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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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