M.COM (IS) (CBCS)

SEMESTER – I, II, III & IV
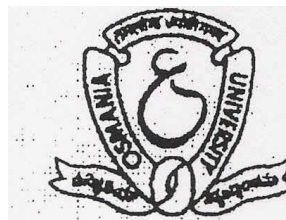
FACULTY OF COMMERCE
OSMANIA UNIVERSITY
HYDERABAD - 500 007, T.S.

2023

DEPARTMENT OF COMMERCE, O.U.
M.Com (IS)(CBCS) Course – 2023
Scheme of Evaluation
The scheme of evaluation for M.Com (IS) (I, II, III & IV Semesters)- 2023 is as under:

1. **The performance of the students will be evaluated for 100 marks which consist of 50 marks for internal assessment & 50 marks for semester-end examination.**

i) Continuous Assessment (CA): Students engage in ongoing evaluation, where a total of 40 marks are distributed across four Internal Assessment tests. Each assessment carries a specific weightage of 10 marks, contributing to the overall assessment

ii) Attendance: A portion of the assessment, accounting for 10 marks, is dedicated to tracking students' attendance. This aspect serves as an incentive for active engagement in the learning and teaching process.

1st Internal Assessment (10 Marks)	2nd Internal Assessment (10 Marks)	3rd Internal Assessment (10 Marks)	4th Internal Assessment (10 Marks)
a. 10 Multiple choice questions each ½ mark (10x½) = 5 marks b. 10 Fill in the blank questions each ½ mark (10x½) = 5 marks	10 questions each 1mark (10x1) =10 marks	Report Writing (Paraphrasing) / Case Study Analysis = 10 Marks	1. Assignment = 5 Marks 2. Seminar Presentation = 5 Marks

For Computer Papers:

1st Internal Assessment (10 Marks)	2nd Internal Assessment (10 Marks)	3rd Internal Assessment (10 Marks)	4th Internal Assessment (10 Marks)
c. 10 Multiple choice questions each ½ mark (10x½) = 5 marks d. 10 Fill in the blank questions each ½ mark (10x½) = 5 marks	10 questions each 1mark (10x1) =10 marks	Lab Record = 10 Marks	Lab Practicals = 10 Marks (5 Marks for Viva & 5 Marks for Execution)

Weightage for Attendance:

Attendance Percentage	Marks
95% - 100%	10 Marks
86% - 94%	08 Marks
81% - 85%	06 Marks
75% - 80%	05 Marks
65% - 74%	04 Marks*

*Applicable only to those who provide a valid reason with condonation

iii) End Semester Examination (ESE): The comprehensive evaluation includes a final examination, will be conducted for a maximum of 50 marks.

2. The question paper pattern for end-semester examination is for 50 marks divided into Part 'A' & 'B' which consists of:

Part – A – 10 Marks (5 short answer questions each carries 2 marks) without choice
Part – B – 40 Marks (5 long answer questions each carries 8 marks) with internal choice

Model Question paper End Semester Examination (ESE)

Part –A

Answer all the Questions: **5x2 =10 Marks**

1) Question
2) Question
3) Question
4) Question
5) Question

Part –B

Answer all the Questions: **5x8 = 40 Marks**
                                                                         (Internal Choice)

6) Question
   a. Question
      OR
   b. Question

7) Question
   a. Question
      OR
   b. Question

8) Question
   a. Question
      OR
   b. Question

9) Question
   a. Question
      OR
   b. Question

10) Question
   a. Question
      OR
   b. Question

M.Com.(IS) COURSE STRUCTURE (CBCS)

FIRST SEMESTER

Sl. No.	Code	Title of the Paper	THP	Credits	ESED	Marks						Total
						IA 1	IA 2	IA 3	IA 4	Attendance	End-Sem Exam	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1.	MCIS 1: Core –I	Indian Accounting Standards	5	5	2 Hrs	10	10	10	10	10	50	100
2.	MCIS 2: Core –II	Financial Management	5	5	2 Hrs	10	10	10	10	10	50	100
3.	MCIS 3 : Core –III	Business Information System	(3T+4P)	5	2 Hrs	10	10	10	5(LR)+5(LP)=10	10	50	100
4.	MCIS 4 : Core –IV	OOPs using C++ and Java	(3T+4P)	5	2 Hrs	10	10	10	5(LR)+5(LP)=10	10	50	100
		Total	**20**	**20**		**40**	**40**	**40**	**40**	**40**	**200**	**400**

SECOND SEMESTER

Sl. No.	Code	Title of the Paper	THP	Credits	ESED	Marks						Total
						IA 1	IA 2	IA 3	IA 4	Attendance	End-Sem Exam	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
5.	MCIS 5 : Core – I	Advanced Managerial Accounting	5	5	2 Hrs	10	10	10	10	10	50	100
6.	MCIS 6: Core –II	Investment Management	5	5	2 Hrs	10	10	10	10	10	50	100
7.	MCIS 7: Core –III	Digital Marketing & Social media	(3T+4P)	5	2 Hrs	10	10	10	5(LR)+5(LP)=10	10	50	100
8.	MCIS 8 : Core –IV	Advanced Excel	(3T+4P)	5	2 Hrs	10	10	10	5(LR)+5(LP)=10	10	50	100
		Total	**20**	**20**		**40**	**40**	**40**	**40**	**40**	**200**	**400**

THIRD SEMESTER

Sl. No.	Code	Title of the Paper	THP	Credits	ESED	IA 1	IA 2	IA 3	IA 4	Attendance	End-Sem Exam	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
9.	MCIS: 9 Core – I	Research Methodology & Quantitative Techniques	5	5	2 Hrs	10	10	10	10	10	50	100
10.	MCIS: 10 Core –II	Cost Accounting and Control	5	5	2 Hrs	10	10	10	10	10	50	100
11.	MCIS: 11 Elective-I:	Elective-I	(3T+4P)	5	2 Hrs	10	10	10	5(LR) +5(LP)=10	10	50	100
12.	MCIS: 12 Elective -II	Elective-II	(3T+4P)	5	2 Hrs	10	10	10	5(LR) +5(LP)=10	10	50	100
		Total	**20**	**20**		**40**	**40**	**40**	**40**	**40**	**200**	**400**

FOURTH SEMESTER

Sl. No.	Code	Title of the Paper	THP	Credits	ESED	IA 1	IA 2	IA 3	IA 4	Attendance	End-Sem Exam	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
13.	MCIS:13 Core –I	Taxation	5	5	2 Hrs	10	10	10	10	10	50	100
14.	MCIS:14 Core –II	Analytics in Commerce and Business	5	5	2 Hrs	10	10	10	10	10	50	100
15.	MCIS:15 Elective–I:	Elective-III	(3T+2P)	4	2Hrs	10	10	10	5(LR) +5(LP)=10	10	50	100
16.	MCIS: 16	Project Work #	6	6	-	---	-	-	-	-	-	*150
		Total	**20**	**20**		**40**	**40**	**40**	**40**	**40**	**200**	**400**

THWP = Teaching Hours Per Week;   ESED=End-Semester Examination Duration;
LPE=Lab Practical Examinations;   SEE= Semester End Exam;
A= Assignment   IA= Internal Assessment
W=Write-up;   LR=Lab Record;
*Project Work   :   75   LP=Lab Practical
 Internship Report   :   50
 Viva –Voce examination   :   25
 Total   **:*150**

AREA OF ELECTIVES/PAPERS

Sl. No.	Area of Elective	Semester-III Elective paper	Semester-IV Elective paper
I	**Information Systems – Applications & Analysis**	**(1) DCN:** Data Communication and Net work **(2) BDS:** Business Decisions using SPSS	**(3) WD:** Web Designing
II	**Information Systems - Management**	**(1) CM:** Cloud Computing Fundamentals **(2) CL:** Cyber Laws	**(3) WD:** Web Designing
III	**Business Analytics**	**(1)** Business Analytics using Excel **(2)** Data Visualization	**(3)** Data Science using R and Python

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#PROJECT REPORT GUIDELINES

The aim of the Project is to give an opportunity to students to learn independently and show that they can identify, define and analyze problems or issues and integrate knowledge in a business context. It reflects the ability of a student to understand and apply the theory, the concepts and the tools of analysis to a specific situation.

The project is a practical, in-depth study of a problem, issue, opportunity, technique or procedure or a combination of these aspects of business. The students are required to define an area of investigation, carve out research design, collect relevant data, analyze the data, draw conclusions and make recommendations. The project must be an original piece of work that will be undertaken in post-graduate study, over a period of two semesters.

The topic is to be selected carefully in consultation with supervisor.

All the material that relates to project work, including filled-in questionnaire should be shown to your supervisor and be kept until the Examination Branch has confirmed your results. Do not throw this material away once your project work is submitted, as you might be asked to present it as part of the Viva-Voce Examination, before your project work results are confirmed.

The supervisor's role is to appraise ideas and work of the student. Student must take overall responsibility for both the content of project work and its management. This includes selection of an appropriate subject area (with the approval of the supervisor), setting up meetings with the supervisor, devising and keeping to a work schedule and providing the supervisor with samples of your work.

Students must ensure that they maintain **regular contact with their supervisors** and provide the supervisor with drafts of their work at regular intervals.

Students are required to submit a project report on a topic related/connected with trade, industry and commerce. Project work can be done by taking the information from the select organization focusing on areas like Accounting, Finance, Marketing, Human Resource Management, Operations and Management etc.

The project reports would be examined by the external examiner and based on the report and Viva-Voce examination conducted at the end of IV semester, a student will be awarded marks and send to Examination Branch, O.U .

The External Examiners will examine the following in Project Report:
a) Review of Literature.
b) Objectives of the study, Methodology of the study.
c) Style of Presentation – Comprehensiveness, Table presentation, Graphs, Charts etc.
d) Analysis and interpretations of the study.
e) Overall linkage between objectives, methodology, findings and suggestions.
f) Bibliography and References.

ORGANISATION OF PROJECT REPORT

1) Project report should be presented in the following sequence:

Title page
Student's Declaration
Supervisor's Certificate
Principal/Head's Certificate
Certificate Issued by the Organization
Acknowledgements
List of table /figures
Contents Page
Chapters
Bibliography
Appendices

2) Chapter Scheme: Keeping in view the objectives of the study, the chapter should be designed. Generally, the suggested scheme of chapters for project work is as under:

Chapter-I: **Introduction**: This chapter covers introduction to topic, review of literature, importance of the study, the research problem, objectives of the study, hypotheses, methodology, sample design, sources of data, scope of the study, statistical tools, chapter scheme

Chapter-II: **Profile of Company/ Profile of Respondents:** This chapter deals with profile of company / companies, or profile of respondents (If primary data are used for the study).

*Chapter-III: D*ata Analysis and Interpretation:** This chapter presents the data analysis, interpretations and inferences for the collected data.

Chapter-IV: **Summary and Findings**: This Chapter covers summary, conclusions, findings and recommendations of the study.

TECHNICAL SPECIFICATIONS OF THE PROJECT REPORT

1. Project Report should be typed on **A4 white papers**, and be **1.5 spaced.**
2. All pages should be **numbered**, and numbers should be placed at the centre of the bottom of the page.
3. **All tables, figures and appendices** should be consecutively numbered or lettered, and suitably labeled.
4. **Three (3) bound copies** & **a Soft-copy** should be submitted to the **Principal/Director of your College/Institute**
5. **Bibliography & References:** Bibliography & References are necessary to avoid plagiarism, to verify quotations and enable readers to follow-up and read more fully the cited author's arguments. Reference is given within the text of the project report as well as at the end of the project report. The basic difference between citation and a reference list (bibliography) is that the latter contains full details of all the in-text citations.

   Citation provides a brief details of the authors and date of publication for referencing the work in the body of the text.

   Reference list is given at the end of the text and is a list of all references used with additional details provided to help and identify each source.
6. Project report may be prepared in about 40 to 60 pages.

   Note: Proper referencing is a crucial aspect of the project work. Hence, the students are strongly advised to talk to their supervisors about this matter, in order to make sure that the project report follows the appropriate referencing method.
7. **Internship:** The students should undertake the internship during the summer vacation for a duration of 6 days intervening between II & III semesters at a Business Organization/ Government Department/ Software Company/Service Organization/ Banks/Chartered Accountant firm as per the guidance of Supervisor concerned. Internship may be in the area of project work to be undertaken by the students or any area of student's interest. Students should obtain a certificate from the Organization where internship is carried. Internship report may be prepared in about 5 to 10 pages and appended at the end of project report.
8. **Evaluation of Project Work:**
   *The project work will be evaluated for 150 marks; the distribution of marks is as under:

Project Work	:	75
Internship Report	:	50
Viva –Voce examination	:	25
Total	**:**	***150**

SEMESTER–I
INDIAN ACCOUNTING STANDARDS

PAPER CODE: COM 1: Core-I   Total Marks: 50+50=100
THPW: 5; Credits: 5   ESED: 3 HRS

Objective: To familiarize the student with Indian Accounting Standards and Financial Reporting Practices.

UNIT-I: INTRODUCTION:

Accounting: Meaning – Evolution – Accounting as an information system – Accounting Principles - Accounting Standards: Need for Accounting Standards - Concept of Accounting Standard - IASB - ASB India: Constitution - Functions – Procedure for setting standards – Concept of IFRS – Convergence of Accounting Standards - Concept of Ind-AS – Major differences between Ind-AS (New) and AS (Old) - Applicability/Adoption of Ind-AS (Road Map). **(Theory only)**

UNIT-II: INDIAN ACCOUNTING STANDARDS (IND AS):

Overview of Indian Accounting Standards: (Ind AS-1 to Ind-AS-24): Ind AS-1: Presentation of financial statements – Ind AS-2: Inventories – Ind AS-7: Cash flow statements - Ind AS-8: Accounting policies, changes in accounting estimates and errors – Ind AS-10: Events after the Balance Sheet Date – Ind AS -12: Income taxes – Ind AS-16: Property, Plant and Equipment –Ind AS-19: Employee benefits – Ind AS-20: Accounting for Govt. Grants and Disclosure of Govt. Assistance – Ind AS-21: The effects of changes in foreign exchange rates -Ind AS- 23: Borrowing costs – Ind AS-24: Related party disclosure – **(Theory only)**

UNIT-III: INDIAN ACCOUNTING STANDARDS (IND AS):

Overview of Indian Accounting Standards: (Ind AS-27 to Ind AS-41): Ind AS-27: Separate financial statements – Ind AS-28: Investments in associates and Joint ventures – Ind AS-29: Financial Reporting in Hyper Inflationary economies – Ind AS-33: Earnings Per Share – Ind AS-34: Interim financial reporting – Ind AS-36: Impairment of assets – Ind AS-37: Provisions, contingent liabilities and contingent assets – Ind A-38: Intangible assets – Ind AS-40: Investment property – Ind AS-41: Agriculture. **(Theory only)**

UNIT-IV: INDIAN ACCOUNTING STANDARDS (IND AS) :

Overview of Indian Accounting Standards: (Ind AS 101 to Ind AS 106): Ind AS-101: First time adoption of Indian Accounting Standards – Ind AS-102: Share based payments – Ind AS-103: Business Combinations – Ind AS -104: Insurance contracts – Ind AS-105: Non-current assets held for sale and discontinued operations – Ind AS-106: Exploration for and evaluation of mineral resources. **(Theory only)**

UNIT-V: INDIAN ACCOUNTING STANDARDS (IND AS) :

Overview of Indian Accounting Standards: (Ind AS: 32, Ind AS:107 to Ind AS:116): Ind AS:32, Ind AS: 107 & Ind AS: 109: Financial Instruments – Recognition, Presentation & Disclosure – Ind AS-108: Operating segments – Ind AS-109: Financial instruments – Ind AS-110: Consolidated financial statements – Ind AS-111: Joint arrangement - Ind AS – 112: Disclosure of interest in other entities – Ind AS-113: Fair Value Measurement –Ind AS-114: Regulatory Deferral Accounts – Ind AS-115: Revenue from Contracts with customers – Ind-AS-116: Leases **(Theory only).**

SUGGESTED READINGS:

   1.   Jawaharlal "Accounting Theory and Practice" Himalya Publishing Company, New Delhi.
   2.   Gupta R.L & Radhaswamy "Advanced Accountancy" Sultan Chand & Sons, New Delhi.
   3.   Porwal L.S. "Accounting Theory" Tata McGraw-Hill Publishing Company, New Delhi.
   4.   Rawat D.S. "Accounting Standards" Taxmann Allied Services Pvt., Ltd., New Delhi.
   5.   Rawat D.S. "Ind-ASs Converged IFRS" Taxmann Allied Services Pvt., Ltd., New Delhi.
   6.   Kamal Garg "Ind -AS & IFRS" KG Management Advisors LLP, New Delhi,
   7.   Kamal Garg "IFRS Concepts and Applications" Bharat Law House Pvt. Ltd, New Delhi.
   8.   CA. J.N.Tikku & CA. Eish Taneja "Ind-AS and their Practical Applicability" Bharat Law House Pvt. Ltd., New Delhi.
   9.   Ghosh T.P. "IFRSs for Finance Executives", Taxmann Allied Services Private Limited, New Delhi.

 JOURNALS & NEWS PAPERS:
  1. Chartered Accountant, Journal, ICAI,   2. Management Accountant, Journal, ICWAI
   3. Economic Times,   4. Business Line

SEMESTER - I

FINANCIAL MANAGEMENT

PAPER CODE: MCIS 2: Core-II   **TOTAL MARKS: 50+50=100**
PPW: 5, Credits: 5   **EXAM DURATION: 3 HRS**
Objective: To introduce the subject of Financial Management and to acquaint the students with financial Functions.

UNIT-I: INTRODUCTION TO FINANCIAL MANAGEMENT:

(a) Financial Management: Meaning- Evolution – Organization of Finance Function – Financial Decisions – Goals of Financial Management – Agency Problem – Changing Role of Finance Manager (Theory)
(b) Time Value of Money: Meaning – Rationale of Time Preference for Money – Future Value (FV) – Present Value (PV) (Including Problems)

UNIT-II: CAPITAL BUDGETING:

(a) Capital Budgeting: Meaning – Importance – Process – Kinds of Decisions –Techniques of Capital Budgeting – Traditional Techniques: Payback Period (PBP) – Accounting / Average Rate of Return (ARR) – Discounted Techniques: Discounted Payback Period (DPBP) – Net Present Value (NPV) – Internal Rate of Return (IRR) – Profitability Index (PI) – Capital Rationing - (Including Problems)
(b) Risk Analysis in Capital Budgeting Decisions: Sources and Perspectives of Risk – Traditional Tools – Payback Period – Risk Adjusted Discount Rate – Certainty Equivalent method - Coefficient of Variation –Decision Tree Analysis (Including Problems)

UNIT-III: WORKING CAPITAL MANAGEMENT:

(a) Working Capital Estimation: Meaning – Kinds – Determinants – Sources and Levels – Estimation of Working Capital Requirements (Including Problems)
(b) Working Capital Management: (i) Cash Management: Nature of Cash – Motives of Holding Cash – Objectives of Cash Management – Factors Determining Cash Need – Cash Cycle – Determination of Optimum Cash Balance (Including Problems) **(ii) Receivable Management:** Meaning – Objectives – Cost Benefit Analysis – Credit Standards – Credit Terms – Collection of Receivables (Including Problems) **(iii) Inventory Management:** Meaning – Components of Inventory – Motives of Holding Inventory – Objectives of Inventory Management – Tools and Techniques of Inventory Control (Including Problems)

UNIT–IV: FINANCING DECISIONS:

(a) Cost of Capital: Meaning – Significance – Classification of Costs – Computation of Specific Cost of Capital – Cost of Debt – Cost of Preference Share Capital – Cost of Equity Share Capital and Cost of Retained Earnings – Computation of Weighted Average and Marginal Cost of Capital – Specific and Weighted Average Cost of Capital (Including Problems)
(b) Leverages and Capital Structure: (i) Leverages: Meaning – Types – EBIT-EPS Analysis – Degree of Operating Leverage – Degree of Financial Leverage – Degree of Combined Leverage – Indifference Point (Including Problems) **(ii) Capital Structure:** Meaning – Determinants – Theories: Net Income Approach – Net Operating Income Approach – Traditional Approach – MM Approach (Theory)

UNIT-V: DIVIDEND DECISIONS:

(a) Dividend Policy: Meaning – Types of Dividend Policies – Factors Influencing Dividend Policy – Forms of Dividends (Theory)
(b) Dividend Theories: Relevance Theories – Walter's Model – Gordon's Model – Irrelevance Theory – MM Hypothesis (Including Problems)

SUGGESTED READINGS:

(1) Erhardt & Brigham: Corporate Finance: A Focused Approach, Thomson; (2) Eugene Brigham & Erhardt: Fundamental of Financial Management, Thomson; (3) Khan M. Y. & Jain PK: Financial Management, TMH; (4) Kulkarni PV.: Financial Management, Himalaya Publishing House; (5) Lasher: Practical Financial Management, Thomson; (6) Pandey I.M.: Financial Management, Vikas; (7) Parasuraman N. R.: Financial Management – A Step-by-Step Approach, Cengage Learning; (8) Prasanna Chandra: Financial Management, TMH; (9) Rustagi, R.P. Fundamentals of Financial Management with EXCEL Applications, Taxmann; (10) Shashi K Gupta and RK Sharma: Financial Management, Kalyani; (11) Solemen Ezra & Pringle John J:An Introduction to Financial Management, PHI; (12) Srivatsava R.M: Essential of Business Finances, Himalaya Publishing House; (13) Sudarsan Reddy G: Financial Management, Himalaya Publishing House; (14) Van Horn, James C:Financial Management, PHI

M.Com.(IS)(CBCS)   FACULTY OF COMMERCE, OU

SEMESTER – I
BUSINESS INFORMATION SYSTEMS

PAPER CODE: MCIS 3: Core-III	**TOTAL MARKS: 50+50 = 100**
PPW: 3T + 4P, Credits: 5	**EXAM DURATION: 2 HRS**

 Objective: To appreciate the role and importance of Information Systems in an Organization and at the various levels of decision making. To understand the elements, functional relationships between the hardware, software and other elements comprising the informationsystem.

Learning Objectives:

1. To analyze how information systems support decision-making at various managerial levels within organizations.
2. To Recognize and describe the essential components of information systems, including hardware, software, and databases.
3. To investigate various information processing models and their functions in supporting business operations and decision-making.
4. To evaluate the application of information systems across different business functions at operational, tactical, and strategic levels.
5. To understand the importance of managing information systems with a focus on security, ethical issues, and the roles of information systems professionals.

Learning Outcomes:
1. Explain the role of information systems in enhancing decision-making across different organizational levels.
2. Identify and articulate the key components of information systems, including their functions and interrelationships.
3. Assess the effectiveness of different information processing models in various business contexts.
4. Demonstrate the impact of information systems on operational efficiency and strategic decision-making in diverse business areas.
5. Identify risks to information systems and propose effective strategies for data protection and ethical management.

UNIT -I : INTRODUCTIONTO INFORMATION SYSTEMS:
   a) Introduction to Organization – Decision levels – Managerial roles – Information needs of Management
   b) Information System – Definition – Features – System concepts – Framework for Information Systems- Strategic uses of Management Information Systems – Future of IS in an Organization – Business ProcessReengineering.

UNIT II: INFORMATION SYSTEM COMPONENTS:
   a) Hardware – Input and Output devices – Computer Memory (Primary, Secondary & Cache) – Memory Access Time – File Structures – NetworkComponents.
   b) Software–OperatingSystemsoftware– Applicationsoftware–Groupware–Multiprogramming– Multi tasking.
   c) Database – Definition -Data Capture – Data Integrity – Components of Database Management Systems.

UNIT III: INTEGRATION OF INFORMATION SYSTEMS:

a) DistributedProcessing–CentralizedDataProcessing–DecentralizedDataProcessing–Distributed Databases – Client Server Computing – Internet – Intranet – ElectronicConferencing.

b) Transaction Processing Systems –Office Automation Systems – Knowledge Management Systems – Decision Support Systems (Features, Components & Tools) – Group Decision Support Systems – Expert systems (Components & Advantages) – CaseStudies.

UNIT VI:APPLICATION OF INFORMATION SYSTEMS IN BUSINESS AREAS:

Application of Information Systems at the Operational ,Tactical& Strategic Levels in the areas of Accounting & Finance, Marketing, Human Resources and Production.

UNIT V: MANAGEMENT OF INFORMATION SYSTEMS:

a) Information Systems Security – Risks – Threats – Protection of InformationSystems.

b) Roles & Responsibilities of IS Professionals – Ethicalissues.

LAB EXERCISES

I ACCOUNTING :

Creation of company – Preparation of Ledger – Posting – Trial Balance – P & L Account – Balance Sheet(Sole Traders)

II FINANCE :

Capital Budgeting decisions:
Calculations of NPV – IRR – Profitable
Index.Preparation of Budget – Calculation of
Cost of Capital.

III MARKETING:

Storing and retrieving of data of customers, sales, dealers, products and geographical areas (Tables & Graphs)

IV PRODUCTION :

Statistical quality control charts – Mean, Range, Standard Deviation and C Chart.

V HUMAN RESOURCE MANAGEMENT:

Employees data base & salary
administration. NOTE:
The programmes have to be taught to the students using Ms – Excel, Access, Power
Point & Accounting Packages.

SUGGESTED READINGS:

1. Management Information Systems – The Manager's View, Robert Schulthesis,Mary Summer.Tata McGraw HillPublications
2. Management Information Systems – Gerald V Post David, L Anderson, Tata McGrawHill.
3. Management Information Systems – JaiswalS
4. Management Information Systems – O Brien, Tata McGrawHill.
5. IT The Breaking Wave –Denis PCurtin.
6. MIS, - Managing the digital firm – Landon &Gendom, Pearson PrenticeHall.
7. O Brien, Introduction to IS,TMH.
8. Management Information System – Jaiswal& Mittal , Oxford UniversityPress

SUGGESTED READINGS FOR LAB :

1. MS Office, - SanjaySaxena
2. MS Office Excel, - Frye, PHIpublications
3. MS Office Access - step by step , PHIpublications
4. Reading Material on AccountingPackages

SEMESTER - I
OBJECT ORIENTED PROGRAMMING THROUGH C++ & Java

PAPER CODE: MCIS 4:   Core-IV   **TOTAL MARKS: 50+50 = 100**
PPW: 3T + 4P, Credits: 5   **EXAM DURATION: 2HRS**

OBJECTIVE: The course emphasizes a strategic problem solving approach to programming. The fundamental constructs of the paradigm - identification, creation and use of high level classes are explained. Algorithmic constructs are introduced as means to support class implementation.

Learning Objectives:

1. To explain the fundamentals of programming languages, comparing procedural and object-oriented programming with a focus on C++.
2. To describe the key concepts of object-oriented programming in C++, including classes, objects, inheritance, and polymorphism.
3. To understand the advantages and features of Java, including its architecture, data types, and control structures.
4. To define and implement interfaces in Java, and explore packages, class libraries, and common utility classes.
5. To recognize different types of exceptions in C++ and Java, and understand the applet life cycle along with multithreading concepts.

Learning Outcomes:
At the end of the course Students will be able

1. To articulate the differences between procedural and object-oriented programming paradigms.
2. To create and manipulate classes and objects in C++, utilizing inheritance and polymorphism effectively.
3. To write basic Java programs, implementing its data types, operators, and control structures.
4. To define and use interfaces and packages in Java, including common class libraries.
5. To implement exception handling mechanisms and understand the life cycle of applets in Java, including multithreading basics.

UNIT-I INTRODUCTION TO PROGRAMMING LANGUAGE

Introduction to Programming Language, Procedure Vs Object oriented programming, Advantage of C + +, Application of C +, Data Types, Variables & Operators in C++, Function, Arguments & Overloading, Function Overloading, Operator Overloading (Simple application based examples)
UNIT- II CLASSES & OBJECT IN C + +

Advantage of Object-Oriented Programming, Classes & Object, Constructors, Destructors, Access Specifies, Data Abstraction, Data Encapsulation, Inheritance, Types of Inheritance, Polymorphism, Types of Polymorphism (Simple application based examples)
UNIT-III INTRODUCTION TO JAVA

Introduction to Java, Advantage of Java, Application of Java, Features of Java, Java Development Kit (JDK), Java Architecture, Data Types, Operators & Control Structures in Java, Classes & Objects in Java, Inheritance in Java, Super & Final keyword, Polymorphism in Java(Simple application based examples)

UNIT-IV INTERFACES IN JAVA INNER CLASS & LIBRARIES

Interfaces, Define Interfaces, Implementing Interfaces, Garbage Collection, Packages & Class Libraries, Defining a Packages, Java Class Libraries, User Defined packages, String Buffer & String Classes, Math Classes, Java until Classes (Simple application based examples)

UNIT- V EXCEPTION HANDLING & APPLETS

Types of Exception in C++ and Java, Try & Catch Blocks in C++ and Java, Java Applets, Applet Life Cycle, Java Application, Applet Versus Application, Multithreading & Multitasking , Threads, Creating & Thread, Thread class and Runnable interface, AWT GUI Components, JDBC Drivers & Types of Drivers (Simple application based examples)

LAB EXERCISES (C++)
1. Program to read two integers and display their sum.
2. Program to read an alphabet and display its next character in the ASCII List.
3. Program to find square root of a number
4. Program to check whether a given number leap year are not
5. Program to find the roots of quadratic equation
6. Program to calculate factorial of a number
7. Program to find LCD (Least Common Divisor) of two given numbers
8. Program to check whether a given number is palindrome or not.
9. Program to implement following class hierarchy (Single inheritance) C++
10. Program to calculate areas of various shapes.

LAB EXERCISES (JAVA)
11. Simple Arithmetic Calculation.
12. Decision making
13. Looping
14. String Manipulation
15. Constructor Overloading
16. Create Simple Package
17. Implementing thread using thread class
18. Interface and Exception handling
19. Working with Colors and Fonts
20. Drawing various shapes using Graphical Statement
21. Usage of Buttons, Labels, Text Components in suitable application

SUGGESTED READINGS:
1. Dietel&Dietel, C++ How to Program,Pearson.
2. HerbetShildt, "The complete Reference C++" - Tata McGrawHill.
3. Bronson, A First Book on C++ -Thomson.
4. Malik, C++ Programming from Program Analysis to Program Design –Thomson.
5. Forarzan, Computer Science A Structured Approach C++ -Thomson.
6. Complete Reference – Herbert Schildt… Tata McGraw Hill.
7. Internet and Java Progamminmg– R. Krishna Moorthy.
8. Java by BalaguruSwamy.

M.Com.(IS)(CBCS)   FACULTY OF COMMERCE, OU

SEMESTER – II
ADVANCED MANAGERIAL ACCOUNTING

PAPER CODE: MCIS 5: Core-I   **TOTAL MARKS: 50+50=100**
PPW: 5, Credits: 5   **EXAM DURATION: 3 HRS**

Objectives: To familiarize and acquaint the students with application of advanced managerial accounting techniques.

UNIT-I: ANALYSIS OF FINANCIAL STATEMENTS:
Financial Statements – Meaning – Objectives – Types – Uses - Limitations - Analysis of financial statements - Meaning - Techniques (Theory only) - Ratio Analysis: Meaning – Classification of Ratios: Current Ratios, Solvency Ratios, Activity Ratios and Profitability Ratios – DuPont Analysis (Including problems) - Cash Flow Analysis – Meaning - Preparation of Cash Flow Statement as per Ind-AS-7 (Including problems).

UNIT-II: RESPONSIBLTIY ACCOUNTING AND TRANSFER PRICING :
Responsibility Accounting – Concept – Steps – Responsibility Centre – Types of Responsibility Centres: Cost Centre, Revenue Centre, Profit Centre and Investment Centre – Preparation of Responsibility accounting reports (Including problems).
Transfer Pricing - Concept – Methods: Market-based pricing – Cost-based pricing – Negotiated pricing - Dual pricing   (including problems).

UNIT-III: INFLATION ACCOUNTING AND INCOME MEASUREMENT:
Inflation Accounting - Concept – Limitations of historical based-cost financial statements – Methods of Inflation Accounting: Current Purchasing Power Method – Current Cost Accounting Method (Including problems)
Income Concepts for financial reporting – Measurement and Reporting of Revenues, Expenses, Gains and Losses (Theory only) – Analysis of Changes in Gross Profit (Including problems)

UNIT-IV: FINANCIAL MEASURES OF PERFORMANCE:
Introduction – Return on Investment (ROI) – Concept – Uses and Limitations – Economic Value Added (EVA) – Concept – Significance of EVA – Measurement of EVA (Simple problems only)
Balanced Score Card (BSC) – Concept – Objectives – Perspectives of BSC - Multiple Scorecard Measures to a Single Strategy (Theory only).

UNIT V: MANAGERIAL DECISION MAKING:
Cost concepts for decision making – Marginal Costing and Decision Making - Pricing Decisions - Product decisions: Profit Planning - Level of Activity - Key/Limiting Factor - Dropping a Product Line - Introducing a New Product Line- Product/Sales Mix Decisions - Make or Buy decisions (Including Problems)

SUGGESTED READINGS:
1. Sharma RK & Shashi K. Gupta: "Management Accounting- Principles & Practice" Kalyani Publishers, New Delhi.
2. Gupta S.P. "Management Accounting" Sahitya Bhavan Publications, Agra.
3. Jawahar Lal "Advanced Management Accounting-Text, Problems and Cases", S. Chand & Company Pvt. Ltd., New Delhi.
4. Ravi M. Kishore, "Cost Management" Taxmann Allied Services Pvt. Ltd., New Delhi.
5. Khan MY & Jain PK, "Management Accounting" Tata McGraw-Hill Publishing Company Ltd., New Delhi.
6. M.A. Sahaf "Management Accounting-Principles & Practice" Vikas Publishing Company Pvt. Ltd., New Delhi.
7. Jawahar Lal "Accounting Theory & Practice" Himalya Publishing Company, New Delhi.
8. Jain S.P. & Narang K.L. "Accounting Theory & Management Accounting" Kalyani Publishers, New Delhi.
9. Robert S. Kaplan & Anthony A. Atkinson "Advanced Management Accounting" Prentice-Hall of India Pvt., Ltd., New Delhi.
10. Ronald W. Hilton, "Managerial Accounting", Tata McGraw-Hill Publishing Company, New Delhi.
JOURNALS & NEWS PAPERS:
1. Chartered Accountant, Journal, ICAI
2. Management Accountant, Journal, ICWAI
3. Economic Times, 4. Times of India

SEMESTER – II
INVESTMENT MANAGEMENT

PAPER CODE: MCIS 6: Core-II   **TOTAL MARKS: 50+50=100**
PPW: 5, Credits: 5   **EXAM DURATION: 3 HRS**

Objective: To familiarize the students with the principles and practice of Investment Management and acquaint the students with the functioning of the Indian Capital Market.

UNIT-I: INTRODUCTION TO INVESTMENT MANAGEMENT:
(a) Investment: Meaning – Characteristics – Importance – Objectives – Factors of Sound Investment – Investment Environment – Investment Media – Principles of Investment – Speculation – Gambling – Investment Process (Theory)
(b) Financial Assets: Meaning – Classification – Shares – Debentures – Bonds – Innovative Financial Assets- Properties of Financial Assets (Theory)

UNIT-II: INDIAN CAPITAL MARKETS - AN OVERVIEW:
(a) Primary Market: Meaning – Growth and Development – Role of NIM – Methods of Issues – Parties Involved – Allotment Process – Investor Protection – Recent Trends (Theory).
(b) Secondary Market: Meaning – History – Functions – Regulatory Framework – Listing and Delisting of Securities – Trading Procedure – Stock Exchanges in India – Growth of Stock Exchanges in India – SEBI – Its Functions and Role (Theory)
(c)Security Market Index: Meaning – Different Averages and Indices – The Construction of Indices – Maintenance Problems with Security Market Indices – Stock Market Index Revision (Including Problems)

UNIT-III: RISK AND RETURN ANALYSIS:
(a) Return: Meaning – Holding Period Return – Equivalent Annual Return – Expected Value of Return – Measuring Returns from Historical Data – Measuring Average Returns over Multiple Period – Arithmetic Average – Geometric Average – Rupee Weighted Average Return (Including Problems)
(b) Risk: Meaning – Sources of Risk – Market Risk – Interest Risk – Purchasing Power Risk – Business Risk – Financial Risk – Types of Risk – Systematic Risk – Unsystematic Risk – Risk Aversion and Risk Premium – Measurement of Risk – Range as a Measure of Risk – Standard Deviation as a Measure of Risk –β as a Measure of Risk (Including Problems)

UNIT-IV: PORTFOLIO ANALYSIS:
(a) Portfolio Analysis: Meaning – Traditional Vs Modern Portfolio Analysis – Return on Portfolio – Risk on Portfolio – Diversification of Investments – Reduction of Portfolio Risk through Diversification – Security Returns Perfectly Positively Correlated – Security Returns Perfectly Negatively Correlated – Security Returns Uncorrelated (Including Problems)
(b) Markowitz Model: Assumptions – Parameters – Effect of Combining Two Securities – Interactive Risk Through Covariance – Coefficient of Correlation – Change in Portfolio Proportions – Concept of Dominance – Limitations of Markowitz Model (Including Problems)

UNIT-V: PORTFOLIO SELECTION:
(a) Portfolio Selection: Meaning – Feasible Set of Portfolios – Efficient Set of Portfolios - Selection of Optimal Portfolios (Including problems)
(b) Sharpe Single Index Model: Measuring Security Return and Risk – Measuring Portfolio Return and Risk (Including Problems)
SUGGESTED READINGS:
(1) Agarwal: A Guide to Indian Capital Market, New Delhi; (2) Bhalla, V.K: Investment Management, S. Chand & Co.; (3) Fabozzi, Frank J: Investment Management, Prentice Hall; (4) Fischer, Donald, E. and Ronald, J. Jordan: Security Analysis & Portfolio Management, PHI; (5) Kevin, S: Security Analysis & Portfolio Management, PHI; (6) Mayo: Investments, Thomson; (7) Preeti Singh: Investment Management, HPH; (8) Reilly: Investment Analysis and Portfolio Management, Thomson; (9) Sharpe etal: Investments, PHI; (10) Strong: Portfolio Construction and Management, PHI.

SEMESTER – II
DIGITAL MARKETING & SOCIAL MEDIA

PAPER CODE: MCIS 7: Core-III   **TOTAL MARKS: 50+50 = 100**

PPW: 3T + 4P, Credits : 5   **EXAM DURATION: 2 HRS**

Learning Objective:
1) To Understand digital and traditional marketing concepts and analyze digital marketing trends and their influence on marketing strategies.
2) To explore emerging Digital Marketing Tools and Platforms (Google Ads, Facebook, Twitter, LinkedIn, etc.).
3) To understand mobile marketing and its role in reaching targeted audiences using its applications.
4) To know about Digital Marketing Engine - Search Engine Marketing (SEM) and Search Engine Optimization (SEO).
5) To know the process of effective advertisements on various platforms and Analytics Tools Effectively.
6) To get acquainted with analytical tools and reports.
7) To know the digital marketing revolution framework and emerging trends.
8) To Identify security and privacy issues in digital marketing.
9) To know the assessment of the ROI
10) To identify the cost-effectiveness of digital marketing strategies.

Learning Outcomes:
1) Understand the benefits of digital marketing for businesses and apply digital marketing strategies to real-world scenarios.
2) Develop effective digital marketing strategies using various platforms (Facebook, Instagram, Google Ads, and many more).
3) Set up and track digital marketing campaigns to target a specific audience through SEM, social media, and email marketing.
4) Use mobile devices to promote products and services through mobile marketing. And integrate mobile marketing strategy with social media strategies.
5) Conducting keyword research to optimize content in search engine ranking.
6) Improving website visits through on-page and off-page optimization techniques.
7) Analyze and evaluate digital advertising campaigns and performance via Google Analytics and various other tools
8) Follow up on the latest digital marketing trends.
9) Understand the importance of data privacy and security in digital marketing campaigns and apply best practices.
10) Leverage digital marketing campaigns to gain a competitive advantage for business and career.

UNIT I -INTRODUCTION TO DIGITAL MARKETING

Principles of Digital Marketing, Basics of Marketing, Comparison of Traditional and Digital Marketing, Benefits of Digital marketing, The impact of Digital Marketing and effective strategies, Latest Digital marketing trends, Digital marketing platforms, Mobile marketing and analytics, Career opportunities in digital marketing,

UNIT II - DIGITAL MARKETING TOOLS

Campaigns via your website and Social Media Marketing (Facebook, Twitter, Linkedin, Google plus, Pinterest, Instagram), Mobile marketing and analytics, Keywords and search terms, The power of hashtags and search terms, Blogging platforms such as Google+ and Blogger, Tools-HubSpot, Email Marketing, Content Creation,

Google Analytics, User-generated Content

UNIT III - DIGITAL MARKETING ENGINE

Search Engine Marketing (SEM)- Google Ads, Types of Campaigns, PPC Campaign Setup, AdGroups and Keywords setup, AdRank, Shopping Campaigns, Dynamic search campaigns, Video Marketing

Search Engine Optimization (SEO)- Working of SEO, Keyword Research Process, On page Optimization strategies, Content development strategy, Speed Optimization, Off Page Optimization, Local SEO Strategies

UNIT IV- DIGITAL MARKETING ADVERTISING

Google Ads- An overview on campaigns and dashboards, configuration and set up a campaign, Ad types; call only, email and page conversions, Facebook Ads, Setup and running Facebook ads and campaigns, Acquiring audience

Google Analytics (GA)-An overview and introduction to Google Analytics Tools, Reports and Data, Paid Search, Organic Search, PPC, CPC, Exporting, Emailing, and Scheduling Reports and Dashboards, Visitors Flow, Landing Pages and Converting Traffic, Social Media Traffic

UNIT V- DIGITAL INNOVATION AND TRENDS:

The contemporary digital revolution, digital transformation framework; security and privatization issues with digital marketing Understanding trends in digital marketing – Indian and global context, online communities and co-creation, ROI of digital strategies, how digital marketing is adding value to business, and evaluating cost effectiveness of digital strategies

LAB EXERCISES

1. Google Ads (Google AdWords) tools
2. AdWords Editor Tool
3. Keyword Research Tools
4. Google Analytics Tools
5. Social Media Account Creation(Google+, Facebook, Twitter, Linkedin, Instagram, Pinterest)
6. Right Hashtag for your post
7. Content Creation on Social Media Post
8. Facebook Ads (Campaign setup, Performance monitoring, Analysis)
9. Weekly & Monthly Ads Report Generation
10. Right Target Audience Selection

SUGGESTED BOOKS:

1. Influencer: Building Your Personal Brand in the Age of Social Media by Brittany Hennessy
2. Social Media Marketing: A Strategic Approach by Melissa Barker, Donald I. Barker
3. Jab, Jab, Jab, Right Hook: How to Tell Your Story in A Noisy Social World by Gary Vaynerchuck
4. Digital Marketing For Dummies by Russ Henneberry and Ryan Deiss
5. FUNDAMENTALS OF DIGITAL MARKETING 2ED by Puneet Bhatia
6. Moutsy Maiti: Internet Mareting, Oxford University Press India
7. Vandana, Ahuja; Digital Marketing, Oxford University Press India (November, 2015).
8. Eric Greenberg, and Kates, Alexander; Strategic Digital Marketing: Top Digital Experts
9. Share the Formula for Tangible Returns on Your Marketing Investment; McGraw-Hill
10. Professional (October, 2013).

11. Ryan, Damian; Understanding Digital Marketing: marketing strategies for engaging the digital generation; Kogan Page (3rd Edition, 2014).

12. Tracy L. Tuten & Michael R. Solomon: Social Media Marketing (Sage Publication)

13. Digital Marketing Paperback by Seema Gupta-Mc Graw Hill

SEMESTER – II

ADVANCED EXCEL

PAPER CODE: MCIS 8: Core-IV   **TOTAL MARKS: 50+50 = 100**

PPW: 3T+4P, Credits : 5   **EXAM DURATION: 2 HRS**

Objective: To impart the knowledge of excel in data presentation and financial and statistical analysis.

Learning Objectives:

1. To understand the basic features of Excel, including navigation, formatting, and fundamental functions to create and manage spreadsheets effectively.

2. To learn to apply a variety of essential Excel functions, including mathematical, text, and date functions, to manipulate and analyze data.

3. To develop skills in advanced Excel features such as what-if analysis, data validation, and lookup functions for complex data management.

4. To understand financial formulas and learn to create various charts and graphical representations to visualize data effectively.

5. To Gain proficiency in statistical analysis techniques, including data validation, descriptive statistics, and hypothesis testing to interpret data insights.

Learning Outcomes:

Students will be able:

1. To effectively navigate the Excel interface and customize settings to suit their needs.

2. To utilize a range of Excel functions to perform calculations and manipulate text and dates.

3. To apply advanced Excel functionalities, including pivot tables and lookup functions, for comprehensive data analysis.

4. To construct financial models using formulas and represent data visually through various chart types.

5. To perform basic statistical analyses and tests to evaluate data reliability and trends.

UNIT-I: UNDERSTANDING EXCEL:

An Overview the screen, navigation and basic spreadsheet, shortcut keys, customizing excel, Basic functions, currency format, format painter, custom and special formats, Basic conditional formatting, protecting excel, Auto filter, Sort data by using an AutoFilter, Advanced Paste Special Techniques, Transpose Table, Printing & Preview Your Work

UNIT-II: EXCEL FUNCTIONS:

Math Functions, Text Functions, Date and Time Functions- SUM, SUMIF, SUMPRODUCT, SUBTOTALS, SUMIFS, COUNT, COUNIFS, AVERAGE, AVERAGEIF, AVERAGEIFS, IF, NESTED IF, IFERROR, AND, OR, NOT, UPPER, LOWER, PROPER, LEFT, MID, RIGHT, TRIM, LEN, EXACT, CONCATENATE, FIND, SUBSTITUTE, TODAY, NOW, DAY, MONTH, YEAR, DATE, DATEIF, DATEADD, WEEKDAY

UNIT-III : ADVANCED EXCEL:

What-If Analysis, Goal Seek, Data validation-Number, Date & Time , Text and List Validation, Dynamic Dropdown List Creation, LookUp Functions, Vlookup, Hlookup, Nested VLookUp, Pivot Tables, Array Functions,Array with Lookup functions, Index and Match

UNIT-IV : FINANCIAL APPLICATIONS & CHARTS

Introduction to formulas: PV, NPV, IRR, PMT, IPMT, NPER, RATE, Creating Balance Sheet, Investment Calculations, Depreciation calculations. Creating charts and Graphics. Chart the data, Creating Sparkline

Graphics, Printing Charts, Adding/ Formatting/Renaming/Deleting Data Series.

UNIT-V : ANALYSING DATA:

Random Number Generation, Validation of data, reduction data, reliability of the data and rotation, Histogram, Descriptive Statistics, Rank and Pearson Correlation, Covariance, Regression, t-test, Z- test, F-Test and Anova.

LAB EXERCISES

1) Exercises on simple Excel sheets creation, Apply filter and sort.
2) Exercises for usage of functional and short cut keys.
3) Exercises using Mathematical formulas, function and Test Functions.
4) Exercises on creating Sparkline Graphs.
5) Exercises using financial function along with graphs and charts [PV, NPV, IRR, PMT, IPMT, NPER, RATE, Creating Balance Sheet, Investment Calculations, Depreciation calculations].
6) Exercises with statistical function [Descriptive Statistics, Rank and Pearson Correlation, Covariance, Regression, t-test, Z-test, F-Test and Anova].
7) Exercises on data validation, reliability, rotation and reduction.
8) Exercises on customization and analyzing data.

SUGGESTED READINGS:

1. Charts and Graphs Microsoft Excel 2013 – Bill Felen– Pearson Publication.
2. Statistics made simple do it yourself on PC – KVS Sarma– 2nd Edition – PHI.
3. Microsoft Office 2007- Essential Concepts and Techniques – Shelly CashmanVermaat–Cengage Learning.
4. PC software Under Windows –Puneet Kumar –Kalyani Publishers.
5. 100 statistical Tests in R – N.D. Lewis –Healthes Hills Press, New Delhi.

SUGGESTED READINGS FOR LAB:

1. Problem – Solving Cases in Microsoft Access and Excel – Ellen F Monk, Joseph A Brady & Gerard S Cook –Cengage Learning.
2. Charts and Graphs Microsoft Excel 2013 – Bill Felen– Pearson Publication.
3. Statistics made simple do it yourself on PC – KVS Sarma– 2nd Edition – PHI.
4. PC software Under Windows –Puneet Kumar –Kalyani Publishers.

SEMESTER–III
RESEARCH METHODOLOGY AND QUANTITATIVE TECHNIQUES

PAPER CODE: COM 9; Core-I   **Total Marks: 50+50=100**
THPW: 5; Credits: 5   **ESED: 3 HRS**

Objective: To equip students with research methods and data analysis tools and techniques.

UNIT-I: INTRODUCTION:
Research: Meaning, Purpose, Characteristics and Types - Process of Research: Formulation of objectives - Research plan and its components - Methods of Research: Survey, Observation, Case study, Experimental, Empirical and Comparative Methods - Difficulties in Business Research (Theory only)

Collection, Presentation & Analysis of data: Sources of Data: Primary and Secondary Sources - Methods of collecting Primary Data - Measurement and Scaling -Designing Questionnaires/Schedules. Census vs. Sampling - Methods of Sampling Random and Non-Random Sampling methods - Techniques. (Theory only)

UNIT-II: INTERPRETATION AND REPORT WRITING:
Interpretation: Introduction - Essentials for Interpretation, Precautions in interpretation - Conclusions and generalization - Methods of generalization. Statistical fallacies (bias, inconsistency in definitions, inappropriate comparisons, faulty generalizations, drawing wrong inferences, misuse of statistical tools, failure to comprehend the data.

Report Writing: Meaning and types of reports - Stages in preparation of Report - Characteristics of a good report - Structure of the report'-Documentation: Footnotes and Bibliography - Checklist for the report.

UNIT-III: STATISTICAL ESTIMATION, HYPOTHESIS TESTING AND SAMPLING OF VARIABLES:
Statistical Estimation: Concepts of Population, Sample and Sampling Distribution - Parameters and Statistics - Central limit theorem - Concept of Standard Error - Confidential Limits - Estimation of Population Parameters - Properties of a Good Estimator - Point and Interval Estimation - -

Hypothesis Testing: Formulation of Hypotheses: Types of Hypotheses - Methods of testing Hypotheses - Type I and Type II errors - One tail and two tail tests (Theory only). Sampling of Attributes: Estimation and testing of Number and Proportions of Success - Difference between two proportions (including problems).

Sampling of Variables: Large Samples: Difference between large and small samples - Estimating population mean - Testing: Significance of Mean - Significance of the difference between means of two samples - Significance of the difference between the standard deviations of two samples. (Including problems) Small Samples: 't' test - Fixing fiducial limits to population mean – Testing: Significance of the mean - Significance of the difference between two independent means – Significance of the difference between two dependent means (including problems).

UNIT-IV: ANALYSIS OF VARIANCE, ASSOCIATION OF ATTRIBUTES & CHI -SQUARE TEST:
Analysis of Variance: F-test: Meaning and Applications - ANOVA: Assumptions - Procedure - One way and two-way analysis of variance (including Problems).

Association of Attributes & Chi -Square Test: Association of Attributes: Meaning - Distinction between Correlation and Association - Methods of studying Association - Interpretation of results.

Chi Square Test: Definition - Conditions for applying Chi square test, Yates's correction – Uses and limitations of Chi square test – Chi square test for testing the independence of Attribute – Chi square test for goodness of fit (including problems).

UNIT-V: STATISTICAL DECISION THEORY, GAME THEORY AND LINEAR PROGRAMMING:
Statistical Decision Theory: Nature of Decision - State of Nature – Pay off Tables - Expected Pay off - Expected Opportunity Loss – Value of Perfect Information – Types of Decision Situation – Choice of Decision Criteria – Decision Tree Analysis – Decision Making under Uncertainty (including simple problems).;

Game Theory: Characteristics of Game Theory – Two Persons Zero Sum Game - Maximum and Minimax Strategies – Saddle Point – Dominating Strategy – Mixed Strategy - Limitations of Game Theory (including simple problems with Analytical Formulae and Graphical Methods).

Linear Programming: Linear Programming: Meaning - Requirements for application - Assumptions - Advantages - Application of LP - Formulation of LP problems (including simple problems). Graphical Solutions of LP problems with two variables only (including simple problems).

SUGGESTED READINGS: 1.Levin etal:Statistics for Management., 2.Kothari:Research Methodology., 3.Zikmund:Business Research Methods., 4. Krishna Swamy: Methodology of Research in Social Sciences., 5. SC.Gupta:Fundamentals of Statistics., 6. SP.Gupta:Statistical Methods., 6. 7. Keller:Statistics for Management & Economics., 8. Sanchetty & Kapoor: Business Statistics., 9. Anderson:Statistics for Business and Economics,10. Achalapathi KV:Reading in Research Methodology in Commerce & Business Management. 11.D.C.Sancheti & VK.Kapoor: Statistics, Sultan Chand & Sons 8.Anand Sharma: Quantitative Techniques for Decision Making Himalaya Publications 12. Shenoy GV: Quantitative Techniques for Managerial Decisions, New Age

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SEMESTER-III
COST ACCOUNTING AND CONTROL

PAPER CODE: COM 10; Core-II **Total Marks: *50+50=100***
THPW:5; Credits:5 **ESED: 3 HRS**

Objective: *To impart conceptual knowledge of cost accounting and to equip with skills of ascertainment and control of costs.*

UNIT-I: INTRODUCTION:
Cost Accounting: Nature and Scope, Need, Objectives - Cost Concepts - Installation of Costing System - Cost Accounting its relationship with Financial Accounting and Management Accounting - Cost Accounting Standards - Cost Classification - Cost Sheet - Books of Accounts – Integral and Non Integral Accounting - Reconciliation of Cost and Financial Accounts (Including Problems).

UNIT-II: PROCESS COSTING:
Process Costing: Meaning, Features, Applicability, Pros and Cons – Unit Costing Vs. Process Costing – Job Costing Vs. Process Costing – Normal Loss and Abnormal Loss - Process Accounts with Stocks – Inter-Process Profit – Equivalent Production – First In-First out Method (FIFO) and Average Method – Joint Products and By-products (Including problems).

UNIT-III: MARGINAL, ABSORPTION AND DIFFERENTIAL COSTING:
Marginal Cost: Meaning, Features - Absorption Cost: Meaning, Pros and Cons – Marginal Costing Vs Absorption Costing - Preparation of Income Statement under Marginal Costing and Absorption Costing - Differential Costing: Meaning of Differential Cost, Marginal Cost Vs. Differential Cost, Characteristics of Differential Costing, Managerial Applications of Differential Cost Analysis (including problems).

UNIT- IV: BUDGETARY CONTROL:
Budget: Meaning, Essentials – Budgeting - Budgetary Control: Essentials, Advantages, Limitations – Classification of Budgets: Functional Budget: Sales Budget, Production Budget, Direct Material Budget, Direct Labor Budget, Manufacturing Overheads Budget - Capital Expenditure Budget - Cash Budget – Master Budget – Flexible Budget – Performance Budget – Traditional System of Budgeting – Zero Based Budgeting (Including Problems).

UNIT-V: STANDARD COSTING:
Standards: Meaning, Types, Establishment - Standard Costing: Need, Pre-requisites, Pros and Cons - Standard Costing and Budgetary Control – Variance Analysis - Revision of Standards - Control and Efficiency Ratios (Including Problems).

SUGGESTED READINGS:
1. Jain S.P & Narang K.L., "Advanced Cost Accounting" Kalyani Publishers, New Delhi; **2.**Iyengar S.P., "Cost Accounting – Principles & Practice" Sultan Chand & Sons; **4.**Khan M.Y & Jain P.K.,"Theory and Problems in Cost Accounting" Tata McGraw-Hill Publishers, New Delhi ; **4**. Ravi M. Kishore, "Cost Management", Taxmann Publishers New Delhi ; **.5.** Prashanta Athma, "Cost and Management Accounting" Himalya Publishers New Delhi; **6.**Lall Nigam & Jain, "Cost Accounting – Principles and Practice" Prentice Hall; **7.**Manish Dutta, "Cost Accounting – Principles & Practice", Pearson Education Pvt. Limted; **8.**Saxena VK & Vashist CD, "Advanced Cost & Management Accounting" Sultan Chand & Sons; **9.** Colin Drury,"Management & Cost Accounting" Thomson Asia Pvt. Ltd, **10.** Asish K. Bhattacharyya "Principles and Practice of Cost Accounting" Prentice Hall, **11.**Arora M.N. "Cost Accounting –Principles & Practice" Vikas Publishing House. 12. Ravi M. Kishore "Cost & Management Accounting" Taxman's Publications Pvt. Ltd., New Delhi.

SEMESTER III
INFORMATION SYSTEMS - APPLICATIONS & ANALYSIS: ELECTIVE-I
DATA COMMUNICATIONS & NETWORKS

PAPER CODE: COM (IS)11 Elective-I   **Total Marks: 50+50=100**
THPW: 3T+4P ; Credits : 5   **ESED: 2 HRS**

Objective: To familiarize the students with fundamentals of data communication, computer networks, network applications and services.

Learning Objectives:

1. To introduce students to the fundamental concepts of computer networks, including their architecture, configurations, and the relationship between data and signals.
2. To familiarize students with connection methods like modems and multiplexing, along with techniques for error detection and control in data communications.
3. To analyze the functions, advantages, and topologies of LANs, including the roles of network devices such as switches and routers.
4. To investigate the characteristics of WANs, including routing algorithms and internet protocols, as well as various internet services.
5. To learn about telecommunication systems and essential network security measures, including encryption techniques and network design principles.

Learning Outcomes:

Students will be able:

1. To explain basic concepts of computer networks and the processes involved in data and signal communication.
2. To utilize various connection methods and error detection techniques to ensure reliable data transmission.
3. To identify and evaluate the components and configurations of Local Area Networks.
4. To compare different types of Wide Area Networks and understand their applications and routing methods.
5. To implement basic network security measures and apply network design and management principles effectively.

UNIT - I:
Introduction to Computer Networks and Data Communications: Introduction – Taxonomy - Computer Networks - Basic Configurations - Network Architecture Model - Internet Model.Fundamentals of Data and Signals - Data and Signals - Converting Data into Signals - Spread Spectrum Technology - Data Codes - Data and Signal Conversions in Action. Media: Conducted and Wireless - Twisted Pair - Coaxial Cable - Fiber Optic Cable - Wireless Transmissions - Media Selection criteria.

UNIT-II:
Making Connections – Modems - Breaking bandwidth limitations - Modem Pools - Data Link

Connections. Multiplexing Frequency - Division and Time Division Multiplexing - Business Multiplexing in action. Errors, Error Detection and Error Control - Errors - Error Prevention - Error Control - Error Detection Techniques.

UNIT-III:

Local Area Networks (LAN) – Introduction - Functions of LAN - Advantages and Disadvantages -Basic Topologies - Medium Access Control Protocol - IEEE802 formats - LAN Systems. Internetworking - Bridges - Hubs - Switches - Network Servers - Routers. LAN Software and Support Systems - Introduction to Network Operating Systems - Current Networking Operating Systems - Novell Netware - Windows NT – UNIX - LINUX – Utilities - Internet Server Software
- Programming tools.

UNIT-IV:

Wide Area Networks (WAN) - Introduction - Types of Network Subnets - Connection Oriented Applications vs. Connectionless Applications. Routing - Routing Algorithms - Routing Examples. Network Congestion - Preventing and Handling Network Congestion. Internet - Internet Services – WWW - Intranets and Extranets - Internet Protocols.

UNIT-V:

Telecommunication Systems - Basic Telephone Systems - Leased Lines Services – ISDN - Frame Relay – ATM – DSN - Computer Telephone Integration. Network Security - Basic Security Measures - Encryption and Decryption Techniques - Fire Walls - Security Policy Design Issues. Network Design and Management - System Development Life Cycle - Network Modeling -Feasibility Studies - Capacity Planning - Creating a Base Line - Network Manager - Network Diagnostic Tools.

SUGGESTED READINGS:

1. Data Communications and Computer Networks - A Business Users Approach, Curt M White,Thomson Learning.
2. DC & Networking, Foronzan, Mc Graw Hills Publications.
3. Computer Networks, Dave, IE Publishers.
4. James F Kurose, Keith W Ross, Computer Networking A Top – Down Approach, Addison Wesley.

SEMESTER III
INFORMATION SYSTEMS - APPLICATIONS & ANALYSIS: ELECTIVE-II
BUSINESS DECISIONS USING SPSS

PAPER CODE: MCIS 15: Elective-III   **Total Marks: 50+50 = 100**
PPW: 3T + 2P, Credits: 4   **ESED: 2 HRS**

Learning Objective:
1) To learn and understand the essential functions of SPSS such as data management, creating, coding and editing data files, defining variables, handling missing values, and exploring various menus.
2) To compute and analyze descriptive and inferential statistical methods and perform correlation analysis to find the relationships between variables.
3) To understand the concepts of regression and its coefficients, identify the relationship between variables, and apply time series analysis to recognize trends and components using SPSS.
4) To Perform Hypothesis Testing and Non-Parametric Tests of significance using SPSS.
5) To understand and run ANOVA and Factor Analysis to know the variance and reduce data dimensionality.

Learning Outcomes:
1) Understand the essential functions of SPSS for managing variables and computing descriptive statistics to understand the data.
2) Run a hypothesis test to see differences in sample means. Develop the models by Identifying relationships between variables.
3) Recognize trends and patterns within data by applying the time series analysis.
4) ANOVA was applied to test differences between group means and to understand the results through SPSS.
5) Identify principal components based on the factor analysis.

UNIT-I: INTRODUCTION TO SPSS:
SPSS – Introduction, Starting SPSS, Data editor, Toolbar, Menu Bar, Edit Menu, View Menu, Data Menu, Transform Menu, Analyse Menu, Graphs Menu. Creating a Data File, Defining Variables, Variable Labels, Missing Values, SPSS Procedure for Creating a Data File, Frequency Distributions, Editing, Coding, Classification and Tabulation

UNIT-II: MEASURES OF CENTRAL TENDENCY, DISPERSION & CORRELATION:
Descriptive Statistics - Graphic Presentation, Measures of Central Tendency, Measures of Dispersion, Skewness.
Correlation – Meaning - Methods of computing correlation - correlation coefficients - Scatter. Diagram.(Working out problems using SPSS only)

UNIT-III: REGRESSION AND TIME SERIES ANALYSIS:
Regression: Meaning - Methods of computing regression - regression coefficients
Time series analysis: Meaning – Components – Computing trend**. (Working out Problems only using SPSS)

UNIT –IV: LARGE AND SMALL SAMPLE TESTS AND NON PARAMETRIC TESTS:
Large & small Sample tests: Test of significance for number of successes protection of successes, Difference between proportions, test of significance for sample mean, test for difference between means, test for difference between standard deviations, t test for significance of sample mean, t test for difference between independent and t test for difference between dependent samples (Working out problems only using SPSS).
Non Parametric Tests: Chi-Square Test for Goodness of fit, Chi-Square Test of Independence, Kruskal –Wallis Test – Friedman Test,. Wilcoxon Rank sum test, Spearman's Rank Order Correlation, Multiple Response –

Analysis, Multiple Dichotomy Analysis, Sign Test, Test of randomness, Mann whitney U test, Kolmoglov Smirinov test. (Theory & Problems)

UNIT V: ANALYSIS OF VARIANCE AND FACTOR ANALYSIS:

F- test: Meaning and Applications – **ANOVA:** Assumptions - Procedure - One way and two-way analysis of variance (including problems). **Factor Analysis :** Objectives of Factor Analysis, Designing Factor Analysis, Assumptions of Factor Analysis, Procedure of deriving Factors, Interpreting the Factors, Validation of Factor Analysis. (Theory & Problems). **Discriminate analysis**, Multi dimensional Scaling. Checking the internal validity, reliability of data – Cronbanch alpha. (Theory & Problems)

SUGGESTED READINGS:

1) Levin&Rubin: Quantitative Approaches in Management, Pearson
2) SC.Gupta: Fundamentals of Statistics, Himalaya
3) D.C.Sancheti & VK.Kapoor: Statistics, Sultan Chand & Sons
4) Anand Sharma: Quantitative Techniques for Decision Making Himalaya
5) SPSS 17.0 for Researchers - Dr. S L Gupta, Hitesh Gupta, 2nd Edition, International Book House Pvt. Ltd.
6) Data Analysis with SPSS, Version 16 – Carrer Nash – Cengage Learning India Pvt. Ltd.
7) Basic SPSS Tutorial – Manfred te Grotenhuis – Sage Publications.
8) Marketing Research – Nargundkar, Tata Mc Graw Hills
9)   Sp Gupta – Statistical Methods, Sultan Chand

SEMESTER III
INFORMATION SYSTEMS – MANAGEMENT: ELECTIVE-I

CLOUD COMPUTING FUNDAMENTALS

PAPER CODE: MCIS 11: IS-Mgt. Elective-I   **Total Marks: 50+50=100**
PPW: 3T + 4P, Credits: 5   **ESED: 2 HRS**

Objective: The objective of the course is to familiarize the students with the software development process, software quality assessment, and testing for the optimum functionality at reasonable costing.

Learning Objectives:

1. To introduce students to the foundational concepts of cloud computing, including its evolution, architecture, and key characteristics.
2. To understand the various service and deployment models of cloud computing, including SaaS, PaaS, IaaS, and their respective benefits.
3. To examine different types of cloud services, including Database as a Service and Communication as a Service, along with leading service providers.
4. To analyze the role of virtualization in cloud computing, including its advantages, types, and related technologies.
5. To Gain knowledge of cloud security principles, including confidentiality, integrity, and availability, as well as secure development practices.

Learning Outcomes:

Students will be able

1. To articulate the key concepts and evolution of cloud computing and its architectural influences.
2. To distinguish between various cloud service and deployment models, understanding their unique features and benefits.
3. To identify and compare different cloud service types and major service providers in the market.
4. To assess the need for virtualization in cloud environments and describe its types and benefits.
5. To implement fundamental security measures and practices in cloud computing to ensure data protection and integrity.

UNIT-I INTRODUCTION TO CLOUD COMPUTING
Definition of Cloud – Evolution of Cloud Computing – Underlying Principles of Parallel and Distributed, History of Cloud Computing - Cloud Architecture - Types of Clouds -Business models around Clouds – Major Players in Cloud Computing ,issues in Clouds, Essential characteristics, Architectural Influences, Technological Influences, and Operational Influences.

UNIT-II CLOUD COMPUTING ARCHITECTURE:
The SPI Framework, Cloud Software as a Service (SaaS) , Cloud Platform as a Service(PaaS), Cloud Infrastructure as a Service(IaaS), Cloud deployment models, Public Clouds, Community Clouds, Hybrid Clouds, Alternative Deployment models, Expected benefits.

UNIT-III: CLOUD SERVICES:
Types of Cloud services: Software as a Service Platform as a Service –Infrastructure as a Service - Database as a Service - Monitoring as a Service –Communication as services. Service providers- Google, Amazon, Microsoft Azure, IBM, Sales force.

UNIT-III: VIRTUALIZATION FOR CLOUD:
 Need for Virtualization – Pros and cons of Virtualization – Types of Virtualization –System VM, Process VM, Virtual Machine monitor – Virtual machine properties – Interpretation and binary translation, HLL VM - supervisors – Xen, KVM, VMware, Virtual Box, Hyper-V.

UNIT-V : CLOUD COMPUTING SOFTWARE SECURITY FUNDAMENTALS:

Cloud Information Security Objectives, Confidentiality, Integrity, Availability, Cloud Security Services, Relevant Cloud Security Design Principles, Secure Cloud Software Requirements, Secure Development practices, Approaches to Cloud Software Requirement Engineering, Cloud Security Policy Implementation.

LAB EXERCISES

1. Basics of VMWare, creating virtual machines-understanding virtual machines, create a new virtual machine on local host, cloning virtual machines
2. SEMINAR/ PAPER PRESENTATION recent developments in cloud computing
3. Install Virtualbox/VMware Workstation with different flavours of linux or windows OS on top of windows7 or 8.
4. Install a C compiler in the virtual machine created using virtual box and execute Simple Programs.
5. Install Google App Engine. Create hello world app and other simple web applications using python/java.
6. Use GAE launcher to launch the web applications.
7. Simulate a cloud scenario using CloudSim and run a scheduling algorithm that is not present in CloudSim.
8. Find a procedure to transfer the files from one virtual machine to another virtual machine.
9. Install Oracle Virtual box and create two VMs on your laptop.
10. Install Turbo C in guest OS and execute C program.
11. Test ping command to test the communication between the guest OS and Host OS
12. Develop a Hello World application using Google App Engine
13. Develop a Guestbook Application using Google App Engine
14. Develop a Windows Azure Hello World application using.
15. Find a procedure to transfer the files from one virtual machine to another virtual machine.

SUGGESTED READINGS:

1. David E.Y. Sarna, "Implementing and Developing Cloud Application", CRC press 2011.
2. Lee Badger, Tim Grance, Robert Patt-Corner, Jeff Voas, NIST, Draft cloud computing synopsis and recommendation, May 2011.
3. Anthony T Velte, Toby J Velte, Robert Elsenpeter, "Cloud Computing: A Practical Approach", McGrawHill 2010.
4. Haley Beard, "Best Practices for Managing and Measuring Processes for On-demand
5. Computing, Applications and Data Centers in the Cloud with SLAs", Emereo Pvt Limited, July 2008.
6. Ronald L. Krutz, Russell Dean Vines, "Cloud Security A comprehensive Guide to secure Cloud Computing" Wiley.
7. John W. itinghouse james F.Ransome, "Cloud Computing Implementation, Management and Security" , CRC Press.
8. Borko Furht. Armando Escalante, "Handbook of Cloud Computing", Springer
9. Charles Badcock, "Cloud Revolution" , TMH

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SEMESTER III
INFORMATION SYSTEMS – MANAGEMENT: ELECTIVE-II
CYBER LAWS

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PAPER CODE: MCIS 12: IS-Mgt. Elective-II   **Total Marks: 50+50=100**
PPW: 3T+4P; Credits: 5   **ESED: 2 HRS**

Objective : The objective of this course is to enable students understand legal and regulatory framework for doing business in India. The student will also be able to know the Information Technology Act 2000. Along with learning cyber laws the course enables the student to understand Cyber crime, Tools and methods used in cyber crime and Cyber Security.

Learning Objectives:

1. To introduce students to the fundamentals of cyberspace and the components and categories of cyber law, including governing bodies and international considerations.
2. To provide an overview of the IT Act 2000, its objectives, benefits, and the legal implications of digital signatures, electronic contracts, and cyber offenses.
3. To familiarize students with the definition, classification, and legal perspectives of cyber crimes, including specific issues like cyber stalking and risks in cloud computing.
4. To discuss the security challenges associated with mobile and wireless devices, including threats, credit card fraud, and necessary organizational measures.
5. To investigate various tools and methods used in cyber crime, including malware, phishing, and network attacks, to understand their implications and prevention strategies.

Learning Outcomes:
Students will be able:

1. To describe key components and categories of cyber law, including global privacy issues and internet governance.
2. To outline the aims, objectives, and key provisions of the Information Technology Act 2000 and its relevance to cyber law.
3. To categorize different types of cyber crimes and discuss their implications from both Indian and global perspectives.
4. To identify security threats to mobile devices and propose appropriate security policies for organizations.
5. To recognize various tools and methods used in cyber crime and understand their impact on cybersecurity.

UNIT-I: CYBERSPACE AND CYBER LAW:
Introduction to cyber space and cyber law, components of cyber law, categories f cyber law, Punishments, Components of cyber law, Internet governing bodies, International aspects of electronic contracting, Global issues of Privacy in cyberspace.

UNIT-II: INFORMATION TECHNOLOGY ACT 2000(ITA2000):
History, overview of Information Technology Act of India 2000, Benefits of Cyber Laws, Aims and

objectives of ITA2000, Digital Signature and Electronic Signature, Electronic Governance, Electronic Contracts, Regulation of Certifying Authorities, Electronic Signature Certificate, Penalties, Compensation and Adjudication, Cyber Appellate, Computer related Offences and Grey areas of ITA2000.

UNIT-III: INTRODUCTION TO CYBER CRIME:

Definition and Classification of Cyber Crime, Cyber Crime Legal perspective, Indian perspective and Global perspective, Categories of Cyber Crime and Cyber Stalking, Cloud computing, Risk associated with cloudcomputing,

UNIT-IV: MOBILE AND WIRELESS DEVICES:

Trend mobility, Authentication service security, Attacks on mobile phones, Mobile phone security, Credit Card frauds, Types of Credit Card frauds, Security implications for organizations, Organizational measurement for Handling mobile, Security policies and measures in mobile computing era.

UNIT-V: TOOLS AND METHODS USED IN CYBER CRIME:

Proxy servers and Anonymizers, Phishing, Password cracking, Key loggers and Spy wares, Virus and Worms, Trojan Horse and Backdoors, Steganography, DoS Attacks, SQL Injection, Buffer overflow, Attacks on wirelessnetwork.

SUGGESTED READINGS:

1. Ramandeepkaurnagra, **Cyber laws and Intellectual Property Rights**, Kalyani Publishers, 7e, 2015
2. Nina Godbole&SunitBelapure**Cyber Security**, Wiley India Pvt Ltd,2012.
3. Gerald. R. Ferrera, Reder and linchtenstein, **Cyber laws – Text and Cases**,3e, Cengagelearning
4. FaiyazAhamed, **Cyber Law and Information Security,** DreamTech Press,2013
5. PankajAgarwal, **Information Security and Cyber Laws**, Acme Learning,2013
6. Manjotkaur, **Essentials of E-Business and Cyber laws**, KalyaniPublishers

SEMESTER III
BUSINESS ANALYTICS: ELECTIVE-I
BUSINESS ANALYTICS USING EXCEL

PAPER CODE: COM (IS)11; Elective-I   **Total Marks: 50+50=100**
THPW:3T+4P; Credits: 5   **ESED: 2 HRS**
Objectives: To develop and use advanced predictive analytics methods

UNIT-I: INTRODUCTION TO BUSINESS ANALYTICS:
Introduction to Business Analytics (BA)*. Evolution and Scope of Business Analytics. Data for Business Analytics. Decision Models – Descriptive, Predictive and Prescriptive Models. Problem Solving and Decision making process.
Analytics on Spread sheets
Basic Excel skills. Using Excel functions and developing Spread Sheet Models. Art of developing Spread sheet models – Guidelines to develop an adequate spread sheet model. Debugging a spread sheet model.

UNIT-II: STORYTELLING IN A DIGITAL ERA:
A Visual Revolution, From Visualization to Visual Data Storytelling: An Evolution, From Visual to Story: Bridging the Gap - Power of Visual Data Stories: The Science of Storytelling. The Brain on Stories, The Human on Stories, The Power of Stories, The Classic Visualization Example, Using Small Personal Data for Big Stories, The Two-or-Four Season Debate, Napoleon's March, Stories Outside of the Box

UNIT-III: GETTING STARTED WITH TABLEAU:
Using Tableau, Why Tableau, The Tableau Product Portfolio, Tableau Server, Tableau Desktop, Tableau Online, Tableau Public, Getting Started, connecting to Data, connecting to Tables, Live Versus Extract, connecting to Multiple Tables with Joins, Basic Data Prep with Data Interpreter, Navigating the Tableau Interface, Menus and Toolbar, Data Window, Shelves and Cards, Legends, Understanding Dimensions and Measures: Dimensions, Measures, Continuous and Discrete

UNIT-IV: DESCRIPTIVE ANALYTICS:
Visualizing and Exploring Data. Descriptive measures to summarize the data. Application of Excel Descriptive statistics tool. Probability distributions and Data modelling. Sampling and Inferential statistical methods. Using Excel Data Analysis add in for estimation and hypothesis testing

UNIT-V: PREDICTIVE ANALYTICS AND TIME SERIES ANALYSIS:
Introduction, Statistical Model, Inference about regression coefficient, Multicollinearity, Include/Exclude Decisions, Stepwise Regressions, The Partial F test, Outliers, Violation of Regression Assumptions, Prediction, Multiple Regression: Interpretation of regression coefficients, Interpretation of Standard error of estimate and R Square, Modelling Possibilities, Validation of Fit. Binomial Logistic Regression, Multinomial Logistic Regression.
Introduction – Time Series, Time Series Vs Regression, Components – Predictable, Unpredictable, Local Global, Trend, Seasonality, Additive & Multiplicative models, Cyclicity, Seasonality, Stationary, Noise, Single and Double Exponential Smoothing (Holt's Method), Autocorrelation function, AR Model, MA Model, ARMA Model, ARIMA, GARCH Model.

SUGGESTED READINGS:
1. Evans J. R (2013). Business Analytics Methods, Models and Decisions. Pearson,
REFERENCE BOOKS:
1. Albright C. S., Winston Wayne L. and Zappe C. J (2009). Decision Making Using
Microsoft Excel (India Edition). Cengage Learning.
2. Forte, R. M., (2015)., Mastering Predictive Analytics with R., PacktPublishng
Limited.
3. Rees, M. (Jully 2015). Business Risk and Simulation Modelling in Practice: Using
Excel, VBA and @RISK. John Wiley & Sons.
4. Richard, M., McCarthy, M., Ceccucci, W., &Halawi, L. (2019). Applying Predictive
Analytics: Finding Value in Data. Springer.

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SEMESTER III
BUSINESS ANALYTICS: ELECTIVE-II
DATA VISUALIZATION

PAPER CODE: COM(IS) 12; Elective-II   **Total Marks: 50+50=100**
THPW: 3T+4P; Credits: 5   **ESED: 2 HRS**

Objectives: To familiarize the students about different kinds of representing the data and tools for Visualization of the data.

UNIT-I:INTRODUCTION TO DATA VISUALIZATION:
Acquiring and Visualizing Data, Simultaneous acquisition and visualization, Applications of Data Visualization, Keys factors of Data Visualization (Control of Presentation, Faster and Better JavaScript processing, Rise of HTML5, Lowering the implementation Bar) Exploring the Visual Data Spectrum: charting Primitives (Data Points, Line Charts, Bar Charts, Pie Charts, Area Charts), Exploring advanced Visualizations (Candlestick Charts, Bubble Charts, Surface Charts, Map Charts, Infographics). Making use of HTML5 CANVAS, Integrating SVG

UNIT-II: BASICS OF DATA VISUALIZATION – TABLES:
Reading Data from Standard text files (.txt, .csv, XML), Displaying JSON content Outputting Basic Table Data (Building a table, Using Semantic Table, Configuring the columns), Assuring Maximum readability (Styling your table, Increasing readability, Adding dynamic Highlighting), Including computations, Using data tables library, relating data table to a chart

UNIT-III: FUNDAMENTALS OF VISUALIZATIONS WITH POWER BI:
Power BI Service Introduction & Scope, Power BI Cloud Architecture, Creating & Sign In to Power BI Account, , importing data into Power BI workspace, Publishing Reports to the Power BI service, Import / Getting the Report to PBI ServiceMy, Workspace / App Workspaces Tabs, DATASETS, WORKBOOKS, REPORTS, DASHBOARDS

UNIT-IV: VISUAL ANALYTICS WITH POWER BI:
Pin Visuals and Pin LIVE Report Pages to Dashboard, Interacting with Dashboards, Formatting Dashboard, Sharing Dashboard, Power BI tools in the areas of charting, dates, table calculations and mapping. Specific types of charts including scatter plots, Gantt charts, histograms, bullet charts. Different types of geographic data, Connecting multiple data sources and how to create custom maps. Advantages of Dashboards

UNIT-V: FUNDAMENTALS OF VISUALIZATIONS WITH GOOGLE DATA STUDIO:
Google data Studio Overview, Scope, Features, Access Control, importing data into data studio workspace, Data studio homepage, Data source Connecting and Reporting, Timeseries Charts for Analysis Trend, Filters, Map Visualization-Scatter Charts, preparing data in google sheets, Tools-Text, images, lines & Arrows, Shapes, Google Map Charts, Reports, Blending data from multiple sources.

SUGGESTED READINGS:
1. Laursen, G. H., &Thorlund, J. (2016). Business analytics for managers: Taking business intelligence beyond reporting. John Wiley & Sons.
2. Healy, K. (2018). Data visualization: a practical introduction. Princeton University Press.
3. Wilke, C. O. (2019). Fundamentals of data visualization: a primer on making informative and compelling figures. O'Reilly Media.
4. Sievert, C. (2020). Interactive web-based data visualization with R, plotly, and shiny. CRC Press.
5. Baldwin, D. (2016). Mastering Tableau. Packt Publishing Ltd.
6. Ben Fry, "Visualizing data: Exploring and explaining data with the processing environment", O'Reilly, 2008.
7. A Julie Steele and Noah Iliinsky, Designing Data Visualizations: Representing Informational Relationships, O'Relly
8. Andy Kirk, Data Visualization: A Successful Design Process, PAKT
9. Scott Murray, Interactive Data Visualization for Web, O'Relly

SEMESTER–IV
TAXATION

PAPER CODE: COM 13; Core-I   **Total Marks: 50+50=100**
THPW: 5; Credits : 5   **ESED: 3 HRS**

Objective: to acquaint the student with the Theoretical and Practical aspects of Assessing HUF, Partnership Firms, Companies, Co-operatives and Trusts. To make the student aware of basics of GST and Customs Act.

UNIT-I: ASSESSMENT OF HINDU UNDIVIDED FAMILIES:
Meaning of HUF – Hindu Coparcenary different Schools of Hindu Law – Assessment of HUF – Basic Conditions – Taxable Income – Assessment in case of partition of a HUF – computation of Taxable income and tax payable (Theory and Problems).

UNIT-II: ASSESSMENT OF PARTNERSHIP FIRMS & AOP:
Meaning of Partnership Firm - Conditions for Assessment as a firm U/S 184 and 185 - Treatment of interest and remuneration paid to partners U/S 40(b) - Computation of Total Income - Assessment of Partners of Firm - Change in constitution of Firm Succession of one firm by another firm - Assessment of dissolved or discontinued firm - Partnership Firm Assessed as Association of Persons (AFAOP) - Computation of Total Income of PFAOP (Theory and Problems).

UNIT-III: ASSESSMENT OF COMPANIES:
Meaning of Company - Types of Companies - Computation Procedure - Taxable income - Deductions - Tax Liability - MAT - Carry Forward and set off of losses - Tax on Distributed Profits - Tax on income receipt from venture capital companies and funds - Companies: Computation of total income of companies - Determination of Tax Liability (Problems). Other Taxes: Security Transaction Tax - Tonnage Tax (Theory and Problems).

UNIT-IV: ASSESSMENT OF CO-OPERATIVES AND TRUSTS:
Cooperative Societies: Meaning - Deduction u/s 80(p) - Other deductions - Computation of Tax (Theory and problems). Trusts: Definition – Creation - Registration - Types of Trusts - Tax Exemptions - Accumulation of income - Income not exempted - Assessment of Trust (Theory and problems).

UNIT – V: FUNDAMENTALS OF GST & CUSTOMS ACT:
GST Introduction - Registration – Inter & Intra State Acts under GST - Distinction between goods and services - Levy and collection of GST - Exemptions from GST - Place, Time and value of supply input tax credit - Payment of GST. (Theory only)
        Customs Act: Meaning- Classification – Types of Customs duty – Exemptions.

SUGGESTED READINGS:
1. Vinod K. Singhania: Taxman's Direct Tax Laws.
2. V.P. Gaur and D.B. Narang Income Tax Law and Practice- Kalyani Publications
3. Girish Ahuja and Dr. Ravi Gupta: Direct Tax Law and Practice and Tax Planning.
4. CA (Dr.) KM Bansal Taxmann's Fundamentals of GST & Customs Law
5. GST and Customs : K. Bansal, Taxmann Publications
6. VS Date Indirect Taxes: Taxmann's publications

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SEMESTER–IV
ANALYTICS IN COMMERCE AND BUSINESS

PAPER CODE: MCIS 14:Core-II   Total Marks: 50+50=100
THPW: 5; Credits : 5   ESED: 3 HRS

Objective: On successful completion of the course, the student can understand the importance analytics in business and application and various tools and techniques to evaluate the performance by generating reports.

UNIT- I : INTRODUCTION TO ANALYTICS:
Introduction, Meaning & Definition, Characteristics, Application of Analytics, Meaning of Business Analytics, SWOC of Analytics, Importance of Analytics, Tools & Techniques of Analytics, Functions of Analytics, Reports in Analytics, Relevance of Analytics Business, List of Software's for Business Analytics.

UNIT- II : FINANCE ANALYTICS:
Introduction, Meaning & Definition, Characteristics, Objectives, Importance, Functions, Critical Financial Analytics, Risk based Pricing, Fraud Detection and Prediction, Recovery Management, Loss Forecasting, Risk Profiling, Portfolio Stress Testing, Potential Application of Analytics in Finance Department, Relevance of Financial Analytics in Business, List of Software's for Finance Analytics.

UNIT- III : MARKETING ANALYTICS:
Introduction, Meaning & Definition, Characteristics, Objectives, Importance, Functions, Types of Marketing, Analytics, Buying Pattern Behaviour Analysis, Analysis of Trends, Identification of Target Audience, Advertising Techniques, Forecasting Demand & Supply, Segmentation, Marketing Mix Optimization, Competitor Analysis, Channel Analysis, Sales Performance Analysis, Campaign Analysis, Sales Pipeline Reporting, Use of Google Analytics in Marketing, Social Media and its relevance on Marketing Analytics, Potential Application of Analytics in Marketing Department, List of Software's for Marketing Analytics.

UNIT- IV : HR ANALYTICS:
Introduction, Meaning & Definition, Features, Objectives, Importance, Functions, Types of HR Analytics, Employee Performance Evaluation, Employee Attrition Rate, Recruitment Analytics, Compensation Analytics, Talent Analytics, Training Analytics, Workforce Analytics, Role of Analytics in HRD as a whole, Potential Application of Analytics in HR Department Relevance of HR Analytics in Business, List of Software's for HR Analytics.

UNIT- V : CRM ANALYTICS:
Introduction, Meaning & Definition, Characteristics, Objectives, Importance, Functions, Types of Customer Analytics, Role of Analytics in CRM, Purchasing Pattern Analytics, Life Style of Customers, Loyalty Analytics, Customer Life Time Value, Propensity Analytics, Churn Analytics, Customer Segmentation, Cross Sell or Upsell Models, Analytics and Innovation, Potential Application of Analytics in CRM, Relevance of CRM Analytics in Business, List of Software's for CRM Analytics.

SUGGESTED BOOKS:

1. Hastie, Trevor, et al. - The elements of Statistical Learning, Vol. 2. No.1. New York - Springer, 2009.
2. Montgomery, Douglas C., and George C. Runger - Applied Statistics and Probability for Engineers - John Wiley & Sons, 2010.
3. Tom White – Hadoop : The Definitive Guide – Third Edit on, O' reily Media, 2012.
4. Seema Acharya, Subhasini Chellappan – Big Data Analytics – Wiley 2015.
5. Michael Berthold, Davi J. Hand – Intelligent Data Analysis – Springer, 2007.
6. Jay Liebowitz – Big Data and Business Analytics – Auerbach Publications, CRC Press, 2013.
7. Tom Plunkett, Mark Hornick – Using R to Unlock the Value of Big Data : Big Data Analytics with Oracle R Enterprise and Oracle R Connector for Hadoop – McGraw Hill / Osborne Media, 2013, Oracle Press.
8. Anand Rajaraman and Jef Rey David Ulman – Mining of Massive Datasets – Cambridge University Press, 2012.
9. Bill Franks – Taming the Big Data Tidal Wave : Finding Opportunities in Huge Data Streams with Advanced Analytics – John Wiley & Sons, 2012.
10. Glen J. Myat – Making Sense of Data – John Wiley & Sons, 2007.
11. Pete Warden – Big Data Glossary – O'Reily, 2011.

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SEMESTER IV
INFORMATION SYSTEMS APPLICATIONS & ANALYSIS,
INFORMATION SYSTEMS - MANAGEMENT: ELECTIVE-III
WEB DESIGNING

PAPER CODE: COM(IS 12; Elective-II   **Total Marks: 50+50=100**
THPW: 3T+2P ; Credits : 4   **ESED: 2 HRS**

Objective: The Course emphasizes on the skills of designing and creation of web pages, Scripting & Markup language, client side Scripting Language, Server Side Scripting and importance of PHP & My SQL.

Learning Objectives:

1. To introduce students To the basic concepts of HTML, including its history, structure, and essential tags for creating web pages.
2. To familiarize students with JavaScript syntax, built-in functions, and control statements for enhancing web interactivity.
3. To teach students to recognize and manage various events in web applications, including mouse and keyboard events, and error handling.
4. To provide an overview of PHP, its capabilities, and how to integrate it with HTML for dynamic web applications.
5. To equip students with skills to create and manage databases using PHP and MySQL, including form handling and SQL operations.

Learning Outcomes:
Students will be able

1. To construct simple HTML pages using various HTML tags and styles.
2. To write basic JavaScript code to manipulate web page elements and handle user interactions.
3. To identify and respond to different types of events in a web application, utilizing error handling techniques.
4. To write PHP scripts that interact with HTML forms and manage server-side processing.
5. To perform CRUD operations in MySQL and handle data securely in PHP applications.

UNIT I: INTRODUCTION TO HTML: Introduction of HTML, A brief history of HTML,The World Wide Web, User Agents (or Browsers), Structure of HTML Document, Basic HTML Tags ,Table tags, Form Tags, Images Tags, List Tags, Link tags, Frame Tags, Styles-Inline and Internal External Style sheet, CSS Selectors & Floats

UNIT II: CLIENT SCRIPTING: Introduction to JavaScript, Syntax, Evolution of JavaScript, Features of JavaScript, Advantages and Disadvantages of JavaScript, Built in functions ,Date Functions, Control Statements- IF, NestedIF, Loops, Break & Continues Statements, Cookies, Interacting with users-Alert, Prompt, Confirm Dialogs

UNIT III: HANDLING   EVENTS: Types of Events- Window Events, MouseEvents, Key Events onAbort,onBlur,onChange,onClick,onDblClick,onDragDrop,onError,onFocus,onKeyDown,onKeyPress,onKeyUp,on Load,onMouseDown,onMouseMove,onMouseOut, onMouseOver, onMoouseUp, onMove, onReset, onResize, onSelect, onSubmit, onUnLoad, Exceptions and Errors, Exception mechanism, "try-catch-finally" constructions, Throwing exceptions,Error Object

UNIT IV: SERVER SIDE SCRIPTING : Introduction to PHP, installation of Xampp /Wampp tools, Role of Apache & MySQL Server, PHP Capabilities & Advantages, How to Configure php.ini, PHP Scripting Blocks/Tags,   How to embed in HTML, Data Types & Variable Declarations, Conditional Statements, Loop Statements , receiving data form HMTL form using GET & POST, PHP Sessions

UNIT V: WORKING WITH DATABASE & FORMS :   Introduction to PHP MyAdmin Panel, Configuring and Using MySQL, PHP Database Creation, Understanding table structure, SQL Queries-DDL,DML,crud operation in mysql- Fetching MySQL data from PHP forms, Creating registration forms, managing Secure Login Screens, Handling multiple tables in PHP-MySQL, Joins and Views, Importing and Exporting data through SQL script

SUGGESTED BOOKS :
1.   PHP and My SQL Web Development, 4th Edition, Luke Welling, Laura Thomson, Publisher: Addison Wesley.
2.   Beginning HTML, XHTML, CSS, and JavaScript, Jon Duckett, Publication /Wiley
3.   HTML5, Black Book Dream Tech Publications, Wiley India Pvt Limited.
4.   Willard, Web Design A Beginners Guide, Tata Mc Graw Hill
5.   Roy: Web technology, Oxford University Press.

SEMESTER IV
BUSINESS ANALYTICS: ELECTIVE-III
DATA SCIENCE USING R AND PYTHON

PAPER CODE: MCIS 15: Elective-III   **Total Marks: 50+50=100**
PPW: 3T + 2P, Credits : 4   **ESED: 2 HRS**

Objective: To make students will gain knowledge in various data pre-processing techniques and data visualization techniques and also able to learn the implementation of R and Python.

Learning Objectives:

1. To introduce students to the fundamental concepts of data science and big data, along with their benefits and applications.
2. To familiarize students with the R programming language, including its history, basic operations, and data manipulation techniques.
3. To equip students with foundational knowledge of Python, focusing on objects, functions, and essential libraries for data analysis.
4. To teach students key mathematical principles relevant to data science, including probability, statistics, and regression analysis.
5. To enable students to perform exploratory data analysis using data visualization tools and techniques for effective data interpretation.

Learning Outcomes:

Students will be able

1. To articulate the key concepts and processes involved in data science and big data.
2. To perform basic data operations in R, including data cleaning, manipulation, and analysis.
3. To write Python code for data analysis, utilizing key libraries such as Pandas and NumPy.
4. To apply mathematical concepts, including probability and regression, to analyze data effectively.
5. To create visualizations and conduct exploratory data analysis to derive insights from datasets.

UNIT-I: BASIC TOOLS AND DATASOURCES
Defining Data Science and Big data, Benefits and Uses, facets of Data, Data Science Process, Tools- Understand the strengths and weaknesses of Excel, strengths and weaknesses of R and Python,Data Cleaning-Understand the process behind data cleaning & Preparation
UNIT-II R BASICS:
History and Overview of R, Getting Started with R, R Nuts and Bolts, Basic operations in R, Scoping rules of R, Coding Standards in R , Math operations in R, Vector , working with null values, Import & Export files in R, Data-frame, Joins, One-way and Two way tables, Vectors, Matrices,
UNIT-III: PYTHON BASICS
Objects and Functions, Identifiers, Variables and Datatypes, Operators, Python Flow, Array, Function Arguments, Recursive functions ,Lambda, Exception Handling , Iterators, Generators and Decoder, Selection by position & Labels, Python Packages- Pandas, Numpy, Sci-kit, Mat-plot library

UNIT-IV: MATHEMATICS FOR DATA SCIENCE

Probability Types of Probability, Standard Deviation- Data deviation & distribution, Variance, Statistics- Central Tendency-Mean, Median, Mode, Skewness, Linear Algebra, Gradient Descent, Calculus for data science, ANOVA, Hypothesis testing, Regression-MSE, RMSE, MAPE

UNIT-V: EXPLORATORY DATA ANALYSIS

Data Visualization using GGPLOT2 and Matplotlib, Data Pre-processing, Data Transformation, Data Reduction, Feature Extraction. Univariate and Multi-variate analysis, Correlation-Pearson correlation, positive & Negative correlation, Base Graphics, Understand how to use multiple lines and colors in R

SUGGESTED READING:

1. Sievert, C. (2020). Interactive webbased data visualization with R, plotly, and shiny. CRC Press.
2. DavyCielen, Arno.D.B.Maysman, Mohamed Ali, "Introducing Data Science" Manning Publications, 2016.
3. Roger D. Peng, "R Programming for DataScience" Lean Publishing, 2015.
4. Nina Zumel, John Mount, "Practical Data Science with R", Manning Publications, 2014.
5. Mark Gardener, "Beginning R - The Statistical Programming Language", John Wiley & Sons, Inc., 2012.
6. W. N. Venables, D. M. Smith and the R Core Team, "An Introduction to R", 2013.
7. Tony Ojeda, Sean Patrick Murphy, Benjamin Bengfort, AbhijitDasgupta, "Practical Data Science Cookbook", Packt Publishing Ltd., 2014.
8. Business Analytics (The science of data driven decision making)- U Dinesh Kumar
9. Machine Learning For Dummies, John Paul Mueller, Luca Massaron
10. Python for Dummies, Aahz Maruch and Stef Maruch
11. Introduction to Machine Learning with Python - Muller Andreas