A.G& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

VUYYURU-521165, KRISHNA Dt., A.P.(Autonomous)

Accredited by NAAC with "A" Grade

2021-2022

DEPARTMENT OF COMPUTER SCIENCE

MINUTES OF BOARD OF STUDIES

EVEN SEMESTER
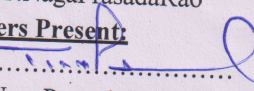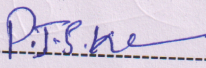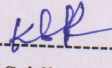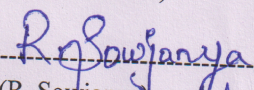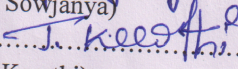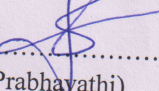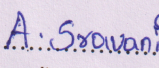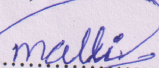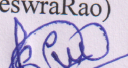
07-04-2022

Minutes of the meeting of Board of Studies in Computer Science for Semester II, IV & V of I, II & III years B.Sc. (MPCs, MCCs, MSCs), B.Com. (C.A.), B.Com (e-Commerce) and Life Skill Course and Skill Development Course of AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru, held at 2.30 P.M on 07-04-2022 in the Department of Computer Science.

Sri T.NagaPrasadaRao   ...   Presiding

Members Present:

1)...................................   Chairman   Head, Department of Computer Science,
(T.NagaPrasadaRao)   AG & SG Siddhartha Degree College of Arts & Science.

2) ----------------------------------- University   Principal, University College of Engineering and Technology,
(Dr. M. Babu Reddy)   Nomine   KRU, Machilipatnam.

3). --------------------------------   Subject   Principal, A.N.R College, Gudivada,
(Dr. P. J. S Kumar)   Expert   Department of Computer Science

4) ---------------------------------   Subject   Deputy Head, Department of Computer Science
(Mr. K. Sridhar)   Expert   PB Siddhartha College of Arts & Science, Vijayawada.

5) ----------------------   Industrial   .Net Developer, Maven Soft System Pvt. Ltd
(R. Sowjanya)   Expert   Madaapur, Hyderabad.

6).................................Member   Lecturer in Computer Science, AG & SG Siddhartha
(T. Keerthi)   Degree College of Arts & Science, Vuyyuru

7)...............................Member   Lecturer in Computer Science, AG & SG Siddhartha
(K Srikanth)   Degree College of Arts & Science, Vuyyuru-521165.

8)...............................   Member   Lecturer in Computer Science, AG & SG Siddhartha
(S.Prabhavathi)   Degree College of Arts & Science, Vuyyuru-521165

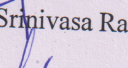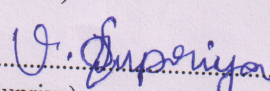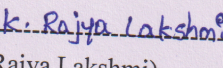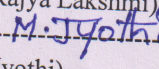9)......................   Member   Lecturer in Computer Science, AG & SG Siddhartha
(A. Sravani)   Degree College of Arts & Science, Vuyyuru-521165

10)............................   Member   Lecturer in Computer Science, AG & SG Siddhartha
(V.N.MalleswraRao)   Degree College of Arts & Science, Vuyyuru-521165

11)...........................   Member   Lecturer in Computer Science, AG & SG Siddhartha
(A. Naga Srinivasa Rao)   Degree College of Arts & Science, Vuyyuru-521165

12)...........................   Member   Lecturer in Computer Science, AG & SG Siddhartha
(V. Munni)   Degree College of Arts & Science, Vuyyuru-521165

12)......................Member   Lecturer in Computer Science, AG & SG Siddhartha
(V. Supriya)   Degree College of Arts & Science, Vuyyuru-521165

13) -------------------- Member   Student in M.Sc. Computer Science, AG& SG Siddhartha
(K. Rajya Lakshmi)   Degree College of Arts & Science, Vuyyuru-521165
14) ----------------------- Member   Student in B.Sc. Computer Science, AG& SG Siddhartha
(M. Jyothi)   Degree College of Arts & Science, Vuyyuru-521165

Agenda for B.O.S Meeting.

1. To Discuss and approve the Structure and Syllabi, Model Question Paper for Second Semester of B.Sc.(MPCs, MCCs. MSCs) & B.Com (C.A), B.Com(e-commerce-computers) Programs for the student are admitted from the Academic Year 2021-22.
2. To discuss introducing B.Com (e-commerce-computers) and B.Sc.(M.S.Cs) in Second semester for the students admitted in academic year 2021 – 2022
3. To Discuss and approve the Structure and Syllabi, Model Question Paper for Fourth Semester of B.Sc.(MPCs, MCCs.) & B.Com (C.A) Programs for the Academic Year 2021-22.
4. To Discuss and approve the Structure and Syllabi, Model Question Paper for Six Semester of B.Sc.(MPCs, MCCs.) & B.Com (C.A) Programs for the Academic Year 2021-22.
5. To recommend any changes in the syllabi for II, IV, VI Semesters of I, II, III year Degree B.Sc.(MPCs, MCCs, MSCs), B.Com.(C.A.) and B.Com(e-commerce).
6. To recommend the teaching and evaluation methods to be followed under Autonomous status.
7. To recommend the panel of paper setters and examiners to the controller of the examinations of autonomous courses of AG & SG Siddhartha Degree College of Arts & Science College, Vuyyuru.
8. Any other matter

Resolutions.

1) It is Resolved and Recommended to adopt the structure and syllabi and Model Question Papers for second semester of B.Sc.(MPCs, MCCs, MSCs) & B.Com (C.A), B.Com(e-Commerce-computers) Programs under CBCS(Choice Based Credit System) Approved by the Academic Council from the Academic Year 2021-22.

2) It is Resolved and Recommended to adopt the structure and syllabi and Model Question Papers for Second semester of B.Sc.(MCCs) & B.Com (e-commerce-computers), Programs under CBCS(Choice Based Credit System) Approved by the Academic Council from the Academic Year 2021-22

3) It is resolved and recommended to introduce new structure for *4th semester* of *B. Sc. (MPCS, MCCS) and B.Com(CA) programmes* in line with APSCHE guidelines for the students admitted in academic year 2020 – 2021 and onwards

4) It is Resolved and Recommended to adopt the structure and syllabi and Model Question Papers for six semester of B.Sc.(MPCs, MCCs) & B.Com (C.A), Programs under CBCS(Choice Based Credit System) Approved by the Academic Council from the Academic Year 2020-21

5) **It is Resolved and Recommend any changes in the syllabi for II, IV, VI Semesters of I, II, III year Degree B.Sc.(MPCs, MCCs, MSCs), B.Com.(C.A.) and B.Com(e-commerce).**

   ➢ **It is Resolved and Recommend change Syllabi and Model Question paper as per new regulationsin IV Semester of II Year Degree B.Sc. (MPCs, MCCs) and B.Com(CA).**
   ➢ **It is Resolved and recommend NO changes in the syllabi for VI Semester of III Year B.Sc.(MPCs, MCCs) & B.Com.(CA).**

6) It is resolved to continue the teaching and evaluation methods to be followed under Autonomous status.

7) It is resolved to continue the panel of paper setters and examiners to the controller of the examinations of autonomous courses of AG & SG Siddhartha Degree College of Arts & Science College, Vuyyuru.

8) Any other matter

Teaching methods:

Besides the conventional methods of teaching, we use modern technology i.e. Using of LMS and LCD projector to display on power board etc..for better understanding of concepts.

Evaluation of a student is done by the following procedure:

There are two components in the Valuation and Assessment of a student – Internal Assessment (**IA**) Semester Examinations (**SE). For the Batch of Students Admitted from 2021-22.**

Internal Assessment (IA)

- The maximum mark for IA is 25 and SE is 75 for theory; and for practical marks for IA 10 and 40 Marks for External Exam.
- Each IA written examination is of 1 hour 30 minutes duration for 20 marks. The tests will be conducted centrally. The average of two such IA is calculated for 20 marks.
- Other Innovative Components will be for 5 Marks. The innovative component is for 5 marks, conducted during the class hours by the staff member/ in charge of the subject, in the form of assignments/ quiz/ seminars /PPT/Online- assignments/Open Book/Viva Voce/ Group work/ Mini Project/ Exhibition, etc. The topic and time for submission/ presentation will be announced by the staff member/ in charge of the subject in advance. Each student should explain and defend his/her presentation.
- The semester examination will be of 3 hours with maximum 75 marks.
- There are no passing minimum marks for IA.

Internal Assessment (IA) **For the Batch of Students Admitted from 2019-20.**

- The maximum mark for IA is 30 and SE is 70 for theory; and for practical marks for IA 10 and 40 Marks for External Exam.
- Each IA written examination is of 1 hour 30 minutes duration for 20 marks. The tests will be conducted centrally. The average of two such IA is calculated for 20 marks.
- Other Innovative Components will be for 5 Marks. The innovative component is for 5 marks, conducted during the class hours by the staff member/ in charge of the subject, in the form of assignments/ quiz/ seminars /PPT/Online- assignments/Open Book/Viva Voce/ Group work/ Mini Project/ Exhibition, etc. The topic and time for submission/ presentation will be announced by the staff member/ in charge of the subject in advance. Each student should explain and defend his/her presentation.
- For attendance 5 Marks are allotted.
- The semester examination will be of 3 hours with maximum 70 marks.
- There are no passing minimum marks for IA.

Semester Examinations (SE)
- A student should register himself/herself to appear for the Semester Examinations by payment of the prescribed fee.
- The Semester Examinations will be in the form of a comprehensive examination covering the entire syllabus in each subject. It will be of 3 hours duration & Foundation course 2 hours irrespective of the number of credits allotted to it.
- If a candidate fails to obtain pass marks even after the due to less mark in the IA examination, the marks of the next examination will be converted to be out of 100.
- Even though the candidate is absent for two IA exams/obtain zero marks the external marks are considered (if he/she gets 40/100) and the result shall be declared as 'PASS'.
- The maximum marks for each Paper shall be 100.

Question paper guide lines for Practical Examinations at the end of Semesters II, IV & VI Two Practical Programs to be conducted out of 15 programs at the end of Semester II, IV & VI Practical Examination time 3Hrs and Maximum Marks 50   Scheme of valuation Semesters – I, III & V B.Sc.& B.Com.(C.A),

Computer Science Practical's - External (Time: 3 hrs.)   **Total Marks: 40M**

1. Programs writing (2):	20 marks,
2. Viva voice	:	5 marks
3. Execution & Result	:	15 marks

Total Marks	:	40

Computer Science Practical's- Internal   **Total Marks: 10 M**

1. . Record   :   10 marks

6.) Discussed and recommended for organizing Seminars, Guest lectures, Work-shops to upgrade the knowledge of students, for the approval of the Academic Council.

7) Discussed and empowered the HOD to suggest the panel of the paper setters and examiners to the controller of the examinations.

8). We implemented online certificate courses such as NPTL, APSSDC - PYTHON, R- Programming, Amazon Web services and JAVA ------etc. To fill the curriculum gaps from II year Degree on words

9). Suggestions

Chairman

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DEPARTMENT OF COMPUTER SCIENCE

S. NO	Name of the Course	Course Code	SEM No	Type of the Paper	Total Marks	IA TEST	SEE	Teaching Hours	Credits	Offered to (Name of the Programme)
LIST OF THE COURSES REVISED/ INTRODUCED IN II, IV & VI SEMESTERS -2021-22										
1	Data Structures	CSCT21B	II	Core	100	25	75	4	3	B.Sc (MPCs, MCCs, MSCs)
2	Data Structures Lab	CSCT21B	II	Core Lab	50	10	40	2	1	B.Sc (MPCs, MCCs, MSCs)
3	E–COMMERCE & WEB DESIGNING	CABT21A	II	Core	100	25	75	4	3	B.Com(CA)
4	Web Design Lab	CABT21A	II	Core Lab	50	10	40	2	1	B.Com(CA)
5	Information Technology	CABT21A	II	Core	100	25	75	4	4	B.Com(ecommerce-Computers)
6	Computer Applications	CABT22A	II	Core	100	25	75	4	3	B.Com(ecommerce-Computers)
7	Computer Application Lab	CABT22A	II	Core Lab	50	10	40	2	1	B.Com(ecommerce-Computers)
8	Digital Marketing	SDCCSC02	II	SDC	50	10	40	2	2	B.Sc (MPCs, MCCs, MSCs)
9	Oop's With JAVA	CSCT01	IV	Core	100	30	70	4	3	B.Sc (MPCs, MCCs)
10	Oop's With JAVA Lab	CSCT01	IV	Core Lab	50	10	40	2	1	B.Sc (MPCs, MCCs)
11	Operating System	CSCT41C	IV	Core	100	30	70	4	3	B.Sc (MPCs, MCCs)
12	Operating system Lab	CSCT41C	IV	Core Lab	50	10	40	2	1	B.Sc (MPCs, MCCs)
13	DBMS	CCSE401G	IV	Core	100	30	70	4	3	B.Com(CA)
14	DBMS Lab	CCSC401P	IV	Core Lab	50	10	40	2	1	B.Com(CA)
15	Oop's With JAVA	CCSC402G	IV	Core	100	30	70	4	3	B.Com(CA)
16	Oop's With JAVA Lab	CCSC402P	IV	Core Lab	50	10	40	2	1	B.Com(CA)
17	Web Technology	CSC601GE	VI	Core	100	30	70	4	3	B.Sc (MPCs, MCCs)

18	Web Technology Lab	CSC601GE	VI	Core Lab	50	10	40	2	2	B.Sc (MPCs, MCCs)
19	PHP& My sql, Word Press	CSC602CE	VI	Cluster	100	30	70	4	3	B.Sc (MPCs, MCCs)
20	PHP& My sql Lab	CSC602CE	VI	Cluster Lab	50	10	40	2	2	B.Sc (MPCs, MCCs)
21	Java Script/Ajax	CSC603CE	VI	Cluster	100	30	70	4	3	B.Sc (MPCs, MCCs)
22	Java Script Lab	CSC603CE	VI	Cluster Lab	50	10	40	2	2	B.Sc (MPCs, MCCs)
23	Project	CSC604CE	VI	Cluster	100	30	70	4	4	B.Sc (MPCs, MCCs)
24	Tally	CCSC605CE	VI	Core	100	30	70	4	3	B.Com(CA)
25	Tally Lab	CCSC605P	VI	Core Lab	50	10	40	2	2	B.Com(CA)
26	E-Commerce	CSC606CE	VI	Core	100	30	70	5	5	B.Com(CA)
27	PHP & MY Sql	CCSC606CE	VI	Core	100	30	70	4	3	B.Com(CA)
28	PHP & MY Sql Lab	CCSC606P	VI	Core	50	10	40	2	2	B.Com(CA)
		TOTAL(Maximum)			2100	550	1550	85	66	

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DEPARTMENT OF COMPUTER SCIENCE

Minutes of the meeting of Board of Studies in Computer Science for UG held on 07-04-2022in the Department of Computer Science.

Semester	:	II	Programme	:	MPCS,MCCS,MSCS
Course	:	**DATA STRUCTURES**	Course Code	:	22CS2T3
Course delivery method	:	Class room / Blended	Credits	:	4
Credits	:	4	CIA marks	:	25
No. of lecture hours / week	:	4	Semester end exam	:	75
Total no. of lecture hours	:	60	Total marks	:	100
Year of Introduction	:	2021-22	Year of Revision	:	2021-22
% of revision:	:	100%			

Course content suggested by APSCHE	Additions	Deletions
Unit - 1 **Introduction to Data Structures** , **Arrays**	**Principles of Programming and Analysis of Algorithms**	-------
Unit - 2 **Linked Lists:** **Stacks:** **Queues:**	****STACKS, QUEUES Topics moved to Unit-3**	-------
Unit - 3 **Binary Trees:**	Binary Trees Topic moved to unit- 4	-------
Unit-4 **Graphs:**	**Graphs Topic moved to unit-5**	-------
Unit-5 **Searching and sorting:**	-------	-------

It is resolved and recommend the changes in the syllabus of course code: CSCT21B Course: Data Structures from the academic year 2021-22 onwards for IBSC(MPCS,MCCS,MSCS), II Semester.

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Title of the Paper: Data Structures   **Semester: II**

Course Objectives

To introduce the fundamental concept of data structures and to emphasize the importance of various

data structures in developing and implementing efficient algorithms.

Course Outcomes:

COURSE OUTCOME NO	Upon successful completion of the course, student will be able to:	PROGRAM OUTCOME NO
CO1	Learn the concepts of ADT and understand analysis of algorithms	PO1, PSO1, PSO2, PSO4
CO2	Understand available Data Structures for data storage and processing.	PO1, PSO1, PSO2, PSO4
CO3	Learn stacks, queues and their applications	PO1, PSO1, PSO2, PSO4
CO4	Understand trees, graphs and implement their operations	PO1, PO7, PSO1, PSO2, PSO4
CO5	Develop ability to implement different Sorting and Search methods	PO1, PO7, PSO1, PSO2, PSO4

Syllabus

UNIT – I: **11Periods**

Introduction to Data Structures: Introduction to the Theory of Data Structures, Data Representation, Abstract Data Types, Data Types, Primitive Data Types, Data Structure and Structured Type, Atomic Type, Difference between Abstract Data Types, Data Types, and Data Structures, Refinement Stages.

Principles of Programming and Analysis of Algorithms: Software Engineering, Program Design, Algorithms, Different Approaches to Designing an Algorithm, Complexity, Big 'O' Notation, Algorithm Analysis, Recursion.

UNIT – II: **11Periods**

Linked Lists: Introduction to Lists and Linked Lists, Basic Linked List Operations, Doubly Linked List, Circular Linked List, Atomic Linked List, Linked List in Arrays, Linked List versus Arrays

UNIT – III: **14Periods**

Stacks: Introduction to Stacks, Stack as an Abstract Data Type, Representation of Stacks through Arrays, Representation of Stacks through Linked Lists, Applications of Stacks, Stacks and Recursion

Queues: Introduction, Queue as an Abstract data Type, Representation of Queues, Circular Queues, Double Ended Queues- De-ques, Priority Queues, Application of Queues

UNIT – IV: **10Periods**

Binary Trees: Introduction to Non- Linear Data Structures, Introduction Binary Trees, Types of Trees, Basic Definition of Binary Trees, Properties of Binary Trees, Representation of Binary Trees, Operations on a Binary Search Tree, Binary Tree Traversal, Counting Number of nodes in Binary Trees, Applications of Binary Tree

UNIT – V: **14Periods**

Searching and sorting: Sorting – An Introduction, Bubble Sort, Insertion Sort, Merge Sort, searching – An Introduction, Linear or Sequential Search, Binary Search, Indexed Sequential Search

Graphs: Introduction to Graphs, Terms Associated with Graphs, Sequential Representation of Graphs, Linked Representation of Graphs, Traversal of Graphs, Spanning Trees, Shortest Path, Application of Graphs.

BOOKS:

- "Data Structures using C", ISRD group Second Edition,TMH
- Data Structures through C", YashavantKanetkar, BPBPublications
- "Data Structures Using C" Balagurusamy E.TMH

RECOMMENDED CO-CURRICULAR ACTIVITIES:

    (Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

B. General

1. Group Discussion
2. Others

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Programming exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports.
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work.

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MODEL Question Paper: 2021-2022

TITLE: DATA STRUCTURES   **COURSE CODE:** CSCT21B

SECTIONS: B.Sc. (MPCS / MCCS / MSCS)   SEMESTER: II

TIME: 3 Hrs.   **MAX: 75M**

SECTION –A

ANSWER ANY FIVE QUESTIONS   **5 X 5 =25 M.**

1. What is an ADT? Explain with an example. **{CO$_1$, L2}**

2. Explain about algorithm analysis. **{CO$_1$, L2}**

3. Distinguish between linked lists and arrays. **{CO$_2$, L2}**

4. Evaluate the postfix expression **2 3 1 * + 9 -. {CO$_3$, L5}**

5. Explain about min and max priority queues**. {CO$_3$, L2}**

6. Construct binary tree from the following in order and pre order traversals

   In order: D B E A F C

   Pre order: A B D E C F {**CO$_4$, L3**}

7. Explain various representations of graphs with your own example. **{CO$_5$, L2}**

8. Develop a C program for linear search. **{CO$_5$, L3}**

SECTION – B

ANSWER ALL THE QUESTIONS   **5 X 10 =50 M.**

9   a) Explain about Data structure, structured type and atomic type. **{CO$_1$, L2}**

                                (Or)

   b) Explain about Time Complexity and Space Complexity. **{CO$_1$, L2}**

10   a) Explain about inserting and deleting a node in double linked list.**{CO$_2$, L2}**

                                (Or)

   b) Explain about insertion in atomic node linked list. **{CO$_2$, L2}**

11 a) Develop a C program for stack's using arrays. **{CO$_3$, L3}**

                                (Or)

   b) Develop a C program for circular queues. **{CO$_3$, L3}**

12   a) Explain about binary tree traversals with an example.**{CO$_4$, L2}**

                                (Or)

   b) Demonstrate with an example deleting a node in a binary search tree. **{CO$_4$, L2}**

13 a) Illustrate Merge sort with an example and write code for it. **{CO$_5$, L2}**

                                (Or)

   b) Illustrate Depth First search with an example. **{CO$_5$, L2}**

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BLUE PRINT

TITLE: DATA STRUCTURES   **COURSE CODE: CSCT21B**
SECTIONS: B.SC(MPCS / MCCS / MSCS)   **SEMESTER: II**
TIME: 3 Hrs.   **MAX: 75M**

SECTION-A

ANSWER ANY FIVE QUESTIONS   **5X5=25M**

1. Unit 1
2. Unit 1
3. Unit 2
4. Unit 3
5. Unit 3
6. Unit 4
7. Unit 5
8. Unit 5

SECTION – B

ANSWER ALL THE QUESTIONS   **5 X 10 =50 M.**

9   a)Unit 1.
           (Or)
           b) Unit 1.
10   a) Unit 2.
           (Or)
           b) Unit 2.
11   a)Unit 3.
           (Or)
            b) Unit 3.
12   a) Unit 4.
           (Or)
            b) Unit 4.
13   a) Unit 5.
           (Or)
           b) Unit 5.

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Semester II	Course Code	Course Title	Hours	Credits
BSC(MPCS/MCCS/MSCS)	CSCT21B	Data Structures Lab	30	1

COURSE OUTCOME NO	Upon successful completion of this course, students should have the knowledge and skills to:	PROGRAM OUTCOME NO
CO1	Implement stacks, queues using arrays and linked lists.	PO1, PSO1, PSO2, PSO4
CO2	Write program for conversion from infix to postfix.	PO1, PSO1, PSO2, PSO4
CO3	Implement different sorting and searching techniques.	PO 7, PSO1, PSO2, PSO4
CO4	Construct binary trees and binary search trees.	PO 1, PSO1, PSO2, PSO4
CO5	implement binary tree and Graph traversals.	PO1,PO 7, PSO1, PSO2, PSO4

Lab Experiments List

Cycle - I

Week 1: Write a program to read 'N' numbers of elements into an array and also perform the following operation on an array

- Add an element at the beginning of an array

- Insert an element at given index of array

- Update a element using a values and index

- Delete an existing element

Week 2: Write Program to implement the Stack operations using an array.

Week 3: Write a program using stacks to convert a given infix expression to postfix.

Week 4: Write a program for arithmetic expression evaluation.
Week 5: Write Program to implement the Stack operations using Liked List.

Week 6: Write Program to implement the Queue operations using an array.

Week 7: Write Program to implement the Queue operations using Liked List.

Week 8: Write Program to implement circular Queue operations using an array.

Cycle - II

Week 9: Write a program to implement de-queues.

Week 10: Write a program to implement single linked list.

Week 11: Write a program to implement double linked list.

Week 12: Write a program for Binary Search Tree Traversals.

Week 13: Write a program to search an item in a given list using the following Searching Algorithms

- Linear Search
- Binary Search.

Week 14: Write a program for implementation of the following Sorting Algorithms

- Bubble Sort
- Insertion Sort
- Merge sort

Week 15: Write a program for implementation of the following graph traversals.

- BFS
- DFS

DEPARTMENT OF COMPUTER SCIENCE

Minutes of the meeting of Board of Studies in Computer Science for UG held on 07-04-2022in theDepartment of   Computer Science.

Semester	:	II	Programme	:	BCOM(CA)
Course	:	E–COMMERCE & WEB DESIGNING	Course Code	:	CABT21A
Course delivery method	:	Class room / Blended	Credits	:	4
Credits	:	4	CIA marks	:	25
No. of lecture hours / week	:	4	Semester end exam	:	75
Total no. of lecture hours	:	60	Total marks	:	100
Year of Introduction	:	2021-22	Year of Revision	:	2021-22
% of revision:	:	100%			

Course content suggested by APSCHE	Additions	Deletions
Unit – 1 Introduction,Electronic Commerce	An Overview on E-Commerce Business Models for Ecommerce	-------
Unit - 2 payment System	E-Marketing &E – CRM& Electronic Payment Systems Online Marketing	-------
Unit - 3 On-line Business Transactions:	Electronic Payment Systems	-------
Unit-4 Introduction to HTML	Introduction to Web Designing HTML	-------
Unit-5 Website Designing: Hyperlinks:	Website Designing: Hyperlinks topic **moved to** UNIT-4 Introduction to WIX Editor Getting Started with Wix	-------

It is resolved and recommend the changes in the syllabus of course code: **CABT21A** Course: **E–COMMERCE & WEB   DESIGNING** from the academic year 2021-22 onwards for IBCOM(CA), II Semester.

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Title of the Paper: **E–COMMERCE & WEB DESIGNING**   Semester: II

COURSE OBJECTIVES:
The main objective of the course is to impart conceptual understanding on business transactions on worldwide web and electronic commerce & Electronic Customer Relationship Management and Web designing concepts for providing quality content on website.

COURSE OUTCOMES:

COURSE OUTCOME NO	Upon successful completion of this course, students should have the knowledge and skills to
CO1	Understand the structure of HTML its basic tags
CO2	Implement various HTML tags for web page development
CO3	Understand about implementing forms and frames in web page designing
CO4	Gain knowledge in E- commerce and its business models
CO5	Differentiate traditional and e – marketing and also gain knowledge in E-CRM and EPS

UNIT I: An Overview on E-Commerce   (10periods)
    Introduction E-Commerce
Definition of E- Commerce and its advantages & disadvantages
Electronic Data Interchange (EDI)
E-Commerce transactional issues and challenges
Difference between Commerce and E-Commerce
    Business Models for Ecommerce
        B2C -Business to consumer. B2B – Business to business C2B – Consumer to business. C2C – Consumer to consumer.

UNIT II: E-Marketing &E – CRM& Electronic Payment Systems   (10periods)
    Online Marketing
        Traditional Vs. E-Marketing
        Online Marketing
        E-Advertising
        Internet marketing
  E – CRM
     Definition of CRM and E-CRM and its Applications
    E- CRM Architectural components
    Definition & characteristics of E- SCM
    Benefits and goals of E – SCM 2.2.5 E-Logistics of UP

UNIT III: Electronic Payment Systems   (10periods)
    Types of EPS
  Traditional payment system and modern payment system
  Steps for electronic payment 3.4 Payment security

UNIT IV: Introduction to Web Designing   (12periods)
  4.1 **HTML**
    .1Define HTML 4.1.2 Structure of HTML   4.1.3   Basic HTML tags
4.1.4   Formatting HTML tags
    Lists
    Ordered List   4.2.2 Unordered List
    4.3**Links**
4.3.1 Link tag   4.3.2   Image tag   4.3.3   Marquee tag 4.4**Tables**
4.4.1 Table Creation   4.4.2   Attributes of Table

4.5**forms& Frames**
4.5.1   Forms creation   4.5.2   Form tag   4.5.3   Input fields of form
4.5.4   Frame Creation   4.5.5   Frameset tag 4.5.6   Frame tag
UNIT V: Introduction to WIX Editor   **(18periods)**

Getting Started with Wix
Adding and Editing Text
Adding a Site Title
Changing Your Text Font
Creating a Clickable URL
Adding Language Fonts
Adding Elements to Your Site
Arranging the Content on Your Site's Pages
About the Header
About the Footer

Adding an Image to Your Page Background
Uploading Your Own Background Image
Adding a Video to Your Page Background
Uploading Your Own Video Page Background
Uploading Your Own Images
Adding a Logo to Your Site
Adding a Link to an Image

Gallery and Button
Adding a Gallery
Cropping and Editing Gallery Images
Adding and Setting Up an Icon Button
Adding a Link to a Button

Video
Adding a Video from YouTube
Retrieving a YouTube URL

Menu
Adding a Site Menu
Customizing Your Menu Design
Adding and Deleting a Menu Folder
Reordering Menu Items
Changing the Direction of Menu Items

Text Book:
1. Uttam Kumar Roy, Web Technologies, Oxford University Press.
2. E-Commerce- A Managerial Perspective- P. T. Joseph, Prentice- Hall of India, New Delhi, 2005.

References:
1. Kogent Learning Solutions Inc.(Author), "Black Book HTML 5.0", dramatic.
2.Daniel Amor, E-Business R(Evolution), Pearson Edude, New Delhi, 2005.

Weblink: **https://support.wix.com/en/the-wix-editor/editor-basics**

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Title: E-Commerce Web Designing
Model Paper

CLASS: B.Com (Computer Applications)	**Course Code: CABT21A**	**Max. Marks: 75M**
Semester: II		**Time: 3 Hours**

Section-A

ANSWER <u>ANY FIVE</u> QUESTIONS   **5X5M=25M**

1. Explain the E-Commerce (CO1, L2)

2. Compare Traditional marketing and E-Marketing. (CO2, L2)

3. Define Networks and its types? (CO3, L1)

4. Explain Link tags in HTML (CO4, L2)

5. Explain the steps to add a link to a button (CO5, L1)

6. Compare Commerce and E-Commerce. (CO1, L2)

7. Explain Benefits and goals of E – SCM. (CO2, L2)

8. Demonstrate concept of formatting Tags (CO4, L2)

Section-B

ANSWER THE FOLLOWING QUESTIONS   **5X10M=50M**

9. (A) Explain EDI. (CO1, L2)

(OR)

(B) Classify Business Models for Ecommerce. (CO1, L2)

10. (A) Illustrate E- CRM Architectural components. (CO2, L2)

(OR)

(B) Explain Electronic Payment Systems. (CO2, L2)

11. (A) Define Structure of HTML with examples (CO3, L1)

(OR)

(B) What are different types Network Topologies? (CO3, L1)

12. (A) Demonstrate the concept of Table creation with apply all Attributes. (CO4, L2)

(OR)

(B) Define forms in html and creation of form with all input types? (CO4, L1)

13. (A) Explain the steps to add elements to your site. (CO5,L1)

(OR)

(B) How to add images and logo to your site (CO5, L1)

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Computer Science	CABT21A	2021-22	B. Com (Computers Applications)

Semester - II   **Credits: 1**
WEB DESIGNING LAB
COURSE OBJECTIVES:
The purpose of this course is to introduce to students to the field of creation web pages using HTML language. The students will be able to enhance their analyzing and help to creation for Web Site Design

COURSE OUTCOMES:

COURSE OUTCOME NO	on successful completion of this course, students should have the knowledge and skills to
CO1	Implement HTML tags.
CO2	plementing lists and tables in web pages.
CO3	plementing frames in web pages.
CO4	plementing frames in web pages.
CO5	eation of CSS in a web page.

Week 1: Write a HTML program to print text in bold and italic font.
Week 2: Write a HTML program to print Heading tags.
Week 3: Write a HTML program using Text formatting tags
Week 4: Write a HTML program to implement unordered lists.Write a HTML program to implement order lists.
Week 5: Write a html file which display 3 images at LEFT, RIGHT and CENTER respectively in the browser.
Week 6: Create a HTML file which contains hyperlinks.
Week 7: Write a HTML program to create a table
Week 8: Write a HTML program to create a table using Row Span and Cols pan.
Week 9: Write a HTML program to Create a simple form
Week 10: Create a Registration form that interacts with the user. Collect login name, password, date of birth, gender, address, qualification.
Week 11: Create a HTML page using frameset tag.

Developing Websites using WIX: https://www.wix.com/blog/2020/05/how-to-design-a-website/
Week 12: An online store to sell your products.
Week 13: A photography website to display and sell prints.
Week 14:A fitness website to book new clients.
Week 15: A restaurant website to help with online orders, delivery and payment.

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Title of the Paper: **Information Technology**   Semester: II

Course Code	**CABT21A**	Course Delivery Method	Class Room / Blended Mode – Both
Credits	4	CIA Marks	25
No. of Lecture Hours / Week	4	Semester End Exam Marks	75
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

COURSE OBJECTIVES:
It provides to learn computer basics and basic principles of using Windows operation system and be able to access the Internet, data communication, Software, hardware and various new technologies in information technology.

Course Outcomes:

COURSE OUTCOME NO	Upon successful completion of this course, students should have the knowledge and skills to
CO1	Understand fundamental concepts of a computer and its basic components
CO2	Understand basic functioning of an operating system and customizing Windows Desktop
CO3	Analyze type of soft ware's and programming languages
CO4	Have knowledge in basic Network and Data Communication Concepts
CO5	Understand the need of data mining and get familiarize with basics of new concepts like KDD, OLAP

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Semester II	Course Code	Course Title	Credits	Periods
B.Com.(E-Commerce Computer)	CABT21A	**Information Technology**	**4**	**75**

UNIT-I: INTRODUCTION: 13Periods
Introduction to computers

Generations of computers

An overview of computer system - Types of computers

Input & Output Devices.

Hardware: Basic components of a computer system- Control unit– ALU- Input/outputfunctions.

Memory – RAM – ROM – EPROM - PROM and Other types of memory.

UNIT-II: OPERATING SYSTEM (OS):   12Periods
Meaning - Definition & Functions.

Types of OS - Booting process

DOS – Commands (internal & external) - Wild card characters

Windows: Using the Start Menu –Control Panel – Using multiple

Windows – Customizing the Desktop – Windows accessories (Preferably latestversion of windows or Linux Ubuntu).

Unit-III: SOFTWARE: 15Periods
System software and application software.

Operating system windows OS,

Mobile device operating system and notebook operating systems

Application software Types of personal application software

Spread sheet-data management

Word processing

Desktop publishing

Graphics, CAD, CAM, CIM

Programming Languages

Assembly language

Procedural language, non-procedural language, natural programming language.

Hypertext mark-up language, modeling language, object-oriented programming language.

Unit-IV: DATA COMMUNICATION: 20 Periods

Telecommunication and Networks Communication media& channel cable media

Broad cast media channels twisted pair

Coaxial cable, fibers optical cable, micro wave, satellite, radio, cellular radio,

Infrared global positioning system.

Introduction, Analog and Digital signals, modulation need of modulations, modems.

Telecommunication System communication processors:

Modem

Multiplexers

Front –end-processor.

Networks LAN, WAN, VAN, virtual private network (VPN).

Internet, intranet and Extranets

The evolution of the internet, service provided by the internet, World Wide Web.

Unit-V: NEW TECHNOLOGIES: **10 Periods**

New technologies in Information Technology:

Introduction to hyper media, artificial intelligence and business intelligence, knowledgediscovery in database (KDD)

Data warehouse and data marts. Data mining and OLAP.

Student Activity:

Students have to submit assignments and give seminars on various topics allotted to them.

Total of 5 Hrs is allotted for student seminars. Student activity also includes gathering of information related to latest technologies in computers.

Library Activity:

Students will visit library in their allotted time and will refer various text books to gather information for their assignments.

TEXT/ REFERENCE BOOKS:

1. B.E.V.L.Naidu, V.V.. Devi Prasad Konti, Ganti Naga Srikanth, Himalaya publishing House.
2. Introduction to Computers: Peter Norton, McGraw Hill

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MODEL Question Paper:
PAPER TITLE: INFORMATION TECHNOLOGY   **COURSE CODE: CABT21A**
CLASS: B.Com (E-Commerce-Computers)
SEMESTER: II
TIME: 3 Hrs.   **MAX: 75M**

SECTION – A

Answer any five of the following   **5X5 =25M**
1. Illustrate the characteristics of RAM and ROM. (CO1, L2)

2. Define Operating system. What are different types of OS? (CO2, L1)

3. Demonstrate application software and system software. (CO3, L2)

4. What are the different types of networks? (CO4, L1)

5. Explain the steps involved in the process of KDD. (CO5, L2)

6. Explain about input devices. (CO1, L2)

7. What are analog and digital signals? (CO4, L1)

8. Explain Data warehouse. (CO5, L2)

SECTION –B

Answer the following   **5x10=50M**

9.   a) Explain the block diagram of computer. (CO1, L2)
                                    OR
     b) Explain the generations of computers. (CO1, L2)

10. a) What are the functions of operating system? (CO2, L1)
                                    OR
     b) What are DOS Internal and External commands? (CO2, L1)

11. a) Explain the characteristics of various types of programming languages. Give examples. (CO3, L2)
                                    OR
    b) Summarize the concepts on CAD, CAM and CIM. (CO3, L2)

12. a) Define the various types of Communication media and channels. (CO4, L1)
                                    OR
     b) What are the Advantages and Disadvantages of Internet? (CO4, L1)

13. a) Demonstrate On-Line Analytical process (OLAP). (CO5, L2)
                                    OR
 b) Explain about Artificial Intelligence and Business Intelligence. (CO5, L2)
                                    @ @ @ @

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Title of the Paper: **COMPUTER APPLICATIONS**　　　　　　Semester: II

Course Code	**CABT22A**	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	25
No. of Lecture Hours / Week	4	Semester End Exam Marks	75
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

COURSE OBJECTIVES:
It provides to learn computer basics and basic principles of using Windows operation system and be able to access the Ms-Office, Power Point, Excel and various new technologies in information technology.

Course Outcomes:

COURSE OUTCOME NO	Upon successful completion of this course, students should have the knowledge and skills to
CO1	Understand fundamental concepts of a computer and its basic components
CO2	Understand basic functioning of an Ms-Office and MS-Word Window Components Windows Desktop
CO3	Analyze type of soft ware's and programming languages
CO4	Have knowledge in MS-Excel and MS Access
CO5	Understand the need of Finding, Sorting and Displaying Data and get familiarize

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COMPUTER SCIENCE	CABT22A	2021-'22	B.Com(E-Commerce-computers)

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

Syllabus   **COMPUTER APPLICATIONS**   **NO. Of Hrs**: **4**   **Credits**: **3**

Unit-I: MS-Word   **10 Hrs**

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

Unit-II: MS-PowerPoint   **10 Hrs**

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

Unit-III: MS-Excel   **10Hrs**

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

Unit-IV: MS Access: 12Hrs

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

Unit- V: Finding, Sorting and Displaying Data: **12Hrs**

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

Reference Books:

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

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

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

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COMPUTER SCIENCE	CABT22A	2021-'22	B.Com(e-commerce-computers)

SEMESTER – II   **PAPER – III**   **Max. Marks 75**

<u>**Model Paper**</u>: **COMPUTER APPLICATIONS** NO of Hours: 4   No Of Credits: 3   Pass Marks 30
<u>Section-A</u>

*Answer any <u>**FIVE**</u> Questions. Each question carries FIVE Marks   5x5=25M*

1. UNIT -1 ....   5M
2. UNIT -1 ....   5M
3. UNIT -2 ....   5M
4. UNIT -2 ....   5M
5. UNIT -3 ....   5M
6. UNIT -3 ....   5M
7. UNIT -4 ....   5M
8. UNIT -5 ....   5M

<u>Section-B</u>

Answer All Questions. Each question carries TEN Marks   5X10=50M

9.a) UNIT -1 ....   10M

(Or)

 b). UNIT -1 ....   10M

10. a) UNIT -2 ....   10M

(Or)

 b). UNIT -2 ....   10M

11. a) UNIT -3 ....   10M

(Or)

 b). UNIT -3 ....   10M

12. a) UNIT -4 ....   10M

(Or)

 b). UNIT -4 ....   10M

13. a) UNIT -5 ....   10M

(Or)

 b). UNIT -5 ....   10M

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Title of the Paper: DIGITAL MARKETING

Course Code	SDCCSC02	Course Delivery Method	Class Room / Blended Mode – Both
Credits	**2**	CIA Marks	10
No. of Lecture Hours / Week	2	Semester End Exam Marks	40
Total Number of Lecture Hours	30	Total Marks	50
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Objective:
The aim of the Digital Marketing Course is to provide students with the knowledge about business advantages of the digital marketing and its importance for marketing success. The application of the gained knowledge, skills and competences will help students in forming digital marketing plan in order to manage a digital marketing performance efficiently.

Course Outcomes:

COURSE OUTCOME NO	on successful completion of this course, students should have the knowledge and skills to
CO1	derstand fundamental concepts of Digital Marketing and Channels (PO1, PO7, PSO1, PSO4)
CO2	derstand how to optimize a Web site and SEO optimization)1, PO7, PSO1, PSO4)
CO3	nderstand Social Media Plan for measuring effects of digital marketing)1, PO7, PSO1, PSO4)

UNIT-I: INTRODUCTION: **5 Periods**
   What is Digital Marketing?
   Difference between Traditional Marketing and Digital Marketing?
   Benefits of Digital Marketing?
   Latest Digital Marketing Trends
   Digital Marketing Platforms
   Digital Marketing Strategies for Websites
   Career Opportunities in Digital Marketing
   Difference Between Digital Marketing , Online Marketing and Internet Marketing
   Functions and Types of Digital marketing
      What is Marketing and how to build Online Marketing Plan
      Digital Marketing Process
      How to increase Visibility and People Engagement
      Traffic Generation Techniques , Leads and How to gauge Performance Evaluation
      Digital Marketing Techniques for Product Marketing and Service Marketing

UNIT-II: SEO Training (Search Engine Optimization)   **12Periods**

Introduction to SEO
What are Search engines and How Search Engines Work
Search Engine Algorithms and Latest Updates
Keyword Research
Google Trends
Purpose of website analytics
How to choose Website Analysis Tools
Installing Google Analytics in website
Competitive Analysis
   Domain Registration and Hosting Plans
   Keyword Placement
   SEO Content Writing and Rewriting
   Google Webmaster Tools
   Sitemap Creation
   Robots.txt File Creation
   Google Updates and their effects in website Rankings.
   On page Optimization strategies

Unit-III:SEM Training (Search Engine Marketing)   **13Periods**
Introduction to Free and Paid Marketing
What is Search Engine Marketing?
What is Link Building
Advantages and Disadvantages of Link Building
Difference Between Search engines and Directories
Directory Submission Techniques
Classified Postings
Press Release Postings
   Article Posting Techniques
   Forum Postings
   Advantages and Disadvantages of Forums
   How and when to Participate in Groups
   Trade Fairs and Trade lead Postings
   Participating in Questions and Answers sites
   What are Do Follow and No Follow Links
   SMO Training (Social Media Optimization)Introduction to social media optimization and Social
   Media Marketing
   Twitter Marketing
   Facebook Marketing, Facebook for Business , Advantages and Disadvantages
   LinkedIn Account creation and LinkedIn Marketing
   Social Bookmarking Sites, Advantages and Disadvantages of Submitting your website toSocial
   bookmarking Sites

TEXT/ REFERENCE BOOKS:
   1. The Beginner's Guide to Digital Marketing (2015). Digital Marketer. Pulizzi,J.(2014) Epic Content
      Marketing, Mcgraw Hill Education.
   2. Ryan, D. (2014). Understanding Digital Marketing: Marketing Strategies for Engaging the Digital
      Generation, Kogan Page Limited.
   3. Chaffey, D., e-Marketing Excellence: Planning and Optimizing Your Digital Marketing,
      Burlington: Elsevier.

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(With Effect from Academic Year 2021-22)
MODEL Question Paper:

PAPER TITLE: Digital Marketing   **COURSE CODE: SDCCSC02**
SEMESTER: II
TIME: 2 Hrs.   **MAX: 40M**

<u>**SECTION – A**</u>   (Total: 4x7=28 Marks)

Answer any **four questions**. Each answer carries **7 marks**

1.
2.
3.
4.
5.
6.

<u>**SECTION – B**</u>   (Total: 6x2 = 12 Marks)

Answer any **Six questions**. Each answer carries **2 marks**

7.
8.
9.
10.
11.
12
13
14
15
16

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Title of the Paper: OBJECT ORIENTATED PROGRAMMING THROUGH JAVA

Semester: IV

Course Code	CSCT01	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: To introduce the fundamental concepts of Object-Oriented programming and to design & implement object oriented programming concepts in Java.

Course Outcomes:

CO$_1$	Understand the benefits of a well-structured program
CO2	Understand different computer programming paradigms
CO3	Understand underlying principles of Object-Oriented Programming in Java
CO4	Develop problem-solving and programming skills using OOP concepts
CO5	Develop the ability to solve real-world problems through software development inhigh-level programming language like Java

Syllabus

UNIT – I: Introduction to Java: Features of Java, The Java virtual Machine, Parts of Java

Naming Conventions and Data Types: Naming Conventions in Java, Data Types in Java, Literals

Operators in Java: Operators, Priority of Operators

Control Statements in Java: if... else Statement, do... while Statement, while Loop, for Loop, switch Statement, break Statement, continue Statement, return Statement

Input and Output: Accepting Input from the Keyboard, Reading Input with Java.util.Scanner Class, Displaying Output with System.out.printf(), Displaying Formatted Output with String. Format ()

Arrays: Types of Arrays, Three Dimensional Arrays (3D array), arrayname.length, Command Line Arguments

UNIT – II

Strings: Creating Strings, String Class Methods, String Comparison, Immutability of Strings

Introduction to OOPs: Problems in Procedure Oriented Approach, Features of Object-Oriented Programming System (OOPS)

Classes and Objects: Object Creation, Initializing the Instance Variables, Access Specifiers, Constructors

Methods in Java: Method Header or Method Prototype, Method Body, Understanding Methods, Static Methods, Static Block, The keyword 'this', Instance Methods, Passing Primitive Data Types to Methods, Passing Objects to Methods, Passing Arrays to Methods, Recursion, Factory Methods

Inheritance: Inheritance, The keyword 'super', The Protected Specifier, Types of Inheritance

UNIT – III

Polymorphism: Polymorphism with Variables, Polymorphism using Methods, Polymorphism with Static Methods, Polymorphism with Private Methods, Polymorphism with Final Methods, final Class

Type Casting: Types of Data Types, Casting Primitive Data Types, Casting Referenced Data Types, the Object Class

Abstract Classes: Abstract Method and Abstract Class

Interfaces: Interface, Multiple Inheritance using Interfaces

Packages: Package, Different Types of Packages, The JAR Files, Interfaces in a Package, Creating Sub Package in a Package, Access Specifiers in Java, Creating API Document

Exception Handling: Errors in Java Program, Exceptions, throws Clause, throw Clause, Types of Exceptions, Re – throwing an Exception

UNIT – IV

Streams: Stream, Creating a File using File Output Stream, Reading Data from a File uingFileInputStream, Creating a File using File Writer, Reading a File using File Reader, Counting Number of Characters in a File, File Copy, File Class

Threads: Single Tasking, Multi Tasking, Uses of Threads, Creating a Thread and Running it, Terminating the Thread, Single Tasking Using a Thread, Multi Tasking Using Threads, Multiple Threads Acting on Single Object, Thread Class Methods, Deadlock of Threads, Thread Communication, Thread Priorities, thread Group, , Applications of Threads, Thread Life Cycle

UNIT – V

Applets: Creating an Applet, Uses of Applets, <APPLET> tag, A Simple Applet, An Applet with Swing Components, Animation in Applets, A Simple Game with an Applet, Applet Parameters

Java Database Connectivity: Database Servers, Database Clients, JDBC (Java Database Connectivity), Working with Oracle Database, Working with MySQL Database, Stages in a JDBC Program, Registering the Driver, Connecting to a Database, Preparing SQL Statements, Using jdbc–odbc Bridge Driver to Connect to Oracle Database, Retrieving Data from MySQL Database, Retrieving Data from MS Access Database, Stored Procedures and Callable Statements, Types of Result Sets

BOOKS:

1. Core Java: An Integrated Approach, Authored by Dr. R. Nageswara Rao &Kogent Learning Solutions Inc.

2. E.Balaguruswamy, Programming with JAVA, A primer, 3e, TATA McGraw-Hill Company.

3. John R. Hubbard, Programming with Java, Second Edition, Schaum's outline Series, TMH.

4. Deitel& Deitel. Java TM: How to Program, PHI (2007)

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COMPUTER SCIENCE	CSCT01	2021-'22	B.Sc.(MPCs,MCCs)

SEMESTER – IV **PAPER – IV** **Max. Marks 70**

Model Paper: 'OBJECT ORIENTATED PROGRAMMING THROUGH JAVA'

NO of Hours: 4 **No Of Credits: 3** **Pass Marks 28**

Section-A

*Answer any **FOUR** Questions. Each question carries FIVE Marks* *4x5=20M*

1. UNIT -1 .... 5M
2. UNIT -1 .... 5M
3. UNIT -2 .... 5M
4. UNIT -3 .... 5M
5. UNIT -4 .... 5M
6. UNIT -5 .... 5M

Section-B

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

7. UNIT -1 .... 10M
8. UNIT -2 .... 10M
9. UNIT -2 .... 10M
10. UNIT -3 .... 10M
11. UNIT -3 .... 10M
12. UNIT -4 .... 10M
13. UNIT -4 .... 10M
14. UNIT -5 .... 10M

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COMPUTER SCIENCE	CSCT01	2021-'22	B.Sc.(MPCs,MCCs)

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

Guidelines for paper setting '**OBJECT ORIENTATED PROGRAMMING THROUGH JAVA**

Unit wise weight age of Marks

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

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

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(With Effect from Academic Year 2021-22)

COMPUTER SCIENCE	CSCT01P	2021-'22	B.Sc.(MPCS,MCCs)

SEMESTER – IV   **PAPER – 1V**   **Max. Marks 50**

Lab List: OBJECT ORIENTATED PROGRAMMING THROUGH JAVA

No. of Hours per week: 2   External: 40   Internal: 10   Credits: 1

1. Write a program to read *Student Name, Regd.No, Marks [5]* and calculate Total, *Percentage, and Result*. Display all the details of students

2. Write a program to perform the following String Operations
   a. Read a string
   b. Find out whether there is a given substring or not
   c. Compare existing string by another string and display status
   d. Replace existing string character with another character
   e. Count number of works in a string

3. Java program to implements Addition and Multiplication of two N X N matrices.

4. Java program to demonstrate the use of Constructor.

5. Calculate area of the following shapes using method overloading.
   a. Triangle
   b. Rectangle
   c. Circle
   d. Square

6. Implement inheritance between *Person (Aadhar, Surname, Name, DOB, and Age)* and *Student (Admission Number, College, Course, Year)*classes where ReadData(), Display Data() are overriding methods.

7. Java program for implementing Interfaces

8. Java program on Multiple Inheritance.

9. Java program for to display *Serial Number from 1 to N* by creating two Threads

10. Java program to demonstrate the following exception handlings
    a. Divided by Zero
    b. Array Index Out of Bound
    c. File Not Found
    d. Arithmetic Exception
    e. User Defined Exception

11. Create an Applet to display different shapes such as Circle, Oval, Rectangle, Square and Triangle.

12. Write a program to create **Book (ISBN,Title, Author, Price, Pages, Publisher)**structure and store book details in a file and perform the following operations

    a. Add book details

    b. Search a book details for a given ISBN and display book details, if available

    c. Update a book details using ISBN

    d. Delete book details for a given ISBN and display list of remaining Books

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ISO 9001 – 2015 Certified

Title of the Paper: OPERATING SYSTEM   **Semester: IV**

Course Code	CSCT41C	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: This course aims to introduce the structure and organization of a file system. It emphasizes various functions of an operating system like memory management, process management, device management, etc.

.**Course Outcomes:**

CO$_1$	Know Computer system resources and the role of operating system in resourcemanagement with algorithms
CO2	Understand Operating System Architectural design and its services
CO3	Gain knowledge of various types of operating systems including Unix and Android
CO4	Understand various process management concepts including scheduling,synchronization, and deadlocks.
CO5	Have a basic knowledge about multithreading.
CO6	Comprehend different approaches for memory management.

SYLLABUS

UNIT- I what is Operating System? History and Evolution of OS, Basic OS functions, Resource Abstraction, Types of Operating Systems– Multiprogramming Systems, Batch Systems, Time Sharing Systems; Operating Systems for Personal Computers, Workstations and Hand-held Devices, Process Control & Real time Systems.

UNIT- II Processor and User Modes, Kernels, System Calls and System Programs, System View of the Process and Resources, Process Abstraction, Process Hierarchy, Threads, Threading Issues, Thread Libraries; Process Scheduling, Non-Preemptive and Preemptive Scheduling Algorithms.

UNIT III Process Management: Deadlock, Deadlock Characterization, Necessary and Sufficient Conditions for Deadlock, Deadlock Handling Approaches: Deadlock Prevention, Deadlock Avoidance and Deadlock Detection and Recovery. Concurrent and Dependent Processes, Critical Section, Semaphores, Methods for Inter- process Communication; Process Synchronization, Classical Process Synchronization Problems: Producer-Consumer, Reader-Writer.

UNIT IV Memory Management: Physical and Virtual Address Space; Memory Allocation Strategies– Fixed and -Variable Partitions, Paging, Segmentation, Virtual Memory.

UNIT V File and I/O Management, OS security : Directory Structure, File Operations, File Allocation Methods, Device Management, Pipes, Buffer, Shared Memory, Security Policy Mechanism, Protection, Authentication and Internal Access Authorization Introduction to Android Operating System, Android Development Framework, Android Application Architecture, Android Process Management and File System, Small Application Development using Android Development Framework.

REFERENCE BOOKS:

1. Operating System Principles by Abraham Silberschatz, Peter Baer Galvin and GregGagne (7thEdition) Wiley India Edition.
2. Operating Systems: Internals and Design Principles by Stallings (Pearson)
3. Operating Systems by J. Archer Harris (Author), Jyoti Singh (Author) (TMH)
4. Online Resources for UNIT V

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COMPUTER SCIENCE	CSCT41C	2021-'22	B.Sc.(MPCs,MCCs)

SEMESTER – IV	**PAPER – V**	**Max. Marks 70**

Model Paper: 'OPERATING SYSTEM

NO of Hours: 4   **No Of Credits: 3**   **Pass Marks 28**

Section-A

*Answer any **FOUR** Questions. Each question carries FIVE Marks   4x5=20M*

1. UNIT -1... 5M
2. UNIT -1... 5M
3. UNIT -2... 5M
4. UNIT -3... 5M
5. UNIT -4... 5M
6. UNIT -5... 5M

Section-B

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

7. UNIT -1 .... 10M
8. UNIT -2 .... 10M
9. UNIT -2 .... 10M
10. UNIT -3 .... 10M
11. UNIT -3 .... 10M
12. UNIT -4 .... 10M
13. UNIT -4 .... 10M
14. UNIT -5 .... 10M

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COMPUTER SCIENCE	CSCT41C	2021-'22	B.Sc.(MPCs,MCCs)

SEMESTER – IV   PAPER –V   Max. Marks 70   Pass Marks 28
Guidelines for paper setting '**OPERATING SYSTEM**'
Unit wise weight age of Marks

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

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

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COMPUTER SCIENCE	CSCT41C	2021-'22	B.Sc.(MPCS,MCCs)
SEMESTER – IV	PAPER – V	Max. Marks 50	

Lab List: OPERATING SYSTEM LAB USING C/JAVA

No. of Hours per week: 2   External: 40   Internal: 10   Credits: 1

1. Write a program to implement Round Robin CPU Scheduling algorithm

2. Simulate SJF CPU Scheduling algorithm

3. Write a program the FCFS CPU Scheduling algorithm

4. Write a program to Priority CPU Scheduling algorithm

5. Simulate Sequential file allocation strategies

6. Simulate Indexed file allocation strategies

7. Simulate Linked file allocation strategies

8. Simulate MVT and MFT memory management techniques

9. Simulate Single level directory File organization techniques

10. Simulate Two level File organization techniques

11. Simulate Hierarchical File organization techniques

12. Write a program for Bankers Algorithm for Dead Lock Avoidance

13. Implement Bankers Algorithm Dead Lock Prevention.

14. Simulate all Page replacement algorithms.

    a) FIFO

    b) LRU

    c) LFU

15. Simulate Paging Techniques of memory management

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Title of the Paper: Database Management System   Semester: IV

Course Code	CCSC401G	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: The objective of the course is to introduce the design and development of databases with special emphasis on relational databases.

Course Outcomes:

CO$_1$	Able to have knowledge about database, Traditional File System.
CO2	Be able to Design a database using Relation models and Data Modeling
CO3	Store, retrieve data in database using Integrity constraints and Normal Forms.
CO4	Be able to implement various SQL queries
CO5	Be able to implement various Procedural SQL queries and

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COMPUTER SCIENCE	CCSC402G	2021-'22	B.Com.(CA)

SEMESTER – IV   **PAPER – IV**   **Max. Marks 70**

<u>Syllabus</u>: 'Database Management System

UNIT-I Overview of Database Management System

Introduction, Data and Information, Database, Database Management System, Objectives of DBMS, Evolution of Database Management System, Classification of Database Management System.

UNIT-2: File-Based System

File Based System. Drawbacks of File-Based System, DBMS Approach, Advantage of DBMS, Data Models, Components of Database System, Database Architecture, DBMS Vendors and their products.

UNIT-III: Entity-Relationship Model:

Introduction, The Building Blocks of an Entity-Relationship, Classification of Entity Set, Attribute Classification, Relationship Degree, Relationship Classification, Generalization and Specialization, Aggregation and Composition, CODD's Rules, Relational Data Model, Concept of Relational Integrity.

UNIT-IV: Structured Query Language

Introduction, History of SQL Standards, Commands in SQL, Data types in SQL, Data Definition Language (DDL),Selection Operation Projection Operation, Aggregate Functions, Data Manipulation Language, Table Modification, Table Truncation, Imposition of Constraints, Set Operations.

UNIT-V: **PL/SQL**:
Introduction, Structure of PL/SQL,PL/SQL Language Elements, Data Types, Control Structure, Steps to Create a PL/SQL Program, Iterative Control Cursors, Steps to Create a Cursor, Procedure, Functions, Packages, Exceptions Handling, Database Triggers, Types of triggers.

- **<u>References:</u>**
- Paneer selvam: Database Management system,PHI.
- David Kuklinski, Osborne, Data management system McGraw Hill Publication.
- Shgirley Neal And Kenneth LC Trunik Database management system in Business-PHI.
- Godeon C. EVEREST, Database Management-McGraw Hill Book Company.
- MARTIN,Database Management-Prentice Hall of India, New Delhi.
- Bipin C.Desai ,`An Introduction to Database System`,Galgotia Publications
- Navathe, Database Management System.

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COMPUTER SCIENCE	CCSC401G	**2021-'22**	**B.Com.(C.A.)**

SEMESTER – IV   **PAPER – IV**   **Max. Marks 70**

<u>**Model Paper**</u>   **DATA BASE MANAGEMENT SYSTEMS**
NO of Hours: 5   **No Of Credits: 3**   **Pass Marks 28**

<u>Section-A</u>

Answer any <u>FOUR</u> Questions. Each question carries FIVE Marks   *4x5=20M*

1. UNIT -1 .... 5M
2. UNIT -1 .... 5M
3. UNIT -2 .... 5M
4. UNIT -3 .... 5M
5. UNIT -4 .... 5M
6. UNIT -5 .... 5M

<u>Section-B</u>

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

7. UNIT -1 .... 10M
8. UNIT -2 .... 10M
9. UNIT -2 .... 10M
10. UNIT -3 .... 10M
11. UNIT -3 .... 10M
12. UNIT -4 .... 10M
13. UNIT -4 .... 10M
14. UNIT -5 .... 10M

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COMPUTER SCIENCE	CCSC401G	**2021-'22**	**B.Com.(C.A.)**

SEMESTER – IV   **PAPER – IV**   **Max. Marks 70**

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

Unit wise weight age of Marks

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

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

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COMPUTER SCIENCE	CCSC401P	2021-'22	B. COM(CA)

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

Lab List   **DATA BASE MANAGEMENT SYSTEMS**

No. of Hours per week: 2   **External: 40**   **Internal: 10**   **Credits: 1**

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

Create Student database using the following tables.
STUDENT: Sno : primary key, numbers name : NOT NULL, varchar2 Address: Varchar2
COURSE:Sno : Foreign key.Course Name : varchar2
Queries:
1. Alter table by adding a column fees in table COURSE.
2. Alter table by modifying the address to VARCHAR2(20)
3. Create a view on which the students who joined in one course only.

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

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

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

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Title of the Paper: Object Oriented Programming with Java   **Semester: IV**

Course Code	CCSC402G	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: The objective of the course is to introduce the design and development of databases with special emphasis on relational databases.

Course Outcomes:

CO1	Understanding the meaning and necessity of audit in modern era
CO2	Comprehend the role of auditor in avoiding the corporate frauds
CO3	Identify the steps involved in performing audit process
CO4	Determine the appropriate audit report for a given audit situation
CO5	Apply auditing practices to different types of business entities

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COMPUTER SCIENCE	CCSC402G	**2021-'22**	**B.Com.(CA)**

SEMESTER – IV   **PAPER – V**   Max. Marks 70

<u>**SYLLABUS**</u>: '**OBJECT ORIENTATED PROGRAMMING THROUGH JAVA**'

Unit I: Introduction to OOPs: Problems in Procedure Oriented Approach, Features of Object Oriented Programming
Introduction to Java: Features of Java, The Java Virtual Machine (JVM), Parts of Java program, Naming Conventions in Java, Data Types in Java, Operators in Java, Reading Input using scanner Class, Displaying Output using System. out.println (), Command Line Arguments.
Unit II: Control Statements in Java: if... else, do... while Loop, while Loop, for loop, Switch Statement, break Statement, continue Statement
Arrays: Types of Arrays, array name, length,
Strings: Creating Strings, String Class Methods, String Comparison, Immutability of Strings.
Unit III: Classes and Objects: Object Creation, Initializing the Instance Variables, Access Specifiers, Constructors
Inheritance: Inheritance, Types of Inheritance
Polymorphism: Method overloading, Operator overloading
Abstract Classes: Abstract Method and Abstract Class
Unit IV: Packages: Package, Different Types of Packages, Creating Package and Accessing a Package
Streams: Stream classes, Creating a File using File Output Stream, Reading Data from a File using File Input Stream, Creating a File using File Writer, Reading a File using File Reader
Unit V: Exception Handling: Errors in Java Program, Exceptions, throws Clause, throw Clause, Types of Exceptions
Threads: Single Tasking, Multi-Tasking, Uses of Threads, Creating a Thread and Running it, Terminating the Thread, Thread Class Methods.
References:

1. The Complete Reference JAVA Seventh Edition Herbert Schildt. Tata McGraw Hill Edition.

2. Core Java: An Integrated Approach, Dr. R. Nageswara Rao & Kogent Learning Solutions Inc.

3. E. Balaguruswamy, Programming with JAVA, A primer, 3e, TATA McGraw-Hill Company

Online Resources:
https://stackify.com/java-tutorials/
https://www.w3schools.com/java/
https://www.javatpoint.com/java-tutorial
https://www.tutorialspoint.com/java/index.html

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COMPUTER SCIENCE	CCSC402G	2021-'22	B.Com.(CA)

SEMESTER – IV **PAPER – V** **Max. Marks 70**

Model Paper: '**OBJECT ORIENTATED PROGRAMMING THROUGH JAVA'**

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

Marks 28

Section-A

*Answer any **FOUR** Questions. Each question carries FIVE Marks* *4x5=20M*

    1. UNIT -1 .... 5M

    2. UNIT -1 .... 5M

    3. UNIT -2 .... 5M

    4. UNIT -3 .... 5M

    5. UNIT -4 .... 5M

    6. UNIT -5 .... 5M

Section-B

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

    7. UNIT -1 .... 10M

    8. UNIT -2 .... 10M

    9. UNIT -2 .... 10M

    10. UNIT -3 .... 10M

    11. UNIT -3 .... 10M

    12. UNIT -4 .... 10M

    13. UNIT -4 .... 10M

    14. UNIT -5 .... 10M

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COMPUTER SCIENCE	CCSC402G	2021-'22	B.Com.(CA)

SEMESTER – IV   PAPER –V   Max. Marks 70   Pass Marks 28
Guidelines for paper setting '**OBJECT ORIENTATED PROGRAMMING THROUGH JAVA**

Unit wise weight age of Marks

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

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

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COMPUTER SCIENCE	CCSC402P	2021-'22	B.Com.(CA)

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

Lab List: OBJECT ORIENTATED PROGRAMMING THROUGH JAVA

No. of Hours per week: 2 External: 40 Internal: 10

Credits: 1

1. Write a program to read *Student Name, Regd.No, Marks [5]* and calculate Total,*Percentage, and Result*. Display all the details of students

2. Write a program to perform the following String Operations

    a. Read a string

    b. Find out whether there is a given substring or not

    c. Compare existing string by another string and display status

    d. Replace existing string character with another character

    e. Count number of works in a string

3. Java program to implements Addition and Multiplication of two N X N matrices.

4. Java program to demonstrate the use of Constructor.

5. Calculate area of the following shapes using method overloading.

    a. Triangle b. Rectangle c. Circle d. Square

6. Implement inheritance between *Person (Aadhar, Surname, Name, DOB, and Age)* and *Student (Admission Number, College, Course, Year)*classes where ReadData(), Display Data() are overriding methods.

7. Java program on Multiple Inheritance.

8. Java program for to display *Serial Number from 1 to N* by creating two Threads

9. Java program to demonstrate the following exception handlings

    a. Divided by Zero b. Array Index Out of Bound c. File Not Found d. Arithmetic Exception

    e. User Defined Exception

.10. Write a program to create *Book (ISBN,Title, Author, Price, Pages, Publisher)*structure and store book details in a file and perform the following operations a. Add book details b. Search a book details for a given ISBN and display book details, if available c. Update a book details using ISBN d Delete book details for a given ISBN and display list of remaining Books

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Title of the Paper: WEB TECHNOLOGY

Semester: VI

Course Code	**CSC-601GE**	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2017-18	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objectives:
To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.

Course Outcomes:

CO_1	Understand the basic structure of a HTML design and develop a website using different text Formatting tags, images, links, lists and tables.
CO2	Understand to style a webpage using CSS and Basic Concepts of Java Scripts
CO3	Understand to style a webpage Using Objects in Java Script and DHTML.
CO4	Understand the Basic Concepts of XML and Defining Data for Web Applications
CO5	Understand the Concepts of JS.

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COMPUTER SCIENCE	CSC-601(GE)	2021-'22	B.Sc.(MPCs & MCCs)

SEMESTER – VI   **PAPER – VII**   Max. Marks 70

 Syllabus   WEB TECHNOLOGIES

NO of Hours: 4   **No of Credits: 3**   Pass Marks 28

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

Unit -I   Introduction to XHTML: **12 Hrs**
Introduction to HTML, Basic html, Document body text, Hyper links, Adding more formatting Lists, Tables, Images, Multimedia Objects, Frames, Forms and XHTML.

Unit- II: CSS: **12 Hrs**
Cascading Style Sheets: Introduction, Defining your own styles, properties and values in styles, Formatting blocks of information, Layers.
Java Script: java Script, the basics, Variables, String Manipulations, Mathematical functions, Statements, Operators, Arrays, Functions.

Unit –III: Objects in Java Script & Dynamic HTML with Java Script   12 Hrs
Objects in Java Script: Data and objects in java script, Regular expressions, Exception Handling, Built in objects, Events.
Dynamic HTML with Java Script: Data validation, Opening a new window, Messages and Confirmations, The status bar, writing to a different frame, Rollover buttons, Moving images, multiple pages in a single download, A text-only menu system, Floating logos.

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

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

UNIT-V: JSP: **10Hr's**
JSP Lifecycle, Basic Syntax, EL (Expression Language), EL Syntax, Using EL Variables
Prescribed Books:
1. Chris Bates, Web Programming Building Internet Application, Second Edition, Wiley   (2007)
2. Head First Servlet and JSP 2nd Edition, Bryan Basham, Kathy Sierra
3. Uttam Kumar Roy, Web Technologies from Oxford University Press

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

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COMPUTER SCIENCE	CSC-601(GE)	2021-'22	B.Sc.(MPCs& MCCs)

SEMESTER – VI   **PAPER – VII**   Max. Marks 70

<u>**Model Paper**</u>   **WEB TECHNOLOGIES**

 No of Hours: 4   <u>**No of Credits: 3**</u>   **Pass Marks 28**

<u>Section -A</u>

Answer <u>**FOUR**</u> Questions. Each Question carries **FIVE** Marks.   **4 X 5=20M**

1. Write about structure of HTML Document with an example

2. Explain about lists in HTML

3. Write about properties used in Style Sheet

4. Describe Data Object

5. Describe XML Elements

6. Write the syntax of EL and EL variables

<u>Section- B</u>

Answer <u>**FIVE**</u> the Questions. Each Question carries **TEN** Mark   **5 X 10=50M**

7. Explain about hyper links? Write about how to link another pages

8. What is Form? Explain about forms with examples

9. What is CSS? How to design Cascading style sheet

10. Explain about Mathematical Functions

11. Explain about Regular Expressions

12. Write about Data validations in DHTML

13. Explain about Document Object Model

14. Explain about JSP Lifecycle with neat diagram

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COMPUTER SCIENCE	CSC-601(GE)	2021-22	B.Sc.(MPCs & MCCs)

SEMESTER – VI   PAPER – VII   Max. Marks 70   Pass Marks 28

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

Unit wise weight age of Marks

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

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

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COMPUTER SCIENCE	CSC-601(GE)	2021-22	B.Sc.(MPCS & MCCs)

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

Lab List   **WEB TECHNOLOGIES**

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

1. Write an HTML program to demonstrate text formatting, working with images and hyper links

2. Write an HTML program to create Student Marks sheet preparation.

3. Write an HTML program to explain String manipulation-using functions.

4. Write an HTML program to explain <form> events

5. Write an HTML program to perform all arithmetic operations using java script.

6. Develop a HTML Form, which accepts any Mathematical expression. Write JavaScript code to Evaluates the expression and Displays the result.

7. Create a form for Student information. Write JavaScript code to find Total, Average, Result and Grade.

8. Create a form for Employee information. Write JavaScript code to find DA, HRA, PF, TAX, Gross pay, Deduction and Net pay.

9. Create a form consists of a Multiple choice questions that validates the answer dynamically and displaying result using java script.

10. Write a java script to work with following

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

 b. IP Address

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Title of the Paper: PHP, MySql & WORDPRESS

Semester: IV

Course Code	**CSC-602CE**	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2017-18	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objectives:

To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.

Course Outcomes:

CO$_1$	Understand the concepts Of PHP and MY SQL Installations.
CO2	Able to know the basic concepts Function and Working with Functions.
CO3	Understand the concepts of FORMS and working with FORMS.
CO4	Understand the concepts of MY SQL and MY SQL Components.
CO5	Able to know the concepts of WORD PRESS.

COMPUTER SCIENCE	CSC-602CE	2021-'22	B.Sc.(MPCs& MCCs)

SEMESTER – VI **PAPER – VIII** Max. Marks 70

<u>**Syllabus**</u> **PHP, MySql & Word Press**

<u>**NO Of Hours:4**</u> <u>**Credits: 3**</u> **Pass Marks 28**

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

UNIT-1: **Installing and Configuring MySQL**: **10 Hrs**
Current and Future Versions of MySQL, How to Get MySQL, Installing MySQL on Windows, Trouble Shooting your Installation, Basic Security Guidelines, Introducing MySQL Privilege System, Working with User Privileges. Installing and Configuring Apache: Current and future versions of Apache, Choosing the Appropriate Installation Method, Installing Apache on Windows, Apache Configuration File Structure, Apache Log Files, Apache Related Commands, Trouble Shooting. Installing and Configuring PHP: Building PHP with Apache on Windows, php.ini.Basics, The Basics of PHP scripts. The Building blocks of PHP: Variables, Data Types, Operators and Expressions, Constants. Flow Control Functions in PHP: Switching Flow, Loops, Code Blocks and Browser Output.

Unit – II: Working with Functions: **10 Hrs**
What is function?, Calling functions, Defining Functions, Returning the values from User-Defined Functions, Variable Scope, Saving state between Function calls with the static statement, more about arguments. Working with Arrays: What are Arrays? Creating Arrays, Some Array-Related Functions. Working with Objects: Creating Objects, Object Instance Working with Strings, Dates and Time: Formatting strings with PHP, Investigating Strings with PHP, Manipulating Strings with PHP, Using Date and Time Functions in PHP.

Unit – III: Working with Forms: **15 Hrs**
 Creating Forms, Accessing Form Input with User defined Arrays, Combining HTML and PHP code on a single Page, Using Hidden Fields to save state, Redirecting the user, Sending Mail on Form Submission, Working with File Uploads. Working with Cookies and User Sessions: Introducing Cookies, Setting a Cookie with PHP, Session Function Overview, Starting a Session, Working with session variables, passing session IDs in the Query String, Destroying Sessions and Unsetting Variables, Using Sessions in an Environment with Registered Users. Working with Files and Directories: Including Files with inclue(), Validating Files, Creating and Deleting Files, Opening a File for Writing, Reading or Appending, Reading from Files, Writing or Appending to a File, Working with Directories.

Unit – IV: Introduction to MySQL   15Hrs

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

Unit – V: Word press   10Hrs

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

References:

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

COMPUTER SCIENCE	CSC-602CE	2021-'22	B.Sc.(MPCs)

SEMESTER – VI   **PAPER – VIII**   **Max. Marks 70**

 Model Paper   **PHP, MySql & Word Press**

NO Of Hours:3   **No Of Credits: 3**   **Pass Marks 28**

Section- A

Answer FOUR Questions. Each Question carries FIVE Marks.   **4*5=25M**

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

2. What is Break and Continue statements in PHP.

3. Define Function and write a program for Function?

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

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

6. Write short notes on Word Press.

Section- B

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

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

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

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

10. Explain the following Strings functions with examples

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

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

12. Explain how to work with Sessions in PHP.

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

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

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COMPUTER SCIENCE	**CSC-602CE**	2021-'22	B.Sc.(MPCs,MCCs)

SEMESTER – VI   PAPER – VIII   Max. Marks 70   Pass Marks 28

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

Unit wise weight age of Marks

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

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

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

Lab List   **PHP, MySql & Word Press Lab**
No. of Hours per week: 3   **External: 25**   **Internal: 25**   **Credits: 2**

MySQL Lab Cycle

Cycle -1

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

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

Write the following queries in SQL:

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

Cycle – 2

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

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

Resolve the following queries.

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

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

PHP Lab Cycle

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

Wordpress Lab

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

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Title of the Paper: JQUERY/AJAX/JSON/ANGULAR JS

Semester: VI

Course Code	**CSC-603CE**	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2017-18	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objectives:
To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.

Course Outcomes:

CO$_1$	Understand the concepts Of HTML and JQUERY
CO2	Understand the concepts JQUERY and CSS Methods using DOM Attributes
CO3	Understand the concepts of JQUERY USER INTERFACE Programs
CO4	Understand the concepts of AJAX and JSON Objects
CO5	Develop the ability to solve real-world problems through software development inhigh-level programming language like ANGULAR JS and ANIMATIONS

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COMPUTER SCIENCE	CSC-603CE	2021-'22	B.Sc.(MPCs,MCCs)

SEMESTER – VI   **PAPER – IX**   Max. Marks 70

<u>Syllabus</u>   **Advanced java Script: JQUERY/AJAX/JSON/ANGULAR JS**

<u>NO Of Hours:4</u>   <u>Credits: 3</u>   **Pass Marks 28**

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

UNIT-1: JQuery – Basics: **10 Hrs**
String, Numbers, Boolean, Objects, Arrays, Functions, Arguments, Scope, Built-in Functions. jQuerySelectors: CSS Element Selector, CSS Element ID Selector, CSS Element Class Selector, CSS Universal Selector, Multiple Elements E, F, G Selector, Callback Functions. jQuery – DOM Attributes: Get Attribute Value, Set Attribute Value. jQuery – DOM Traversing : Find Elements by index, Filtering out Elements, Locating Descendent Elements, JQuery DOM Traversing Methods.

Unit – II: jQuery – CSS Methods :   **10 Hrs**
Apply CSS Properties, Apply Multiple CSS Properties, Setting Element Width & Height, JQuery CSS Methods. jQuery – DOM Manipulation Methods: Content Manipulation, DOM Element Replacement, Removing DOM Elements, Inserting DOM elements, DOM Manipulation Methods. jQuery – Events Handling: Binding event handlers, Removing event handlers, Event Types, The Event Object, The Event Attributes. jQuery – Effects: JQuery Effect Methods, jQuery Hide and Show, jQuery Toggle, jQuery Slide – slideDown, slideUp, slideToggle, jQuery Fade – fadeIn, fadeOut, fadeTo, jQuery Custom Animations

Unit – III: Intro to jQuery UI   **15 Hrs**
, Need of jQuery UI in real web sites, Downloading jQuery UI, Importing jQuery UI, Draggable, Droppable, Resizable, Selectable, Sortable, Accordion, Auto Complete, Button 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

Section- A

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

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

2. Write a jquery-dom attributes.

3. Write a program for jquery fade in, fade out.

4. Discuss in detail about jquery UI categorization.

5. Write a need of AJAX in real websites..

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

Section- B

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

7. Explain in detail about DOM traversing methods.

8. Explain detail about jquery-dom manipulation methods.

9. Explain detail about jquery even handling methods.

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

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

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

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

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

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COMPUTER SCIENCE	CSC-603CE	2021-'22	B.Sc.(MPCs)

SEMESTER – VI   PAPER – IX   Max. Marks 70   Pass Marks: 28

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

Unit wise weightage of Marks

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

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

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COMPUTER SCIENCE	CSC-603CE	2021-'22	B.Sc.(MPCS&MCCs)

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

Lab List Advanced java Script: JQUERY/AJAX/JSON/ANGULAR JS
No. of Hours per week: 3   External: 25   Internal: 25   Credits:2

1. Using jQuery find all textareas, and makes a border.Then adds all paragraphs to the jQuery object to set their borders red.

2. Using jQuery add the class "w3r_font_color" and w3r_background to the last paragraph element.

3. Using jQuery add a new class to an element that already has a class.

4. Using jQuery insert some HTML after all paragraphs.

5. Using jQuery insert a DOM element after all paragraphs.

6. Convert three headers and content panels into an accordion. Initialize the accordion

   And specify the animate option

7. Convert three headers and content panels into an accordion. Initialize the accordion and specify the height.

8. Create a pre-populated list of values and delay in milliseconds between a keystroke occurs and a search is performed.

9. Initialize the button and specify the disable option.

10. Initialize the button and specify an icon on the button.

11. Initialize the button and do not show the label.

12. Create a simple jQuery UI Datepicker. Now pick a date and store it in a textbox.

13. Initialize the date picker and specify a text to display for the week of the year column heading.

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Title of the Paper: PROJECT (Java, PHP & MYSQL)   Semester: VI

Course Code	**CSC-604GE**	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2017-18	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objectives:

To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.

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COMPUTER SCIENCE	CSC PROJ-602 P	2021-'22	B.Sc.(MPCs,MCCs)

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

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

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

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Title of the Paper: TALLY   **Semester: VI**

Course Code	**CSC-605CE**	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2017-18	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objectives:

To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.

Course Outcomes:

CO$_1$	Able to understand the basic concepts of TALLY
CO2	Able to understand the installation of TALLY Software.
CO3	Able to implement the concepts of ledgers
CO4	Able to implement the concepts of vouchers
CO5	Able to implement the basic concepts of final accounts

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COMPUTER SCIENCE	CCSC-605CE	2021-22	B.Com (C.A)

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

Syllabus   **TALLY**   **Max.Marks:70**

Credits 3   **NO Of Hours 5**   **Pass Marks 28**
Unit-I: Introduction to Tally: **12Hrs**

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

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

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

Unit-III: Ledgers   **12Hrs**

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

Unit-IV: Vouchers   **12Hrs**

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

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

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

Reference Books:

1. K. Kiran Kumar, Tally ERP9.

2. Tally 9 In Simple Steps, Kogent solutions Inc., John Wiley & Sons, 2008.

3. Narmata Agarwal, Financial Accounting on Computers Using Tally, Dreamtech Press, 2000.

4. Tally 9.0, Google eBook, Computer World.

5. Vikas Gupta, Comdex Computer and Financial Accounting with Tally 9.0, 2007.

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<u>**SEMESTER –VI**</u>   **PAPER – IX**   Total: 60 Hrs

<u>**Model Paper**</u>   **TALLY**   **Max.Marks:70**

<u>**Credits 3**</u>   <u>**NO Of Hours 5**</u>   **Pass Marks: 28**

Answer <u>**FIVE**</u> Questions. Each Question carries **FIVE** Marks.   **5x5=25M**

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

Section- B

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

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

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COMPUTER SCIENCE	CCSC-605CE	2021-22	B.Com (C.A)

SEMESTER –VI   **PAPER – IX   Max. Marks 70   Pass Marks 28**
Guidelines for paper setting '**TALLY**'

Unit wise weight age of Marks

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

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

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COMPUTER SCIENCE	CCSC-605P	2021-22	B.Com.(C.A.)

SEMESTER – VI   **PAPER – V**   **Max. Marks:50**
                                                                        Pass Mark: 20

TALLY

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

1. Architecture and customization of Tally

2. Configuration of Tally

3. Tally Screens and Menus

4. Creation of new company and groups.

5. Preparation of voucher entries.

> a. Payment voucher creation
>
> b. Receipt voucher creation
>
> c. Sales voucher creation
>
> d. Purchase voucher creation
>
> e. Contra voucher creation
>
> f. Journal voucher creation

6. Ledger Creation.

7. Preparation of VAT

8. Preparation of TDS

7. Preparation of Trail balance

8. Preparation of Profit and loss statement.

9. Preparation of Balance Sheet

10. Preparation of Bank Reconciliation Statement.
11. Example Exercise

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Title of the Paper: E-COMMERCE   **Semester: VI**

Course Code	**CSC-606CE**	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2017-18	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objectives:
To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.

Course Outcomes:

CO_1	Understand the benefits of a well-structured program
CO2	Understand different computer programming paradigms
CO3	Understand underlying principles of Object-Oriented Programming in Java
CO4	Develop problem-solving and programming skills using OOP concepts
CO5	Develop the ability to solve real-world problems through software development inhigh-level programming language like Java

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COMPUTER SCIENCE	CCSC-606CE	2021-22	B.Com (C.A)

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

Syllabus   **E-COMMERCE**   **Max.Marks:70**

Credits 3   **NO Of Hours 5**   **Pass Marks 28**

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

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

Unit-II: Business-to-Business Electronic Commerce

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

Unit-III: Internet and Extranet

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

Unit-IV: Public Policy:

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

Unit-V: Infrastructure For EC

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

Reference Books

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

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COMPUTER SCIENCE	CCSC-606CE	2021-22	B.Com (C.A)

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

Max.Marks:70

Credits 3   **NO Of Hours5**   **Pass Marks 28**

Section-A

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

1. Explain Electronic data interchange?

2. Write about Value Chain Model

3. What are the characteristics of B2B Electronic Commerce

4. Write about applications of Intranet?

5. Explain encryption policies?

6. Write about Internet protocols?

Section-B

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

7. What are the advantages and limitations of E-commerce?

8. Write Business Strategy in an Electronic age

9. Explain Electronic Data Interchange(EDI)

10. Explain different Models of B2B Electronic Commerce?

11. Explain the Architecture of Internet?

12. Explain Business Models of Extranet Applications?

13. Explain Ethical and Other public Policy Issues?

14. Explain about the future of EC

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COMPUTER SCIENCE	CCSC-606CE	2021-22	B.Com (C.A)

SEMESTER –VI   PAPER – X   Max. Marks 70   Pass Marks 28

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

Unit wise weight age of Marks

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

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

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Title of the Paper: PHP & MySql   Semester: IV

Course Code	**CSC-607CE**	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2017-18	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objectives:

To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.

Course Outcomes:

CO_1	Understand the benefits of a well-structured program
CO2	Understand different computer programming paradigms
CO3	Understand underlying principles of Object-Oriented Programming in Java
CO4	Develop problem-solving and programming skills using OOP concepts
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COMPUTER SCIENCE	CCSC-607CE	2021-22	B.Com (C.A)

SEMESTER –VI   **PAPER – XI**

Syllabus   **PHP& MY SQL**   **Max.Marks:70**

Credits 3   **NO Of Hours 5**   **Pass Marks 28**

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

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

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

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

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

References:

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

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COMPUTER SCIENCE	CCSC-607CE	2021-22	B.Com (C.A)

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

Syllabus   **PHP & MYSQL**

Max.Marks:70   **Credits 3**   **NO Of Hours 5**   **Pass Marks 28**

Section-A

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

1. Explain about different data types available in PHP?

2. Define function? Explain how to call the function?

3. Write a short note on Creating Objects

4. Explain about date and time functions?

5. Explain about cookies?

6. Describe how to create the Record Addition Mechanism?

Section-B

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

7. Explain different types of Operators in PHP?

8. Explain flow control functions in PHP?

9. What is an Array? Explain about array related functions.

10. Explain different string functions in PHP?

11. Explain about how to create and access a form in PHP?

12. Describe the working with session variables?

13. Explain working with Directories?

14. Explain about how to insert and retrieve the data in PHP?

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Computer Science	CCSC-607CE	2021-22	B.Com (C.A)

SEMESTER –VI   PAPER – XI   Max. Marks 70   Pass Marks 28

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

Unit wise weight age of Marks

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

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

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COMPUTER SCIENCE	CCSC-607CE	2021-22	B.Com (C.A)

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

Lab List   **PHP, MySQL**   **Pass Marks 20**
  No. of Hours per week: 2   **External: 25**   **Internal: 25**   **Credits: 2**

MySQL Lab Cycle

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

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

Write the following queries in SQL:

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

Cycle – 2

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

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

Resolve the following queries.

1. Print the names and ages of each employee who works in both Hardware and Software departments.

2. For each department with more than 20 full time equivalent employees (i.e., where the part-time and full-time employees add up to at least that many full-time employees), print the did's together with the number of employees that work in that department.
3. Print the name of each employee whose salary exceeds the budget of all of the departments that he or she work in.
4. Find the managerid's of managers who manage only departments with budgets greater than 1,000,000.
5. Find the enames of managers who manage the departments with largest budget.
6. If a manager manages more than one department, he or she controls the sum of all the budgets for those departments. Find the managerid's of managers who control more than 5,000,000.
7. Find the managerid's of managers who control the highest amount.
8. Find the average manager salary.

PHP Lab Cycle

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