Chairman

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COMPUTER SCIENCE	CSC-601(GE)	2020-'21	B.Sc.(MPCs. , MCCs.)

SEMESTER – VI PAPER – VII Max. Marks 70

Syllabus **WEB TECHNOLOGIES**

NO of Hours: 4 **No of Credits: 3** **Pass Marks 28**

Course Objectives:

1. To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.
2. To provide skills to design interactive and dynamic web sites.

COURSE OUTCOMES:

CO1: Understand the basic structure of a HTML design and develop a website using different text Formatting tags, images, links, lists and tables.
CO2: Understand to style a webpage using CSS and Basic Concepts of Java Scripts.
CO3: Understand to style a webpage Using Objects in Java Script and DHTML.
CO4: Understand the Basic Concepts of XML and Defining Data for Web Applications.
CO5: Understand the Concepts of JS.

Unit -I Introduction to XHTML: **12 Hrs**

Introduction to HTML, Basic html, Document body text, Hyper links, Adding more formatting Lists, Tables, Images, Multimedia Objects, Frames, Forms and XHTML.

Unit- II: CSS: **12 Hrs**

Cascading Style Sheets: Introduction, Defining your own styles, properties and values in styles, Formatting blocks of information, Layers.
Java Script: java Script, the basics, Variables, String Manipulations, Mathematical functions, Statements, Operators, Arrays, Functions.

Unit –III: Objects in Java Script & Dynamic HTML with Java Script **12 Hrs**

Objects in Java Script*:* Data and objects in java script, Regular expressions, Exception Handling, Built in objects, Events.
Dynamic HTML with Java Script*:* Data validation, Opening a new window, Messages and Confirmations, The status bar, writing to a different frame, Rollover buttons, Moving images, multiple pages in a single download, A text-only menu system, Floating logos.

Unit –IV: XML Defining Data for Web Applications **12 Hrs**

XML*:* Introduction to XML, Basic XML, document type definition, XML Schema, Document object model, presenting XML, Using XML parser.

UNIT-V: **12 Hrs**

JSP: JSP Lifecycle, Basic Syntax, EL (Expression Language), EL Syntax, Using EL Variables

Prescribed Books:

1. Chris Bates, Web Programming Building Internet Application, Second Edition, Wiley (2007)
2. Head First Servlets and JSP 2nd Edition, Bryan Basham, Kathy Sierra
3. Uttam Kumar Roy, Web Technologies from Oxford University Press

Student Activities:

1. Prepare a web site for your college

2. Prepare your personal website

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SEMESTER – VI **PAPER – VII Max. Marks 70**

Model Paper **WEB TECHNOLOGIES**

No Of Hours: 4 **No of Credits: 3** **Pass Marks 28**

Section -A

Answer **FOUR** Questions. Each Question carries **FIVE** Marks. **4X 5=20M**

1. Write about structure of HTML Document with an example?
2. Explain about lists in HTML?
3. Write about properties used in Style Sheet?
4. Write about Rollover buttons?
5. Describe XML Elements?
6. Write the syntax of EL and EL variables?

Section- B

Answer **FIVE**Questions. Each Question carries **TEN** Marks **5 X 10=50M**

7. Explain about hyper links? Write about how to link another pages?
8. What is Form? Explain about forms with examples?
9. What is CSS? How to design Cascading style sheet?
10. Explain about Mathematical Functions?
11. Explain about Regular Expressions?
12. Write about Data validations in DHTML?
13. Explain about Document Object Model?
14. Explain about JSP Lifecycle with neat diagram?

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SEMESTER – VI PAPER – VII Max. Marks 70 Pass Marks 28

Guidelines for paper setting 'WEB TECHNOLOGIES'

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

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COMPUTER SCIENCE	CSC-601(GE)	2020-'21	B.Sc.(MPCs. , MCCs.)

SEMESTER – VI **PAPER – VI** **Max. Marks 50**

Lab List **WEB TECHNOLOGIES** **Pass Marks: 20**

No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

1. Write an HTML program to demonstrate text formatting, working with images and hyper links
2. Write an HTML program to create Student Marks sheet preparation.
3. Write an HTML program to explain String manipulation-using functions.
4. Write an HTML program to explain <form> events
5. Write an HTML program to perform all arithmetic operations using java script.
6. Develop a HTML Form, which accepts any Mathematical expression. Write JavaScript code to Evaluates the expression and Displays the result.
7. Create a form for Student information. Write JavaScript code to find Total, Average, Result and Grade.
8. Create a form for Employee information. Write JavaScript code to find DA, HRA, PF, TAX, Gross pay, Deduction and Net pay.
9. Create a form consists of a Multiple choice questions that validates the answer dynamically and displaying result using java script.
10. Write a java script to work with following

a. Date display b. Calendar c. Copy Selected Text

b. IP Address

(With Effect from Academic Year 2020-21)

COMPUTER SCIENCE	CSC-602CE	2020-'21	B.Sc.(MPCs. , MCCs.)

SEMESTER – VI **PAPER – VIII** **Max. Marks: 70**

Syllabus PHP, MySQL & Word Press

NO Of Hours:4 Credits: 3 **Pass Marks 28**

Course Objective: To introduce the concept of PHP and to give basic Knowledge of PHP. Learn about PHP Syntax., Arrays, PHP Loops, PHP and MySQL connectivity, PHP form validation, PHP form handling. Overview of MySQL and PHPMyAdmin, Understand basic concepts of how a database stores information via tables, Understanding of SQL syntax used with MySQL, Learn how to retrieve and manipulate data from one or more tables, Know how to filter data based upon multiple conditions, Updating and inserting data into existing tables, Learning how the relationships between tables will affect the SQL, The advantages of store procedures with storing data using variables and functions, How SQL can be used with programming languages like PHP to create dynamic websites for visitors, Review of some sample PHP projects interacting with MySQL.

COURSE OUTCOMES:

CO1: Understand the concepts Of PHP and MY SQL Installations.
CO2: Able to know the basic concepts Function and Working with Functions.
CO3: Understand the concepts of FORMS and working with FORMS.
CO4: understand the concepts of MY SQL and MY SQL Components.
CO5: Able to know the concepts of WORD PRESS.

UNIT-1: **Installing and Configuring MySQL**: **10 Hrs**

Current and Future Versions of MySQL, How to Get MySQL, Installing MySQL on Windows, Trouble Shooting your Installation, Basic Security Guidelines, Introducing MySQL Privilege System, Working with User Privileges. Installing and Configuring Apache: Current and future versions of Apache, Choosing the Appropriate Installation Method, Installing Apache on Windows, Apache Configuration File Structure, Apache Log Files, Apache Related Commands, Trouble Shooting. Installing and Configuring PHP: Building PHP with Apache on Windows, php.ini. Basics, The Basics of PHP scripts. The Building blocks of PHP: Variables, Data Types, Operators and Expressions, Constants. Flow Control Functions in PHP: Switching Flow, Loops, Code Blocks and Browser Output.

Unit – II: Working with Functions: **10 Hrs**

What is function?, Calling functions, Defining Functions, Returning the values from User-Defined Functions, Variable Scope, Saving state between Function calls with the static statement, more about arguments. Working with Arrays: What are Arrays? Creating Arrays, Some Array-Related Functions. Working with Objects: Creating Objects, Object Instance Working with Strings, Dates and Time: Formatting strings with PHP, Investigating Strings with PHP, Manipulating Strings with PHP, Using Date and Time Functions in PHP.

Unit – III: Working with Forms: **15 Hrs**

Creating Forms, Accessing Form Input with User defined Arrays, Combining HTML and PHP code on a single Page, Using Hidden Fields to save state, Redirecting the user, Sending Mail on Form Submission, Working with File Uploads. Working with Cookies and User Sessions: Introducing Cookies, Setting a Cookie with PHP, Session Function Overview, Starting a Session, Working with session variables, passing session IDs in the Query String, Destroying Sessions and Unsetting Variables, Using Sessions in an Environment with Registered Users. Working with Files and Directories: Including Files with inclue(), Validating Files, Creating and Deleting Files, Opening a File for Writing, Reading or Appending, Reading from Files, Writing or Appending to a File, Working with Directories.

Unit – IV: Introduction to MySQL **15Hrs**

Introduction to My SQLand Interfacing with Databases through PHP Understanding the database design process: The Importance of Good Database Design, Types of Table Relationships, Understanding Normalization. Learning basic SQL Commands: Learning the MySQL Data types, Learning the Table Creation Syntax, Using Insert Command, Using SELECT Command, Using WHERE in your Queries, Selecting from Multiple Tables, Using the UPDATE command to modify records, Using RELACE Command, Using the DELETE Command, Frequently used string functions in MySQL, Using Date and Time Functions in MySQL. Interacting with MySQL using PHP: MySQL Versus MySQLi Functions, Connecting to MySQL with PHP, Working with My SQL Data.

Unit – V:Word press **10Hrs**

Word press: Introduction to word press, servers like wamp, bitnami e.tc, installing and configuring word press, understanding admin panel, working with posts and pages, using editor, text formatting with shortcuts, working with media-Adding, editing, deleting media elements, working with widgets, menus. Working with themes-parent and child themes, using featured images, configuring settings.

References:

1. Julie C. Meloni, PHP MySQL and Apache, SAMS Teach yourself, Pearson Education (2007).
2. Xue Bai Michael Ekedahl, The web warrior guide to Web Programming, Thomson (2006).

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SEMESTER – VI **PAPER – VIII** **Max. Marks 70**

Model PaperPHP, MySQL & Word Press

NO Of Hours:3 **No Of Credits: 3** **Pass Marks 28**

Section- A

Answer **Four** Questions. Each Question carries **FIVE** Marks. **4*5=20M**

1. Define variable and list the standard data types in PHP?
2. What is Break and Continue statements in PHP?
3. Explain how to create a simple form in PHP?
4. What is Cookie and explain how to accessing cookie in PHP?
5. Describe Update Command in MySQL with Example?
6. Write short notes on Word Press.?

Section- B

Answer **FIVE** Questions. Each Question carries **TEN** Marks **5*10=50M**

7. Explain about Operators and Expressions available in PHP with examples?
8. Explain about Loops and switching statements in PHP with examples?
9. Explain about Arrays and related functions to arrays in PHP with examples?
10. Explain the following Strings functions with example?
    a. a. strlen() b. strstr() c. strpos() d. substr() e. strtok()
11. Explain how to send Mail on form submission in PHP?
12. Explain how to work with Sessions in PHP?
13. Explain how to insert & retrieve data with MySql in PHP?
14. Explain how to work with Themes and also featured images in Word Press?

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SEMESTER – VI PAPER – VIII Max. Marks 70 Pass Marks 28

Guidelines for paper setting 'PHP, MySQL & Word Press '

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (Essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us.

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SEMESTER – VI **PAPER – VIII** **Max. Marks 50**

Lab List PHP, MySQL & Word Press LabPass Marks 20
No. of Hours per week: 3 **External: 25** **Internal: 25** **Credits: 2**

MySQL Lab Cycle

Cycle -1

An Enterprise wishes to maintain the details about his suppliers and other corresponding details. For that he uses the following details.
Suppliers (sid: Integer, sname: string, address: string)
Parts (pid: Integer, pname: string, color: string)
Catalog (sid: integer, pid: integer, cost: real)

The catalog relation lists the prices charged for parts by suppliers.

Write the following queries in SQL:

1. Find the pnames of parts for which there is some supplier.
2. Find the snames of suppliers who supply every part.
3. Find the snames of supplier who supply every red part.
4. Find the pnames of parts supplied by London Supplier abd by no one else.
5. Find the sid's of suppliers who charge more for some part than the average cost of that part.
6. For each part, find the sname of the supplier who charges the most for that part.
7. Find the sid's of suppliers who supply only red parts.
8. Find the sid's of suppliers who supply a red and a green part.
9. Find the sid's of suppliers who supply a red or green part.
10. Find the total amount has to pay for that suppler by part located from London.

Cycle – 2

An organisation wishes to maintain the status about the working hours made by his employees. For that he uses the following tables.

Emp (eid: integer, ename: string, age: integer, salary: real)
Works (eid: integer, did: integer, pct_time: integer)
Dept (did: integer, budget: real, managerid: integer)
An employee can work in more than one department; the pct_time field of the works relation shows the percentage of time that a given employee works in a given department.

Resolve the following queries.

1. Print the names and ages of each employee who works in both Hardware and Software departments.
2. For each department with more than 20 full time equivalent employees (i.e., where the part-time and full-time employees add up to at least that many full-time employees), print the did's together with the number of employees that work in that department.

3. Print the name of each employee whose salary exceeds the budget of all of the departments that he or she work in.
4. Find the managerid's of managers who manage only departments with budgets greater than 1,000,000.
5. Find the enames of managers who manage the departments with largest budget.
6. If a manager manages more than one department, he or she controls the sum of all the budgets for those departments. Find the menagerie's of managers who Control more than 5,000,000.
7. Find the menagerie's of managers who control the highest amount.
8. Find the average manager salary.

PHP Lab Cycle

1. Write a PHP program to Display "Hello"
2. Write a PHP Program to display the today's date.
3. Write a PHP Program to read the employee details.
4. Write a PHP Program to display the
5. Write a PHP program to prepare the student marks list.
6. Write a PHP program to generate the multiplication of two matrices.
7. Write a PHP Application to perform demonstrates the college website.
8. Write a PHP application to add new Rows in a Table.
9. Write a PHP application to modify the Rows in a Table.
10. Write a PHP application to delete the Rows from a Table.
11. Write a PHP application to fetch the Rows in a Table.
12. Develop an PHP application to make following Operations
    i. Registration of Users.
    ii. Insert the details of the Users.
    iii. Modify the Details.
    iv. Transaction Maintenance.
        a) No of times Logged in
        b) Time Spent on each login.
        c) Restrict the user for three trials only.
        d) Delete the user if he spent more than 100 Hrs of transaction.

Wordpress Lab

1. Installation and configuration of word press.
2. Create a site and add a theme to it.

(With Effect from Academic Year 2020-21)

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SEMESTER – VI PAPER – IX Max. Marks 70 Credits: 3 Pass Marks 28

Syllabus Advanced java Script: JQUERY/AJAX/JSON/ANGULAR JS NO Of Hours:4

Course Objective: To impart knowledge in designing a webpage in a structured way by using advanced java script i.e., using different scripting languages.

COURSE OUTCOMES:

CO1: Understand the concepts Of HTML and JQUERY
CO2: Write program for JQUERY and CSS Methods using DOM Attributes
CO3: Understand the concepts of JQUERY USER INTERFACE Programs
CO4: Understand the concepts of AJAX and JSON Objects
CO5: Basic concepts of ANGULAR JS and ANIMATIONS

UNIT-1:JQuery – Basics: 10 Hrs

String, Numbers, Boolean, Objects, Arrays, Functions, Arguments, Scope, Built-in Functions. jQuerySelectors: CSS Element Selector, CSS Element ID Selector, CSS Element Class Selector, CSS Universal Selector, Multiple Elements E, F, G Selector, Callback Functions. JQuery – DOM Attributes: Get Attribute Value, Set Attribute Value. JQuery – DOM Traversing: Find Elements by index, filtering out Elements, Locating Descendent Elements, and JQuery DOM Traversing Methods.

Unit – II: jQuery – CSS Methods: 10 Hrs

Apply CSS Properties; Apply Multiple CSS Properties, Setting Element Width & Height, and JQuery CSS Methods. JQuery – DOM Manipulation Methods: Content Manipulation, DOM Element Replacement, Removing DOM Elements, Inserting DOM elements, DOM Manipulation Methods. jQuery – Events Handling: Binding event handlers, Removing event handlers, Event Types, The Event Object, The Event Attributes. JQuery – Effects: JQuery Effect Methods, jQuery Hide and Show, jQuery Toggle, jQuery Slide – slideDown, slideUp, slide Toggle, jQuery Fade – fadeIn, fadeOut, fadeTo, jQuery Custom Animations

Unit – III: Intro to jQuery UI 15 Hrs

, Need of jQuery UI in real web sites, Downloading jQuery UI, Importing jQuery UI, Draggable, Droppable, Resizable, Selectable, Sortable, Accordion, Auto Complete, Button Setϖ, Date Picker, Dialog, Menu, Progress Bar, Slider, Spinner, Tabs, Tooltip, Color Animation, Easing Effects, add Class, remove Class, Effects, jQuery UI themes, Customizing jQuery UI widgets / plug-ins, jQuery UI with CDN, Consuming jQuery Plug-ins from 3rd party web sites jQuery Validations, Intro to jQuery validation plug-in, Using jQuery validation plug-in, Regular expressions.

Unit – IV: Intro to AJAX 15 Hrs

Need of AJAX in real web sites, Getting database data using jQueryAJAX, Inserting, Updating, Deleting database data using jQuery-AJAX Grid Development using jQuery-AJAX Intro to JSON JSON syntax, Need of JSON in real web sites, JSON object, JSON array, Complex JSON objects, Reading JSON objects using jQuery.

Unit – V: Intro to AngularJS 15 Hrs

Need of AngularJS in real web sites, Downloading AngularJS, AngularJS first example, AngularJS built-in directives, AngularJS expressions, AngularJS modules, AngularJS controllers, AngularJS scope AngularJS dependency injection AngularJS, bootstrapping AngularJS data bindings, AngularJS $watch, AngularJS filters, AngularJS events, AngularJS AJAX, Ng-repeat, AngularJS with json arrays, AngularJS registration form and login form, AngularJS CRUD operations, AngularJS Animations, AngularJS validationsϖ AngularJS $q, AngularJS custom values, AngularJS custom services, AngularJS custom directives, AngularJS custom providers, AngularJS Routing, AngularUI Routing.

References:

1. jQuery UI 1.8: The User Interface Library for jQuery by Dan Wellman
2. jQuery Fundamentals by Rebecca Murphey 3. Ajax: The Complete Reference by Thomas A. Powell

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SEMESTER – VI **PAPER – IX** **Max. Marks 70**

Model PaperAdvanced java Script: JQUERY/AJAX/JSON/ANGULAR JS

NO Of Hours:3 **No Of Credits: 3** **Pass Marks 28**

Section- A

Answer **Four** Questions. Each Question carries **FIVE** Marks. **4*5=20M**

1. What is jquery? Write a simple program to display welcome message?
2. Write a jquery-dom attributes?
3. Write a program for jquery fade in, fade out?
4. Discuss in detail about jquery UI categorization?
5. Write a need of AJAX in real websites?
6. Write a short notes angularJS built-in directives?

Section- B

Answer **FIVE** Questions. Each Question carries **TEN** Marks **5*10=50M**

7. Explain in detail about DOM traversing methods?
8. Write about CSS Selectors with examples programs?
9. Write about JQUERY Effects methods with examples programs?
10. Explain detail about jquery-dom manipulation methods?
11. Write a program for droppable, resizable, Draggable using jquery UI?
12. Write about JQUERY Validation Plug-In methods with example programs?
13. How can we manipulate the data in a database using jquery-AJAX?
14. What is angular JS? Need of angular JS in real websites &write any example program?

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SEMESTER – VI PAPER – IX Max. Marks 70 Pass Marks 28

Guidelines for paper setting'**Advanced java Script: JQUERY/AJAX/JSON/ANGULAR JS'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (Essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us.

COMPUTER SCIENCE	CSC-603CE	2020-'21	B.Sc.(MPCs. , MCCs.)

SEMESTER – VI **PAPER – IX** **Max. Marks 50**

Lab ListAdvanced java Script: JQUERY/AJAX/JSON/ANGULAR JS **Pass Marks 20**
No. of Hours per week: 3 **External: 25** **Internal: 25**

Credits: 2

1. Using jQuery find all text areas, and makes a border. Then adds all paragraphs to the jQuery object to set their borders red.
2. Using jQuery add the class "w3r_font_color" and w3r_background to the last paragraph element.
3. Using jQuery add a new class to an element that already has a class.
4. Using jQuery insert some HTML after all paragraphs.
5. Using jQuery insert a DOM element after all paragraphs.
6. Convert three headers and content panels into an accordion. Initialize the accordion
   And specify the animate option
7. Convert three headers and content panels into an accordion. Initialize the accordion and specify the height.
8. Create a pre-populated list of values and delay in milliseconds between a keystroke occurs and a search is performed.
9. Initialize the button and specify the disable option.
10. Initialize the button and specify an icon on the button.
11. Initialize the button and do not show the label.
12. Create a simple jQuery UI Datepicker. Now pick a date and store it in a textbox.
13. Initialize the date picker and specify a text to display for the week of the year column heading.

COMPUTER SCIENCE	CSC PROJ-602 P	2020-'21	B.Sc.(MPCs. , MCCs.)

SEMESTER – VI **PROJECT (Java, PHP & MYSQL)** **Max. Marks 100**

OBJECTIVE

The objective of the Project Course is to help the students to study, analyze and design software or utility for different problems or applications. This will improve the skills of software development of the students.

COURSE OUTCOMES:

CO1: Students will get fundamental knowledge to work in emerging/latest technologies.

CO2: They will also learn about theoretical and practical tools/techniques to solve real life problems related to industry, academic institutions and research laboratories.
CO3: Able to know the details of modules and process logic.
CO4: Able to know the details of Testing and Implementation.
CO5: Able to use no. of tools/platforms, Languages.

MARKS FOR PROJECT EVALUATION

The project course will be evaluated for **100** Marks, of which **75** marks are meant for the practical evaluation of a project and **25** marks are allotted for attending viva-voce examination. The passing minimum in the project work will be 50% of the total mark. i.e. the student should get minimum 50% marks in the project evaluation and the viva-voce examination. Thus, the minimum mark the student is required to obtain is 50 out of 100 marks.

COMPUTER SCIENCE	CCSC-605CE	2020-21	B.Com (C.A)

SEMESTER –VI **PAPER – IX** **Total: 60 Hrs**

Syllabus **TALLY** **Max.Marks:70**

Credits 3 **NO Of Hours 5** **Pass Marks 28**

COURSE OUTCOMES:

CO1: Able to understand the basic concepts of TALLY
CO2: Able to understand the installation of TALLY Software.
CO3: Able to implement the concepts of ledgers
CO4: Able to implement the concepts of vouchers
CO5:Able to implement the basic concepts of final accounts.

Unit-I: Introduction to Tally: **12Hrs**

Introduction, Software versions of Tally, Terminology related to Accounts credit & Debit, Journal, Ledger, Voucher, Group etc. Difference between Manual Accounting and Accounting Packages. Features and advantages of Tally.

Unit-II: Introduction of Tally Software **12Hrs**

Introduction of Tally Software Creation of a company, Gateway of Tally, Accounts Information, Groups, pre defined Groups, Creation of New Groups, and Creation of sub Group.

Unit-III: Ledgers **12Hrs**

Ledger Creation Single and multiple Ledgers, Displaying & altering Ledgers, configure Ledger, Stock Ledger, Ledgers and their Group Allocation.

Unit-IV: Vouchers **12Hrs**

Types of vouchers – recording of vouchers – entry of payment voucher, Receipt voucher, sales voucher, purchase voucher, Journal Voucher, Contra Voucher, Debit & Credit Note. Creating New Voucher types, customizing the Existing voucher types, Alternation of Voucher, Deletion of Voucher.

Unit-V: Final Accounts **12Hrs**

Customizing the final accounts – Profit and Loss Account, Balance Sheet. Key board shortcuts in Tally. Generating the Reports from Tally, Trial Balance, Account Books, Sales, Purchase, Journal Registers, Statement of Accounts, Day Book, List of Accounts.

Reference Books:

1. K. Kiran Kumar, Tally ERP9.
2. Tally 9 In Simple Steps, Kogent solutions Inc., John Wiley & Sons, 2008.
3. Narmata Agarwal, Financial Accounting on Computers Using Tally, Dramatic Press, 2000.
4. Tally 9.0, Google eBook, Computer World.
5. Vikas Gupta, Comdex Computer and Financial Accounting with Tally 9.0, 2007.

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COMPUTER SCIENCE	CCSC-605CE	2020-21	B.Com (C.A)

SEMESTER –VI **PAPER – IX** **Total: 60 Hrs**

Model Paper TALLY **Max.Marks:70**

Credits 3 **NO Of Hours 5** **Pass Marks 28**

Answer **Four** Questions. Each Question carries **FIVE** Marks. **4x5=20M**

1. Differentiate between Manual Accounting and Accounting Packages?
2. What are the features of Tally?
3. How to create a new group in Tally
4. Explain how to create a stock ledger?
5. Explain contra Voucher
6. Write a short note on Day Book

Section- B

Answer **FIVE**Questions. Each Question carries **TEN** Marks **5 X 10=50M**

7. Explain evolution of Tally and what are the features and advantages of Tally
8. Explain versions of Tally software
9. Explain about Gateway of Tally
10. Explain about Group and predefined Groups
11. Explain ledger creation
12. How to create a single and multiple ledgers
13. Explain different types of vouchers?
14. Explain how to generate the reports from Tally?

(With Effect From Academic Year 2020-'21)

COMPUTER SCIENCE	CCSC-605CE	2020-21	B.Com (C.A)

SEMESTER –VI **PAPER – IX** **Max. Marks 70** **Pass Marks 28**

Guidelines for paper setting **'TALLY'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

COMPUTER SCIENCE	CCSC-605P	2020-21	B.Com.(C.A.)

SEMESTER – VI **PAPER – V** **Max. Marks: 50**
Pass Mark: 20

TALLY

No. Of Hours per week: 3 **External: 25** **Internal: 25** **Credits: 2**

Lab list

1. Architecture and customization of Tally
2. Configuration of Tally
3. Tally Screens and Menus
4. Creation of new company and groups.
5. Preparation of voucher entries.
    a. Payment voucher creation
    b. Receipt voucher creation
    c. Sales voucher creation
    d. Purchase voucher creation
    e. Contra voucher creation
    f. Journal voucher creation
6. Ledger Creation.
7. Preparation of VAT
8. Preparation of TDS
7. Preparation of Trail balance
8. Preparation of Profit and loss statement.
9. Preparation of Balance Sheet
10. Preparation of Bank Reconciliation Statement.
11. Example Exercise

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COMPUTER SCIENCE	CCSC-606CE	2020-21	B.Com (C.A)

SEMESTER –VI **PAPER – X** **Total: 60 Hrs**

Syllabus **E-COMMERCE** **Max.Marks:70**

Credits 3 **NO Of Hours 5** **Pass Marks 28**

COURSE OUTCOMES:

CO1: Students would be able to analyse the concept of business models and standards.
CO2: Students would be able to understand the electronic market and market place.
CO3: Students would be able to understand the Hardware and Software of Server**.**
CO4: Students would be able to understand the legal and security issues.
CO5: Able to differentiate different online payment methodologies.

Unit-I: **Introduction to E-Commerce** **12Hrs**

Scope, Definition, e-Commerce and the Trade Cycle, Electronic Markets, Electronic Data Interchange, Internet Commerce. Business Strategy in an Electronic Age: Supply Chains, Porter's Value Chain Model, Inter Organizational Value Chains, Competitive Strategy, First Mover Advantage – Sustainable Competitive Advantage, Competitive Advantage using E-Commerce – Business Strategy.

Unit-II:Business-to-Business Electronic Commerce12Hrs

Characteristics of B2B EC, Models of B2B EC, Procurement Management by using the Buyer's Internal Market place, Just in Time Delivery, Other B2B Models, Auctions and Services from traditional to Internet Based EDI, Integration with Back-end Information System, Role of Software Agents for B2B EC, Electronic marketing in B2B, Solutions of B2B EC, Managerial Issues, Electronic Data Interchange (EDI), EDI: Nuts and Bolts EDI and Business.

Unit-III: Internet and Extranet **12Hrs**

Automotive Network Exchange, Largest Extranet, Architecture of the Internet, Intranet and Extranet, Intranet software, Applications of Intranets, intranet Application Case Studies, Considerations in Intranet Deployment, Extranets, Structures of Extranets, Extranet products and services, Applications of Extranets, Business Models of Extranet Applications, Managerial Issues. Electronic Payment Systems: Issues and Challenges.

Unit-IV:Public Policy: **12Hrs**

From Legal Issues to Privacy : Legal Incidents, Ethical and Other public Policy Issues, Protecting Privacy, Protecting Intellectual Property, Free speech, Internet Indecency and Censorship, Taxation and Encryption Policies, Other Legal Issues: Contracts, Gambling and More, Consumer and Seller Protection in EC.

Unit-V:Infrastructure For EC **12Hrs**

Network of Networks, Internet Protocols, Web- Based client/Server, Internet Security, Selling on the Web, Chatting on the Web, Multimedia delivery, Analyzing Web Visits, Managerial Issues, Equipment required for establishing EC Sites – problems in Operation – Future of EC.

Reference Books

1. David Whiteley, "E-Commerce", Tata McGraw Hill, 2000.
2. E Business by Parag Kulakarni and Sunitha Jahirabadkar from Oxford University Press.
3. E Business by Jonathan Reynolds from Oxford University Press.
4. Eframi Turban, Jae Lee, David King, K. Michael Chung, "Electronic Commerce",
5. Pearson Education, 2000.

SEMESTER –VI **PAPER – X** **Total: 60 Hrs**
Syllabus **E-COMMERCE** **Max.Marks:70**
Credits 3 **NO Of Hours5** **Pass Marks 30**

Section-A

Answer **Four** Questions. Each Question carries **FIVE** Marks. **4*5=20M**

1. Explain Electronic data interchange?
2. Write about Value Chain Model
3. What are the characteristics of B2B Electronic Commerce
4. Write about applications of Intranet?
5. Explain encryption policies?
6. Write about Internet protocols?

Section-B

Answer **FIVE** Questions. Each Question carries **TEN** Marks. **5*10=50M**

7. What are the advantages and limitations of E-commerce?
8. Write Business Strategy in an Electronic age
9. Explain Electronic Data Interchange(EDI)
10. Explain different Models of B2B Electronic Commerce?
11. Explain the Architecture of Internet?
12. Explain Business Models of Extranet Applications?
13. Explain Ethical and Other public Policy Issues?
14. Explain about the future of EC

SEMESTER –VI **PAPER – X** **Max. Marks 70** **Pass Marks 28**

Guidelines for paper setting **'E-COMMERCE'**

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

SEMESTER –VI **PAPER – XI**

Syllabus **PHP& MY SQL** **Max.Marks:70**

Credits 3 **NO Of Hours 5** **Pass Marks 28**

COURSE OUTCOMES:

CO1: Understand the concepts Of PHP and PHP Basic Building Blocks.
CO2: Able to know the basic concepts Arrays and it's Working.
CO3: Understand the concepts of FORMS and working with FORMS.
CO4: Understand the concepts of FILES and DIRECTORIES.
CO5: Able to know how the interaction between MY SQL using PHP.

Unit-I: Building blocks of PHP:

Variables, Data Types, Operators and Expressions, Constants. Flow Control Functions in PHP: Switching Flow, Loops, Code Blocks and Browser Output. Working with Functions: Defining Functions, Calling functions, returning the values from User Defined Functions, Variable Scope, Saving State between Function calls with the Static statement, more about arguments.

Unit-II: Working with Arrays:

Arrays, Creating Arrays, Some Array-Related Functions. Working with Objects: Creating Objects, Object Instance. Working with Strings, Dates and Time: Formatting Strings with PHP, Investigating Strings with PHP, Manipulating Strings with PHP, Using Date and Time Functions in PHP.

Unit-III: Working with Forms:

Creating Forms, Accessing Form – Input with User defined Arrays, Combining HTML and PHP code on a single Page, Using Hidden Fields to save state, Redirecting the user, Sending Mail on Form Submission, Working with File Uploads. Working with Cookies and User Sessions: Introducing Cookies, Setting a Cookie with PHP, Session Function Overview, Starting a Session, Working with session variables, passing session Ids in the Query String, Destroying Sessions and Unsettling Variables, Using Sessions in an Environment with Registered Users.

Unit-IV: Working with Files and Directories:

Including Files with include(), Validating Files, Creating and Deleting Files, Opening a File for Writing, Reading or Appending, Reading from Files, Writing or Appending to a File, Working with Directories, Open Pipes to and from Process Using popen (), Running Commands with exec(), Running Commands with system ( ) or passthru ( ). Working with Images: Understanding the Image-Creation Process, Necessary Modifications to PHP, Drawing a New Image, Getting Fancy with Pie Charts, Modifying Existing Images, Image Creation from User Input.

Unit-V:Interacting with MySQL using PHP:

MySQL Versus MySQL Functions, Connecting to MySQL with PHP, Working with MySQL Data. Creating an Online Address Book: Planning and Creating Database Tables, Creating Menu, Creating Record Addition Mechanism, Viewing Records, Creating the Record Deletion Mechanism, Adding Sub-entities to a Record.

References:

1. Julie C. Meloni, PHP MySQL and Apache, SAMS Teach You, Pearson Education (2007).
2. Xue Bai Michael Ekedahl, the Web Warrior Guide to Web Programming, Thomson (2006).

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(With Effect from Academic Year 2017-2018)

COMPUTER SCIENCE	**CCSC-607CE**	**2019-20**	**B.Com (C.A)**

SEMESTER –VI **PAPER – XI** **Total: 60 Hrs**

Syllabus **PHP & MYSQL** **Max.Marks:70**

Credits 3 **NO Of Hours 5** **Pass Marks 28**

Section-A

Answer **Four** Questions. Each Question carries **FIVE** Marks. **4*5=20M**

1. Explain about different data types available in PHP?
2. Define function? Explain how to call the function?
3. Explain about date and time functions?
4. Write about Session Function?
5. Explain about Reading from files?
6. Describe how to create the Record Addition Mechanism?

Section-B

Answer **FIVE** Questions. Each Question carries **TEN** Marks. **5*10=50M**

7. Explain different types of Operators in PHP?
8. Explain flow control functions in PHP?
9. What is an Array? Explain about array related functions.
10. Explain different string functions in PHP?
11. Explain about how to create and access a form in PHP?
12. Describe the working with session variables?
13. Explain working with Directories?
14. Explain about how to insert and retrieve the data in PHP?

Guidelines for paper setting **'PHP & MYSQL'**

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

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COMPUTER SCIENCE	**CCSC-607CE**	**2020-21**	**B.Com (C.A)**

SEMESTER –VI **PAPER – XI** **Total: 60 Hrs**

Lab List PHP, MySQL **Pass Marks 20**
No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

MySQL Lab Cycle

Cycle -1
An Enterprise wishes to maintain the details about his suppliers and other corresponding details. For that he uses the following details.
Suppliers (sid: Integer, sname: string, address: string)
Parts (pid: Integer, pname: string, color: string)
Catalog (sid: integer, pid: integer, cost: real)

The catalog relation lists the prices charged for parts by suppliers.

Write the following queries in SQL:

1. Find the pnames of parts for which there is some supplier.
2. Find the snames of suppliers who supply every part.
3. Find the snames of supplier who supply every red part.
4. Find the pnames of parts supplied by London Supplier abd by no one else.
5. Find the sid's of suppliers who charge more for some part than the average cost of that part.
6. For each part, find the sname of the supplier who charges the most for that part.
7. Find the sid's of suppliers who supply only red parts.
8. Find the sid's of suppliers who supply a red and a green part.
9. Find the sid's of suppliers who supply a red or green part.
10. Find the total amount has to pay for that suppler by part located from London.

Cycle – 2

An organisation wishes to maintain the status about the working hours made by his employees. For that he uses the following tables.

Emp (eid: integer, ename: string, age: integer, salary: real)
Works (eid: integer, did: integer, pct_time: integer)
Dept (did: integer, budget: real, managerid: integer)
An employee can work in more than one department; the pct_time field of the works relation shows the percentage of time that a given employee works in a given department.

Resolve the following queries.

1. Print the names and ages of each employee who works in both Hardware and Software departments.
2. For each department with more than 20 full time equivalent employees (i.e., where the part-time and full-time employees add up to at least that many full-time employees), print the did's together with the number of employees that work in that department.
3. Print the name of each employee whose salary exceeds the budget of all of the departments that he or she work in.
4. Find the managerid's of managers who manage only departments with budgets greater than 1,000,000.
5. Find the enames of managers who manage the departments with largest budget.
6. If a manager manages more than one department, he or she controls the sum of all the budgets for those departments. Find the managerid's of managers who control more than 5,000,000.
7. Find the managerid's of managers who control the highest amount.
8. Find the average manager salary.

PHP Lab Cycle

1. Write a PHP program to Display "Hello"
2. Write a PHP Program to display the today's date.
3. Write a PHP Program to read the employee details.
4. Write a PHP program to prepare the student marks list.
5. Write a PHP program to generate the multiplication of two matrices.
6. Write a PHP Application to perform demonstrate the college website.
7. Write a PHP application to add new Rows in a Table.
8. Write a PHP application to modify the Rows in a Table.
9. Write a PHP application to delete the Rows from a Table.
10. Write a PHP application to fetch the Rows in a Table.
11. Develop an PHP application to make following Operations
    i. Registration of Users.
    ii. Insert the details of the Users.
    iii. Modify the Details.
    iv. Transaction Maintenance.
        a) No of times Logged in
        b) Time Spent on each login.
        c) Restrict the user for three trials only.
        d) Delete the user if he spent more than 100 Hrs of transaction.

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COMPUTER SCIENCE	**CSC-401C**	**2020-'21**	**B.Sc.(MPCs. , MCCs.)**

SEMESTER – IV PAPER – IV Max. Marks 70 Pass Marks 28 Totals Hrs 60

SyllabusDATA STRUCTURES NO of Hours: 4 Credits: 3

COURSE OUTCOMES:

CO1: To Understand the Basic concepts of data structures and storage structures and file structures.
CO2: Implement operations on linear lists, Stacks, Queues and their applications.
CO3: Implement various sorting and searching techniques and to understand advantages.
CO4: To understand Trees concepts and implementations.
CO5: To understand Graphs concepts and implementations.

UNIT I **15 Hrs**

Concept of Abstract Data Types (ADTs)- Data Types, Data Structures, Storage Structures, and File Structures, Primitive and Non-primitive Data Structures, Linear and Non-linear Structures. **Linear Lists** - ADT, Array and Linked representations, Pointers.

Arrays - ADT, Mappings, Representations, Sparse Matrices, Sets - ADT, Operations Linked Lists: Single Linked List, Double Linked List, Circular Linked List, applications

UNIT II **10 Hrs**

Stacks: Definition, ADT, Array and Linked representations, Implementations and Applications

Queues: Definition, ADT, Array and Linked representations, Circular Queues, De-queues, Priority Queues, Implementations and Applications.

UNIT III **15 Hrs**

Trees: Binary Tree, Definition, Properties, ADT, Array and Linked representations, Implementations and Applications. Binary Search Trees (BST) - Definition, ADT, Operations and Implementations, BST Applications. Threaded Binary Trees, Heap trees

UNIT IV **10Hrs**

Graphs – Graph and its Representation, Graph Traversals, Connected Components, Basic Searching Techniques, Minimal Spanning Trees

UNIT- V **10 Hrs**

Sorting and Searching: Selection, Insertion, Bubble, Merge, Quick, Heap sort, Sequential And Binary Searching.

TEXT BOOKS

1. Hubbard John R. and Hurray Anita, Data Structures with Java Paperback Prentice-Hall 2005 ISBN-10: 8120327454
2. Samanta D, Classic Data Structures, Prentice-Hall of India, 2001.
3. David Cousins, Introducing Data Structures with Java Kindle Edition, Pearson Education; First edition, 2011, ISBN-10: 8131758648, 464 pages

REFERENCE BOOKS

1. Sahani S, Data Structures, Algorithms and Applications in C++, McGraw-Hill, 2002
2. D S Malik, Data Structures Using C++, Thomson, India Edition 2006
3. Tremblay P, and Sorenson P G, Introduction to Data Structures with Applications, Tata McGraw-Hill,

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COMPUTER SCIENCE	**CSC-401C**	**2020-'21**	**B.Sc.(MPCs., MCCs.)**

SEMESTER – IV PAPER – IV Max. Marks 70 Pass Marks 28 Totals Hrs 60

Model PaperDATA STRUCTURES NO Of Hours: 4 Credits: 3

Section- A

Answer FOUR Questions. Each Question carries FIVE Marks. 4*5=20M

1. Explain about Primitive & Non primitive Data Structures?
2. Explain about Single Linked List?
3. Write about Applications of Stack?
4. Write a Short note on Binary tree?
5. What is Graph? How to represent the Graph
6. Write a program to sort the elements in bubble sort?

Section- B

Answer FIVE Questions. Each Question carries TEN Marks **5*10=50M**

7. Explain Linked representation with array? With an Example?
8. Explain Sparse Matrix?
9. Explain stack operations?
10. What is a Queue? Explain Queue implementation?
11. Explain Tree traversing methods?
12. Explain Binary search tree?
13. Explain about BFS and DFS?
14. Explain about sequential and binary searching?

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COMPUTER SCIENCE	**CSC-401C**	**2020-'21**	**B.Sc.(MPCs., MCCs.)**

SEMESTER – IV **PAPER – IV** **Max. Marks 70**

Guidelines for paper setting '**DATA STRUCTURES'**

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	2
Unit-4	1	1
Unit -5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

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COMPUTER SCIENCE	**CSC-401P**	**2020-'21**	**B.Sc.(MPCs., MCCs.)**

SEMESTER – IV PAPER – IV Max. Marks 50 Pass Marks 20 Total Hrs:28

LAB LIST **DATA STRUCTURES**

No. of Hours per week: 2 External: 25 Internal: 25 Credits: 2

1. Write a Program to implement the Linked List operations
2. Write a Program to implement the Stack operations using an array.
3. Write Programs to implement the Queue operations using an array.
4. Write Programs to implement the Stack operations using a singly linked list.
5. Write Programs to implement the Queue operations using a singly linked list.
6. Write a program to search an item in a given list using Linear Search and Binary Search
7. Write a program for Quick Sort
8. Write a program for Merge Sort
9. Write a program for insertion sort
10. Write a program for Bubble Sort.
11. Write a program for Selection Sort.
12. Write a program for Graph traversals

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COMPUTER SCIENCE	**CCSC 403C**	**2020-'21**	**B.Com.(C.A.)**

SEMESTER – IV **PAPER – IV** **Max. Marks 70**

Syllabus **PROGMAMMING IN C**

NO Of Hours: 5No Of Credits: 3 **Pass Marks 28**

COURSE OUTCOMES:

CO1: Analyze a given problem and develop an algorithm to solve the problem

CO2: Understand the C tokens and control structures.

CO3: Understand to handle arrays and strings

CO4: Use the 'C' language constructs in the right way using pointers, structures and unions

CO5: Design, develop and test programs written in 'C' files.

.**Unit- I: Introduction to Algorithms and Programming Languages: 12 Hrs**

Algorithm – Key features of Algorithms – Some more Algorithms – Flow Charts. Introduction to C: Structure of C Program – Writing the first C Program – Compiling and Executing C Programs Using Comments – Keywords – Identifiers – Basic Data Types in C – Variables Constants – I/O Statements in C- Operators in C- Programming Examples – Type Conversion and Type Casting

Unit-II: Decision Control and Looping Statements 12 Hrs

Introduction to Decision Control Statements – Conditional Branching Statements – Iterative Statements – Nested Loops – Break and Continue Statement – Go to Statement

Unit- III: Functions 12 Hrs

Introduction – using functions – Function declaration/ prototype – Function definition – function call – return statement – Passing parameters – Scope of variables – Storage Classes – Recursive function

Unit- IV: Arrays 12 Hrs

Introduction – Declaration of Arrays – Accessing elements of the Array – Storing Values in Array Calculating the length of the Array – Operations on Array – one dimensional array for inter-function communication – Two dimensional Arrays –Operations on Two Dimensional Arrays

Strings: Introduction String and Character functions

Unit-V: Pointers: 12 Hrs

Understanding Computer Memory – Introduction to Pointers – declaring Pointer Variables Passing Arguments to Functions using Pointer.

Structure, Union, and Enumerated Data Types: Introduction – Nested Structures – Unions – Enumerated Data Types.

Reference Books:

1. Reema Thareja, Introduction to C programming, Oxford University Press.
2. E Balagurusamy, Computing Fundamentals & C Programming – Tata McGraw-Hill, 2008.
3. Ashok N Kamthane, Programming with ANSI and Turbo C, Pearson Publisher, 2002.
4. Henry Mulish & Hubert L.Coo Reema Thareja: The Spirit of C: An Introduction to Modern Programming, Jaico Publishing House, 1996.

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COMPUTER SCIENCE	**CCSC 403C**	**2020-'21**	**B.Com.(C.A.)**

SEMESTER – IV PAPER – IV Max. Marks 70

Model Paper PROGMAMMING IN C Pass Marks: 28

Section- A

Answer **FOUR** Questions. Each Question carries **FIVE** Marks. **4*5=20M**

1. Write a short note on Algorithm?

2. Explain data types in C?
3. Write a short note on 'if'- statements?
4. Describe recursive function with an example?
5. Explain one dimensional array with example?
6. Write about pointers

Section- B

Answer **FIVE** Questions. Each Question carries **TEN** Marks **5*10=50M**

7. Explain different types of programming languages?
8. Explain about different Categories of Operators in 'C'?
9. Explain Decision Making Looping statements with examples?
10. Explain different categories of functions?
11. Explain about Storage Classes?
12. Write about two dimension arrays? Give an example program?
13. Explain briefly about String function in 'C'?
14. Difference between Structures and Unions?

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COMPUTER SCIENCE	**CCSC 403C**	**2020-'21**	**B.Com.(C.A.)**

SEMESTER –I V **PAPER – V** **Max. Marks 70** **Pass Marks: 28**

Guidelines for paper setting 'PROGMAMMING IN C'

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2

Unit-2	1	2
Unit-3	1	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

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COMPUTER SCIENCE	**CCSC-403P**	**2020-'21**	**B.Com.(C.A.)**

SEMESTER – IV PAPER – IV Max. Marks 50 Pass Marks 20

LABLISTPROGRAMMING IN C

No. of Hours per week: 2 External: 25 Internal: 25 Credits: 2

1. Find out the given number is perfect number or not using c program.
2. Write a C program to check whether the given number is Armstrong or not.
3. Write a program to find roots of quadratic equation.

Root 1 = (-b + sqrt (b^2 - 4ac) / 2a Root 2 = (-b - sqrt (b^2 - 4ac) / 2a

4. Write a C program to find the sum of individual digits of a positive integer.
5. Write a C program to print the Fibonacci series
6. Write a C program to generate the first n terms of the Fibonacci sequence.
7. Write a program to find factorial of a given number using recursion
8. Write a program to perform all arithmetic operations using switch case
9. Write a C program to generate all the prime numbers between 1 and n, where n is a Value supplied by the user.
10. Write a C program to find both the largest and smallest number in a list of integers.
11. Write a C program that uses functions to perform the following:
    a. Addition of Two Matrices
    b. Multiplication of Two Matrices
12. Write a program to perform various string operations
13. Write a program to swap two numbers using pointers.
14. Write C program that implements searching of given item in a given list
15. Write a C program to sort a given list of integers in ascending order

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COMPUTER SCIENCE	**CSC-201C**	**2020-'21**	**B.Sc.(MPCs. , MCCs.)**

SEMESTER – II PAPER – II Max. Marks 70 Pass Marks 28 Total Hrs: 60

SyllabusDATA STRUCTURES USING C NO. Of. Hours: 4Credits:3

Course Objectives

To introduce the fundamental concept of data structures and to emphasize the importance of various data structures in developing and implementing efficient algorithms.

COURSE OUTCOMES:

CO1: Understand available Data Structures for data storage and processing.
CO2: Comprehend Data Structure and their real-time applications - Stack, Queue, Linked List, Trees & Graph
CO3: Choose a suitable Data Structures for an application

CO4: Develop ability to implement different Sorting and Search methods
CO5: Have knowledge on Data Structures basic operations like insert, delete, search, update and traversal
CO6: Design and develop programs using various data structures
CO7: Implement the applications of algorithms for sorting, pattern matching etc

UNIT – I: **10Hrs**

Introduction to Data Structures: Introduction to the Theory of Data Structures, Data Representation, Abstract Data Types, Data Types, Primitive Data Types, Data Structure and Structured Type, Program Design, Algorithms, Different Approaches to Designing an Algorithm, Complexity, Big 'O' Notation, Algorithm Analysis.

Arrays: Introduction to Linear and Non- Linear Data Structures, One- Dimensional Arrays, Array Operations, Two- Dimensional arrays, Multidimensional Arrays, Pointers and Arrays, an Overview of Pointers

UNIT – II: **10Hrs**

Linked Lists: Introduction to Lists and Linked Lists, Dynamic Memory Allocation, Basic Linked List Operations, Doubly Linked List, Circular Linked List.

Stacks: Introduction to Stacks, Stack as an Abstract Data Type, Representation of Stacks through Arrays, Representation of Stacks through Linked Lists, Applications of Stacks, Stacks and Recursion

Queues: Introduction, Queue as an Abstract data Type, Representation of Queues, Circular Queues, Double Ended Queues- Deques, Priority Queues, Application of Queues

UNIT – III: **10Hrs**

Binary Trees: Introduction Non- Linear Data Structures, Introduction Binary Trees, Types of Trees, Basic Definition of Binary Trees, Properties of Binary Trees, Representation of Binary Trees, Operations on a Binary Search Tree, Binary Tree Traversal, Counting Number of Binary Trees, Applications of Binary Tree

UNIT – IV: **10Hrs**

Graphs: Introduction, Terms Associated with Graphs, Sequential Representation of Graphs, Linked Representation of Graphs, Traversal of Graphs, Spanning Trees, Shortest Path, Application of Graphs.

UNIT – V: **10Hrs**

Searching and sorting: An Introduction, Bubble Sort, Insertion Sort, Merge Sort, Searching – An Introduction, Linear or Sequential Search, Binary Search, Indexed Sequential Search

UNIT – VI: **10Hrs**

Term Papers: Introduction, Latest Topics for Pursuing Research in Technology and Computer Science, Literature survey.

Note: Unit VI only for Internal Assessment

BOOKS:

1. "Data Structures using C", ISRD group Second Edition, TMH
2. "Data Structures through C", Yashavant Kanetkar, BPB Publications
3. "Data Structures Using C" Balagurusamy E. TMH

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SEMESTER – II PAPER – II Max. Marks 70 Pass Marks 28

Model PaperDATA STRUCTURES USING C NO. Of. Hours: 4Credits:3

Section- A

Answer FOUR Questions. Each Question carries FIVE Marks. **4*5=20M**

1. Define an array? Write about its operations.
2. Explain about Dynamic Memory Allocation.

3. Write about applications of Stack?
4. What is Binary Tree? What are the applications of Binary Tree?
5. Describes minimum spanning trees?
6. Describes bubble Sort with example?

Section- B

Answer <u>FIVE</u> Questions. Each Question carries TEN Marks 5*10=50M

7. Explain about ADT and Primitive data types?
8. Write about two dimension arrays? Give an example
9. Explain about Double linked Lists?
10. What is Queue? How to Represent a Queue
11. Explain about Binary Tree Traversal methods?
12. Explain about binary search trees?
13. Explain about Graphs Traversal?
14. Explain about Linear search & Binary search

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COMPUTER SCIENCE	**CSC-201C**	**2020-'21**	**B.Sc.(MPCs. , MCCs.)**

SEMESTER – II PAPER – II Max. Marks 70 Pass Marks 28

Guidelines for paper setting '**DATA STRUCTURES USING C'**

<u>Unit wise weightage of Marks</u>

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	1	2
Unit-2	2	2

Unit-3	1	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

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COMPUTER SCIENCE	**CSC-201C**	**2020-21**	**B.Sc.(MPCs. , MCCs.)**

SEMESTER –II **PAPER – II** **Total: 60 Hrs**
Lab List **DATA STRUCTURES USING C'** **Pass Marks 20**

No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits:**

2DATA STRUCTURES USING C LAB CYCLE

1. Write a program to read 'N' numbers of elements into an array and also perform the following operation on an array
   a. Add an element at the begging of an array
   b. Insert an element at given index of array
   c. Update a element using a values and index

d. Delete an existing element

2. Write a program using stacks to convert a given
   a. postfix expression to prefix
   b. prefix expression to postfix
   c. infix expression to postfix
3. Write Programs to implement the Stack operations using an array

4. Write Programs to implement the Stack operations using Liked List.

5. Write Programs to implement the Queue operations using an array.

6. Write Programs to implement the Queue operations using Liked List.

7. Write a program for arithmetic expression evaluation.

8. Write a program for Binary Search Tree Traversals

9. Write a program to implement dequeue using a doubly linked list.

10. Write a program to search an item in a given list using the following Searching Algorithms

   a. Linear Search
   b. Binary Search.
11. Write a program for implementation of the following Sorting Algorithms

   a. Bubble Sort
   b. Insertion Sort
   c. Quick Sort
12. Write a program for polynomial addition using single linked list

13. Write a program to find out shortest path between given Source Node and Destination Node in a given graph using Dijkstrar's algorithm.

14. Write a program to implement Depth First Search graph traversals algorithm

15. Write a program to implement Breadth First Search graph traversals algorithm.

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COMPUTER SCIENCE	**CCSC-203C**	**2020-'21**	**B.Com.(C.A)**

SEMESTER –II PAPER – II Max. Marks 70 Pass Marks 28 Totals Hrs 60

Syllabus E-COMMERCE & WEB DESIGNING NO. Of. Hours: 4Credits:3

CO1: Students would be able to analyse the concept of business models and standards.
CO2: Students would be able to understand the electronic market and market place.
CO3: Students would be able to understand the Hardware and Software of Server**.**
CO4: Understand the basic structure of a HTML design and develop a website using different text Formatting tags, images, links, lists and tables.
CO5: Understand to style a webpage using CSS.

Unit I: Introduction: **10Hr's**

Introduction to Internet: Internet Terminology History of the Internet Advantages& disadvantages of Internet how internet works

Electronic Commerce: Definition, types, advantages and disadvantages, E-Commerce transaction on World Wide Web. Electronic Market-Online shopping, three models of ElectronicMarket–E–Business.

Unit-II: E-payment System **10Hr's**

Models and methods of e-payments (Debit Card, Credit Card, Smart Cards, emoney) Digital Signatures (Procedure, Working and Legal Position), Payment Gateways, Online Banking (Meaning, Concepts, Importance), Risks Involved in e-payments.

Unit-III: On-line Business Transactions: **10Hr's**

Meaning,Purpose,AdvantagesandDisadvantagesofTransactingOnline, E-Commerce Applications in Various Industries Like (Banking, Insurance, Payment of Bills), Benefits, ProblemsandFeatures,OnlineServices(Financial,TravelandCareer),OnlineLearning,Online Shopping (Amazon, Flipkart,etc.)

Unit-IV: Website Designing **10Hr's**

Introduction to HTML: Basic HTML, HTML document structure HTML tags Base font tag titletagbodytagHorizontalRuleTag-TextformattingtagsCharactertags.**HTMLLists:**OrderedList,UnorderedList&DefinitionListUsingcolors UsingImages

Unit V: Website Designing: Hyperlinks: **10Hr's**

Textual links, Graphical links, And types of document links, anchor tag, Image Tag **HTML Tables** tablecreationstags,NestedTables,**Frames:**Frameintroduction-framecreationtagsNested Frames, Forms.

Unit VI: Ms Excel: **10Hr's**

Overview of Excel features – Creating a new worksheet, Selecting cells, Entering and editing Text, Numbers, Formulae, Referencing cells – Inserting Rows/Columns – Changing column widths and row heights, auto format, changing font sizes, colors, shading and attributes – Data Sorting and Filters – Functions – Functions requiring Addins, Functions by category Creating different types of Charts

Note: Unit VI only for Internal Assessment

References: 1.E–commerceandE–Business,Himalayapublishers
2. E-Commerce by Kenneth C Laudon, PEARSONINDIA
3. WebDesign:IntroductorywithMind TapJenniferTCampbell,CengageIndia
4.Html & Web Design:Tips& Techniques Jamsa, Kris, McgrawHill
5. FundamentalsOfWebDevelopmentbyRandyConnolly,RicardoHoar,
6.HTML & CSS: COMPLETE REFERENCE POWELL, THOMAS, McGraw-Hill.

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.

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(With Effect from Academic Year 2020-'21)

COMPUTER SCIENCE	**CCSC-203C**	**2020-'21**	**B.Com.(C.A)**

SEMESTER –II PAPER – II Max. Marks 70 Pass Marks 28 Totals Hrs 60

MODEL PAPER:**E-COMMERCE & WEB DESIGNING** **NO. Of. Hours: 4Credits:3**

Time:3Hours **Max. Marks:70**

SECTION-A

Answer any Four of thefollowingQuestions: **4 x 5= 20Marks**

1. Define Internet. Write disadvantages ofInternet
2. Define e-paymentsystem

3. Write the purpose of online businesstransaction
4. Briefly explain HTML documentstructure
5. Define Formatting tags?
6. Write about Image tag?

SECTION - B

Answer any FIVE of thefollowingQuestions **5 *10 =50Marks**

7. Explain the working ofInternet?
8. What is e-commerce? Write about the three models ofe-market?
9. Explain about Paymentgateways?
10. Explain the features of online shopping with anexample?
11. Write in detail about text formatting tags inHTML?
12. Write about lists inHTML?
13. Explain different types hyperlinks used in a webpage?
14. Explain about forms inHTML?

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(With Effect from Academic Year 2020-'21)

COMPUTER SCIENCE	CSC-203P	2020-21	B.Com.(C.A.)

SEMESTER – II **PAPER – II** **Max. Marks: 50**
Pass Mark: 20

E-COMMERCE & WEB DESIGNINGLAB

No. Of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

Lab list

E-COMMERCE & WEB DESIGNING Lab List

1. Describe Internet and its features.
2. advantages and disadvantages, E-Commerce
3. Explain about Paymentgateways? E-Commerce

4. Applications in Various Industries
5. Creation of simple web page using formattingtags
6. Creation of listsand Tables.
7. Creation of web page with text tags
8. Creation of tables withattributes
9. Creation ofhyperlinks
10. Creation of hyperlinks and includingimages
11. Creation offorms
12. Creation offrame sets

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(With Effect from Academic Year 2018-'19)

COMPUTER SCIENCE	CCSC-203	2019-'20	B.Com.(C.A)

SEMESTER – II PAPER – II Max. Marks 70

Guidelines for paper setting '**E-COMMERCE & WEB DESIGNING'**

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	1	2
Unit-2	1	1
Unit-3	1	1
Unit-4	1	1

Unit -5	2	2

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.

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(With Effect from Academic Year 2020-'21)

COMPUTER SCIENCE	**ICT-I-201**	**2020-'21**	**B.A, B.Com, B.Sc.**

SEMESTER – IIPAPER – IMax. Marks 50 Pass Marks 20 Total Hrs: 30

Syllabus INFORMATION & COMMUNICATION TECHNOLOGY NO. Of Hrs: **30Credits**: **2**

Objectives:

This course aims at acquainting the students with basic ICT tools which help them in their day to day and life as well as in office and research.

COURSE OUTCOMES: After completion of the course, student will be able to;

CO1. Understand the literature of social networks and their properties.

CO2. Explain which network is suitable for whom.

CO3. Develop skills to use various social networking sites like twitter, flicker, etc.

CO4. Learn few GOI digital initiatives in higher education.

CO5. Apply skills to use online forums, docs, spreadsheets, etc for communication, collaboration and research.

CO6. Get acquainted with internet threats and security mechanisms

Unit-I: Basics of Computers **6 Hrs**

Definition of a Computer - Characteristics and Applications of Computers – Block Diagram of computer, What is Network, Definition, Network Types, Network Topologies, OSI MODEL

UNIT-II: **8 Hrs**

Fundamentals of Internet: What is Internet?, Internet applications, Internet Addressing –Entering a Web Site Address, URL–Components of URL, Searching the Internet, Browser –Types of Browsers, Introduction to Social Networking: Twitter, Tumbler, LinkedIn, Face book, flicker, Skype, yahoo, YouTube, WhatsApp .

UNIT-III: **8 Hrs**

E-mail: Definition of E-mail -Advantages and Disadvantages –User Ids, Passwords, Email Addresses, Domain Names, Mailers, Message Components, Message Composition, Mail Management.

G-Suite: Google drive, Google documents, Google spread sheets, Google Slides and Google forms.

UNIT-IV: **8Hrs**

Overview of Internet security, E-mail threats and secures E-mail, Viruses and antivirus software, Firewalls, Cryptography, Digital signatures, Copyright issues.

What are GOI digital initiatives in higher education? (SWAYAM, SwayamPrabha, National Academic Depository, National Digital Library of India, E-Sodh-Sindhu, Virtual labs, e-acharya, e-Yantra and NPTEL).

Reference Books:

1. In-line/On-line: Fundamentals of the Internet and the World Wide Web, 2/e – by Raymond Green law and Ellen Hepp, Publishers: TMH

2. Internet technology and Web design, ISRD group, TMH.

3. Information Technology – The breaking wave, Dennis P.Curtin, Kim Foley, Kunai Sen and Cathleen Morin, TMH.

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(With Effect from Academic Year 2020-‘21)

COMPUTER SCIENCE	**ICT-I-201C**	**2020-‘21**	**B.A, B.Com, B.Sc.**

SEMESTER – IIPAPER – IMax. Marks 50 **Pass Marks 20**

Model paperINFORMATION & COMMUNICATION TECHNOLOGYNO. Of Hrs: **2Credits**: **2**

SECTION-A

Answer FOUR of the following questions **4x5=20M**

1. Explain characteristics of Computer?
2. Explain about network Topologies?
3. Write about URL and its components?

4. Explain about Internet Applications?
5. Explain about Message Composition?
6. Write about Google Spread Sheet?
7. Write about Viruses and antivirus software?
8. Explain about NPTEL?

SECTION-B

Answer THREE of the following questions **3X10=30M**

9. Explain Block diagram of a Computer?
10. Explain OSI MODEL in Detail?
11. Explain Social Networking Sites?
12. Explain about Mail Management? Write advantages and Disadvantages of Email?
13. Explain Different types of Firewalls?

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.

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(With Effect from Academic Year 2020-'21)

COMPUTER SCIENCE	ICT-I-201	2019-'20	B.A, B.Com., B.Sc.

SEMESTER – II PAPER – I Max. Marks 50

Guidelines for paper setting **'INFORMATION & COMMUNICATION TECHNOLOGY''**

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	1
Unit-3	2	1
Unit-4	2	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

A.G& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

VUYYURU-521165, KRISHNA Dt., A.P.(Autonomous)

Accredited by NAAC with "A" Grade

2021-2022

DEPARTMENT OF COMPUTER SCIENCE

MINUTES OF BOARD OF STUDIES

EVEN SEMESTER

07-04-2022

Minutes of the meeting of Board of Studies in Computer Science for Semester II, IV & V of I, II & III years B.Sc. (MPCs, MCCs, MSCs), B.Com. (C.A.), B.Com (e-Commerce) and Life Skill Course and Skill Development Course of AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru, held at 2.30 P.M on 07-04-2022 in the Department of Computer Science.

Sri T.NagaPrasadaRao ... Presiding

Members Present:

1) ..... Chairman — Head, Department of Computer Science, AG & SG Siddhartha Degree College of Arts & Science.
(T.NagaPrasadaRao)

2) ---------- University Nomine — Principal, University College of Engineering and Technology, KRU, Machilipatnam.
(Dr. M. Babu Reddy)

3) ---------- Subject Expert — Principal, A.N.R College, Gudivada, Department of Computer Science
(Dr. P. J. S Kumar)

4) ---------- Subject Expert — Deputy Head, Department of Computer Science PB Siddhartha College of Arts & Science, Vijayawada.
(Mr. K. Sridhar)

5) ---------- Industrial Expert — .Net Developer, Maven Soft System Pvt. Ltd Madaapur, Hyderabad.
(R. Sowjanya)

6) ..... Member — Lecturer in Computer Science, AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru
(T. Keerthi)

7) ..... Member — Lecturer in Computer Science, AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165.
(K Srikanth)

8) ..... Member — Lecturer in Computer Science, AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
(S.Prabhavathi)

9) ..... Member — Lecturer in Computer Science, AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
(A. Sravani)

10) ..... Member — Lecturer in Computer Science, AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
(V.N.MalleswraRao)

11) ..... Member — Lecturer in Computer Science, AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
(A. Naga Srinivasa Rao)

12) ..... Member — Lecturer in Computer Science, AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
(V. Munni)

12) ..... Member — Lecturer in Computer Science, AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
(V. Supriya)

13) ---------- Member — Student in M.Sc. Computer Science, AG& SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
(K. Rajya Lakshmi)

14) ---------- Member — Student in B.Sc. Computer Science, AG& SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
(M. Jyothi)

Agenda for B.O.S Meeting.

1. To Discuss and approve the Structure and Syllabi, Model Question Paper for Second Semester of B.Sc.(MPCs, MCCs. MSCs) & B.Com (C.A), B.Com(e-commerce-computers) Programs for the student are admitted from the Academic Year 2021-22.
2. To discuss introducing B.Com (e-commerce-computers) and B.Sc.(M.S.Cs) in Second semester for the students admitted in academic year 2021 – 2022
3. To Discuss and approve the Structure and Syllabi, Model Question Paper for Fourth Semester of B.Sc.(MPCs, MCCs.) & B.Com (C.A) Programs for the Academic Year 2021-22.
4. To Discuss and approve the Structure and Syllabi, Model Question Paper for Six Semester of B.Sc.(MPCs, MCCs.) & B.Com (C.A) Programs for the Academic Year 2021-22.
5. To recommend any changes in the syllabi for II, IV, VI Semesters of I, II, III year Degree B.Sc.(MPCs, MCCs, MSCs), B.Com.(C.A.) and B.Com(e-commerce).
6. To recommend the teaching and evaluation methods to be followed under Autonomous status.
7. To recommend the panel of paper setters and examiners to the controller of the examinations of autonomous courses of AG & SG Siddhartha Degree College of Arts & Science College, Vuyyuru.
8. Any other matter

Resolutions.

1) It is Resolved and Recommended to adopt the structure and syllabi and Model Question Papers for second semester of B.Sc.(MPCs, MCCs, MSCs) & B.Com (C.A), B.Com(e-Commerce-computers) Programs under CBCS(Choice Based Credit System) Approved by the Academic Council from the Academic Year 2021-22.

2) It is Resolved and Recommended to adopt the structure and syllabi and Model Question Papers for Second semester of B.Sc.(MCCs) & B.Com (e-commerce-computers), Programs under CBCS(Choice Based Credit System) Approved by the Academic Council from the Academic Year 2021-22

3) It is resolved and recommended to introduce new structure for ***4th semester*** of ***B. Sc. (MPCS, MCCS) and B.Com(CA) programmes*** in line with APSCHE guidelines for the students admitted in academic year 2020 – 2021 and onwards
4) It is Resolved and Recommended to adopt the structure and syllabi and Model Question Papers for six semester of B.Sc.(MPCs, MCCs) & B.Com (C.A), Programs under CBCS(Choice Based Credit System) Approved by the Academic Council from the Academic Year 2020-21

5) It is Resolved and Recommend any changes in the syllabi for II, IV, VI Semesters of I, II, III year Degree B.Sc.(MPCs, MCCs, MSCs), B.Com.(C.A.) and B.Com(e-commerce).

- **It is Resolved and Recommend change Syllabi and Model Question paper as per new regulationsin IV Semester of II Year Degree B.Sc. (MPCs, MCCs) and B.Com(CA).**
- **It is Resolved and recommend NO changes in the syllabi for VI Semester of III Year B.Sc.(MPCs, MCCs) & B.Com.(CA).**

6) It is resolved to continue the teaching and evaluation methods to be followed under Autonomous status.
7) It is resolved to continue the panel of paper setters and examiners to the controller of the examinations of autonomous courses of AG & SG Siddhartha Degree College of Arts & Science College, Vuyyuru.
8) Any other matter

Teaching methods:

Besides the conventional methods of teaching, we use modern technology i.e. Using of LMS and LCD projector to display on power board etc..for better understanding of concepts.

Evaluation of a student is done by the following procedure:

There are two components in the Valuation and Assessment of a student – Internal Assessment (**IA**) Semester Examinations (**SE). For the Batch of Students Admitted from 2021-22.**

Internal Assessment (IA)

- The maximum mark for IA is 25 and SE is 75 for theory; and for practical marks for IA 10 and 40 Marks for External Exam.
- Each IA written examination is of 1 hour 30 minutes duration for 20 marks. The tests will be conducted centrally. The average of two such IA is calculated for 20 marks.
- Other Innovative Components will be for 5 Marks. The innovative component is for 5 marks, conducted during the class hours by the staff member/ in charge of the subject, in the form of assignments/ quiz/ seminars /PPT/Online- assignments/Open Book/Viva Voce/ Group work/ Mini Project/ Exhibition, etc. The topic and time for submission/ presentation will be announced by the staff member/ in charge of the subject in advance. Each student should explain and defend his/her presentation.
- The semester examination will be of 3 hours with maximum 75 marks.
- There are no passing minimum marks for IA.

***Internal Assessment (IA)* For the Batch of Students Admitted from 2019-20.**

- The maximum mark for IA is 30 and SE is 70 for theory; and for practical marks for IA 10 and 40 Marks for External Exam.
- Each IA written examination is of 1 hour 30 minutes duration for 20 marks. The tests will be conducted centrally. The average of two such IA is calculated for 20 marks.
- Other Innovative Components will be for 5 Marks. The innovative component is for 5 marks, conducted during the class hours by the staff member/ in charge of the subject, in the form of assignments/ quiz/ seminars /PPT/Online- assignments/Open Book/Viva Voce/ Group work/ Mini Project/ Exhibition, etc. The topic and time for submission/ presentation will be announced by the staff member/ in charge of the subject in advance. Each student should explain and defend his/her presentation.
- For attendance 5 Marks are allotted.
- The semester examination will be of 3 hours with maximum 70 marks.
- There are no passing minimum marks for IA.

Semester Examinations (SE)

- A student should register himself/herself to appear for the Semester Examinations by payment of the prescribed fee.
- The Semester Examinations will be in the form of a comprehensive examination covering the entire syllabus in each subject. It will be of 3 hours duration & Foundation course 2 hours irrespective of the number of credits allotted to it.
- If a candidate fails to obtain pass marks even after the due to less mark in the IA examination, the marks of the next examination will be converted to be out of 100.
- Even though the candidate is absent for two IA exams/obtain zero marks the external marks are considered (if he/she gets 40/100) and the result shall be declared as 'PASS'.
- The maximum marks for each Paper shall be 100.

Question paper guide lines for Practical Examinations at the end of Semesters II, IV & VI Two Practical Programs to be conducted out of 15 programs at the end of Semester II, IV & VI Practical Examination time 3Hrs and Maximum Marks 50 Scheme of valuation Semesters – I, III & V B.Sc.& B.Com.(C.A),

Computer Science Practical's - External (Time: 3 hrs.) **Total Marks: 40M**

1. Programs writing (2):		20 marks,
2. Viva voice	:	5 marks
3. Execution & Result	:	15 marks
Total Marks	:	40

Computer Science Practical's- Internal **Total Marks: 10 M**

1. . Record : 10 marks

6.) Discussed and recommended for organizing Seminars, Guest lectures, Work-shops to upgrade the knowledge of students, for the approval of the Academic Council.

7) Discussed and empowered the HOD to suggest the panel of the paper setters and examiners to the controller of the examinations.

8). We implemented online certificate courses such as NPTL, APSSDC - PYTHON, R- Programming, Amazon Web services and JAVA ------etc. To fill the curriculum gaps from II year Degree on words

9). Suggestions

Chairman

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DEPARTMENT OF COMPUTER SCIENCE

LIST OF THE COURSES REVISED/ INTRODUCED IN II, IV & VI SEMESTERS -2021-22

S. NO	Name of the Course	Course Code	SEM No	Type of the Paper	Total Marks	IA TEST	SEE	Teaching Hours	Credits	Offered to (Name of the Programme)
1	Data Structures	CSCT21B	II	Core	100	25	75	4	3	B.Sc (MPCs, MCCs, MSCs)
2	Data Structures Lab	CSCT21B	II	Core Lab	50	10	40	2	1	B.Sc (MPCs, MCCs, MSCs)
3	E–COMMERCE & WEB DESIGNING	CABT21A	II	Core	100	25	75	4	3	B.Com(CA)
4	Web Design Lab	CABT21A	II	Core Lab	50	10	40	2	1	B.Com(CA)
5	Information Technology	CABT21A	II	Core	100	25	75	4	4	B.Com(ecommerce-Computers)
6	Computer Applications	CABT22A	II	Core	100	25	75	4	3	B.Com(ecommerce-Computers)
7	Computer Application Lab	CABT22A	II	Core Lab	50	10	40	2	1	B.Com(ecommerce-Computers)
8	Digital Marketing	SDCCSC02	II	SDC	50	10	40	2	2	B.Sc (MPCs, MCCs, MSCs)
9	Oop's With JAVA	CSCT01	IV	Core	100	30	70	4	3	B.Sc (MPCs, MCCs)
10	Oop's With JAVA Lab	CSCT01	IV	Core Lab	50	10	40	2	1	B.Sc (MPCs, MCCs)
11	Operating System	CSCT41C	IV	Core	100	30	70	4	3	B.Sc (MPCs, MCCs)
12	Operating system Lab	CSCT41C	IV	Core Lab	50	10	40	2	1	B.Sc (MPCs, MCCs)
13	DBMS	CCSE401G	IV	Core	100	30	70	4	3	B.Com(CA)
14	DBMS Lab	CCSC401P	IV	Core Lab	50	10	40	2	1	B.Com(CA)
15	Oop's With JAVA	CCSC402G	IV	Core	100	30	70	4	3	B.Com(CA)
16	Oop's With JAVA Lab	CCSC402P	IV	Core Lab	50	10	40	2	1	B.Com(CA)
17	Web Technology	CSC601GE	VI	Core	100	30	70	4	3	B.Sc (MPCs, MCCs)

18	**Web Technology Lab**	**CSC601GE**	**VI**	**Core Lab**	**50**	**10**	**40**	**2**	**2**	**B.Sc (MPCs, MCCs)**
19	**PHP& My sql, Word Press**	**CSC602CE**	**VI**	**Cluster**	**100**	**30**	**70**	**4**	**3**	**B.Sc (MPCs, MCCs)**
20	**PHP& My sql Lab**	**CSC602CE**	**VI**	**Cluster Lab**	**50**	**10**	**40**	**2**	**2**	**B.Sc (MPCs, MCCs)**
21	**Java Script/Ajax**	**CSC603CE**	**VI**	**Cluster**	**100**	**30**	**70**	**4**	**3**	**B.Sc (MPCs, MCCs)**
22	**Java Script Lab**	**CSC603CE**	**VI**	**Cluster Lab**	**50**	**10**	**40**	**2**	**2**	**B.Sc (MPCs, MCCs)**
23	**Project**	**CSC604CE**	**VI**	**Cluster**	**100**	**30**	**70**	**4**	**4**	**B.Sc (MPCs, MCCs)**
24	**Tally**	**CCSC605CE**	**VI**	**Core**	**100**	**30**	**70**	**4**	**3**	**B.Com(CA)**
25	**Tally Lab**	**CCSC605P**	**VI**	**Core Lab**	**50**	**10**	**40**	**2**	**2**	**B.Com(CA)**
26	**E-Commerce**	**CSC606CE**	**VI**	**Core**	**100**	**30**	**70**	**5**	**5**	**B.Com(CA)**
27	**PHP & MY Sql**	**CCSC606CE**	**VI**	**Core**	**100**	**30**	**70**	**4**	**3**	**B.Com(CA)**
28	**PHP & MY Sql Lab**	**CCSC606P**	**VI**	**Core**	**50**	**10**	**40**	**2**	**2**	**B.Com(CA)**
		TOTAL(Maximum)			**2100**	**550**	**1550**	**85**	**66**	

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DEPARTMENT OF COMPUTER SCIENCE

Minutes of the meeting of Board of Studies in Computer Science for UG held on 07-04-2022in the Department of Computer Science.

Semester	:	II	Programme	:	MPCS,MCCS,MSCS
Course	:	**DATA STRUCTURES**	Course Code	:	22CS2T3
Course delivery method	:	Class room / Blended	Credits	:	4
Credits	:	4	CIA marks	:	25
No. of lecture hours / week	:	4	Semester end exam	:	75
Total no. of lecture hours	:	60	Total marks	:	100
Year of Introduction	:	2021-22	Year of Revision	:	2021-22
% of revision:	:	100%			

Course content suggested by APSCHE	Additions	Deletions
Unit - 1 **Introduction to Data Structures , Arrays**	**Principles of Programming and Analysis of Algorithms**	-------
Unit - 2 **Linked Lists:** **Stacks:** **Queues:**	****STACKS, QUEUES Topics moved to Unit-3**	-------
Unit - 3 **Binary Trees:**	Binary Trees Topic moved to unit- 4	-------
Unit-4 **Graphs:**	**Graphs Topic moved to unit-5**	-------
Unit-5 **Searching and sorting:**	-------	-------

It is resolved and recommend the changes in the syllabus of course code: CSCT21B Course: Data Structures from the academic year 2021-22 onwards for IBSC(MPCS,MCCS,MSCS), II Semester.

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Title of the Paper: Data Structures **Semester: II**

Course Objectives

To introduce the fundamental concept of data structures and to emphasize the importance of various data structures in developing and implementing efficient algorithms.

Course Outcomes:

COURSE OUTCOME NO	**Upon successful completion of the course, student will be able to:**	**PROGRAM OUTCOME NO**
CO1	Learn the concepts of ADT and understand analysis of algorithms	PO1, PSO1, PSO2, PSO4
CO2	Understand available Data Structures for data storage and processing.	PO1, PSO1, PSO2, PSO4
CO3	Learn stacks, queues and their applications	PO1, PSO1, PSO2, PSO4
CO4	Understand trees, graphs and implement their operations	PO1, PO7, PSO1, PSO2, PSO4
CO5	Develop ability to implement different Sorting and Search methods	PO1, PO7, PSO1, PSO2, PSO4

Syllabus

UNIT – I: **11Periods**

Introduction to Data Structures: Introduction to the Theory of Data Structures, Data Representation, Abstract Data Types, Data Types, Primitive Data Types, Data Structure and Structured Type, Atomic Type, Difference between Abstract Data Types, Data Types, and Data Structures, Refinement Stages.

Principles of Programming and Analysis of Algorithms: Software Engineering, Program Design, Algorithms, Different Approaches to Designing an Algorithm, Complexity, Big 'O' Notation, Algorithm Analysis, Recursion.

UNIT – II: **11Periods**

Linked Lists: Introduction to Lists and Linked Lists, Basic Linked List Operations, Doubly Linked List, Circular Linked List, Atomic Linked List, Linked List in Arrays, Linked List versus Arrays

UNIT – III: **14Periods**

Stacks: Introduction to Stacks, Stack as an Abstract Data Type, Representation of Stacks through Arrays, Representation of Stacks through Linked Lists, Applications of Stacks, Stacks and Recursion

Queues: Introduction, Queue as an Abstract data Type, Representation of Queues, Circular Queues, Double Ended Queues- De-ques, Priority Queues, Application of Queues

UNIT – IV: **10Periods**

Binary Trees: Introduction to Non- Linear Data Structures, Introduction Binary Trees, Types of Trees, Basic Definition of Binary Trees, Properties of Binary Trees, Representation of Binary Trees, Operations on a Binary Search Tree, Binary Tree Traversal, Counting Number of nodes in Binary Trees, Applications of Binary Tree

UNIT – V: **14Periods**

Searching and sorting: Sorting – An Introduction, Bubble Sort, Insertion Sort, Merge Sort, searching – An Introduction, Linear or Sequential Search, Binary Search, Indexed Sequential Search

Graphs: Introduction to Graphs, Terms Associated with Graphs, Sequential Representation of Graphs, Linked Representation of Graphs, Traversal of Graphs, Spanning Trees, Shortest Path, Application of Graphs.

BOOKS:

- "Data Structures using C", ISRD group Second Edition,TMH
- Data Structures through C", YashavantKanetkar, BPBPublications
- "Data Structures Using C" Balagurusamy E.TMH

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

B. General

1. Group Discussion
2. Others

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Programming exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports.
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work.

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MODEL Question Paper: 2021-2022

TITLE: DATA STRUCTURES **COURSE CODE:** CSCT21B

SECTIONS: B.Sc. (MPCS / MCCS / MSCS) **SEMESTER: II**

TIME: 3 Hrs. **MAX: 75M**

SECTION –A

ANSWER ANY FIVE QUESTIONS **5 X 5 =25 M.**

1. What is an ADT? Explain with an example. **{CO_1, L2}**
2. Explain about algorithm analysis. **{CO_1, L2}**
3. Distinguish between linked lists and arrays. **{CO_2, L2}**
4. Evaluate the postfix expression **2 3 1 * + 9 -. {CO_3, L5}**
5. Explain about min and max priority queues**. {CO_3, L2}**
6. Construct binary tree from the following in order and pre order traversals

   In order: D B E A F C

   Pre order: A B D E C F {**CO_4, L3}**
7. Explain various representations of graphs with your own example. **{CO_5, L2}**
8. Develop a C program for linear search. **{CO_5, L3}**

SECTION – B

ANSWER ALL THE QUESTIONS **5 X 10 =50 M.**

9 a) Explain about Data structure, structured type and atomic type. **{CO_1, L2}**

(Or)

b) Explain about Time Complexity and Space Complexity. **{CO_1, L2}**

10 a) Explain about inserting and deleting a node in double linked list.**{CO_2, L2}**

(Or)

b) Explain about insertion in atomic node linked list. **{CO_2, L2}**

11 a) Develop a C program for stack's using arrays. **{CO_3, L3}**

(Or)

b) Develop a C program for circular queues. **{CO_3, L3}**

12 a) Explain about binary tree traversals with an example.**{CO_4, L2}**

(Or)

b) Demonstrate with an example deleting a node in a binary search tree. **{CO_4, L2}**

13 a) Illustrate Merge sort with an example and write code for it. **{CO_5, L2}**

(Or)

b) Illustrate Depth First search with an example. **{CO_5, L2}**

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BLUE PRINT

TITLE: DATA STRUCTURES **COURSE CODE: CSCT21B**

SECTIONS: B.SC(MPCS / MCCS / MSCS) **SEMESTER: II**

TIME: 3 Hrs. **MAX: 75M**

SECTION-A

ANSWER ANY FIVE QUESTIONS **5X5=25M**

1. Unit 1
2. Unit 1
3. Unit 2
4. Unit 3
5. Unit 3
6. Unit 4
7. Unit 5
8. Unit 5

SECTION – B

ANSWER ALL THE QUESTIONS **5 X 10 =50 M.**

9 a)Unit 1.
(Or)
b) Unit 1.

10 a) Unit 2.
(Or)
b) Unit 2.

11 a)Unit 3.
(Or)
b) Unit 3.

12 a) Unit 4.
(Or)
b) Unit 4.

13 a) Unit 5.
(Or)
b) Unit 5.

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Semester II	Course Code	Course Title	Hours	Credits
BSC(MPCS/MCCS/MSCS)	CSCT21B	Data Structures Lab	30	1

COURSE OUTCOME NO	Upon successful completion of this course, students should have the knowledge and skills to:	PROGRAM OUTCOME NO
CO1	Implement stacks, queues using arrays and linked lists.	PO1, PSO1, PSO2, PSO4
CO2	Write program for conversion from infix to postfix.	PO1, PSO1, PSO2, PSO4
CO3	Implement different sorting and searching techniques.	PO 7, PSO1, PSO2, PSO4
CO4	Construct binary trees and binary search trees.	PO 1, PSO1, PSO2, PSO4
CO5	implement binary tree and Graph traversals.	PO1,PO 7, PSO1, PSO2, PSO4

Lab Experiments List

Cycle - I

Week 1: Write a program to read 'N' numbers of elements into an array and also perform the following operation on an array

- Add an element at the beginning of an array
- Insert an element at given index of array
- Update a element using a values and index
- Delete an existing element

Week 2: Write Program to implement the Stack operations using an array.

Week 3: Write a program using stacks to convert a given infix expression to postfix.

Week 4: Write a program for arithmetic expression evaluation.

Week 5: Write Program to implement the Stack operations using Liked List.

Week 6: Write Program to implement the Queue operations using an array.

Week 7: Write Program to implement the Queue operations using Liked List.

Week 8: Write Program to implement circular Queue operations using an array.

Cycle - II

Week 9: Write a program to implement de-queues.

Week 10: Write a program to implement single linked list.

Week 11: Write a program to implement double linked list.

Week 12: Write a program for Binary Search Tree Traversals.

Week 13: Write a program to search an item in a given list using the following Searching Algorithms

- Linear Search
- Binary Search.

Week 14: Write a program for implementation of the following Sorting Algorithms

- Bubble Sort
- Insertion Sort
- Merge sort

Week 15: Write a program for implementation of the following graph traversals.

- BFS
- DFS

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DEPARTMENT OF COMPUTER SCIENCE

Minutes of the meeting of Board of Studies in Computer Science for UG held on 07-04-2022in theDepartment of Computer Science.

Semester	:	II	Programme	:	BCOM(CA)
Course	:	E–COMMERCE & WEB DESIGNING	Course Code	:	CABT21A
Course delivery method	:	Class room / Blended	Credits	:	4
Credits	:	4	CIA marks	:	25
No. of lecture hours / week	:	4	Semester end exam	:	75
Total no. of lecture hours	:	60	Total marks	:	100
Year of Introduction	:	2021-22	Year of Revision	:	2021-22
% of revision:	:	100%			

Course content suggested by APSCHE	Additions	Deletions
Unit – 1 Introduction,Electronic Commerce	An Overview on E-Commerce Business Models for Ecommerce	-------
Unit - 2 payment System	E-Marketing &E – CRM& Electronic Payment Systems Online Marketing	-------
Unit - 3 On-line Business Transactions:	Electronic Payment Systems	-------
Unit-4 Introduction to HTML	Introduction to Web Designing HTML	-------
Unit-5 Website Designing: Hyperlinks:	Website Designing: Hyperlinks topic **moved to** UNIT-4 Introduction to WIX Editor Getting Started with Wix	-------

It is resolved and recommend the changes in the syllabus of course code: **CABT21A** Course: **E–COMMERCE & WEB DESIGNING** from the academic year 2021-22 onwards for IBCOM(CA), II Semester.

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Title of the Paper: **E–COMMERCE & WEB DESIGNING** Semester: II

COURSE OBJECTIVES:

The main objective of the course is to impart conceptual understanding on business transactions on worldwide web and electronic commerce & Electronic Customer Relationship Management and Web designing concepts for providing quality content on website.

COURSE OUTCOMES:

COURSE OUTCOME NO	Upon successful completion of this course, students should have the knowledge and skills to
CO1	Understand the structure of HTML its basic tags
CO2	Implement various HTML tags for web page development
CO3	Understand about implementing forms and frames in web page designing
CO4	Gain knowledge in E- commerce and its business models
CO5	Differentiate traditional and e – marketing and also gain knowledge in E-CRM and EPS

UNIT I: An Overview on E-Commerce **(10periods)**

Introduction E-Commerce

Definition of E- Commerce and its advantages & disadvantages
Electronic Data Interchange (EDI)
E-Commerce transactional issues and challenges
Difference between Commerce and E-Commerce

Business Models for Ecommerce

B2C -Business to consumer. B2B – Business to business C2B – Consumer to business. C2C – Consumer to consumer.

UNIT II: E-Marketing &E – CRM& Electronic Payment Systems **(10periods)**

Online Marketing

Traditional Vs. E-Marketing
Online Marketing
E-Advertising
Internet marketing

E – CRM

Definition of CRM and E-CRM and its Applications
E- CRM Architectural components
Definition & characteristics of E- SCM
Benefits and goals of E – SCM 2.2.5 E-Logistics of UP

UNIT III: Electronic Payment Systems **(10periods)**

Types of EPS
Traditional payment system and modern payment system
Steps for electronic payment 3.4 Payment security

UNIT IV: Introduction to Web Designing **(12periods)**

4.1 **HTML**

.1Define HTML 4.1.2 Structure of HTML 4.1.3 Basic HTML tags
4.1.4 Formatting HTML tags

Lists

Ordered List 4.2.2 Unordered List

4.3**Links**

4.3.1 Link tag 4.3.2 Image tag 4.3.3 Marquee tag 4.4**Tables**
4.4.1 Table Creation 4.4.2 Attributes of Table

4.5**forms& Frames**

4.5.1 Forms creation 4.5.2 Form tag 4.5.3 Input fields of form

4.5.4 Frame Creation 4.5.5 Frameset tag 4.5.6 Frame tag

UNIT V: Introduction to WIX Editor **(18periods)**

Getting Started with Wix

Adding and Editing Text

Adding a Site Title

Changing Your Text Font

Creating a Clickable URL

Adding Language Fonts

Adding Elements to Your Site

Arranging the Content on Your Site's Pages

About the Header

About the Footer

Adding an Image to Your Page Background

Uploading Your Own Background Image

Adding a Video to Your Page Background

Uploading Your Own Video Page Background

Uploading Your Own Images

Adding a Logo to Your Site

Adding a Link to an Image

Gallery and Button

Adding a Gallery

Cropping and Editing Gallery Images

Adding and Setting Up an Icon Button

Adding a Link to a Button

Video

Adding a Video from YouTube

Retrieving a YouTube URL

Menu

Adding a Site Menu

Customizing Your Menu Design

Adding and Deleting a Menu Folder

Reordering Menu Items

Changing the Direction of Menu Items

Text Book:

1. Uttam Kumar Roy, Web Technologies, Oxford University Press.
2. E-Commerce- A Managerial Perspective- P. T. Joseph, Prentice- Hall of India, New Delhi, 2005.

References:

1. Kogent Learning Solutions Inc.(Author), “Black Book HTML 5.0”, dramatic.
2.Daniel Amor, E-Business R(Evolution), Pearson Edude, New Delhi, 2005.

Weblink: **https://support.wix.com/en/the-wix-editor/editor-basics**

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Title: E-Commerce Web Designing
Model Paper

CLASS: B.Com (Computer Applications) **Course Code: CABT21A** **Max. Marks: 75M**
Semester: II **Time: 3 Hours**

Section-A

ANSWER ANY FIVE QUESTIONS **5X5M=25M**

1. Explain the E-Commerce (CO1, L2)
2. Compare Traditional marketing and E-Marketing. (CO2, L2)
3. Define Networks and its types? (CO3, L1)
4. Explain Link tags in HTML (CO4, L2)
5. Explain the steps to add a link to a button (CO5, L1)
6. Compare Commerce and E-Commerce. (CO1, L2)
7. Explain Benefits and goals of E – SCM. (CO2, L2)
8. Demonstrate concept of formatting Tags (CO4, L2)

Section-B

ANSWER THE FOLLOWING QUESTIONS **5X10M=50M**

9. (A) Explain EDI. (CO1, L2)

(OR)

(B) Classify Business Models for Ecommerce. (CO1, L2)

10. (A) Illustrate E- CRM Architectural components. (CO2, L2)

(OR)

(B) Explain Electronic Payment Systems. (CO2, L2)

11. (A) Define Structure of HTML with examples (CO3, L1)

(OR)

(B) What are different types Network Topologies? (CO3, L1)

12. (A) Demonstrate the concept of Table creation with apply all Attributes. (CO4, L2)

(OR)

(B) Define forms in html and creation of form with all input types? (CO4, L1)

13. (A) Explain the steps to add elements to your site. (CO5,L1)

(OR)

(B) How to add images and logo to your site (CO5, L1)

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Computer Science	**CABT21A**	**2021-22**	**B. Com (Computers Applications)**

Semester - II **Credits: 1**

WEB DESIGNING LAB

COURSE OBJECTIVES:

The purpose of this course is to introduce to students to the field of creation web pages using HTML language. The students will be able to enhance their analyzing and help to creation for Web Site Design

COURSE OUTCOMES:

COURSE OUTCOME NO	**on successful completion of this course, students should have the knowledge and skills to**
CO1	Implement HTML tags.
CO2	plementing lists and tables in web pages.
CO3	plementing frames in web pages.
CO4	plementing frames in web pages.
CO5	eation of CSS in a web page.

Week 1: Write a HTML program to print text in bold and italic font.
Week 2: Write a HTML program to print Heading tags.
Week 3: Write a HTML program using Text formatting tags
Week 4: Write a HTML program to implement unordered lists.Write a HTML program to implement order lists.
Week 5: Write a html file which display 3 images at LEFT, RIGHT and CENTER respectively in the browser.
Week 6: Create a HTML file which contains hyperlinks.
Week 7: Write a HTML program to create a table
Week 8: Write a HTML program to create a table using Row Span and Cols pan.
Week 9: Write a HTML program to Create a simple form
Week 10: Create a Registration form that interacts with the user. Collect login name, password, date of birth, gender, address, qualification.
Week 11: Create a HTML page using frameset tag.

Developing Websites using WIX: https://www.wix.com/blog/2020/05/how-to-design-a-website/
Week 12: An online store to sell your products.
Week 13: A photography website to display and sell prints.
Week 14:A fitness website to book new clients.
Week 15: A restaurant website to help with online orders, delivery and payment.

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Title of the Paper: **Information Technology** Semester: II

Course Code	**CABT21A**	Course Delivery Method	Class Room / Blended Mode – Both
Credits	4	CIA Marks	25
No. of Lecture Hours / Week	4	Semester End Exam Marks	75
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

COURSE OBJECTIVES:

It provides to learn computer basics and basic principles of using Windows operation system and be able to access the Internet, data communication, Software, hardware and various new technologies in information technology.

Course Outcomes:

COURSE OUTCOME NO	**Upon successful completion of this course, students should have the knowledge and skills to**
CO1	Understand fundamental concepts of a computer and its basic components
CO2	Understand basic functioning of an operating system and customizing Windows Desktop
CO3	Analyze type of soft ware's and programming languages
CO4	Have knowledge in basic Network and Data Communication Concepts
CO5	Understand the need of data mining and get familiarize with basics of new concepts like KDD, OLAP

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Semester II	Course Code	Course Title	Credits	Periods
B.Com.(E-Commerce Computer)	CABT21A	**Information Technology**	**4**	**75**

UNIT-I: INTRODUCTION: 13Periods

Introduction to computers
Generations of computers
An overview of computer system - Types of computers
Input & Output Devices.
Hardware: Basic components of a computer system- Control unit– ALU- Input/outputfunctions.
Memory – RAM – ROM – EPROM - PROM and Other types of memory.

UNIT-II: OPERATING SYSTEM (OS): 12Periods

Meaning - Definition & Functions.
Types of OS - Booting process
DOS – Commands (internal & external) - Wild card characters
Windows: Using the Start Menu –Control Panel – Using multiple
Windows – Customizing the Desktop – Windows accessories (Preferably latestversion of windows or Linux Ubuntu).

Unit-III: SOFTWARE: 15Periods

System software and application software.
Operating system windows OS,
Mobile device operating system and notebook operating systems
Application software Types of personal application software
Spread sheet-data management
Word processing
Desktop publishing
Graphics, CAD, CAM, CIM
Programming Languages
Assembly language
Procedural language, non-procedural language, natural programming language.
Hypertext mark-up language, modeling language, object-oriented programming language.

Unit-IV: DATA COMMUNICATION: 20 Periods

Telecommunication and Networks Communication media& channel cable media

Broad cast media channels twisted pair
Coaxial cable, fibers optical cable, micro wave, satellite, radio, cellular radio,
Infrared global positioning system.
Introduction, Analog and Digital signals, modulation need of modulations, modems.
Telecommunication System communication processors:
Modem
Multiplexers
Front –end-processor.
Networks LAN, WAN, VAN, virtual private network (VPN).
Internet, intranet and Extranets
The evolution of the internet, service provided by the internet, World Wide Web.

Unit-V: NEW TECHNOLOGIES: **10 Periods**

New technologies in Information Technology:

Introduction to hyper media, artificial intelligence and business intelligence, knowledgediscovery in database (KDD)

Data warehouse and data marts. Data mining and OLAP.

Student Activity:

Students have to submit assignments and give seminars on various topics allotted to them.

Total of 5 Hrs is allotted for student seminars. Student activity also includes gathering of information related to latest technologies in computers.

Library Activity:

Students will visit library in their allotted time and will refer various text books to gather information for their assignments.

TEXT/ REFERENCE BOOKS:

1. B.E.V.L.Naidu, V.V.. Devi Prasad Konti, Ganti Naga Srikanth, Himalaya publishing House.
2. Introduction to Computers: Peter Norton, McGraw Hill

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(With Effect from Academic Year 2021-22)
MODEL Question Paper:

PAPER TITLE: INFORMATION TECHNOLOGY **COURSE CODE: CABT21A**
CLASS: B.Com (E-Commerce-Computers)
SEMESTER: II
TIME: 3 Hrs. **MAX: 75M**

SECTION – A

Answer any five of the following **5X5 =25M**

1. Illustrate the characteristics of RAM and ROM. (CO1, L2)
2. Define Operating system. What are different types of OS? (CO2, L1)
3. Demonstrate application software and system software. (CO3, L2)
4. What are the different types of networks? (CO4, L1)
5. Explain the steps involved in the process of KDD. (CO5, L2)
6. Explain about input devices. (CO1, L2)
7. What are analog and digital signals? (CO4, L1)
8. Explain Data warehouse. (CO5, L2)

SECTION –B

Answer the following **5x10=50M**

9. a) Explain the block diagram of computer. (CO1, L2)

OR

b) Explain the generations of computers. (CO1, L2)

10. a) What are the functions of operating system? (CO2, L1)

OR

b) What are DOS Internal and External commands? (CO2, L1)

11. a) Explain the characteristics of various types of programming languages. Give examples. (CO3, L2)

OR

b) Summarize the concepts on CAD, CAM and CIM. (CO3, L2)

12. a) Define the various types of Communication media and channels. (CO4, L1)

OR

b) What are the Advantages and Disadvantages of Internet? (CO4, L1)

13. a) Demonstrate On-Line Analytical process (OLAP). (CO5, L2)

OR

b) Explain about Artificial Intelligence and Business Intelligence. (CO5, L2)

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Title of the Paper: **COMPUTER APPLICATIONS** Semester: II

Course Code	**CABT22A**	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	25
No. of Lecture Hours / Week	4	Semester End Exam Marks	75
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

COURSE OBJECTIVES:

It provides to learn computer basics and basic principles of using Windows operation system and be able to access the Ms-Office, Power Point, Excel and various new technologies in information technology.

Course Outcomes:

COURSE OUTCOME NO	**Upon successful completion of this course, students should have the knowledge and skills to**
CO1	Understand fundamental concepts of a computer and its basic components
CO2	Understand basic functioning of an Ms-Office and MS-Word Window Components Windows Desktop
CO3	Analyze type of soft ware's and programming languages
CO4	Have knowledge in MS-Excel and MS Access
CO5	Understand the need of Finding, Sorting and Displaying Data and get familiarize

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COMPUTER SCIENCE	**CABT22A**	**2021-'22**	**B.Com(E-Commerce-computers)**

SEMESTER – II PAPER – II Max. Marks 75 Pass Marks 30 Total Hrs: 60

Syllabus COMPUTER APPLICATIONS NO. Of Hrs: 4 Credits: 3

Unit-I: MS-Word 10 Hrs

Features of MS-Word – MS-Word Window Components – Creating, Editing, Formatting and Printing of Documents – Headers and Footers – Insert/Draw Tables, Table Auto format – Page Borders and Shading – Inserting Symbols, Shapes, Word Art, Page Numbers, Equations – Spelling and Grammar – Thesaurus – Mail Merge

Unit-II: MS-PowerPoint 10 Hrs

Features of PowerPoint – Creating a Blank Presentation - Creating a Presentation using a Template - Inserting and Deleting Slides in a Presentation – Adding Clip Art/Pictures - Inserting Other Objects, Audio, Video - Resizing and scaling of an Object – Slide Transition – Custom Animation

Unit-III: MS-Excel 10Hrs

Overview of Excel features – Creating a new worksheet, Selecting cells, Entering and editing Text, Numbers, Formulae, Referencing cells – Inserting Rows/Columns – Changing column widths and row heights, auto format, changing font sizes, colors, shading and attributes – Data Sorting and Filters – Functions – Functions requiring Addins, Functions by category Creating different types of Charts

Unit-IV: MS Access: 12Hrs

Creating a Simple Database and Tables: Features of Ms-Access, Creating a Database, Parts of Access. Tables: table creation using design view, table wizard, data sheet view, import table, link table. Forms: The Form Wizard, design view, columnar, tabular, data sheet, chart wizard.

Unit- V: Finding, Sorting and Displaying Data: 12Hrs

Queries and Dynasts, Creating and using select queries, Returning to the Query Design, Multi-level sorts, Finding incomplete matches, showing All records after a Query, saving queries - Crosstab Queries. Printing Reports: Form and Database Printing..

Reference Books:

1. Ron Mansfield, Working in Microsoft Office, Tata McGraw Hill(2008)
2. Ed Bott, Woody Leonhard, Using Microsoft Office 2007, Pearson Education(2007)
3. Sanjay Saxsena, Microsoft Office, 4.Microsoft Office, BPB Publications

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(With Effect from Academic Year 2021-22)

COMPUTER SCIENCE	**CABT22A**	**2021-'22**	**B.Com(e-commerce-computers)**

SEMESTER – II **PAPER – III** **Max. Marks 75**

Model Paper: **COMPUTER APPLICATIONS** NO of Hours: 4 No Of Credits: 3 Pass Marks 30

Section-A

Answer any FIVE Questions. Each question carries FIVE Marks ***5x5=25M***

1. UNIT -1 ..... 5M
2. UNIT -1 ..... 5M
3. UNIT -2 ..... 5M
4. UNIT -2 ..... 5M
5. UNIT -3 ..... 5M
6. UNIT -3 ..... 5M
7. UNIT -4 ..... 5M
8. UNIT -5 ..... 5M

Section-B

Answer All Questions. Each question carries TEN Marks ***5X10=50M***

9.a) UNIT -1 ..... 10M

(Or)

b). UNIT -1 ..... 10M

10. a) UNIT -2 ..... 10M

(Or)

b). UNIT -2 ..... 10M

11. a) UNIT -3 ..... 10M

(Or)

b). UNIT -3 ..... 10M

12. a) UNIT -4 ..... 10M

(Or)

b). UNIT -4 ..... 10M

13. a) UNIT -5 ..... 10M

(Or)

b). UNIT -5 ..... 10M

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Title of the Paper: DIGITAL MARKETING

Course Code	SDCCSC02	Course Delivery Method	Class Room / Blended Mode – Both
Credits	**2**	CIA Marks	10
No. of Lecture Hours / Week	2	Semester End Exam Marks	40
Total Number of Lecture Hours	30	Total Marks	50
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Objective:

The aim of the Digital Marketing Course is to provide students with the knowledge about business advantages of the digital marketing and its importance for marketing success. The application of the gained knowledge, skills and competences will help students in forming digital marketing plan in order to manage a digital marketing performance efficiently.

Course Outcomes:

COURSE OUTCOME NO	on successful completion of this course, students should have the knowledge and skills to
CO1	derstand fundamental concepts of Digital Marketing and Channels (PO1, PO7, PSO1, PSO4)
CO2	derstand how to optimize a Web site and SEO optimization O1, PO7, PSO1, PSO4)
CO3	nderstand Social Media Plan for measuring effects of digital marketing O1, PO7, PSO1, PSO4)

UNIT-I: INTRODUCTION: **5 Periods**

What is Digital Marketing?
Difference between Traditional Marketing and Digital Marketing?
Benefits of Digital Marketing?
Latest Digital Marketing Trends
Digital Marketing Platforms
Digital Marketing Strategies for Websites
Career Opportunities in Digital Marketing
Difference Between Digital Marketing , Online Marketing and Internet Marketing
Functions and Types of Digital marketing
What is Marketing and how to build Online Marketing Plan
Digital Marketing Process
How to increase Visibility and People Engagement
Traffic Generation Techniques , Leads and How to gauge Performance Evaluation
Digital Marketing Techniques for Product Marketing and Service Marketing

UNIT-II: SEO Training (Search Engine Optimization) **12Periods**

Introduction to SEO
What are Search engines and How Search Engines Work
Search Engine Algorithms and Latest Updates
Keyword Research
Google Trends
Purpose of website analytics
How to choose Website Analysis Tools
Installing Google Analytics in website
Competitive Analysis
Domain Registration and Hosting Plans
Keyword Placement
SEO Content Writing and Rewriting
Google Webmaster Tools
Sitemap Creation
Robots.txt File Creation
Google Updates and their effects in website Rankings.
On page Optimization strategies

Unit-III:SEM Training (Search Engine Marketing) **13Periods**

Introduction to Free and Paid Marketing
What is Search Engine Marketing?
What is Link Building
Advantages and Disadvantages of Link Building
Difference Between Search engines and Directories
Directory Submission Techniques
Classified Postings
Press Release Postings
Article Posting Techniques
Forum Postings
Advantages and Disadvantages of Forums
How and when to Participate in Groups
Trade Fairs and Trade lead Postings
Participating in Questions and Answers sites
What are Do Follow and No Follow Links
SMO Training (Social Media Optimization)Introduction to social media optimization and Social Media Marketing
Twitter Marketing
Facebook Marketing, Facebook for Business , Advantages and Disadvantages
LinkedIn Account creation and LinkedIn Marketing
Social Bookmarking Sites, Advantages and Disadvantages of Submitting your website toSocial bookmarking Sites

TEXT/ REFERENCE BOOKS:

1. The Beginner's Guide to Digital Marketing (2015). Digital Marketer. Pulizzi,J.(2014) Epic Content Marketing, Mcgraw Hill Education.
2. Ryan, D. (2014). Understanding Digital Marketing: Marketing Strategies for Engaging the Digital Generation, Kogan Page Limited.
3. Chaffey, D., e-Marketing Excellence: Planning and Optimizing Your Digital Marketing, Burlington: Elsevier.

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MODEL Question Paper:

PAPER TITLE: Digital Marketing **COURSE CODE: SDCCSC02**
SEMESTER: II
TIME: 2 Hrs. **MAX: 40M**

SECTION – A (Total: 4x7=28 Marks)

Answer any **four questions**. Each answer carries **7 marks**

1.
2.
3.
4.
5.
6.

SECTION – B (Total: 6x2 = 12 Marks)

Answer any **Six questions**. Each answer carries **2 marks**

7.
8.
9.
10.
11.
12
13
14
15
16

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Title of the Paper: OBJECT ORIENTATED PROGRAMMING THROUGH JAVA

Semester: IV

Course Code	CSCT01	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: To introduce the fundamental concepts of Object-Oriented programming and to design & implement object oriented programming concepts in Java.

Course Outcomes:

CO_1	Understand the benefits of a well-structured program
CO2	Understand different computer programming paradigms
CO3	Understand underlying principles of Object-Oriented Programming in Java
CO4	Develop problem-solving and programming skills using OOP concepts
CO5	Develop the ability to solve real-world problems through software development inhigh-level programming language like Java

Syllabus

UNIT – I: Introduction to Java: Features of Java, The Java virtual Machine, Parts of Java

Naming Conventions and Data Types: Naming Conventions in Java, Data Types in Java, Literals

Operators in Java: Operators, Priority of Operators

Control Statements in Java: if... else Statement, do... while Statement, while Loop, for Loop, switch Statement, break Statement, continue Statement, return Statement

Input and Output: Accepting Input from the Keyboard, Reading Input with Java.util.Scanner Class, Displaying Output with System.out.printf(), Displaying Formatted Output with String. Format ()

Arrays: Types of Arrays, Three Dimensional Arrays (3D array), arrayname.length, Command Line Arguments

UNIT – II

Strings: Creating Strings, String Class Methods, String Comparison, Immutability of Strings

Introduction to OOPs: Problems in Procedure Oriented Approach, Features of Object-Oriented Programming System (OOPS)

Classes and Objects: Object Creation, Initializing the Instance Variables, Access Specifiers, Constructors

Methods in Java: Method Header or Method Prototype, Method Body, Understanding Methods, Static Methods, Static Block, The keyword 'this', Instance Methods, Passing Primitive Data Types to Methods, Passing Objects to Methods, Passing Arrays to Methods, Recursion, Factory Methods

Inheritance: Inheritance, The keyword 'super', The Protected Specifier, Types of Inheritance

UNIT – III

Polymorphism: Polymorphism with Variables, Polymorphism using Methods, Polymorphism with Static Methods, Polymorphism with Private Methods, Polymorphism with Final Methods, final Class

Type Casting: Types of Data Types, Casting Primitive Data Types, Casting Referenced Data Types, the Object Class

Abstract Classes: Abstract Method and Abstract Class

Interfaces: Interface, Multiple Inheritance using Interfaces

Packages: Package, Different Types of Packages, The JAR Files, Interfaces in a Package, Creating Sub Package in a Package, Access Specifiers in Java, Creating API Document

Exception Handling: Errors in Java Program, Exceptions, throws Clause, throw Clause, Types of Exceptions, Re – throwing an Exception

UNIT – IV

Streams: Stream, Creating a File using File Output Stream, Reading Data from a File uingFileInputStream, Creating a File using File Writer, Reading a File using File Reader, Counting Number of Characters in a File, File Copy, File Class

Threads: Single Tasking, Multi Tasking, Uses of Threads, Creating a Thread and Running it, Terminating the Thread, Single Tasking Using a Thread, Multi Tasking Using Threads, Multiple Threads Acting on Single Object, Thread Class Methods, Deadlock of Threads, Thread Communication, Thread Priorities, thread Group, , Applications of Threads, Thread Life Cycle

UNIT – V

Applets: Creating an Applet, Uses of Applets, <APPLET> tag, A Simple Applet, An Applet with Swing Components, Animation in Applets, A Simple Game with an Applet, Applet Parameters

Java Database Connectivity: Database Servers, Database Clients, JDBC (Java Database Connectivity), Working with Oracle Database, Working with MySQL Database, Stages in a JDBC Program, Registering the Driver, Connecting to a Database, Preparing SQL Statements, Using jdbc–odbc Bridge Driver to Connect to Oracle Database, Retrieving Data from MySQL Database, Retrieving Data from MS Access Database, Stored Procedures and Callable Statements, Types of Result Sets

BOOKS:

1. Core Java: An Integrated Approach, Authored by Dr. R. Nageswara Rao &Kogent Learning Solutions Inc.
2. E.Balaguruswamy, Programming with JAVA, A primer, 3e, TATA McGraw-Hill Company.
3. John R. Hubbard, Programming with Java, Second Edition, Schaum's outline Series, TMH.
4. Deitel& Deitel. Java TM: How to Program, PHI (2007)

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COMPUTER SCIENCE	CSCT01	**2021-'22**	**B.Sc.(MPCs,MCCs)**

SEMESTER – IV **PAPER – IV** **Max. Marks 70**

Model Paper: **'OBJECT ORIENTATED PROGRAMMING THROUGH JAVA'**

NO of Hours: 4 **No Of Credits: 3** **Pass Marks 28**

Section-A

Answer any FOUR Questions. Each question carries FIVE Marks ***4x5=20M***

1. UNIT -1 ..... 5M
2. UNIT -1 ..... 5M
3. UNIT -2 ..... 5M
4. UNIT -3 ..... 5M
5. UNIT -4 ..... 5M
6. UNIT -5 ..... 5M

Section-B

Answer any FIVE Questions. Each question carries TEN Marks ***5X10=50M***

7. UNIT -1 ..... 10M
8. UNIT -2 ..... 10M
9. UNIT -2 ..... 10M
10. UNIT -3 ..... 10M
11. UNIT -3 ..... 10M
12. UNIT -4 ..... 10M
13. UNIT -4 ..... 10M
14. UNIT -5 ..... 10M

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SEMESTER – IV PAPER –IV Max. Marks 70 Pass Marks 28

Guidelines for paper setting '**OBJECT ORIENTATED PROGRAMMING THROUGH JAVA**

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	1
Unit-2	1	2
Unit-3	1	2
Unit-4	1	2
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

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COMPUTER SCIENCE	CSCT01P	**2021-'22**	**B.Sc.(MPCS,MCCs)**

SEMESTER – IV **PAPER – 1V** **Max. Marks 50**

Lab List: OBJECT ORIENTATED PROGRAMMING THROUGH JAVA

No. of Hours per week: 2 External: 40 Internal: 10 Credits: 1

1. Write a program to read ***Student Name, Regd.No, Marks [5]*** and calculate Total, ***Percentage, and Result***. Display all the details of students
2. Write a program to perform the following String Operations
    a. Read a string
    b. Find out whether there is a given substring or not
    c. Compare existing string by another string and display status
    d. Replace existing string character with another character
    e. Count number of works in a string
3. Java program to implements Addition and Multiplication of two N X N matrices.
4. Java program to demonstrate the use of Constructor.
5. Calculate area of the following shapes using method overloading.
    a. Triangle
    b. Rectangle
    c. Circle
    d. Square
6. Implement inheritance between ***Person (Aadhar, Surname, Name, DOB, and Age)*** and ***Student (Admission Number, College, Course, Year)***classes where ReadData(), Display Data() are overriding methods.
7. Java program for implementing Interfaces
8. Java program on Multiple Inheritance.
9. Java program for to display ***Serial Number from 1 to N*** by creating two Threads
10. Java program to demonstrate the following exception handlings
    a. Divided by Zero
    b. Array Index Out of Bound
    c. File Not Found
    d. Arithmetic Exception
    e. User Defined Exception

11. Create an Applet to display different shapes such as Circle, Oval, Rectangle, Square and Triangle.

12. Write a program to create ***Book (ISBN,Title, Author, Price, Pages, Publisher)***structure and store book details in a file and perform the following operations

a. Add book details

b. Search a book details for a given ISBN and display book details, if available

c. Update a book details using ISBN

d. Delete book details for a given ISBN and display list of remaining Books

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Title of the Paper: OPERATING SYSTEM **Semester: IV**

Course Code	CSCT41C	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: This course aims to introduce the structure and organization of a file system. It emphasizes various functions of an operating system like memory management, process management, device management, etc.

.**Course Outcomes:**

CO_1	Know Computer system resources and the role of operating system in resourcemanagement with algorithms
CO2	Understand Operating System Architectural design and its services
CO3	Gain knowledge of various types of operating systems including Unix and Android
CO4	Understand various process management concepts including scheduling,synchronization, and deadlocks.
CO5	Have a basic knowledge about multithreading.
CO6	Comprehend different approaches for memory management.

SYLLABUS

UNIT- I what is Operating System? History and Evolution of OS, Basic OS functions, Resource Abstraction, Types of Operating Systems– Multiprogramming Systems, Batch Systems, Time Sharing Systems; Operating Systems for Personal Computers, Workstations and Hand-held Devices, Process Control & Real time Systems.

UNIT- II Processor and User Modes, Kernels, System Calls and System Programs, System View of the Process and Resources, Process Abstraction, Process Hierarchy, Threads, Threading Issues, Thread Libraries; Process Scheduling, Non-Preemptive and Preemptive Scheduling Algorithms.

UNIT III Process Management: Deadlock, Deadlock Characterization, Necessary and Sufficient Conditions for Deadlock, Deadlock Handling Approaches: Deadlock Prevention, Deadlock Avoidance and Deadlock Detection and Recovery. Concurrent and Dependent Processes, Critical Section, Semaphores, Methods for Inter- process Communication; Process Synchronization, Classical Process Synchronization Problems: Producer-Consumer, Reader-Writer.

UNIT IV Memory Management: Physical and Virtual Address Space; Memory Allocation Strategies– Fixed and -Variable Partitions, Paging, Segmentation, Virtual Memory.

UNIT V File and I/O Management, OS security : Directory Structure, File Operations, File Allocation Methods, Device Management, Pipes, Buffer, Shared Memory, Security Policy Mechanism, Protection, Authentication and Internal Access Authorization Introduction to Android Operating System, Android Development Framework, Android Application Architecture, Android Process Management and File System, Small Application Development using Android Development Framework.

REFERENCE BOOKS:

1. Operating System Principles by Abraham Silberschatz, Peter Baer Galvin and GregGagne (7thEdition) Wiley India Edition.
2. Operating Systems: Internals and Design Principles by Stallings (Pearson)
3. Operating Systems by J. Archer Harris (Author), Jyoti Singh (Author) (TMH)
4. Online Resources for UNIT V

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COMPUTER SCIENCE	CSCT41C	**2021-'22**	**B.Sc.(MPCs,MCCs)**

SEMESTER – IV **PAPER – V** **Max. Marks 70**

Model Paper: '**OPERATING SYSTEM**

NO of Hours: 4 **No Of Credits: 3** **Pass Marks 28**

Section-A

Answer any FOUR Questions. Each question carries FIVE Marks ***4x5=20M***

1. UNIT -1 ..... 5M
2. UNIT -1 ..... 5M
3. UNIT -2 ..... 5M
4. UNIT -3 ..... 5M
5. UNIT -4 ..... 5M
6. UNIT -5 ..... 5M

Section-B

Answer any FIVE Questions. Each question carries TEN Marks ***5X10=50M***

7. UNIT -1 ..... 10M
8. UNIT -2 ..... 10M
9. UNIT -2 ..... 10M
10. UNIT -3 ..... 10M
11. UNIT -3 ..... 10M
12. UNIT -4 ..... 10M
13. UNIT -4 ..... 10M
14. UNIT -5 ..... 10M

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COMPUTER SCIENCE	CSCT41C	2021-'22	B.Sc.(MPCs,MCCs)

SEMESTER – IV PAPER –V Max. Marks 70 Pass Marks 28

Guidelines for paper setting **'OPERATING SYSTEM'**

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	1
Unit-2	1	2
Unit-3	1	2
Unit-4	1	2
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

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COMPUTER SCIENCE	CSCT41C	**2021-'22**	**B.Sc.(MPCS,MCCs)**

SEMESTER – IV **PAPER – V** **Max. Marks 50**

Lab List: OPERATING SYSTEM LAB USING C/JAVA

No. of Hours per week: 2 External: 40 Internal: 10 Credits: 1

1. Write a program to implement Round Robin CPU Scheduling algorithm
2. Simulate SJF CPU Scheduling algorithm
3. Write a program the FCFS CPU Scheduling algorithm
4. Write a program to Priority CPU Scheduling algorithm
5. Simulate Sequential file allocation strategies
6. Simulate Indexed file allocation strategies
7. Simulate Linked file allocation strategies
8. Simulate MVT and MFT memory management techniques
9. Simulate Single level directory File organization techniques
10. Simulate Two level File organization techniques
11. Simulate Hierarchical File organization techniques
12. Write a program for Bankers Algorithm for Dead Lock Avoidance
13. Implement Bankers Algorithm Dead Lock Prevention.
14. Simulate all Page replacement algorithms.
    a) FIFO
    b) LRU
    c) LFU
15. Simulate Paging Techniques of memory management

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Title of the Paper: Database Management System **Semester: IV**

Course Code	CCSC401G	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: The objective of the course is to introduce the design and development of databases with special emphasis on relational databases.

Course Outcomes:

CO_1	Able to have knowledge about database, Traditional File System.
CO2	Be able to Design a database using Relation models and Data Modeling
CO3	Store, retrieve data in database using Integrity constraints and Normal Forms.
CO4	Be able to implement various SQL queries
CO5	Be able to implement various Procedural SQL queries and

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COMPUTER SCIENCE	CCSC402G	**2021-'22**	**B.Com.(CA)**

SEMESTER – IV **PAPER – IV** **Max. Marks 70**

Syllabus: 'Database Management System

UNIT-I Overview of Database Management System

Introduction, Data and Information, Database, Database Management System, Objectives of DBMS, Evolution of Database Management System, Classification of Database Management System.

UNIT-2: File-Based System

File Based System. Drawbacks of File-Based System, DBMS Approach, Advantage of DBMS, Data Models, Components of Database System, Database Architecture, DBMS Vendors and their products.

UNIT-III: Entity-Relationship Model:

Introduction, The Building Blocks of an Entity-Relationship, Classification of Entity Set, Attribute Classification, Relationship Degree, Relationship Classification, Generalization and Specialization, Aggregation and Composition, CODD's Rules, Relational Data Model, Concept of Relational Integrity.

UNIT-IV: Structured Query Language

Introduction, History of SQL Standards, Commands in SQL, Data types in SQL, Data Definition Language (DDL),Selection Operation Projection Operation, Aggregate Functions, Data Manipulation Language, Table Modification, Table Truncation, Imposition of Constraints, Set Operations.

UNIT-V: **PL/SQL**:

Introduction, Structure of PL/SQL,PL/SQL Language Elements, Data Types, Control Structure, Steps to Create a PL/SQL Program, Iterative Control Cursors, Steps to Create a Cursor, Procedure, Functions, Packages, Exceptions Handling, Database Triggers, Types of triggers.

- **References:**

- Paneer selvam: Database Management system,PHI.
- David Kuklinski, Osborne, Data management system McGraw Hill Publication.
- Shgirley Neal And Kenneth LC Trunik Database management system in Business-PHI.
- Godeon C. EVEREST, Database Management-McGraw Hill Book Company.
- MARTIN,Database Management-Prentice Hall of India, New Delhi.
- Bipin C.Desai ,`An Introduction to Database System`,Galgotia Publications
- Navathe, Database Management System.

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COMPUTER SCIENCE	CCSC401G	**2021-'22**	**B.Com.(C.A.)**

SEMESTER – IV **PAPER – IV** **Max. Marks 70**

Model Paper **DATA BASE MANAGEMENT SYSTEMS**

NO of Hours: 5 **No Of Credits: 3** **Pass Marks 28**

Section-A

Answer any FOUR Questions. Each question carries FIVE Marks ***4x5=20M***

1. UNIT -1 ..... 5M
2. UNIT -1 ..... 5M
3. UNIT -2 ..... 5M
4. UNIT -3 ..... 5M
5. UNIT -4 ..... 5M
6. UNIT -5 ..... 5M

Section-B

Answer any FIVE Questions. Each question carries TEN Marks ***5X10=50M***

7. UNIT -1 ..... 10M
8. UNIT -2 ..... 10M
9. UNIT -2 ..... 10M
10. UNIT -3 ..... 10M
11. UNIT -3 ..... 10M
12. UNIT -4 ..... 10M
13. UNIT -4 ..... 10M
14. UNIT -5 ..... 10M

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COMPUTER SCIENCE	CCSC401G	**2021-'22**	**B.Com.(C.A.)**

SEMESTER – IV **PAPER – IV** **Max. Marks 70**

Guidelines for paper setting **'DATA BASE MANAGEMENT SYSTEMS'**

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	1
Unit-2	1	2
Unit-3	1	2
Unit-4	1	2
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

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(**With Effect from Academic Year 2020-21**)

COMPUTER SCIENCE	CCSC401P	**2021-'22**	**B. COM(CA)**

SEMESTER –IV **PAPER – IV** **Max. Marks 50**

Lab List DATA BASE MANAGEMENT SYSTEMS
No. of Hours per week: 2 **External: 40** **Internal: 10** **Credits: 1**

1. Creation of college database and establish relationships between tables
2. Explain various data type in Oracle.
3. Show the structure of the Emp table.
4. Show the structure of the DEPT table.
5. Explain the syntax of SELECT statement.
6. Create a query to display the name, job, hiredate and employee number from emp table.
7. Create a query to display unique jobs from the emp table.
8. Create a query to display the empno as EMP#, ename as EMPLOYEE and Hire_date from emp.
9. Create a query to display all the data from the EMP table. Separate each column by a comma and name the column THE_OUTPUT.
10. Create a query to display the name and salary of employees earning more than 2850.
11. Create a query to display the name and salary for all employees whose salary is not in the range of 1500 and 2850.
12. Display the employee name, job and start date of employees hired between February 20 ,1981 and May 1, 1981. Order the query in ascending order of start date
13. Display the employee name and department number of all the employees in departments 10 and 30 in alphabetical order by name.
14. List the name and salary of employees who earn more than 1500 & are in department 10 or 30.
15. Display the name, salary and commissions and sort data in descending order of salary and commission.
16. Display the name and job title of all employees who do not have a manager.
17. Display the name, job and salary for all employees whose job is Clerk or Analyst and their salary is not equal to 1000, 3000 or 5000.
18. Display the names of all employees where the third letter of their name is an 'A'.
19. Display the names of all employees who have two 'L's in their name and are in department 30 or their manager is 7782.
20. Display the name , salary and commission for all employees whose commission amount is greater than their salary increased by 10%.
21. Explain all the character functions.
22. Explain all the number functions.
23. Explain all the Date functions.

Create Student database using the following tables.

STUDENT: Sno : primary key, numbers name : NOT NULL, varchar2 Address: Varchar2

COURSE:Sno : Foreign key.Course Name : varchar2

Queries:

1. Alter table by adding a column fees in table COURSE.
2. Alter table by modifying the address to VARCHAR2(20)
3. Create a view on which the students who joined in one course only.

PL/SQL.

1. Write A Pl/Sql Program To Swap Two Numbers Without Using Third Variable.
2. Write A Pl/Sql Program To Generate Multiplication Tables For Numbers 2,4 And 6
3. Write A Pl/Sql Program To Display Sum Of Even Numbers And Sum Of Odd Numbers In The Given Range.
4. Write A Pl/Sql Program To Check The Given Number Is Pollinndrome Or Not.
5. Write A Pl/Sql Program To Display Top 10 Rows In Emp Table Based On Their Job And Salary.

Reference Books:

1. Oracle Pl/Sql By Example. Benjamin Rosenzweig, Elena Silvestrova, Pearsoneducation 3rd Edition

2. Sql& Pl/Sql For Oracle 10g, Black Book, Dr.P.S. Deshpande

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Title of the Paper: Object Oriented Programming with Java **Semester: IV**

Course Code	CCSC402G	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: The objective of the course is to introduce the design and development of databases with special emphasis on relational databases.

Course Outcomes:

CO_1	Understanding the meaning and necessity of audit in modern era
CO2	Comprehend the role of auditor in avoiding the corporate frauds
CO3	Identify the steps involved in performing audit process
CO4	Determine the appropriate audit report for a given audit situation
CO5	Apply auditing practices to different types of business entities

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COMPUTER SCIENCE	CCSC402G	**2021-'22**	**B.Com.(CA)**

SEMESTER – IV **PAPER – V** **Max. Marks 70**

SYLLABUS: **'OBJECT ORIENTATED PROGRAMMING THROUGH JAVA'**

Unit I: Introduction to OOPs: Problems in Procedure Oriented Approach, Features of Object Oriented Programming
Introduction to Java: Features of Java, The Java Virtual Machine (JVM), Parts of Java program, Naming Conventions in Java, Data Types in Java, Operators in Java, Reading Input using scanner Class, Displaying Output using System. out.println (), Command Line Arguments.

Unit II: Control Statements in Java: if... else, do... while Loop, while Loop, for loop, Switch Statement, break Statement, continue Statement
Arrays: Types of Arrays, array name, length,
Strings: Creating Strings, String Class Methods, String Comparison, Immutability of Strings.

Unit III: Classes and Objects: Object Creation, Initializing the Instance Variables, Access Specifiers, Constructors
Inheritance: Inheritance, Types of Inheritance
Polymorphism: Method overloading, Operator overloading
Abstract Classes: Abstract Method and Abstract Class

Unit IV: Packages: Package, Different Types of Packages, Creating Package and Accessing a Package
Streams: Stream classes, Creating a File using File Output Stream, Reading Data from a File using File Input Stream, Creating a File using File Writer, Reading a File using File Reader

Unit V: Exception Handling: Errors in Java Program, Exceptions, throws Clause, throw Clause, Types of Exceptions
Threads: Single Tasking, Multi-Tasking, Uses of Threads, Creating a Thread and Running it, Terminating the Thread, Thread Class Methods.

References:

1. The Complete Reference JAVA Seventh Edition Herbert Schildt. Tata McGraw Hill Edition.

2. Core Java: An Integrated Approach, Dr. R. Nageswara Rao & Kogent Learning Solutions Inc.

3. E. Balaguruswamy, Programming with JAVA, A primer, 3e, TATA McGraw-Hill Company

Online Resources:
https://stackify.com/java-tutorials/
https://www.w3schools.com/java/
https://www.javatpoint.com/java-tutorial
https://www.tutorialspoint.com/java/index.html

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COMPUTER SCIENCE	CCSC402G	**2021-'22**	**B.Com.(CA)**

SEMESTER – IV **PAPER – V** **Max. Marks 70**

Model Paper: **'OBJECT ORIENTATED PROGRAMMING THROUGH JAVA'**

NO of Hours: 4 **No Of Credits: 3** **Pass Marks 28**

Section-A

Answer any FOUR Questions. Each question carries FIVE Marks ***4x5=20M***

1. UNIT -1 ..... 5M
2. UNIT -1 ..... 5M
3. UNIT -2 ..... 5M
4. UNIT -3 ..... 5M
5. UNIT -4 ..... 5M
6. UNIT -5 ..... 5M

Section-B

Answer any FIVE Questions. Each question carries TEN Marks ***5X10=50M***

7. UNIT -1 ..... 10M
8. UNIT -2 ..... 10M
9. UNIT -2 ..... 10M
10. UNIT -3 ..... 10M
11. UNIT -3 ..... 10M
12. UNIT -4 ..... 10M
13. UNIT -4 ..... 10M
14. UNIT -5 ..... 10M

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COMPUTER SCIENCE	CCSC402G	2021-'22	B.Com.(CA)

SEMESTER – IV PAPER –V Max. Marks 70 Pass Marks 28

Guidelines for paper setting '**OBJECT ORIENTATED PROGRAMMING THROUGH JAVA**

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	1
Unit-2	1	2
Unit-3	1	2
Unit-4	1	2
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

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(With Effect from Academic Year 2021-22)

COMPUTER SCIENCE	CCSC402P	**2021-'22**	**B.Com.(CA)**

SEMESTER – IV **PAPER – V** **Max. Marks 50**

Lab List: OBJECT ORIENTATED PROGRAMMING THROUGH JAVA

No. of Hours per week: 2 External: 40 Internal: 10

Credits: 1

1. Write a program to read ***Student Name, Regd.No, Marks [5]*** and calculate Total,***Percentage, and Result***. Display all the details of students
2. Write a program to perform the following String Operations
    a. Read a string
    b. Find out whether there is a given substring or not
    c. Compare existing string by another string and display status
    d. Replace existing string character with another character
    e. Count number of works in a string
3. Java program to implements Addition and Multiplication of two N X N matrices.
4. Java program to demonstrate the use of Constructor.
5. Calculate area of the following shapes using method overloading.
    a. Triangle b. Rectangle c. Circle d. Square
6. Implement inheritance between ***Person (Aadhar, Surname, Name, DOB, and Age)*** and ***Student (Admission Number, College, Course, Year)***classes where ReadData(), Display Data() are overriding methods.
7. Java program on Multiple Inheritance.
8. Java program for to display ***Serial Number from 1 to N*** by creating two Threads
9. Java program to demonstrate the following exception handlings
    a. Divided by Zero b. Array Index Out of Bound c. File Not Found d. Arithmetic Exception
    e. User Defined Exception

.10. Write a program to create ***Book (ISBN,Title, Author, Price, Pages, Publisher)***structure and store book details in a file and perform the following operations a. Add book details b. Search a book details for a given ISBN and display book details, if available c. Update a book details using ISBN d Delete book details for a given ISBN and display list of remaining Books

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Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: WEB TECHNOLOGY

Semester: VI

Course Code	**CSC-601GE**	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2017-18	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objectives:

To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.

Course Outcomes:

CO_1	Understand the basic structure of a HTML design and develop a website using different text Formatting tags, images, links, lists and tables.
CO2	Understand to style a webpage using CSS and Basic Concepts of Java Scripts
CO3	Understand to style a webpage Using Objects in Java Script and DHTML.
CO4	Understand the Basic Concepts of XML and Defining Data for Web Applications
CO5	Understand the Concepts of JS.

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(With Effect from Academic Year 2017-18)

COMPUTER SCIENCE	CSC-601(GE)	2021-'22	B.Sc.(MPCs & MCCs)

SEMESTER – VI **PAPER – VII** **Max. Marks 70**

Syllabus **WEB TECHNOLOGIES**

NO of Hours: 4 **No of Credits: 3** **Pass Marks 28**

Course Objectives:

1. To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.
2. To provide skills to design interactive and dynamic web sites.

Unit -I Introduction to XHTML: 12 Hrs

Introduction to HTML, Basic html, Document body text, Hyper links, Adding more formatting Lists, Tables, Images, Multimedia Objects, Frames, Forms and XHTML.

Unit- II: CSS: 12 Hrs

Cascading Style Sheets: Introduction, Defining your own styles, properties and values in styles, Formatting blocks of information, Layers.

Java Script: java Script, the basics, Variables, String Manipulations, Mathematical functions, Statements, Operators, Arrays, Functions.

Unit –III: Objects in Java Script & Dynamic HTML with Java Script 12 Hrs

Objects in Java Script: Data and objects in java script, Regular expressions, Exception Handling, Built in objects, Events.

Dynamic HTML with Java Script: Data validation, Opening a new window, Messages and Confirmations, The status bar, writing to a different frame, Rollover buttons, Moving images, multiple pages in a single download, A text-only menu system, Floating logos.

Unit –IV: XML Defining Data for Web Applications 12 Hrs

XML: Introduction to XML, Basic XML, document type definition, XML Schema, Document object model, presenting XML, Using XML parser.

UNIT-V: JSP: **10Hr's**

JSP Lifecycle, Basic Syntax, EL (Expression Language), EL Syntax, Using EL Variables

Prescribed Books:

1. Chris Bates, Web Programming Building Internet Application, Second Edition, Wiley (2007)
2. Head First Servlet and JSP 2nd Edition, Bryan Basham, Kathy Sierra
3. Uttam Kumar Roy, Web Technologies from Oxford University Press

Student Activities:

1. Prepare a web site for your college
2. Prepare your personal website

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COMPUTER SCIENCE	CSC-601(GE)	2021-'22	B.Sc.(MPCs& MCCs)

SEMESTER – VI **PAPER – VII** **Max. Marks 70**

Model Paper **WEB TECHNOLOGIES**

No of Hours: 4 **No of Credits: 3** **Pass Marks 28**

Section -A

Answer **FOUR** Questions. Each Question carries **FIVE** Marks. **4 X 5=20M**

1. Write about structure of HTML Document with an example
2. Explain about lists in HTML
3. Write about properties used in Style Sheet
4. Describe Data Object
5. Describe XML Elements
6. Write the syntax of EL and EL variables

Section- B

Answer **FIVE** the Questions. Each Question carries **TEN** Mark **5 X 10=50M**

7. Explain about hyper links? Write about how to link another pages
8. What is Form? Explain about forms with examples
9. What is CSS? How to design Cascading style sheet
10. Explain about Mathematical Functions
11. Explain about Regular Expressions
12. Write about Data validations in DHTML
13. Explain about Document Object Model
14. Explain about JSP Lifecycle with neat diagram

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COMPUTER SCIENCE	CSC-601(GE)	2021-22	B.Sc.(MPCs & MCCs)

SEMESTER – VI PAPER – VII Max. Marks 70 Pass Marks 28

Guidelines for paper setting '**WEB TECHNOLOGIES'**

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

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COMPUTER SCIENCE	**CSC-601(GE)**	2021-22	**B.Sc.(MPCS & MCCs)**

SEMESTER – VI **PAPER – VII** **Max. Marks 50**

Lab List **WEB TECHNOLOGIES**

No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

1. Write an HTML program to demonstrate text formatting, working with images and hyper links
2. Write an HTML program to create Student Marks sheet preparation.
3. Write an HTML program to explain String manipulation-using functions.
4. Write an HTML program to explain <form> events
5. Write an HTML program to perform all arithmetic operations using java script.
6. Develop a HTML Form, which accepts any Mathematical expression. Write JavaScript code to Evaluates the expression and Displays the result.
7. Create a form for Student information. Write JavaScript code to find Total, Average, Result and Grade.
8. Create a form for Employee information. Write JavaScript code to find DA, HRA, PF, TAX, Gross pay, Deduction and Net pay.
9. Create a form consists of a Multiple choice questions that validates the answer dynamically and displaying result using java script.
10. Write a java script to work with following

    a. Date display b. Calendar c. Copy Selected Text

    b. IP Address

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Title of the Paper: PHP, MySql & WORDPRESS

Semester: IV

Course Code	**CSC-602CE**	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2017-18	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objectives:

To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.

Course Outcomes:

CO_1	Understand the concepts Of PHP and MY SQL Installations.
CO2	Able to know the basic concepts Function and Working with Functions.
CO3	Understand the concepts of FORMS and working with FORMS.
CO4	Understand the concepts of MY SQL and MY SQL Components.
CO5	Able to know the concepts of WORD PRESS.

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COMPUTER SCIENCE	CSC-602CE	2021-'22	B.Sc.(MPCs& MCCs)

SEMESTER – VI **PAPER – VIII** **Max. Marks 70**

Syllabus **PHP, MySql & Word Press**

NO Of Hours:4 **Credits: 3** **Pass Marks 28**

Course Objective: To introduce the concept of PHP and to give basic Knowledge of PHP. Learn about PHP Syntax., Arrays, PHP Loops, PHP and MySql connectivity, PHP form validation, PHP form handling. Overview of MySql and PHPMyAdmin, Understand basic concepts of how a database stores information via tables, Understanding of SQL syntax used with MySQL, Learn how to retrieve and manipulate data from one or more tables, Know how to filter data based upon multiple conditions, Updating and inserting data into existing tables, Learning how the relationships between tables will affect the SQL, The advantages of store procedures with storing data using variables and functions, How SQL can be used with programming languages like PHP to create dynamic websites for visitors, Review of some sample PHP projects interacting with MySql.

UNIT-1: **Installing and Configuring MySQL**: **10 Hrs**

Current and Future Versions of MySQL, How to Get MySQL, Installing MySQL on Windows, Trouble Shooting your Installation, Basic Security Guidelines, Introducing MySQL Privilege System, Working with User Privileges. Installing and Configuring Apache: Current and future versions of Apache, Choosing the Appropriate Installation Method, Installing Apache on Windows, Apache Configuration File Structure, Apache Log Files, Apache Related Commands, Trouble Shooting. Installing and Configuring PHP: Building PHP with Apache on Windows, php.ini.Basics, The Basics of PHP scripts. The Building blocks of PHP: Variables, Data Types, Operators and Expressions, Constants. Flow Control Functions in PHP: Switching Flow, Loops, Code Blocks and Browser Output.

Unit – II: Working with Functions: **10 Hrs**

What is function?, Calling functions, Defining Functions, Returning the values from User-Defined Functions, Variable Scope, Saving state between Function calls with the static statement, more about arguments. Working with Arrays: What are Arrays? Creating Arrays, Some Array-Related Functions. Working with Objects: Creating Objects, Object Instance Working with Strings, Dates and Time: Formatting strings with PHP, Investigating Strings with PHP, Manipulating Strings with PHP, Using Date and Time Functions in PHP.

Unit – III: Working with Forms: **15 Hrs**

Creating Forms, Accessing Form Input with User defined Arrays, Combining HTML and PHP code on a single Page, Using Hidden Fields to save state, Redirecting the user, Sending Mail on Form Submission, Working with File Uploads. Working with Cookies and User Sessions: Introducing Cookies, Setting a Cookie with PHP, Session Function Overview, Starting a Session, Working with session variables, passing session IDs in the Query String, Destroying Sessions and Unsetting Variables, Using Sessions in an Environment with Registered Users. Working with Files and Directories: Including Files with inclue(), Validating Files, Creating and Deleting Files, Opening a File for Writing, Reading or Appending, Reading from Files, Writing or Appending to a File, Working with Directories.

Unit – IV: Introduction to MySQL **15Hrs**

Introduction to My SQLand Interfacing with Databases through PHP Understanding the database design process: The Importance of Good Database Design, Types of Table Relationships, Understanding Normalization. Learning basic SQL Commands: Learning the MySQL Data types, Learning the Table Creation Syntax, Using Insert Command, Using SELECT Command, Using WHERE in your Queries, Selecting from Multiple Tables, Using the UPDATE command to modify records, Using RELACE Command, Using the DELETE Command, Frequently used string functions in MySQL, Using Date and Time Functions in MySQL. Interacting with MySQL using PHP: MySQL Versus MySQLi Functions, Connecting to MySQL with PHP, Working with MySQL Data.

Unit – V: Word press **10Hrs**

Word press: Introduction to word press, servers like wamp, bitnami e.tc, installing and configuring word press, understanding admin panel, working with posts and pages, using editor, text formatting with shortcuts, working with media-Adding, editing, deleting media elements, working with widgets, menus. Working with themes-parent and child themes, using featured images, configuring settings.

References:

1. Julie C. Meloni, PHP MySQL and Apache, SAMS Teach yourself, Pearson Education (2007).
2. Xue Bai Michael Ekedahl, The web warrior guide to Web Programming, Thomson (2006).

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COMPUTER SCIENCE	CSC-602CE	2021-'22	B.Sc.(MPCs)

SEMESTER – VI **PAPER – VIII** **Max. Marks 70**

Model Paper **PHP, MySql & Word Press**

NO Of Hours:3 **No Of Credits: 3** **Pass Marks 28**

Section- A

Answer FOUR Questions. Each Question carries FIVE Marks. **4*5=25M**

1 .Define variable and list the standard data types in PHP.

2. What is Break and Continue statements in PHP.

3. Define Function and write a program for Function?

4. Write programs to pass an argument to function by Value and Reference in PHP.

5. What is Cookie and explain how to accessing cookie in PHP.

6. Write short notes on Word Press.

Section- B

Answer FIVE Questions. Each Question carries TEN Marks **5*10=50M**

7. Explain about Operators and Expressions available in PHP with examples.

8. Explain about Loops and switching statements in PHP with examples.

9. Explain about Arrays and related functions to arrays in PHP with examples.

10. Explain the following Strings functions with examples

    a. strlen() b. strstr() c. strpos() d. substr() e. strtok()

11. Explain how to send Mail on form submission in PHP.

12. Explain how to work with Sessions in PHP.

13. Explain how to insert & retrieve data with MySql in PHP.

14. Explain how to work with Themes and also featured images in Word Press

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COMPUTER SCIENCE	**CSC-602CE**	2021-'22	B.Sc.(MPCs,MCCs)

SEMESTER – VI PAPER – VIII Max. Marks 70 Pass Marks 28

Guidelines for paper setting **'PHP, MySql & Word Press '**

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (Essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us.

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COMPUTER SCIENCE	CSC-602CE	2021-'22	B.Sc.(MPCS&MCCS)

SEMESTER – VI **PAPER – VIII** **Max. Marks 50**

Lab List **PHP, MySql & Word Press Lab**
No. of Hours per week: 3 **External: 25** **Internal: 25** **Credits: 2**

MySQL Lab Cycle

Cycle -1

An Enterprise wishes to maintain the details about his suppliers and other corresponding details. For that he uses the following details.
Suppliers (sid: Integer, sname: string, address: string)
Parts (pid: Integer, pname: string, color: string)
Catalog (sid: integer, pid: integer, cost: real)

The catalog relation lists the prices charged for parts by suppliers.

Write the following queries in SQL:

1. Find the pnames of parts for which there is some supplier.
2. Find the snames of suppliers who supply every part.
3. Find the snames of supplier who supply every red part.
4. Find the pnames of parts supplied by London Supplier abd by no one else.
5. Find the sid's of suppliers who charge more for some part than the average cost of that part.
6. For each part, find the sname of the supplier who charges the most for that part.
7. Find the sid's of suppliers who supply only red parts.
8. Find the sid's of suppliers who supply a red and a green part.
9. Find the sid's of suppliers who supply a red or green part.
10. Find the total amount has to pay for that suppler by part located from London.

Cycle – 2

An organisation wishes to maintain the status about the working hours made by his employees. For that he uses the following tables.

Emp (eid: integer, ename: string, age: integer, salary: real)
Works (eid: integer, did: integer, pct_time: integer)
Dept (did: integer, budget: real, managerid: integer)
An employee can work in more than one department; the pct_time field of the works relation shows the percentage of time that a given employee works in a given department.

Resolve the following queries.

1. Print the names and ages of each employee who works in both Hardware and Software departments.
2. For each department with more than 20 full time equivalent employees (i.e., where the part-time and full-time employees add up to at least that many full-time employees), print the did's together with the number of employees that work in that department.

3. Print the name of each employee whose salary exceeds the budget of all of the departments that he or she work in.
4. Find the managerid's of managers who manage only departments with budgets greater than 1,000,000.
5. Find the enames of managers who manage the departments with largest budget.
6. If a manager manages more than one department, he or she controls the sum of all the budgets for those departments. Find the managerid's of managers who control more than 5,000,000.
7. Find the managerid's of managers who control the highest amount.
8. Find the average manager salary.

PHP Lab Cycle

1. Write a PHP program to Display "Hello"
2. Write a PHP Program to display the today's date.
3. Write a PHP Program to read the employee details.
4. Write a PHP Program to display the
5. Write a PHP program to prepare the student marks list.
6. Write a PHP program to generate the multiplication of two matrices.
7. Write a PHP Application to perform demonstrate the college website.
8. Write a PHP application to add new Rows in a Table.
9. Write a PHP application to modify the Rows in a Table.
10. Write a PHP application to delete the Rows from a Table.
11. Write a PHP application to fetch the Rows in a Table.
12. Develop an PHP application to make following Operations
    i. Registration of Users.
    ii. Insert the details of the Users.
    iii. Modify the Details.
    iv. Transaction Maintenance.
        a) No of times Logged in
        b) Time Spent on each login.
        c) Restrict the user for three trials only.
        d) Delete the user if he spent more than 100 Hrs of transaction.

Wordpress Lab

1. Installation and configuration of word press.
2. Create a site and add a theme to it.

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Title of the Paper: JQUERY/AJAX/JSON/ANGULAR JS

Semester: VI

Course Code	**CSC-603CE**	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2017-18	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objectives:

To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.

Course Outcomes:

CO_1	Understand the concepts Of HTML and JQUERY
CO2	Understand the concepts JQUERY and CSS Methods using DOM Attributes
CO3	Understand the concepts of JQUERY USER INTERFACE Programs
CO4	Understand the concepts of AJAX and JSON Objects
CO5	Develop the ability to solve real-world problems through software development inhigh-level programming language like ANGULAR JS and ANIMATIONS

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COMPUTER SCIENCE	CSC-603CE	2021-'22	B.Sc.(MPCs,MCCs)

SEMESTER – VI **PAPER – IX** **Max. Marks 70**

Syllabus **Advanced java Script: JQUERY/AJAX/JSON/ANGULAR JS**

NO Of Hours:4 **Credits: 3** **Pass Marks 28**

Course Objective: To impart knowledge in designing a webpage in a structured way by using advanced java script ie., using different scripting languages

UNIT-1: JQuery – Basics: **10 Hrs**

String, Numbers, Boolean, Objects, Arrays, Functions, Arguments, Scope, Built-in Functions. jQuerySelectors: CSS Element Selector, CSS Element ID Selector, CSS Element Class Selector, CSS Universal Selector, Multiple Elements E, F, G Selector, Callback Functions. jQuery – DOM Attributes: Get Attribute Value, Set Attribute Value. jQuery – DOM Traversing : Find Elements by index, Filtering out Elements, Locating Descendent Elements, JQuery DOM Traversing Methods.

Unit – II: jQuery – CSS Methods : **10 Hrs**

Apply CSS Properties, Apply Multiple CSS Properties, Setting Element Width & Height, JQuery CSS Methods. jQuery – DOM Manipulation Methods: Content Manipulation, DOM Element Replacement, Removing DOM Elements, Inserting DOM elements, DOM Manipulation Methods. jQuery – Events Handling: Binding event handlers, Removing event handlers, Event Types, The Event Object, The Event Attributes. jQuery – Effects: JQuery Effect Methods, jQuery Hide and Show, jQuery Toggle, jQuery Slide – slideDown, slideUp, slideToggle, jQuery Fade – fadeIn, fadeOut, fadeTo, jQuery Custom Animations

Unit – III: Intro to jQuery UI **15 Hrs**

, Need of jQuery UI in real web sites, Downloading jQuery UI, Importing jQuery UI, Draggable, Droppable, Resizable, Selectable, Sortable, Accordion, Auto Complete, Button Set, Date Picker, Dialog, Menu, Progress Bar, Slider, Spinner, Tabs, Tooltip, Color Animation, Easing Effects, addClass, removeClass, Effects, jQuery UI themes, Customizing jQuery UI widgets / plug-ins, jQuery UI with CDN, Consuming jQuery Plug-ins from 3rd party web sites jQuery Validations, Intro to jQuery validation plug-in, Using jQuery validation plug-in, Regular expressions.

Unit – IV: Intro to AJAX **15 Hrs**

Need of AJAX in real web sites, Getting database data using jQueryAJAX, Inserting, Updating, Deleting database data using jQuery-AJAX Grid Development using jQuery-AJAX Intro to JSON JSON syntax, Need of JSON in real web sites, JSON object, JSON array, Complex JSON objects, Reading JSON objects using jQuery.

Unit – V: Intro to AngularJS **15 Hrs**

Need of AngularJS in real web sites, Downloading AngularJS, AngularJS first example, AngularJS built-in directives, AngularJS expressions, AngularJS modules, AngularJS controllers, AngularJS scope AngularJS dependency injection AngularJS, bootstrapping AngularJS data bindings, AngularJS $watch, AngularJS filters, AngularJS events, AngularJS AJAX, Ng-repeat, AngularJS with json arrays, AngularJS registration form and login form, AngularJS CRUD operations, AngularJS Animations, AngularJS validations AngularJS $q, AngularJS custom values, AngularJS custom factories, AngularJS custom services, AngularJS custom directives, AngularJS custom providers, AngularJS Routing, AngularUI Routing.

References:

1. jQuery UI 1.8: The User Interface Library for jQuery by Dan Wellman
2. jQuery Fundamentals by Rebecca Murphey 3. Ajax: The Complete Reference by Thomas

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COMPUTER SCIENCE	CSC-603CE	2021-'22	B.Sc.(MPCs,MCCs)

SEMESTER – VI **PAPER – IX** **Max. Marks 70**

Model Paper **Advanced java Script: JQUERY/AJAX/JSON/ANGULAR JS**

NO of Hours: 3 **No Of Credits: 3** **Pass Marks 28**

Section- A

Answer FOUR Questions. Each Question carries FIVE Marks. **4*5=20M**

1 .What is jquery? Write a simple program to display welcome message.

2. Write a jquery-dom attributes.

3. Write a program for jquery fade in, fade out.

4. Discuss in detail about jquery UI categorization.

5. Write a need of AJAX in real websites..

6. Write a short notes angularJS built-in directives.

Section- B

Answer FIVE Questions. Each Question carries TEN Marks **5*10=50M**

7. Explain in detail about DOM traversing methods.

8. Explain detail about jquery-dom manipulation methods.

9. Explain detail about jquery even handling methods.

10. Write a program for droppable, resizable using jquery UI.

11. How can we manipulate the data in a database using jquery-AJAX?

12. What is JSON object? Discuss in detail about complex JSON objects.

13. What is angular JS? Need of angular JS in real websites &write any example program.

14. Write a program for registration from and login from using Angular JS.

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COMPUTER SCIENCE	CSC-603CE	2021-'22	B.Sc.(MPCs)

SEMESTER – VI PAPER – IX Max. Marks 70 Pass Marks: 28

Guidelines for paper setting ' **Advanced java Script: JQUERY/AJAX/JSON/ANGULAR JS'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (Essay questions)
Unit-1	2	1
Unit-2	2	2
Unit-3	1	1
Unit-4	2	2
Unit-5	1	2

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.

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COMPUTER SCIENCE	CSC-603CE	2021-'22	B.Sc.(MPCS&MCCs)

SEMESTER – VI **PAPER – IX** **Max. Marks 50**

Lab List Advanced java Script: JQUERY/AJAX/JSON/ANGULAR JS

No. of Hours per week: 3 **External: 25** **Internal: 25** **Credits:2**

1. Using jQuery find all textareas, and makes a border.Then adds all paragraphs to the jQuery object to set their borders red.

2. Using jQuery add the class "w3r_font_color" and w3r_background to the last paragraph element.
3. Using jQuery add a new class to an element that already has a class.
4. Using jQuery insert some HTML after all paragraphs.
5. Using jQuery insert a DOM element after all paragraphs.
6. Convert three headers and content panels into an accordion. Initialize the accordion And specify the animate option
7. Convert three headers and content panels into an accordion. Initialize the accordion and specify the height.
8. Create a pre-populated list of values and delay in milliseconds between a keystroke occurs and a search is performed.
9. Initialize the button and specify the disable option.
10. Initialize the button and specify an icon on the button.
11. Initialize the button and do not show the label.
12. Create a simple jQuery UI Datepicker. Now pick a date and store it in a textbox.
13. Initialize the date picker and specify a text to display for the week of the year column heading.

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Title of the Paper: PROJECT (Java, PHP & MYSQL) Semester: VI

Course Code	**CSC-604GE**	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2017-18	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objectives:

To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.

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COMPUTER SCIENCE	**CSC PROJ-602 P**	**2021-'22**	**B.Sc.(MPCs,MCCs)**

SEMESTER – VI **PROJECT (Java, PHP & MYSQL)** **Max. Marks 100**

OBJECTIVE

The objective of the Project Course is to help the students to study, analyze and design software or utility for different problems or applications. This will improve the skills of software development of the students.

MARKS FOR PROJECT EVALUATION

The project course will be evaluated for **100** Marks, of which **75** marks are meant for the practical evaluation of a project and **25** marks are allotted for attending viva-voce examination. The passing minimum in the project work will be 50% of the total mark. i.e. the student should get minimum 50% marks in the project evaluation and the viva-voce examination. Thus, the minimum mark the student is required to obtain is 50 out of 100 marks.

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Title of the Paper: TALLY **Semester: VI**

Course Code	**CSC-605CE**	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2017-18	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objectives:

To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.

Course Outcomes:

CO_1	Able to understand the basic concepts of TALLY
CO2	Able to understand the installation of TALLY Software.
CO3	Able to implement the concepts of ledgers
CO4	Able to implement the concepts of vouchers
CO5	Able to implement the basic concepts of final accounts

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COMPUTER SCIENCE	CCSC-605CE	2021-22	B.Com (C.A)

SEMESTER –VI **PAPER – IX** **Total: 60 Hrs**

Syllabus **TALLY** **Max.Marks:70**

Credits 3 **NO Of Hours 5** **Pass Marks 28**

Unit-I: Introduction to Tally: **12Hrs**

Introduction, Software versions of Tally, Terminology related to Accounts credit & Debit, Journal, Ledger, Voucher, Group etc. Difference between Manual Accounting and Accounting Packages. Features and advantages of Tally.

Unit-II: Introduction of Tally Software **12Hrs**

Introduction of Tally Software Creation of a company, Gateway of Tally, Accounts Information, Groups, pre defined Groups, Creation of New Groups, and Creation of sub Group.

Unit-III: Ledgers **12Hrs**

Ledger Creation Single and multiple Ledgers, Displaying & altering Ledgers, configure Ledger, Stock Ledger, Ledgers and their Group Allocation.

Unit-IV: Vouchers **12Hrs**

Types of vouchers – recording of vouchers – entry of payment voucher, Receipt voucher, sales voucher, purchase voucher, Journal Voucher, Contra Voucher, Debit & Credit Note. Creating New Voucher types, customizing the Existing voucher types, Alternation of Voucher, Deletion of Voucher.

Unit-V: Final Accounts **12Hrs**

Customizing the final accounts – Profit and Loss Account, Balance Sheet. Key board shortcuts in Tally. Generating the Reports from Tally, Trial Balance, Account Books, Sales, Purchase, Journal Registers, Statement of Accounts, Day Book, List of Accounts.

Reference Books:

1. K. Kiran Kumar, Tally ERP9.
2. Tally 9 In Simple Steps, Kogent solutions Inc., John Wiley & Sons, 2008.
3. Narmata Agarwal, Financial Accounting on Computers Using Tally, Dreamtech Press, 2000.
4. Tally 9.0, Google eBook, Computer World.
5. Vikas Gupta, Comdex Computer and Financial Accounting with Tally 9.0, 2007.

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COMPUTER SCIENCE	CCSC-605CE	2021-22	B.Com (C.A)

SEMESTER –VI **PAPER – IX** **Total: 60 Hrs**

Model Paper **TALLY** **Max.Marks:70**

Credits 3 **NO Of Hours 5** **Pass Marks: 28**

Answer **FIVE** Questions. Each Question carries **FIVE** Marks. **5x5=25M**

1. Differentiate between Manual Accounting and Accounting Packages?
2. What are the features of Tally?
3. How to maintain account information? Explain
4. Explain how to create a stock ledger?
5. Explain contra Voucher
6. Write a short note on Day Book

Section- B

Answer **FIVE** the Questions. Each Question carries **TEN** Marks 5 X 10=50M

7. Explain evolution of Tally and what are the features and advantages of Tally
8. Explain versions of Tally software
9. Explain about Gateway of Tally
10. Explain about Group and predefined Groups
11. Explain ledger creation
12. How to create a single and multiple ledgers
13. Explain different types of vouchers?
14. Explain how to generate the reports from Tally?

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COMPUTER SCIENCE	**CCSC-605CE**	**2021-22**	**B.Com (C.A)**

SEMESTER –VI **PAPER – IX** **Max. Marks 70** **Pass Marks 28**

Guidelines for paper setting **' TALLY'**

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	CCSC-605P	2021-22	B.Com.(C.A.)

SEMESTER – VI **PAPER – V** **Max. Marks:50**
Pass Mark: 20

TALLY

No. Of Hours per week: 3 **External: 25** **Internal: 25** **Credits: 2**
Lab list

1. Architecture and customization of Tally
2. Configuration of Tally
3. Tally Screens and Menus
4. Creation of new company and groups.
5. Preparation of voucher entries.
    a. Payment voucher creation
    b. Receipt voucher creation
    c. Sales voucher creation
    d. Purchase voucher creation
    e. Contra voucher creation
    f. Journal voucher creation
6. Ledger Creation.
7. Preparation of VAT
8. Preparation of TDS
7. Preparation of Trail balance
8. Preparation of Profit and loss statement.
9. Preparation of Balance Sheet
10. Preparation of Bank Reconciliation Statement.
11. Example Exercise

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Title of the Paper: E-COMMERCE **Semester: VI**

Course Code	**CSC-606CE**	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2017-18	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objectives:

To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.

Course Outcomes:

CO_1	Understand the benefits of a well-structured program
CO2	Understand different computer programming paradigms
CO3	Understand underlying principles of Object-Oriented Programming in Java
CO4	Develop problem-solving and programming skills using OOP concepts
CO5	Develop the ability to solve real-world problems through software development inhigh-level programming language like Java

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COMPUTER SCIENCE	**CCSC-606CE**	**2021-22**	**B.Com (C.A)**

SEMESTER –VI **PAPER – X** **Total: 60 Hrs**

Syllabus **E-COMMERCE** **Max.Marks:70**

Credits 3 **NO Of Hours 5** **Pass Marks 28**

Unit-I: **Introduction to E-Commerce**

Scope, Definition, e-Commerce and the Trade Cycle, Electronic Markets, Electronic Data Interchange, Internet Commerce. Business Strategy in an Electronic Age: Supply Chains, Porter's Value Chain Model, Inter Organizational Value Chains, Competitive Strategy, First Mover Advantage – Sustainable Competitive Advantage, Competitive Advantage using E-Commerce – Business Strategy.

Unit-II: Business-to-Business Electronic Commerce

Characteristics of B2B EC, Models of B2B EC, Procurement Management by using the Buyer's Internal Market place, Just in Time Delivery, Other B2B Models, Auctions and Services from traditional to Internet Based EDI, Integration with Back-end Information System, Role of Software Agents for B2B EC, Electronic marketing in B2B, Solutions of B2B EC, Managerial Issues, Electronic Data Interchange (EDI), EDI: Nuts and Bolts EDI and Business.

Unit-III: Internet and Extranet

Automotive Network Exchange, Largest Extranet, Architecture of the Internet, Intranet and Extranet, Intranet software, Applications of Intranets, intranet Application Case Studies, Considerations in Intranet Deployment, Extranets, Structures of Extranets, Extranet products and services, Applications of Extranets, Business Models of Extranet Applications, Managerial Issues. Electronic Payment Systems: Issues and Challenges .

Unit-IV: Public Policy:

From Legal Issues to Privacy : Legal Incidents, Ethical and Other public Policy Issues, Protecting Privacy, Protecting Intellectual Property, Free speech, Internet Indecency and Censorship, Taxation and Encryption Policies, Other Legal Issues: Contracts, Gambling and More, Consumer and Seller Protection in EC.

Unit-V: Infrastructure For EC

Network of Networks, Internet Protocols, Web- Based client/Server, Internet Security, Selling on the Web, Chatting on the Web, Multimedia delivery, Analyzing Web Visits, Managerial Issues, Equipment required for establishing EC Sites – problems in Operation – Future of EC.

Reference Books

1. David Whiteley, "E-Commerce", Tata McGraw Hill, 2000.
2. E Business by Parag Kulakarni and Sunitha Jahirabadkar from Oxford University Press.
3. E Business by Jonathan Reynolds from Oxford University Press.
4. Eframi Turban, Jae Lee, David King, K. Michael Chung, "Electronic Commerce",
5. Pearson Education, 2000.

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COMPUTER SCIENCE	**CCSC-606CE**	**2021-22**	**B.Com (C.A)**

SEMESTER –VI **PAPER – X** **Total: 60 Hrs**

Syllabus **E-COMMERCE**

Max.Marks:70

Credits 3 **NO Of Hours5** **Pass Marks 28**

Section-A

Answer **FIVE** Questions. Each Question carries **FIVE** Marks. **5*5=25M**

1. Explain Electronic data interchange?
2. Write about Value Chain Model
3. What are the characteristics of B2B Electronic Commerce
4. Write about applications of Intranet?
5. Explain encryption policies?
6. Write about Internet protocols?

Section-B

Answer **FIVE** Questions. Each Question carries **TEN** Marks. **5*10=50M**

7. What are the advantages and limitations of E-commerce?
8. Write Business Strategy in an Electronic age
9. Explain Electronic Data Interchange(EDI)
10. Explain different Models of B2B Electronic Commerce?
11. Explain the Architecture of Internet?
12. Explain Business Models of Extranet Applications?
13. Explain Ethical and Other public Policy Issues?
14. Explain about the future of EC

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COMPUTER SCIENCE	CCSC-606CE	2021-22	B.Com (C.A)

SEMESTER –VI PAPER – X Max. Marks 70 Pass Marks 28

Guidelines for paper setting **'E-COMMERCE'**

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

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Title of the Paper: PHP & MySql **Semester: IV**

Course Code	**CSC-607CE**	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2017-18	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objectives:

To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.

Course Outcomes:

CO_1	Understand the benefits of a well-structured program
CO2	Understand different computer programming paradigms
CO3	Understand underlying principles of Object-Oriented Programming in Java
CO4	Develop problem-solving and programming skills using OOP concepts
CO5	Develop the ability to solve real-world problems through software development inhigh-level programming language like Java

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COMPUTER SCIENCE	CCSC-607CE	2021-22	B.Com (C.A)

SEMESTER –VI **PAPER – XI**

Syllabus **PHP& MY SQL** **Max.Marks:70**

Credits 3 **NO Of Hours 5** **Pass Marks 28**

Unit-I: Building blocks of PHP:

Variables, Data Types, Operators and Expressions, Constants. Flow Control Functions in PHP: Switching Flow, Loops, Code Blocks and Browser Output. Working with Functions: Defining Functions, Calling functions, returning the values from UserDefined Functions, Variable Scope, Saving State between Function calls with the Static statement, more about arguments.

Unit-II: Working with Arrays:

Arrays, Creating Arrays, Some Array-Related Functions. Working with Objects: Creating Objects, Object Instance. Working with Strings, Dates and Time: Formatting Strings with PHP, Investigating Strings with PHP, Manipulating Strings with PHP, Using Date and Time Functions in PHP.

Unit-III: Working with Forms:

Creating Forms, Accessing Form – Input with User defined Arrays, Combining HTML and PHP code on a single Page, Using Hidden Fields to save state, Redirecting the user, Sending Mail on Form Submission, Working with File Uploads. Working with Cookies and User Sessions: Introducing Cookies, Setting a Cookie with PHP, Session Function Overview, Starting a Session, Working with session variables, passing session Ids in the Query String, Destroying Sessions and Unsetting Variables, Using Sessions in an Environment with Registered Users.

Unit-IV: Working with Files and Directories:

Including Files with include(), Validating Files, Creating and Deleting Files, Opening a File for Writing, Reading or Appending, Reading from Files, Writing or Appending to a File, Working with Directories, Open Pipes to and from Process Using popen (), Running Commands with exec(), Running Commands with system ( ) or passthru ( ). Working with Images: Understanding the Image-Creation Process, Necessary Modifications to PHP, Drawing a New Image, Getting Fancy with Pie Charts, Modifying Existing Images, Image Creation from User Input.

Unit-V: Interacting with MySQL using PHP:

MySQL Versus MySQLi Functions, Connecting to MySQL with PHP, Working with MySQL Data. Creating an Online Address Book: Planning and Creating Database Tables, Creating Menu, Creating Record Addition Mechanism, Viewing Records, Creating the Record Deletion Mechanism, Adding Sub-entities to a Record.

References:

1. Julie C. Meloni, PHP MySQL and Apache, SAMS Teach Yourself, Pearson Education (2007).
2. Xue Bai Michael Ekedahl, The Web Warrior Guide to Web Programming, Thomson (2006).

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COMPUTER SCIENCE	**CCSC-607CE**	**2021-22**	**B.Com (C.A)**

SEMESTER –VI **PAPER – XI** **Total: 60 Hrs**

Syllabus **PHP & MYSQL**

Max.Marks:70 **Credits 3** **NO Of Hours 5** **Pass Marks 28**

Section-A

Answer **FIVE** Questions. Each Question carries **FIVE** Marks. 5*5=25M

1. Explain about different data types available in PHP?
2. Define function? Explain how to call the function?
3. Write a short note on Creating Objects
4. Explain about date and time functions?
5. Explain about cookies?
6. Describe how to create the Record Addition Mechanism?

Section-B

Answer **FIVE** Questions. Each Question carries **TEN** Marks. 5*10=50M

7. Explain different types of Operators in PHP?
8. Explain flow control functions in PHP?
9. What is an Array? Explain about array related functions.
10. Explain different string functions in PHP?
11. Explain about how to create and access a form in PHP?
12. Describe the working with session variables?
13. Explain working with Directories?
14. Explain about how to insert and retrieve the data in PHP?

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Computer Science	CCSC-607CE	2021-22	B.Com (C.A)

SEMESTER –VI PAPER – XI Max. Marks 70 Pass Marks 28

Guidelines for paper setting **'PHP & MYSQL'**

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by

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COMPUTER SCIENCE	**CCSC-607CE**	**2021-22**	**B.Com (C.A)**

SEMESTER –VI **PAPER – VI** **Total: 60 Hrs**

Lab List **PHP, MySQL** **Pass Marks 20**
No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

MySQL Lab Cycle

Cycle -1
An Enterprise wishes to maintain the details about his suppliers and other corresponding details. For that he uses the following details.
Suppliers (sid: Integer, sname: string, address: string)
Parts (pid: Integer, pname: string, color: string)
Catalog (sid: integer, pid: integer, cost: real)

The catalog relation lists the prices charged for parts by suppliers.

Write the following queries in SQL:

1. Find the pnames of parts for which there is some supplier.
2. Find the snames of suppliers who supply every part.
3. Find the snames of supplier who supply every red part.
4. Find the pnames of parts supplied by London Supplier abd by no one else.
5. Find the sid's of suppliers who charge more for some part than the average cost of that part.
6. For each part, find the sname of the supplier who charges the most for that part.
7. Find the sid's of suppliers who supply only red parts.
8. Find the sid's of suppliers who supply a red and a green part.
9. Find the sid's of suppliers who supply a red or green part.
10. Find the total amount has to pay for that suppler by part located from London.

Cycle – 2

An organisation wishes to maintain the status about the working hours made by his employees. For that he uses the following tables.

Emp (eid: integer, ename: string, age: integer, salary: real)
Works (eid: integer, did: integer, pct_time: integer)
Dept (did: integer, budget: real, managerid: integer)
An employee can work in more than one department; the pct_time field of the works relation shows the percentage of time that a given employee works in a given department.

Resolve the following queries.

1. Print the names and ages of each employee who works in both Hardware and Software departments.

2. For each department with more than 20 full time equivalent employees (i.e., where the part-time and full-time employees add up to at least that many full-time employees), print the did's together with the number of employees that work in that department.
3. Print the name of each employee whose salary exceeds the budget of all of the departments that he or she work in.
4. Find the managerid's of managers who manage only departments with budgets greater than 1,000,000.
5. Find the enames of managers who manage the departments with largest budget.
6. If a manager manages more than one department, he or she controls the sum of all the budgets for those departments. Find the managerid's of managers who control more than 5,000,000.
7. Find the managerid's of managers who control the highest amount.
8. Find the average manager salary.

PHP Lab Cycle

1. Write a PHP program to Display "Hello"
2. Write a PHP Program to display the today's date.
3. Write a PHP Program to read the employee details.
4. Write a PHP program to prepare the student marks list.
5. Write a PHP program to generate the multiplication of two matrices.
6. Write a PHP Application to perform demonstrate the college website.
7. Write a PHP application to add new Rows in a Table.
8. Write a PHP application to modify the Rows in a Table.
9. Write a PHP application to delete the Rows from a Table.
10. Write a PHP application to fetch the Rows in a Table.
11. Develop an PHP application to make following Operations
    i. Registration of Users.
    ii. Insert the details of the Users.
    iii. Modify the Details.
    iv. Transaction Maintenance.
        a) No of times Logged in
        b) Time Spent on each login.
        c) Restrict the user for three trials only.
        d) Delete the user if he spent more than 100 Hrs of transaction.

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2021-2022

DEPARTMENT OF COMPUTER SCIENCE

MINUTES OF BOARD OF STUDIES

ODD SEMESTER

10-11-2021

Minutes of the meeting of Board of Studies in Computer Science for Semester I, III & V of I, II & III years B.Sc. (MPCs, MCCs, MSCs), B.Com. (C.A.) and B.Com (e-Commerce) Life Skill Course and Skill Development Course of AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru, held at 9.30 A.M on 10-11-2021 in the Department of Computer Science.

Sri T.NagaPrasadaRao ... Presiding

Members Present:

1)..... (T.NagaPrasadaRao)	Chairman	Head, Department of Computer Science, AG & SG Siddhartha Degree College of Arts & Science.
2) ..... (Dr. M. Babu Reddy)	University Nomine	Principal, Krishna University College of Engineering and Technology, Machilipatnam.
3) ..... (Dr. P. J. S Kumar)	Subject Expert	Head, Department of Computer Science A.N.R College Gudivada.
4) ..... (Mr. K. Sridhar)	Subject Expert	Deputy Head, Department of Computer Science PB Siddhartha College of Arts & Science, Vijayawada.
5) ..... (R. Sowjanya)	Industrial Expert	.Net Developer, Maven Soft System Pvt. Ltd Madaapur, Hyderabad.
6)..... (T. Keerthi)	Member	Lecturer in Computer Science, AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru
7)..... (K Srikanth)	Member	Lecturer in Computer Science, AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165.
8)..... (S.Prabhavathi)	Member	Lecturer in Computer Science, AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
9) ..... (A ...)	Member	Lecturer in Computer Science, AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
10)..... (V.N.MalleswraRao)	Member	Lecturer in Computer Science, AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
11)..... (A. Naga Srinivasa Rao)	Member	Lecturer in Computer Science, AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
12)..... (V. Munni)	Member	Lecturer in Computer Science, AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
13) ..... (K. Rajya Lakshmi)	Member	Student in M.Sc. Computer Science, AG& SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
14) ..... (M. Jyothi)	Member	Student in B.Sc. Computer Science, AG& SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165

Agenda for B.O.S Meeting.

1. To Discuss and approve the Structure and Syllabi, Model Question Paper for first Semester of B.Sc.(MPCs, MCCs.MSCs) & B.Com (C.A), B.Com(e-Commerce) Programs for the student are admitted from the Academic Year 2021-22.
2. To Discuss and approve the Structure and Syllabi, Model Question Paper for Third Semester of B.Sc.(MPCs, MCCs.) & B.Com (C.A) Programs for the Academic Year 2021-22.
3. To Discuss and approve the Structure and Syllabi, Model Question Paper for Fifth Semester of B.Sc.(MPCs, MCCs.) & B.Com (C.A) Programs for the Academic Year 2021-22.
4. To recommend any changes in the syllabi for I, III, V Semesters of I, II, III year Degree B.Sc.(MPCs, MCCs, MSCs), B.Com.(C.A.) and B.Com(e-commerce).
5. To Introduce a New Programs for B.Sc (MSCs) and B.Com (e-commerce) from the Academic Year 2021-22.
6. To Introduce a Life Skill Course and Skill Development Course for all B.Sc and B.Com from the Academic Year 2021-22.
7. To recommend the teaching and evaluation methods to be followed under Autonomous status.
8. To recommend the panel of paper setters and examiners to the controller of the examinations of autonomous courses of AG & SG Siddhartha Degree College of Arts & Science College, Vuyyuru.
9. Any other matter

Resolutions.

1) It is Resolved and Recommended to adopt the structure and syllabi and Model Question Papers for first semester of B.Sc.(MPCs, MCCs, MSCs) & B.Com (C.A), B.Com(e-Commerce) Programs under CBCS(Choice Based Credit System) Approved by the Academic Council from the Academic Year 2021-22.

2) It is Resolved and Recommended to adopt the structure and syllabi and Model Question Papers for Third semester of B.Sc.(MPCs, MCCs) & B.Com (C.A), Programs under CBCS(Choice Based Credit System) Approved by the Academic Council from the Academic Year 2020-21

3) It is Resolved and Recommended to adopt the structure and syllabi and Model Question Papers for fifth semester of B.Sc.(MPCs, MCCs) & B.Com (C.A), Programs under CBCS(Choice Based Credit System) Approved by the Academic Council from the Academic Year 2020-21

4) It is Resolved and Recommend any changes in the syllabi for I, III, V Semesters of I, II, III year Degree B.Sc.(MPCs, MCCs, MSCs), B.Com.(C.A.) and B.Com(e-commerce).

   - **It is Resolved and Recommend change Syllabi and Model Question paper as per new regulations in I & III Semester of I & II Year Degree B.Sc. (MPCs, MCCs) and B.Com(CA).**
   - **It is Resolved and recommend NO changes in the syllabi for V Semester of III Year B.Sc. (MPCs, MCCs) & B.Com.(CA).**
   - **It is Resolved and recommend to Value Added Course on ARTIFICIAL INTELLIGENCE Course code AIVAC101 in SEMESTER III for Second Year Students.**

5) It is Resolved to implements New Programs for B.Sc (MSCs) and B.Com (e-commerce) from the Academic Year 2021-22.
6) It is Resolved to implements Life Skill Course and Skill Development Course for all B.Sc and B.Com from the Academic Year 2021-22.
7) It is resolved to continue the teaching and evaluation methods to be followed under Autonomous status.
8) It is resolved to continue the panel of paper setters and examiners to the controller of the examinations of autonomous courses of AG & SG Siddhartha Degree College of Arts & Science College, Vuyyuru.
9) Any other matter

Teaching methods:

Besides the conventional methods of teaching, we use modern technology i.e. Using of LMS and LCD projector to display on power board etc..for better understanding of concepts.

Evaluation of a student is done by the following procedure:

There are two components in the Valuation and Assessment of a student – Internal Assessment (**IA**) Semester Examinations (**SE). For the Batch of Students Admitted from 2021-22.**

Internal Assessment (IA)

- The maximum mark for IA is 25 and SE is 75 for theory; and for practical marks for IA 10 and 40 Marks for External Exam.
- Each IA written examination is of 1 hour 30 minutes duration for 20 marks. The tests will be conducted centrally. The average of two such IA is calculated for 20 marks.

- Other Innovative Components will be for 5 Marks. The innovative component is for 5 marks, conducted during the class hours by the staff member/ in charge of the subject, in the form of assignments/ quiz/ seminars /PPT/Online- assignments/Open Book/Viva Voce/ Group work/ Mini
- Project/ Exhibition, etc. The topic and time for submission/ presentation will be announced by the staff member/ in charge of the subject in advance. Each student should explain and defend his/her presentation.

- The semester examination will be of 3 hours with maximum 75 marks.
- There are no passing minimum marks for IA.

Internal Assessment (IA)

- The maximum mark for IA is 30 and SE is 70 for theory; and for practical marks for IA 10 and 40 Marks for External Exam.
- Each IA written examination is of 1 hour 30 minutes duration for 20 marks. The tests will be conducted centrally. The average of two such IA is calculated for 20 marks.
- Other Innovative Components will be for 5 Marks. The innovative component is for 5 marks, conducted during the class hours by the staff member/ in charge of the subject, in the form of assignments/ quiz/ seminars /PPT/Online- assignments/Open Book/Viva Voce/ Group work/ Mini Project/ Exhibition, etc. The topic and time for submission/ presentation will be announced by the staff member/ in charge of the subject in advance. Each student should explain and defend his/her presentation.
- For attendance 5 Marks are allotted.
- The semester examination will be of 3 hours with maximum 70 marks.
- There are no passing minimum marks for IA.

Semester Examinations (SE)

- A student should register himself/herself to appear for the Semester Examinations by payment of the prescribed fee.
- The Semester Examinations will be in the form of a comprehensive examination covering the entire syllabus in each subject. It will be of 3 hours duration & Foundation course 2 hours irrespective of the number of credits allotted to it.
- If a candidate fails to obtain pass marks even after the due to less mark in the IA examination, the marks of the next examination will be converted to be out of 100.
- Even though the candidate is absent for two IA exams/obtain zero marks the external marks are considered (if he/she gets 40/70) and the result shall be declared as 'PASS'.
- The maximum marks for each Paper shall be 100.

Question paper guide lines for Practical Examinations at the end of Semesters I, III & V Two Practical Programs to be conducted out of 15 programs at the end of Semester I, III & V Practical Examination time 3Hrs and Maximum Marks 50 Scheme of valuation Semesters – I, III & V B.Sc.& B.Com.(C.A),

Computer Science Practical's - External (Time: 3 hrs.) **Total Marks: 25M**

1. Programs Writing (2)	:	20 marks,
2. Viva voice	:	5 marks
3. Execution & Result	:	15 marks
Total Marks	:	40

Computer Science Practical's- Internal **Total Marks: 10 M**

1. . Record : 10 marks

6.) Discussed and recommended for organizing Seminars, Guest lectures, Work-shops to upgrade the knowledge of students, for the approval of the Academic Council.

7) Discussed and empowered the HOD to suggest the panel of the paper setters and examiners to the controller of the examinations.

8). We implemented online certificate courses such as NPTL, APSSDC - PYTHON, R- Programming, Amazon Web services and JAVA -----etc. To fill the curriculum gaps from II year Degree on words

9). Suggestions

Chairman

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
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COMPUTER SCIENCE	CSC-501C	2021-'22	B.Sc.(MPCs,MCCs)

SEMESTER – V **PAPER – V** **Max. Marks 70**
Syllabus: DATA BASE MANAGEMENT SYSTEMS
NO of Hours: 4 **No Of Credits: 3** **Pass Marks 28**

Course Objective: Design & develop database for large volumes & varieties of data with optimized data processing techniques.

Unit – I: Database Systems Introduction **12Hrs**

Database Systems: Introducing the database and DBMS, Why the database is important,

Historical Roots*:* Files and File Systems, Problems with File System, Data Management, **Database Systems**. *Data Models:* The importance of Data models, Data Model Basic Building Blocks, The evaluation of Data Models, Degree of Data Abstraction.

Unit - II: Relational Database & Data Modelling **12 Hrs**

The Relational Database Model*:* A logical view of Data, Keys, Integrity Rules, Relational Set Operators, The Data Dictionary and the system Catalog, Indexes, Codd's relational database rules

.Entity Relationship Model: The ER Model*Advanced Data Modelling:* The Extended Entity Relationship Model, Entity clustering, Entity integrity.

Unit-III: Normalization and Database Design **14 Hrs**

Data base Tables and Normalization, The need Normalization, The Normalization Process, High level Normal Forms, Normalization and database design, de normalization.

Database Design: The Information System, The Systems Development Life Cycle, The Database Life Cycle, Centralized Vs Decentralized design.

Unit-IV: Structured Query Language **12 Hrs**

Introduction to SQL: Data Definition Commands, Data Manipulation Commands, Select queries, Advanced Data Definition Commands, Advanced Select queries, Virtual Tables, SQL Join Operators, Sub queries and correlated queries, SQL Functions.

Unit-V: Procedural SQL **10Hrs**

Introduction to PL/SQL: Triggers, Stored Procedures, Pl/ SQL Stored Functions

Prescribed Text Book:

Peter Rob, Carlos Coronel, Database Systems Design, Implementation and Management, Seventh Edition, Thomson (2007).

Reference Books:

Elimasri / Navathe, Fundamentals of Database Systems, Fifth Edition, Pearson Addison Wesley 2. Raman A Mata – Toledo/Panline K Cushman, Database Management Systems, .

C.J.Date, Arkansan, S.Swamynathan, An Introduction to Database Systems, Eight edition,

"DatabaseSystemConcepts" by AbrahamSilberschatz, Henry Korth, and S.Sudarshan,

Atul Kahate, Introduction to Database Management Systems, Pearson Education (2006).

Student Activity: 1. Create your college database for placement purpose. 2. Create faculty database of your college with their academic performance scores

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COMPUTER SCIENCE	**CSC-501C**	**2021-'22**	**B.Sc.(MPCs,MCCs)**

SEMESTER – V **PAPER – V** **Max. Marks 70**

Model Paper: **DATA BASE MANAGEMENT SYSTEMS**

NO of Hours: 4 **No Of Credits: 3** **Pass Marks 28**

Section-A

Answer any **FOUR** Questions. Each question carries **FIVE** Marks **4x5=20M**

1. Explain the Components of Database System?
2. Explain Relational Data Model?
3. Write about Relational Set Operators?
4. Describe BCNF?
5. Write about Special Functions?
6. Explain Stored Procedures?

Section-B

Answer any **FIVE** Questions. Each question carries **TEN** Marks **5X10=50M**

7. What is File? Explain the problems with File system
8. Explain the Degree of Data Abstraction
9. Explain E.F.CODDs' rules.
10. Explain Extended Entity Relationship Model
11. Explain the concept of Normal Forms
12. Explain about SDLC.
13. Explain DDL and DML commands.
14. Explain about triggers.

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COMPUTER SCIENCE	CSC-501C	2021-'22	B.Sc.(MPCs,MCCs)

SEMESTER – V PAPER – V Max. Marks 70 Pass Marks 28

Guidelines for paper setting '**DATA BASE MANAGEMENT SYSTEMS'**

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

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COMPUTER SCIENCE	CSC-501P	2021-'22	B.Sc.(MPCS,MCCs)

SEMESTER – V **PAPER – V** **Max. Marks 50**

Lab List DATA BASE MANAGEMENT SYSTEMS Pass Marks 25

No. of Hours per week: 2 External: 25 Internal: 25 Credits: 2

1. Creation of college database and establish relationships between tables
2. Explain various data type in Oracle.
3. Show the structure of the Emp table.
4. Show the structure of the DEPT table.
5. Explain the syntax of SELECT statement.
6. Create a query to display the name, job, hire date and employee number from emp table.
7. Create a query to display unique jobs from the emp table.
8. Create a query to display the empno as EMP#, ename as EMPLOYEE and Hire date from emp.
9. Create a query to display all the data from the EMP table. Separate each column by a comma and name the column THE_OUTPUT.
10. Create a query to display the name and salary of employees earning more than 2850.
11. Create a query to display the name and salary for all employees whose salary is not in the range of 1500 and 2850.
12. Display the employee name, job and start date of employees hired between February 20 ,1981 and May 1, 1981. Order the query in ascending order of start date
13. Display the employee name and department number of all the employees in departments 10 and 30 in alphabetical order by name.
14. List the name and salary of employees who earn more than 1500 & are in department 10 or 30.
15. Display the name, salary and commissions and sort data in descending order of salary and commission.
16. Display the name and job title of all employees who do not have a manager.
17. Display the name, job and salary for all employees whose job is Clerk or Analyst and their salary is not equal to 1000, 3000 or 5000.
18. Display the names of all employees where the third letter of their name is an 'A'.
19. Display the names of all employees who have two 'L's in their name and are in department 30 or their manager is 7782.
20. Display the name , salary and commission for all employees whose commission amount is grater than their salary increased by 10%.
21. Explain all the character functions.
22. Explain all the number functions.
23. Explain all the Date functions.
24. Explain different types of JOIN.
25. Write a query to display the name, department number and department name for all employees.
26. Create a unique listing of all jobs that are in department 30. and include the location of department 30 in the output.
27. Write a query to display the employee name, department name and location of all employees who earn a commission.
28. Write a query to display the name, job department number and department name for all employees who work in 'DALLAS'.
29. Create a query to display the name and hire date of any employee hired after employee BLAKE.

30. . Display all employees names and hire dates along with their manager's name and hire date for all employees who were hired before their managers.
31. Create your own users and give permissions to you and explain GRANT and REVOKE Commands.

A. Create MOVIE database using the following tables.

MOVIE:Movie no: primary key, varchar2Movie name: NOT NULL, varchar2Movie Type: varchar2Star: Varchar2

CUSTOMER: Customer No: primary key, varchar2 Customer Name: NOT NULL, varchar2 Address: NOT NULL Phone no: Number INVOICE: Invoice no: Varchar2, primary key Movie no: foreign key Customer no: foreign key Price: NOT NULL, Number

Queries:

1. List the movie names that starts with 'p'
2. List the number of the movies those price ranges from 15000 and 20000
3. List the customers who have phone numbers.
4. List the customers who have no phone numbers.
5. Display the following string

(a) A Customer "customer number" has bought the "movie number" "movie name" with "Price"

6. List the customers by calculating price as (price*tax)/100 where tax=0.5 and rename the column as 'tax'.
7. List the movies, which are owned by 2 customers.
8. List the customers, who bought 2 picture names.
9. List the customers, who are not the range of 15000 and 20000.

B. Create Student database using the following tables.

STUDENT: Sno : primary key, numberSname : NOT NULL, varchar2 Address: Varchar2

COURSE:Sno : Foreign key.Course Name : varchar2

Queries:

1. Alter table by adding a column fees in table COURSE.
2. Alter table by modifying the address to VARCHAR2(20)
3. Create a view on which the students who joined in one course only.

PL/SQL.

1. Write A Pl/Sql Program To Swap Two Numbers Without Using Third Variable.
2. Write A Pl/Sql Program To Generate Multiplication Tables For Numbers 2,4 And 6
3. Write A Pl/Sql Program To Display Sum Of Even Numbers And Sum Of Odd Numbers In The Given Range.
4. Write A Pl/Sql Program To Check The Given Number Is Pollinndrome Or Not.
5. Write A Pl/Sql Program To Display Top 10 Rows In Emp Table Based On Their Job And Salary.
6. Write A Procedure Update The Salary Of Employee, Who is Not Getting Commission by 10%.

Reference Books:

1. Oracle Pl/Sql By Example. Benjamin Rosenzweig, Elena Silvestrova, Pearsoneducation 3rd Edition
2. Sql& Pl/Sql For Oracle 10g, Black Book, Dr.P.S. Deshpande

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COMPUTER SCIENCE	CSC-502C	2021-'22	B.Sc.(MPCs,MCCs)

SEMESTER – V **PAPER – VI** **Max. Marks 70**

Syllabus: **SOFTWARE ENGINEERING**

NO of Hours: 4 **No Of Credits: 3** **Pass Marks 28**

Course Objectives

The Objective of the course is to assist the student in understanding the basic theory of software engineering, and to apply these basic theoretical principles to a group software development project.

UNIT-I: Introduction to Software Engineering & Process **12Hrs**

The Evolving Role of Software– Software - The Changing Nature of Software, Software Myths, Legacy Software.

Process: Software Engineering-A Layered Technology - A Process Framework - The Capability Maturity Model Integration (CMMI) - Process Patterns, Process Assessments - Personal Software Process(PSP), Team Software Process (TSP).

Unit-II: Process Models **12Hrs**

The Waterfall Models - Increment Process Models: The Increment Model, The RAD Model - Evolutionary Process Models: Prototyping, The Spiral Model, The Concurrent Development Model.

Unit-III: Requirements Engineering **14 Hrs**

Requirements Engineering Tasks - Initiating The Requirements Engineering Process - Eliciting Requirements: Collaborative Requirements Gathering, Quality Function Deployment, User Scenarios, Elicitation Work Products - Negotiating Requirements - Validating Requirements.

Unit-IV: Design Engineering **10Hrs**

Design Process And Design Quality - Design Concepts - The Design Model: Data Design Elements, Architectural Design Elements, Interface Design Elements, Component-Level Design Elements, Deployment -Level Design Elements.

Unit-V:SoftwareQuality: **12Hrs**

Quality and Quality Concepts, Software Quality Assurance (SQA), Software Reviews, Formal Technical Reviews, Formal Approaches to SQA and SSQA, Software Reliability, The ISO 9000 Quality Standards, The SQA Plan.

Prescribed Text Book:

1. Software Engineering – A Practitioner's Approach, Sixth Edition - Roger S Pressman, TATA McGrawHill: Chapters: 1,2,3,7,8 and 9)

Reference Books:

1. Software Engineering Principles and Practice by Deepak Jain Oxford University Press
2. Sommerville, "Software Engineering", Eighth Edition, Pearson Education, 2007

Student Activity: Visit any financial organization nearby and prepare requirement analysis report

2. Visit any industrial organization and prepare risk chart.

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COMPUTER SCIENCE	**CSC-502C**	**2021-'22**	**B.Sc.(MPCs,MCCs)**

SEMESTER – V **PAPER – VI** **Max. Marks 70**

Model Paper **SOFTWARE ENGINEERING**

NO of Hours: 4 **No Of Credits: 3** **Pass Marks 28**

Section – A

Answer any **FOUR** Questions. Each question carries **FIVE** Marks **4x5=20M**

1. Write about Software Layered Technology?
2. Explain about Process Framework?
3. Explain about RAD Model?
4. Explain Validating Requirements
5. Explain about Modularity?
6. Write about Software Reliability?

Section – B

Answer any **FIVE** Questions. Each question carries **TEN** Marks **5X10=50M**

7. Explain about CMMI?
8. Explain about Software Myths?
9. Explain about Incremental Model?
10. Explain about Spiral Model
11. Explain about Requirements Engineering Tasks?
12. Write about design concepts in design engineering?
13. Explain about Quality and Quality Concepts?
14. Write about SSQA?

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COMPUTER SCIENCE	CSC-502C	2021-'22	B.Sc.(MPCs,MCCs)

SEMESTER – V PAPER – VI Max. Marks 70 Pass Marks 28

Guidelines for paper setting '**SOFTWARE ENGINEERING'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	CSC-502C	2021-'22	B.Sc.(MPCS,MCCs)

SEMESTER – V **PAPER – VI** **Max. Marks 50**

Lab List **SOFTWARE ENGNEERING** **Pass Marks 25**
No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

A. ATM

1. Objective of an ATM System. 2. Use-case Diagram of an ATM System 3. Class Diagram of an ATM System 4. Sequence Diagram of an ATM System 5. Activity Diagram of an ATM System6.State Diagram of an ATM System 7. Deployment Diagram of an ATM System

B. Library management System

1. Objective of Library management System.2. Use-case Diagram of Library management
3. Class Diagram of Library management System4. Sequence Diagram of Library management 5. Activity Diagram of Library management System 6. State Diagram of Library management 7. Deployment Diagram of Library management System

C. Barcode Reader

1. Objective of Barcode Reader 2. Use-case Diagram of Barcode Reader 3. Class Diagram of Barcode Reader 4. Sequence Diagram of Barcode Reader 5. Activity Diagram of Barcode Reader 6. State Diagram of Barcode Reader 7. Deployment Diagram of Barcode Reader

D .Safe Home System

1. Objective of Safe Home System.2. Use-case Diagram of Safe Home System3. Class Diagram of Safe Home System4. Sequence Diagram of Safe Home System5. Activity Diagram of Safe Home System6. State Diagram of Safe Home System7. Deployment Diagram of Safe Home System

E. Online Book Store System

1. Objective of Online Book Store System 2. Use-case Diagram of Online Book Store System3. Class Diagram of Online Book Store System 4. Sequence Diagram of Online Book Store 5. Activity Diagram of Online Book Store System 6. State Diagram of Online Book Store System 7. Deployment Diagram of Online Book Store System

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COMPUTER SCIENCE	**CCSC-505C**	**2021-22**	**B. Com (CA)**

SEMESTER – V **PAPER – V** **Max. Marks 70** **Pass Marks 28**

Syllabus **OBJECT ORIENTED PROGRAMMING USING JAVA**

Total Hrs: 60 **NO. Of. Hours: 5** **Credits: 3**

UNIT-I **10Hrs**

Fundamentals of Object – Oriented Programming: Introduction, Object Oriented paradigm, Basic Concepts of OOP, Benefits of OOP, Applications of OOP, Java features:

UNIT-II **14Hrs**

Overview of Java Language: Introduction, Simple Java program structure, Java tokens, Java Statements, Implementing a Java Program, Java Virtual Machine, Command line arguments. **Constants, Variables & Data Types:** Introduction, Constants, Variables, Data Types, Declaration of Variables, Giving Value to Variables, Scope of variables, Type casting, Getting Value of Variables, **Operators.**

UNIT-III **12Hrs**

Decision Making & Branching: Introduction, Decision making with if statement, Simple if statement, if-Else statement, Nesting of if-else statements, the else if ladder, the switch statement, the conditional operator. **Looping**: Introduction, while statement, do-while statement, for statement, Jumps in loops.

UNIT-IV **12 Hrs**

Classes, Objects & Methods: Introduction, defining a class, adding variables, adding methods, creating objects, Accessing class members, Constructors, Method overloading, Method Overriding, Static members, Nesting of methods;

UNIT-V **12Hrs**

Inheritance: Extending a Class, Overriding Methods, Final Variables and Methods, Final Classes, Abstract Methods and Classes; **Arrays, Strings And Vectors:** Arrays, One-dimensional arrays, Creating an array, Two – dimensional arrays, Strings, Vectors, Wrapper classes; **Interfaces**: **Multiple Inheritance**: Introduction, Defining interfaces, Extending interfaces, Implementing interfaces, Assessing interface variables;

Prescribed Text Book:

1. E. Balaguruswamy, Programming with JAVA, A primer, 3e, TATA McGraw-Hill Company.

Reference Books

1. Programming In Java By Sachin Malhotra And Saurabh Choudhary From Oxford University Press
2. Object Oriented Programming Through Java by P. Radha Krishna, Universities Press
3. John R. Hubbard, Programming with Java, Second Edition, Schaum's outline Series,
4. Deitel&Deitel. Java TM: How to Program, PHI (2007)
5. Java Programming: From Problem Analysis to Program Design- D.S Mallik

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COMPUTER SCIENCE	**CCSC-505C**	**2021-22**	**B. Com (CA)**

SEMESTER – V PAPER – V Max. Marks 70 Pass Marks 28

Syllabus: OBJECT ORIENTED PROGRAMMING USING JAVA

Total Hrs: 60 NO. Of. Hours: 4 Credits: 3

Section- A

Answer FOUR Questions. Each Question carries FIVE Marks. 4*5=20M

1. What are the Applications of OOP?
2. What is a variable? Explain its rules?
3. Explain different data types in java?
4. Write about switch statement?
5. Explain about Constructors?
6. Differences between arrays and vectors?

Section- B

Answer FIVE the Questions. Each Question carries TEN Marks 5*10=50M

7. Explain the Concepts of Object Oriented Programming?
8. Explain java Features?
9. Explain the structure of java program?
10. Explain different types of Operators in Java with Examples?
11. Explain about Decision Making Statements with examples?
12. Explain Looping statements with example?
13. Explain Method overloading with an example program?
14. Explain about inheritance?

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(**With Effect from Academic Year2020-21**)

COMPUTER SCIENCE	**CCSC-505C**	**2021-22**	**B. Com (CA)**

SEMESTER – V PAPER – V Max. Marks 70 Pass Marks 28

Syllabus OBJECT ORIENTED PROGRAMMING USING JAVA

Total Hrs: 60 NO. Of. Hours: 4 Credits: 3

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	1	2
Unit-2	2	2
Unit-3	1	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	**CCSC-505C**	**2021-22**	**B. Com (CA)**

SEMESTER – V **PAPER – V**

Lab List: **OBJECT ORIENTED PROGRAMMING USING JAVA Pass Marks 25**

No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

1. Write a program to perform various String Operations
2. Write a program to print the given number is Armstrong or not?
3. Prompt for the cost and selling price of an article and display the profit (or) loss
4. Write a program to print the numbers given by command line arguments
5. Write a program on class and object in java
6. Illustrate the method overriding in JAVA
7. Write a program to find the Simple Interest using Multilevel Inheritance
8. Write a program to display matrix multiplication.
9. Write a program on interface in java
10. Write a program on inheritance

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COMPUTER SCIENCE	CCSC 506C	2021-'22	B.Com.(C.A.)

SEMESTER – V **PAPER – VI** **Max. Marks 70**

Syllabus : **DATA BASE MANAGEMENT SYSTEMS**

NO Of Hours: 5 **No Of Credits: 3** **Pass Marks 28**

Course Objective: Design & develop database for large volumes & varieties of data with optimized data processing techniques.

Unit – 1: Database Systems Introduction **12Hrs**

Database Systems: Introducing the database and DBMS, Why the database is important,

Historical Roots: Files and File Systems, Problems with File System, Data Management, Database Systems. *Data Models:* The importance of Data models, Data Model Basic Building Blocks, The evaluation of Data Models.

Unit - II: Relational Database & Data Modelling **12 Hrs**

The Relational Database Model: A logical view of Data, Keys, Integrity Rules, Relational Set Operators, Indexes, Codd's relational database rules.*Entity Relationship Model:* The ER Model

Advanced Data Modelling: The Extended Entity Relationship Model, Entity clustering.

Unit-III: Normalization and Database Design **14 Hrs**

Normalization of database tables: Database Tables and Normalization, The need for Normalization, The Normalization Process, High level Normal Forms, Normalization and database design, de normalization.

Unit-IV: Structured Query Language **12 Hrs**

Introduction to SQL: Data Definition Commands, Data Manipulation Commands, Select queries, Advanced Data Definition Commands, Advanced Select queries, Virtual Tables, SQL Join Operators,

Unit-V: Procedural SQL **10 Hrs**

Introduction to PL/SQL : Triggers, Stored Procedures, Pl/ SQL Stored Functions

Prescribed Text Book:

1. **Peter Rob, Carlos Coronel, Database Systems Design, Implementation and Management, Seventh Edition, Thomson (2007).**

Reference Books:

2Elimasri / Navathe, Fundamentals of Database Systems, Fifth Edition, Pearson Addison Wesley

3. C.J.Date, A.Kannan, S.Swamynathan, An Introduction to Database Systems, Eight edition, Pearson Education (2006).

Student Activity:

1. Create your college database for placement purpose.
2. Create faculty database of your college with their academic performance scores

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COMPUTER SCIENCE	**CCSC 506C**	**2021-'22**	**B.Com.(C.A.)**

SEMESTER – V **PAPER – VI** **Max. Marks 70**

Model Paper **DATA BASE MANAGEMENT SYSTEMS**

NO Of Hours: 5 **No Of Credits: 3** **Pass Marks 28**

Section-A

Answer any **FOUR** Questions. Each question carries **FIVE** Marks **4x5=20M**

1. Explain the Components of Database System?
2. Explain Entity Relationship Model?
3. Write about Relational Set Operators?
4. Describe BCNF?
5. Write about Special Functions?
6. Explain Stored Procedures?

Section-B

Answer any **FIVE** Questions. Each question carries **TEN** Marks **5X10=50M**

7. What is File? Explain the problems with File system?
8. Explain any three different Data Models?
9. Explain E.F. CODDs' rules?
10. Explain Extended Entity Relationship Model?
11. Explain the concept of Normal Forms?
12. Explain different join operators?
13. Explain DDL and DML commands?
14. Explain about triggers?

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COMPUTER SCIENCE	CCSC 506C	2021-'22	B.Com.(C.A.)

SEMESTER – V PAPER – VI Max. Marks 70 Pass Marks 28

Guidelines for paper setting '**DATA BASE MANAGEMENT SYSTEMS'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	1
Unit-4	1	2
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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(**With Effect from Academic Year 2020-21**)

COMPUTER SCIENCE	**CCSC-506P**	**2021-'22**	**B. COM(CA)**

SEMESTER – V **PAPER – VI** **Max. Marks 50**

Lab List DATA BASE MANAGEMENT SYSTEMS **Pass Marks 25**

No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

1. Creation of college database and establish relationships between tables
2. Explain various data type in Oracle.
3. Show the structure of the Emp table.
4. Show the structure of the DEPT table.
5. Explain the syntax of SELECT statement.
6. Create a query to display the name, job, hiredate and employee number from emp table.
7. Create a query to display unique jobs from the emp table.
8. Create a query to display the empno as EMP#, ename as EMPLOYEE and Hire_date from emp.
9. Create a query to display all the data from the EMP table. Separate each column by a comma and name the column THE_OUTPUT.
10. Create a query to display the name and salary of employees earning more than 2850.
11. Create a query to display the name and salary for all employees whose salary is not in the range of 1500 and 2850.
12. Display the employee name, job and start date of employees hired between February 20 ,1981 and May 1, 1981. Order the query in ascending order of start date
13. Display the employee name and department number of all the employees in departments 10 and 30 in alphabetical order by name.
14. List the name and salary of employees who earn more than 1500 & are in department 10 or 30.
15. Display the name, salary and commissions and sort data in descending order of salary and commission.
16. Display the name and job title of all employees who do not have a manager.
17. Display the name, job and salary for all employees whose job is Clerk or Analyst and their salary is not equal to 1000, 3000 or 5000.
18. Display the names of all employees where the third letter of their name is an 'A'.
19. Display the names of all employees who have two 'L's in their name and are in department 30 or their manager is 7782.
20. Display the name , salary and commission for all employees whose commission amount is grater than their salary increased by 10%.
21. Explain all the character functions.
22. Explain all the number functions.
23. Explain all the Date functions.

<u>Create Student database using the following tables.</u>

STUDENT: Sno : primary key, numberSname : NOT NULL, varchar2 Address: Varchar2

COURSE:Sno : Foreign key.Course Name : varchar2

Queries:

1. Alter table by adding a column fees in table COURSE.
2. Alter table by modifying the address to VARCHAR2(20)
3. Create a view on which the students who joined in one course only.

PL/SQL.

1. Write A Pl/Sql Program To Swap Two Numbers Without Using Third Variable.
2. Write A Pl/Sql Program To Generate Multiplication Tables For Numbers 2,4 And 6
3. Write A Pl/Sql Program To Display Sum Of Even Numbers And Sum Of Odd Numbers In The Given Range.
4. Write A Pl/Sql Program To Check The Given Number Is Pollinndrome Or Not.
5. Write A Pl/Sql Program To Display Top 10 Rows In Emp Table Based On Their Job And Salary.

Reference Books:

1. Oracle Pl/Sql By Example. Benjamin Rosenzweig, Elena Silvestrova, Pearsoneducation 3rd Edition

2. Sql& Pl/Sql For Oracle 10g, Black Book, Dr.P.S. Deshpande

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COMPUTER SCIENCE	**CCSC-507C**	**2021-'22**	**B.Com.(CA)**

SEMESTER – V **PAPER – VII** **Max. Marks 70**

Syllabus **WEB TECHNOLOGIES**

NO Of Hours: 5 **No of Credits: 3** **Pass Marks 28**

Unit -I Introduction to XHTML: **13Hrs**

Introduction to HTML, Basic html, Document body text, Hyperlinks, Lists, Tables, Images, Frames, Forms and XHTML.

Unit- II: CSS: **12Hrs**

Cascading Style Sheets: Introduction, Defining your own styles, properties and values in styles, Formatting blocks of information, Layers.

Java Script: java Script, the basics, Variables, String Manipulations, Mathematical functions, Statements, Operators.

Unit –III: Objects in Java Script & Dynamic HTML with Java Script **13Hrs**

Objects in Java Script: Data and objects in java script, Regular expressions, Exception Handling, built in objects, Events.

Dynamic HTML with Java Script: Data validation, Rollover buttons, Moving images.

Unit –IV: XML Defining Data for Web Applications **12Hrs**

XML: Introduction to XML, Basic XML, document type definition, XML Schema, Document object model, Using XML parser.

Unit -V:JSP: **10Hrs**

JSP Lifecycle, Basic Syntax, EL (Expression Language), EL Syntax, Using EL Variables

Prescribed Books:

1.Chris Bates, Web Programming Building Internet Application, Second Edition, Wiley

2.Head First Servlets and JSP 2nd Edition, Bryan Basham, Kathy Sierra

3.Uttam Kumar Roy, Web Technologies from Oxford University Press

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COMPUTER SCIENCE	**CCSC-507C**	**2021-'22**	**B.Sc.(MPCs)**

SEMESTER – V **PAPER – VII** **Max. Marks 70**

Model Paper **WEB TECHNOLOGIES**

No of Credits: 3 **Pass Marks 28**

Section-A

Answer **FOUR** Questions. Each Question carries **FIVE** Marks. 5 X 4=20M

1. Write about structure of HTML Document with an example?
2. Explain about lists in HTML?
3. Write about java script statements?
4. Write about Rollover buttons?
5. Describe XML Elements?
6. Write the syntax of EL and EL variables?

Section-B

Answer **FIVE** Questions. Each Question carries **TEN** Marks. 5 X 10=50M

7. Explain about hyper links? Write about how to link another pages
8. What is Form? Explain about forms with examples
9. What is CSS? How to design Cascading style sheet
10. Explain about Mathematical Functions
11. Explain about Regular Expressions
12. Write about Data validations in DHTML
13. Explain about Document Object Model
14. Explain about JSP Lifecycle with neat diagram

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COMPUTER SCIENCE	CCSC-507C	2021-'22	B.COM(CA)

SEMESTER – V PAPER – VII Max. Marks 70 Pass Marks 28

Guidelines for paper setting '**WEB TECHNOLOGIES'**

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

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COMPUTER SCIENCE	CSC-301C	2021-'22	B.Sc.(MPCs,MCCs)

SEMESTER –III **PAPER – III** **Max. Marks 70**

Model Paper: **DATA BASE MANAGEMENT SYSTEMS**

NO of Hours: 4 **No Of Credits: 3** **Pass Marks 28**

Course Objective:

The objective of the course is to introduce the design and development of databases with special emphasis on relational databases.

UNIT I **12Hrs**

Overview of Database Management System: Introduction to data, information, database, database management systems, file-based system, Drawbacks of file-Based System, database approach, Classification of Database Management Systems, advantages of database approach, Various Data Models, Components of Database Management System, three schema architecture of data base, costs and risks of database approach.

UNIT II **12Hrs**

Entity-Relationship Model: Introduction, the building blocks of an entity relationship diagram, classification of entity sets, attribute classification, relationship degree, relationship classification, reducing ER diagram to tables, enhanced entity-relationship model (EER model), generalization and specialization, IS A relationship and attribute inheritance, multiple inheritance, constraints on specialization and generalization, advantages of ER modelling.

UNIT III **12Hrs**

Relational Model: Introduction, CODD Rules, relational data model, concept of key, relational integrity, relational algebra, relational algebra operations, advantages of relational algebra, limitations of relational algebra, relational calculus, tuple relational calculus, domain relational Calculus (DRC), Functional dependencies and normal forms upto 3rd normal form.

UNIT IV **12Hrs**

Structured Query Language: Introduction, History of SQL Standard, Commands in SQL, Data Types in SQL, Data Definition Language, Selection Operation, Projection Operation, Aggregate functions, Data Manipulation Language, Table Modification Commands, Join Operation, Set Operations, View, Sub Query.

UNIT V **12Hrs**

PL/SQL: Introduction, Shortcomings of SQL, Structure of PL/SQL, PL/SQL Language Elements, Data Types, Operators Precedence, Control Structure, Steps to Create a PL/SQL, Program, Iterative Control, Procedure, Function, Database Triggers, Types of Triggers.

BOOKS:

1. Database System Concepts by Abraham Silberschatz, Henry Korth, and S. Sudarshan, McGrawhill
2. Database Management Systems by Raghu Ramakrishnan, McGrawhill
3. Principles of Database Systems by J. D. Ullman
4. Fundamentals of Database Systems by R. Elmasri and S. Navathe
5. SQL: The Ultimate Beginners Guide by Steve Tale.

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))

4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity

B. General

1. Group Discussion
2. Try to solve MCQ's available online.
3. Others

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Practical assignments and laboratory reports,
4. Observation of practical skills,
5. Individual and group project reports like Create your college database for placement purpose.
6. Efficient delivery using seminar presentations,
7. Viva voce interviews.
8. Computerized adaptive testing, literature surveys and evaluations,
9. Peers and self-assessment, outputs form individual and collaborative work

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COMPUTER SCIENCE	**CSC-301C**	**2021-'22**	**B.Sc.(MPCs,MCCs)**

SEMESTER – III **PAPER – III** **Max. Marks 70**

Model Paper: : **DATA BASE MANAGEMENT SYSTEMS**

NO of Hours: 4 **No Of Credits: 3** **Pass Marks 28**

Section-A

Answer any FOUR Questions. Each question carries FIVE Marks ***4x5=20M***

1. Explain the Components of Database System?
2. Explain about advantages of database approach?
3. Explain building blocks of an entity relationship diagram?
4. Describe BCNF?
5. Write about Special Functions?
6. Explain Stored Procedures?

Section-B

Answer any FIVE Questions. Each question carries TEN Marks ***5X10=50M***

7. What is File? Explain the problems with File system
8. Explain the Degree of Data Abstraction.
9. Explain E.F.CODDs' rules.
10. Explain Extended Entity Relationship Model.
11. Explain the concept of Normal Forms.
12. Explain about SDLC.
13. Explain DDL and DML commands.
14. Explain about triggers.

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SEMESTER – III PAPER –III Max. Marks 70 Pass Marks 28

Guidelines for paper setting '**DATA BASE MANAGEMENT SYSTEMS'**

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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COMPUTER SCIENCE	**CSC-301P**	**2021-'22**	**B.Sc.(MPCS,MCCs)**

SEMESTER – III **PAPER – III** **Max. Marks 50**

Lab List DATA BASE MANAGEMENT SYSTEMS Pass Marks 25

No. of Hours per week: 2 External: 25 Internal: 25 Credits: 2

1. Draw ER diagram for hospital administration

2. Creation of college database and establish relationships between tables

3. Relational database schema of a company is given in the following figure.

Relational Database Schema - COMPANY

Questions to be performed on above schema

1. Create above tables with relevant ***Primary Key, Foreign Key and other constraints***

2. Populate the tables with data

3. Display all the details of all employees working in the company.

4. Display ***ssn, lname, fname, address*** of employees who work in department no 7.

5. Retrieve the ***Birthdate and Address*** of the employee whose name is 'Franklin T. Wong'

6. Retrieve the name and salary of every employee

7. Retrieve all distinct salary values

8. Retrieve all employee names whose address is in 'Bellaire'

9. Retrieve all employees who were born during the 1950s

10. Retrieve all employees in department 5 whose salary is between 50,000 and 60,000(inclusive)

11. Retrieve the names of all employees who do not have supervisors

12. Retrieve SSN and department name for all employees

13. Retrieve the name and address of all employees who work for the 'Research' department

14. For every project located in 'Stafford', list the project number, the controlling department number, and the department manager's last name, address, and birth date.

15. For each employee, retrieve the employee's name, and the name of his or her immediate supervisor.

16. Retrieve all combinations of Employee Name and Department Name

17. Make a list of all project numbers for projects that involve an employee whose last name is 'Narayan' either as a worker or as a manager of the department that controls the project.

18. Increase the salary of all employees working on the 'ProductX' project by 15%. Retrieve employee name and increased salary of these employees.

19. Retrieve a list of employees and the project name each works in, ordered by the employee's department, and within each department ordered alphabetically by employee first name.

20. Select the names of employees whose salary does not match with salary of any employee in department 10.

21. Retrieve the employee numbers of all employees who work on project located in Bellaire, Houston, or Stafford.

22. Find the sum of the salaries of all employees, the maximum salary, the minimum salary, and the average salary. Display with proper headings.

23. Find the sum of the salaries and number of employees of all employees of the ‘Marketing’ department, as well as the maximum salary, the minimum salary, and the average salary in this department.

24. Select the names of employees whose salary is greater than the average salary of all employees in department 10.

25. Delete all dependents of employee whose ***ssn is ‘123456789’***.

26. Perform a query using alter command to drop/add field and a constraint in Employee table.

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COMPUTER SCIENCE	**CCSC-301C**	**2021-'22**	**B.com(CA)**

SEMESTER – III **PAPER – III** **Max. Marks 70**

Syllabus: Programming in C

NO of Hours: 4 **No Of Credits: 3** **Pass Marks 28**

UNIT-I: General Fundamentals& Programming Languages 10Hrs

General Fundamentals: Introduction to computers: Block diagram of a computer, characteristics and limitations of computers, applications of computers, types of computers, computer generations.
Introduction to Algorithms and Programming Languages: Algorithm – Key features of Algorithms, Flow Charts, **Programming Languages** – Generations of Programming Languages – Structured Programming Language- Design and Implementation of Correct, Efficient and MaintainablePrograms.

UNIT- II: Introduction To C & Decision Making control Statements 12Hrs

Introduction to C: Introduction – Structure of C Program – Writing the first C Program – File used in C Program – Compiling and Executing C Programs – Using Comment , Keywords – Identifiers – Basic Data Types in C – Variables – Constants – I/O Statements in C-Operators in C- Programming Examples.
Decision Control and Looping Statements: Introduction to Decision Control Statements– Conditional Branching Statements – Iterative Statements – Nested Loops – Break and Continue Statement – Goto Statement.

UNIT III: Arrays 10 Hrs

Arrays: Introduction – Declaration of Arrays – Accessing elements of the Array – Storing Values in Array– Operations on Arrays – one dimensional, two dimensional and multi dimensional arrays, character handling and strings.

UNIT-IV:Functions & Structures 13Hrs

Functions: Introduction – using functions – Function declaration/ prototype – Function definition – function call – return statement – Passing parameters – Scope of variables – Storage Classes – Recursive functions.

Structure, Union, and Enumerated Data Types: Introduction – Nested Structures – Arrays of Structures – Structures and Functions– Union – Arrays of Unions Variables – Unions inside Structures – Enumerated DataTypes.

UNIT-V:**Pointes&Files 15Hrs**

Pointers: Understanding Computer Memory – Introduction to Pointers – declaring Pointer Variables – Pointer Expressions and Pointer Arithmetic – Null Pointers -– Memory Allocation in C Programs – Memory Usage – Dynamic Memory Allocation – Drawbacks of Pointers
Files: Introduction to Files – Using Files in C – Reading Data from Files – Writing Data to Files – Detecting the End-of-file – Error Handling during File Operations – Accepting Command Line Arguments.

BOOKS

1. E Balagurusamy – Programming in ANSIC – Tata McGraw-Hillpublications.
2. Brain W Kernighan and Dennis M Ritchie - The 'C' Programming language" - Pearsonpublications.
3. Ashok N Kamthane: Programming with ANSI and Turbo C, Pearson Edition Publications.
4. YashavantKanetkar - Let Us 'C' – BPBPublications.

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COMPUTER SCIENCE	**CCSC-301C**	**2021-'22**	**B.COM(CA)**

SEMESTER – III PAPER – III Max. Marks 70 Pass Marks 28

Title :Programming in 'C' NO. Of. Hours: 4Credits:3

Section- A

Answer FOUR Questions. Each Question carries FOUR Marks. 4*5=20M

1. Explain different types of programming languages?
2. Explain about Data types in C?
3. Write about Break and Continue Statement?
4. Explain one dimensional array with example?
5. Explain Storage Classes in C?
6. Explain dynamic memory allocation?

Section- B

Answer FIVE the Questions. Each Question carries EIGHT Marks 5*10=50M

7. Draw and Explain Block Diagram of Computer?
8. Explain about Algorithm and Flowchart with Examples?
9. Explain decision making Looping statements with examples?
10. Explain Structure of C Program with Example?
11. Write about two dimension arrays? Give an example program?
12. Write Passing Parameters Techniques in Functions?
13. Difference between structures and unions?
14. What is File? Explain different File Modes?

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COMPUTER SCIENCE	CSC-301C	2021-'22	B.com(CA)

SEMESTER – III PAPER –III Max. Marks 70

Guidelines for paper setting '**Programming in 'C''**

Unit wise weight age of Marks	Section-A (Short answer questions)	Section-B (essay questions)
Unit-I	2	2
Unit-II	1	2
Unit-III	1	2
Unit-IV	1	1
Unit -V	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

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COMPUTER SCIENCE	**CCSC-301P**	**2021-'22**	**B.Com.(CA)**

SEMESTER – III **PAPER – III** **Max. Marks 50**

Lab List **Programming in 'C'** **Pass Marks 20**

No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

1. 1 Write C programs for
   a. Fibonacci Series
   b. Prime number
   c. Palindrome number
   d. Armstrong number.
2. Write a 'C' program for multiplication of two matrices
3. Write a 'C' program to implement string functions
4. Write a 'C' program to swap numbers
5. Write a 'C' program to calculate factorial using recursion
6. Write a 'C' program to perform addition of two complex numbers using constructor
7. Write a program to find the largest of two given numbers in two different classesusing friend function
8. Program to add two matrices using dynamic contructor
9. Implement a class string containing the following functions:
   a. Overload + operator to carry out the concatenation of strings.
   b. Overload == operator to carry out the comparison of strings.
10. Program to implement inheritance.

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(With Effect from Academic Year 2021-22)

Semester I	Course Code	Course Title	Credits	Periods
B.Sc. (MPCS/ MCCS / MSCS)	CSCT11B	**Problem Solving In C**	**4**	**60**

Course Objectives:
This course aims to provide exposure to problem-solving through programming and introduce the concepts of the C Programming language.

Course Learning Outcomes:

Course Outcome No	Upon successful completion of the course, a student will be able to:	Program Outcome No.
CO1	Understand the evolution & functionality of Digital Computers and develop an algorithm for solving a given problem.	PO1, PO7, PSO1, PSO4
CO2	Understand tokens and control structures in C.	PO1, PO7, PSO1, PSO4
CO3	Understand arrays and strings and implement them.	PO1, PO7, PSO1, PSO4
CO4	Understand the right way of using functions, pointers, structures and unions in C	PO1, PO7, PSO1, PSO4
CO5	Develop and test programs written in C files	PO1, PO7, PSO1, PSO4

UNIT I **12 periods**

General Fundamentals: Introduction to computers: Block diagram of a computer, characteristics and limitations of computers, applications of computers, types of computers, computer generations.

Introduction to Algorithms and Programming Languages: Algorithm – Key features of Algorithms, Flow Charts, Programming Languages – Generations of Programming Languages – Structured Programming Language-Design and Implementation of Correct, Efficient and Maintainable Programs.

UNIT II **12 periods**

Introduction to C: Introduction – Structure of C Program – Writing the first C Program –File used in C Program – Compiling and Executing C Programs – Using Comments –
Keywords – Identifiers – Basic Data Types in C – Variables – Constants – I/O Statements in C- Operators in C-Programming Examples.

Decision Control and Looping Statements: Introduction to Decision Control Statements– Conditional Branching Statements – Iterative Statements – Nested Loops – Break and Continue Statement – goto Statement.

UNIT III **10 periods**

Arrays: Introduction – Declaration of Arrays – Accessing elements of the Array – Storing Values in Array– Operations on Arrays – one dimensional, two dimensional and multi-dimensional arrays, character handling and strings.

UNIT IV **14 periods**

Functions: Introduction – using functions – Function declaration/ prototype – Function definition – function call – return statement – Passing parameters – Scope of variables – Storage Classes – Recursive functions.

Structure, Union, and Enumerated Data Types: Introduction – Nested Structures – Arrays of Structures – Structures and Functions– Union – Arrays of Unions Variables – Unions inside Structures – Enumerated Data Types.

UNIT V **12 periods**

Pointers: Understanding Computer Memory – Introduction to Pointers – declaring Pointer Variables – Pointer Expressions and Pointer Arithmetic – Null Pointers - Passing Arguments to Functions using Pointer – Pointer and Arrays – Memory Allocation in C Programs – Memory Usage – Dynamic Memory Allocation – Drawbacks of Pointers

Files: Introduction to Files – Using Files in C – Reading Data from Files – Writing Data to Files – Detecting the End-of-file – Error Handling during File Operations – Accepting Command Line Arguments.

BOOKS

1. E Balagurusamy – Programming in ANSIC – Tata McGraw-Hill publications.
2. Brain W Kernighan and Dennis M Ritchie - The 'C' Programming language" - Pearson publications.
3. Ashok N Kamthane: Programming with ANSI and Turbo C, Pearson Edition Publications.
4. YashavantKanetkar - Let Us 'C' – BPB Publications.

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity

B. General

1. Group Discussion
2. Try to solve MCQ's available online.
3. Others

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Problem-solving exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports like "Creating Text Editor in C".
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work

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MODEL Question Paper:

TITLE: Problem solving in C **COURSE CODE: CSCT11B**

SECTIONS: B.Sc. (MPCS / MCCS/ MSCS) **SEMESTER: I**

TIME: 3 Hrs. **MAX: 75M**

SECTION –A

ANSWER ANY FIVE QUESTIONS **5 X 5 =25 M.**

1. What is a flowchart? Utilize flowchart symbols and draw a flowchart to find biggest of two numbers. **(CO1, L3)**
2. Write a short note on block diagram of computers. **(CO1, L2)**
3. Explain do…while loop with an example program. **(CO2 , L2)**
4. Develop a C program to find largest number in a given integer list. **(CO3 ,L3)**
5. Classify data types in C. Write a short note on any two data types. **(CO2 , L2)**
6. How to declare and initialize 1D arrays. **(CO3, L1)**
7. Construct a student structure to accept student details and write a C program to calculate grade of a student. (**CO4 , L3)**
8. Illustrate command line arguments with an example program. **(CO5, L2)**

SECTION – B

ANSWER ALL THE QUESTIONS **5 X 10 =50 M.**

9 A) Define Algorithm. Demonstrate Key features of algorithm with examples. **(CO1, L2)**

(or)

B) List out the characteristics and limitations of computers. **(CO1, L1)**

10 A) Give Classification of Control statements in C. Explain multi-way decision making statements in C with examples. **(CO2, L2)**

(or)

B) Write a program to check whether the given number is Armstrong or not. **(CO2, L3)**

11 A) Develop a program in C for matrix multiplication. **(CO3, L3)**

(or)

B) Demonstrate various String handling functions in C with examples. **(CO3, L2)**

12 A) Compare and contrast structures with unions. **(CO4, L4)**

(or)

B) Explain the types of functions in C. **(CO4, L2)**

13 A) List different file handling functions in C. Explain with examples. **(CO5, L2)**

(or)

B) Explain call by value and call by reference with example. **(CO4, L2)**

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BLUE PRINT

TITLE: Problem solving in C **COURSE CODE: CSCT11B**

SECTIONS: B.Sc. (MPCS / MCCS / MSCS) **SEMESTER: I**

TIME: 3 Hrs. **MAX: 75M**

SECTION-A

ANSWER ANY FIVE QUESTIONS **5X5=25M**

1. Unit 1
2. Unit 1
3. Unit 2
4. Unit 3
5. Unit 2
6. Unit 3
7. Unit 4
8. Unit 5

SECTION – B

ANSWER ALL THE QUESTIONS **5 X 10 =50 M.**

9 A) Unit 1.

(or)

B) Unit 1.

10 A) Unit 2.

(or)

B) Unit 2.

11 A) Unit 3.

(or)

B) Unit 3.

12 A) Unit 4.

(or)

B) Unit 4.

13 A) Unit 5.

(or)

B) Unit 5.

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Semester I	Course Code	Course Title	Credits	Prds
B.Sc.(MPCS / MCCS/ MSCS)	**CSCP11B**	**Problem Solving in C Lab**	**1**	**30**

Course Outcome No	Upon successful completion of this course, students should have the knowledge and skills to:	Program Outcome No
CO1	Apply logical skills to analyse a given problem	PO1, PO7, PSO1, PSO4, PSO2
CO2	Design an algorithmic solution for a given problem	PO1, PO7, PSO1, PSO4, PSO2
CO3	Write a maintainable C program according to coding standards for a given algorithm	PO1, PO7, PSO1, PSO4, PSO2
CO4	Debug a given program	PO1, PO7, PSO1, PSO4, PSO2
CO5	Execute the C program	PO1, PO7, PSO1, PSO4, PSO2

Experiments List
Cycle-I

Week 1:
Write a C program to check whether the given two numbers are equal, bigger or smaller?
Week 2:
Write a C program to perform arithmetic operations using Switch...case?
Week 3:

- Write a program to find the sum of individual digits of a positive integer.
- Write a program to check whether the given number is Armstrong or not.

Week 4:
Write a program to generate the first N terms of the Fibonacci sequence.
Week 5:
Write a program to find both the largest and smallest number in a list of integer values
Week 6:

- Write a program that uses functions to add two matrices.
- Write a program for multiplication of two n X n matrices.

Week 7:

Write a program to demonstrate refection of parameters in swapping of two integer values using Call by Value& Call by Address.
Week 8:

Write a program to calculate factorial of given integer value using recursive functions.

Cycle-II

Week 9:

Write a program to search an element in a given list of values.

Week 10:

Write a program to illustrate pointer arithmetic.

Week 11:

Write a program to sort a given list of integers in ascending order.

Week 12:

Write a program to calculate the salaries of all employees using Employee (ID, Name, Designation, Basic Pay, DA, HRA, Gross Salary, Deduction, Net Salary) structure.

a. DA is 30 % of Basic Pay
b. HRA is 15% of Basic Pay
c. Deduction is 10% of (Basic Pay + DA)
d. Gross Salary = Basic Pay + DA+ HRA
e. Net Salary = Gross Salary - Deduction

Week 13:

Write a program to perform various string operations.

Week 14:

Write a program to read the data character by character from a file.

Week 15:

Write a program to create Book (ISBN, Title, Author, Price, Pages, Publisher) structure and store book details in a file and perform the following operations

a. Add book details
b. Search a book details for a given ISBN and display book details, if available
c. Update a book details using ISBN
d. Delete book details for a given ISBN and display list of remaining Books.

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Semester I	Course Code	Course Title	Credits	Periods
B.Com.(Computer Applications	CABT11A	**Information Technology**	**4**	**75**

INFORMATION TECHNOLOGY

Objective:

It provides to learn computer basics and basic principles of using Windows operation system and be able to access the Internet, data communication, Software, hardware and various new technologies in information technology.

Course Outcomes:

COURSE OUTCOME NO	Upon successful completion of this course, students should have the knowledge and skills to
CO1	Understand fundamental concepts of a computer and its basic components
CO2	Understand basic functioning of an operating system and customizing Windows Desktop
CO3	Analyse type of soft wares and programming languages
CO4	Have knowledge in basic Network and Data Communication Concepts
CO5	Understand the need of data mining and get familiarize with basics of new concepts like KDD, OLAP

UNIT-I: INTRODUCTION: 13Periods

1.1 Introduction to computers
1.2 Generations of computers
1.3 An overview of computer system - Types of computers
1.4 Input & Output Devices.
1.5 Hardware: Basic components of a computer system- Control unit– ALU- Input/output functions.
1.6 Memory – RAM – ROM – EPROM - PROM and Other types of memory.

UNIT-II: OPERATING SYSTEM (OS): 12Periods

2.1 Meaning - Definition & Functions.
2.2 Types of OS - Booting process
2.2.1 DOS – Commands (internal & external) - Wild card characters
2.3 Windows: Using the Start Menu –Control Panel – Using multiple
2.3.1 Windows – Customizing the Desktop – Windows accessories (Preferably latestversion of windows or Linux Ubuntu).

Unit-III: SOFTWARE: 15Periods

3.1 System software and application software.
3.1.1 Operating system windows OS,
3.1.2 Mobile device operating system and notebook operating systems
3.2 Application software Types of personal application software
3.2.1 Spread sheet-data management
3.2.2 Word processing
3.2.3 Desktop publishing
3.2.4 Graphics, CAD, CAM, CIM
3.3 Programming Languages
3.3.1 Assembly language
3.3.2 Procedural language, non-procedural language, natural programming language.

3.3.3 Hypertext mark-up language, modelling language, object-oriented programming language.

Unit-IV: DATA COMMUNICATION: 20 Periods

4.1 Telecommunication and Networks Communication media& channel cable media

4.1.1 Broad cast media channels twisted pair
4.1.2 Coaxial cable, fibers optical cable, micro wave, satellite, radio, cellular radio, infrared global positioning system.

4.2 Introduction, Analog and Digital signals, modulation need of modulations, modems.

4.3 Telecommunication System communication processors:

4.3.1 Modem
4.3.2 Multiplexers
4.3.3 Front –end-processor.

4.4 Networks LAN, WAN, VAN, virtual private network (VPN).

4.5 Internet, intranet and Extranets

4.5.1 The evolution of the internet, service provided by the internet, World Wide Web.

Unit-V: NEW TECHNOLOGIES: 10 Periods

5.1New technologies in Information Technology:

5.1.1 Introduction to hyper media, artificial intelligence and business intelligence, knowledge discovery in database (KDD)

5.2 Data warehouse and data marts. Data mining and OLAP.

Student Activity:

Students have to submit assignments and give seminars on various topics allotted to them.

Total of 5 Hrs is allotted for student seminars. Student activity also includes gathering of information related to latest technologies in computers.

Library Activity:

Students will visit library in their allotted time and will refer various text books to gather information for their assignments.

TEXT/ REFERENCE BOOKS:

1. B.E.V.L.Naidu, V.V.. Devi Prasad Konti, Ganti Naga Srikanth, Himalaya publishing House.
2. Introduction to Computers: Peter Norton, McGraw Hill

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MODEL Question Paper:

PAPER TITLE: Problem solving in C COURSE CODE: CABT11A

CLASS: B.Com (Computer Applications)

SEMESTER: I

TIME: 3 Hrs. MAX: 75M

SECTION – A

Answer any five of the following 5X5 =25M

1. Illustrate the characteristics of RAM and ROM. (CO1, L2)
2. Define Operating system. What are different types of OS? (CO2, L1)
3. Demonstrate application software and system software. (CO3, L2)
4. What are the different types of networks? (CO4, L1)
5. Explain the steps involved in the process of KDD. (CO5, L2)
6. Explain about input devices. (CO1, L2)
7. What are analog and digital signals? (CO4, L1)
8. Explain Data warehouse. (CO5, L2)

SECTION –B

Answer the following 5x10=50M

9. a) Explain the block diagram of computer. (CO1, L2)

OR

b) Explain the generations of computers. (CO1, L2)

10. a) What are the functions of operating system? (CO2, L1)

OR

b) What are DOS Internal and External commands? (CO2, L1)

11. a) Explain the characteristics of various types of programming languages. Give examples. (CO3, L2)

OR

b) Summarize the concepts on CAD, CAM and CIM. (CO3, L2)

12. a) Define the various types of Communication media and channels. (CO4, L1)

OR

b) What are the Advantages and Disadvantages of Internet? (CO4, L1)

13. a) Demonstrate On-Line Analytical process (OLAP). (CO5, L2)

OR

b) Explain about Artificial Intelligence and Business Intelligence. (CO5, L2)

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Semester I	Course Code	Course Title	Credits	Periods
B.Com. (E-Commerce)	CSCT11B	**E–COMMERCE & WEB DESIGNING**	**4**	**60**

COURSE OBJECTIVES:

The main objective of the course is to impart conceptual understanding on business transactions on worldwide web and electronic commerce & Electronic Customer Relationship Management and Web designing concepts for Providing quality content on website.

COURSE OUTCOMES:

COURSE OUTCOME NO	Upon successful completion of this course, students should have the knowledge and skills to
CO1	Understand the structure of HTML its basic tags
CO2	Implement various HTML tags for web page development
CO3	Understand about implementing forms and frames in web page designing
CO4	Gain knowledge in E- commerce and its business models
CO5	Differentiate traditional and e – marketing and also gain knowledge in E-CRM and EPS

UNIT I: Introduction to Web Designing **(12Hrs)**

1.1 **Introduction**

1.2 1.1.1 WWW and its Evaluation

1.1.2 Define network and its advantages

1.1.3 Types of networks

1.1.4 Network Topologies

1.2 **HTML**

1.2 .1 Define HTML

1.2.2 Structure of HTML

1.2.3 Basic HTML tags

1.2.4 Formatting HTML tags

UNIT II: HTML Tags **(12Hrs)**

2.1: **Lists**

2.1.1 Ordered List

2.1.2 Unordered List

2.2 **Links**

2.2.1 Link tag

2.2.2 image tag

2.2.3 Marquee tag

2.3 **Tables**

2.3.1 Table Creation

2.3.2 Attributes of Table

UNIT III: Forms and Frames and CSS **(12Hrs)**

3.1 **forms**

3.1.1 forms creation
3.1.2 form tag
3.1.3 input fields of form

3.2 **Frames**

3.2.1 Frame Creation
3.2.2 Frameset tag
3.2.3 frame tag

3.3 **Cascading Style Sheets**

3.3.1 Introduction to CSS
3.3.1 Types of CSS
3.3.2 in-line Style Sheet
3.3.3 internal Style Sheet
3.3.4 External Style Sheet

UNIT IV: An Overview on E-Commerce (10Hrs)

4.1.1Introduction E-Commerce

1. Definition of E- Commerce and its advantages & disadvantages
2. Electronic Data Interchange (EDI)
3. E-Commerce transactional issues and challenges

4.1.4 Difference between Commerce and E-Commerce

4.2Business Models for Ecommerce

1. B2C -Business to consumer.
2. B2B – Business to business
3. C2B – Consumer to business.
4. C2C – Consumer to consumer.

UNIT V: E-Marketing &E – CRM& Electronic Payment Systems (14Hrs)

5.1 Online Marketing

1. Traditional Vs. E-Marketing

5.1.2 Online Marketing
5.1.3 E-Advertising
5.1.4 Internet marketing

5.2 E – CRM

5.2.1 Definition of CRM and E-CRM and its Applications
5.2.2 E- CRM Architectural components
5.2.3 Definition & characteristics of E- SCM
5.2.4 Benefits and goals of E – SCM
5.2.5 E-Logistics of UPS

5**.3 Electronic Payment Systems**

5.3.1 Types of EPS
5.3.2 Traditional payment system and modern payment system
5.3.3 Steps for electronic payment
5.3.4 Payment security

Text Book:

1. Uttam Kumar Roy, Web Technologies, Oxford University Press.
2. E-Commerce- A Managerial Perspective- P. T. Joseph, Prentice- Hall of India, New Delhi, 2005.

References:

1. Kogent Learning Solutions Inc.(Author), “Black Book HTML 5.0”, dreamtech.
2.Daniel Amor, E-Bussiness R(Evolution), Pearson Edude, New Delhi, 2005.

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Computer Science		**2021-22**	**B.Com (Computers Applications)**

SEMESTER - I **Credits: 2**

WEB DESIGNING LAB (NEW SYLLABUS)

COURSE OBJECTIVES:

The purpose of this course is to introduce to students to the field of creation web pages using HTML language. The students will be able to enhance their analyzing and help to creation for Web Site Design

COURSE OUTCOMES:

COURSE OUTCOME NO	Upon successful completion of this course, students should have the knowledge and skills to
CO1	Implement HTML tags.
CO2	Implementing lists and tables in web pages.
CO3	Implementing frames in web pages.
CO4	Implementing frames in web pages.
CO5	Creation of CSS in a web page.

1. Write a HTML program to print text in bold and italic font.
2. Write a HTML program to print Heading tags.
3. Write a HTML program using Text formatting tags
3. Write a HTML program to implement unordered lists.
4. Write a HTML program to implement order lists.
5. Write a html file which display 3 images at LEFT, RIGHT and CENTER respectively in the browser.
6 Create a HTML file which contains hyperlinks.
7 Write a HTML program to create a table
8. Write a HTML program to create a table using Row Span and Cols pan
9. Write a HTML program to create a table using cell padding and Row Spacing
10. Write a HTML program to create a simple form
11. Create a Registration form that interacts with the user. Collect login name, password, date of birth, gender, address, qualification.
12. Create a HTML page using frameset tag.
13Write a Program to create an inline style sheet.
14. Write a program to create Embedded Style Sheet.
15. Write a program to create an external style sheet to illustrate the “Font” elements.

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E-Commerce &Web Designing

Model Paper

Class: B.Com (Computer Applications)

Course Code: **Max Marks: 75 M**

Semester: II **Time: 3Hours**

Section-A

ANSWER ANY FIVE QUESTIONS **5X5M=25M**

1. Define Networks and its types? (CO3, L1)
2. Explain Link tags in HTML (CO4, L2)
3. Define frames in HTML (CO5, L1)
4. Explain the E-Commerce (CO1, L2)
5. Compare Traditional marketing and E-Marketing. (CO2, L2)
6. Demonstrate concept of formatting Tags (CO4, L2)
7. Compare Commerce and E-Commerce. (CO1, L2)
8. Explain Benefits and goals of E – SCM. (CO2, L2

Section-B

ANSWER THE FOLLOWING QUESTIONS **5X10M=50M**

9. (A) Define Structure of HTML with examples (CO3, L1)

(OR)

(B) What are different types Network Topologies? (CO3, L1)

10. (A) Classify List Types in HTML. (CO4, L2)

(OR**)**

(B) Demonstrate the concept of Table creation with apply all Attributes. (CO4, L2)

11. (A) Define forms in html and creation of form with all input types? (CO5, L1)

(OR)

(B)What are different types of CSS with suitable examples? (CO5, L1)

12. (A) Explain EDI. (CO1, L2)

(OR)

(B) Classify Business Models for Ecommerce. (CO1, L2)

13. (A) Illustrate E- CRM Architectural components. (CO2, L2)

(OR**)**

(B) Explain Electronic Payment Systems. (CO2, L2)

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Semester I	Course Code	Course Title	Credits	Periods
Life Skill Course	LSC1	**BASIC COMPUTER APPLICATIONS**	**2**	**30**

COURSE OBJECTIVES:

This course aims at providing exposure to students in skill development towards basic office applications.

Course Learning Outcomes:

After successful completion of the course, student will be able to:

1. Demonstrate basic understanding of computer hardware and software.
2. Apply skills and concepts for basic use of a computer.
3. Identify appropriate tool of MS office to prepare basic documents, charts, spreadsheetsand presentations.
4. Create personal, academic and business documents using MS office.
5. Create spreadsheets, charts and presentations.
6. Analyze data using charts and spread sheets.

Unit- I Basics of Computers: 8 Hrs

Definition of a Computer - Characteristics of computers, Applications of Computers – Block Diagram of a Digital Computer – I/O Devices, hardware, software human ware, application software, system software, Memories - Primary, Auxiliary and Cache Memory.

MS Windows – Desktop, Recycle bin, My Computer, Documents, Pictures, Music, Videos, Task Bar, Control Panel.

Unit-II: MS-Word: 8Hrs

Features of MS-Word - MS-Word Window Components - Creating, Editing,Formatting and Printing of Documents – Headers and Footers – Insert/Draw Tables, Table Auto format – Page Borders and Shading – Inserting Symbols, Shapes, Word Art, Page Numbers, MailMerge.

Unit-III: MS-Excel: 10Hrs

Overview of Excel features – Creating a new worksheet, Selecting cells, Entering and editing Text, Numbers, Inserting Rows/Columns –Changing column widths and row heights,Formulae, Referencing cells , Changing font sizes and colors, Insertion of Charts, Auto fill, Sort. **MS-PowerPoint:** Features of PowerPoint – Creating a Presentation - Inserting and Deleting Slides in a Presentation – Adding Clip Art/Pictures -Inserting Other Objects, Audio, Video - Resizing and scaling of an Object – Slide Transition – Custom Animation.

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside
    a. the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz, Group Discussion
4. Solving MCQ's available online.

5. Suggested student hands on activities:
    - Create two folders, Rename the folder, create two files each using notepad and paint, move the files from one folder to another folder, delete a file you have created, copy and paste text within notepad.

    - Create a letter head for your college with watermark, your resume, visiting card, brochure for your college activity, organization chart for your college, any advertisement, Prepare your Class time table.

    - Prepare your mark sheet, Prepare your class time table, Prepare a salary bill for an organization, Sort the bill as per the alphabetical order of the names, Get online weather data and analyze it with various charts.

    - Create a PowerPoint presentation for a student seminar.

Reference Books

1. Working in Microsoft Office – Ron Mansfield - TMH.
2. MS Office 2007 in a Nutshell –Sanjay Saxena – Vikas Publishing House.
3. Excel 2020 in easy steps-Michael Price – TMH publications

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MODEL Question Paper:

PAPER TITLE: BASIC COMPUTER APPLICATIONS **COURSE CODE: LSC1**

SEMESTER: I

TIME: 2 Hrs. **MAX: 50M**

SECTION – A (Total: 4x5=20 Marks)

Answer any **four questions**. Each answer carries **5 marks**

1.
2.
3.
4.
5.
6.
7.
8.

SECTION – B (Total: 3x10 = 30 Marks)

(Answer any **three questions**. Each answer carries **10 marks**

1.
2.
3.
4.
5.

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2022-2023

DEPARTMENT OF COMPUTER SCIENCE

MINUTES OF BOARD OF STUDIES

EVEN SEMESTER

03-04-2023

Minutes of the meeting of Board of Studies in Computer Science for Semester II, IV & VI of I, II & III years B.Sc. (MPCs, MCCs, MSCs), B.Com. (C.A.) and B.Com (e-Commerce-Computers) Life Skill Course and Skill Development Course of AG & SG Siddhartha Degree College of Arts &Science, Vuyyuru, held at 10.00 A.M on 03-04-2023 in the Department of Computer Science.

Sri T.NagaPrasadaRao ... Presiding

Members Present:

1)..... (T.Naga Prasada Rao)	Chairman	Head, Department of Computer Science, AG&SG Siddhartha Degree College of Arts & Science.
2) ---------- (Dr. M. Babu Reddy)	University Nomine	Principal, Krishna University College of Engineering and Technology, Machilipatnam.
3). ---------- (Dr. P. J. S Kumar)	Subject Expert	Principal, HOD of Department of Computer Science A.N.R College Gudivada.
4) ---------- (Mr. K. Sridhar)	Subject Expert	TPO, Department of Computer Science PB Siddhartha College of Arts & Science,VJA
5) ---------- (R. Sowjanya)	Industrial Expert	.Net Developer, Maven Soft System Pvt. Ltd Madaapur, Hyderabad.
6)..... (S. Prabhavathi)	Member	Lecturer in Computer Science, AG&SG Siddhartha Degree College of Arts &Science, Vuyyuru-521165
7)..... (A. Sravani)	Member	Lecturer in Computer Science, AG&SG Siddhartha Degree College of Arts &Science, Vuyyuru-521165
8)..... (A. Naga Srinivasa Rao)	Member	Lecturer in Computer Science, AG&SG Siddhartha Degree College of Arts &Science, Vuyyuru-521165
9)..... (G.Katyayini)	Member	Lecturer in Computer Science, AG&SG Siddhartha Degree College of Arts &Science, Vuyyuru-521165
10)..... (O.Teja Sri)	Member	Lecturer in Computer Science, AG&SG Siddhartha Degree College of Arts &Science, Vuyyuru-521165
11).. ..... (P.Sri Ram Teja)	Member	Lecturer in Computer Science, AG&SG Siddhartha Degree College of Arts &Science, Vuyyuru-521165
12) ---------- (G.Lavanya)	Member	Student in M.Sc. CS, AG& SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
13) ---------- (G.Jahnavi)	Member	Student in B.Sc. MPCs, AG& SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165

Agenda for B.O.S Meeting.

1. To discuss introducing Syllabi and Model papers for Elective Skill Enhancement Courses (SEC) for B.Sc. (MPCs) & B.Com (C.A) programmes in Fifth/Sixth Semester adopting COs in line with guidelines of OBE following Blooms Taxonomy for the students admitted in the Academic year 2020-2021 and onwards.

2. To Discuss and approve the Structure and Syllabi and model papers of B. Sc. (MPCs, MCCs, MSCs), B.Com (C.A) & B.Com(e-commerce-Computers) programme in Second, Fourth & Six semesters for the student admitted in the academic year 2022-23 and onwards.

3. To recommend any changes in the syllabi for I, III, V & VI Semesters of I, II, III year Degree B.Sc.(MPCs, MCCs, MSCs), B.Com.(C.A.) and B.Com(e-commerce-Computers).

4. To Introduce a Life Skill Course and Skill Development Course for all B.Sc and B.Com from the Academic Year 2022-23.

5. To recommend the teaching and evaluation methods to be followed under Autonomous status.

6. To recommend the panel of paper setters and examiners to the controller of the examinations of autonomous courses of AG & SG Siddhartha Degree College of Arts & Science College, Vuyyuru.

7. Any other matter

Resolutions

1. It is Resolved and Recommended to adopt the structure, syllabi & Model papers for Elective Skill Enhancement Courses (SEC) for B.Sc. (MPCs, MCCs, MSCs) & B.Com (C.A) programmes in Fifth/Sixth Semester adopting COs in line with guidelines of OBE following Blooms Taxonomy for the students admitted in the Academic year 2020-2021 and onwards.
2. It is Resolved and recommend the same syllabi without changes, but only changes on Model Paper for II Semester of I Year B.Sc. (MPCs, MCCs, MSCs), B.Com.(CA) & B.Com(e-commerce-Computers).
3. It is Resolved and Recommend to introduce new Syllabi and Model Question paper as per new regulations in IV Semester of II Year Degree B.Sc. (MPCs, MCCs) and B.Com(CA).
4. It is Resolved to implements Life Skill Course and Skill Development Course for all B.Sc and B.Com from the Academic Year 2022-23.
5. It is resolved to continue the teaching and evaluation methods to be followed under Autonomous status.
6. It is resolved to continue the panel of paper setters and examiners to the controller of the examinations of autonomous courses of AG & SG Siddhartha Degree College of Arts & Science College, Vuyyuru.
7. **Discussed and recommended to introduce Value Added Course on "Deep Learning" with Course Code "DLVAC01" for II B.SC (MSC's)**
8. Any other matter

Teaching methods:

Besides the conventional methods of teaching, we use modern technology i.e. Using of LMS and LCD projector to display on power board etc..for better understanding of concepts.

Evaluation of a student is done by the following procedure:

There are two components in the Valuation and Assessment of a student – Internal Assessment (**IA**) Semester Examinations (**SE). For the Batch of Students Admitted from 2022-23.**

Internal Assessment (IA)

- The maximum mark for IA is 30 and SE is 70 for theory; and for practical marks for IA 10 and 40 Marks for External Exam.
- Each IA written examination is of 1 hour 30 minutes duration for 20 marks. The tests will be conducted centrally. The average of two such IA is calculated for 20 marks.
- Attendance will be for 5 Marks. The other innovative component is for 5 marks, conducted during the class hours by the staff member/ in charge of the subject, in the form of assignments/ quiz/ seminars /PPT/Online- assignments/Open Book/Viva Voce/ Group work/ Mini Project/ Exhibition, etc. The topic and time for submission/ presentation will be announced by the staff member/ in charge of the subject in advance. Each student should explain and defend his/her presentation.
- The semester examination will be of 3 hours with maximum 70 marks.

***Internal Assessment (IA)* For the Batch of Students Admitted from 2021-22.**

- The maximum mark for IA is 25 and SE is 75 for theory; and for practical marks for IA 10 and 40 Marks for External Exam.
- Each IA written examination is of 1 hour duration for 15 marks. The tests will be conducted centrally. The average of two such IA is calculated for 15 marks.

- Other Innovative Components will be for 5 Marks. The innovative component is for 5 marks, conducted during the class hours by the staff member/ in charge of the subject, in the form of
- Assignments/ quiz/ seminars /PPT/Online- assignments/Open Book/Viva Voce/ Group work/ MiniProject/ Exhibition, etc. The topic and time for submission/ presentation will be announced by thestaff member/ in charge of the subject in advance. Each student should explain and defend his/herpresentation.
- The semester examination will be of3 hours with maximum 75 marks.

Internal Assessment (IA) **For the Batch of Students Admitted from 2020-21.**

- The maximum mark for IA is 30 and SE is 70 for theory; and for practical marks for IA 10 and 40 Marks for External Exam.
- Each IA written examination is of 1 hour 30 minutes duration for 20 marks. The tests will be conducted centrally. The average of two such IA is calculated for 20 marks.
- Attendance will be for 5 Marks. The other innovative component is for 5 marks, conducted during the class hours by the staff member/ in charge of the subject, in the form of assignments/ quiz/ seminars /PPT/Online- assignments/Open Book/Viva Voce/ Group work/ Mini Project/ Exhibition, etc. The topic and time for submission/ presentation will be announced by the staff member/ in charge of the subject in advance. Each student should explain and defend his/her presentation.
- The semester examination will be of3 hours with maximum 70 marks.

Semester Examinations (SE)

- A student should register himself/herself to appear for the Semester Examinations by payment of the prescribed fee.
- The Semester Examinations will be in the form of a comprehensive examination covering the entire syllabus in each subject. It will be of3 hours duration & Foundation course 2 hours irrespective of the number of credits allotted to it.
- If a candidate fails to obtain pass marks even after the due to less mark in the IA examination, the marks of the next examination will be converted to be out of 100.
- Even though the candidate is absent for two IA exams/obtain zero marks the external marks are considered (if he/she gets 40/100) and the result shall be declared as 'PASS'.
- The maximum marks for each Paper shall be 100.

Question paper guide lines for Practical Examinations at the end of Semesters II, IV & VI Two Practical Programs to be conducted out of 15 programs at the end of Semester II, IV, VI Practical Examination time 3Hrs and Maximum Marks 50 Scheme of valuation Semesters – II, IV, VI B.Sc.& B.Com.(C.A), B.Com.(e-commerce-Computers).

Computer Science Practical's - External (Time: 3 hrs.) Total Marks: 40M

1. Programs writing (2):20 marks,
2. Viva voice : 5 marks
3. Execution &Result : 15 marks

Total Marks : 40

Computer Science Practical's- Internal **Total Marks: 10 M**

1. Record : 10 marks

6) Discussed and recommended for organizing Seminars, Guest lectures, Work-shops to upgrade the knowledge of students, for the approval of the Academic Council.

7) Discussed and empowered the HOD to suggest the panel of the paper setters and examiners to the controller of the examinations.

8). We implemented online certificate courses & Internships such as NPTL, APSSDC - PYTHON, R-Programming, Amazon Web services and JAVA------ etc. To fill the curriculum gaps from II year Degree on words

9). Suggestions

Chairman

LIST OF THE COURSES REVISED/ INTRODUCED IN V/VI SEMESTERS (2022 – 2023) BSC(MPCs & MCCs)										
SEM NO	**Course Code**	**Course No.**	**Title of Course**	**Hrs. / Week**		**Credits**		**Marks**		
				Th.	**Lab**	**Th.**	**Lab**	**Int. Max. Marks**	**SEE**	**Total Marks**
V/VI	SECCSCT01	6A	Web Interface Designing Technologies	3		3		30	70	100
	SECCSCP01		Web Interface Designing Technologies Lab		3		2	10	40	50
	SECCSCT02	7A	Web Applications Development using PHP& MYSQL	3		3		30	70	100
	SECCSCP02		Web Applications Development using PHP& MYSQL Lab		3		2	10	40	50
OR										
V/VI	SECCSCT03	6B	Internet of Things	3		3		30	70	100
	SECCSCP03		Internet of Things Lab		3		2	10	40	50
	SECCSCT04	7B	Application Development using Python	3		3		30	70	100
	SECCSCP04		Application Development using Python Lab		3		2	10	40	50
	OR									
	SECCSCT05	6C	Data science	3		3		30	70	100
	SECCSCP05		Data science Lab		3		2	10	40	50
	SECCSCT06	7C	Python for Data Science	3		3		30	70	100
	SECCSCP06		Python for Data Science Lab		3		2	10	40	50

LIST OF THE COURSES REVISED/ INTRODUCED IN V/VI SEMESTERS(2022 – 2023)
B.COM (C.A) V/VI SEMESTERS OF B.Com(C.A)&
B.Com(e-commerce-Computers)

SEM NO	Course Code	Course No.	Title of Course	Hrs. / Week		Credits		Marks		
				Th.	Lab	Th.	Lab	Int. Max. Marks	SEE	Total Marks
V/VI	SECCAT01	6A	Big data Analytics using R	3		3		30	70	100
	SECCAP01		Big data Analytics using R Lab		3		2	10	40	50
	SECCAT07	7A	Data Science using Python	3		3		30	70	100
	SECCAP07		Data Science using Python Lab		3		2	10	40	50
	OR									
	SECCAT03	6B	Mobile application development	3		3		30	70	100
	SECCAP03		Mobile application development Lab		3		2	10	40	50
	SECCAT04	7B	Cyber Security and Malware Analysis	3		3		30	70	100
	SECCAP04		Cyber Security and Malware Analysis Lab		3		2	10	40	50
	OR									
V/VI	SECCAT05	6C	E Commerce Application Development	3		3		30	70	100
	SECCAP05		E Commerce Application Development Lab		3		2	10	40	50
	SECCAT06	7C	Real time governance system (RTGS)	3		3		30	70	100
	SECCAP06		Real time governance system (RTGS) Lab		3		2	10	40	50
	OR									
	SECCAT07	6D	Multimedia Tools and Applications	3		3		30	70	100
	SECCAP07		Multimedia Tools and Applications Lab		3		2	10	40	50
	SECCAT08	7D	Digital Imaging	3		3		30	70	100
	SECCAP08		Digital Imaging Lab		3		2	10	40	50

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DEPARTMENT OF COMPUTER SCIENCE

LIST OF THE COURSES REVISED/ INTRODUCED IN II & IV SEMESTERS - 2022-23

S. NO	Name of the Course	Course Code	SEM No	Type of the Paper	Total Marks	IA TEST	SEE	Teaching Hours	Credits	Offered to (Name of the Programme)
1	Object Oriented Programming using Java	CSCT01	IV	Core	100	25	75	4	4	B.Sc (MPCs, MCCs)
2	Object Oriented Programming using Java Lab	CSCP01	IV	Core Lab	50	10	40	2	1	B.Sc (MPCs, MCCs)
3	Operating System	CSCT41C	IV	Core	100	25	75	4	4	B.Sc (MPCs, MCCs)
4	Operating system Lab	CSCT41C	IV	Core Lab	50	10	40	2	1	B.Sc (MPCs, MCCs)
5	DBMS	CABT41A	IV	Core	100	25	75	4	3	B.Com(CA)
6	DBMS Lab	CABP41A	IV	Core Lab	50	10	40	2	1	B.Com(CA)
7	Object Oriented Programming using Java	CCSCT42	IV	Core	100	25	75	4	3	B.Com(CA)
8	Object Oriented Programming using Java Lab	CCSCP42	IV	Core Lab	50	10	40	2	1	B.Com(CA)
9	OOP'S using Java	ECCSCT 41	IV	Core	100	25	75	4	3	B.Com(ecommerce-Computers)
10	OOP'S using Java Lab	ECCSCP41	IV	Core Lab	50	10	40	2	1	B.Com(ecommerce-Computers)
11	DBMS	ECCSCT 42	IV	Core	100	25	75	4	3	B.Com(ecommerce-Computers)
12	DBMS Lab	ECCSC P42	IV	Core Lab	50	10	40	2	1	B.Com(ecommerce-Computers)
13	Data Communications& Networks	ECCSCT43	IV	core	100	25	75	5	4	B.Com(ecommerce-Computers)
14	Data Structures	CSCT21B	II	Core	100	30	70	4	3	B.Sc (MPCs, MCCs, MSCs)
15	Data Structures Lab	CSCT21B	II	Core Lab	50	10	40	2	1	B.Sc (MPCs, MCCs, MSCs)

16	**E–COMMERCE & WEB DESIGNING**	**CABT21A**	**II**	**Core**	**100**	**30**	**70**	**4**	**3**	**B.Com(CA)**
17	**Web Design Lab**	**CABT21A**	**II**	**Core Lab**	**50**	**10**	**40**	**2**	**1**	**B.Com(CA)**
18	**Information Technology**	**CABT21A**	**II**	**Core**	**100**	**30**	**70**	**4**	**4**	**B.Com(ecommerce-Computers)**
19	**Programming in C**	**ECCSC21**	**II**	**Core**	**100**	**30**	**70**	**4**	**4**	**B.Com(ecommerce-Computers)**
20	**Programming in C Lab**	**ECCSC21P**	**II**	**Core Lab**	**50**	**10**	**40**	**2**	**1**	**B.Com(ecommerce-Computers**

Note-1: For Semester–V, for the domain subject Computer Science any one of the three pairs of SECs shall be chosen as courses 16,17,18,19,20 and 21, i.e., 16A & 17A or 16B &; 17B or 16C &; 17C and so on. The pair shall not be broken (ABCD allotment is random, not on any priority basis).

Note-2: One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate field related skills of the domain subject in students. The syllabus of SEC will be partially skill oriented. Hence, teachers shall also impart practical training to students on the skills embedded in syllabus citing related real field situations.

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Title of the Paper: WEB INTERFACE DESIGNING TECHNOLOGIES

Semester: V/VI

Course Code	SECCSCT01	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	3	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2022-23	Year of Offering: 2022 -23	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: To create web elements like buttons, banners & Bars and of course complete UI designs. Forms and validations for your website. Setting up page layout, color schemes, contract, and typography in the designs. Writing valid and concise code for web pages.

Course Outcomes: Students at the successful completion of the course will be able to:

CO_1	Understand web application and static web page using Html. (PO5)
CO2	Gain knowledge about various designing of style sheets. (PO5)
CO3	Demonstrate skills regarding creation of an interface to dynamic website.(PO7)
CO4	Gain knowledge about various advantages of XML and validating schema(PO5)
CO5	Learn how to install word press and gain the knowledge of installing various plugins to use in their websites. (PO5,PO7)

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	**Web Designing, HTML** **Web Designing:** Introduction To Web Designing, Difference Between Web Applications And Desktop Applications. **HTML:** Introduction To HTML, Introduction To HTML, Headings, Paragraphs Styles &Colors, HTML Formatting, Quotations, Comments, Hyperlinks, Lists, Using colors and images, Tables, Multimedia Objects - Video, Audio, Plugins, You Tube, Frames, Forms	12
II	**CSS, HTML API'S** **CSS**: Introduction, Using Styles, Simple Examples, Defining Your Own Styles, Properties and Values in Styles, Style Sheets, Formatting blocks of information, Layers, CSS Combinators, Pseudo Class, Pseudo Elements, Opacity, ToolTips, Image Gallery, CSS Forms, CSS Counters, CSS Responsive.**HTML API'S:** Geolocation, Drag/drop, local storage, HTML SSE	12
III	**Client side Validation:**Introduction to JavaScript: What Is DHTML?, JavaScript Basics,Variables,StringManipulations,MathematicalFunctions,Statements,Operators,Arrays,Functions.Objects in JavaScript –Data and Objects In JavaScript, Regular Expressions, Exception Handling. DHTML with JavaScript :Data Validation, Opening a New Window, Messages and Confirmations, The Status Bar, Different Frames, Rollover Buttons, Moving Images	14
IV	**XML:** Introduction to xml, How to write a xml document, Elements and attributes, Comments in xml, Namespace in xml, Xml css, Advantages of xml, Uses of xml, xml schema, data types, simple types, complex types ,Validating DTD,XSD.	12
V	**Word press** Introduction to word press, servers like wamp, bitnami e.tc, installing and configuring word press, understanding admin panel, working with posts and pages, using editor, text formatting with shortcuts, working with media-Adding, editing, deleting media elements, working with widgets, menus.	10

Text Book/ references / e-books/websites

1. Chris Bates, Web Programming Building Internet Applications, Second Edition, Wiley
2. Web technologies by A.A.Puntambekar
3. Web Technologies by N.P.Gopalan,Eastern Economy Edition,2nd edition
4. Paul S.WangSanda S. Katila, an Introduction to Web Design plus Programming, Thomson
5. Head First HTML and CSS, Elisabeth Robson, Eric Freeman, O'Reilly Media Inc.
6. An Introduction to HTML and JavaScript: for Scientists and Engineers, David R. Brooks.
7. Schaum's Easy Outline HTML, David Mercer, Mcgraw Hill Professional.
8. Word press for Beginners, Dr.Andy Williams.
9. Professional word press, Brad Williams, David damstra, Hanstern.
10. Web resources:
    a. http://www.codecademy.com/tracks/web
    b. http://www.w3schools.com
    c. https://www.w3schools.in/wordpress-tutorial/ d.http://www.homeandlearn.co.uk

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.

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(With Effect from Academic Year 2022-23)

COMPUTER SCIENCE	SECCSCT01	2022-23	B.SC(MPCS,MCCS)

SEMESTER – V/VI **PAPER – VI** **Max. Marks 70**

Model Paper: WEB INTERFACE DESIGNING TECHNOLOGIES

NO of Hours: 3 **No Of Credits: 3** **Pass Marks 28**

SECTION – A
Short Answer Questions

Answer any Four questions. (At least 1 question should be given from each Unit)

(4x5=20Marks)

1.What is HTML? Explain features and structure of HTML program with example(CO1,L1)
2. What is layer? How are they described with HTML code?(CO1,L1)
3.Explain hyperlinks in HTML.(CO2,L5)
4.What is java script? Explain the features ,advantages and disadvantages of java script(CO3,L1)
5. What are the elements and attributes used in XML(CO4,L1)
6. Explain text formatting in word Press.(CO5,L5)

SECTION-B

Answer all questions.

(5 x 10 = 50 Marks)

9(a) What is list? Explain various types of lists in HTML.(CO1,L1)

OR

9(b)Explain Frames and forms in HTML(CO1,L2)

10(a)Define CSS, Explain various styles sheets in HTML(CO2,L1)

OR

10(b). Explain HTML APIs.(CO1,L2)

11(a).What is DHTML? Explain about various string and mathematical functions(CO3,L2)

OR

11(b) Explain Exception handling and rollover buttons in java script(CO3,L2)

12(a).What are the advantages of using XML and CSS? How to validate XML schema.(CO4,L1)

OR

12(b) Explain about DTD in XML(CO4,L2)

13(a) What is admin panel, what are the steps involved in working with post and pages (CO5,L1)

OR

13(b) Explain how we can add, edit and deleting media elements in word press(CO5,L2)

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COMPUTER SCIENCE	SECCSCP01	2022-23	B.SC(MPCS,MCCS)

SEMESTER – V/VI **PAPER – VI** **Max. Marks 50**

Lab List: WEB INTERFACE DESIGNING TECHNOLOGIES LAB

No. of Hours per week: 3 **External: 40** **Internal: 10** **Credits: 2**

I. Course Outcomes: Students at the successful completion of the course will be able to:

CO1: Create a basic website with the help of HTML and CSS.(PO5)

CO2: Acquire the skill of installing word press and various plugins of Word press.(PO5)

CO3: Create a static website with the help of Word press..(PO5,PO7)

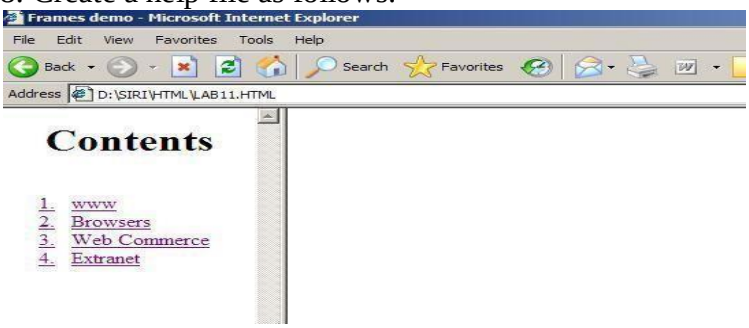
CO4: Create an interface for a dynamic website.(PO5,PO7)

CO5: Apply various themes for their websites using Word press.(PO7)

II.Practical (Laboratory) Syllabus: (30 periods)

HTML and CSS:

1. Create an HTML document with the following formatting options:
(a)Bold, (b) Italics, (c) Underline, (d) Headings (Using H1 to H6 heading styles), (e) Font (Type, Size and Color), (f) Background (Colored background/Image in background), (g) Paragraph, (h) Line Break, (i) Horizontal Rule, (j) Pre tag
2. Create an HTML document which consists of:
(a) Ordered List (b) Unordered List (c) Nested List (d) Image
3. Create a form using HTML which has the following types of controls:
(a) Text Box (b) Option/radio buttons (c) Check boxes (d) Reset and Submit buttons
4.Embed a calendar object in your web page.
5. Create an applet that accepts two numbers and perform all the arithmetic operations on them.
6. Create nested table to store your curriculum with image.
7. Create a form that accepts the information from the subscriber of a mailing system.
8. Create a help file as follows:



9. Write a html program including style sheets.
10. Write a html program to layers of information in web page.
11. Develop a Java script to determine whether the given number is a “PERFECT NUMBER “or not.
12. Develop a Java script to generate “ARMSTRONG NUMBERS” between the ranges 1 to 100.
13. Write a java script that reads an integer and displays whether it is a prime number or not.
14. Write a java script which accepts the text in lower case and displays the text in upper case
15. Write a java script program for user name and password validation using on click event.

Word press:

16. Installation and configuration of word press.
17. Create five pages on COVID – 19 and link them to the home page.
18. Add an external video link with size 640 X 360.
19. Create a user and assign a role to him.
20. Create a login page to word press using custom links

III. Lab References:

1. Web technologies by A.A.Puntambekar
2. Web Technologies by N.P.Gopalan,Eastern Economy Edition,2nd edition
3. Word press for Beginners, Dr.Andy Williams.
4. Professional word press, Brad Williams, David damstra, Hanstern.

Reference Materials on the Web/web-links:

1. https://onlinecourses.nptel.ac.in/noc17_cs22/course
2. http://www.codecademy.com/tracks/web
3. http://www.w3schools.com
4. https://www.w3schools.in/wordpress-tutorial/

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Title of the Paper: WEB APPLICATIONS DEVELOPMENT USING PHP AND MYSQL

Semester: V/VI

Course Code	**SECCSCT02**	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	3	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2015-16	Year of Offering: 2022 -23	Year of Revision: ----	Percentage of Revision: 30%

Course Objective: Upon successful completion of the course, participants should be able to: **List the major elements of the PHP & MySQL work and explain why PHP is good for web development**. Learn how to take a static website and turn it into a dynamic website run from a database using PHP and MySQL.

Course Outcomes: Students at the successful completion of the course will be able to:

CO_1	Learn basic structure and key concepts in PHP, Control statements and functions concept and related programs (PO5)
CO2	Know What is an Array concept related programs, What is an Object, various objects, Formatting strings, Date and time and related programs (PO5)
CO3	Learn importance of Forms, Combining HTML with PHP code. Importance of Cookies and Sessions related programs of forms cookies and sessions. (PO5)
CO4	Know importance of File concept in PHP how to Create, Open, Read and write data in file related programs, Knowing about Image creation, drawing, and modification image (PO7)
CO5	Know about Database concept of MySQL, Connection, Creation of Database, Table adding Record into it related programs (PO7)

PHP Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	**The Building blocks of PHP :** Variables, Data Types, Operators and Expressions, Constants. **Flow Control Functions in PHP:** Switching Flow, Loops, Code Blocks and Browser Output. **Working with Functions:** What is function? ,Calling functions, Functions, Returning the values from User-Defined Functions, Variable Scope.	12
II	**Working with Arrays:** What are Arrays?, Creating Arrays, **Working with Objects** Creating Objects, Object Inheritance, **Working with Strings, Dates and Time-**Formatting strings with PHP, Investigating Strings with PHP, Manipulating Strings with PHP, Using Date and Time Functions in PHP.	12
III	**Working with Forms-**Creating Forms, Accessing Form Input with User defined Arrays, Combining HTML and PHP code on a single Page, **Working with Cookies and User Sessions-**Introducing Cookies, Setting a Cookie with PHP, Session Function Overview, Starting a Session, Working with session variables	14
IV	**Working with Files and Directories:** Creating and Deleting Files, Opening a File for Writing, Reading or Appending, Reading from File, Writing or Appending to a File. **Working with Images -**Understanding the Image-Creation Process, Drawing a New Image ,Modifying Existing Images ,Image Creation from User Input.	12
V	**Interacting with MySQL using PHP -**MySQL versus MySQLi Functions, Connecting to MySQL with PHP ,Working with MySQL Data, **Creating an Online Address Book -**Planning and Creating Database Tables, Creating Menu, Creating Record, Addition Mechanism, Viewing Records, Creating the Record Deletion Mechanism, Adding Sub-entities to a Record.	10

Textbooks and References

1. JulieC.Meloni, SAMS Teach yourself PHP MySQL and Apache, Pearson education
2. Steven Holzner, PHP: The Complete Reference, McGraw-Hill
3. RobinNixon,LearningPHP,MySQL,JavaScript,CSS&HTML5,ThirdEditionO'reilly,2014
4. XueBaiMichaelEkedahl, The web warrior guide to Web Programming, Thomson (2006).
5. Web resources:
    e. http://www.codecademy.com/tracks/php
    f. http://www.w3schools.com/PHP
    g. http://www.tutorialpoint.com

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COMPUTER SCIENCE	SECCSCT02	2022-23	B.SC(MPCS,MCCS)

SEMESTER – V/VI **PAPER – VII** **Max. Marks 70**

Model Paper: Web Applications Development using PHP & MYSQL

NO of Hours: 3 **No Of Credits: 3** **Pass Marks 28**

SECTION – A

Short Answer Questions **(4 x 5=20 Marks)**

Answer any Four questions. (At least 1 question should be given from each Unit)

1) Define Structure of PHP.(CO1,L1)
2) Differentiate Conditional statement and Looping statement with syntax.(CO1,L4)
3) Define Array concept explain about it.(CO2,L1)
4) Explain about Cookies concept.(CO3,L2)
5) Explain about Image creation.(CO4,L2)
6) Write short note on Mysqli.(CO5,L1)

SECTION B

(5 x 10=50 Marks)

Answer all questions. (Two questions should be given from each unit with internal choice)

9(a) Explain about Control Statements.(CO1,L2)

OR

9(b) Discuss about Function define, Call and return value with example.(CO1,L6)

10(a) List various types of Formatting strings explain them.(CO2,L2)

OR

10(b) Define Array function with example.(CO2,L1)

11(a) Write names of Form objects explain them with example.(CO3,L2)

OR

11(b) Compare and Contrast Session and Cookies.(CO3,L4)

12(a) Explain File concept about file creation, Open file, Write file and Delete file with example(CO4,L2)

OR

12(b) Construct steps for Interfacing complete image concept explain them with one example.(CO4,L3)

13(a) Discuss about DDL commands and DML commands in Mysqli with syntaxes (CO5,L6)

OR

13(b) Write code to Create table of Employee by adding any four columns with example.(CO5,L6)

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COMPUTER SCIENCE	**SECCSCP02**	**2022-23**	**B.SC(MPCS,MCCS)**

SEMESTER – V/VI **PAPER – VII** **Max. Marks 50**

Lab List: **Web Applications Development using PHP & MYSQL lab**

No. of Hours per week: 3 **External: 40** **Internal: 10** **Credits: 2**

I. Course Outcomes: Students at the successful completion of the course will be able to:

CO1: Learn and implement basic programs in PHP, Control statements and functions concept (PO5)

CO2: Implement Basic programs in Object, various objects, Formatting strings, Date and time (PO5)

CO3: Learn and implement important programs of Forms, Combining HTML with PHP code. Importance of Cookies and Sessions..(PO5)

CO4: Implement programs on Files concept in PHP and on Image creation, drawing, and modification image (P05 & PO7)

CO5: Implement Database programs on MySQLi, Connection, Creation of Database, Table adding Record into it related programs (PO7)

II: Practical (Laboratory) Syllabus: (30 Periods): At least 8 Practical's.

1. Write a PHP program to Display "Hello"
2. Write a PHP Program to display today's date.
3. Write a PHP program to display Fibonacci series.
4. Write a PHP Program to read the employee details.
5. Write a PHP program to prepare the student marks list.
6. Write a PHP program to generate the multiplication of two matrices.
7. Create student registration form using text box, check box, radio button, select, submit button. And display user inserted value in new PHP page.
8. Create Website Registration Form using text box, check box, radio button, select, submit button. And display user inserted value in the new PHP page.
9. Write a PHP script to demonstrate passing variables with cookies.
10. Write a program to keep track of how many times a visitor has loaded the page.
11. Write a PHP application to add, Modify, delete and fetch the rows in a Table.
12. Develop a PHP application to implement the following Operations
    a. Registration of Users.b.Insert the details of the Users.c.Modify the Details.
    d.Transaction Maintenance.

i.No of times Logged in (ii).Time Spent on each login. Ii. Restrict the user for three trials only.

iii. Delete the user if he spent more than 100 Hrs of transaction.

13. Write a PHP script to connect to the MySQL server from your website.
14. Write a program to read customer information like cust-no, cust-name, item purchased, and mob-no, from customer table and display all this information in table format on the output screen.
15. Write a program to edit the name of a customer to "Kiran" with cust-no =1, and to delete record with cust-no=3.
16. Write a program to read employee information like emp-no, emp-name, designation and salary from the EMP table and display all this information using table format in your website.
17. Create a dynamic web site using PHP and MySQL.

Textbooks and References: 1. JulieC.Meloni,SAMS Teach yourself PHP MySQL and Apache, Pearson Education(2007).

1. Steven Holzner, PHP: The Complete Reference, McGraw-Hill

2. RobinNixon,LearningPHP,MySQL,JavaScript,CSS&HTML5,ThirdEditionO'reilly.

Web resources: a.http://www.codecademy.com/tracks/php

b.http://www.w3schools.com/PHP

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Title of the Paper: BIG DATA ANALYTICS USING R

Semester: V/VI

Course Code	SECCAT01	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	3	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2022-23	Year of Offering: 2022-23	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: Big data analytics examines large amounts of data to uncover hidden patterns, correlations and other insights. With today's technology, it's possible to analyze your data and get answers from it almost immediately – an effort that's slower and less efficient with more traditional business intelligence solutions.

Course Outcomes:

CO_1	Understand data and classification of digital data. (PO5)
CO2	Gain knowledge of technologies used in bigdata Analytics. (PO5, PO7)
CO3	Understand basics of R and control structures in R. (PO5)
CO4	Load data into R objects and manipulate them as needed. (PO5)
CO5	Create and edit visualizations with R (PO7)

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	**Introduction to Big data:** What is data, Classification of Digital Data-Structured Unstructured, semi-structured data, Characteristics of data, Evaluation of big data, Definition and challenges of big data**,** what is big data and why to use big data?	12
II	**Big data Analytics:** What is and isn't big data analytics? Classification of analytics, Importance of big data analytics, Technologies needed to meet challenges of big data, data science, Data scientist	12
III	**Introduction to R and getting started with R:** What is R? Why R? Advantages of R over other programming languages**,** Data types in R - logical, numeric, integer, character, double, Complex, raw, coercion, ls () command, Expressions, Variables and functions, control structures, Array, Matrix, Vectors, Factors, R packages	14
IV	**Exploring data in R**– Data frames-data frame access, Ordering data frames, functions for data frames dim(), nrow(), ncol(), str(), summary(), names(), head(), tail(), edit()**,** Load data frames—reading from .CSV files, Sub setting data frames, reading from tab separated value files, Reading from tables, merging data frames	12
V	**Data Visualization using R**: Reading and getting data into R (External Data),Using CSV files, XML files, Web Data, JSON files, Databases, Excel files**,** Working with R Charts and Graphs: Histograms, Boxplots, Bar Charts, Line Graphs, Scatter plots, Pie Chart	10

Prescribed Text Book:

1. Seema Acharya--Data Analytics using R, McGraw Hill education (India) Private Limited.

2. Big Data Analytics, Introduction to Hadoop, Spark, and Machine-Learning, Raj Kamal, PreetiSaxena, McGraw Hill, 2018

Reference Books:

1. SeemaAcharya, SubhashiniChellappan --- Big Data and Analytics second edition, Wiley
2. Big Data, Big Analytics: Emerging Business intelligence and Analytic trends for Today's Business, Michael Minnelli, Michelle Chambers, and AmbigaDhiraj, John Wiley & Sons, 2013
3. An Introduction to R, Notes on R: A Programming Environment for Data Analysis and Graphics. W. N. Venables, D.M. Smith and the R Development Core Team

Course Focus: R for data science focuses on the language's statistical and graphical uses. When you learn R for data science, you'll learn how to use the language to perform statistical analyses and develop data visualizations. R's statistical functions also make it easy to clean, import and analyze data.

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COMPUTER SCIENCE	SECCAT01	2022-23	B.COM (CA)

SEMESTER – V/VI **PAPER – VI** **Max. Marks 70**

Model Paper: **BIGDATA ANALYTICS USING R**

NO of Hours: 3 **No Of Credits: 3** **Pass Marks 28**

Section-A

Answer any Four questions.
(At least 1 question should be given from each Unit) **(4 x 5=20Marks)**

1. What is big data and why to use a big data? (CO1, L1)
2. What is big data analytics? (CO2, L1)
3. Explain ls () command in R. (CO3, L2)
4. Write a short note on charts. (CO5, L1)
5. Develop R script to load data into data frames from files. (CO4, L6)
6. Write about the control structures in R with examples. (CO3, L1)

Section-B

Answer all questions. **(5X10=50Marks)**
(Two questions should be given from each unit with internal choice)

9.(a) Give Classification of Digital Data and explain it. (CO1, L2)

OR

(b) Explain Characteristics of Data with an example. (CO1, L2)

10.(a) Write about Importance of big Data Analytics. (CO2, L1)

OR

(b) Explain Classification of Analytics. (CO2, L2)

11.(a) Write about the Data types in Explain with examples. (CO3, L1)

OR

(b) Construct Vector in R and explain various operations on it. (CO3, L3)

12. (a) What are the data frames? Write its significance in R-Language. (CO4, L1)

OR

(b) Demonstrate various functions used in data frames. (CO4, L2)

13.(a) Build a code in R for reading and getting data into R from databases. (CO5, L6)

OR

(b) Develop below plots in R (CO5, L6)
a) Box Whisker plots b)Scatter plots c)Pairs plots

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COMPUTER SCIENCE	SECCAP01	2022-23	B.COM (CA)

SEMESTER – V/VI **PAPER – VI** **Max. Marks 50**

Title**: BIG Data Analysis using Python lab**

No. of Hours per week: 2 External: 40 Internal: 10 Credits: 2 Pass Marks 20

I. Course Outcomes: Students at the successful completion of the course will be able to:

CO1: Implement simple scripts or programs in R. (PO5)

CO2: Access online resources for R and import new function packages into the R workspace. (PO5, PO7)

CO3: Import, review, manipulate and summarize data-sets in R (PO5, PO7)

CO4: Explore data-sets to create testable hypotheses and identify appropriate statistical tests. (PO5, PO7)

CO5: Create and edit visualizations with R. (PO5, PO7)

II: Practical (Laboratory) Syllabus: (30 Periods)

1. Create a vector in R and perform operations on it (arithmetic operations, combining Vectors, retrieving elements of vector, assign names to vector elements).
2. Create integer, complex, logical, character data type objects in R and print their values And their class using print and class functions.
3. Create a matrix of values in R and extract data from matrix. (Ex. Second row thirdetc.) find transpose of matrix and combine two matrices using Rbind and Cbind functions.
4. Create a list in R and perform operations on it like list slicing, sum and mean functions, head and tail functions and finally delete list using rm() function.
5. Create data frame in R and perform operations on it
6. Write code in R to find out whether a number is prime or not.
7. Print numbers from 1 to 100 using while loop and for loop in R.
8. Find the factorial of a number using recursion in R.
9. Perform arithmetic operations in R using switch case
10. Write a code in R to find out whether the number is Armstrong or not.
11. Program to find Multiplication table from 1 to 10 number input by user.
12. Import data into R from text and excel files using read.table() and read.csv() function.
13. Create a dataset and draw different types of graphics using plot, box plot, histogram, pair plot functions.
14. Create a dataset and draw different types of graphs using bar charts, pie chart functions.
15. Create custom contingency in R and perform operations on it.

III. Lab References:

1. Seema Acharya--Data Analytics using R, McGraw Hill education (India) Private Limited.
2. Big Data Analytics, Introduction to Hadoop, Spark, and Machine-Learning, Raj kamal, PreetiSaxena, McGraw Hill, 2018

Reference Materials on the Web/web-links:

1. **https://www.wiley.com/enbd/Big+Data,+Big+Analytics:+Emerging+Business+Intelligence+and+Analytic+Trends+for+Today's+Businesses-p-9781118147603**

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Title of the Paper: Data Science using Python

Semester: V/VI

Course Code	SECCAT07	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	3	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2022-23	Year of Offering: 2022 - 23	Year of Revision: ---	Percentage of Revision: 0%

Course Objective: The main objective of the course is to provide students with the basic concepts of Python, its syntax, functions and packages to enable them to write scripts for data manipulation and analysis. The course develops skills of writing and running a code using Python.

Course Outcomes: Students at the successful completion of the course will be able to:

CO_1	Understand the need and importance of data science.(PO5,PO7)
CO_2	Understand basic concepts of python and implementing control structures in python.(PO5)
CO_3	Implement strings and other data structures in python(PO5,PO7)
CO_4	Learn and Implement functions and modules in python.(PO5)
CO_5	Learn and Implement data cleaning and plotting using pandas.(PO5,PO7)

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	**INTRODUCTION TODATA SCIENCE** Data science and its importance, Advantages of data science, The process of data science, Responsibilities of a data scientist, Qualifications of data scientists, Would you be a good data scientist?, Why to use python for data science?	12
II	**INTRODUCTION TO PYTHON** What is python?, Features of python, History of python, Writing and executing the python program, Basic syntax, Variables, Keywords, Data types , Operators, Indentation, Control Structures-Conditional statements—If, If-else, Nested if-else, Looping statements—For, While, Nested Loops, Break, Continue, Pass	12
III	**STRINGS AND DATA STRUCTURES** Strings - definition, accessing, slicing and basic operations, Lists - introduction, accessing list, operations, working with lists, functions and methods, Tuples - introduction, accessing tuple, operations, Dictionaries- introduction, accessing values in dictionaries, working with dictionaries.	14
IV	**FUNCTIONSANDMODULES** Functions- Defining a function, Calling a function, Types of functions, Function arguments, Local and global variables, Lambda and recursive functions, Modules---Math, Random, OS, Date and Time	10
V	**PANDAS** What is Pandas?, Series, Data Frame, Read CSV Files, Analyzing Data Frames, Data Correlations, Data Cleaning---Empty cells, Data in wrong format, Wrong data, Duplicates, Pandas Plotting-- plot () method, bar plot, hist plot, box plot, area plot, scatter plot, pie plot	12

Prescribed Books:

1. Steven cooper--- Data Science from Scratch, Kindle edition
2. Reemathareja—Python Programming using problem solving approach, Oxford Publication

Reference Books:

1.Wes McKinney--- Python for Data Analysis ,O'REILLY

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COMPUTER SCIENCE	SECCAT07	2022-23	B.COM (CA)

SEMESTER – V/VI **PAPER – VII** **Max. Marks 70**

Model Paper: Data Analysis using Python

NO of Hours: 3 **No Of Credits: 3** **Pass Marks 28**

Section – A

Answer any Four questions.
(At least 1 question should be given from each Unit) **(4 x 5=20Marks)**

1. Write advantages of data science. (CO1, L1)
2. What are the qualifications of data scientist? (CO1, L2)
3. Explain about the history of python.(CO2, L1)
4. Explain about string operations in python.(CO3, L1)
5. Explain about the date and time module in python.(CO4, L1)
6. What is data cleaning? Explain about duplicates in pandas.(CO5, L1)

Section – B

Answer all questions.
(Two questions should be given from each unit with internal choice) **(5x10=50Marks)**

9. (a) What is Data Science? Explain the Responsibilities of a data scientist.(CO1, L2)

OR

9. (b) Explain the use of python for data science?(CO1, L1)

10. (a) Explain different types of conditional statements with examples.(CO2, L1)

OR

10. (b) Explain different types of Looping statements with examples.(CO2, L1)

11. (a) What is a list? Explain different operations of lists with examples in python. (CO3, L2)

OR

11. (b)What is a Dictionary? Explain accessing values in it with examples in python (CO3, L2)

12. (a) Explain Function definition, calling & different types in python with example.(CO4, L1)

OR

12. (b) Explain about random and math module in python with an example.(CO4, L1)

13. (a) What is a data frame? Illustrate the concept of analysing the data frames.(CO5, L2)

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COMPUTER SCIENCE	SECCAP07	2022-23	B.COM (CA)

SEMESTER – V/VI **PAPER – VII** **Max. Marks 50**

Lab List: DATASCIENCE USING PYTHON LAB

No. of Hours per week: 2 **External: 40** **Internal: 10** **Credits: 2**

I. Course Outcomes: Students at the successful completion of the course will be able to:

CO1: Implement simple programs in basics of python.(PO5)
CO2: Implement control structures in python.(PO5)
CO3: Implement data structures like strings, list, tuples, dictionaries in python.(PO5,PO7)
CO4:Implementation of data frames, data cleaning and plotting in pandas.(PO5,PO7)

II: Practical (Laboratory) Syllabus: (30 Periods)

1. Python Program to Find the Square Root
2. Python Program to Swap Two Variables
3. Python Program to Generate a Random Number
4. Python Program to check if a Number is odd or Even
5. Python Program to Find the Largest Among Four Numbers
6. Python Program to Check Prime Number
7. Python Program to Display the multiplication Table
8. Python Program to Print the Fibonacci sequence
9. Python Program to Check Armstrong Number
10. Python Program to Find the Sum of Natural Numbers
11. Python Program to Make a Simple Calculator
12. Python Program to Find Factorial of Number Using Recursion
13. Python Program to Add Two Matrices
14. Python Program to Multiply Two Matrices
15. Python Program to Check Whether a String is Palindrome or Not
16. Python Program to perform operations on strings.
17. Python Program to create a list and perform operations on its contents.
18. Python Program to perform operations on tuples.
19. Python Program to create a dictionary and print its content.
20. Python program to import data from CSV file using pandas.
21. Python program to demonstrate plots

III. Lab References:

1. Reemathareja—Python Programming using problem solving approach,Oxford Publication

Reference Materials on the Web/web-links:

1. https://www.w3schools.com/python/
2. https://www.geeksforgeeks.org/python-basics/

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Title of the Paper: **Object Oriented Programming Using JAVA**

Semester: IV PAPER-IV

Offered To:	**B. Sc. (MPCS.MCCS,MSCS)**	**Course Code:**	**CSCT01**
Course Type:	Core (Theory)	**Course:**	Object Oriented Programming using Java
Year of Introduction:	2016 - 2017	**Year of offering:**	2021 – 2022
Year of Revision:	2021	**Percentage of Revision:**	15 %
Semester:	IV	**Credits:**	4
Hours Taught:	60 hrs. per semester	**Max. Time:**	3 Hrs

Course Prerequisites (if any): Programming Concepts.

Course Description: As the business environment becomes more sophisticated, the software development (software engineering is about managing complexity) is becoming increasingly complex. As of the best programming paradigm which helps to eliminate complexity of large projects, Object Oriented Programming (OOP) has become the predominant technique for writing software in the past decade. Many other important software development techniques are based upon the fundamental ideas captured by object-oriented programming.

Course Objectives:

1. Understand the features of Object Oriented Programming.
2. Understand features of Java programming language.
3. Know how to write and execute java programs in text editors.
4. Apply polymorphism, inheritance, multithreading, exception handling mechanism and packages in real life applications.
5. Write and read data from the files using streams, file handling methods and understand JDBC to perform database operations.

Course Outcomes: At the end of this course, students should be able to:

CO1: Understand the concept and underlying principles of Object-Oriented Programming, Understand how object-oriented concepts are incorporated into the Java programming language. (PO5, PO7).
CO2: Implement Object Oriented Programming Concepts (class, constructor, overloading, inheritance, overriding) in java. (PO5, PO7).
CO3: Analyse inheritance and interfaces in a Java program (PO5, PO7).
CO4: Evaluate Multithreading, exception handling in Java. (PO5, PO7).
CO5: Create applets and packages in a Java program, Use of Input/output Streams in java and use of JDBC with Oracle database. (PO5, PO7).

Syllabus		
Unit	**Learning Units**	**Lecture Hours**
I	**Fundamentals Of Object – Oriented Programming:** Introduction, Object Oriented paradigm, Basic Concepts of OOP, Benefits of OOP, Applications of OOP, Java features **Overview Of Java Language:** Introduction, Simple Java program structure, Java tokens, Java Statements, Implementing a Java Program, Java Virtual Machine, Command line arguments **Constants, Variables & Datatypes:** Introduction, Constants, Variables, Data Types, Declaration of Variables, Giving Value to Variables, Scope of variables, Symbolic Constants, Type casting, Getting Value of Variables, Standard Default values **Operators & Expressions**	10
II	**Decision Making & Branching:** Introduction,Decision making with if statement, Simple if statement, If - Else statement, Nesting of if- else statements, The else if ladder, The switch statement, The conditional operator. **Looping:** Introduction, The While statement, The do-while statement, The for statement, Jumps in loops. **Classes, Objects & Methods:** Introduction, Defining a class, Adding variables, Adding methods, Creating objects, Accessing class members, Constructors, Method overloading, Static members, Nesting of methods.	12
III	**Inheritance:** Extending a class, Overloading methods, Final variables and methods, Final classes, Abstract methods and classes. **Arrays, Strings:** Arrays, One-dimensional arrays, Creating an array, Two – dimensional arrays, Strings, Wrapper classes. **Interfaces:** MULTIPLE INHERITANCE: Introduction, Defining interfaces, Extending interfaces, Implementing interfaces, Assessing interface variables.	12
IV	**Multithreaded Programming:** Introduction, Creating Threads, Extending the Threads, Stopping and Blocking a Thread, Lifecycle of a Thread, Using Thread Methods, Thread Exceptions, Thread Priority, Synchronization, Implementing the 'Runnable' Interface. **Managing Errors And Exceptions:** Types of errors, Compile-time errors, Run-time errors, Exceptions, Exception handling, Multiple Catch Statements, Using finally statement. **Packages:** Introduction, Java API Packages, Creating Packages, Accessing a Package, Using a Package.	13
V	**Applet Programming:** Local and remote applets, Applets and Applications, Building Applet code, Applet Life cycle: Initialization state, Running state, Idle or stopped state, Dead state, Display state. **Managing Input/Output Files In Java:** Introduction, Concept of Streams, Stream classes, Byte Stream Classes, Character Stream classes: Reader stream classes, Writer Stream classes, Reading and writing files. **Java Database Connectivity:** JDBC introduction, Stages in JDBC Program, Working with Oracle Database: Inserting, Deleting and Updating records.	13

Text Books:

1. Programming with Java, E – Balagurusamy, 3e, TMH.
2. Core Java: An Integrated Approach, Dr. R. Nageswara Rao & KogentLearning Solutions Inc.

Reference Books:

1. Programming with Java, 2ed, John R. Hubbard, Schaum's outline Series, TMH
2. Deitel & Deitel, Java TM : How to program, PHI(2007)

Course Delivery method: Face-to-face / Blended
Course has focus on: Employability
Websites of Interest:
[1]. https://www.javatpoint.com/java-tutorial
[2]. https://www.w3schools.com/java/
[3]. https://www.tutorialspoint.com/jdbc/index.htm

Co-curricular Activities : Programming Contests, Assignments & Quiz.

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OBJECT ORIENTED PROGRAMMING USING JAVA
MODEL PAPER

CLASS: B.Sc. (MPCS, MCCS, MSCS) **Max. Marks: 75M**
Course Code: CSCT01 **Min. Pass: 30M**
Semester: IV **Time: 3 Hours**

Section-A

ANSWER ANY FIVE QUESTIONS 5x5M=25M

1. Explain structure of java program.(CO1, L2)
2. Define a class and add methods, variables to it and create objects for it. (CO2,L1)
3. Explain constructors in java with example. (CO2,L2)
4. Explain any five string handling methods in java.(CO3, L2)
5. Illustrate implementing interfaces in java with example. (CO3,L2)
6. Illustrate creating threads in java with example .(CO4,L2)
7. Illustrate Arithmetic Exception in java with example.(CO4, L2)
8. Explain byte stream classes in java. (CO5, L2)

Section-B

ANSWER THE FOLLOWING QUESTIONS 5x10M=50M

9. (A) Explain Object Oriented Programming Principles. (CO_1,L2)

(**OR)**

(B) Explain Java Buzz words. (CO1, L2)

10. (A) Explain the following with programs (CO2, L2)
    i. Method Overloading 5M
    ii. Abstract classes 5M

(OR**)**

(B) Explain the concept of static members in java with an example. (CO2,L2)

11. (A) Explain the concept of final keyword with an example. (CO3,L2)

(**OR)**

(B) List of different types of inheritance in java with examples. (CO3,L4)

12. (A) Explain life cycle of a thread with neat diagram. (CO4,L2)

(OR**)**

(B) Define Exception. Explain Exception handling mechanism in java with examples (CO4, L1,L2)

13. (A) Explain creating and accessing package in java with example. (CO5,L2)

(OR)

(B) Explain different stages in JDBC program with an example..(CO5,L6)

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OBJECT ORIENTED PROGRAMMING USING JAVA

BLUE PRINT

CLASS: B.Sc. (MPCS, MCCS, MSCS) **Max. Marks: 75M**

Course Code: CSCT01 **Min. Pass: 30M**

Semester: IV **Time: 3 Hours**

Section-A

ANSWER ANY FIVE QUESTIONS **5x5M=25M**

1. UNIT -1 ---------- 5M
2. UNIT -2 ---------- 5M
3. UNIT -2 ---------- 5M
4. UNIT -3 ---------- 5M
5. UNIT -3 ---------- 5M
6. UNIT -4 ---------- 5M
7. UNIT -4 ---------- 5M
8. UNIT -5 ---------- 5M

Section-B

ANSWER THE FOLLOWING QUESTIONS **5x10M=50M**

9. UNIT -1 ---------- 10M

OR

UNIT -1 ---------- 10M

10. UNIT -2 ---------- 10M

OR

UNIT -2 ---------- 10M

11. UNIT -3 ---------- 10M

OR

UNIT -3 ---------- 10M

12. UNIT -4 ---------- 10M

OR

UNIT -4 ---------- 10M

13. UNIT -5 ---------- 10M

OR

UNIT -5 ---------- 10M

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Object Oriented Programming Using JAVA Lab

SEMESTER-IV **PAPER-IV**

Offered To:	B. Sc. (MPCS,MCCS,MSCS)	**Course Code:**	**CSCP01**
Course Type:	Core (Practical)	**Course:**	Object Oriented Programming using Java Lab
Year of Introduction:	2016 – 2017	**Year of offering:**	2021 – 2022
Year of Revision:	2021	**Percentage of Revision:**	15%
Semester:	IV	**Credits:**	1
Hours Taught:	30 hrs. per semester	**Max. Time:**	3 Hrs

Course Prerequisites (if any): Knowledge in OOP & Java concepts, Programming Fundamentals

Course Objective:
To enable students to implement various OOP concepts using Java programming language and also educating students in accessing databases using JDBC connectivity.

Course Outcomes: At the end of this course, students should be able to:
CO1: Implementing class, constructor, method overloading, method overriding in java. (PO5, PO7)
CO2: Implement different types of inheritance and interfaces in a Java program .(PO5, PO7)
CO3: Implement Multithreading, exception handling mechanisms in Java. (PO5, PO7)
CO4: Implement Applets and JDBC connectivity. (PO5, PO7)

Java Lab list

1. Write a program to use command line arguments.
2. Write a program to demonstrate that include a method inside the Rectangular Class.
3. Write a program to demonstrate Parameterized Constructors.
4. Write a program to demonstrate Method Overloading.
5. Write a Program to demonstrate Constructor Overloading.
6. Write a program to demonstrate Method Inheritance.
7. Write a program to demonstrate Method Overriding.
8. Write a program to demonstrate Abstract Classes.
9. Write a program to arrange given Strings in Alphabetical Order.
10. Write a program for implementing interfaces.
11. Write a program on Multiple Inheritance.
12. Write a program to demonstrate the Creating threads using thread class.
13. Write a program to demonstrate using thread methods.
14. Write a program to Implement Thread Priority.
15. Write a program to demonstrate Catch Blocks.
16. Write a program to Import Packages.
17. Write a program to demonstrate Applet Program.
18. Write a program to create table and insert values into table in a database.
19. Write a program to delete values in a table in database.
20. Write a program to update values in a table in database.

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OPERATING SYSTEMS

Semester: IV **PAPER-V**

Offered To:	B. Sc. (MPCS, MCCS, MSCS)	**Course Code:**	CSCT41C
Course Type:	Core (Theory)	**Course:**	Operating systems
Year of Introduction:	2021 – 2022	**Year of offering:**	2021 – 2022
Year of Revision:	-	**Percentage of Revision:**	-
Semester:	IV	**Credits:**	4
Hours Taught:	60 hrs. per semester	**Max. Time:**	3 Hrs

Course Prerequisites (if any): Basic Knowledge in computers, data structures and C programming language.

Course Description:

This course provides basic knowledge about operating system functions, its architectural design along with implementation of various scheduling algorithms. This course also provides knowledge in handling deadlock situation.

Course Objectives:

The Purpose of this course is to give students an idea of the services provided by the operating system, structure,organization of the file system, process synchronizations, scheduling and memory management.

Course Outcomes: At the end of this course, students should be able to

1. **Understand** Operating System Architectural design and its services. (PO5, PO6, PO7)
2. **Implementation** of Scheduling Algorithms. (PO5, PO6, PO7)
3. **Analyze** memory management techniques, concepts of virtual memory and disk scheduling. (PO5, PO6, PO7)
4. **Understand** the implementation of file systems and directories with the interfacing of IO devices with the operating system. (PO5, PO6, PO7)
5. **Identify** the deadlock situation and provide appropriate solutions so that protection and security of the operating system is also maintained. (PO5, PO6, PO7)

Syllabus		
Unit	**Learning Units**	**Lecture Hours**
	Operating System: Introduction, Operating Systems Objectives and functions, Computer System Architecture, OS Structure, OS Operations. Evolution of Operating Systems , Types of operating system - Simple, Batch, Multi programmed , Time shared , Parallel, Distributed Systems, Real-Time Systems, Operating System services.	11
II	**Process and CPU Scheduling** – Process concepts , The Process, Process State, Process Control Block, Process communication, Threads. Process Scheduling - Scheduling Queues, Schedulers, Context Switch, Preemptive Scheduling,Dispatcher, , Scheduling Criteria, Scheduling algorithms,Case studies: Linux, Windows. Process Synchronization - The Critical section Problem, Synchronization Hardware,Semaphores, Classic Problems of Synchronization,Monitors.	13
III	**Memory Management and Virtual Memory** – Logical & physical Address Space, Swapping, Contiguous Allocation , Paging-Structure of Page Table, Segmentation, Segmentation with Paging, Virtual Memory, Demand Paging, Performance of Demanding Paging, Page Replacement , Page Replacement Algorithms, Allocation of Frames.	13
IV	**File System Interface** – The Concept of a File , Access methods , Directory Structure, ,File System Mounting , File Sharing, Protection, File System Structure, Mass Storage Structure - Overview of Mass Storage Structure , Disk Structure, Disk Attachment, Disk Scheduling.	12
V	**Deadlocks** – System Model, Deadlock Characterization, Methods for Handling Deadlocks, Deadlock Prevention,Deadlock Avoidance, Deadlock Detection and Recovery from Deadlock.	11

PrescribedTextBooks			
	Author	**Title**	**Publisher**
1	Silberschatz, Galvin, Gagne	Operating System Concepts, eight Edition	John Willey & Sons INC

ReferenceTextBook			
	Author	**Title**	**Publisher**
1	Abraham Silberchatz, Peter B. Galvin, Greg Gagne	Operating System Principles, 8th Edition	Wiley Student Edition
2	Naresh Chauhan,	Principles of Operating Systems	OXFORD University Press

Course Delivery method : Face-to-face / Blended

Course has focus on : Skill Development

Co-curricular Activities: Programming Contests, Assignments & Quiz

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OPERATING SYSTEMS

MODEL QUESTION PAPER

COURSE CODE: CSCT41C TITLE OF PAPER: OPERATING SYSTEMS

CLASS / GROUP: B.Sc (MPCS, MCCS, MSCS,) SEMESTER: IV

Time: 3 Hrs. Max. Marks: 75

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SECTION – A

Answer any FIVE questions: 5 X 5 = 25 Marks

1. Explain computer system architecture with a neat diagram. (CO1, L2)
2. Write about process states with a neat diagram. (CO1, L2)
3. Explain about context switching. (CO2, L2)
4. Write short notes on swapping. (CO3, L2)
5. Write about logical and physical address spaces. (CO3, L2)
6. Write about different file access methods. (CO4, L2)
7. What are the necessary conditions for deadlocks? (CO5, L2)
8. Explain how dead locks can be recovered. (CO5, L2)

SECTION – B

Answer ALL questions: 5 X 10 = 50 Marks

9. (a). Define operating system and explain its functions. (CO1, L2)

OR

(b.) Explain about various types of operating systems. (CO1, L2)

10. (a) Explain SJF and priority scheduling algorithms with an example. (CO2, L2)

OR

(b) Explain about inter process communication. (CO2, L2)

11. (a) Discuss the concept of paging with neat diagram. (CO3, L2)

OR

(b) Consider the following page reference string and calculate the number of page faults by using FIFO and LRU with three frames.

7 0 1 2 0 3 0 4 2 3 0 3 2 1 2 0 1 7 0 1 (CO3, L2)

12. (a). Explain in detail file operations. (CO4, L2)

OR

(b). Discuss about FCFS disk scheduling and SSTF scheduling with a suitable example. (CO4,L2)

13. (a) what is deadlock ?explain deadlock preventions methods. (CO5, L2)

OR

(b) Explain banker's algorithm for deadlock avoidance.(CO5, L2)

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OPERATING SYSTEMS

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COURSE CODE: CSCT41C TITLE OF PAPER: OPERATING SYSTEMS

CLASS / GROUP: B.Sc (MPCS, MCCS, MSCS,) SEMESTER: IV

Time: 3 Hrs. Max. Marks: 75

Section-A

ANSWER ANY FIVE QUESTIONS 5x5M=25M

1. UNIT -1 ---------- 5M
2. UNIT -1 ---------- 5M
3. UNIT -2 ---------- 5M
4. UNIT -3 ---------- 5M
5. UNIT -3 ---------- 5M
6. UNIT -4 ---------- 5M
7. UNIT -5 ---------- 5M
8. UNIT -5 ---------- 5M

Section-B

ANSWER THE FOLLOWING QUESTIONS 5x10M=50M

9. UNIT -1 ---------- 10M

OR

UNIT -1 ---------- 10M

10. UNIT -2 ---------- 10M

OR

UNIT -2 ---------- 10M

11. UNIT -3 ---------- 10M

OR

UNIT -3 ---------- 10M

12. UNIT -4 ---------- 10M

OR

UNIT -4 ---------- 10M

13. UNIT -5 ---------- 10M

OR

UNIT -5 ---------- 10M

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OPERATING SYSTEMS LAB

Semester: IV **PAPER-V**

Offered To:	B. Sc. (MPCS, MCCS, MSCS)	**Course Code:**	**CSCT41C**
Course Type:	Core (Practical)	**Course:**	Operating systems Lab
Year of Introduction:	2021 – 2022	**Year of offering:**	2021 – 2022
Year of Revision:	-	**Percentage of Revision:**	-
Semester:	IV	**Credits:**	1
Hours Taught:	30 hrs. per semester	**Max. Time:**	3 Hrs

Course Prerequisites (if any): Basic Knowledge in OS concepts, data structures and C programming language.

Course Description:

This course deals with training students in developing and implementing logics for various OS scheduling algorithms. It also enables students to gain practical knowledge in implementing various UNIX commands.

Course Objective:

The Purpose of this course is to have students understand and the principles in the design and implementation of operating system software.

Course Outcomes: At the end of this course, students should be able to

CO 1. Implementing DOS & UNIX Commands(PO5, PO6, PO7)
CO 2. Implementing CPU Scheduling Algorithms(PO5, PO6, PO7)
CO 3. Implementing CPU Scheduling Algorithms, Deadlocks Avoidance, Prevention & Memory Management Techniques(PO5, PO6, PO7)
CO 4. Implementing Contiguous Memory Allocation Techniques & Page Replacement Algorithms(PO5, PO6, PO7)
CO 5. Implementing File allocation Strategies(PO5, PO6, PO7)

Lab Exercises

1. **DOS** - Internal Commands

2**. UNIX Commands**

1. In your home directory create a directory named DIR
2. Copy all files whose filenames satisfy the following conditions to ~/DIR. The files are in /usr/include directory, their names start with m, end with .h and contain a number.
3. Create a subdirectory called SUBDIR in your DIR directory.
4. The first five lines of each file you have copied from /usr/include copy to file ~/DIR/ SUBDIR/first five.
5. The last lines of files in ~/DIR copy to file ~/DIR/SUBDIR/last.
6. Concatenate the two files in ~/DIR/SUBDIR into one file ~/DIR/SUBDIR/first and last
7. Delete the files in ~/DIR/SUBDIR except first and last.
8. Store the number of files and directories in ~/DIR into a file ~/DIR/SUBDIR/count
9. Output the long information in the ~/DIR/SUBDIR directory. (Not its content, but information on it).
10. Delete the contents of ~/DIR/SUBDIR/first and last file without removing the file itself.
11. Add a line containing just a star sign (i.e. *) to file ~/DIR/SUBDIR/first and last.
12. Delete ~/DIR together with all the files it contains.
13. Output lines number 11-20 from file /etc/passwd.

3. List of Programmes

1. Write a Program to implement First Come First Serve Scheduling algorithm
2. Write a Program to implement Shortest Job First Scheduling algorithm
3. Write a Program to implement Round Robin Scheduling algorithm
4. Write a Program to implement Priority Scheduling algorithm
5. Write a program to implement Worst Fit Contiguous Memory Allocation
6. Write a program to implement Best Fit Contiguous Memory Allocation
7. Write a program to implement First Fit Contiguous Memory Allocation
8. Write a program to implement First In First Out Page replacement Algorithm
9. Write a program to implement First In Least Recently Used Page replacement Algorithm
10. Write a program to implement First In Optimal Page replacement Algorithm

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DATABASE MANAGEMENT SYSTEMS

SEMESTER-IV **PAPER-IV**

Offered To:	B. Com (CA)	**Course Code:**	CABT41A
Course Type:	Core (Theory)	**Course:**	Database Management Systems
Year of Introduction:	2021 – 2022	**Year of offering:**	2021 – 2022
Year of Revision:	-	**Percentage of Revision:**	-
Semester:	IV	**Credits:**	4
Hours Taught:	60 hrs. per semester	**Max. Time:**	3 Hrs

Course Prerequisites (if any):

Course Description: This course focuses towards Database System Concepts and Architecture, ER models, relational algebra relational calculus, SQL and PL/SQL.

Course Objectives:

The objective of the course is to introduce the design and development of databases with special emphasis on relational databases. Design & develop database for large volumes & varieties of data with optimized data processing techniques.

Course Outcomes: At the end of this course, students should be able to:

On completing the subject, students will be able to:

CO1	Understand the Characteristics and basics of Database.(PO5, PO7)
CO2	Understand file system and Architecture of DBMS(PO5, PO7)
CO3	Enlighten ER Diagrams, Relationship, Notation & schema. (PO5, PO7)
CO4	Enlighten EER Diagrams & Applying constraints on data. (PO5, PO7)
CO5	Implementing SQL commands retrieve, insert, modify and update(PO5, PO7)

Syllabus

Unit	Learning Units	Lecture Hours
I	**Databases and Database Users :** Introduction - Data and Information, Characteristics of the Database Approach, Self-Describing Nature of the Database System, Insulation between Programs and Data, Data Abstraction, Support of Multiple Views of the data, Sharing of Data and multiuser Transaction Processing, Evolution of Database System	10
II	Traditional File Processing Systems - Disadvantages of Traditional File Processing Systems, Advantages of the Database Approach, Database system Concepts and Architecture - Data Models, Schemas and Instances, Categories of Data Models, Schemas, Instances and Database State, Three-Schema architecture for database development, Data Independence	10
III	Entity Relationship Model – Introduction, Entity types, Entity sets, Attributes and Keys, Entities and Attributes, Entity Types, Entity Sets, Keys and Value Sets, Relationships, Relationship types, Roles, and Structural Constraints – Relational types, Sets and Instances, Relationship degree, Role names, recursive relationships, constraints on relationship types, Attributes of relationship types. Weak entity types, E R diagrams, Naming conventions, design issues - Summary of Notation for ER Diagrams, Proper Naming of Schema Constructs.	12

IV	Enhanced Entity-Relationship - Subclasses, super classes, and inheritance, Specialization and Generalization, Constraints and characteristics of Specialization and Generalization, Data Abstraction and knowledge representation concepts - Classification and Instantiation, Identification, Aggregation and Association. The Relational Data Model, Relational Constraints - Introduction, Relational Model Concepts, Domains, Attributes, Tuples and Relations , Relational Model Notation, Relational Constraints and Relational Database Schemas, Entity Integrity, Referential , Integrity and Foreign Keys.	13
V	SQL (STRUCTURED QUERY LANGUAGE) Introduction, Data Definition, Constraints and Schema changes in SQL - Schema AND Catalog Concepts in SQL, The CREATE TABLE Command and SQL Data Types and Constraints, The DROP SCHEMA and DROP TABLE Command, The ALTER TABLE Command, Basic Queries in SQL - The SELECT-FROM-WHERE Structure of SQL Queries, Dealing with Ambiguous Attribute Names and Naming (Aliasing), Unspecified WHERE-Clause and Use of Asterisk (*), Tables as sets in SQL, Substring Comparisons, Arithmetic Operators, and Ordering. Aggregate Functions and Grouping 5.5, Insert, Delete, and Update Statements in SQL - The INSERT Command, The DELETE Command, The Update Command.	15

PrescribedTextBook:

	Author	Title	Publisher
1	R.Elmasri and S.Navathe	Fundamentals of Database Systems	
2	Jeffrey A.Hoffer,V.Ramesh, HeikkiTopi	Modern Database Management	Pearson
3	Abraham Silberschatz, Henry Korth, and S. Sudarshan	Database System Concepts	McGrawhill, 2010

ReferenceTextBooks:

	Author	Title	Publisher
1	Raghu Ramakrishnan	Database Management Systems	McGrawhill,2002
2	J .D.Ullman	Prinicples of Database Systems	
3	Bipin C Desai	An Introduction to Database Systems	
4	.Sumathi, S. Esakkirajan	Fundamentals of Relational Database Management Systems	Springer Publications

Course Delivery method: Face-to-face / Blended

Course has focus on: Skill Development

Websites of Interest:

Co-curricular Activities: Certification Courses, Seminars, Quiz.

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DATABASE MANAGEMENT SYSTEMS

MODEL PAPER FOR SEM END EXAMINATION

Class: B.Com (Computer Applications)

Course Code:CABT41A **Max. Marks: 75M**

Semester: IV **Time: 3 Hours**

Section - A

ANSWER ANY FIVE QUESTIONS **5x5M=25M**

1. Explain the difference between data and information. (CO1, L2)
2. List the Disadvantages of Traditional file system? (CO2, L1)
3. What is Data Model, Instance and Database State? (CO2, L1)
4. Explain different types of entities and attributes? (CO3, L2)
5. Explain Relationship Types, Degrees and Role names. (CO3, L2)
6. What is constraint. Explain different type of constraints. (CO4, L1)
7. Demonstrate the features of SQL. (CO5, L2)
8. Show how to join tables explain with an example in SQL. (CO5, L2)

Section - B

ANSWER THE FOLLOWING QUESTIONS **5x10M=50M**

1. A) Outline the characteristics of database management system. (CO1, L2) (OR)

   B) Illustrate the evaluation of database management system. (CO1, L2)

2. A) List advantages of database management system. (CO2, L1)

   (OR)

   B) Explain the concept of Three schema architecture and data independence. (CO2, L1)

3. A) Show ER diagram for hospital management system and identify weak, strong and derived attributes in the above diagram. (CO3, L1)

   (OR)

   B) Define ER diagram, Naming conventions and design issues. (CO3, L1)

4. A) What is Specialization & Generalization in EER. Define Data abstraction and knowledge representation concept. (CO4, L1)

   (OR)

   B) Explain aggregation functions and groupings in relational algebra. (CO4, L1)

5. A) Explain aggregation functions and groupings in SQL. (CO5, L2) (OR)

   B) Explain different types of constraints with examples. (CO5, L2)

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DATABASE MANAGEMENT SYSTEMS LAB

Semester: IV **PAPER-IV**

Offered To:	B. Com (CA)	**Course Code:**	CABP41A
Course Type:	Core (LAB)	**Course:**	Database Management Systems Lab
Year of Introduction:	2021 – 2022	**Year of offering:**	2021 – 2022
Year of Revision:	-	**Percentage of Revision:**	-
Semester:	IV	**Credits:**	1
Hours Taught:	30 hrs. per semester	**Max. Time:**	3 Hrs

Course Prerequisites (if any): A good background in DBMS fundamentals is required. Students should be comfortable with the relational model, SQL, and the basic functions of database systems.

Course Objective:

The major objective of this lab is to provide a strong formal foundation in database concepts, technology and practice to the participants to groom them into well-informed database application developers.

Course Outcomes:

COURSE OUTCOME NO	**Upon successful completion of this course, students should have the knowledge and skills to**
CO1	Construct queries using SQL in database creation. (PO5, PO7)
CO2	Construct queries using SQL in database based on criterion. (PO5, PO7)
CO3	Implement Enforce integrity Constraints in SQL. (PO5, PO7)
CO4	Implementing Aggregate functions in SQL(PO5, PO7)
CO5	Implementing query in database using sql DDL/DML Commands(PO5, PO7)

Lab List

1. Create a Department table with the following fields: DEPTNO, DNAME and LOCATION.
2. Describe the structure of „DEPT" table.
3. Insert values into "DEPT" table.
4. Select all values from „DEPT" table.
5. Create EMPLOYEE table with the following fields: EMPNO, ENAME, JOB, MGR, HIRE DATE, SALARY, COMMISTION and DEPTNO.
6. Describe the structure of „EMP" table.
7. Insert the values into „EMP" table.
8. Select all the values from „EMP" table.
9. Create table GRADE with the following fields: GRADE, LOSAL and HISAL.
10. Insert values into „GRADE" table.
11. Select all the values from „GRADE" table.
12. List all the employee information for department 10.

13. Find out the names of all employees.
14. Retrieve the list of names and salary of all employees.
15. Find the names of employees who have a salary equal to RS3000.
16. List the employee whose names start with "s".
17. List the employee names ending with „s".
18. List the names of employees whose names have exactly 5 characters.
19. List the employee names having D as the second character.
20. List the employee names having two A"S in their name.
21. Display all employee names which have „TH" or „LL" in them.
22. List out EMPNO, ENAME and SALARY of the employees whose salary is between 1500 and 2000.
23. List the names of employees who belong to department 10, 20.
24. List employee number of the employees who don"t have the name of „FORD", "JAMES" (OR)"JONES".
25. Display all the different job types.
26. Retrieve all rows from EMP table for department 30 and order by name.
27. List the employee names and HIREDATES in descending order of HIREDATE.
28. Retrieve department names and no"s in ascending order of DNAME.
29. List all employees" information that has a manager.
30. List name of the employees, job and commission of those employees who do the job of clerk or salesman and get no commission.
31. List the names and jobs of all clerks in department 20.
32. Display current data & time.
33. Display the concatenated string.
34. Display string „SMITH" of first character as capital letter.
35. Display the length of a string „SALESMAN".
36. Display the string „SALESMAN" in lower case.
37. Display all department names in upper case.
38. Display the value using ABS.
39. Displays the value using CEIL.
40. Display the value using FLOOR.
41. Display the value using POWER.
42. Display the value using SQRT.
43. Display all employees who were hired during 1982.
44. List the no of employees working with company.
45. List the no of jobs available in the emp table.
46. List the total salaries payable to employees.
47. List the maximum salary of employee working as a salesman.
48. List the minimum salary of employee from employee table.
49. List the avg salary from Employee table.
50. List the avg salary and no of employees working in the deptno 20.
51. Display the total salary for each department.
52. List the average salary of each job in the EMP table.
53. List the maximum salary for each department.
54. Find the total salary for each job of each department.
55. Display the no of employee in each department.
56. To find the maximum salary of each department, but show only the department that has a maximum salary of more than RS 2900.
57. List the total salary, maximum, minimum and average salary of employees job wise for department no and display only those rows having average salary greater than 1000.

58. Display the job tittle and total monthly salary for each job title with a total pay role exceeding RS 5000 and excludes sales people and sorts the list by the total monthly salary.
59. Display the different job in department 20 and 30.
60. List the employee no and names working in department no 20 and 30.
61. Display the different jobs in department 20 and 30 with union all.
62. Display all the employee names dept no"s and dept names.
63. Display all employees in „DALLAS".
64. Display the employee names where salary is greater than employee no 7566.
65. Display the employee whose job tittle is same as that of employee 7369.
66. Display the employee name where salary is equal to the minimum salary.
67. Find the employees who earn the same salary as the minimum salary for departments.
68. To display all the departments that has a minimum salary greater than that of department 20.

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Title of the Paper: OBJECT ORIENTED PROGRAMMING USING JAVA

Semester: IV **PAPER-V**

Course Code	**CCSCT42**	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	25
No. of Lecture Hours / Week	5	Semester End Exam Marks	75
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: This Course will enable students to understand the basic concepts of object oriented programming and difference between procedure-oriented programming; get a clear understanding of basics of java programming

Course Outcomes:

CO_1	Able to Understand the concept and underlying principles of Object-Oriented Programming.
CO_2	Able to Understand the Basic concepts of Data types & Operators
CO_3	Able to Implement Decision & Looping Statements
CO_4	Able to Implement Object Oriented Programming Concepts like class, constructor, overloading in java.
CO_5	Able to Understand the concept of Inheritance and Exceptions Object-Oriented Programming.

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	**Fundamentals of Object – Oriented Programming:** Introduction, Object Oriented paradigm, Basic Concepts of OOP, Benefits of OOP, Applications of OOP, Java features:	10
II	**Overview of Java Language**: Introduction, Simple Java program structure, Java tokens, Java Statements, Implementing a Java Program, Java Virtual Machine, Command line arguments. **Constants, Variables & Data Types:** Introduction, Constants, Variables, Data Types, Declaration of Variables, Giving Value to Variables, Scope of variables, Type casting, Getting Value of Variables, **Operators.**	14
III	**Decision Making & Branching:** Introduction, Decision making with if statement, Simple if statement, if-Else statement, Nesting of if-else statements, the else if ladder, the switch statement, the conditional operator. **Looping**: Introduction, while statement, do-while statement, for statement, Jumps in loops.	12
IV	**Classes, Objects & Methods**: Introduction, defining a class, adding variables, adding methods, creating objects, Accessing class members, Constructors, Method overloading, Method Overriding, Static members, Nesting of methods;	12
V	**Inheritance**: Extending a Class, Overriding Methods, Final Variables and Methods, Final Classes, Abstract Methods and Classes; **Arrays, Strings And Vectors:** Arrays, One-dimensional arrays, Creating an array, Two – dimensional arrays, Strings, Vectors, Wrapper classes; **Interfaces**: **Multiple Inheritance**: Introduction, Defining interfaces, Extending interfaces, Implementing interfaces, Assessing interface variables;	12

Prescribed Text Book:

1. E. Balaguruswamy, Programming with JAVA, A primer, 3e, TATA McGraw-Hill Company.

Reference Books

1. Programming In Java By Sachin Malhotra And Saurabh Choudhary From Oxford University Press
2. Object Oriented Programming Through Java by P. Radha Krishna, Universities Press
3. John R. Hubbard, Programming with Java, Second Edition, Schaum's outline Series,
4. Deitel&Deitel. Java TM: How to Program, PHI (2007)
5. Java Programming: From Problem Analysis to Program Design- D.S Mallik

Course Focus: OOP focus on the objects that developers want to manipulate rather than the logic required to manipulate them.

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(**With Effect from Academic Year2020-21**)

COMPUTER SCIENCE	**CCSCT42**	**2022-23**	**B. Com (CA)**

SEMESTER – IV PAPER – IV **Max. Marks 75** **Pass Marks :30**

Syllabus: **OBJECT ORIENTED PROGRAMMING USING JAVA**

Total Hrs: 60 **NO. Of. Hours: 4** **Credits: 3**

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	1	2
Unit-2	2	2
Unit-3	1	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

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OBJECT ORIENTED PROGRAMMING USING JAVA
MODEL PAPER

CLASS: B.Com (CA) **Max. Marks: 75M**
Course Code: CCSCT42 **Min. Pass: 30M**
Semester: IV **Time: 3 Hours**

Section-A

ANSWER ANY FIVE QUESTIONS **5x5M=25M**

1.

2.

3.

4.

5.

6.

7.

8.

Section-B

ANSWER THE FOLLOWING QUESTIONS **5x10M=50M**

9. (A)

(OR)

(B)

10. (A)

(OR)

(B)

11. (A)

(OR)

(B)

12. (A)

(OR)

(B)

13. (A)

(OR)

(B)

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OBJECT ORIENTED PROGRAMMING USING JAVA

BLUE PRINT

CLASS: B.Com (CA) **Max. Marks: 75M**

Course Code: CCSCT42 **Min. Pass: 30M**

Semester: IV **Time: 3 Hours**

Section-A

ANSWER ANY FIVE QUESTIONS **5x5M=25M**

9. UNIT -1 ---------- 5M
10. UNIT -2 ---------- 5M
11. UNIT -2 ---------- 5M
12. UNIT -3 ---------- 5M
13. UNIT -3 ---------- 5M
14. UNIT -4 ---------- 5M
15. UNIT -4 ---------- 5M
16. UNIT -5 ---------- 5M

Section-B

ANSWER THE FOLLOWING QUESTIONS **5x10M=50M**

9. UNIT -1 ---------- 10M

OR

UNIT -1 ---------- 10M

10. UNIT -2 ---------- 10M

OR

UNIT -2 ---------- 10M

11. UNIT -3 ---------- 10M

OR

UNIT -3 ---------- 10M

12. UNIT -4 ---------- 10M

OR

UNIT -4 ---------- 10M

13. UNIT -5 ---------- 10M

OR

UNIT -5 ---------- 10M

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COMPUTER SCIENCE	**CCSCP42**	**2022-23**	**B. Com (CA)**

SEMESTER – IV **PAPER – V**

Lab List: OBJECT ORIENTED PROGRAMMING USING JAVA Pass Marks

No. of Hours per week: 2 External: 40 Internal: 10 Credits: 1

1. Write a program to perform various String Operations
2. Write a program to print the given number is Armstrong or not?
3. Prompt for the cost and selling price of an article and display the profit (or) loss
4. Write a program to print the numbers given by command line arguments
5. Write a program on class and object in java
6. Illustrate the method overriding in JAVA
7. Write a program to find the Simple Interest using Multilevel Inheritance
8. Write a program to display matrix multiplication.
9. Write a program on interface in java
10. Write a program on inheritance

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Title of the Paper: OBJECT ORIENTED PROGRAMMING USING JAVA

Semester: IV **PAPER-V**

Course Code	**ECCSCT41**	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	25
No. of Lecture Hours / Week	5	Semester End Exam Marks	75
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2022 - 23	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: This Course will enable students to understand the basic concepts of object oriented programming and difference between procedure-oriented programming; get a clear understanding of basics of java programming

Course Outcomes:

CO_1	Able to Understand the concept and underlying principles of Object-Oriented Programming.
CO_2	Able to Understand the Basic concepts of Data types & Operators
CO_3	Able to Implement Decision & Looping Statements
CO_4	Able to Implement Object Oriented Programming Concepts like class, constructor, overloading in java.
CO_5	Able to Understand the concept of Inheritance and Exceptions Object-Oriented Programming.

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	**Fundamentals of Object – Oriented Programming:** Introduction, Object Oriented paradigm, Basic Concepts of OOP, Benefits of OOP, Applications of OOP, Java features:	10
II	**Overview of Java Language**: Introduction, Simple Java program structure, Java tokens, Java Statements, Implementing a Java Program, Java Virtual Machine, Command line arguments. **Constants, Variables & Data Types:** Introduction, Constants, Variables, Data Types, Declaration of Variables, Giving Value to Variables, Scope of variables, Type casting, Getting Value of Variables, **Operators.**	14
III	**Decision Making & Branching:** Introduction, Decision making with if statement, Simple if statement, if-Else statement, Nesting of if-else statements, the else if ladder, the switch statement, the conditional operator. **Looping**: Introduction, while statement, do-while statement, for statement, Jumps in loops.	12
IV	**Classes, Objects & Methods**: Introduction, defining a class, adding variables, adding methods, creating objects, Accessing class members, Constructors, Method overloading, Method Overriding, Static members, Nesting of methods;	12
V	**Inheritance**: Extending a Class, Overriding Methods, Final Variables and Methods, Final Classes, Abstract Methods and Classes; **Arrays, Strings And Vectors:** Arrays, One-dimensional arrays, Creating an array, Two – dimensional arrays, Strings, Vectors, Wrapper classes; **Interfaces**: **Multiple Inheritance**: Introduction, Defining interfaces, Extending interfaces, Implementing interfaces, Assessing interface variables;	12

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Reference Books

6. Programming In Java By Sachin Malhotra And Saurabh Choudhary From Oxford University Press
7. Object Oriented Programming Through Java by P. Radha Krishna, Universities Press
8. John R. Hubbard, Programming with Java, Second Edition, Schaum's outline Series,
9. Deitel&Deitel. Java TM: How to Program, PHI (2007)
10. Java Programming: From Problem Analysis to Program Design- D.S Mallik

Course Focus: OOP focus on the objects that developers want to manipulate rather than the logic required to manipulate them.

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OBJECT ORIENTED PROGRAMMING USING JAVA
MODEL PAPER

CLASS: B.Com (e-Com-Computers) **Max. Marks: 75M**
Course Code: ECCSCT41 **Min. Pass: 30M**
Semester: IV **Time: 3 Hours**

Section-A

ANSWER ANY FIVE QUESTIONS **5x5M=25M**

1. What are the benefits and applications of oops?

2. Explain about Structure of java?

3. Explain types of variables in java?

4. Explain about Typecasting

5. Explain about Switch Statement?

6. Explain about Jump Statements in java?

7. Explain types of constructors?

8. Explain about Final keyword?

Section-B

ANSWER THE FOLLOWING QUESTIONS **5x10M=50M**

9. (A) Explain about Basic Concepts of oops?

(OR)

(B) Explain about Java features

10. (A) Explain about primitive data types in java?

(OR)

(B) Explain about operators

11. (A) Explain about Decision making statements in java?

(OR)

(B) Explain about looping statements in java

12. (A) Explain about method overloading and overriding?

(OR)

(B) What is inheritance? Explain types of inheritances?

13. (A) what is an Array? Explain its types?

(OR)

(B) What is String? Explain string handling functions in java?

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OBJECT ORIENTED PROGRAMMING USING JAVA

BLUE PRINT

CLASS: B.Com (e-Com-Computers) **Max. Marks: 75M**

Course Code: ECCSCT41 **Min. Pass: 30M**

Semester: IV **Time: 3 Hours**

Section-A

ANSWER ANY FIVE QUESTIONS **5x5M=25M**

1. UNIT -1 ---------- 5M
2. UNIT -2 ---------- 5M
3. UNIT -2 ---------- 5M
4. UNIT -3 ---------- 5M
5. UNIT -3 ---------- 5M
6. UNIT -4 ---------- 5M
7. UNIT -4 ---------- 5M
8. UNIT -5 ---------- 5M

Section-B

ANSWER THE FOLLOWING QUESTIONS **5x10M=50M**

9. UNIT -1 ---------- 10M

OR

UNIT -1 ---------- 10M

10. UNIT -2 ---------- 10M

OR

UNIT -2 ---------- 10M

11. UNIT -3 ---------- 10M

OR

UNIT -3 ---------- 10M

12. UNIT -4 ---------- 10M

OR

UNIT -4 ---------- 10M

13. UNIT -5 ---------- 10M

OR

UNIT -5 ---------- 10M

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(**With Effect from Academic Year2020-21**)

COMPUTER SCIENCE	**ECCSCT41**	**2022-23**	**B. Com (e-Com-Computers)**

SEMESTER – IV PAPER – IV Max. Marks 75 Pass Marks 30

Syllabus: OBJECT ORIENTED PROGRAMMING USING JAVA

Total Hrs: 60 NO. Of. Hours: 4 Credits: 3

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	1	2
Unit-2	2	2
Unit-3	1	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

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COMPUTER SCIENCE	**ECCSCP41**	**2022-23**	**B. Com (e-Com-Computers)**

SEMESTER – IV **PAPER – V**

Lab List: OBJECT ORIENTED PROGRAMMING USING JAVA Pass Marks 20

No. of Hours per week: 2 **External: 40** **Internal: 10** **Credits: 1**

1. Write a program to perform various String Operations

2. Write a program to print the given number is Armstrong or not?

3. Prompt for the cost and selling price of an article and display the profit (or) loss

4. Write a program to print the numbers given by command line arguments

5. Write a program on class and object in java

6. Illustrate the method overriding in JAVA

7. Write a program to find the Simple Interest using Multilevel Inheritance

8. Write a program to display matrix multiplication.

9. Write a program on interface in java

10. Write a program on inheritance

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COMPUTER SCIENCE	ECCSCT42	2022-'23	B.Com.(E-Commerce)

SEMESTER – IV **PAPER – VI** **Max. Marks: 75**

Syllabus **DATA BASE MANAGEMENT SYSTEMS**

NO Of Hours: 5 **No Of Credits: 3** **Pass Marks: 30**

Course Objective: Design & develop database for large volumes & varieties of data with optimized data processing techniques.

Course Prerequisites (if any):

Course Description: This course focuses towards Database System Concepts and Architecture, ER models, relational algebra relational calculus, SQL and PL/SQL.

Course Objectives:

The objective of the course is to introduce the design and development of databases with special emphasis on relational databases. Design & develop database for large volumes & varieties of data with optimized data processing techniques.

Course Outcomes: At the end of this course, students should be able to:

On completing the subject, students will be able to:

CO1	Understand the Characteristics and basics of Database.(PO5, PO7)
CO2	Understand file system and Architecture of DBMS(PO5, PO7)
CO3	Enlighten ER Diagrams, Relationship, Notation & schema. (PO5, PO7)
CO4	Enlighten EER Diagrams & Applying constraints on data. (PO5, PO7)
CO5	Implementing SQL commands retrieve, insert, modify and update(PO5, PO7)

Unit – 1: Database Systems Introduction **12Hrs**

Database Systems: Introducing the database and DBMS, Why the database is important,
Historical Roots: Files and File Systems, Problems with File System, Data Management, Database Systems.
Data Models: The importance of Data models, Data Model Basic Building Blocks, The evaluation of Data Models.

Unit - II: Relational Database & Data Modelling **12 Hrs**

The Relational Database Model: A logical view of Data, Keys, Integrity Rules, Relational Set Operators, Indexes, Codd's relational database rules.*Entity Relationship Model:* The ER Model
Advanced Data Modelling: The Extended Entity Relationship Model, Entity clustering.

Unit-III: Normalization and Database Design **14 Hrs**

Normalization of database tables: Database Tables and Normalization, The need for Normalization, The Normalization Process, High level Normal Forms, Normalization and database design, de normalization.

Unit-IV: Structured Query Language **12 Hrs**

Introduction to SQL: Data Definition Commands, Data Manipulation Commands, Select queries, Advanced Data Definition Commands, Advanced Select queries, Virtual Tables, SQL Join Operators,

Unit-V: Procedural SQL **10 Hrs**

Introduction to PL/SQL : Triggers, Stored Procedures, Pl/ SQL Stored Functions

Prescribed Text Book:

1. **Peter Rob, Carlos Coronel, Database Systems Design, Implementation and Management, Seventh Edition, Thomson (2007).**

Reference Books:

1. Elimasri / Navathe, Fundamentals of Database Systems, Fifth Edition, Pearson Addison Wesley
2. Raman A Mata – Toledo/Panline K Cushman, Database Management Systems, Schaum'sOutlibe series, Tata McGraw Hill (2007).

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DATABASE MANAGEMENT SYSTEMS

MODEL PAPER FOR SEM END EXAMINATION

Class: B.Com (E-COMMERCE)

Course Code: ECCSCT42 **Max. Marks: 75M**

Semester: IV **Time: 3 Hours**

Section - A

ANSWER ANY FIVE QUESTIONS **5x5M=25M**

1. Explain the difference between data and information. (CO1, L2)
2. List the Disadvantages of Traditional file system? (CO2, L1)
3. Explain Integrity Rules? (CO2, L1)
4. Explain different types of entities and attributes? (CO3, L2)
5. Explain 3NF with example (CO3, L2)
6. What is constraint. Explain different type of constraints. (CO4, L1)
7. Demonstrate the features of SQL. (CO5, L2)
8. Explain PL/SQL Structure. (CO5, L2)

Section - B

ANSWER THE FOLLOWING QUESTIONS **5x10M=50M**

9. A) Explain Drawbacks of File System. (CO1, L2)

(OR)

B)Explain Different types of Data models. (CO1, L2)

10. A) Explain Codd's Database rules. (CO2, L1)

(OR)

B) Explain EER Model with example (CO2, L1)

11. A) What is Normalization? Explain Different types Normal forms (CO3, L1)

(OR)

B) What is denormalization? Explain denormalization on different tables.(CO3, L1)

12. A) Explain DDL& DML Commands (CO4, L1)

(OR)

B) Explain SQL JOINS (CO4, L1)

13. A) Explain Triggers with example. (CO5, L2)

(OR)

B)Explain Stored procedure with examples. (CO5, L2)

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COMPUTER SCIENCE	**ECCSCP42**	**2022-23**	**B. Com (e-Com-Computers)**

SEMESTER – IV **PAPER – VI**

Lab List: DATA BASE MANAGEMENT SYSTEM **Pass Marks 20**

No. of Hours per week: 2 **External: 40** **Internal: 10** **Credits: 1**

1. Creation of college database and establish relationships between tables
2. Show the structure of the Student table.
3. Show the structure of the Emp table.
4. Show the structure of the DEPT table.

Queries

1. Explain the syntax of SELECT statement.
2. Create a query to display the name, job, hiredate and employee number from emp table.
3. Create a query to display unique jobs from the emp table.
4. Create a query to display the empno as EMP#, ename as EMPLOYEE and Hire_date from emp.
5. Create a query to display all the data from the EMP table. Separate each column by a comma and
6. name the column THE_OUTPUT.
7. Create a query to display the name and salary of employees earning more than 2850.
8. Create a query to display the name and salary for all employees whose salary is not in the range of
9. 1500 and 2850.
10. Display the employee name, job and start date of employees hired between February 20 ,1981
11. and May 1, 1981. Order the query in ascending order of start date
12. Display the employee name and department number of all the employees in departments 10 and 30
13. in alphabetical order by name.
14. List the name and salary of employees who earn more than 1500 & are in department 10 or 30.
15. Display the name, salary and commissions and sort data in descending order of salary and
16. commission.
17. Display the name and job title of all employees who do not have a manager.
18. Display the name, job and salary for all employees whose job is Clerk or Analyst and their salary
19. is not equal to 1000, 3000 or 5000.
20. Display the names of all employees where the third letter of their name is an ‘A’.
21. Display the names of all employees who have two ‘L’s in their name and are in department 30 or
22. their manager is 7782.
23. Display the name , salary and commission for all employees whose commission amount is grater
24. than their salary increased by 10%.

21. Explain all the character functions.
22. Explain all the number functions.
23. Explain all the Date functions.

PL/SQL.

1. Write A Pl/Sql Program To Swap Two Numbers Without Using Third Variable.
2. Write A Pl/Sql Program To Generate Multiplication Tables For Numbers 2,4 And 6
3. Write A Pl/Sql Program To Display Sum Of Even Numbers And Sum Of Odd Numbers In The Given Range.
4. Write A Pl/Sql Program To Check The Given Number Is Pollinndrome Or Not.
5. Write A Pl/Sql Program To Display Top 10 Rows In Emp Table Based On Their Job And Salary.

Reference Books:

1. Oracle Pl/Sql By Example. Benjamin Rosenzweig, Elena Silvestrova, Pearsoneducation 3rd Edition
2. Sql& Pl/Sql For Oracle 10g, Black Book, Dr.P.S. Deshpande

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COMPUTER SCIENCE	ECCSCT43	2022-'23	B.Com.(E-Commerce)

SEMESTER – IV **PAPER – VII** **Max. Marks: 75**

DATA COMMUNICATION & NETWORKS

NO Of Hours: 5 **No Of Credits: 3** **Pass Marks :30**

LEARNING OBJECTIVES:

1. Understand the structure of Data Communications System and its components. Be familiarize with different network terminologies.
2. Familiarize with contemporary issues in network technologies.
3. Know the layered model approach explained in OSI and TCP/IP network models
4. Identify different types of network devices and their functions within a network.
5. Learn basic routing mechanisms, IP addressing scheme and internetworking concepts.
6. Familiarize with IP and TCP Internet protocols.

COURSE OUTCOMES: Upon Completion of the course, the students will be able to:

- Able to understand the fundamentals of computer networks, TCP/IP protocol.
- Able to understand the data communication techniques and multiplexing techniques.
- They will be able to understand the network switching techniques and various access mechanisms.
- Able to understand CSMA/CD protocols, routing algorithms.

UNIT I.:Introduction to Computer Networks and Networking Elements: 12Hrs

Network Definition, Network Topologies, Network Classifications, Network Protocol, Layered Network Architecture, Overview of OSI Reference Model, Overview of TCP/IP Protocol Suite, Hub, Switch (Managed and Unmanaged), Routers

UNIT II.: Data Communication Fundamentals and Techniques: 12 Hrs

Analog and Digital Signal, Data- Rate Limits, Digital to Digital Line Encoding Schemes, Pulse Code Modulation, Parallel and Serial Transmission, Digital to Analog Modulation - Multiplexing Techniques- FDM, TDM, Transmission Media.

UNIT III. Networks Switching Techniques and Access Mechanisms: 12 Hrs

Circuit Switching, Packet Switching- Connectionless Datagram Switching, Connection- Oriented Virtual Circuit Switching; Dial-Up Modems, Digital Subscriber Line, Cable TV for Data Transfer.

UNIT IV. Data Link Layer Functions and Protocol: 12 Hrs

Error Detection and Error Correction Techniques, Data-Link Control- Framing and Flow Control, Error Recovery Protocols-Stop and Wait ARQ, Go-Back-N ARQ, Point to Point Protocol on Internet.

UNIT V. Multiple Access Protocol and Network Layer: 12 Hrs

CSMA/CD Protocols, Ethernet LANS; Connecting LAN and Back-Bone Networks- Repeaters, Hubs, Switches, Bridges,Router and Gateways, Networks Layer Functions and Protocols Routing, Routing Algorithms, Network Layer Protocol of Internet - IP Protocol, Internet Control Protocols.

TEXTBOOKS :

● B. A. Forouzan: Data Communications and Networking, Fourth edition, THM Publishing Company Ltd 2007. ● A. S. Tanenbaum: Computer Networks, Fourth edition, PHI Pvt. Ltd 2002

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DATA COMMUNICATION & NETWORKS

MODEL PAPER

CLASS: B.Com (e-Com-Computers) **Max. Marks: 75M**

Course Code: ECCSCT43 **Min. Pass: 30M**

Semester: IV **Time: 3 Hours**

Section-A

ANSWER ANY FIVE QUESTIONS **5x5M=25M**

1.

2.

3.

4.

5.

6.

7.

8.

Section-B

ANSWER THE FOLLOWING QUESTIONS **5x10M=50M**

9. (A)

(OR)

(B)

10. (A)

(OR)

(B)

11. (A)

(OR)

(B)

12. (A)

(OR)

(B)

13. (A)

(OR)

(B)

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DATA COMMUNICATION & NETWORKS

BLUE PRINT

CLASS: B.Com (e-Com-Computers) **Max. Marks: 75M**

Course Code: ECCSCT43 **Min. Pass: 30M**

Semester: IV **Time: 3 Hours**

Section-A

ANSWER ANY FIVE QUESTIONS **5x5M=25M**

1. UNIT -1 ---------- 5M
2. UNIT -2 ---------- 5M
3. UNIT -2 ---------- 5M
4. UNIT -3 ---------- 5M
5. UNIT -3 ---------- 5M
6. UNIT -4 ---------- 5M
7. UNIT -4 ---------- 5M
8. UNIT -5 ---------- 5M

Section-B

ANSWER THE FOLLOWING QUESTIONS **5x10M=50M**

9. UNIT -1 ---------- 10M

OR

UNIT -1 ---------- 10M

10. UNIT -2 ---------- 10M

OR

UNIT -2 ---------- 10M

11. UNIT -3 ---------- 10M

OR

UNIT -3 ---------- 10M

12. UNIT -4 ---------- 10M

OR

UNIT -4 ---------- 10M

13. UNIT -5 ---------- 10M

OR

UNIT -5 ---------- 10M

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Title of the Paper: Data Structures

Semester: II **PAPER-II**

Course Code	CSCT21B	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objectives

To introduce the fundamental concept of data structures and to emphasize the importance of various data structures in developing and implementing efficient algorithms.

Course Outcomes:

COURSE OUTCOME NO	Upon successful completion of the course, student will be able to:	PROGRAM OUTCOME NO
CO1	Learn the concepts of ADT and understand analysis of algorithms	PO1, PSO1, PSO2, PSO4
CO2	Understand available Data Structures for data storage and processing.	PO1, PSO1, PSO2, PSO4
CO3	Learn stacks, queues and their applications	PO1, PSO1, PSO2, PSO4
CO4	Understand trees, graphs and implement their operations	PO1, PO7, PSO1, PSO2, PSO4
CO5	Develop ability to implement different Sorting and Search methods	PO1, PO7, PSO1, PSO2, PSO4

UNIT – I: 11Periods

Introduction to Data Structures: Introduction to the Theory of Data Structures, Data Representation, Abstract Data Types, Data Types, Primitive Data Types, Data Structure and Structured Type, Atomic Type, Difference between Abstract Data Types, Data Types, and Data Structures, Refinement Stages.

Principles of Programming and Analysis of Algorithms: Software Engineering, Program Design, Algorithms, Different Approaches to Designing an Algorithm, Complexity, Big 'O' Notation, Algorithm Analysis, Recursion.

UNIT – II: 11Periods

Linked Lists: Introduction to Lists and Linked Lists, Basic Linked List Operations, Doubly Linked List, Circular Linked List, Atomic Linked List, Linked List in Arrays, Linked List versus Arrays

UNIT – III: 14Periods

Stacks: Introduction to Stacks, Stack as an Abstract Data Type, Representation of Stacks through Arrays, Representation of Stacks through Linked Lists, Applications of Stacks, Stacks and Recursion

Queues: Introduction, Queue as an Abstract data Type, Representation of Queues, Circular Queues, Double Ended Queues- De-ques, Priority Queues, Application of Queues

UNIT – IV: 10Periods

Binary Trees: Introduction to Non- Linear Data Structures, Introduction Binary Trees, Types of Trees, Basic Definition of Binary Trees, Properties of Binary Trees, Representation of Binary Trees, Operations on a Binary Search Tree, Binary Tree Traversal, Counting Number of nodes in Binary Trees, Applications of Binary Tree

UNIT – V: 14Periods

Searching and sorting: Sorting – An Introduction, Bubble Sort, Insertion Sort, Merge Sort, searching – An Introduction, Linear or Sequential Search, Binary Search, Indexed Sequential Search

Graphs: Introduction to Graphs, Terms Associated with Graphs, Sequential Representation of Graphs, Linked Representation of Graphs, Traversal of Graphs, Spanning Trees, Shortest Path, Application of Graphs.

BOOKS:

- "Data Structures using C", ISRD group Second Edition,TMH
- Data Structures through C", YashavantKanetkar, BPBPublications
- "Data Structures Using C" Balagurusamy E.TMH

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual andchallenging)
2. Student seminars (on topics of the syllabus and related aspects (individualactivity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or

groups asteams))

4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

B. General

1. GroupDiscussion
2. Others

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Programming exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports.
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborativework.

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MODEL Question Paper: 2022-2023

TITLE: DATA STRUCTURES **COURSE CODE:** CSCT21B

SECTIONS: B.Sc. (MPCS / MCCS / MSCS) **SEMESTER: II**

TIME: 3 Hrs. **MAX: 70M** Pass Marks 30

SECTION A (20MARKS)

1.(a) Define ADT? Explain with examples. 4M (CO1,L1)

OR

(b) What are different approaches in designing an algorithm? 4M CO1,L1

2.(a) Write code for deletion in a doubly linked list. 4M CO2,L1

OR

(b) Distinguish between linked lists and arrays. 4M CO2,L1

3.(a) Demonstrate applications of stack. 4M CO3,L2

OR

(b) Develop code for push and pop operations in stacks using linked lists. 4M CO3,L2

4. (a) Explain applications of trees. 4M CO4,L2

OR

(b) Demonstrate types of trees. 4M CO4,L2

5. (a) Build code for bubble sort. 4M CO5,L3

OR

(b)Identify applications of graphs. 4M CO5,L3

SECTION B (50MARKS)

Answer all Questions.

(Restrict to a maximum of 2 subdivisions)

6.(a)Define Data structure, structured type and data type.10M CO1,L1

OR

(b) What is Algorithm analysis and Big O notation ? 10M CO1,L1

7.(a)Show code for insertion and deletion of nodes in a single linked list. 10M CO2,L1

OR

(b)Write code for insertion and display of values in circular linked list . 10M CO2,L1

8. (a)Demonstrate stack. Classify functions for various stack operations using arrays.10M CO3,L2

OR

(b)Interpret code to implement circular queues using arrays. 10M CO3,L2

9.(a) Explain deleting a node in a binary search tree with examples. 10M CO4,L2

OR

(b)Explain binary tree traversals with examples.10M CO4,L2

10. (a)Simplify Merge sort with an example and apply code for it. 10M CO5,L3

OR

(b)Discover Depth first traversal with an example. 10M CO5,L3

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COMPUTER SCIENCE	CSCT21B	2022-'23	B.Sc.(MPCs,MCCs,MSCs)

SEMESTER – II PAPER –II Max. Marks 75 Pass Marks 30

Guidelines for paper setting '**DATA STRUCTURE'**

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	2	2
Unit-5	2	2

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per
  The weight age given by us

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PAPER-II

Semester II	Course Code	Course Title	Hours	Credits
BSC(MPCS/MCCS/MSCS)	CSCT21B	Data Structures Lab	30	1

COURSE OUTCOME NO	Upon successful completion of this course, students should have the knowledge and skills to:	PROGRAM OUTCOME NO
CO1	implement stacks, queues using arrays and linked lists.	PO1, PSO1, PSO2, PSO4
CO2	Write program for conversion from infix to postfix.	PO1, PSO1, PSO2, PSO4
CO3	implement different sorting and searching techniques.	PO 7, PSO1, PSO2, PSO4
CO4	Construct binary trees and binary search trees.	PO 1, PSO1, PSO2, PSO4
CO5	implement binary tree and Graph traversals.	PO1,PO 7, PSO1, PSO2, PSO4

Lab Experiments List

Cycle - I

Week 1: Write a program to read 'N' numbers of elements into an array and also perform the following operation on an array

- Add an element at the beginning of an array
- Insert an element at given index of array
- Update a element using a values and index
- Delete an existing element

Week 2: Write Program to implement the Stack operations using an array.

Week 3: Write a program using stacks to convert a given infix expression to postfix.

Week 4: Write a program for arithmetic expression evaluation.

Week 5: Write Program to implement the Stack operations using Liked List.

Week 6: Write Program to implement the Queue operations using an array.

Week 7: Write Program to implement the Queue operations using Liked List.

Week 8: Write Program to implement circular Queue operations using an array.

Cycle - II

Week 9: Write a program to implement de-queues.

Week 10: Write a program to implement single linked list.

Week 11: Write a program to implement double linked list.

Week 12: Write a program for Binary Search Tree Traversals.

Week 13: Write a program to search an item in a given list using the following Searching Algorithms

- Linear Search
- Binary Search.

Week 14: Write a program for implementation of the following Sorting Algorithms

- Bubble Sort
- Insertion Sort
- Merge sort

Week 15: Write a program for implementation of the following graph traversals.

- BFS
- DFS

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Title of the Paper: **E–COMMERCE & WEB DESIGNING**

Semester: II PAPER-II

Course Code	**CABT21A**	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

COURSE OBJECTIVES:

The main objective of the course is to impart conceptual understanding on business transactions on worldwide web And electronic commerce & Electronic Customer Relationship Management and Web designing concepts for Providing quality content on website.

COURSE OUTCOMES:

COURSE OUTCOME NO	**on successful completion of this course, students should have the knowledge and skills to**
CO1	in knowledge in E- commerce and its business models
CO2	fferentiate traditional and e – marketing and also gain knowledge in E-CRM and EPS
CO3	derstand the structure of HTML its basic tags
CO4	plement various HTML tags for web page development
CO5	derstand about web page designing

Syllabus

UNIT I: An Overview on E-Commerce **(10periods)**

1.1 Introduction E-Commerce

1.1.1 Definition of E- Commerce and its advantages & disadvantages
1.1.2 Electronic Data Interchange (EDI)
1.1.3 E-Commerce transactional issues and challenges
1.1.4 Difference between Commerce and E-Commerce

1.2 Business Models for Ecommerce

1.2.1 B2C -Business to consumer.
1.2.2 B2B – Business to business
1.2.3 C2B – Consumer to business.
1.2.4 C2C – Consumer to consumer.

UNIT II: E-Marketing &E – CRM& Electronic Payment Systems **(10periods)**

2.1 Online Marketing

2.1.1 Traditional Vs. E-Marketing
2.1.2 Online Marketing
2.1.3 E-Advertising
2.1.4 Internet marketing

2.2 E – CRM

2.2.1 Definition of CRM and E-CRM and its Applications
2.2.2 E- CRM Architectural components
2.2.3 Definition & characteristics of E- SCM
2.2.4 Benefits and goals of E – SCM
2.2.5 E-Logistics of UPS

UNIT III: Electronic Payment Systems **(10periods)**

3.1 Types of EPS
3.2 Traditional payment system and modern payment system
3.3 Steps for electronic payment
3.4 Payment security

UNIT IV: Introduction to Web Designing **(12periods)**

4.1 **HTML**
4.1 .1 Define HTML
4.1.2 Structure of HTML
4.1.3 Basic HTML tags
4.1.4 Formatting HTML tags
4.2 **Lists**
4.2.1 Ordered List
4.2.2 Unordered List
4.3**Links**
4.3.1 Link tag
4.3.2 Image tag
4.3.3 Marquee tag
4.4**Tables**
4.4.1 Table Creation
4.4.2 Attributes of Table
4.5**forms& Frames**
4.5.1 Forms creation
4.5.2 Form tag
4.5.3 Input fields of form
4.5.4 Frame Creation
4.5.5 Frameset tag
4.5.6 Frame tag

UNIT V: Introduction to WIX Editor **(18periods)**

5.1 Getting Started with Wix

5.1.1 Adding and Editing Text
5.1.2 Adding a Site Title
5.1.3 Changing Your Text Font
5.1.4 Creating a Clickable URL

5.1.5 Adding Language Fonts
5.1.6 Adding Elements to Your Site
5.1.7 Arranging the Content on Your Site's Pages
5.1.8 About the Header
5.1.9 About the Footer

5.2Adding an Image to Your Page Background

5.2.1 Uploading Your Own Background Image
5.2.2 Adding a Video to Your Page Background
5.2.3 Uploading Your Own Video Page Background
5.2.4 Uploading Your Own Images
5.2.5 Adding a Logo to Your Site
5.2.6 Adding a Link to an Image

5.3 Gallery and Button

5.3.1 Adding a Gallery
5.3.2 Cropping and Editing Gallery Images
5.3.3 Adding and Setting Up an Icon Button
5.3.4 Adding a Link to a Button

5.4 Video

5.4.1 Adding a Video from YouTube
5.4.2 Retrieving a YouTube URL

5.5 Menu

5.5.1 Adding a Site Menu
5.5.2 Customizing Your Menu Design
5.5.3 Adding and Deleting a Menu Folder
5.5.4 Reordering Menu Items
5.5.5 Changing the Direction of Menu Items

Text Book:

1. Uttam Kumar Roy, Web Technologies, Oxford University Press.
2. E-Commerce- A Managerial Perspective- P. T. Joseph, Prentice- Hall of India, New Delhi, 2005.

References:

1. Kogent Learning Solutions Inc.(Author), “Black Book HTML 5.0”, dreamtech.
2.Daniel Amor, E-Bussiness R(Evolution), Pearson Edude, New Delhi, 2005.

Weblink: **https://support.wix.com/en/the-wix-editor/editor-basics**

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Computer Science	**CABT21A**	**2022-23**	**B. Com (Computers Applications)**

Semester - II **PAPER-I** **Credits: 1**

WEB DESIGNING LAB

COURSE OBJECTIVES:

The purpose of this course is to introduce to students to the field of creation web pages using HTML language. The students will be able to enhance their analyzing and help to creation for Web Site Design

COURSE OUTCOMES:

COURSE OUTCOME NO	on successful completion of this course, students should have the knowledge and skills to
CO1	Implement HTML tags.
CO2	plementing lists and tables in web pages.
CO3	plementing frames in web pages.
CO4	plementing frames in web pages.
CO5	eation of CSS in a web page.

Week 1: Write a HTML program to print text in bold and italic font.
Week 2: Write a HTML program to print Heading tags.
Week 3: Write a HTML program using Text formatting tags
Week 4: Write a HTML program to implement unordered lists.Write a HTML program to implement order lists.
Week 5: Write a html file which display 3 images at LEFT, RIGHT and CENTER respectively in the browser.
Week 6: Create a HTML file which contains hyperlinks.
Week 7: Write a HTML program to Create a table
Week 8: Write a HTML program to Create a table using RowSpan and ColSpan.
Week 9: Write a HTML program to Create a simple form
Week 10: Create a Registration form that interacts with the user. Collect login name, password, date of birth, gender, address, qualification.
Week 11: Create a HTML page using frameset tag.

Developing Websites using WIX: https://www.wix.com/blog/2020/05/how-to-design-a-website/
Week 12: An online store to sell your products.
Week 13: A photography website to display and sell prints.
Week 14:A fitness website to book new clients.
Week 15: A restaurant website to help with online orders, delivery and payment.

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Title: E-Commerce & Web Designing
Model Paper

CLASS: B.Com (Computer Applications) **Course Code: CABT21A** **Max. Marks: 75M**
Semester: II **Time: 3 Hours**

SECTION A (20MARKS)

1. (a) Explain the E-Commerce with advantages and disadvantages 4M
   OR
   (b) What are transactional issues in ecommerce? 4M

2. (a) Compare Traditional marketing and E-Marketing. 4M
   OR
   (b) Define CRM and E-CRM and its applications . 4M

3. (a)distinguish between traditional and modern payment system . 4M
   OR
   (b)what are different payment securities in EPS. 4M

4. (a)Define structure of HTML. 4M
   OR
   (b) Explain i) link tag ii)image tag iii) marquee tag . 4M

5. (a)write the procedure to add and edit text in WIX editor. 4M
   OR
   (b)how to add a link to a button. 4M

SECTION B (50MARKS)

Answer all Questions.
(Restrict to a maximum of 2 subdivisions)

6.(a) Explain briefly about EDI..10M
   OR
   (b) Explain different Bussiness models in ecommerce ? 10M

7.(a) Illustrate E- CRM Architectural components 10M
   OR
   (b)explain about E-Advertising . 10M

8. (a)explain different Electronic Payment Systems.10M
   OR
   (b)illustrate various steps involved in electronic payment. 10M

9.(a) Demonstrate the concept of Table creation by apply all Attributes. 10M
   OR
   (b) Define forms in html and creation of form with all input types.10M

10. (a) Explain the steps to add elements to your site. 10M
   OR
   (b) How to add images and logo to your site. 10M

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COMPUTER SCIENCE	CSCT21B	2022-'23	B.Com.(CA)

SEMESTER – II PAPER –II Max. Marks 70 Pass Marks 28

Guidelines for paper setting '**E-Commerce Web Designing'**

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	2	2
Unit-5	2	2

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per
  the weight age given by us

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Title of the Paper: **Information Technology**

Semester: II PAPER-III

Course Code	**CABT21A**	Course Delivery Method	Class Room / Blended Mode – Both
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

COURSE OBJECTIVES:

It provides to learn computer basics and basic principles of using Windows operation system and be able to access the Internet, data communication, Software, hardware and various new technologies in information technology.

Course Outcomes:

COURSE OUTCOME NO	**Upon successful completion of this course, students should have the knowledge and skills to**
CO1	Understand fundamental concepts of a computer and its basic components
CO2	Understand basic functioning of an operating system and customizing Windows Desktop
CO3	Analyze type of soft ware's and programming languages
CO4	Have knowledge in basic Network and Data Communication Concepts
CO5	Understand the need of data mining and get familiarize with basics of new concepts like KDD, OLAP

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Semester II	Course Code	Course Title	Credits	Periods
B.Com.(E-Commerce)	**CABT21A**	**Information Technology**	**4**	**75**

UNIT-I: INTRODUCTION: 13Periods

1.1 Introduction to computers
1.2 Generations of computers
1.3 An overview of computer system - Types of computers
1.4 Input & Output Devices.
1.5 Hardware: Basic components of a computer system- Control unit– ALU- Input/output functions.

1.6 Memory – RAM – ROM – EPROM - PROM and Other types of memory.

UNIT-II: OPERATING SYSTEM (OS): 12Periods

2.1 Meaning - Definition & Functions.
2.2 Types of OS - Booting process
2.2.1 DOS – Commands (internal & external) - Wild card characters
2.3 Windows: Using the Start Menu –Control Panel – Using multiple
2.3.1 Windows – Customizing the Desktop – Windows accessories (Preferably latest version of windows or Linux Ubuntu).

Unit-III: SOFTWARE: 15Periods

3.1 System software and application software.
3.1.1 Operating system windows OS,
3.1.2 Mobile device operating system and notebook operating systems
3.2 Application software Types of personal application software
3.2.1 Spread sheet-data management
3.2.2 Word processing
3.2.3 Desktop publishing
3.2.4 Graphics, CAD, CAM, CIM
3.3 Programming Languages
3.3.1 Assembly language
3.3.2 Procedural language, non-procedural language, natural programming language.
3.3.3 Hypertext mark-up language, modeling language, object-oriented programming language.

Unit-IV: DATA COMMUNICATION: 20 Periods

4.1 Telecommunication and Networks Communication media& channel cable media

4.1.1 Broad cast media channels twisted pair
4.1.2 Coaxial cable, fibers optical cable, micro wave, satellite, radio, cellular radio, Infrared global positioning system.
4.2 Introduction, Analog and Digital signals, modulation need of modulations, modems.
4.3 Telecommunication System communication processors:
4.3.1 Modem
4.3.2 Multiplexers
4.3.3 Front –end-processor.
4.4 Networks LAN, WAN, VAN, virtual private network (VPN).
4.5 Internet, intranet and Extranets
4.5.1 The evolution of the internet, service provided by the internet, World Wide Web.

Unit-V: NEW TECHNOLOGIES: **10 Periods**

5.1New technologies in Information Technology:

5.1.1 Introduction to hyper media, artificial intelligence and business intelligence, knowledge discovery in database (KDD)

5.2 Data warehouse and data marts. Data mining and OLAP.

Student Activity:

Students have to submit assignments and give seminars on various topics allotted to them.

Total of 5 Hrs is allotted for student seminars. Student activity also includes gathering of information related to latest technologies in computers.

Library Activity:

Students will visit library in their allotted time and will refer various text books to gather information for their assignments.

TEXT/ REFERENCE BOOKS:

1. B.E.V.L.Naidu, V.V.. Devi Prasad Konti, Ganti Naga Srikanth, Himalaya publishing House.
2. Introduction to Computers: Peter Norton, McGraw Hill

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MODEL Question Paper:

PAPER TITLE: INFORMATION TECHNOLOGY **COURSE CODE: CABT21A**
CLASS: B.Com (E-Commerce)
SEMESTER: II
TIME: 3 Hrs. **MAX: 70M**

SECTION – A

Answer ALL of the following **5X4 =20M**

1.A) Illustrate the characteristics of RAM and ROM. (CO1, L2)
(OR)
.B)Explain Block Diagram of computers
2.A)Define Operating system. What are different types of OS? (CO2, L1)
(OR)
B)Explain Windows accessories
3.A)Demonstrate application software and system software. (CO3, L2)
(OR)
B)What are the different types of networks? (CO4, L1)
4.A)Explain the steps involved in the process of KDD. (CO5, L2)
(OR)
B)Explain about input devices. (CO1, L2)
5.A)What are analog and digital signals? (CO4, L1)
(OR)
B)Explain Data warehouse. (CO5, L2)

SECTION –B

Answer the following **5x10=50M**

1. a) Explain the block diagram of computer. (CO1, L2)
OR
b) Explain the generations of computers. (CO1, L2)

2. a) What are the functions of operating system? (CO2, L1)
OR
b) What are DOS Internal and External commands? (CO2, L1)

3. a) Explain the characteristics of various types of programming languages. Give examples. (CO3, L2)
OR
b) Summarize the concepts on CAD, CAM and CIM. (CO3, L2)

4. a) Define the various types of Communication media and channels. (CO4, L1)
OR
b) What are the Advantages and Disadvantages of Internet? (CO4, L1)

5. a) Demonstrate On-Line Analytical process (OLAP). (CO5, L2)
OR
b) Explain about Artificial Intelligence and Business Intelligence. (CO5, L2)

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COMPUTER SCIENCE	**ECCSCT21**	**2022-'23**	**B.Com (E-Commerce)**

SEMESTER – II **PAPER – II** **Max. Marks 70**

Syllabus: Programming in 'C'

NO of Hours: 4 **No Of Credits: 3** **Pass Marks :28**

UNIT-I: General Fundamentals& Programming Languages **10Hrs**

General Fundamentals: Introduction to computers: Block diagram of a computer, characteristics and limitations of computers, applications of computers, types of computers, computer generations. Introduction to Algorithms and Programming Languages: Algorithm – Key features of Algorithms, Flow Charts, **Programming Languages** – Generations of Programming Languages – Structured Programming Language- Design and Implementation of Correct, Efficient and Maintainable Programs.

UNIT- II: Introduction To C & Decision Making control Statements **12Hrs**

Introduction to C: Introduction – Structure of C Program – Writing the first C Program – File used in C Program – Compiling and Executing C Programs – Using Comment , Keywords – Identifiers – Basic Data Types in C – Variables – Constants – I/O Statements in C-Operators in C- Programming Examples.

Decision Control and Looping Statements: Introduction to Decision Control Statements– Conditional Branching Statements – Iterative Statements – Nested Loops – Break and Continue Statement – Goto Statement.

UNIT III: Arrays **10 Hrs**

Arrays: Introduction – Declaration of Arrays – Accessing elements of the Array – Storing Values in Array– Operations on Arrays – one dimensional, two dimensional and multi dimensional arrays, character handling and strings.

UNIT-IV:Functions & Structures **13Hrs**

Functions: Introduction – using functions – Function declaration/ prototype – Function definition – function call – return statement – Passing parameters – Scope of variables – Storage Classes – Recursive functions.

Structure, Union, and Enumerated Data Types: Introduction – Nested Structures – Arrays of Structures – Structures and Functions– Union – Arrays of Unions Variables – Unions inside Structures – Enumerated Data Types.

UNIT-V:**Pointes&Files** **15Hrs**

Pointers: Understanding Computer Memory – Introduction to Pointers – declaring Pointer Variables – Pointer Expressions and Pointer Arithmetic – Null Pointers -– Memory Allocation in C Programs – Memory Usage – Dynamic Memory Allocation – Drawbacks of Pointers

Files: Introduction to Files – Using Files in C – Reading Data from Files – Writing Data to Files – Detecting the End-of-file – Error Handling during File Operations – Accepting Command Line Arguments.

BOOKS

1. E Balagurusamy – Programming in ANSIC – Tata McGraw-Hill publications.
2. Brain W Kernighan and Dennis M Ritchie - The 'C' Programming language" -

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Title: Programming in 'C'
Model Paper

CLASS: B.Com (e-Com-Computers) **Course Code: ECCSCT21** **Max. Marks: 75M**
Semester: II **Time: 3 Hours**

SECTION A **(20MARKS)**

Answer all Questions.

1. (a) What is Algorithm ? Explain with Example and Flow Chart? 4M

OR

(b) Explain Programming Methodologies in C. 4M

2. (a) Explain Data Types in C. 4M

OR

(b) Explain the Working of GOTO Statement with Example Program4M

3. (a)What is Array ? Explain in Detail. 4M

OR

(b)Difference Between While and Do-While loop.4M

4. (a)Explain Types of User Defined Functions in C. 4M

OR

(b)Define Union Concept in C with example program. . 4M

5. (a)Define Pointer and write the features of pointers. 4M

OR

(b)Explain Different types of Files used in C Program. 4M

SECTION B (50MARKS)

Answer all Questions.

6.(a) Explain the Structure of C Program? With example program.10M

OR

(b) Explain in detail about Generations of Programming Languages. 10M

7.(a) Explain Looping Statements in C with example Programs. 10M

OR

(b)Expalin Different Types of Operators in C. 10M

8. (a)What Is an Array? Explain One-Dimensional Array with an Example Program in C.10M

OR

(b) What Is an Array? Explain Two-Dimensional Array with an Example Program.10M

9.(a) What Is Function? Explain Function Declaration, Function Definition & Function Calling with an Example Program in C. 10M

OR

(b) What is String? Explain list any five String Handling Functions With Syntaxes& Examples.10M

10. (a) Explain Pointers Concepts in details in C with Example Program. 10M

OR

(b) What is File? Explain any File Handling Functions in C. 10M

**

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
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(With Effect from Academic Year 2022-23)

COMPUTER SCIENCE	**ECCSCT21**	2022-'23	B.Com.(e-Com-Computers)

SEMESTER – II PAPER –II Max. Marks 70 Pass Marks 28

Guidelines for paper setting **Programming in'C'**

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	2	2
Unit-5	2	2

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per
  the weight age given by us

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
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COMPUTER SCIENCE	**ECCSCP21**	**2022-'23**	**B.Com (E-Commerce)**

SEMESTER – II **PAPER – II** **Max. Marks 70**

Syllabus: Programming in 'C' Lab

Cycle-I

Week 1:

Write a C program to check whether the given two numbers are equal, bigger or smaller?

Week 2:

Write a C program to perform arithmetic operations using Switch...case?

Week 3:

- Write a program to find the sum of individual digits of a positive integer.
- Write a program to check whether the given number is Armstrong or not.

Week 4:

Write a program to generate the first N terms of the Fibonacci sequence.

Week 5:

Write a program to find both the largest and smallest number in a list of integer values

Week 6:

- Write a program that uses functions to add two matrices.
- Write a program for multiplication of two n X n matrices.

Week 7:

Write a program to demonstrate refection of parameters in swapping of two integer values using Call by

Value& Call by Address.

Week 8:

Write a program to calculate factorial of given integer value using recursive functions.

Cycle-II

Week 9:

Write a program to search an element in a given list of values.

Week 10:

Write a program to illustrate pointer arithmetic.

Week 11:

Write a program to sort a given list of integers in ascending order.

Week 12:

Write a program to calculate the salaries of all employees using Employee (ID, Name, Designation, Basic Pay, DA, HRA, Gross Salary, Deduction, Net Salary) structure.

a. DA is 30 % of Basic Pay

b. HRA is 15% of Basic Pay

c. Deduction is 10% of (Basic Pay + DA)

d. Gross Salary = Basic Pay + DA+ HRA

e. Net Salary = Gross Salary - Deduction

Week 13:

Write a program to perform various string operations.

Week 14:

Write a program to read the data character by character from a file.

Week 15:

Write a program to create Book (ISBN, Title, Author, Price, Pages, Publisher) structure and store book details in a file and perform the following operations

a. Add book details

b. Search a book details for a given ISBN and display book details, if available

c. Update a book details using ISBN

d. Delete book details for a given ISBN and display list of remaining Books.

A.G& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

VUYYURU-521165, KRISHNA Dt., A.P.(Autonomous)

Accredited by NAAC with "A" Grade

2022-2023

DEPARTMENT OF COMPUTER SCIENCE

MINUTES OF BOARD OF STUDIES

ODD SEMESTER

26-10-2023

Minutes of the meeting of Board of Studies in Computer Science for Semester I, III & V of I, II & III years B.Sc. (MPCs, MCCs, MSCs), B.Com. (C.A.) and B.Com (e-Commerce) Life Skill Course and Skill Development Course of AG & SG Siddhartha Degree College of Arts &Science, Vuyyuru, held at 3.00 P.M on 26-10-2022 in the Department of Computer Science.

Sri T.NagaPrasadaRao ... Presiding

Members Present:

1)..... (T.Naga Prasada Rao)	Chairman	Head, Department of Computer Science, AG&SG Siddhartha Degree College of Arts & Science.
2) ---------- (Dr. M. Babu Reddy)	University Nomine	Principal, Krishna University College of Engineering and Technology, Machilipatnam.
3). ---------- (Dr. P. J. S Kumar)	Subject Expert	Principal, HOD of Department of Computer Science A.N.R College Gudivada.
4) ---------- (Mr. K. Sridhar)	Subject Expert	TPO, Department of Computer Science PB Siddhartha College of Arts & Science,VJA
5) ---------- (R. Sowjanya)	Industrial Expert	.Net Developer, Maven Soft System Pvt. Ltd Madaapur, Hyderabad.
6)..... (S. Prabhavathi)	Member	Lecturer in Computer Science, AG&SG Siddhartha Degree College of Arts &Science, Vuyyuru-521165
7)..... (A. Sravani)	Member	Lecturer in Computer Science, AG&SG Siddhartha Degree College of Arts &Science, Vuyyuru-521165
8)..... (A. Naga Srinivasa Rao)	Member	Lecturer in Computer Science, AG&SG Siddhartha Degree College of Arts &Science, Vuyyuru-521165
9)..... (G.Katyayini)	Member	Lecturer in Computer Science, AG&SG Siddhartha Degree College of Arts &Science, Vuyyuru-521165
10)..... (O.Teja Sri)	Member	Lecturer in Computer Science, AG&SG Siddhartha Degree College of Arts &Science, Vuyyuru-521165
11)..... (K.Znana Krishna Teja)	Member	Lecturer in Computer Science, AG&SG Siddhartha Degree College of Arts &Science, Vuyyuru-521165
12) ---------- (G.Lavanya)	Member	Student in M.Sc. CS, AG& SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165
13) ---------- (G.Jahnavi)	Member	Student in B.Sc. MPCs, AG& SG Siddhartha Degree College of Arts & Science, Vuyyuru-521165

Agenda for B.O.S Meeting.

1. To discuss introducing Syllabi and Model papers for Elective Skill Enhancement Courses (SEC) for B.Sc. (MPCs, MCCs) & B.Com (C.A) programmes in Fifth/Sixth Semester adopting COs in line with guidelines of OBE following Blooms Taxonomy for the students admitted in the Academic year 2020-2021 and onwards.

2. To Discuss and approve the Structure and Syllabi and model papers of B. Sc. (MPCs, MCCs, MSCs), B.Com (C.A) & B.Com(e-commerce-Computers) programme in First and Third semesters for the student admitted in the academic year 2022-23 and onwards.

3. To recommend any changes in the syllabi for I, III, V & VI Semesters of I, II, III year Degree B.Sc.(MPCs, MCCs, MSCs), B.Com.(C.A.) and B.Com(e-commerce-Computers).

4. To Introduce a Life Skill Course and Skill Development Course for all B.Sc and B.Com from the Academic Year 2022-23.

5. To recommend the teaching and evaluation methods to be followed under Autonomous status.

6. To recommend the panel of paper setters and examiners to the controller of the examinations of autonomous courses of AG & SG Siddhartha Degree College of Arts & Science College, Vuyyuru.

7. Any other matter

Resolutions.

1. It is Resolved and Recommended to adopt the same structure, syllabi & Model papers for Elective Skill Enhancement Courses (SEC) for B.Sc. (MPCs, MCCs) & B.Com (C.A) programmes with titles Big Data Analytics using R, Data science using Python in Fifth/Sixth Semester adopting COs in line with guidelines of OBE following Blooms Taxonomy for the students admitted in the Academic year 2020-2021 and onwards.
2. It is Resolved and recommend to continue the syllabi without any changes, but only changes on Model Paper i.e. for I Semester of I Year & V/VI Semester of III year B.Sc. (MPCs, MCCs, MSCs), B.Com.(CA) & B.Com(e-commerce- Computers).
3. It is Resolved and Recommend to introduce new Syllabi and Model Question paper as per new regulations in III Semester of II Year Degree B.Sc. (MPCs, MCCs) and B.Com(CA).
4. It is Resolved to implements Life Skill Course and Skill Development Course for all B.Sc and B.Com from the Academic Year 2022-23.
5. It is resolved to continue the teaching and evaluation methods to be followed under Autonomous status.
6. It is resolved to continue the panel of paper setters and examiners to the controller of the examinations of autonomous courses of AG & SG Siddhartha Degree College of Arts & Science College, Vuyyuru.
7. Any other matter

Teaching methods:

Besides the conventional methods of teaching, we use modern technology i.e. Using of LMS and LCD projector to display on power board etc..for better understanding of concepts.

Evaluation of a student is done by the following procedure:

There are two components in the Valuation and Assessment of a student – Internal Assessment (**IA**) Semester Examinations (**SE). For the Batch of Students Admitted from 2022-23.**

Internal Assessment (IA)

- The maximum mark for IA is 30 and SE is 70 for theory; and for practical marks for IA 10 and 40 Marks for External Exam.
- Each IA written examination is of 1 hour 30 minutes duration for 20 marks. The tests will be conducted centrally. The average of two such IA is calculated for 20 marks.
- Attendance will be for 5 Marks. The other innovative component is for 5 marks, conducted during the class hours by the staff member/ in charge of the subject, in the form of assignments/ quiz/ seminars /PPT/Online- assignments/Open Book/Viva Voce/ Group work/ Mini Project/ Exhibition, etc. The topic and time for submission/ presentation will be announced by the staff member/ in charge of the subject in advance. Each student should explain and defend his/her presentation.
- The semester examination will be of 3 hours with maximum 70 marks.

Internal Assessment (IA) **For the Batch of Students Admitted from 2021-22.**

- The maximum mark for IA is 25 and SE is 75 for theory; and for practical marks for IA 10 and 40 Marks for External Exam.
- Each IA written examination is of 1 hour duration for 15 marks. The tests will be conducted centrally. The average of two such IA is calculated for 15 marks.

- Other Innovative Components will be for 5 Marks. The innovative component is for 5 marks, conducted during the class hours by the staff member/ in charge of the subject, in the form of
- assignments/ quiz/ seminars /PPT/Online- assignments/Open Book/Viva Voce/ Group work/ Mini Project/ Exhibition, etc. The topic and time for submission/ presentation will be announced by the staff member/ in charge of the subject in advance. Each student should explain and defend his/her presentation.
- The semester examination will be of 3 hours with maximum 75 marks.

Internal Assessment (IA) **For the Batch of Students Admitted from 2020-21.**

- The maximum mark for IA is 30 and SE is 70 for theory; and for practical marks for IA 10 and 40 Marks for External Exam.
- Each IA written examination is of 1 hour 30 minutes duration for 20 marks. The tests will be conducted centrally. The average of two such IA is calculated for 20 marks.
- Attendance will be for 5 Marks. The other innovative component is for 5 marks, conducted during the class hours by the staff member/ in charge of the subject, in the form of assignments/ quiz/ seminars /PPT/Online- assignments/Open Book/Viva Voce/ Group work/ Mini Project/ Exhibition, etc. The topic and time for submission/ presentation will be announced by the staff member/ in charge of the subject in advance. Each student should explain and defend his/her presentation.
- The semester examination will be of 3 hours with maximum 70 marks.

Semester Examinations (SE)

- A student should register himself/herself to appear for the Semester Examinations by payment of the prescribed fee.
- The Semester Examinations will be in the form of a comprehensive examination covering the entire syllabus in each subject. It will be of 3 hours duration & Foundation course 2 hours irrespective of the number of credits allotted to it.
- If a candidate fails to obtain pass marks even after the due to less mark in the IA examination, the marks of the next examination will be converted to be out of 100.
- Even though the candidate is absent for two IA exams/obtain zero marks the external marks are considered (if he/she gets 40/100) and the result shall be declared as 'PASS'.
- The maximum marks for each Paper shall be 100.

Question paper guide lines for Practical Examinations at the end of Semesters I, III & V Two Practical Programs to be conducted out of 15 programs at the end of Semester I, III & V Practical Examination time 3Hrs and Maximum Marks 50 Scheme of valuation Semesters – I, III & V B.Sc.& B.Com.(C.A), B.Com.(e-commerce-Computers).

Computer Science Practical's - External (Time: 3 hrs.) Total Marks: 40M

1. Programs writing (2):20 marks,
2. Viva voice : 5 marks
3. Execution &Result : 15 marks

Total Marks : 40

Computer Science Practical's- Internal **Total Marks: 10 M**

1. Record : 10 marks

6.) Discussed and recommended for organizing Seminars, Guest lectures, Work-shops to upgrade the knowledge of students, for the approval of the Academic Council.

7)Discussed and empowered the HOD to suggest the panel of the paper setters and examiners to the controller of the examinations.

8). We implemented online certificate courses & Internships such as NPTL, APSSDC - PYTHON, R-Programming, Amazon Web services and JAVA------ etc. To fill the curriculum gaps from II year Degree on words

9). Suggestions

Chairman

Appendix-I

LIST OF THE COURSES REVISED/ INTRODUCED IN V/VI SEMESTERS (2022 – 2023) BSC(MPCS,MCCS), I ,III SEMESTERS OF B.Sc (MPCs,MCCs,MSCs)										
SEM NO	**Course Code**	**Course No.**	**Title of Course**	**Hrs. / Week**		**Credits**		**Marks**		
				Th.	**Lab**	**Th.**	**Lab**	**Int. Max. Marks**	**SEE**	**Total Marks**
V/VI	SECCSCT01	6A	Web Interface Designing Technologies	3		3		30	70	100
	SECCSCP01		Web Interface Designing Technologies Lab		3		2	10	40	50
	SECCSCT02	7A	Web Applications Development using PHP& MYSQL	3		3		30	70	100
	SECCSCP02		Web Applications Development using PHP& MYSQL Lab		3		2	10	40	50
OR										
V/VI	SECCSCT03	6B	Internet of Things	3		3		30	70	100
	SECCSCP03		Internet of Things Lab		3		2	10	40	50
	SECCSCT04	7B	Application Development using Python	3		3		30	70	100
	SECCSCP04		Application Development using Python Lab		3		2	10	40	50
	OR									
	SECCSCT05	6C	Data science	3		3		30	70	100
	SECCSCP05		Data science Lab		3		2	10	40	50
	SECCSCT06	7C	Python for Data Science	3		3		30	70	100
	SECCSCP06		Python for Data Science Lab		3		2	10	40	50
III	CSCT37	3A	Data Base Management System	3		3		25	75	100
III	CSCP37	3A	Data Base Management System Lab		2		1	10	40	50
I	CSCT11B	IA	Problem solving in C	3		3		30	70	100
I	CSCP11B	IA	Problem solving in C Lab		2		1	10	40	50

Appendix-II

LIST OF THE COURSES REVISED/ INTRODUCED IN V/VI SEMESTERS (2022 – 2023) B.COM (C.A) I,III SEMESTERS OF B.Com(C.A)& B.Com(e-commerce-Computers)										
SEM NO	**Course Code**	**Course No.**	**Title of Course**	**Hrs. / Week**		**Credits**		**Marks**		
				Th.	**Lab**	**Th.**	**Lab**	**Int. Max. Marks**	**SEE**	**Total Marks**
V/VI	SECCAT01	6A	Big data Analytics using R	3		3		30	70	100
	SECCAP01		Big data Analytics using R Lab		3		2	10	40	50
	SECCAT07	7A	Data Science using Python	3		3		30	70	100
	SECCAP07		Data Science using Python Lab		3		2	10	40	50
	OR									
	SECCAT03	6B	Mobile application development	3		3		30	70	100
	SECCAP03		Mobile application development Lab		3		2	10	40	50
	SECCAT04	7B	Cyber Security and Malware Analysis	3		3		30	70	100
	SECCAP04		Cyber Security and Malware Analysis Lab		3		2	10	40	50
	OR									
	SECCAT05	6C	E Commerce Application Development	3		3		30	70	100
	SECCAP05		E Commerce Application Development Lab		3		2	10	40	50
	SECCAT06	7C	Real time governance system (RTGS)	3		3		30	70	100
	SECCAP06		Real time governance system (RTGS) Lab		3		2	10	40	50
	OR									
V/VI	SECCAT07	6D	Multimedia Tools and Applications	3		3		30	70	100
	SECCAP07		Multimedia Tools and Applications Lab		3		2	10	40	50
	SECCAT08	7D	Digital Imaging	3		3		30	70	100

	SECCAP08		Digital Imaging Lab		3		2	10	40	50
III	CABT31A	3A	Programming with C & C++	3		3		25	75	100
III	CABP31A	3A	Programming with C & C++ Lab		2		1	10	40	50
III	CSCT11B	3B	Problem Solving in 'C'	3		3		25	75	100
III	CSCP11B	3B	Problem Solving in 'C' LAB		2		1	10	40	50
I	CSBT11A	IA	Information Technology	5		4		30	70	100
I	CABT22A	IB	Computer Applications	3		3		30	70	100
I	CABP22A	IB	Computer Applications		2		1	10	40	50

Note-1: For Semester–V, for the domain subject Computer Science any one of the three pairs of SECs shall be chosen as courses 16,17,18,19,20 and 21, i.e., 16A & 17A or 16B &; 17B or 16C &; 17C and so on. The pair shall not be broken (ABCD allotment is random, not on any priority basis).

Note-2: One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate field related skills of the domain subject in students. The syllabus of SEC will be partially skill oriented. Hence, teachers shall also impart practical training to students on the skills embedded in syllabus citing related real field situations.

A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165.NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: WEB INTERFACE DESIGNING TECHNOLOGIES

Semester: V/VI

Course Code	SECCSCT01	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	3	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2022-23	Year of Offering: 2022 -23	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: To create web elements like buttons, banners & Bars and of course complete UI designs. Forms and validations for your website. Setting up page layout, color schemes, contract, and typography in the designs. Writing valid and concise code for web pages.

Course Outcomes: Students at the successful completion of the course will be able to:

CO_1	Understand web application and static web page using Html. (PO5)
CO2	Gain knowledge about various designing of style sheets. (PO5)
CO3	Demonstrate skills regarding creation of an interface to dynamic website.(PO7)
CO4	Gain knowledge about various advantages of XML and validating schema(PO5)
CO5	Learn how to install word press and gain the knowledge of installing various plugins to use in their websites. (PO5,PO7)

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	**Web Designing, HTML** **Web Designing:** Introduction To Web Designing, Difference Between Web Applications And Desktop Applications. **HTML:** Introduction To HTML, Introduction To HTML, Headings, Paragraphs Styles &Colors, HTML Formatting, Quotations, Comments, Hyperlinks, Lists, Using colors and images, Tables, Multimedia Objects - Video, Audio, Plugins, You Tube, Frames, Forms	12
II	**CSS, HTML API'S** **CSS**: Introduction, Using Styles, Simple Examples, Defining Your Own Styles, Properties and Values in Styles, Style Sheets, Formatting blocks of information, Layers, CSS Combinators, Pseudo Class, Pseudo Elements, Opacity, ToolTips, Image Gallery, CSS Forms, CSS Counters, CSS Responsive.**HTML API'S:** Geolocation, Drag/drop, local storage, HTML SSE	12
III	**Client side Validation:**Introduction to JavaScript: What Is DHTML?, JavaScript Basics,Variables,StringManipulations,MathematicalFunctions,Statements,Operators,Arrays,Functions.Objects in JavaScript –Data and Objects In JavaScript, Regular Expressions, Exception Handling. DHTML with JavaScript :Data Validation, Opening a New Window, Messages and Confirmations, The Status Bar, Different Frames, Rollover Buttons, Moving Images	14
IV	**XML:** Introduction to xml, How to write a xml document, Elements and attributes, Comments in xml, Namespace in xml, Xml css, Advantages of xml, Uses of xml, xml schema, data types, simple types, complex types ,Validating DTD,XSD.	12
V	**Word press** Introduction to word press, servers like wamp, bitnami e.tc, installing and configuring word press, understanding admin panel, working with posts and pages, using editor, text formatting with shortcuts, working with media-Adding, editing, deleting media elements, working with widgets, menus.	10

Text Book/ references / e-books/websites

1. Chris Bates, Web Programming Building Internet Applications, Second Edition, Wiley
2. Web technologies by A.A.Puntambekar
3. Web Technologies by N.P.Gopalan,Eastern Economy Edition,2nd edition
4. Paul S.WangSanda S. Katila, an Introduction to Web Design plus Programming, Thomson
5. Head First HTML and CSS, Elisabeth Robson, Eric Freeman, O'Reilly Media Inc.
6. An Introduction to HTML and JavaScript: for Scientists and Engineers, David R. Brooks.
7. Schaum's Easy Outline HTML, David Mercer, Mcgraw Hill Professional.
8. Word press for Beginners, Dr.Andy Williams.
9. Professional word press, Brad Williams, David damstra, Hanstern.
10. Web resources:
    a. http://www.codecademy.com/tracks/web
    b. http://www.w3schools.com
    c. https://www.w3schools.in/wordpress-tutorial/ d.http://www.homeandlearn.co.uk

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.

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COMPUTER SCIENCE	SECCSCT01	2022-23	B.SC(MPCS,MCCS)

SEMESTER – V/VI **PAPER – VI** **Max. Marks 70**

Model Paper: WEB INTERFACE DESIGNING TECHNOLOGIES

NO of Hours: 3 **No Of Credits: 3** **Pass Marks 28**

SECTION – A
Short Answer Questions

Answer any Four questions. (At least 1 question should be given from each Unit)

(4x5=20Marks)

1.What is HTML? Explain features and structure of HTML program with example(CO1,L1)
2. What is layer? How are they described with HTML code?(CO1,L1)
3.Explain hyperlinks in HTML.(CO2,L5)
4.What is java script? Explain the features ,advantages and disadvantages of java script(CO3,L1)
5. What are the elements and attributes used in XML(CO4,L1)
6. Explain text formatting in word Press.(CO5,L5)

SECTION-B

Answer all questions.

(5 x 10 = 50 Marks)

9(a) What is list? Explain various types of lists in HTML.(CO1,L1)

OR

9(b)Explain Frames and forms in HTML(CO1,L2)

10(a)Define CSS, Explain various styles sheets in HTML(CO2,L1)

OR

10(b). Explain HTML APIs.(CO1,L2)

11(a).What is DHTML? Explain about various string and mathematical functions(CO3,L2)

OR

11(b) Explain Exception handling and rollover buttons in java script(CO3,L2)

12(a).What are the advantages of using XML and CSS? How to validate XML schema.(CO4,L1)

OR

12(b) Explain about DTD in XML(CO4,L2)

13(a) What is admin panel, what are the steps involved in working with post and pages (CO5,L1)

OR

13(b) Explain how we can add, edit and deleting media elements in word press(CO5,L2)

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.

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(**With Effect from Academic Year 2022-23**)

COMPUTER SCIENCE	SECCSCT01	2022-23	B.SC(MPCS,MCCS)

SEMESTER – V/VI **PAPER – VI** **Max. Marks 50**

Lab List: WEB INTERFACE DESIGNING TECHNOLOGIES LAB

No. of Hours per week: 3 **External: 40** **Internal: 10** **Credits: 2**

I. Course Outcomes: Students at the successful completion of the course will be able to:

CO1: Create a basic website with the help of HTML and CSS.(PO5)

CO2: Acquire the skill of installing word press and various plugins of Word press.(PO5)

CO3: Create a static website with the help of Word press..(PO5,PO7)

CO4: Create an interface for a dynamic website.(PO5,PO7)

CO5: Apply various themes for their websites using Word press.(PO7)

II. Practical (Laboratory) Syllabus: (30 periods)

HTML and CSS:

1. Create an HTML document with the following formatting options:
(a)Bold, (b) Italics, (c) Underline, (d) Headings (Using H1 to H6 heading styles), (e) Font (Type, Size and Color), (f) Background (Colored background/Image in background), (g) Paragraph, (h) Line Break, (i) Horizontal Rule, (j) Pre tag
2. Create an HTML document which consists of:
(a) Ordered List (b) Unordered List (c) Nested List (d) Image
3. Create a form using HTML which has the following types of controls:
(a) Text Box (b) Option/radio buttons (c) Check boxes (d) Reset and Submit buttons
4. Embed a calendar object in your web page.
5. Create an applet that accepts two numbers and perform all the arithmetic operations on them.
6. Create nested table to store your curriculum with image.
7. Create a form that accepts the information from the subscriber of a mailing system.
8. Create a help file as follows:

9. Write a html program including style sheets.
10. Write a html program to layers of information in web page.
11. Develop a Java script to determine whether the given number is a “PERFECT NUMBER “or not.
12. Develop a Java script to generate “ARMSTRONG NUMBERS” between the ranges 1 to 100.
13. Write a java script that reads an integer and displays whether it is a prime number or not.
14. Write a java script which accepts the text in lower case and displays the text in upper case
15. Write a java script program for user name and password validation using on click event.

Word press:

16. Installation and configuration of word press.
17. Create five pages on COVID – 19 and link them to the home page.
18. Add an external video link with size 640 X 360.
19. Create a user and assign a role to him.
20. Create a login page to word press using custom links

III. Lab References:

1. Web technologies by A.A.Puntambekar
2. Web Technologies by N.P.Gopalan,Eastern Economy Edition,2nd edition
3. Word press for Beginners, Dr.Andy Williams.
4. Professional word press, Brad Williams, David damstra, Hanstern.

Reference Materials on the Web/web-links:

1. https://onlinecourses.nptel.ac.in/noc17_cs22/course
2. http://www.codecademy.com/tracks/web
3. http://www.w3schools.com
4. https://www.w3schools.in/wordpress-tutorial/

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Title of the Paper: WEB APPLICATIONS DEVELOPMENT USING PHP AND MYSQL

Semester: V/VI

Course Code	SECCSCT02	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	3	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2015-16	Year of Offering: 2022 -23	Year of Revision: ----	Percentage of Revision: 30%

Course Objective: Upon successful completion of the course, participants should be able to: **List the major elements of the PHP & MySQL work and explain why PHP is good for web development**. Learn how to take a static website and turn it into a dynamic website run from a database using PHP and MySQL.

Course Outcomes: Students at the successful completion of the course will be able to:

CO_1	Learn basic structure and key concepts in PHP, Control statements and functions concept and related programs (PO5)
CO2	Know What is an Array concept related programs, What is an Object, various objects, Formatting strings, Date and time and related programs (PO5)
CO3	Learn importance of Forms, Combining HTML with PHP code. Importance of Cookies and Sessions related programs of forms cookies and sessions. (PO5)
CO4	Know importance of File concept in PHP how to Create, Open, Read and write data in file related programs, Knowing about Image creation, drawing, and modification image (PO7)
CO5	Know about Database concept of MySQL, Connection, Creation of Database, Table adding Record into it related programs (PO7)

PHP Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	**The Building blocks of PHP :** Variables, Data Types, Operators and Expressions, Constants. **Flow Control Functions in PHP:** Switching Flow, Loops, Code Blocks and Browser Output. **Working with Functions:** What is function? ,Calling functions, Functions, Returning the values from User-Defined Functions, Variable Scope.	12
II	**Working with Arrays:** What are Arrays?, Creating Arrays, **Working with Objects** Creating Objects, Object Inheritance, **Working with Strings, Dates and Time**-Formatting strings with PHP, Investigating Strings with PHP, Manipulating Strings with PHP, Using Date and Time Functions in PHP.	12
III	**Working with Forms**-Creating Forms, Accessing Form Input with User defined Arrays, Combining HTML and PHP code on a single Page, **Working with Cookies and User Sessions**-Introducing Cookies, Setting a Cookie with PHP, Session Function Overview, Starting a Session, Working with session variables	14
IV	**Working with Files and Directories:** Creating and Deleting Files, Opening a File for Writing, Reading or Appending, Reading from File, Writing or Appending to a File. **Working with Images** -Understanding the Image-Creation Process, Drawing a New Image ,Modifying Existing Images ,Image Creation from User Input.	12
V	**Interacting with MySQL using PHP** -MySQL versus MySQLi Functions, Connecting to MySQL with PHP ,Working with MySQL Data, **Creating an Online Address Book** -Planning and Creating Database Tables, Creating Menu, Creating Record, Addition Mechanism, Viewing Records, Creating the Record Deletion Mechanism, Adding Sub-entities to a Record.	10

Textbooks and References

1. JulieC.Meloni, SAMS Teach yourself PHP MySQL and Apache, Pearson education
2. Steven Holzner, PHP: The Complete Reference, McGraw-Hill
3. RobinNixon,LearningPHP,MySQL,JavaScript,CSS&HTML5,ThirdEditionO'reilly,2014
4. XueBaiMichaelEkedahl, The web warrior guide to Web Programming, Thomson (2006).
5. Web resources:
    e. http://www.codecademy.com/tracks/php
    f. http://www.w3schools.com/PHP
    g. http://www.tutorialpoint.com

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(**With Effect from Academic Year 2015-16**)

COMPUTER SCIENCE	**SECCSCT02**	**2022-23**	**B.SC(MPCS,MCCS)**

SEMESTER – V/VI **PAPER – VII** **Max. Marks 70**

Model Paper: Web Applications Development using PHP & MYSQL

NO of Hours: 3 **No Of Credits: 3** **Pass Marks 28**

SECTION – A

Short Answer Questions **(4 x 5=20 Marks)**

Answer any Four questions. (At least 1 question should be given from each Unit)

1) Define Structure of PHP.(CO1,L1)
2) Differentiate Conditional statement and Looping statement with syntax.(CO1,L4)
3) Define Array concept explain about it.(CO2,L1)
4) Explain about Cookies concept.(CO3,L2)
5) Explain about Image creation.(CO4,L2)
6) Write short note on Mysqli.(CO5,L1)

SECTION B

(5 x 10=50 Marks)

Answer all questions. (Two questions should be given from each unit with internal choice)

9(a) Explain about Control Statements.(CO1,L2)

OR

9(b) Discuss about Function define, Call and return value with example.(CO1,L6)

10(a) List various types of Formatting strings explain them.(CO2,L2)

OR

10(b) Define Array function with example.(CO2,L1)

11(a) Write names of Form objects explain them with example.(CO3,L2)

OR

11(b) Compare and Contrast Session and Cookies.(CO3,L4)

12(a) Explain File concept about file creation, Open file, Write file and Delete file with example(CO4,L2)

OR

12(b) Construct steps for Interfacing complete image concept explain them with one example.(CO4,L3)

13(a) Discuss about DDL commands and DML commands in Mysqli with syntaxes (CO5,L6)

OR

13(b) Write code to Create table of Employee by adding any four columns with example.(CO5,L6)

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COMPUTER SCIENCE	**SECCSCT02**	**2022-23**	**B.SC(MPCS,MCCS)**

SEMESTER – V/VI **PAPER – VII** **Max. Marks 50**

Lab List: **Web Applications Development using PHP & MYSQL lab**

No. of Hours per week: 3 **External: 40** **Internal: 10** **Credits: 2**

I. Course Outcomes: Students at the successful completion of the course will be able to:

CO1: Learn and implement basic programs in PHP, Control statements and functions concept (PO5)

CO2: Implement Basic programs in Object, various objects, Formatting strings, Date and time (PO5)

CO3: Learn and implement important programs of Forms, Combining HTML with PHP code. Importance of Cookies and Sessions..(PO5)

CO4: Implement programs on Files concept in PHP and on Image creation, drawing, and modification image (P05 & PO7)

CO5: Implement Database programs on MySQLi, Connection, Creation of Database, Table adding Record into it related programs (PO7)

II: Practical (Laboratory) Syllabus: (30 Periods): At least 8 Practical's.

1. Write a PHP program to Display "Hello"
2. Write a PHP Program to display today's date.
3. Write a PHP program to display Fibonacci series.
4. Write a PHP Program to read the employee details.
5. Write a PHP program to prepare the student marks list.
6. Write a PHP program to generate the multiplication of two matrices.
7. Create student registration form using text box, check box, radio button, select, submit button. And display user inserted value in new PHP page.
8. Create Website Registration Form using text box, check box, radio button, select, submit button. And display user inserted value in the new PHP page.
9. Write a PHP script to demonstrate passing variables with cookies.
10. Write a program to keep track of how many times a visitor has loaded the page.
11. Write a PHP application to add, Modify, delete and fetch the rows in a Table.
12. Develop a PHP application to implement the following Operations
    a. Registration of Users.b.Insert the details of the Users.c.Modify the Details.
    d.Transaction Maintenance.

i.No of times Logged in (ii).Time Spent on each login. Ii. Restrict the user for three trials only.

iii. Delete the user if he spent more than 100 Hrs of transaction.

13. Write a PHP script to connect to the MySQL server from your website.
14. Write a program to read customer information like cust-no, cust-name, item purchased, and mob-no, from customer table and display all this information in table format on the output screen.
15. Write a program to edit the name of a customer to "Kiran" with cust-no =1, and to delete record with cust-no=3.
16. Write a program to read employee information like emp-no, emp-name, designation and salary from the EMP table and display all this information using table format in your website.
17. Create a dynamic web site using PHP and MySQL.

Textbooks and References: 1. JulieC.Meloni,SAMS Teach yourself PHP MySQL and Apache, Pearson Education(2007).

1. Steven Holzner, PHP: The Complete Reference, McGraw-Hill

2. RobinNixon,LearningPHP,MySQL,JavaScript,CSS&HTML5,ThirdEditionO'reilly.

Web resources: a.http://www.codecademy.com/tracks/php

b.http://www.w3schools.com/PHP

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Title of the Paper: INTERNET OF THINGS

Semester: V/VI

Course Code	SECCSCT03	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	3	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2022-23	Year of Offering: 2022 -23	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: This course gives a foundation in the Internet of Things, including the components, tools, and analysis by teaching the concepts behind the IoT and a look at real-world solutions.

Course Outcomes: Students at the successful completion of the course will be able to:

CO_1	Understand architecture and applications of IoT systems.(PO5)
CO2	Gain knowledge of various development boards used for IoT.(PO5)
CO3	Understand various Wireless Technologies used in IoT.(PO5)
CO4	Learn how to use various sensors and actuators for design of IoT.(PO7)
CO5	Learn how to connect various things to Internet and develop simple IOT Devices. (PO7)

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	Fundamentals of IoT: Introduction, Definitions & Characteristics of IoT, IoT Architectures, Physical & Logical Design of IoT, Enabling Technologies in IoT, History of IoT, About Things in IoT, The Identifiers in IoT, About the Internet in IoT, IoT frameworks, IoT andM2M.**Applications of IoT:** Home Automation, Smart Cities, Energy, Retail Management, Logistics, Agriculture, Health and Lifestyle, Industrial IoT, Legal challenges, IoT design Ethics, IoT in Environmental Protection.	12
II	Sensors Networks: Definition, Types of Sensors, Types of Actuators, Examples and Working, IoT Development Boards: Arduino IDE and Board Types, Raspberry Pi Development Kit, RFID Principles and components, Wireless Sensor Networks: History and Context, The node, Connecting nodes, Networking Nodes, WSN and IoT.	12
III	Wireless Technologies for IoT: WPAN Technologies for IoT: IEEE802.15.4, Zigbee, HART, NFC, ZWave, BLE, Bacnet And Modbus. IP Based Protocols for IoTIPv6, 6LowPAN, LoRA, RPL, REST, AMPQ, CoAP, MQTT. Edge connectivity and protocols.	14
IV	Arduino Simulation Environment: Arduino Uno Architecture, Setting up the IDE, Writing Arduino Software, Arduino Libraries, Basics of Embedded C programming for Arduino, Interfacing LED, push button and buzzer with Arduino, Interfacing Arduino with LCD. **Sensor & Actuators with Arduino**: Overview of Sensors working, Analog and Digital Sensors, Interfacing of Temperature, Humidity, Motion, Light and Gas Sensors with Arduino, Interfacing of Actuators with Arduino, Interfacing of Relay Switch and Servo Motor with Arduino.	12
V	Developing IOT's: Implementation of IoT with Arduino, Connecting and using various IoT Cloud Based Platforms such as Blynk, Thing speak, AWS IoT, Google Cloud IoT Core etc. Cloud Computing, Fog Computing, Privacy and Security Issues in IoT.	10

Text Book/References

1. Internet of hings - A Hands-on Approach, Arshdeep Bahga and Vijay Madisetti,UniversitiesPress, 2015, ISBN: 9788173719547
2. Vijay Madisetti and ArshdeepBahga, "Internet of Things (A Hands-onApproach)", 1stEdition, VPT, 2014

Reference Materials on the Web/web-links:

1. https://github.com/connectIOT/iottoolkit2.https://github.com/connectIOT/iottoolkithttps://www.arduino.cc/

3.https://onlinecourses.nptel.ac.in/noc17_cs22/course 4.https://blynk.io(Mobileapp)

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COMPUTER SCIENCE	SECCSCT03	2022-23	B.SC(MPCS,MCCS)

SEMESTER – V/VI **PAPER – VI** **Max. Marks 70**

Model Paper: Internet Of Things

NO of Hours: 3 **No Of Credits: 3** **Pass Marks 28**

SECTION – A

Short Answer Questions **(4x5=20Marks)**

Answer any Four questions. (At least 1 question should be given from each Unit)

1) Define IOT and write characteristics of IOT.(CO1,L1)
2) Differentiate IOT and M2M.(CO1,L4)
3) Define Actuator and explain about it.(CO2,L1)
4) Explain about wireless technology Zigbee.(CO3,L2)
5) Explain about light and gas sensors.(CO4,L2)
6) Write short note on Fog Computing.(CO5,L1)

SECTION B **(5x10=50Marks)**

Answer all questions. (Two questions should be given from each unit with internal choice)

9 (a) Explain IOT architecture with neat diagram.(CO1,L2)

OR

9(b) Discuss about Applications of IOT.(CO1,L6)

10(a) List various types of sensors in IOT and explain any 3 of them.(CO2,L2)

OR

10(b) List RFID components and explain them..(CO2,L2)

11(a) Write names of wireless technologies used in IOT and describe any 2 of them.(CO3,L2)

OR

11(b) Compare and Contrast MQTT and CoAP protocols.(CO3,L4)

12(a) Explain Arduino Uno Architecture.(CO4,L2)

OR

12(b) Construct steps for Interfacing Arduino with LCD and explain them.(CO4,L3)

13(a) Discuss about Privacy and security issues in IOT.(CO5,L6)

OR

13(b) Write code to Design any App of your choice using Thingspeak.(CO5,L6)

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COMPUTER SCIENCE	**SECCSCT03**	**2022-23**	**B.SC(MPCS,MCCS)**

SEMESTER – V/VI **PAPER – VI** **Max. Marks 50**

Lab List: **INTERNET OF THINGS LAB**

No. of Hours per week: 2 **External: 40** **Internal: 10** **Credits: 2**

I. Course Outcomes: Students at the successful completion of the course will be able to:

CO1:Acquiretheskillsto design a small IoT device.(PO5)

CO2:Connectvarioussensors, actuators, etc to Arduino board.(PO5)

CO3:Connectthethingsto Internet.(PO5)

CO4:Designasmallmobile app to control the sensors.(PO5,PO7)

CO5:Deployasimple IoT device.(PO5,PO7)

II: Practical (Laboratory) Syllabus: (30 Periods)

1. Understanding Arduino UNO Board and Components
2. Installing and work with Arduino IDE
3. Blinking LED sketch with Arduino
4. Simulationof4-WayTrafficLightwithArduino
5. Using Pulse Width Modulation
6. LEDF ade Sketch and Button Sketch
7. Analog Input Sketch(Bar Graph with LEDs and Potentiometre)
8. Digital Read Serial Sketch (Working with DHT/I R/Gas or Any other Sensor)
9. Working with Adafruit Librariesin Arduino
10. Spinninga DC Motorand Motor Speed Control Sketch
11. Working with Shields
12. Design APP using Blink Appor Thing speak API and connectit LED bulb.
13. Design APP Using Blynk Appand Connect to Temperature, magnetic Sensors.

II. Lab References:

1. Internet of Things - A Hands-on Approach, ArshdeepBahga and Vijay Madisetti,UniversitiesPress, 2015, ISBN: 9788173719547
2. Vijay Madisetti and Arshdeep Bahga, "Internet of Things (A Hands-on Approach)", 1stEdition, VPT, 2014
3. DanielMinoli,—"BuildingtheInternetofThingswithIPv6andMIPv6:TheEvolvingWorldof M2MCommunications",ISBN:978-1-118-47347-4,WillyPublications

Reference Materials on the Web/web-links:

1. https://github.com/connectIOT/iottoolkithttps://www.arduino.cc/
2. https://onlinecourses.nptel.ac.in/noc17_cs22/course
3. https://blynk.io(Mobileapp)

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Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: APPLICATION DEVELOPMENT USING PYTHON

Semester: V/VI

Course Code	SECCSCT04	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	3	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2022-23	Year of Offering: 2022 -23	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: To further your software development career, you need to understand why and how Python executes your code so that you can create clean code that compiles in time. This Course unleashes the power of Python's functionalities to create compelling applications!

Course Outcomes: Students at the successful completion of the course will be able to:

CO_1	Understand basics of python and write applications using strings, tuples, lists, sets.(PO5,PO7)
CO2	Understand and use exceptions and packages for different applications.(PO5,PO7)
CO3	Create, run and manipulate Python Programs using threads and Regular Expressions.(PO5,PO7)
CO4	Apply concepts of Python programming in various fields related to IOT, Web Services and Databases in Python.(PO5,PO7)
CO5	write applications in python to perform various database operations.(PO5,PO7)

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	**Python basics, Objects-** Python Objects, Standard Types, Other Built-in Types, Internal Types, Standard Type Operators, Standard Type Built-in Functions, **Sequences-**Strings, Lists, and Tuples, Mapping and Set Types. **Numbers-**Introduction to Numbers, Integers, Floating Point Real Numbers, Complex Numbers, Operators, Related Modules.	12
II	**Files:** File Objects, File Built-in Function [open()], File Built-in Methods, File Built-in Attributes, Command-line Arguments, File System, File Execution, Persistent Storage Modules, Related Modules. **Exceptions:** Exceptions in Python, Detecting and Handling Exceptions, Context Management, Exceptions as Strings, Raising Exceptions, Assertions, Standard Exceptions , Creating Exceptions. **Modules:** Modules and Files, Name spaces ,Importing Modules, Importing Module Attributes ,Module Built-in Functions ,Packages.	12
III	**Regular Expressions:** Introduction , Special Symbols and Characters, Resand Python Multithreaded Programming: Introduction, Threads and Processes, Python, Threads, and the Global Interpreter Lock, Thread Module, Threading Module.	14
IV	**GUI Programming:** Introduction, Tkinter and Python Programming, Brief Tour of Other GUIs, Related Modules and Other GUIs. **Web Programming:** Introduction, Web Surfing with Python, Creating Simple Web Clients, Advanced Web Clients, CGI Helping Servers Process Client Data, Building CGI Application, Web (HTTP) Servers.	12
V	**DatabaseProgramming:**Introduction,PythonDatabaseApplicationProgrammer'sInterface (DBAPI), Object Relational Managers(ORMs).	10

Text Book/References:1 ThinkPython,AllenDowney,GreenTeaPress.

2.IntroductiontoPython, KennethA. Lambert, Cengage.

3.PythonProgramming:A Modern Approach, Vamsi Kurama ,Pearson.

4.LearningPython,Mark Lutz, O' Really.

5.**C**ore Python Programming,WesleyJ. Chun,Second Edition, Pearson

Reference Materials on the Web/web-links:

- https://www.tutorialspoint.com/python/index.htm
- https://www.w3schools.com/python/

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COMPUTER SCIENCE	SECCSCT04	2022-23	B.SC(MPCS,MCCS)

SEMESTER – V/VI **PAPER – VII** **Max. Marks 70**

Model Paper: Application Development Using Python

NO of Hours: 3 **No Of Credits: 3** **Pass Marks 28**

SECTION – A

Short Answer Questions **(4 x 5=20Marks)**

Answer any Four questions. (At least 1 question should be given from each Unit)

1) Give classification of various built in data types in python .(CO1,L2)
2) Compare tuples and sets in python.(CO1,L4)
3) What is need of assertions in python? Give simple example.(CO2,L1)
4) Write 5 special symbols used in python and their purpose.(CO3,L1)
5) Write short note on web surfing with python.(CO4,L1)
6) Why do we use Global Interpreter lock in Python?(CO5,L1)

SECTION B **(5 x 10=50 Marks)**

Answer all questions. (Two questions should be given from each unit with internal choice)

9 (a) Write names of ten built in functions in python and explain them.(CO1,L2)

OR

9(b) Create a list in python and apply five list methods on it.(CO1,L6)

10(a) Create a program in python to demonstrate exception handling.(CO2,L6)

OR

10(b) Develop a program in python for user defined module creation and importing.(CO2,L6)

11(a) Develop multithreaded program in python.(CO3,L6)

OR

11(b) Explain about threading module with an example program.(CO3,L2)

12(a) Discuss with steps building CGI application in Python.(CO4,L6)

OR

12(b) Explain with example creating simple web client in python.(CO4,L6)

13(a) Explain about Python database Application programmers interface.(CO5,L2)

OR

13(b) Create database application in python to insert and delete student records.(CO5,L6).

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COMPUTER SCIENCE	**SECCSCT04**	**2022-23**	**B.SC(MPCS,MCCS)**

SEMESTER – V/VI **PAPER – VII** **Max. Marks 50**

Lab List: **APPLICATION DEVELOPMENT USING PYTHON LAB**

No. of Hours per week: 2 **External: 40** **Internal: 10** **Credits: 2**

I. Course Outcomes: Students at the successful completion of the course will be able to:

CO1:Acquiretheskillsto write simple programs in python.(PO5,PO7)

CO2:Implementprogramsrelatedtovariousdatastructureslikelists,setsetc. .(PO5,PO7)

CO3:Implementprogramsrelatedtofiles.(PO5,PO7)

CO4:Implement Exception handling programs in python.(PO5,PO7)

CO5:Implement programs to insert, delete, display data in databases.(PO5,PO7)

II: Practical (Laboratory) Syllabus: (30 Periods)

1. Write a menu driven program to convert the given temperature from Fahrenheit to Celsius and viceversa depending up on user's choice.
2. Write a python program to calculate total marks, percentage and grade of a student .Marks obtained in each of the three subjects are to be input by the user. Assign grades according to the following criteria:

GradeA: Percentage>=80 **Grade B**: Percentage>=70 and <80 **Grade C**: Percentage>=60 and <70 **Grade D:** Percentage>=40 and <60 **GradeE**: Percentage<40

3. Write a python program to display the first nterm so f Fibonacci series.
4. Write a python program to calculate the sum and product of two compatible matrices.
5. Write a function that takes a character and returns True if it is a vowel and False otherwise.
6. Writeamenu-drivenprogramtocreatemathematical3Dobjects
   1.Curve 2.sphere 3.cone 4.arrow 5.ring6.Cylinder.
7. Write a python program to readn integers and display them as a histogram.
8. Write a python program to display sine, cosine, polynomial and exponential curves.
9. Write a python program to plot a graph of people with pulse rate p vs. height h. The values of P and H are to be entered by the user.
10. Write a python program to calculate the mass m in a chemical reaction. The mass m(in gms) disintegrates according to the formula m=60/ (t+2), where t is the time in hours .Sketch a graph fort vs. m, where t>=0.
11. A population of 1000 bacteria is introduced into a nutrient medium. The population pgrows as follows:P(t) =(15000(1+t))/ (15+e)
12. Where the time t is measured in hours. WAP to determine the size of the population at given time t and plot a graph for P vs t for the specified time interval.
13. Input initial velocity and acceleration, and plot the following graphs depicting equations of motion:1.Velocity wrt time (v=u+at)2.Distance wrt time(s=u*t+0.5*a*t*t)
    Distance wrt velocity(s=(v*v-u*u)/2*a)
14. Write a program that takes two lists and returns True if they have at least one common member.

15. Write a Python program to print a specified list after removing the 0th, 2nd, 4th and5th elements.
16. Write a program to implement exception handling.
17. Trytoconfigurethewidgetwithvariousoptionslike:bg=”green”,family=”times”,size=20.
18. Write a Python program to read last 5linesofafile.
19. Design a simple database application that stores the records and retrieve the same
20. Design a database application search the specified record from the database.
21. Design a database application to that allows the user to add, delete and modify the records.

III. Lab References:

1. **C**orePython Programming,WesleyJ. Chun,Second Edition, Pearson.
2. ThinkPython, AllenDowney,GreenTeaPress.

Reference Materials on the Web/web-links:

https://www.tutorialspoint.com/python/index.htm
https://www.w3schools.com/python/

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Title of the Paper: DATA SCIENCE

Semester: V/VI

Course Code	SECCSCT05	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	3	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2022-23	Year of Offering: 2022 -23	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: Develop in depth understanding of the key technologies in data science and business analytics: data mining, machine learning, visualization techniques, predictive modeling, and statistics. Practice problem analysis and decision-making.

Course Outcomes: Students at the successful completion of the course will be able to:

CO_1	Analyze the data and their type to build programs using lists and tuples in Python.(PO5)
CO2	Understand the concept of getting data, cleaning and manipulating data(PO5)
CO3	Be capable of understanding the concepts of K-Nearest Neighbors, Naïve Baye's.(PO5,PO7)
CO4	Understand the concepts of Simple, Multiple & Logistic regressions.(PO5,PO7)
CO5	Acquire knowledge on Decision Trees and Neural Networks.(PO5,PO7)

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	**Introduction**: The Ascendance of Data, What is Data Science?, Finding key Connectors- Data Scientists You May Know, Salaries and Experience - Paid Accounts ,Topics of Interest, Onward. **Python:** Getting Python, The Zen of Python, Whitespace Formatting, Modules , Arithmetic, Functions, Strings, Exceptions, Lists, Tuples, Dictionaries, Sets, Control Flow, Truthiness, Sorting, List Comprehensions.**Visualizing Data :**Matplotlib, Bar charts, Line charts ,Scatterplots	12
II	**Getting Data:** stdin and stdout, Reading Files – The Basics of Text Files, Delimited Files, Scraping the Web - HTML and the parsing Thereof, Example: O'Reilly Books about Data, Using APIs – JSON (and XML), Using an Unauthenticated API, Finding APIs. **Working with Data :**Exploring Your Data, Exploring One-Dimensional Data, Two Dimensions Many Dimensions ,Cleaning and Munging, Manipulating Data ,Rescaling, Dimensionality Reduction.	12
III	**Machine Learning**: Modeling, What Is Machine Learning? Over fitting and under fitting, Correctness, The Bias-Variance Trade-off, Feature Extraction and Selection. **K-Nearest Neighbors:** The Model, Example: Favorite Languages, The Curse of Dimensionality. **Naive Bayes :**A Really Dumb Spam Filter, A More Sophisticated Spam Filter, Implementation, Testing Our Model.	14
IV	**Simple Linear Regression:** The Model, Using Gradient Descent, Maximum Likelihood Estimation. **Multiple Regression: The** Model, Further Assumptions of the Least Squares Model, Fitting the Model, Interpreting the Model, Goodness of F.**LogisticRegression:** The Problem, the Logistic Function, Applying the Model, Goodness of Fit Support Vector Machines.	12
V	**Decision Trees**:What Is a Decision Tree? Entropy, the Entropy of a Partition, Creating a Decision Tree, Putting It All Together, Random Forests.**Neural Networks:** Perceptron, Feed-Forward Neul Networks and Back propagation,Example: Defeating a CAPTCHA.	10

References/ Text Book/ e-books/websites

Text Books:

1. Data Science from Scratch by Joel Grus O'ReillyMedia
2. Wes McKinney, "Python for Data Analysis: Data Wrangling with Pandas, NumPy, and IPython", O'Reilly, 2nd Edition,2018.

Reference Books:

1. Jake VanderPlas, "Python Data Science Handbook: Essential Tools for Working with Data", O'Reilly,2017.

Webresources:https://www.edx.org/course/analyzing-data-with-python

http://math.ecnu.edu.cn/~lfzhou/seminar/[Joel_Grus]_Data_Science_from_Scratch_First_Princ.pdf

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COMPUTER SCIENCE	SECCSCT05	2022-23	B.SC(MPCS,MCCS)

SEMESTER – V/VI **PAPER – VI** **Max. Marks 70**

Model Paper: Data Science

NO of Hours: 3 **No Of Credits: 3** **Pass Marks 28**

SECTION – A

Short Answer Questions **(4 x 5=20Marks)**

Answer any Four questions. (At least 1 question should be given from each Unit)

1. What is Data Science? Explain key connectors in data science? (CO1, L1)
2. Explain a) stdin b) stdout with examples? (CO2, L2)
3. Explain Simple Linear Regression using Gradient Descent? (CO4, L2)
4. Explain briefly about Logistic Regression? (CO5, L2)
5. Explain a) Lists b) Tuples c) Dictionaries in Python? (CO1, L2)
6. Explain in detail about Manipulating data? (CO3, L2)

SECTION B

Answer all questions. **(5 x 10 = 50 Marks)**

9. (A) Explain in detail about Visualizing Data? (CO_1, L2)
   (OR)
   (B) Explain the concept of functions and strings in python with example? (CO1, L2)

10. (A) Explain the concept of reading files? (CO3, L2)
    (OR)
    (B) Explain about Exploring One-Dimensional and Two- Dimensional data? (CO3, L2)

11. (A) Explain Machine learning with over fitting and under fitting in detail? (CO3, L2).
    (OR)

    (B) Explain K- Nearest Neighbors Model with an example? (CO4, L2)

12. (A) Explain Maximum Likelihood Estimation with example? (CO4, L2)
    (OR)
    (B) Explain in detail about Multiple Regression Model? (CO4, L2)

13. (A) Explain in detail about the concept of Decision Trees? (CO5, L2)
    (OR)

    (B) Explain the concept of Neural Networks with an example? (CO5, L2)

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COMPUTER SCIENCE	SECCSCT05	2022-23	B.SC(MPCS,MCCS)

SEMESTER – V/VI **PAPER – VI** **Max. Marks 50**

Lab List: **Data Science LAB**

No. of Hours per week: 3 **External: 40** **Internal: 10** **Credits: 2**

I. Course Outcomes: Students at the successful completion of the course will be able to:

CO1: Implement the programs to get the required data, process it and present the outputs using Python language.(PO5)

CO2: Execute statistical analyses with Open-source Python software.(PO5)

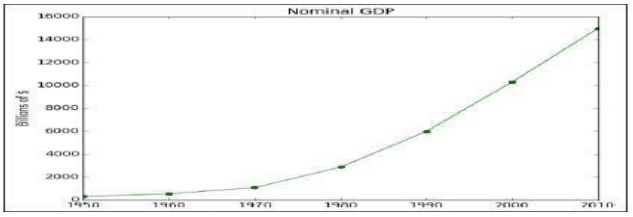
CO3: Apply data science solutions to real world problems.(PO5)

CO4: Implement Plot Distribution Curve in Python.(PO5)

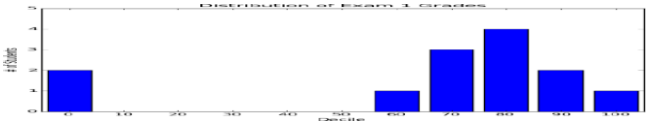
CO5: Implement rainfall data importing of some location with the help of packages available in R Studio and plot a chart of your choice.(PO5)

II: Practical (Laboratory) Syllabus: **(30 Periods)**.

LAB EXERCISES



3. **Practical (Laboratory) Syllabus**: *(30hrs.*)
4. Write a Python program to create a line chart for values of year and GDP asgiven below.
5. Write a Python program to create a bar chart to display number of students secured different grading as given below



6. Write a Python program to create a time series chart by taking one year month wise stock data in a CSV file
7. Write a Python program to plot distribution curve
8. Import a CSV file and perform various Statistical and Comparison operations on rows/columns. Write a python program to plot a graph of people with pulse rate pvs. height h. The values of P and H are to be entered by the user.
9. Import rainfall data of some location with the help of packages available in R Studio and plot a chart of your choice.

Lab References: 1. Data Science from Scratch by Joel Grus O'Reilly Media

2.Wes McKinney, "Python for Data Analysis: Data Wrangling with Pandas, Num Py, and I Python", O'Reilly, 2nd Edition,2018.

Reference Materials on the Web/web:

a. https://swcarpentry.github.io/python-novice-gapminder/09-plotting/index.html /

b. https://www.geeksforgeeks.org/visualize-data-from-csv-file-in-python/

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Title of the Paper: PYTHON FOR DATASCIENCE

Semester: V/VI

Course Code	SECCSCT06	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	3	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2022-23	Year of Offering: 2022 -23	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: The main objective of the course is to provide students with the basic concepts of Python, its syntax, functions and packages to enable them to write scripts for data manipulation and analysis. The course develops skills of writing and running a code using Python.

Course Outcomes: Students at the successful completion of the course will be able to:

CO_1	Identify the need for data science and solve basic problems using Python built-in data types and their methods.(PO5)
CO2	Design an application with user-defined modules and packages using OOP concepts.(PO5)
CO3	Deploy efficient storage and data operations using NumPy arrays.(PO5)
CO4	Apply powerful data manipulations using Pandas.(PO5)
CO5	Do data pre-processing and visualization using Pandas.(PO5,PO7)

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	Basics of python programming-Features of Python, History of Python, Literal constants, Data Types, Input Operation, Reserved words, Operators and Expressions, Other Data Types, Lists, Dictionary, Type Conversion.	12
II	Decision Control Statements- Selection/conditional branching statements, Basic Loop Structures/Iterative Statements, Functions and Modules-Introduction, Function Definition, Function Call, Modules- Packages in Python, Python strings Revisited, Introduction, Built in String methods and functions, File Handling-Introduction, Opening and closing Files, Reading and writing Files, Directory Methods	12
III	Classes and Objects- Introduction, Classes and Objects, Class method and self argument, The init() method(the class constructor), Inheritance- Introduction, Inheriting classes in python, Types of Inheritance, Error and Exception Handling-Introduction to errors and exceptions, Handling Exceptions,Multiple except blocks ,NumPy Basics- Arrays and Vectorized Computation, The NumPyndarray, Creating ndarrays, Data Types for ndarrays, Arithmetic with NumPy Arrays, Basic Indexing and Slicing, Boolean Indexing, Transposing Arrays and Swapping Axes.	14
IV	Universal Functions: Fast Element, Wise Array Functions, Mathematical and Statistical Methods, Sorting, Unique and Other Set Logic, Introduction to pandas Data Structures-Series, Data Frame and Essential Functionality, Dropping Entries-Indexing, Selection, and Filtering, Function Application and Mapping, Sorting and Ranking.	12
V	Summarizing and Computing Descriptive Statistics, Unique Values, Value Counts, and Membership, Reading and Writing Data in Text Format, Data Cleaning and Preparation: Handling Missing Data, Data Transformation: Removing Duplicates, Transforming Data Using a Function or Mapping, Replacing Values, Detecting and Filtering Outliers, String Manipulation-Vectorized String Functions in pandas.	10

References/ Text Book/ e-books/websites

Text Books:

1. Reemathareja—Python Programming using problem solving approach, Oxford Publication
2. Wes McKinney, "Python for Data Analysis: Data Wrangling with Pandas, NumPy, and IPython", O'Reilly, 2nd Edition, 2018.

Reference Books:

1. JakeVanderPlas, "Python Data Science Handbook: Essential Tools for Working with 2.Data", O'Reilly, 2017.
3. Wesley J. Chun, "Core Python Programming", Prentice Hall, 2006.
4. Mark Lutz, "Learning Python", O'Reilly, 4th Edition, 2009.

Reference Materials on the Web/web-links:

a. https://www.edx.org/course/python-basics-for-data-science
b. https://www.edx.org/course/analyzing-data-with-python
c. https://www.coursera.org/learn/python-plotting?specialization=data-science- python
d. https://www.programmer-books.com/introducing-data-science-pdf/

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COMPUTER SCIENCE	SECCSCT06	2022-23	B.SC(MPCS,MCCS)

SEMESTER – V/VI **PAPER – VII** **Max. Marks 70**

Model Paper: : PYTHON FOR DATASCIENCE

NO of Hours: 3 **No Of Credits: 3** **Pass Marks 28**

SECTION – A

Short Answer Questions **(4 x 5=20Marks)**

Answer any Four questions. (At least 1 question should be given from each Unit)

1) State any four applications where python is more popular(CO1,L1)

2) List out the main differences between lists and tuples.(CO1,L2)

3) What are the uses of File object?(CO2,L1)

4) Differentiate between an error and exception(CO3,L3)

5) Write Array Functions(CO4,L1)

6) How to read and write data in text format(CO5,L4)

SECTION - B **(5 x 10=50Marks)**

Answer all questions. (Two questions should be given from each unit with internal choice)

9 .(a). Write in brief about the applications of Python.(CO1,L1)

OR

(b). Explain Various data types in python with Examples(CO2,L2)

10 (a). List different conditional statements in python with appropriate examples.(CO2,L2)

OR

(b). Explain the following file built-in functions and method with clear syntax, description and illustration: a) open ( ) b) file ( ) c) seek ( ) d) tell ( ) e)read ( )(CO3,L2)

11 (a). How does try-except statement work? Demonstrate with an example python code. (CO3,L4)

OR

(b). Explain NumPy arrays with suitable example(CO3,L2)

12 (a).Write Briefly Pandas Data structure(CO4,L1)

OR

(b).Write a python program to read data from CSV files using pandas(CO4,L1)

13 (a). How to remove duplicates from data transformation(CO5,L4)

OR

(b). Explain Python for Data Visualisation(CO5,L2).

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COMPUTER SCIENCE	SECCSCT06	2022-23	B.SC(MPCS,MCCS)

SEMESTER – V/VI **PAPER – VII** **Max. Marks 50**

Lab List: PYTHON FOR DATA SCIENCE LAB

No. of Hours per week: 3 **External: 40** **Internal: 10**

Credits: 2

I. Course Outcomes: Students at the successful completion of the course will be able to:

CO1:Understand the basic concepts of python programs and perform List, Tuple and Dictionary(PO5,PO7)

CO2: Understand the program of functions (PO5,PO7)

CO3: Able to Understand file handling techniques.(PO5,PO7)

CO4: Understand concepts of OOPS (PO5,PO7)

CO5: Able to Solving of data frames (PO5,PO7)

II: Practical (Laboratory) Syllabus: (30 Periods)

1. Perform Creation, indexing, slicing, concatenation and repetition operations on Python built-in data types: Strings, List, Tuples, Dictionary
2. Apply Python built-in data types: List, Tuples, Dictionary and their methods to solve any given problem.
3. Handle numerical operations using math and random number functions
4. Create user-defined functions with different types of function arguments.
5. Create packages and import modules from packages.
6. Perform File manipulations- open, close, read, write, append and copy from one file to another.
7. Write a program for Handle Exceptions using Python Built-in Exceptions
8. Write a program to implement OOP concepts
9. Create NumPy arrays from Python Data Structures, Intrinsic NumPy objects and Random Functions.
10. Manipulation of NumPy arrays- Indexing, Slicing, Reshaping, Joining and Splitting.
11. Computation on NumPy arrays using Universal Functions and Mathematical methods.
12. Load an image file and do crop and flip operation using NumPy Indexing.
13. Create Pandas Series and Data Frame from various inputs.
14. Import any CSV file to Pandas Data Frame and perform the following:
    (a) Visualize the first and last 10 records (b)Get the shape, index and column details
    (c) Select/Delete the records (rows)/columns based on conditions. (d) Perform ranking and sorting operations.(e)Do required statistical operations on the given columns.
    (f)Find the count and uniqueness of the given categorical values.
    (g)Rename single/multiple columns
15. Import any CSV file to Pandas Data Frame and perform the following:
    (a) Handle missing data by detecting and dropping/ filling missing values.
    (b) Transform data using apply () and map() method.
    (c) Detect and filter outliers.
    (d) Perform Vectorized String operations on Pandas Series.

III. Lab References: Wesley J. Chun, "Core Python Programming", Prentice Hall, 2006. Jake Vander Plas, "Python Data Science Handbook: Essential Tools for Working with Data", O'Reilly, 2017.

Reference Materials on the Web/web-links:

https://www.coursera.org/learn/python-plotting?specialization=data-science- python

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Vuyyuru-521165.NAAC reaccredited at '**A**' level

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Title of the Paper: BIG DATA ANALYTICS USING R

Semester: V/VI

Course Code	SECCAT01	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	3	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2022-23	Year of Offering: 2022-23	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: Big data analytics examines large amounts of data to uncover hidden patterns, correlations and other insights. With today's technology, it's possible to analyze your data and get answers from it almost immediately – an effort that's slower and less efficient with more traditional business intelligence solutions.

Course Outcomes:

CO_1	Understand data and classification of digital data. (PO5)
CO2	Gain knowledge of technologies used in bigdata Analytics. (PO5, PO7)
CO3	Understand basics of R and control structures in R. (PO5)
CO4	Load data into R objects and manipulate them as needed. (PO5)
CO5	Create and edit visualizations with R (PO7)

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	**Introduction to Big data:** What is data, Classification of Digital Data-Structured Unstructured, semi-structured data, Characteristics of data, Evaluation of big data, Definition and challenges of big data**,** what is big data and why to use big data?	12
II	**Big data Analytics:** What is and isn't big data analytics? Classification of analytics, Importance of big data analytics, Technologies needed to meet challenges of big data, data science, Data scientist	12
III	**Introduction to R and getting started with R:** What is R? Why R? Advantages of R over other programming languages**,** Data types in R - logical, numeric, integer, character, double, Complex, raw, coercion, ls () command, Expressions, Variables and functions, control structures, Array, Matrix, Vectors, Factors, R packages	14
IV	**Exploring data in R**– Data frames-data frame access, Ordering data frames, functions for data frames dim(), nrow(), ncol(), str(), summary(), names(), head(), tail(), edit()**,** Load data frames—reading from .CSV files, Sub setting data frames, reading from tab separated value files, Reading from tables, merging data frames	12
V	**Data Visualization using R**: Reading and getting data into R (External Data),Using CSV files, XML files, Web Data, JSON files, Databases, Excel files**,** Working with R Charts and Graphs: Histograms, Boxplots, Bar Charts, Line Graphs, Scatter plots, Pie Chart	10

Prescribed Text Book:

1. Seema Acharya--Data Analytics using R, McGraw Hill education (India) Private Limited.

2. Big Data Analytics, Introduction to Hadoop, Spark, and Machine-Learning, Raj Kamal, PreetiSaxena, McGraw Hill, 2018

Reference Books:

1. SeemaAcharya, SubhashiniChellappan --- Big Data and Analytics second edition, Wiley
2. Big Data, Big Analytics: Emerging Business intelligence and Analytic trends for Today's Business, Michael Minnelli, Michelle Chambers, and AmbigaDhiraj, John Wiley & Sons, 2013
3. An Introduction to R, Notes on R: A Programming Environment for Data Analysis and Graphics. W. N. Venables, D.M. Smith and the R Development Core Team

Course Focus: R for data science focuses on the language's statistical and graphical uses. When you learn R for data science, you'll learn how to use the language to perform statistical analyses and develop data visualizations. R's statistical functions also make it easy to clean, import and analyze data.

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COMPUTER SCIENCE	SECCAT01	2022-23	B.COM (CA)

SEMESTER – V/VI **PAPER – IV** **Max. Marks 70**

Model Paper: **BIGDATA ANALYTICS USING R**

NO of Hours: 3 **No Of Credits: 3** **Pass Marks 28**

Section-A

Answer any Four questions.
(At least 1 question should be given from each Unit) **(4 x 5=25Marks)**

1. What is big data and why to use a big data? (CO1, L1)
2. What is big data analytics? (CO2, L1)
3. Explain ls () command in R. (CO3, L2)
4. Write a short note on charts. (CO5, L1)
5. Develop R script to load data into data frames from files. (CO4, L6)
6. Write about the control structures in R with examples. (CO3, L1)

Section-B

Answer all questions. **(5X10=50Marks)**
(Two questions should be given from each unit with internal choice)

9.(a) Give Classification of Digital Data and explain it. (CO1, L2)

OR

(b) Explain Characteristics of Data with an example. (CO1, L2)

10.(a) Write about Importance of big Data Analytics. (CO2, L1)

OR

(b) Explain Classification of Analytics. (CO2, L2)

11.(a) Write about the Data types in Explain with examples. (CO3, L1)

OR

(b) Construct Vector in R and explain various operations on it. (CO3, L3)

12. (a) What are the data frames? Write its significance in R-Language. (CO4, L1)

OR

(b) Demonstrate various functions used in data frames. (CO4, L2)

13.(a) Build a code in R for reading and getting data into R from databases. (CO5, L6)

OR

(b) Develop below plots in R (CO5, L6)
a) Box Whisker plots b)Scatter plots c)Pairs plots

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COMPUTER SCIENCE	SECCAT01	2022-23	B.COM (CA)

SEMESTER – V **PAPER – VI** **Max. Marks 50**

Title**: BIG Data Analysis using Python lab**

No. of Hours per week: 3 External: 40 Internal: 10 Credits: 2 Pass Marks 20

I. Course Outcomes: Students at the successful completion of the course will be able to:

CO1: Implement simple scripts or programs in R. (PO5)

CO2: Access online resources for R and import new function packages into the R workspace. (PO5, PO7)

CO3: Import, review, manipulate and summarize data-sets in R (PO5, PO7)

CO4: Explore data-sets to create testable hypotheses and identify appropriate statistical tests. (PO5, PO7)

CO5: Create and edit visualizations with R. (PO5, PO7)

II: Practical (Laboratory) Syllabus: (30 Periods)

1. Create a vector in R and perform operations on it (arithmetic operations, combining Vectors, retrieving elements of vector, assign names to vector elements).
2. Create integer, complex, logical, character data type objects in R and print their values And their class using print and class functions.
3. Create a matrix of values in R and extract data from matrix. (Ex. Second row thirdetc.) find transpose of matrix and combine two matrices using Rbind and Cbind functions.
4. Create a list in R and perform operations on it like list slicing, sum and mean functions, head and tail functions and finally delete list using rm() function.
5. Create data frame in R and perform operations on it
6. Write code in R to find out whether a number is prime or not.
7. Print numbers from 1 to 100 using while loop and for loop in R.
8. Find the factorial of a number using recursion in R.
9. Perform arithmetic operations in R using switch case
10. Write a code in R to find out whether the number is Armstrong or not.
11. Program to find Multiplication table from 1 to 10 number input by user.
12. Import data into R from text and excel files using read.table() and read.csv() function.
13. Create a dataset and draw different types of graphics using plot, box plot, histogram, pair plot functions.
14. Create a dataset and draw different types of graphs using bar charts, pie chart functions.
15. Create custom contingency in R and perform operations on it.

III. Lab References:

1. Seema Acharya--Data Analytics using R, McGraw Hill education (India) Private Limited.
2. Big Data Analytics, Introduction to Hadoop, Spark, and Machine-Learning, Raj kamal, PreetiSaxena, McGraw Hill, 2018

Reference Materials on the Web/web-links:

1. **https://www.wiley.com/enbd/Big+Data,+Big+Analytics:+Emerging+Business+Intelligence+and+Analytic+Trends+for+Today's+Businesses-p-9781118147603**

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Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: Data Science using Python

Semester: V/VI

Course Code	SECCAT02	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	3	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2022-23	Year of Offering: 2022 - 23	Year of Revision: ---	Percentage of Revision: 0%

Course Objective: The main objective of the course is to provide students with the basic concepts of Python, its syntax, functions and packages to enable them to write scripts for data manipulation and analysis. The course develops skills of writing and running a code using Python.

Course Outcomes: Students at the successful completion of the course will be able to:

CO_1	Understand the need and importance of data science.(PO5,PO7)
CO_2	Understand basic concepts of python and implementing control structures in python.(PO5)
CO_3	Implement strings and other data structures in python(PO5,PO7)
CO_4	Learn and Implement functions and modules in python.(PO5)
CO_5	Learn and Implement data cleaning and plotting using pandas.(PO5,PO7)

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	**INTRODUCTION TODATA SCIENCE** Data science and its importance, Advantages of data science, The process of data science , Responsibilities of a data scientist, Qualifications of data scientists, Would you be a good data scientist?, Why to use python for data science?	12
II	**INTRODUCTION TO PYTHON** What is python?, Features of python, History of python, Writing and executing the python program, Basic syntax, Variables, Keywords, Data types , Operators, Indentation, Control Structures-Conditional statements—If, If-else, Nested if-else, Looping statements—For, While, Nested Loops, Break, Continue, Pass	12
III	**STRINGS AND DATA STRUCTURES** Strings - definition, accessing, slicing and basic operations, Lists - introduction, accessing list, operations, working with lists, functions and methods, Tuples - introduction, accessing tuple, operations, Dictionaries- introduction, accessing values in dictionaries, working with dictionaries.	14
IV	**FUNCTIONSANDMODULES** Functions- Defining a function, Calling a function, Types of functions, Function arguments, Local and global variables, Lambda and recursive functions, Modules---Math, Random, OS, Date and Time	10
V	**PANDAS** What is Pandas?, Series, Data Frame, Read CSV Files, Analyzing Data Frames, Data Correlations, Data Cleaning---Empty cells, Data in wrong format, Wrong data, Duplicates, Pandas Plotting-- plot () method, bar plot, hist plot, box plot, area plot, scatter plot, pie plot	12

Prescribed Books:

1. Steven cooper--- Data Science from Scratch, Kindle edition
2. Reemathareja—Python Programming using problem solving approach, Oxford Publication

Reference Books:

1.Wes McKinney--- Python for Data Analysis ,O'REILLY

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COMPUTER SCIENCE	SECCAT02	2022-23	B.COM (CA)

SEMESTER – V/VI **PAPER – VII** **Max. Marks 70**

Model Paper: Data Analysis using Python

NO of Hours: 3 **No Of Credits: 3** **Pass Marks 28**

Section – A

Answer any Four questions.
(At least 1 question should be given from each Unit) **(4 x 5=20Marks)**

1. Write advantages of data science. (CO1, L1)
2. What are the qualifications of data scientist? (CO1, L2)
3. Explain about the history of python.(CO2, L1)
4. Explain about string operations in python.(CO3, L1)
5. Explain about the date and time module in python.(CO4, L1)
6. What is data cleaning? Explain about duplicates in pandas.(CO5, L1)

Section – B

Answer all questions.
(Two questions should be given from each unit with internal choice) **(5x10=50Marks)**

9. (a) What is Data Science? Explain the Responsibilities of a data scientist.(CO1, L2)

OR

9. (b) Explain the use of python for data science?(CO1, L1)

10. (a) Explain different types of conditional statements with examples.(CO2, L1)

OR

10. (b) Explain different types of Looping statements with examples.(CO2, L1)

11. (a) What is a list? Explain different operations of lists with examples in python. (CO3, L2)

OR

11. (b)What is a Dictionary? Explain accessing values in it with examples in python (CO3, L2)

12. (a) Explain Function definition, calling & different types in python with example.(CO4, L1)

OR

12. (b) Explain about random and math module in python with an example.(CO4, L1)

13. (a) What is a data frame? Illustrate the concept of analysing the data frames.(CO5, L2)

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COMPUTER SCIENCE	SECCAT02	2022-23	B.COM (CA)

SEMESTER – V/VI **PAPER – VII** **Max. Marks 50**

Lab List: DATASCIENCE USING PYTHON LAB

No. of Hours per week: 3 **External: 40** **Internal: 10** **Credits: 2**

I. Course Outcomes: Students at the successful completion of the course will be able to:

CO1: Implement simple programs in basics of python.(PO5)
CO2: Implement control structures in python.(PO5)
CO3: Implement data structures like strings, list, tuples, dictionaries in python.(PO5,PO7)
CO4:Implementation of data frames, data cleaning and plotting in pandas.(PO5,PO7)

II: Practical (Laboratory) Syllabus: (30 Periods)

1. Python Program to Find the Square Root
2. Python Program to Swap Two Variables
3. Python Program to Generate a Random Number
4. Python Program to check if a Number is odd or Even
5. Python Program to Find the Largest Among Four Numbers
6. Python Program to Check Prime Number
7. Python Program to Display the multiplication Table
8. Python Program to Print the Fibonacci sequence
9. Python Program to Check Armstrong Number
10. Python Program to Find the Sum of Natural Numbers
11. Python Program to Make a Simple Calculator
12. Python Program to Find Factorial of Number Using Recursion
13. Python Program to Add Two Matrices
14. Python Program to Multiply Two Matrices
15. Python Program to Check Whether a String is Palindrome or Not
16. Python Program to perform operations on strings.
17. Python Program to create a list and perform operations on its contents.
18. Python Program to perform operations on tuples.
19. Python Program to create a dictionary and print its content.
20. Python program to import data from CSV file using pandas.
21. Python program to demonstrate plots

III. Lab References:

1. Reemathareja—Python Programming using problem solving approach,Oxford Publication

Reference Materials on the Web/web-links:

1. https://www.w3schools.com/python/
2. https://www.geeksforgeeks.org/python-basics/

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Title of the Paper: MOBILE APPLICATION DEVELOPMENT

Semester: V/VI

Course Code	SECCAT03	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	3	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2022-23	Year of Offering: 2022 - 23	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: Covers introductory mobile application development for the Android Operating System using XML and Java. Includes developing simple applications that could run on Android phones and tablets. Covers Android application development phases, terminologies, application design, and coding.

Course Outcomes: Students at the successful completion of the course will be able to:

CO_1	Identify basic terms, tools and software related to android systems.(PO5)
CO_2	Describe components of IDE, understand features of android development tools.(PO5)
CO_3	Describe the layouts and controls and different views available.(PO5,PO7)
CO_4	Understand Android system architecture and security model.(PO5)
CO_5	Understand the features of services and able to publish android Application.(PO5,PO7)

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	Introduction to android, Open headset Alliance, Android ecosystem, Need of android, Features of android, Tools and Software required For developing an Application, Android architecture.	10
II	Operating system, java JDK, Android SDK, Android development tools, Android virtual devices, Steps to install and configure Android studio and sdk.	14
III	Control flow, directory structure, Components of a screen, Fundamental UI design, Linear layout, absolute layout, table layout, relative layout, Text view, Edit text, Button image button, radio button, toggle button, Radio group, checkbox, and progress bar ,List view, grid view, image view, scroll view, Time and date picker	12
IV	Android platform services, Android system Architecture, Android Security model, Applications development: creating small application.	12
V	Introduction of MIT App Inventor, Application Coding, Programming Basics & Dialog, More Programming Basics, Alarm Clock Application, Audio & Video, Drawing Application, File, Game, Device Location, Web Browsing.	12

References/ Text Book/ e-books/websites

Text Books:

1. Erik Hellman,"AndroidProgramming–Pushing theLimits",1stEdition,WileyIndiaPvtLtd,2014.
2. App Inventor:create our own Android apps byWolber,David(DavidWayne)

Reference Books:

1. DawnGriffithsandDavidGriffiths,"HeadFirstAndroidDevelopment",1stEdition,O'ReillySPDPublishers,2015.
2. JFDiMarzio,"BeginningAndroidProgrammingwithAndroidStudio",4thEdition,WileyIndia PvtLtd, 2016.ISBN-13: 978-8126565580

Web resources:

https://www.udacity.com/course/developing-android-appsfundamentals--ud853-nd
http://www.appinventor.mit.edu/

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COMPUTER SCIENCE	**SECCAT03**	**2022-23**	**B. Com (CA)**

SEMESTER – V/VI **PAPER – VI** **Max. Marks 70**

Syllabus: Mobile Application Development

NO. Of. Hours: 3 **NO. Of Credits: 3** **Pass Marks 28**

Section- A

Answer any Four questions.

(At least 1 question should be given from each Unit) **(4 x 5 = 20Marks)**

1. What is the Need of Android?(CO1,L1)
2. Explain the Steps to install and configure Android studio and sdk.(CO2,L2)
3. What are the Components of a screen?(CO3,L1)
4. What are the Android platform services?(CO4,L1)
5. How to write Application Coding?(CO5,L1)
6. Explain image button and radio button with an example.(CO3,L2)

Section- B

Answer all questions. (Two questions should be given from each unit with internal choice)

(5X10=50Marks)

9. (a) Explain Android Architecture.(CO1,L2)

OR

(b) Write Features of Android.(CO1,L1)

10. (a) Explain Android development tools.(CO2,L2)

OR

(b) Explain Android virtual devices.(CO2,L2)

11.(a)Explain about Linear layout, absolute layout, table layout and relative layout.(CO3,L2)

OR

(b) Discuss about List view, grid view, image view, scroll view.(CO3,L6)

12. (a) How to create a small application using Android Application?(CO4,L6)

OR

(b) Describe Android system Architecture.(CO5,L6)

13. (a)Explain Audio &Video Concepts.(CO5,L2)

OR

(b) Develop Alarm clock application.(CO5,L6)

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(**With Effect from Academic Year 2022-23**)

COMPUTER SCIENCE	SECCAT03	2022-23	B. Com (CA)

SEMESTER – V/VI **PAPER – VI** **Pass Marks 25** **Max Marks:50**

Lab List: MOBILE APPLICATION DEVELOPMENT LAB

No. of Hours per week: 2 **External: 25** **Internal: 25** **Credits: 2**

Course Outcomes: Students at the successful completion of the course will be able to:

CO1: Understand the android platform.(PO5,PO7)

CO2: Design and implementation of various mobile applications.(PO5,PO7)

Practical (Laboratory) Syllabus: **(30 Periods)**

Lab Exercises

1. Demonstrate mobile technologies and devices.
2. Demonstrate Android platform and applications overview.
3. Implement User interface design layouts.
4. Working with texts, shapes, buttons and lists.
5. Develop a calculator application.
6. Develop application in android using different views.
7. Implement an application that creates a alarm clock.
8. Develop audio and video drawing application.

Lab References:

1. Erik Hellman, "Android Programming–Pushing theLimits",1stEdition,WileyIndiaPvt Ltd,2014.
2. App Inventor:create your own Android apps by Wolber, David (DavidWayne).

Reference Materials on the Web/web

1. https://www.udacity.com/course/developing-android-appsfundamentals--ud853-nd
2. http://www.appinventor.mit.edu/

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Title of the Paper: CYBER SECURITY AND MALWARE ANALYSIS

Semester: V/VI

Course Code	SECCAT04	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	3	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2022-23	Year of Offering: 2022-23	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: This programme aims to provide a foundational platform for Cyber Security Aspirants by providing Cyber Security Awareness and Training that heighten the chances of catching a scam or attack before it is fully enacted, minimizing damage to the resources and ensuring the protection of information technology assets.

Course Outcomes: Students at the successful completion of the course will be able to:

CO_1	Understand the computer networks, networking tools and cyber security.(PO6,PO7)
CO_2	Learn about NIST Cyber Security Framework.(PO6,P07)
CO_3	Understand the OWASP Vulnerabilities.(PO6, PO7)
CO_4	Implement various Malware analysis tools.(PO6,P07)
CO_5	Understand about Information Technology act2000.(PO6,P07)

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	**Introduction to Networks & cyber security:** Computer Network Basics, Computer network types, OSI Reference model, TCP/IP Protocol suite, Difference between OSI and TCP/IP, What is cyber, cyber-crime and cyber-security, All Layer wise attacks, Networking devices: router, bridge, switch, server, firewall, How to configure :router, How to create LAN, Network tools, IP scanner, Port scanner, Vulnerability scanner, Command tools—net stack ,trace route, lookup, tcp view.	13
II	**NISTN Cyber security framework**: Introduction to the components of the framework, Cyber security Framework Tiers, What is NIST Cyber security framework, Features of NIST Cyber security framework, Functions of NIST Cyber security framework, Turn the NIST Cyber security Frame work into Reality/implementing the framework.	12
III	**OWASP** : What is OWASP? OWASP Top10Vulnerabilities, Injection, Broken Authentication, Sensitive Data Exposure, XML External Entities (XXE), Broken Access Control, Security Misconfiguration, Cross-Site Scripting(XSS), Insecure Deserialization, Using Components with Known Vulnerabilities, Insufficient Logging and Monitoring, OWASP Juice Shop, Web application firewall.	13
IV	**MALWARE ANALYSIS :** What is malware, Types of malware, Key loggers, Trojans, Ransom ware, Root kits, Antivirus, Firewalls, Malware analysis, VMware, How to uses and box, How to create virtual machine, Process explorer, Process monitor, SYS-internals Suite, SOC-security operations controls-Solar winds (study the tools), Network intrusion detection, Wire shark, IDS, IPS, Snort.	12
V	**CYBER SECURITY Legal Perspectives :** Cyber crime and the legal landscape around the world, IndianITACT2000—CybercrimeandPunishments, Weak areas of ITACT2000, Challenges to Indian law and cybercrime scenario in India, Amendments of the Indian IT Act.	10

References/ Text Book/ e-books/websites

TEXTBOOKS:

1. Computer Networks | Fifth Edition | By Pearson (6th Edition) |Tanenbaum, Feamster ,Wetherall
2. Computer Networking | A Top-Down Approach | Sixth Edition | By Pearson | KuroseJamesF. Ross Keith W.
3. Cyber SecuritybySunitBelapure,NinaGodbole|WileyPublications
4. TCP/IP ProtocolSuite |Mcgraw-hill|Forouzan|FourthEdition

WEBSITEREFERENCES:

1. https://csrc.nist.gov/Projects/cybersecurity-framework/nist-cybersecurity-framework-a-quick-start-
2. https://owasp.org/www-project-top-ten/
3. https://owasp.org/www-project-juice-shop/

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COMPUTER SCIENCE	SECCAT04	2022-23	B.Sc.(MPCs)

SEMESTER – V/VI **PAPER – VII** **Max. Marks 70**

Title: CYBER SECURITY AND MALWARE ANALYSIS

No of Credits: 3 **No.of.Hours:3** **Pass Marks 28**

Section-A

Answer any Four questions.
(At least 1 question should be given from each Unit) **(4X5=20Marks)**

1. Discuss all Layer wise attacks.(CO1,L6)
2. Explain about Cyber, Cyber-Crime and Cyber-Attacks.(CO1,L2)
3. Explain Features of NIST Cyber Security framework.(CO2,L2)
4. Write about Web Application firewalls in OWASP.(CO3,L1)
5. Discuss about Key loggers, Trojans, Root kits.(CO4,L6)
6. Explain Weak areas of IT ACT 2000.(CO5,l2)

Section-B

Answer all questions. (Two questions should be given from each unit with internal choice)

(5x10=50Marks)

9(a). Describe in detail TCP/IP Protocol Suite with diagrammatic representation.(CO1,L6)

OR

9(b). Explain different types of Network Tools with examples.(CO1,L2)

10(a). Discuss about components of framework and functions of NIST Cyber Security frameworks.(CO2,L6)

OR

10(b). Explain how to turn NIST Cyber Security framework into reality framework. (CO2,L6)

11(a). Explain OWASD Juice shop in detail. (CO3,L2)

OR

11(b). Explain any 6 OWASP vulnerabilities.(CO3,L2)

12(a). Discuss about different types of Malware analysis in detail. (CO4,L6)

OR

12(b). How to detect Network intrusion? Explain?(CO4,L1)

13(a). Explain what are the Challenges are to Indian law and cybercrime scenario in India. (CO5,L2)

OR

13(b). Discuss Indian IT-ACT 2000.Explain different Cybercrime and Punishments respectively.(CO5,L6)

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COMPUTER SCIENCE	**SECCAT04**	**2022-23**	**B. COM(CA)**

SEMESTER – V/VI **PAPER – VII** **Max. Marks 50**

Lab List: MULTIMEDIA TOOLS AND APPLICATIONS LAB

No. of Hours per week: 3 **External: 40** **Internal: 10** **Credits: 2**

Title :CYBER SECURITY AND MALWARE ANALYSYS LAB

I. Course Outcomes: Students at the successful completion of the course will be able to:

CO1: Implement LAN by using a switch and Router.(PO5)

CO2: Implement the task of creating mail messages by using fake mail id by using the "Fake mailer" website.(PO5)

CO3: Implement port scanning mechanism.(PO5)

CO4: Implement SQL Injection attack.(PO5)

CO5: Implement to access a locked computer.(PO5)

II: Practical (Laboratory) Syllabus: **(30 Periods)**.

Lab Exercises

The purpose of this course is to impart practical understanding on Cyber security and protection of electronic systems and information from malware attacks.

1. Configure LAN by using a switch
2. Configure a LAN by using Router
3. Steps to attack a victim computer by using "Pro Rat" Trojan tool
4. Perform the packet sniffing mechanism by download the “wire shark” tool and extract the packets
5. Perform the task of creating mail messages by using fake email id by using the "fake mailer" website(https://emkei.cz)
6. Perform the IP scanning mechanism by using “tracert” and “arp” commands
7. Perform the port scanning mechanism by using NMAP tool
8. Perform an SQL Injection attack and its preventive measure to avoid Injection attack
9. Perform an activity to access a locked computer without knowing the user's password.

III. Lab References:

1. Computer Networks | Fifth Edition | By Pearson (6th Edition) |Tanenbaum, Feamster &Wetherall
2. Computer Networking | A Top-Down Approach | Sixth Edition | By Pearson | KuroseJamesF. Ross Keith W.

IV. Reference Materials on the Web/web

1. https://csrc.nist.gov/Projects/cybersecurity-framework/nist-cybersecurity-framework-a-quick-start-guide

https://owasp.org/www-project-top-ten/

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Title of the Paper: E – COMMERCE APPLICATION DEVELOPMENT

Semester: V/VI

Course Code	SECCAT05	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	3	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2022-23	Year of Offering: 2022-23	Year of Revision: ---------	Percentage of Revision: 0%

Course Objective:

To educate students in ecommerce and ecommerce applications.

Course Outcomes: Upon successful completion of the course, a student will be able to:

CO_1	To apply in an integrative and summative fashion the students' knowledge in all fields of business studies by drafting a website presence plan.
CO2	To understand the factors needed in order to be a successful in ecommerce
CO3	To gain the skills to bring together knowledge gathered about the different components of building a web presence
CO4	To critically think about problems and issues that might pop up during the establishment of the web presence
CO5	To apply Word Press as a content management system (CMS), Plan their website by choosing color schemes, fonts, layouts, and more

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	Introduction to E– commerce: Meaning and concept – E– commerce , E– commerce v/s Traditional Commerce , E– Business & E– Commerce – History of E– Commerce , EDI – Importance, features & benefits of E– Commerce , Impacts, Challenges & Limitations of E– Commerce	12
II	Business models of E – Commerce: Business to Business , Business to customers ,Customers to Customers , Business to Government , Business to Employee , Influencing factors of successful E– Commerce , Architectural framework of Electronic Commerce , Web based E Commerce Architecture. Internet Commerce	12
III	Electronic data Interchange , EDI Technology ,EDl- Communications , EDI Agreements , E– Commerce payment system. Digital Economy	12
IV	A Page on the web - HTML Basics , Client Side scripting -JAVA SCRIPT basics , Server side Scripting- PHP basics	12
V	Logging in to Your Word press Site , word press dash board , creating your first post , adding photos and images , creating hyper link , adding categories and tags	12

Textbooks:

1. Turban, Rainer, and Potter, Introduction to E-Commerce, second edition, 2003
2. H. M. Deitel, P. J. Deitel and T. R. Nieto, E-Business and E-Commerce: How to Programe, Prentice hall, 2001
3. Word Press All-in-One For Dummies -written by Lisa Sabin Wilson with contributions by Michael Torbert, Andrea Rennick, Cory Miller, and Kevin Palmer

Reference Books:

1. Elias. M. Awad, “Electronic Commerce", Prentice-Hall of India Pvt Ltd.
2. Ravi Kalakota, Andrew B. Whinston, "Electronic Commerce-A Manager's guide", Addison-Wesley
3. https://w3cschools.com
4. David Whitely, E-Commerce: Strategy, Technologies and Applications, Tata McGraw Hill.

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COMPUTER SCIENCE	SECCAT05	2022-23	B.COM (CA)

SEMESTER – V/VI **PAPER – VI** **Max. Marks 70**

Model Paper: **E – COMMERCE APPLICATION DEVELOPMENT**

NO of Hours: 3 **No Of Credits: 3** **Pass Marks 28**

SECTION - A

Answer any Four of the following
(At least 1 question should be given from each Unit) **(4X5=20Marks)**

1. Differentiate e commerce vs. traditional commerce. (CO1, L4)
2. Write about limitations of e commerce (CO1, L6)
3. Write about B2C. (CO2, L1)
4. Write a short note on EDI. (CO3, L1)
5. Briefly write about CSS. (CO4, L1)
6. Discuss about the need of word press. (CO5, L2)

SECTION – B

Answer *all* the following questions **(5X10=50Marks)**

9. (a) Explain about challenges of E - Commerce.(CO1, L1)

OR

(b) Explain about features and benefits of E - Commerce. (CO1, L1)

10. (a) Summarize the influencing factors of successful E - Commerce. (CO2, L2)

OR

(b) Summarize B2B, B2G Models. (CO2, L2)

11. (a) Explain about EDI communication. (CO3, L1)

OR

(b) Describe about E – Commerce payment System. (CO3, L1)

12. (a) Explain about various HTML tags. (CO4, L1)

OR

(b) Explain about server side scripting with example. (CO4, L1)

13. (a) Explain about adding categories and tags in word press. (CO5, L2)

OR

(b) Explain about adding photos and images in word press. (CO5, L2)

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COMPUTER SCIENCE	SECCAT05	2022-23	B.COM (CA)

SEMESTER – V/VI **PAPER – VI** **Max. Marks 50**

Lab List: **E – COMMERCE APPLICATION DEVELOPMENT Lab**

No. of Hours per week:3 **External: 40** **Internal: 10** **Credits: 2**

I. Course objectives:

To educate students in developing commerce applications.

Course outcomes:

By the end of the course, students will be:

CO1: Able to design home page for an e commerce web application. (PO6, PO7)

CO2: Able to perform validation using PHP. (PO6, PO7)

CO3: Able to design catalogue. (PO6, PO7)

CO4: Able to implement access control mechanisms in web applications. (PO6, PO7)

CO5: Able to design application for any given e-commerce scenario. (PO6, PO7)

II: Practical (Laboratory) Syllabus: (30 Periods)

(Since, the proposed SECs are connected to Computer Programming/Software Tools and Skill enhancement, the students need to get exposure on the syllabus content by practicing on the computer even though there is no formal assignment of credits and laboratory hours for practical sessions. So, as part of the Co-curricular activities and continuous assessment, students should be engaged in practicing on computer for at least 30 hours per semester.)

Case study of e –commerce

1. Home page design of web site
2. Validation using PHP
3. Implement Catalogue design
4. Implement Access control mechanism(eg: username and password)
5. Case study on business model of online E-Commerce store

Note: The list of experiments need not be restricted to the above list. Detailed list of Programming/software tool based exercises can be prepared by the concerned faculty members.

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Title of the Paper: REAL TIME GOVERNANCE SYSTEM (RTGS)

Semester: V/VI

Course Code	SECCAT06	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	3	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2022-23	Year of Offering: 2022 - 23	Year of Revision: ----	Percentage of Revision: 0% (shuffled from 4th to 3rdsem)

Course Objective:

To educate students in terms of e governance, its infrastructure and implementation.

Course Outcomes: Upon successful completion of this course, students will have the knowledge and skills to:

CO_1	Understand the terms regarding Governance, E-Governance and RTGS (PO6, PO7)
CO2	Learn about E-Governance Infrastructure (PO6, PO7)
CO3	Understand the E-Governance implementation in several countries (PO6, PO7)
CO4	Understand the E-Governance implementation in several Indian states (PO6, PO7)
CO5	Understand the applications of RTG (PO6, PO7)

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	**Introduction to E-Governance** Government, Governance and Good Governance, What is E-Governance or Electronic Governance? E-Government and E-Governance: A conceptual Analysis , Objectives , Components , application domains , four phase model , implementing E-Governance ,issues while implementing E-Governance , Opportunities and challenges . Types of E-Governance , What is Real-Time Governance (RTG) , Real Time Governance Society (RTGS)	12
II	**E-Governance Infrastructure** Data Systems infrastructure , Executive Information Systems , Management Information Systems ,Knowledge Management Systems , Transaction Processing Systems . Legal Infrastructural preparedness , IT Act 2000 , Challenges to Indian law and cybercrime scenario in India , Amendments of the Indian IT Act . Institutional Infrastructural preparedness , Internet , intranet , extranet • Human Infrastructural preparedness , Top-level management , Middle-level management, Low-level management • Technological Infrastructural preparedness ,Information and communications technology , Data Warehousing , Cloud Computing.	12
III	**E-Governance: Country Experience** INDIA ,US, UK ,AUSTRALIA , DUBAI	12
IV	**E-Governance in India** Andhra Pradesh , Karnataka , Kerala , Uttar Pradesh , Madhya Pradesh , West Bengal ,Gujarat UNIT 5: Latest Applications in Real Time Governance 10hrs Agriculture ,Rural Development ,Health care ,Education ,Tourism , Commerce and Trade	12
V	**Latest Applications in Real Time Governance** Agriculture ,Rural Development ,Health care ,Education ,Tourism , Commerce and Trade	12

III Textbooks:

1. E-Governance: concepts and case studies| CSR Prabhu| Prentice-Hall|
2. E-Governance| Niranjanpani, Sanhari Mishra | Himalaya Publishing House

Website References:

1. http://www.egov4dev.org/success/case/
2. https://vikaspedia.in/e-governance/resources-for-vles
3. https://altametrics.com/en/information-systems/information-system-types.html
4. https://core.ap.gov.in/CMDashBoard/Index.aspx

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COMPUTER SCIENCE	SECCAT06	2022-23	B.Com.(C.A.)

SEMESTER – V/VI **PAPER – VII** **Max. Marks 70**

Model Paper: REAL TIME GOVERNANCE SYSTEM (RTGS)

No.of Hours:3 **No.of Credits:3** **Pass Marks 28**

SECTION - A

Answer any Four of the following:
(At least 1 question should be given from each Unit) **(4X5=20Marks)**

1. Discuss the need of RTGS. (CO1, L2)
2. Write about MIS. (CO2, L6)
3. Describe the goals of e – governance. (CO2,L1)
4. Write a short note on e – governance in US. (CO3, L1)
5. Describe implementation of e – governance in Gujarat. (CO4, L1)
6. Discuss about applications of RTGS.(CO5, L2)

SECTION – B

Answer all the following questions

(5X10=50Marks)

9. (a) Explain about types of e governance. (CO1, L1)

OR

(b) Explain about objectives and components of e governance. (CO1, L1)

10. (a) Explain about Indian IT ACT 2000 (CO2, L1)

OR

(b) Explain about various levels of management. (CO2, L1)

11. (a) Explain about E – governance policy of India. (CO3, L1)

OR

(b) Explain about E – governance policy of Australia. (CO3, L1)

12. (a) Explain about E – Governance policy of Andhra Pradesh. (CO4, L1)

OR

(b) Explain about E – Governance policy of Kerala. (CO4, L1)

13. (a) Explain the role of real time governance in agriculture sector. (CO5, L1)

OR

(b) Explain the role of real time governance in health sector. (CO5, L2)

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COMPUTER SCIENCE	SECCAT06	2022-23	B.Com.(C.A.)

SEMESTER – V/VI **PAPER – VII** **Max. Marks 50**

LAB LIST:REAL TIME GOVERNANCE SYSTEM (RTGS) Lab

No. of Hours per week: 2 **External: 40** **Internal: 10** **Credits: 2**

I. Course objectives:
To educate students in developing e commerce applications.

Course outcomes:
By the end of the course, students will be:

CO1: Able to design home page for an e commerce web application. (PO6, PO7)
CO2: Able to perform validation using PHP. (PO6, PO7)
CO3: Able to design catalogue. (PO6, PO7)
CO4: Able to implement access control mechanisms in web applications. (PO6, PO7)
CO5: Able to design application for any given e-commerce scenario. (PO6, PO7)

II: Practical (Laboratory) Syllabus: (30 Periods)

(Since, the proposed SECs are connected to Computer Programming/Software Tools and Skill enhancement, the students need to get exposure on the syllabus content by practicing on the computer even though there is no formal assignment of credits and laboratory hours for practical sessions. So, as part of the Co-curricular activities and continuous assessment, students should be engaged in practicing on computer for at least 15 hours per semester.)

Note: Here the students have to gather the details in computer lab by surfing several websites & Google Search Engines and submit the report to the class/lab instructor before leaving the lab.

1. Write a Report on the role of Nationwide Networking in E-Governance
2. Write a Report on SETU: A Citizen Facilitation Centre in India, regarding it's successful or failure journey.
3. Write a Report on National Cyber Security Policy, how it is useful to Indian citizens.
4. Write a Report on mee-seva/Village Secretariat/Ward secretariat, a new paradigm in citizen services.
5. Write a Report on how Andhra Pradesh is implementing RTGS in Agriculture.
6. Write a Report on how Andhra Pradesh is implementing RTGS in social welfare schemes
7. Write a Report on how Andhra Pradesh is implementing RTGS in waste lands, agricultural lands and house properties.
8. Write a Report on Electronic Birth Registration in any one state of our country.

Note: The list of experiments need not be restricted to the above list. Detailed list of Programming/software tool based exercises can be prepared by the concerned faculty members.

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Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: MULTIMEDIA TOOLS AND APPLICATIONS

Semester: V/VI

Course Code	SECCAT07	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	3	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2022-23	Year of Offering: 2022 -23	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: Multimedia is a technology engaging variety of media .Multimedia is the collection of Text, audio, video, animation, and graphics. The concept of paperless society is effective with the invention of multimedia. Multimedia helps the user in providing information from different media on one platform. It's enhanced the concept of networking and resource sharing.

Course Outcomes: Students at the successful completion of the course will be able to:

CO_1	Gain knowledge on the concepts related to Multimedia.**(PO5)**
CO2	Understand the concepts like image data representation and color modes.**(PO5)**
CO3	Understand the different types of video signals and digital audio.**(PO5)**
CO4	Know about multimedia data compression types and audio compression standards **(PO5)**
CO5	Know about basic video compression techniques**.(PO5,P07**)

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	**Introduction to multimedia** What is Multimedia? , Components of Multimedia System, Multimedia Research Topics and Projects, Multimedia and Hypermedia, Multimedia Authoring metaphors, Multimedia Production, Multimedia Presentation, Some Technical Design Issues, Automatic Authoring.	12
II	**Image Data Representations and color models** Color science Human vision Image data types, **Black & white images**-1-bit images (Binary image), 8 -bit (Gray -level images), **Color images**- 24-bit color images, 8-bit color images, Color models. Color science Human vision Image data types, **Black & white images**-1-bit images (Binary image), 8 -bit (Gray -level images), **Color images**- 24-bit color images, 8-bit color images, Color mo	12
III	**Fundamental concepts in video** Types of Video Signals- Analog Video, Digital Video, Basics of Digital Audio: What is Sound?, Digitization of Sound, Quantization and Transmission of Audio, Pulse code modulation, Differential coding of audio, Predictive coding, DPCM.	14
IV	**Multimedia Data Compression** Introduction- Basics of Information Theory, Lossless Compression Algorithms, Fix-Length Coding, Run-length coding, Differential coding, Dictionary-based coding, Variable Length Coding, Shannon-Fano Algorithm, Huffman Coding Algorithm. Audio Compression standards: Introduction, Psychoacoustics model, MPEG Audio	12
V	**Basic Video Compression Techniques** Introduction to Video compression, Video Compression with Motion Compensation, Video compression standard H.261, Video compression standard MPEG-1	10

1. Text Books

Fundamentals of Multimedia by Ze-Nian Li & Mark S. Drew. Publisher: Prentice Hall

2. Reference Books:

1. An introduction to digital multimedia by Savage, T. M. and Vogel, K. E. 2008.
2. Digital Multimedia by Nigel Chapman & Jenny Chapman. 2009.

3. Reference Materials on the Web/web-links:

https://www.tutorialspoint.com/multimedia
https://ksuit342.wordpress.com/lectuers/

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COMPUTER SCIENCE	SECCAT07	2022-23	B.Com.(C.A.)

SEMESTER – V/VI **PAPER – VI** **Max. Marks 70**

Model Paper: Multimedia Tools and Applications

NO of Hours: 3 **No Of Credits: 3** **Pass Marks 28**

Section-A

Answer any FIVE questions.
(At least 1 question should be given from each Unit) **(4 x 5=20Marks)**

1. What is multimedia? Explain components of multimedia system. **(CO1, L1)**
2.Discuss multimedia production.**(CO1, L6)**
3. Explain 8-Bit(gray-level images).**(CO2,L2)**
4. What is sound? Explain digitization of sound. **(CO3, L1)**
5. Discuss Run-length coding. **(CO4, L6)**
6.Compare and contrast H.261 and MPEG-1. **(CO5, L2)**

Section-B

Answer all questions. (Two questions should be given from each unit with internal choice)
(5 x 10 = 50M)

9.(a) Discuss in detail about multimedia and hypermedia. **(CO1, L6)**

OR

(b) Explain about multimedia presentation. **(CO1, L2)**

10.(a) Discuss about 24-bit color images and 8-bit color images. **(CO2, L6)**

OR

(b) Explain Color models in images. **(CO2, L2)**

11.(a) Discuss about PCM(pulse code modulation). **(CO3, L6)**

OR

(b) Explain High-Definition TV(HDTV). **(CO3, L2)**

12.(a) Discuss Huffman- coding algorithm. **(CO4, L6)**

OR

(b) Write about MPEG audio compression algorithm. **(CO4, L1)**

13.(a) Explain video compression based on motion compensation. **(CO5, L2)**

OR

(b) Write about Video compression standard H.261. **(CO5,L1)**

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(**With Effect from Academic Year 2022-23**)

COMPUTER SCIENCE	SECCAT07	2022-23	B.COM(CA)

SEMESTER – V/VI **PAPER – VI** **Max. Marks 50**

Lab List: MULTIMEDIA TOOLS AND APPLICATIONS LAB

No. of Hours per week: 3 External: 40 **Internal: 10** **Credits: 2 Pass Marks:30**

I. Course Outcomes:

Students at the successful completion of the course will be able to:

CO1: Create/modify a new image with open source applications such as GIMP. (PO5)

CO2: Manipulate images using graphic tools. (PO5)

CO3: Learn basic layer mask essentials. (PO5)

CO4: Compress audio and video files. (PO5, PO7)

CO5: Create a realistic shadow. (PO5)

II: Practical (Laboratory) Syllabus: (30 Periods)

1. Editing images using GIMP
2. Improve the Quality of your Image in GIMP
3. Introduction to Layer Masks.
4. Create an impressive background in GIMP
5. Applying Shadow & Highlight effects in images
6. Black& white and color photo conversion.
8. Using File Seizer Software for Audio compression.
9. Using File seizer Software for Video compression.

III. Lab References:

Fundamentals of Multimedia by Ze-Nian Li & Mark S. Drew. Publisher: Prentice Hall

Reference Materials on the Web/web-links

https://ksuit342.wordpress.com/lectuers/

https://www.tutorialspoint.com/multimedia

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Title of the Paper: DIGITAL IMAGING

Semester: V/VI

Course Code	SECCAT08	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	3	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2022-23	Year of Offering: 2022 -23	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: To introduce the concepts of image processing and basic analytical methods to be used in image processing. To familiarize students with image enhancement and restoration techniques, To explain different image compression techniques.

Course Outcomes: Students at the successful completion of the course will be able to:

CO_1	Gain knowledge about Types of Graphics, Types of Objects, Types of video editing tools**(PO5)**
CO2	Show their skills in editing and altering photographs for through a basic understanding of the tool box.**(PO5)**
CO3	Gain knowledge in using the layers.**(PO5)**
CO4	Gain knowledge in using the selection tools, repair tools.**(PO5)**
CO5	Gain knowledge in using selection tools, applying filters and can show their skills.**(PO5)**

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	Types of Graphics- Raster vs Vector Graphics ,Types of Objects - Audio formats, Video formats , Image formats , Text document formats, Types of video editing , Different color modes, Image Scanner- Types of Image Scanners	12
II	What is GIMP? , GIMP tool box window, Layers Dialog , Tool Options Dialog , Image window ,. Image window menus	12
III	**Improving Digital Photos** - Opening files, Rescaling saving files, Cropping, Brightening & Darkening 1 Rotating, Sharpening, Fixing Red Eye. **Introduction to layers-** What is layer?, Using layer to add text , Using move tool , Changing colors , Simple effects on layers, Linking layers together , Performing operations on layers, Using layers to copy and paste, Tour of layers dialog	14
IV	**Drawing**- Drawing lines and curves , Changing colors and brushes, Erasing , Drawing rectangles, Circles and other shapes, Outlining and filling regions, Filling with patterns and gradients, Importing brushes or gradients or making your own. **Selection**: Working with selections, Select by color and fuzzy, Select Bezier paths, intelligent scissors tool, Modifying selections with selection modes.	12
V	**Erasing and Touching Up**: Dodge and burn tool, Smudging tool , Clone tool , Sharpening using convolve tool, Blurring with Gaussian Blur , Correcting Color Balance, Hue , Saturation , Color balance using curves and levels. **Filters:** Filters , Blur, Enhance , Distort, Noise Filters.	10

References/ Text Book/ e-books/websites

Textbook: Beginning GIMP from Novice to professional by Akkana Peck, Second Edition, A press

Reference Materials on the Web/web-links:

https://www.mygreatlearning.com/gimp/tutorials/gimp-introduction

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COMPUTER SCIENCE	SECCAT08	2022-23	B.Com.(C.A.)

SEMESTER – V/VI **PAPER – VII** **Max. Marks 70**

Model Paper: Digital Imaging

NO of Hours: 3 **No Of Credits: 3** **Pass Marks 28**

SECTION – A

Short Answer Questions **(5 x 5=25M)**

Answer any Four questions. (At least 1 question should be given from each Unit)

1. Explain different types of image formats.**(CO1,L2)**
2. Write short notes on Tool box in GIMP.**(CO2, L1)**
3. Explain briefly about gradients in GIMP. **(CO4, L2)**
4. Write short notes on clone tool in GIMP.**(CO5,L1)**
5. Explain rotating ,sharpening in GIMP.**(CO3,L2)**
6. Describe different color modes in GIMP.**(CO1,L5)**

SECTION B

Answer all questions. **(5 x 10 = 50M)**

9(a) Describe the various color modes in GIMP with example.**(CO1,L5)**

OR

9(b) What are various types of audio and video formats in GIMP? Explain with example.**(CO1,L1)**

10(a) Describe image window menu in detail.**(CO2, L5)**

OR

10(b) Explain the window layers dialog in GIMP.**(CO2, L2)**

11(a) Describe Cropping-Brightening and Darkening in GIMP.**(CO3, L5)**

OR

11(b) Explain the steps to solve a fixed–red eye in GIMP.**(CO3,L2)**

12(a) Explain the working with selections in GIMP.**(CO4, L2)**

OR

12(b) Write about filling with patterns and gradients.**(CO4, L1)**

13(a) Describe the steps involved in Dodge, Burn and Smudging tool in GIMP.**(CO5,L5)**

OR

13(b)Write about distort and noise filters in GIMP.**(CO5,L1)**

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COMPUTER SCIENCE	SECCAT08	2022-23	B. COM(CA)

SEMESTER – V/VI **PAPER – VII** **Max. Marks 50**

Lab List: DIGITAL IMAGING LAB

No. of Hours per week: 3 **External: 40** **Internal: 10** **Credits: 2**

I. Course Outcomes: Students at the successful completion of the course will be able to:

CO1:Students will gain a working knowledge of Photoshop (PO5)

CO2:Student will be able to show their skills in editing and altering photographs for through a basic understanding of the tool bar. (PO5)

CO3:Student will gain knowledge in using the layers. (PO5)

CO4:Student will gain knowledge in using the selection tools, repair tools.(PO5,PO7)

CO5:Student will gain knowledge in using filters and can show their skills. (PO5)

II: Practical (Laboratory) Syllabus: (30 Periods)

1. Designing a Visiting card
2. Design Cover page of a book
3. Paper add for calling tenders
4. Passport photo design
5. Design a Pamphlet
6. Brochure designing
7. Titles designing
8. Custom shapes creation
9. Black & white and color photo conversion
10. Image size modification
11. Background changes
12. Texture and patterns designing
13. Filter effects & Eraser effects

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Title of the Paper: DATABASE MANAGEMENT SYSTEMS
Semester: III

Course Code	CSCT37	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	25
No. of Lecture Hours / Week	4	Semester End Exam Marks	75
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2021	Year of Offering: 2021-22	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: The main objective of the database is **to ensure that data can be stored and retrieved easily and effectively**. It is a compilation of data (records) in a structured way. In a database, the information is stored in a tabular form where data may or may not interlinked.

Course Outcomes:

CO_1	Understand database concepts and design. (PO5,P07)
CO2	Create databases using structured query language. (PO5, P07)
CO3	Apply data manipulation commands in SQL. (PO5, P07)
CO4	Learn the programming basics of PL/SQL. (PO5, P07)
CO5	Implementation of cursors in PL/SQL. (PO5, P07)

Syllabus		
Unit	**Learning Units**	**Lecture Hours**
I	**Database Concepts-A Relational approach**: Database - Relationships - DBMS - Relational data model - Integrity rules - Theoretical relational languages. **Database Design**: Data modeling -Dependency - Database design - Normal forms - Dependency diagrams – Denormalization.	12
II	**Structured Query Language (SQL):** Introduction – DDL - Naming rules and conventions - D a t a t ypes-Constraints- C reating a table- Displaying t able information - Altering an existing table – Dropping, renaming, and truncating table - Table types	12
III	**Working with tables**: DML - Adding a new Row/Record - Customized prompts - Updating and deleting an existing rows/records - Retrieving data from table - Arithmetic operations - Restricting data with WHERE clause - Sorting - Substitution variables - DEFINE command - CASE structure. **Functions and Grouping**: Built-in functions - Grouping data. **Joins and Views**: Join - join types-**Views:** Views - Creating a view - Removing a view - Altering a view.	12
IV	**PL/SQL:** Fundamentals - Block structure - comments - Data types – Other data types - Variable declaration - Assignment operation - Bind variables - Substitution variables - Printing. **Control Structures and Embedded SQL**: Control structures - Nested blocks - SQL in PL/SQL - Data manipulation - Transaction control statements	12
V	**PL/SQL Cursors and Exceptions**: Cursors - Implicit & explicit cursors and attributes - cursor FOR loops - SELECT…FOR UPDATE - WHERE CURRENT OF Clause - cursor with parameters - Cursor variables - Exceptions - Types of exceptions - Records - Tables -Procedures -Functions -Triggers	12

Course Delivery method: Face-to-face / Blended

Course has focus on: Skill Development.

Websites of Interest:

- https://www.tutorialspoint.com/dbms/index.htm
- https://www.tutorialspoint.com/plsql/index.htm

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DATABASE MANAGEMENT SYSTEMS
MODEL PAPER

CLASS: B.Sc. (MSCS, MCCS,MPCS) **Max. Marks: 75M**
Course Code: CSCP37 **Min. Pass: 30M**
Semester: III **Time: 3 Hours**

SECTION – A

ANSWER ANY FIVE QUESTIONS **(5 X 5 =25 M).**

1. Define the following terms:
   1.Entity.2.Entity set.3.Attribute.4.Tuple.5Key. (CO1,L2)
2. What are the integrity rules of the relational model? (CO1,L2)
3. Describe the naming rules and conventions of SQL. (CO2,L2)
4. List out data types of SQL with a brief description. (CO2,L2)
5. Explain about WHERE clause. (CO3,L2)
6. How to add a record in to table. List various methods. (CO3,L3)
7. Explain the PL/SQL block structure. (CO4,L2)
8. What is the purpose of a Trigger? Give any example. (CO5,L2)

SECTION – B

ANSWER ALL THE QUESTIONS **5 X 10 =50 M.**

9. a) Explain about Normal forms with examples. (CO1, L2)

(Or)

b) What are different types of keys? What is their use? (CO1, L2)

10. a) How to enforce different types of constraints on tables? (CO2,L2)

(or)

b) Write a SQL query to create the following tables with the following fields and constraints and insert 5 records in each table in oracle.

Deptno	Number	Primary key
Dname	Varchar	
Loc	varchar	

Empno	Number	Primary key
Ename	Varchar	Should not null
Job	Varchar	
Hiredate	Date	Default system date
Mgr	Number	Foreign key to empno
Sal	Floating point number	Should not exceed one lakh
Comm	Floating point number	
Deptno	Number	Foreign key to deptno in dept table

Insert 5 records into each table (CO2,L3)

11. a)Give a brief description about joins and explain types of joins with examples. (CO3,L3)

(or)

b) What are the various types of functions available in Oracle? List and explain at least 4 from each category. (CO3,L3)

12. a) Explain about the control structures in PL/SQL. (CO4,L2)

(or)

b) How to manipulate (insert/update/delete) the data in PL/SQL? (CO4,L2)

13. a) Differentiate between implicit and explicit cursors with examples. (CO5, L3)

(or)

b) Explain about built in exceptions in Oracle. (CO5,L2)

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DATABASE MANAGEMENT SYSTEMS

COMPUTER SCIENCE	CSCP36	**2022-23**	**B.Sc.(MPCS,MCCs, MSCS)**

Year of Introduction: 2021 **Year of offering: 2021**
Semester: III **Credits: 1**
Hours Taught: 30 hrs. Per Semester **Max.Time**: 3 Hours

Course Prerequisites (if any): Basic knowledge in computers and internet concepts.

Course Description: This course focuses towards Database System Concepts and Architecture, ER models, relational algebra relational calculus, SQL and PL/SQL.

Course Objectives:

1. Enhance the knowledge and understanding of Database concepts and design.
2. Enhance the knowledge of the processes of Database Development using SQL
3. Enhance the knowledge of the processes of Database manipulation using SQL
4. Develop efficient PL/SQL programs to access Oracle databases

Course Outcomes: At the end of this course, students should be able to:

CO1: Understand database concepts and design. (PO5, P07)

CO2: Create databases using structured query language. (PO5, P07)

CO3: Apply data manipulation commands in SQL. (PO5, P07)

CO4: Learn the programming basics of PL/SQL. (PO5, P07)

CO5: Implementation of cursors in PL/SQL. (PO5, P07)

LAB LIST

1. Using Different operators
2. Using Control Structures
3. Implement Built-in functions
4. Implement update and Alter table
5. Implementing PL/SQL Block
6. Implement PL/SQL table and record
7. Using Functions
8. Using Cursors
9. Using Triggers

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Title of the Paper: Problem solving in C

Semester: III **CLASS B.Com(E-Commerce- Computers)**

Course Code	**CSCT11B**	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	25
No. of Lecture Hours / Week	4	Semester End Exam Marks	75
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objective

This course aims to provide exposure to problem-solving through programming and introduce the concepts of the C Programming language.

Course Learning Outcomes:

Course Outcome No	Upon successful completion of the course, a student will be able to:	Program Outcome No.
CO1	Understand the evolution & functionality of Digital Computers and develop an algorithm for solving a given problem.	PO1, PO7, PSO1, PSO4
CO2	Understand tokens and control structures in C.	PO1, PO7, PSO1, PSO4
CO3	Understand arrays and strings and implement them.	PO1, PO7, PSO1, PSO4
CO4	Understand the right way of using functions, pointers, structures and unions in C	PO1, PO7, PSO1, PSO4
CO5	Develop and test programs written in C files	PO1, PO7, PSO1, PSO4

UNIT I **12 periods**

General Fundamentals: Introduction to computers: Block diagram of a computer, characteristics and limitations of computers, applications of computers, types of computers, computer generations.

Introduction to Algorithms and Programming Languages: Algorithm – Key features of Algorithms, Flow Charts, Programming Languages – Generations of Programming Languages – Structured Programming Language-Design and Implementation of Correct, Efficient and Maintainable Programs.

UNIT II **12 periods**

Introduction to C: Introduction – Structure of C Program – Writing the first C Program –File used in C Program – Compiling and Executing C Programs – Using Comments –
Keywords – Identifiers – Basic Data Types in C – Variables – Constants – I/O Statements in C- Operators in C-Programming Examples.

Decision Control and Looping Statements: Introduction to Decision Control Statements– Conditional Branching Statements – Iterative Statements – Nested Loops – Break and Continue Statement – goto Statement.

UNIT III **10 periods**

Arrays: Introduction – Declaration of Arrays – Accessing elements of the Array – Storing Values in Array– Operations on Arrays – one dimensional, two dimensional and multi-dimensional arrays, character handling and strings.

UNIT IV **14 periods**

Functions: Introduction – using functions – Function declaration/ prototype – Function definition – function call – return statement – Passing parameters – Scope of variables – Storage Classes – Recursive functions.

Structure, Union, and Enumerated Data Types: Introduction – Nested Structures – Arrays of Structures – Structures and Functions– Union – Arrays of Unions Variables – Unions inside Structures – Enumerated Data Types.

UNIT V **12 periods**

Pointers: Understanding Computer Memory – Introduction to Pointers – declaring Pointer Variables – Pointer Expressions and Pointer Arithmetic – Null Pointers - Passing Arguments to Functions using Pointer – Pointer and Arrays – Memory Allocation in C Programs – Memory Usage – Dynamic Memory Allocation – Drawbacks of Pointers

Files: Introduction to Files – Using Files in C – Reading Data from Files – Writing Data to Files – Detecting the End-of-file – Error Handling during File Operations – Accepting Command Line Arguments.

BOOKS

1. E Balagurusamy – Programming in ANSIC – Tata McGraw-Hill publications.
2. Brain W Kernighan and Dennis M Ritchie - The 'C' Programming language" - Pearson publications.
3. Ashok N Kamthane: Programming with ANSI and Turbo C, Pearson Edition Publications.
4. YashavantKanetkar - Let Us 'C' – BPB Publications.

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity

B. General

1. Group Discussion
2. Try to solve MCQ's available online.
3. Others

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Problem-solving exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports like "Creating Text Editor in C".
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work

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(With Effect from Academic Year 2022-23)
MODEL Question Paper:

TITLE: Problem solving in C **COURSE CODE: CSCT11B**
CLASS B.Com(E-Commerce-Computers) **SEMESTER: III**
TIME: 3 Hrs. **MAX: 75M**

SECTION –A

ANSWER ANY FIVE QUESTIONS **5 X 5 =25 M.**

1. What is a flowchart? Utilize flowchart symbols and draw a flowchart to find biggest of two numbers. **(CO1, L3)**
2. Write a short note on block diagram of computers. **(CO1, L2)**
3. Explain do…while loop with an example program. **(CO2 , L2)**
4. Develop a C program to find largest number in a given integer list. **(CO3 ,L3)**
5. Classify data types in C. Write a short note on any two data types. **(CO2 , L2)**
6. How to declare and initialize 1D arrays. **(CO3, L1)**
7. Construct a student structure to accept student details and write a C program to calculate grade of a student. (**CO4 , L3)**
8. Illustrate command line arguments with an example program. **(CO5, L2)**

SECTION – B

ANSWER ALL THE QUESTIONS **5 X 10 =50 M.**

9 A) Define Algorithm. Demonstrate Key features of algorithm with examples. **(CO1, L2)**

(or)

B) List out the characteristics and limitations of computers. **(CO1, L1)**

10 A) Give Classification of Control statements in C. Explain multi-way decision making statements in C with examples. **(CO2, L2)**

(or)

B) Write a program to check whether the given number is Armstrong or not. **(CO2, L3)**

11 A) Develop a program in C for matrix multiplication. **(CO3, L3)**

(or)

B) Demonstrate various String handling functions in C with examples. **(CO3, L2)**

12 A) Compare and contrast structures with unions. **(CO4, L4)**

(or)

B) Explain the types of functions in C. **(CO4, L2)**

13 A) List different file handling functions in C. Explain with examples. **(CO5, L2)**

(or)

B) Explain call by value and call by reference with example. **(CO4, L2)**

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MODEL Question Paper:

TITLE: Problem solving in C **COURSE CODE: CSCT11B**
CLASS B.Com(E-Commerce-Computers) **SEMESTER: III**
TIME: 3 Hrs. **MAX: 75M**

SECTION-A

ANSWER ANY FIVE QUESTIONS **5X5=25M**

1. Unit 1
2. Unit 1
3. Unit 2
4. Unit 3
5. Unit 2
6. Unit 3
7. Unit 4
8. Unit 5

SECTION – B

ANSWER ALL THE QUESTIONS **5 X 10 =50 M.**

9 A) Unit 1.
(or)
B) Unit 1.

10 A) Unit 2.
(or)
B) Unit 2.

11 A) Unit 3.
(or)
B) Unit 3.

12 A) Unit 4.
(or)
B) Unit 4.

13 A) Unit 5.
(or)
B) Unit 5.

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(With Effect from Academic Year 2022-23)

Semester III	Course Code	Course Title	Credits	Prds
B.Com.(E-Commerce-Computers)	**CSCP11B**	**Problem Solving in CLab**	**1**	**30**

Course Outcome No	Upon successful completion of this course, students should have the knowledge and skills to:	Program Outcome No
CO1	Apply logical skills to analyse a given problem	PO1, PO7, PSO1, PSO4, PSO2
CO2	Design an algorithmic solution for a given problem	PO1, PO7, PSO1, PSO4, PSO2
CO3	Write a maintainable C program according to coding standards for a given algorithm	PO1, PO7, PSO1, PSO4, PSO2
CO4	Debug a given program	PO1, PO7, PSO1, PSO4, PSO2
CO5	Execute the C program	PO1, PO7, PSO1, PSO4, PSO2

Experiments List
Cycle-I

Week 1:
Write a C program to check whether the given two numbers are equal, bigger or smaller?
Week 2:
Write a C program to perform arithmetic operations using Switch...case?
Week 3:

- Write a program to find the sum of individual digits of a positive integer.
- Write a program to check whether the given number is Armstrong or not.

Week 4:
Write a program to generate the first N terms of the Fibonacci sequence.
Week 5:
Write a program to find both the largest and smallest number in a list of integer values
Week 6:

- Write a program that uses functions to add two matrices.
- Write a program for multiplication of two n X n matrices.

Week 7:

Write a program to demonstrate refection of parameters in swapping of two integer values using Call by Value& Call by Address.
Week 8:
Write a program to calculate factorial of given integer value using recursive functions.

Cycle-II

Week 9:
Write a program to search an element in a given list of values.
Week 10:
Write a program to illustrate pointer arithmetic.
Week 11:
Write a program to sort a given list of integers in ascending order.
Week 12:
Write a program to calculate the salaries of all employees using Employee (ID, Name, Designation, Basic Pay, DA, HRA, Gross Salary, Deduction, Net Salary) structure.

a. DA is 30 % of Basic Pay
b. HRA is 15% of Basic Pay
c. Deduction is 10% of (Basic Pay + DA)
d. Gross Salary = Basic Pay + DA+ HRA
e. Net Salary = Gross Salary - Deduction

Week 13:
Write a program to perform various string operations.
Week 14:
Write a program to read the data character by character from a file.
Week 15:
Write a program to create Book (ISBN, Title, Author, Price, Pages, Publisher) structure and store book details in a file and perform the following operations

a. Add book details
b. Search a book details for a given ISBN and display book details, if available
c. Update a book details using ISBN
d. Delete book details for a given ISBN and display list of remaining Books.

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Autonomous -ISO 9001 – 2015 Certified

Title of the Paper PROGRAMMING WITH C & C++

Semester: III

Course Code	CABT31A	Course Delivery Method	Class Room / Blended Mode - Both
Credits	**3**	CIA Marks	25
No. of Lecture Hours / Week	4	Semester End Exam Marks	75
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2021	Year of Offering: 2021-22	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: To learn the fundamental programming concepts and methodologies which are essential to building good C/C++ programs.

Course Outcomes:

CO_1	To understand the meaning and generations of a programming language and to learn about c tokens.(PO5, PO7)
CO2	To learn about operators and conditional statements in C. (PO5, PO7)
CO3	To Gain knowledge about functions and to learn how to work with arrays- knowledge about strings and its functions. (PO5, PO7)
CO4	To learn about the concepts of structures and unions. (PO5, PO7)
CO5	To understand about Object-Oriented Programming concepts using CPP (PO5, PO7)

Syllabus		
Unit	**Learning Units**	**Lecture Hours**
I	**INTRODUCTION TO C LANGUAGE, VARIABLES, DATA TYPES** **Introduction:** Introduction to Programming languages and Generations of Programming languages, Structure of C Program , Writing the first C Program, Files used in C Program, Compiling and Executing C- Programs, Using Comments, Keywords, Identifiers, Basic Data Types in C, Variables- Numeric, Character, Declaring, Initializing, Constants- Integer, Float, Character, String Declaring constants, I/O Statements in C- Formatting I/O, Printf (), scanf ().	10
II	**Operators:** Operator and its types in C - Arithmetic, Relational, Equality, Logical, Unary, Conditional, Bitwise, Assignment, Comma, Size of. **WORKING WITH CONTROL STATEMENTS, LOOPS:** Introduction to Decision Control Statements , Conditional Branching Statements – If, If-Else, If-Else-if, Switch Case, Iterative or Looping Statements – While, Do-While, For , Break and Continue Statement , Go to Statement	10
III	**FUNCTIONS, ARRAYS** **Functions :** Introduction, Using Functions, Function declaration/prototype, Function Definition, Function Call, Scope of variables. **Arrays :** Introduction, Declaration of Arrays, Accessing elements of the Array, One dimensional array declaration and initialization with example, Two-dimensional array declaration and initialization with examples.	15
IV	**STRINGS:** Introduction to strings and string handling functions **Structures & Unions:** Introduction to structures, Structure Declaration, Typedef, Initialization, accessing the members of a structure, Nested structures, Arrays of structures, Unions – Declaring, Accessing and Initialization, Differences between Structures and Unions.	12
V	**OBJECT ORIENTED CONCEPTS USING C++** Introduction to Object Oriented Programming, Object Oriented Concepts, Class-Object-Inheritance-Polymorphism- Encapsulation-Abstraction, Structure of C++ program, Differences between C & CPP, Input and output statements in CPP. **Operators & Data types:** Operators in CPP, Data types in CPP, Operator Overloading	13

Text Books:			
	Author	**Title**	**Publisher**
1	Reema Thareja	Introduction to C programming	Oxford University Press
2	E. Balagurusamy	Objected Oriented Programming with C++	McGraw Hill.

Reference Text Books:			
	Author	**Title**	**Publisher**
1	E Balagurusamy	Computing Fundamentals & C Programming	Tata McGraw-Hill, 2008
2	Ashok N Kamthane	Programming with ANSI and Turbo C	Pearson Publisher, 2002.
3	Y.Kanetkar	Let Us C++:	BPB

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
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(With Effect from Academic Year 2020-21)
PROGRAMMING WITH C & C++
MODEL PAPER

CLASS: B. Com (C.A) **Max. Marks: 75M**
Course Code: CABT **Min. Pass: 30M**
Semester: III **Time: 3 Hours**

Section A

Answer any Five of the following **5*5=25M**

1. Explain the structure of a C Program. (CO1, L2)
2. Explain the working of go-to statement with example program (CO2, L2)
3. List in detail about the concept of scope of variables. (CO3, L1)
4. Define Union concept in C with example program? (CO4, L1)
5. Explain a) Encapsulation b) Abstraction concepts in CPP. (CO5, L2)
6. Demonstrate a C Program to sort the given numbers in an array. (CO3, L2)
7. Explain different types of files used in C Program. (CO1, L2)
8. Comparison between while and do-while statements. (CO2, L2)

Section B

Answer the following **5*10=50M**

9. a) Explain variables and constants in C with a detailed account of types of variables and constants. (CO1, L2)

(or)

b) Explain in detail about generations of programming languages. (CO1, L2)

10. a) Explain looping statements in C with example programs. (CO2, L2)

(or)

b) Explain different types of operators in C language. (CO2, L2)

11. a) What is a one-dimensional array with an example program. (CO3, L1)

(or)

b) What is a function? Explain function declaration, function definition and function calling with an example program (CO3, L1)

12. a) List any five string handling functions with syntaxes and example programs. (CO4, L1)

(or)

b) Define array of structures in detail with an example program. (CO4, L1)

13. a) Explain structure of a C++ program in detail. (CO5, L2)
b) Comparison between C and C++ (CO5, L2)

(or)

c) Explain the concept of operator overloading in C++ with example. (CO5, L2)

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PROGRAMMING WITH C & C++ LAB

COMPUTER SCIENCE	CABP	**2022-23**	**B. Com (Computer Applications)**

Semester: III **Credits: 1**
Hours Taught: 30 hrs. Per Semester **Max.Time**: 3 Hours

Course Objective:
The purpose of this course is to introduce students to the field of programming using C language and CPP. The students will be able to enhance their analyzing and programming skills and use the same for writing their own programs in C language and Using classes in CPP language.

Course Outcomes: At the end of this course the student is able toCO1:Use various operators in C programming
CO2:Implement decision and looping control statements

CO3:Passing parameters to functions & Accessing elements of an array and creation of one dimensional and two-dimensional arrays.
.CO4:Implementing string functions and structures, unions conceptsCO5:Implement basic OOP concepts in CPP.

LAB LIST

1. Write a C program to calculate the expression: ((a*b)/c)+(a+b+c)
2. Write a C program to calculate (a+b+c)3
3. Write a C program to convert temperature from
   a) Celsius to Fahrenheit
   b) Fahrenheit to Celsius
4. Write a C program to calculate compound Interest
5. Write a C program to find biggest of three numbers
6. Write a C program to read student marks in five subjects and calculate total and average
7. Write a C program to convert hours into seconds
8. Write a C program to display number of days in given month using switch case
9. Write a C program to find biggest of two numbers using switch case
10. Write a C program to find whether the given number is prime or not
11. Write a C program to check whether the given string is palindrome or not12 Write a C program to find the reverse of a given number using functions 13 Write a C program to swap two numbers using functions
14. Write a C program to sort the given numbers in an array
15. Write a C program to perform addition of two matrices
16. Write a C program to display student details using structures
17. Write a CPP program to find addition of three numbers using classes
18. Write a CPP program to find biggest of three numbers using classes
19. Write a CPP program to find whether a person is eligible to vote or not using classes
20. Write a CPP program to implement operator overloading concept

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(With Effect from Academic Year 2021-22)

Title of the Paper: Problem solving in C
Semester: I **SECTIONS: B.Sc. (MPCS / MCCS/ MSCS)**

Course Code	**CSCT11B**	Course Delivery Method	Class Room / Blended Mode - Both
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: Nil	Percentage of Revision: 0%

Course Objective
This course aims to provide exposure to problem-solving through programming and introduce the concepts of the C Programming language.

Course Learning Outcomes:

Course Outcome No	Upon successful completion of the course, a student will be able to:	Program Outcome No.
CO1	Understand the evolution & functionality of Digital Computers and develop an algorithm for solving a given problem.	PO1, PO7, PSO1, PSO4
CO2	Understand tokens and control structures in C.	PO1, PO7, PSO1, PSO4
CO3	Understand arrays and strings and implement them.	PO1, PO7, PSO1, PSO4
CO4	Understand the right way of using functions, pointers, structures and unions in C	PO1, PO7, PSO1, PSO4
CO5	Develop and test programs written in C files	PO1, PO7, PSO1, PSO4

UNIT I **12 periods**

General Fundamentals: Introduction to computers: Block diagram of a computer, characteristics and limitations of computers, applications of computers, types of computers, computer generations.

Introduction to Algorithms and Programming Languages: Algorithm – Key features of Algorithms, Flow Charts, Programming Languages – Generations of Programming Languages – Structured Programming Language- Design and Implementation of Correct, Efficient and Maintainable Programs.

UNIT II **12 periods**

Introduction to C: Introduction – Structure of C Program – Writing the first C Program –File used in C Program – Compiling and Executing C Programs – Using Comments –

Keywords – Identifiers – Basic Data Types in C – Variables – Constants – I/O Statements in C- Operators in C- Programming Examples.

Decision Control and Looping Statements: Introduction to Decision Control Statements– Conditional Branching Statements – Iterative Statements – Nested Loops – Break and Continue Statement – goto Statement.

UNIT III **10 periods Arrays**:

Introduction – Declaration of Arrays – Accessing elements of the Array – Storing Values in Array– Operations on Arrays – one dimensional, two dimensional and multi-dimensional arrays, character handling and strings.

UNIT IV **14 periods Functions**:

Introduction – using functions – Function declaration/ prototype – Function definition – function call – return statement – Passing parameters – Scope of variables – Storage Classes – Recursive functions.

Structure, Union, and Enumerated Data Types: Introduction – Nested Structures – Arrays of Structures – Structures and Functions– Union – Arrays of Unions Variables – Unions inside Structures – Enumerated Data Types.

UNIT V **12 periods**

Pointers: Understanding Computer Memory – Introduction to Pointers – declaring Pointer Variables – Pointer Expressions and Pointer Arithmetic – Null Pointers - Passing Arguments to Functions using Pointer – Pointer and Arrays – Memory Allocation in C Programs – Memory Usage – Dynamic Memory Allocation – Drawbacks of Pointers

Files: Introduction to Files – Using Files in C – Reading Data from Files – Writing Data to Files – Detecting the End-of-file – Error Handling during File Operations – Accepting Command Line Arguments.

BOOKS

1. E Balagurusamy – Programming in ANSIC – Tata McGraw-Hill publications.
2. Brain W Kernighan and Dennis M Ritchie - The 'C' Programming language" - Pearson publications.
3. Ashok N Kamthane: Programming with ANSI and Turbo C, Pearson Edition Publications.
4. YashavantKanetkar - Let Us 'C' – BPB Publications.

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity

B. General

1. Group Discussion
2. Try to solve MCQ's available online.
3. Others

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Problem-solving exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports like "Creating Text Editor in C".
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work

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BLUE PRINT

TITLE: Problem solving in C **COURSE CODE: CSCT11B**
SECTIONS: B.Sc. (MPCS / MCCS / MSCS) **SEMESTER: I**
TIME: 3 Hrs. **MAX: 70M**

SECTION-A

ANSWER ALL QUESTIONS **5X14=70M**

1. a. Unit 1(10M)
   b. Unit 1(4M)
   OR
   c. Unit 1(10M)
   d. Unit 1(4M)

2. a. Unit 2(10M)
   b. Unit 2(4M)
   OR
   c. Unit 2(10M)
   d. Unit 2(4M)

3. a. Unit 3(10M)
   b. Unit 3(4M)
   OR
   c. Unit 3(10M)
   d. Unit 3(4M)

4. a. Unit 4(10M)
   b. Unit (4M)
   OR
   c. Unit 4(10M)
   d. Unit 4(4M)

5. a. Unit 5(10M)
   b. Unit 5(4M)
   OR
   c. Unit 5(10M)
   d. Unit 5(4M)

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(With Effect from Academic Year 2021-22)

Semester I	Course Code	Course Title	Credits	Prds
B.Sc.(MPCS / MCCS/ MSCS)	**CSCP11B**	**Problem Solving in C Lab**	**1**	**30**

Course Outcome No	Upon successful completion of this course, students should have the knowledge and skills to:	Program Outcome No
CO1	Apply logical skills to analyse a given problem	PO1, PO7, PSO1, PSO4, PSO2
CO2	Design an algorithmic solution for a given problem	PO1, PO7, PSO1, PSO4, PSO2
CO3	Write a maintainable C program according to coding standards for a given algorithm	PO1, PO7, PSO1, PSO4, PSO2
CO4	Debug a given program	PO1, PO7, PSO1, PSO4, PSO2
CO5	Execute the C program	PO1, PO7, PSO1, PSO4, PSO2

Experiments List
Cycle-I

Week 1:
Write a C program to check whether the given two numbers are equal, bigger or smaller?
Week 2:
Write a C program to perform arithmetic operations using Switch...case?
Week 3:

- Write a program to find the sum of individual digits of a positive integer.
- Write a program to check whether the given number is Armstrong or not.

Week 4:
Write a program to generate the first N terms of the Fibonacci sequence.
Week 5:
Write a program to find both the largest and smallest number in a list of integer values
Week 6:

- Write a program that uses functions to add two matrices.
- Write a program for multiplication of two n X n matrices.

Week 7:

Write a program to demonstrate refection of parameters in swapping of two integer values using Call by Value& Call by Address.
Week 8:
Write a program to calculate factorial of given integer value using recursive functions.

Cycle-II

Week 9:
Write a program to search an element in a given list of values.
Week 10:
Write a program to illustrate pointer arithmetic.
Week 11:
Write a program to sort a given list of integers in ascending order.
Week 12:
Write a program to calculate the salaries of all employees using Employee (ID, Name, Designation, Basic Pay, DA, HRA, Gross Salary, Deduction, Net Salary) structure.

a. DA is 30 % of Basic Pay
b. HRA is 15% of Basic Pay
c. Deduction is 10% of (Basic Pay + DA)
d. Gross Salary = Basic Pay + DA+ HRA
e. Net Salary = Gross Salary - Deduction

Week 13:
Write a program to perform various string operations.
Week 14:
Write a program to read the data character by character from a file.
Week 15:
Write a program to create Book (ISBN, Title, Author, Price, Pages, Publisher) structure and store book details in a file and perform the following operations

a. Add book details
b. Search a book details for a given ISBN and display book details, if available
c. Update a book details using ISBN
d. Delete book details for a given ISBN and display list of remaining Books.

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(With Effect from Academic Year 2021-22)

Title of the Paper: INFORMATION TECHNOLOGY
Semester: I **SECTIONS: B.Com (CA)**

Course Code	**CSBT11A**	Course Delivery Method	Class Room / Blended Mode - Both
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	5	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

INFORMATION TECHNOLOGY

Objective:
It provides to learn computer basics and basic principles of using Windows operation system and be able to access the Internet, data communication, Software, hardware and various new technologies in information technology.

Course Outcomes:

COURSE OUTCOME NO	Upon successful completion of this course, students should have the knowledge and skills to
CO1	Understand fundamental concepts of a computer and its basic components
CO2	Understand basic functioning of an operating system and customizing Windows Desktop
CO3	Analyse type of soft wares and programming languages
CO4	Have knowledge in basic Network and Data Communication Concepts
CO5	Understand the need of data mining and get familiarize with basics of new concepts like KDD, OLAP

UNIT-I: INTRODUCTION: **13Periods**

Introduction to computers
Generations of computers
An overview of computer system - Types of computers
Input & Output Devices.
Hardware: Basic components of a computer system- Control unit– ALU- Input/outputfunctions.
Memory – RAM – ROM – EPROM - PROM and Other types of memory.

UNIT-II: OPERATING SYSTEM (OS): **12Periods**

Meaning - Definition & Functions.
Types of OS - Booting process
DOS – Commands (internal & external) - Wild card characters
Windows: Using the Start Menu –Control Panel – Using multiple
Windows – Customizing the Desktop – Windows accessories (Preferably latest version of windows or Linux Ubuntu).

Unit-III: SOFTWARE: **15Periods**

System software and application software.

Operating system windows OS,

Mobile device operating system and notebook operating systems

Application software Types of personal application software

Spread sheet-data management

Word processing

Desktop publishing

Graphics, CAD, CAM, CIM

Programming Languages

Assembly language

Procedural language, non-procedural language, natural programming language.

Hypertext mark-up language, modelling language, object-oriented programming language.

Unit-IV: DATA COMMUNICATION: **20 Periods**

Telecommunication and Networks Communication media& channel cable media

Broad cast media channels twisted pair

Coaxial cable, fibers optical cable, micro wave, satellite, radio, cellular radio, infrared global positioning system.

Introduction, Analog and Digital signals, modulation need of modulations, modems.

Telecommunication System communication processors:

Modem

Multiplexers

Front –end-processor.

Networks LAN, WAN, VAN, virtual private network (VPN).

Internet, intranet and Extranets

The evolution of the internet, service provided by the internet, World Wide Web.

Unit-V: NEW TECHNOLOGIES: **10 Periods**

New technologies in Information Technology:

Introduction to hyper media, artificial intelligence and business intelligence, knowledgediscovery in database (KDD)

Data warehouse and data marts. Data mining and OLAP.

Student Activity:

Students have to submit assignments and give seminars on various topics allotted to them.

Total of 5 Hrs is allotted for student seminars. Student activity also includes gathering of information related to latest technologies in computers.

Library Activity:

Students will visit library in their allotted time and will refer various text books to gather information for their assignments.

TEXT/ REFERENCE BOOKS:

1. B.E.V.L.Naidu, V.V.. Devi Prasad Konti, Ganti Naga Srikanth, Himalaya publishing House.
2. Introduction to Computers: Peter Norton, McGraw Hill.

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(With Effect from Academic Year 2021-22)

Model Paper

TITLE: INFORMATION TECHNOLOGY **COURSE CODE: CSBT11A**

CLASS B.Com(CA) **SEMESTER: I**

TIME: 3 Hrs. **MAX: 70M**

SECTION-A

ANSWER ALL QUESTIONS **5X14=70M**

6. a. Unit 1(10M)
   e. Unit 1(4M)
   OR
   f. Unit 1(10M)
   g. Unit 1(4M)

7. a. Unit 2(10M)
   e. Unit 2(4M)
   OR
   f. Unit 2(10M)
   g. Unit 2(4M)

8. a. Unit 3(10M)
   e. Unit 3(4M)
   OR
   f. Unit 3(10M)
   g. Unit 3(4M)

9. a. Unit 4(10M)
   e. Unit 4(4M)
   OR
   f. Unit 4(10M)
   g. Unit 4(4M)

10. a. Unit 5(10M)
    e. Unit 5(4M)
    OR
    f. Unit 5(10M)
    g. Unit 5(4M)

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Vuyyuru-521165. NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: **COMPUTER APPLICATIONS** Semester: I

Course Code	**CCSE101**	Course Delivery Method	Class Room / Blended Mode –
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2022-23	Year of Revision: ----	Percentage of Revision: 0%

COURSE OBJECTIVES:

It provides to learn computer basics and basic principles of using Windows operation system and be able to access the Ms-Office, Power Point, Excel and various new technologies in information technology.

Course Outcomes:

COURSE OUTCOME NO	**Upon successful completion of this course, students should have the knowledge and skills to**
CO1	Understand fundamental concepts of a computer and its basic components
CO2	Understand basic functioning of an Ms-Office and MS-Word Window Components Windows Desktop
CO3	Analyze type of soft ware's and programming languages
CO4	Have knowledge in MS-Excel and MS Access
CO5	Understand the need of Finding, Sorting and Displaying Data and get familiarize

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COMPUTER SCIENCE	CCSE101	2022-23	B.Com(E-Commerce-Computes)

SEMESTER – I PAPER – I Max. Marks 70 Pass Marks 28 Total Hrs: 60

Syllabus: **Computer Applications NO. Of Hrs**: **4 Credits**: **3**

Unit-I: MS-Word 10 Hrs

Features of MS-Word – MS-Word Window Components – Creating, Editing, Formatting and Printing of Documents – Headers and Footers – Insert/Draw Tables, Table Auto format – Page Borders and Shading – Inserting Symbols, Shapes, Word Art, Page Numbers, Equations – Spelling and Grammar – Thesaurus – Mail Merge

Unit-II: MS-PowerPoint 10 Hrs

Features of PowerPoint – Creating a Blank Presentation - Creating a Presentation using a Template - Inserting and Deleting Slides in a Presentation – Adding Clip Art/Pictures - Inserting Other Objects, Audio, Video - Resizing and Scaling of an Object – Slide Transition – Custom Animation

Unit-III: MS-Excel 10Hrs

Overview of Excel features – Creating a new worksheet, Selecting cells, Entering and editing Text, Numbers, Formulae, Referencing cells – Inserting Rows/Columns – Changing column widths and row heights, auto format, changing font sizes, colors, shading and attributes – Data Sorting and Filters – Functions – Functions requiring Addins, Functions by category Creating different types of Charts

Unit-IV: MS Access: 12Hrs

Creating a Simple Database and Tables: Features of Ms-Access, Creating a Database, Parts of Access. Tables: table creation using design view, table wizard, data sheet view, import table, link table. Forms: The Form Wizard, design view, columnar, tabular, data sheet, chart wizard.

Unit- V: Finding, Sorting and Displaying Data: 12Hrs

Queries and Dynasts, Creating and using select queries, Returning to the Query Design, Multi-level sorts, Finding incomplete matches, showing All records after a Query, saving queries - Crosstab Queries. Printing Reports: Form and Database Printing..

Reference Books:

1. Ron Mansfield, Working in Microsoft Office, Tata McGraw Hill(2008)

2. Ed Bott, Woody Leonhard, Using Microsoft Office 2007, Pearson Education(2007)

3. Sanjay Saxsena, Microsoft Office, 4.Microsoft Office, BPB Publications

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Model Paper

TITLE: COMPUTER APPLICATIONS **COURSE CODE: CSCE101**

SECTIONS: B.Com(E-Commerce-Computers) **SEMESTER: I**

TIME: 3 Hrs. **MAX: 70M**

SECTION-A

ANSWER ALL QUESTIONS **5X14=70M**

1. a. Unit 1(10M)
   b. Unit 1(4M)
   OR
   c. Unit 1(10M)
   d. Unit 1(4M)

2 a. Unit 2(10M)
   b. Unit 2(4M)
   OR
   c. Unit 2(10M)
   d. Unit 2(4M)

3 a. Unit 3(10M)
   b. Unit 3(4M)
   OR
   c. Unit 3(10M)
   d. Unit 3(4M)

4 a. Unit 4(10M)
   b. Unit 4(4M)
   OR
   c. Unit 4(10M)
   d. Unit 4(4M)

5 a. Unit 5(10M)
   b. Unit 5(4M)
   OR
   c. Unit 5(10M)
   d. Unit 5(4M)

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COMPUTER SCIENCE	CCSEP-101	2022-23	B.Com. (E-COMMERCE)

SEMESTER – I PAPER – I Max. Marks 50 Pass Marks 20 Total Hrs: 30

COMPUTER APPLICATIONS LAB

Ms-Word

1. Create a vesting Card
2. Create a template for organization using Header & Footer
3. Inserting tables, pictures, Charts
4. Macros
5. Mail merge Procedure

Ms-Excel

1. Create an electronic spreadsheet in which you enter the following decimal numbers and convert into Octal, Hexadecimal and Binary numbers vice versa. Decimal Numbers: 35, 68, 95, 165, 225, 355, 375, 465. Binary Numbers: 101, 1101, 111011, 10001, 110011001, 111011111.

2. The ABC Company shows the sales of different products for 5 years. Create column chart, 3D-column and Bar chart for the following data YEAR PRODUCT-1 PRODUCT-2 PRODUCT-3 PRODUCT-4 2003 1000 800 900 10002004 800 80 500 9002005 1200 190 400 8002006 400 200 300 1000 2007 1800 400 400 1200

3. Create a suitable examination data base and find the sum of the marks(total) of each student and respective class secured by the student rules:
Pass if marks in each subject >=35 Distinction if average>=75 First class if average>=60 but <75 Second class if average>=50 but <60 Third class if average>=35 but <50
Fail if marks in any subject is <35 Display average marks of the class, subject wise and pass percentage

4. Create an electronic spread sheet in which you enter date and time functions in Excel

5. Create a electronic spread sheet in statistical and mathematical functions in Excel

MS-PowerPoint

1. Make a Power point presentation on your strengths, weaknesses, hobbies, factors that waste your time.
2. Make a Power point presentation to represent your College profile.
3. Make a Power point presentation of all the details of the books that you had studied in B.Sc. First Year.
4. Create a Presentation without Animation.

MS-ACCESS

1. Create a database using MS-ACCESS with at least 5 records table1 structure: register number , name, dob, gender, class table2 structure: register number m1 m2 m3 m4 m5 total maintain the relationship between two tables with register number as a primary key and answer the following quarries: show the list of students with the following fields as one query register number name gender total marks

2. Maintain the relationship between above two tables with register number as a primary key and answer the following reports: reports must have following columns report1 with register number, name, marks of all subjects and 90 hrs (3 hrs/ week) computer science 10 of 44 total report2 with register number, total , percentage.

3. Create a database using ms-access with at least 5 records table1 structure: emp-code emp-name age gender dob table2 structure: emp-code basic-pay maintain the relationship between two tables with emp-code as a primary key generate the following reports: report1: emp-code emp-name basic-pay da,hra gross-salary report2: emp-code emp-name age gender gross-salary.