

ALAGAPPA UNIVERSITY, KARAIKUDI
NEW SYLLABUS UNDER CBCS PATTERN (w.e.f.2017-18)

M.Com. (COMPUTER APPLICATIONS) – PROGRAMME STRUCTURE

Sem.	Course Code	Name of the course	Cr.	Hrs./ Week	Max. Marks		
					Int.	Ext.	Total
I	7MCC1C1	Core – I – Management Practice	5	6	25	75	100
	7MCC1C2	Core – II – Financial Accounting and Reporting	5	6	25	75	100
	7MCC1C3	Core – III – Marketing Management	5	6	25	75	100
	7MCC1C4	Core – IV – Business Information Technology*	5	6	25	75	100
	7MCC1E1/ 7MCC1E2	Elective – I: (A): Operating Systems (or) (B): Data Structures and C *	4	6	25	75	100
		Total	24	30	--	--	500
II	7MCC2C1	Core – V – Business Research Methodology	5	6	25	75	100
	7MCC2C2	Core – VI – Financial Management	5	6	25	75	100
	7MCC2C3	Core – VII – Management Accounting	5	6	25	75	100
	7MCC2C4	Core – VIII – E-Business – Models and Practice	5	6	25	75	100
	7MCC2E1/ 7MCC2E2	Elective – II (A): Data Base Management System (or) (B): Data Mining and Warehousing	4	6	25	75	100
	Total	24	30	--	--	500	
III	7MCC3C1	Core–IX – Practical Cost Accounting	5	6	25	75	100
	7MCC3C2	Core – X – Innovation and Entrepreneurship	5	6	25	75	100
	7MCC3C3	Core – XI – Quantitative Methods	5	6	25	75	100
	7MCC3C4	Core – XII – Practical Computerized Accounting *	5	6	25	75	100
	7MCC3E1/ 7MCC3E2	Elective – III (A): Visual Programming : VB and VC++ (or) (B): Software Models and Engineering	4	6	25	75	100
		Total	24	30	--	--	500
IV	7MCC4C1	Core – XIII –Income Tax Law and Practice	5	6	25	75	100
	7MCC4C2	Core – XIV – Human Resource Management	5	6	25	75	100

		Elective – IV (Only one for Student; College may offer both)	4	(i)6 +6 OR (ii) 6	25	75	100
7MCC4E1	(A) Investment and Portfolio Management	(OR)					
7MCC4E2	(B) Enterprise Resource Planning						
		Elective –V (Choose One)	4	(i)6 OR (ii)6+6	25	75	100
7MCC5E1	(A): Multimedia and Mobile Communications	(OR)					
7MCC5E2	(B)Computer Networks						
		Total	18	24/ 30/	--	--	400
		Grand Total	90	114/ 120	--	--	1900

* With Practical carrying 25 marks (on Continuous Internal Assessment) and Theory carrying 75 marks (Term-end Examination)

M.Com. (COMPUTER APPLICATIONS)

I YEAR – I SEMESTER COURSE CODE: 7MCC1C1

CORE COURSE I – MANAGEMENT PRACTICE

Unit I:

Management: Definition – Meaning – Characteristics – Functions – Importance – Differences between Management and Administration – Qualities of a Manager – Management as Art, Science and Profession – Contributions of F.W. Taylor, Henri Fayol, Peter F. Drucker, Herbert A. Simon and Elton Mayo.

Unit II:

Planning: Meaning, Premises, Types, Objectives, Characteristics, Advantages and Limitations – Steps in Planning Process – Difficulties in Planning – Decision Making: Nature and Process- Types: Certainty, Risk, Uncertainty and others - Use of Computers in Planning and Decision processes – case study.

Unit III:

Organisation: Meaning – Functions of Organization – Principles of Organisation – Organisation Structures: Types and Significance – Features and significance of Formal and Informal Organisations – Delegation of authority: Need, Requisites and Evaluation – Centralisation and Decentralisation of Decision making – Relative merits and demerits – case study.

Unit IV:

Directing: Principles and Functions of Direction – Communication – Morale and Motivation – Leadership Styles – Distinguishing Qualities of a Leader and Manager – Coordinating: Need and Methods – Controlling: Concept and Techniques of Control – Performance Appraisal: Importance, Types and Methods – Use of Computers in Control processes – case study.

Unit V:

Strategic Management: Meaning – Importance – Approaches to dealing with Risk – Models – Strategic Changes – Strategic Leadership and Decision Making–Strategic Alliance – Core Competence – Total Quality Management -Mergers and Acquisition – Managerial Challenges in Global Organizations – Use of Computers in Strategic Management Process – case study.

Books for Reference:

Author(s)	Title
Ricky W Griffin	Management, South-Western College Publications, 2013
Gareth Jones and Jenifer George	Contemporary Management, McGraw-Hill/Irwin, 2010.
Peter F. Drucker	Management, 2008.
Stephen P. Robbins and Mary Coulter	Management, 9th Edition, 2006.
Kaplan and Norton	The Strategy-Focused HBP, 2000
Stoner, et-al	Management, Prentice Hall, 1989.
Wehrich and Koontz	Management A Global Perspective, McGraw Hill, 1988
Gene Burton and Manab Thakur	Management Today- Principles and Practice, TMH, 2009.
NeeruVasisshth and VibhutiVasisshth	Principles of Management Text & CasesPaperback, 2014, Taxmann.
T. Ramasamy	Principles of Management, Himalaya Publishing House

**I YEAR – I SEMESTER
COURSE CODE: 7MCC1C2**

CORE COURSE II – FINANCIAL ACCOUNTING AND REPORTING

Unit I:

Financial Accounting: Meaning – Accounting Concepts and Conventions – Accounting Cycle–Accounting Standards: Concept, Significance and Salient Features–Outline of Indian Accounting Standards (Ind AS) - International Financial Reporting Standards (IFRS)- Preparation of Final Accounts for Proprietary Concerns.

Unit II:

Accounting for Depreciation and Impairment: Causes and Nature of Depreciation – Methods of Accounting for Depreciations: Straight Line, Written Down, Sinking Fund and Sum of the Digits Methods – Asset Impairment: Causes and Accounting.

Unit III:

Accounting from Incomplete Records: Statement of Affairs Method – Conversion Method – Preparation of Final Accounts and Balance Sheet from Incomplete Records.

Unit IV:

Company Accounts: Book Building of Public Issue– Allotment – Accounting for Issue of Equity Shares – Issue and Redemption of Preference Shares and Debentures – Final Accounts of Companies and Treatment of Pre-incorporation Profits – Format of Banking Company Final Accounts – Reading and Interpretation of Quarterly and Annual Final Accounts of Corporate Undertakings including Banks from Published sources.

Unit V:

Valuation and Accounting for Goodwill – Accounting for Amalgamation, Absorption, External and Internal Reconstruction of Companies – Accounting for Alteration of Share Capital- Segmental Reporting.

Note: The question paper shall consist of 40% Theory and 60% problem.

Books for Reference:

Author(s)	Title	Publisher
S P Jain & K L Narang	Advanced Accountancy	Kalyani Publishers
Gupta R L & Radhaswamy	Advanced Accounting	S. Chand & Sons.
M.C Shukla and T.S Grewal	Advanced Accounting	Sultan Chand & Sons.
M A Arulanandam & K S Raman	Advanced Accountancy	HPH, Bombay.
H. Chakraborty	Advanced Accountancy	Oxford University Press
S.P Iyengar	Advanced Accounting	Sultan Chand & Sons



**I YEAR – I SEMESTER
COURSE CODE: 7MCC1C3**

CORE COURSE III – MARKETING MANAGEMENT

Unit I:

Meaning and Functions of Marketing –Concepts of marketing: Product, Selling, Consumer, Relations and Social concepts – Approaches to the study of marketing – Features of industrial, consumer and services marketing –International Marketing: Market entry strategies – Approaches to International Marketing: Ethno-centric, Poly-centric, Regio-centric and Geo-centric approaches – Service Marketing Vs Product Marketing – Rural Marketing – Emerging Trends in Marketing: Sensory, Viral and Online Marketing.

Unit II:

Meaning and importance of Consumer Behaviour in Marketing – Determinants of Consumer buying process – Theories of consumer behaviour–Marketing Research: Meaning – Objectives – Procedure – Marketing Environment: External and Internal factors – Marketing segmentation: Meaning, Bases and benefits – Marketing Mix – The ‘Ps’ in Marketing Mix – Customer Relationship Management (CRM).

Unit III:

Product Mix Management: Product planning and development – Meaning and process – Test marketing – Product failures – Product life cycles – Meaning and Stages – Strategies – Managing PLC – Product-Market Integration: Strategies – Product Positioning – Diversification – Product Line Simplification – Planned Obsolescence – Branding Policies and Strategies – Packing & Packaging.

Unit IV:

Price and Place Mix Management: Pricing and pricing policies – Objectives – Procedures – Bases for and Methods of price fixing – Cases for Free Pricing, Administered and Regulated pricing – Pricing and product life cycle – Place mix decisions: Channel decisions: Types and Factors influencing decisions – Middlemen: Types and functions – Modern Trends in Retailing – Malls and Online – Logistics Decision considerations – Supply Chain Management (SCM) – Marketing Networking.

Unit V:

Promotional Mix Management: Personal selling Vs Impersonal selling – Personal selling or Salesmanship: Selling Process and Strategies – Salesman Qualities – Advertising: Importance and Objectives – Media planning and selection – Factors influencing selection – Advertisement copy Layout – Evaluation of advertising – Advertising budget – Sales promotion: Methods and Practices – Publicity: Nature and Significance.

Books for Reference:

Author(s)	Title	Publisher
Philip Kotler and Armstrong	Marketing Management	Pearson
V.S. Ramasamy and S.Namakumari	Marketing Management	McMillan
R.S.Davar	Modern Marketing Management	Progressive Publications
Dr.C.B.Gupta and Dr.N.Rajan Nair	Marketing Management	Sultan Chand & Sons,

S.A.Sherlekar		Marketing Management	HPH, Bombay
Keegan J Warren		Global Marketing Management	Prentice Hall
RakeshKhurana& Ravichandra.	A.N.	Strategic Marketing Management - Concepts & Cases	Global Business Press
NAG		Marketing successfully - A Professional Perspective,	McMillan
Saxena, R.		Marketing Management	Tata McGraw Hill



**I YEAR – I SEMESTER
COURSE CODE: 7MCC1C4**

CORE COURSE IV – BUSINESS INFORMATION TECHNOLOGY

Unit I:

Information Technology: Concept and Trend – Components of Computers and Laptops – Computer applications in Business – Operating Systems (System Software) and Application Software – Introduction to Network Setting – LAN and WAN, Internet and Intranet.

Unit II:

Working with Microsoft Office Suite: MS Word – Creating, Opening, Saving and Formatting Documents – Mail Merge – Working with Spread Sheets: MS Excel – Tables – Formulas and Functions –Data Analysis using excel–Linking Work Sheets and Work Books – Charts – Pivot Tables.

Unit III:

MS Power Point: Creating a Power Point Presentation (PPT) Using Slide Master, Animation and Graphics in PPT. MS Project: Creating Project Design, Schedules, PERT / CPM Charts and Reports.

Unit IV:

Internet and E-Commerce: E-Mail Etiquette – Usages of Search Engines and Portals – Website and Web Based E-mail, FTP and Net Meeting – Mobile Commerce (M-Commerce) – Browsing and Its uses.

Unit V:

Buying and Selling through Internet: E-Payment and Electronic Fund Transfer – Payment Gateway and Security Systems – On Line Stores – Internet Banking – Smartcards and Plastic Money.

PRACTICAL

MS WORD

- i. Create a resume in a neat format.
- ii. Create a document to display the special features of your company. Use Bullets and Numbering.
- iii. Give an advertisement in a newspaper for recruitment in your company using MS Word.
- iv. Create a Greeting card and send to 5 persons using Mail Merge.
- v. Create a document with
 - a. Paragraph Alignment
 - b. Color the Fonts
 - c. Use different Font Styles
 - d. Header and Footer
- vi. Create a Employee sales Table in MS Word

MS EXCEL

- i. Create a worksheet for Student Mark List. Display the Result using If condition.
- ii. Create a worksheet for Employee details having the fields Employee name, Basic pay, HRA (10% of BP), DA(5% of BP), PF, LIC, GP and Net Pay.
 $GP = HRA + DA$
 $Net\ Pay = GP - (PF + LIC)$
- iii. Create a worksheet for a sales person for the sale of the different products. Calculate the commission and display the output with Bar chart.
- iv. Create a worksheet for EB bill calculation.
- v. Create a worksheet for a company using Sorting and Filters.
- vi. Create a worksheet using Formatting options, Toolbars, Date and Time and Auto format.

MS POWER POINT

- i. Create a Power point Presentation for the Advertisement of Different Products.
- ii. Create a Presentation giving full details of a company and use hyperlink for slides.
- iii. Create a Presentation that displays the day to day procedure of Banking.

Books for Reference:

Author(s)	Title	Publisher
E Balagurusamy	Fundamentals of Computers,2009.	McGraw Hill.
C.S Rayudu	E-Commerce and E-Business,2015	Himalaya Publishing House
Agarwala, N. Kamlesh	Business on the Net,2000	Macmillan India Ltd
C.S.V. Murthy	E- Commerce,2002	Vikas Publishing House
Ravi Kalakota and Whinston	Frontiers of E- Commerce ,1996	Addison-Wesley Publishers
E. Turban, J. Lee, D. King, H.M. Chung	E- Commerce,2002	Pearson Education
USHA DAHIYA/SAPNA NAGPAL	Computer Applications for Management,2009	Taxmann.

* With Practical carrying 25 marks (on continuous internal assessment) and Theory carrying 75 marks (Term end Examination)



**I YEAR – I SEMESTER
COURSE CODE: 7MCC1E1**

ELECTIVE COURSE I (A) – OPERATING SYSTEMS

Unit I:

Introduction: Definition of Operating Systems – Mainframe System – Desktop Systems – Multiprocessor System – Distributed – Clustered – Real time Systems – Handheld Systems. Operating System Structure: System Components – Services – System Calls – System Programs – System Design and Implementation.

Unit II:

Processes: Process Concepts – Process Scheduling – Operations on Processes – Cooperating Processes – Inter Process Communication. CPU Scheduling: Scheduling Concepts – Criteria – Scheduling Algorithms – Multiprocessor Scheduling – Real time Scheduling.

Unit III:

Process Synchronization: Critical Section Problem – Synchronization Hardware – Semaphores – Problems of Synchronization – Critical Regions – Monitors . Deadlocks: Characterization – Method for handling Deadlocks – Deadlock Prevention – Avoidance – Detection – Deadlock Recovery.

Unit IV:

Memory Management – Single Contiguous Allocation- Partitioned Allocation – Relocatable Partitions allocations – Paged and Demand paged Memory Management – Segmented Memory Management – Segmented and Demand paged Memory Management – overlay Techniques – Swapping.

Unit V:

File System Interface: file Concepts – Access Methods – Directory Structure – Protection. File System Implementation: File System Structure – Directory Implementation – Allocation Methods – Free Space Management. Mass Storage Structure: Disk Scheduling.

Books for Reference:

Author(s)	Title	Publisher
Silberschatz and Galvin	Operating System Concepts,2012.	Weily
Thomas Anderson and Michael Dahlin	Operating System Principles and Practice,2012.	Recursive Books
P.C. Bhatt	An Introduction to Operating Systems – Concepts and Practice,2013.	PHI Learning Pvt. Ltd.,
H. M. Deitel	An Introduction to Operating Systems,1990.	Wesley Publishing Company



**I YEAR – I SEMESTER
COURSE CODE: 7MCC1E2**

ELECTIVE COURSE I (B) – DATA STRUCTURES AND C

Unit I:

Introduction to data structure – Linear Data Structure –List–Implementation of a list – Traversal of a list – Searching and retrieving an element – Predecessor and successor – Insertion, Deletion, sorting and merging lists – Representation of Stack – Stack related terms– Operation on a stack – Implementation of a stack – Queues: Various positions of queue – Representation of Queues – Single linked list and Double linked lists: Applications.

Unit II:

Non-Linear data structure – Trees, Binary trees, types of binary trees, binary tree representation, Traversing binary trees, Binary search tree – Insertion and deletion operations– Hashing Techniques – Searching and Sorting – Introduction, Searching, linear search, Binary search, sorting, Insertion sort, selection sort, Bubble sort, Quick sort.

Unit III:

Program development styles and Basics of C. The C declarations – The C character set, Delimiters, The C Keywords, Identifiers, Constants, Variables, Rules for defining variables, C aggregate data types, declaring variables, initializing variables, Type conversion. Operators and expressions. Input and output in C – formatted functions – unformatted functions, commonly used library functions.

Unit IV:

Arrays – Array initialization – Definition of Array – Characteristic of Array – One dimensional array – Predefined streams – Two dimensional array – Multidimensional arrays –The scanf and printf functions – Working with strings and standard functions – Pointers – Features of Pointers – pointer declaration – Arithmetic operation with pointers – Pointers and Arrays – Pointers and two dimensional arrays.

Unit V:

Decision Statements – The If statement, The if...else statement, Nested if.... Else statement, The break statement, The continue statement, The go to statement, The switch statement, Nested switch() case statement, The switch() case and nested ifs. Loop control statements – The for statement, Nested for statement, The while statement, The do ... while statement.

DATA STRUCTURES AND C – LAB

1. Sum of Digits
2. Reverse a number
3. Checking the Armstrong number
4. Ascending Order
5. Alphabetical Order
6. Matrix Addition and Transpose
7. Matrix Multiplication
8. Factorial of a number
9. Fibonacci Series
10. String functions using Pointers

11. Student Mark List using Arrays of Pointers
12. Finding Predecessor and Successor of number
13. Stack
14. Queue
15. Linked List
16. Linear Search
17. Binary Search
18. Insertion Sort
19. Bubble Sort
20. Selection Sort

Books for Reference:

Author(s)	Title	Publisher
Ashok N Kamthane	Programming and Data structure,2009	Pearson
Robert L Kruse, Bruce P. Leung C.L.Tondo	Data Structures and Program Design in C,2007	Pearson Education India
S.B. Kishor	Data Structures,2011	Das GanuPrakashan

* With Practical carrying 25 marks (on continuous internal assessment) and Theory carrying 75 marks (Term end Examination)



**I YEAR – II SEMESTER
COURSE CODE: 7MCC2C1**

CORE COURSE V – BUSINESS RESEARCH METHODOLOGY

Unit I:

Business Research – Meaning – Scope and Significance – Utility of Business Research – Qualities of Good Researcher – Types of Research – Research Process – Research As Business Decision Support System – Computer Applications in Business Research – Identification, Selection and Formulation of Research Problems – Research gap - Hypothesis Formulation – Research Design– Meaning, Need, Features of Good Design – Different Types of Research Design – Developing A Research Plan.

Unit II:

Sampling – Meaning and Significance – Methods and Techniques – Sample Size – Sampling Error – Primary Data and Secondary Data – Tools of Data Collection: Questionnaire and Schedule – Methods of Data Collection: Interview, Observation and E-Mail Surveys – Sources of Data: Print and Web Sources.

Unit III:

Measurement and Scaling Techniques – Rating Scales – Attitude Scales – Construction of Likert Scale – Pilot Study and Pre-Testing–Processing and Analysis of Data – Editing and Coding – Transcription and Tabulation – Computers in Data Analysis.

Unit IV:

Hypothesis Testing: Concept and Basics Requirements-Testing For Means – One and Two Populations – One-Way and Two-Way ANOVA – Testing of Proportions: One and Two Populations – Chi-Square Test: Uses and Process.

Unit V:

Interpretations and Research Report Writing – Layout of Research Report – Types of Research Reports – Steps in Writing Research Report – Essentials of Good Writing – Requisites of Good Research Report Presentation – Criteria for Evaluation of Research Reports.

Note: The question paper shall consist of 60% Theory and 40% problems.

Books for Reference:

Author(s)	Title	Publisher
C.R.Kothari	Research Methodology: Methods and Techniques	New Age International
R Panneerselvam	Research Methodology	PHI.
Emory	Business Research Methods	Irvin
Green and Tull	Marketing Research	Prentice-Hall,
John W Creswell	Research Design: Qualitative, Quantitative, and Mixed Methods Approaches	SAGE Publications, Inc.
RajendarHumar	Research Methodology	APH Publishing



**I YEAR – II SEMESTER
COURSE CODE: 7MCC2C2**

CORE COURSE VI – FINANCIAL MANAGEMENT

Unit I:

Financial Management: Meaning – Nature and Scope – Objectives – Financial Decisions – Functions of Financial Manager – Sources of Finance – Short-term and Long-term FINANCE – Time Value of Money– Present Value and Future Value Concepts and Their Compound Techniques.

Unit II:

Cost of Capital: Meaning, Concepts and Significance – Types of Cost of Capital: Cost of Debt, Preference Shares, Equity and Retained Earnings – Global Financing: GDRs/ADRs-Weighted Average Cost of Capital.Capital Structure: Meaning – Significance – Theories of Capital Structure – Net Income Approach – Net Operating Income Approach – MM Hypothesis – Traditional Approach – Determinants of Capital Structure.

Unit III:

Capital Budgeting: Meaning – Significance – Methods of Ranking Investment Proposals – Payback Period, Net Present Value, Internal Rate of Return and Accounting Rate of Return – Capital Rationing – Leverage: Meaning – Types of Leverage – Financial, Operating and Combined Leverage – EBIT – EPS.

Unit IV:

Working Capital Management:Meaning – Objectives – Factors Affecting Working Capital Requirement – Sources of Working Capital – Techniques of Cash Management: EOQ and Miller-Orr- Cash Budget- Receivables Management: Liberal and Stringent Credit Policy Variables- Inventory Management : EOQ and Inventory Levels.

Unit V:

Dividend Theories and Practice: Concept of Dividend – Dividend Relevance and Irrelevance to Valuation – Walter’s, Gordon And MM’s Models – Dividend Policies and Their Significance– Forms of Dividends – Factors Determining Dividend Policy – Dividend Practices.

Note: Question paper shall cover 60% Theory and 40% Problems.

Books for Reference:

Author(s)	Title	Publisher
I.M.Pandey	Financial Management	Vikas Publishing
Khan and Jain	Financial Management	Tata McGraw-Hill
S.N.Maheswari	Financial Management	Vikas Publishing House
James Van Horne	Fundamentals of Financial Management	Prentice Hall
Kishore	Financial Management	Taxmann
Khan	Financial Services	Tata McGraw-Hill
Guthmann and Dougall	Corporate Financial Policy	Prentice Hall
Prasanna Chandra	Financial Management	Tata McGraw-Hill Education
Eugene F. Brigham	Financial Management: Theory & Practice	South Western- Cengage



**I YEAR – II SEMESTER
COURSE CODE: 7MCC2C3**

CORE COURSE VII – MANAGEMENT ACCOUNTING

Unit I:

Management Accounting – Meaning and definition – Objectives – Management Accounting and Financial Accounting – Management Accounting and Cost Accounting – Utility and limitations of management Accounting – Position of Management Accountant at in the organization.

Unit II:

Financial Statement Analysis – Common Size Statements – Comparative Financial Statements – Trend Percentages – Accounting Ratios: Liquidity – Solvency – Profitability – Turnover – Capital Structure Ratios - Uses, Computation and Limitations.

Unit III:

Analysis of Funds Flow and Cash Flow: Computation and Applications – Responsibility Accounting – Methods of Accounting for Price level changes.

Unit IV:

Budget and Budgetary Control: Nature and Process – Types of Budgets – Fixed – Flexible – Cash Budget - Preparation of Budgets – ZBB and its relevance in decision making.

Unit V:

Marginal Costing: Concept and Importance – Cost Volume Profit Analysis – Application of Marginal Costing and CVPA in Decision making as to product, pricing and profit management.

Note: The question paper shall consist of 40% Theory and 60% Problems.

Books for Reference:

Author(s)	Title	Publisher
Hingorani, Ramanathan&Grewal	Management Accounting	Sultan Chand
Khan and Jain	Management Accounting	Tata McGraw-Hill
Dr. S.N. Maheswari	Principles of Management Accounting	Vikas
Robert Kaplan	Advanced Management Accounting	Prentice Hall
Manmohan&Goyal	Management Accounting	SahityaBhawan, Agra
Guruprasad Murthy	Management Accounting	Himalaya Publishing House



**I YEAR – II SEMESTER
COURSE CODE: 7MCC2E1**

ELECTIVE COURSE II (A) – DATA BASE MANAGEMENT SYSTEM

Unit I:

Data base System Applications, data base System VS file System – View of Data – Data Abstraction – Instances and Schemas – data Models – the ER Model – Relational Model – Other Models – Database Languages – DDL – DML – database Access for applications Programs – data base Users and Administrator – Transaction Management – data base System Structure – Storage Manager – the Query Processor. History of Data base.

Unit II:

Systems – Data base design and ER diagrams – Beyond ER Design Entities, Attributes and Entity sets – Relationships and Relationship sets – Additional features of ER Model – Concept Design with the ER Model – Conceptual Design for Large enterprises. Introduction to the Relational Model – Integrity Constraint Over relations – Enforcing Integrity constraints – Querying relational data – Logical data base Design – Introduction to Views – Destroying / altering Tables and Views.

Unit III:

Relational Algebra – Selection and projection set operations – renaming – Joins – Division – Examples of Algebra overviews – Relational calculus – Tuple relational Calculus – Domain relational calculus – Expressive Power of Algebra and calculus. Form of Basic SQL Query – Examples of Basic SQL Queries – Introduction to Nested Queries – Correlated Nested Queries Set – Comparison Operators – Aggregative Operators – NULL values – Comparison using Null values – Logical connectivity's – AND, OR and NOT – Impact on SQL Constructs – Outer Joins – Disallowing NULL values – Complex Integrity Constraints in SQL Triggers and Active Data bases.

Unit IV:

FIRST, SECOND, THIRD Normal forms – BCNF – Lossless join Decomposition – Dependency preserving Decomposition – Schema refinement in Data base Design – Multi valued Dependencies – FOURTH Normal Form. Transaction Concept – Transaction State – Implementation of Atomicity and Durability – Concurrent – Executions – serializability – Recoverability – Implementation of Isolation.

Unit V:

Data on External Storage – File Organization and Indexing – Cluster Indexes, Primary and Secondary Indexes – Index data Structures – Hash Based Indexing – Tree base Indexing – Comparison of File Organizations – Indexes and Performance Tuning – B+ Trees: A Dynamic Index Structure.

Books for Reference:

Author(s)	Title	Publisher
Raghurama Krishnan and Johannes Gehrke	Data Base Management Systems, 2002	McGraw-Hill
Silberschatz Korth	Data base System Concepts, 2009	McGraw-Hill
Sharad Maheswari and Ruchin Jain	Database management systems Complete Practical Approach, 2005	Firewall Media
Peter Rob & Carlos Coronel	Data base Systems design, Implementation and Management, 2010	Cengage
Ramez Elmasri and Shamkant B. Navathe	Fundamentals of Database Systems, 2007	Pearson

**I YEAR – II SEMESTER
COURSE CODE: 7MCC2E2**

ELECTIVE COURSE II (B) – DATA MINING AND WAREHOUSING

Unit I:

Data warehousing: Meaning and Significance – Data Warehouse Architecture: System Process – Process architecture – Design – Database scheme – Partitioning strategy – Aggregations – Data mart – Meta data – Systems and data Warehouse process managers.

Unit II:

Hardware and Operational design of data warehouses – Hardware architecture – Physical layout – Security – Backup and Recovery – Service level agreement – Operating the data warehouse.

Unit III:

Data warehouse Planning, Tuning and Testing – Capacity planning – Testing the data warehouses – Data warehouse features.

Unit IV:

Data mining – Introduction – Information and production factor – Data mining Vs Query tools – Data mining in marketing – Self learning computer systems – concept learning.

Unit V:

Knowledge discovery process: Data selection – Cleaning – Enrichment – Coding – Preliminary analysis of the data set using traditional query tools – Visualization techniques – OLAP tools – Decision trees – Association rules – Neural networks – Genetic Algorithms KDD (Knowledge discover in Database) environment.

Books for Reference:

Author(s)	Title	Publisher
Jaiwei Han	Data Mining: Concepts and Techniques,2011	Morgan Kaufmann Publishers
Pieter Adrians and DolfZantinge	Data Mining,1996	Addison-Wesley Professional
Sam Anahory and Dennis Muray	Data Warehousing in the Real World,1997	Addison-Wesley Professional
Sean Kelly	Data Warehousing in Action,1997	John Wiley & Sons
Jiawei Han, MichelineKamber and Jian Pei	Data Mining: Concepts and Techniques: Concepts and Techniques,2011	Morgan Kaufmann Publishers



**II YEAR – III SEMESTER
COURSE CODE: 7MCC3C1**

CORE COURSE IX – PRACTICAL COST ACCOUNTING

Unit I:

Cost Accounting: Meaning, Scope and Uses –Elements of Cost –Cost Concepts –Cost Accounting vis-à-vis Management Accounting vis-à-vis Financial Accounting –Installation of Costing System – Cost Management, Cost Reduction and Cost Control – Computer Applications in Cost Accounting.

Unit II:

Costing Methods:Product Costing – Operation Costing – Operating Costing – Batch Costing – Control over Wastes, Spoilages, Scrap and Defectives – Inventory Control: Methods and Pricing Techniques.

Unit III:

Process Costing: Treatment of Equivalent Units and Inter-process Profit – Activity Based Costing (ABC): Concept and Application – Reconciliation of Financial and Cost Accounting.

Unit IV:

Standard Costing: Concept – Setting Standards – Variance Analysis and Reporting – Material, Labour, Overhead, Sales and Profit variances- Uses of Standard Costing.

Unit V:

Responsibility Accounting – Responsibility Centres – Performance Reporting – Value Analysis and Value engineering – Cost Audit – Meaning – Types – Rules – Qualifications – Powers and Duties of Cost auditor- Cost Accounting Standards: Concept and Need.

Note: The question paper shall consist of 40% Theory and 60% Problems.

Books for Reference:

Author(s)	Title	Publisher
S.P. Jain & R.L. Narang	Advanced Cost Accounting	KalyaniPubhshar, Ludhiana
S.P. Iyengar	Cost Accounting	Sultan Chand & Sons
Dr. S.N. Maheswari and Mittal	Cost Accounting - Theory & Problem	Mahavir Publication
Charles T. Horngren	Cost Accounting	Prentice Hall
Vijay Govindarajan	Strategic Cost management	The Free Press
B.K.Bhar	Cost Accounting: Methods and Problems	Academic Publishers
Nigam and Jain	Cost Accounting: An Introduction	Prentice Hall
ICWI	Cost Accounting Standards	ICWI Website.



**II YEAR – III SEMESTER
COURSE CODE: 7MCC3C2**

CORE COURSE X – INNOVATION AND ENTREPRENEURSHIP

Unit I:

Innovation: Concepts – Need – Importance – Sources – Creativity – Ideational fluency – Thinking types relevant for innovation – Research and Development – Invention – Entrepreneurship: Meaning, Importance, Types of Entrepreneurship – Micro, Small, Medium Entrepreneurship: Concept and Special significance in India – Concept of intrapreneurship – Entrepreneurial qualities – Risk and Innovation – Traits of successful entrepreneurs – Entrepreneur vis-à-vis Businessman vis-à-vis Manager – Innovation as the essence of entrepreneurship – Core competency of Entrepreneurs.

Unit II:

Innovation and Entrepreneurial Environment: Internal and external environment forces conditioning entrepreneurship – Psychological, Social, Cultural, Political, Legal and Economic Forces – Entrepreneurship Development Phases: Attitude, Capability, Culture and Society – Entrepreneurship Development Programs – Family Business Groups and Entrepreneurship in India – Conditions for Innovation – Learning Organization as the need for Innovation – Innovation and Entrepreneurship based Education, Training and Development Initiatives.

Unit III:

Role and Functions of Institutional Agencies in Entrepreneurship Development: National Institute of Entrepreneurship and Small Business Development (NIESBUD) – Entrepreneurship Development Institute of India (EDII) – National Institute for Micro, Small and Medium Enterprises (NIMSME) – Small Industries Development Organization – Role of TIIC – SIPCOT – SIDCO – ITCOT – TIDCO DIC – National Entrepreneurship Network (NEN) – Ministry of Skill Development & Entrepreneurship – MUDRA Bank Schemes.

Unit IV:

Select Government Schemes for Entrepreneurship: Trade Related Entrepreneurship Assistance and Development (TREAD), Micro & Small Enterprises Cluster Development Program – (MSE – CDP), Credit Guarantee Fund Scheme For Micro and Small Enterprises - Department of Science and Technology: Support For Entrepreneurial and Managerial Development and Societal Programs- Special Schemes: Differential Rate of Interest (DRI) scheme – Khadi and Village Industries Commission (KVIC) schemes – Tamilnadu Adi Dravidar Housing and Development Corporation (THADCO) schemes – Tamilnadu Backward Classes & Minorities Economic Development Corporation Limited (TABCEDCO) scheme- Role of Confederation of Indian Industry.

Unit V:

Formulating and Launching Entrepreneurial ventures: Developing Business propositions – Preparing Project Proposal and Report – Identifying Suppliers, Financiers, Business Process Partners – Knowledge of Competition and strategy for dealing with competition – Business Establishment: Clearances and Documents – Planning for Contingencies.

Books for Reference:

Author(s)	Title	Publisher
Peter F.Drucker	Innovation and Entrepreneurship	HarperBusiness
Peter Thiel	Zero to One	Crown Business
Gupta and Srinivasan	Entrepreneurship Development	Sultanchand& Sons
Tom Kelley	The Art of Innovation: Lessons in Creativity from IDEO, America's Leading Design Firm	Crown Business
B.C.Tandon	Environment & Entrepreneurship	Chugh Publications
Srivastava	A Practical Guide to Industrial Entrepreneurs	Sultan Chand and.
Saravanavel	Entrepreneurship Development	Ess Pee Kay Publishers, Madras.
Scott Berkun	The Myths of Innovation	
Vasant Desai	The Dynamics of Entrepreneurial Development and Management	Himalaya Publishing House
Khanka S. S.	Entrepreneurial Development	S.Chand and Company



**II YEAR – III SEMESTER
COURSE CODE: 7MCC3C3**

CORE COURSE XI – QUANTITATIVE METHODS

Unit I:

Basic Mathematical Concepts: Nature of Quantitative analysis in the Practice of Management, Problem Definition; Models and their Development; Concept of Trade off; Notion of Constants, Variables and Function – Linear and Non Linear functions – Graphical Representation of Functions and their Application – Concept of Slope and its relevance.

Unit II:

Concepts of Optimization: Formulation of Different Types of Linear Programming; Solving LPP using Graphical and Simplex Method (Only Simple Problems) – Concepts of Duality – Transportation – Assignment Problems.

Unit III:

Introduction to the Probability: Concepts of Events: probability of Events: Joint, Conditional & Marginal Probabilities, Probability Distributions, Elements of Queuing Theory.

Unit IV:

Simulation and Game Techniques: Introduction to Simulation as an aid to decision making– Illustration through Simple Examples of Discrete Event Simulation – Game Theory: Basic Concepts – Two Persons Zero Sum Games – Saddle Point.

Unit V:

Introduction to Decision Theory: Pay-off & Loss Tables. Expected value of Pay-off Expected Value of Perfect Formation: Decision Tree Approach to Choose Optimal Course of Action. Criteria For Decision: Mini-Max, Maxi – Max, Minimizing Maximal Regret & their Implications.

Note: The question paper shall consist of 40% Theory and 60% Problems.

Books for Reference:

Author(s)	Title	Publisher
R. Pannerselvam	Operations Research: Methods & Practice	PHI Learning Pvt. Ltd
P .K. Gupta & D.S. Hira	Operations Research	S. Chand
UK Srivastava, Gr Shenory & SC Sharma	Quantitative Techniques	New Age International
ND Vohra	Quantitative Techniques in Management	Tata McGraw-Hill Education
Richard I Levin and Charles Atkinson Krikpatrick	Quantitative approaches to management	McGraw Hill.
Dr. Stevenson	Operations and Decision Sciences	McGraw-Hill/Irwin



**II YEAR – III SEMESTER
COURSE CODE: 7MCC3C4**

CORE COURSE XII – PRACTICAL COMPUTERIZED ACCOUNTING

Unit I:

Computerised Accounting – Meaning – Advantages – Manual Accounting Vs Computerised Accounting – Popular Accounting Packages in India.

Unit II:

Features of ‘Tally 9’ – Tally Screen – Gateway of Tally – Buttons Toolbar and Menus in the gateway of Tally – Creation of a Company – Selection of a Company – Shutting a selected Company – Display and Alteration of a Company.

Unit III:

Accounts Information Groups – Default Groups in Tally – Primary Groups – Sub-groups – Creation of New Groups – Single Group – Multiple Groups – Displaying – Altering and Deleting Groups.

Ledger Accounts – Default Ledger Accounts in Tally – Creation of Ledgers – Single and Multiple – Displaying, Altering and Deleting Ledger Accounts.

Voucher – Meaning in Tally Software – Types – Creation of New Voucher – Displaying – Altering and Cancelling a Voucher.

F 11 Features (General & Accounting Features)

F 12 Configure

Unit IV:

Inventory Information Stock Item – Stock Groups – Stock Categories– Godowns – Units of Measures – Vouchers – Types of Pure Inventory Vouchers – Recording Stock Movement – Creation of Purchase Order – Sales Order – Invoices.

F 11 Features (Inventory Features)

Enabling VAT in Tally – Ledgers pertaining to VAT – Ledger Creation – VAT Reports.

Enabling Service Tax in Tally – Ledgers pertaining to Service Tax – Ledger Creation – Service Tax Reports.

Enabling TDS in Tally – Ledgers pertaining to TDS – Voucher Entry – TDS Reports.

Enabling Payroll Module in Tally – Payroll Menu – Payroll Reports.

Unit V:

Reports: Accounting Reports: Reports available from the Gateway of Tally – Reports under Display – Reports from the Statement of Accounts – Outstanding Receivables and Payables – Ageing Analysis – Bank Reconciliation Statement.

Inventory Reports – Inventory Books – Statement of Inventories.

MIS Reports – Cash Flow and Fund Flow – Principal Ratios in Tally – Exception Reports.

Books for Reference:

Author(s)	Title	Publication
A.K. Nadhani & K.K. Nadhani	Implementing Tally 9	BPS Publications.
A.K. Nadhani	Tally. Erp 9 Training Guide Paperback	BPS Publications.
Narmata Agrawal	Tally 9	Wiley India Private Ltd.
C. Nellaikannan	Tally 9 Ver.9 Erp Vat & Tds Enabled More Simple More Flexible	Nels Publications
Vikas Gupta	Comdex Business Accounting with MS Excel 2010 and Tally. ERP 9 Course Kit	Dreamtech Press
Ashok K Nadhani	Tally.ERP 9 Made Simple for Basic Financial Accounting	BPS.



**II YEAR – III SEMESTER
COURSE CODE: 7MCC3E1**

ELECTIVE COURSE III (A) – VISUAL PROGRAMMING: VB AND VC++

Unit I:

Windows Programming: Graphical User Interface (GUI) Concept – Hungarian Notation, Data Types – Handles, Message Driven Architecture, Message Processing & Loop, Graphics Device Interface (GDI) – Brush, Pen, Font, Cursor, Menu, Keyboard & Mouse Handling, Displaying text and graphics, Dialog Boxes controls, Win Main procedure, files Clipboard, Printer Handling, DDE, DLLs, OLE-COM, ODBC, Windows Registry – New Executable (NE) and Portable Executable (PE) files.

Unit II:

Visual Basic: Variables, Constants, Strings, Numbers, Remark & End Statements, String, Date, Financial & Numeric Functions, Program flow control, user defined functions & Modules, Forms – Single Document Interface, Creating controls, Event Procedures, Text Boxes, Message Boxes & Labels – Properties windows usage

Unit III:

Visual Basic Programming: Custom Controls – picture box, rich text box, list box, progress bar, tree view, toolbar, slider – objects in VB – Classes – Object Creation & Manipulation, OLE Properties, ActiveX Controls creation & Usage. Database Access – Data Control – Field control – data grid – Record set using SQL to manipulate data.

Unit IV:

Visual C++ Programming: Fundamental of MFC: MFC class hierarchy, various object properties – object, CArchive, C WinApp, CWnd, CFile, CGdiObject, CExcept, CDialog, CString, CEdit, CList. Resource: Menus, Accelerators, Dialogs, Icons, Bitmaps, Versions, AFX Functions, Message Maps and Document / View Architecture.

Unit V:

Visual C++ Programming: Advanced MFC: DAO & ODBC – Data access methods & data controls for database applications with multiple document usage. Synchronization classes: C Thread, C Semaphore, C Mutex and C Event.

Books for Reference:

Author(s)	Title	Publisher
Marion Cottingham	Visual Basic,2015	Peachpit Press
Herbert Sheildt	MFC from the Ground Up,1998	Osborne/McGraw-Hill;
J. David Kruglirski	Programming Microsoft Visual C,1998	Microsoft Press
Deitel	Visual Basic 6.0 How To Program	Prentice Hall
Ivor Horton	Beginning Visual C++ 2013	Wrox Beginning Guides
Julian Templeman	Microsoft Visual C++/CLI Step by Step (Step by Step Developer),2013	Microsoft
Micheal Halvorson	Microsoft Visual Basic 2013 Step by Step (Step by Step Developer)	Microsoft



**II YEAR – III SEMESTER
COURSE CODE: 7MCC3E2**

ELECTIVE COURSE III (B) – SOFTWARE MODELS AND ENGINEERING

Unit I:

Phases in Software Development – Requirement Analysis – Software Design – Coding – Testing – Maintenance – Effort Distribution with Phases – Error Distribution – Software Development Process Model: Waterfall model – Prototyping Interactive Enhancement – Spiral Model – Role of Management in Software Development, Metrics and Measurements – Software Requirements Specifications (SRS) – Role of SRS.

Unit II:

Problem Analysis: Structuring Information – Data flow Diagram and Data Dictionary – Structured Analysis – Prototyping Requirements Specification Characteristics of an SRS – Specification Languages Structure of Requirements Document – Validation: Reading – construction scenarios – Requirement Review Automated cross Referencing – Prototyping – Metrics: Function Points – Number of Errors found – change request frequency.

Unit III:

Planning a Software project – cost estimation – Uncertainties in cost estimation – Single variable Models: COCOMO – software size Estimation – Project Scheduling: Average Duration Estimation – Milestones, Staffing and Personnel planning – Raleigh Curve – Team structure – Software configuration Management configuration identification – configuration control – status accounting and auditing – software configuration and management – quality assurance plans: verification and validation – inspection and reviews – output of a software development project – project monitoring plans: Timesheets – Reviews – Cost – Schedule – Milestone Graph – Risk Management: Risk Management Activities – Risk Identification – Risk Analysis and Prioritization – Project planning and Risk management.

Unit IV:

System Design: Design Objectives, Design Partitioning – Problem Partitioning – Abstraction, Top-Down and Bottom-Up strategies, Module Level Concepts – Coupling and Cohesion, Design Methodology – Structured Design – Structure Charts – Design Methodology – Transaction Analysis, Design Specification, Verification – Design Reviews – Automated Cross-Checking.

Unit V:

Testing Fundamentals: Error Fault – Failures – Reliability – Levels of Testing – Test case and Test criteria – Test Oracle – Psychology of Testing – Top-Down and Bottom-Up Approaches – Functional Testing: Equivalence class partitioning – Boundary value Analysis: case Effect Graphing – Test case Generations – Instrumentation for structural testing – Complexity Based Criteria – Mutation Testing – Combination Functional and structural Approaches, Testing Process – Test Plan – Test case Specification and Test case – Execution and Analysis, comparison of different V & V Techniques, Matrices, Reliability Assessment – Programmer Productivity – Error Removal Efficiency – Specifications for system testing – System Test Report – Error Report on a given problem.

Books for Reference:

Author(s)	Title	Publisher
PankejJalote	An Integrated Approach to Software Engineering,2005	Springer Science & Business Media
Richard E. Fairley	Software Engineering – A Practitioner’s Approach,1997	Springer
Martin L Shooman	Software Engineering – Design, Reliability and Management	McGraw-Hill Ryerson
Beatty and Weigers	Software Requirements ,2013	Microsoft.
P. Clement, L. Bass & R. Kazman	Software Architecture in Practice (3rd Edition) (SEI Series in Software Engineering,2012	Addison-Wesley Professional



**II YEAR – IV SEMESTER
COURSE CODE: 7MCC4C1**

CORE COURSE XIII – INCOME TAX LAW AND PRACTICE

Unit I:

Concepts and Definitions: Direct and Indirect Taxes- Income Tax Act 1961: Definitions of: Previous Year - Assessment Year- Income- Deemed Income -Basis of Charge of Income Tax- Residential Status - Scope of Total Income – Special Provisions and Exemptions in Sec.10- Heads of Income- Relevant case problems.

Unit II:

Income under the Head Salary and House Property: (a) **Salary Income:** Basis of Charge- Allowances - Perquisites - Deductions from Salary income (b) **Income From House Property:** Chargeability- Determination of Annual Value - Allowable deductions- Unrealized rent and Subsequent Collection- Tax planning options and exercises- Relevant case problems.

Unit III:

Income from Business / Profession and Capital gain: (a) **Business /Professional Income:** Charging Provision –Assessment of business income – Allowed Deductions – Expressively disallowed deductions- **Capital Gains** - Computation of capital gains - Transfer of capital Assets - Deductions - Exempted capital gains- Tax planning options and exercises- Relevant case problems.

Unit IV:

Computation of Total Income for Individuals and Companies and Filing of Returns: Clubbing of Income- Set-off- Carry forward of losses - Deductions from Gross Total Income – Preparation of Return of income for individuals and companies- PAN- Signing and Filing of Returns- Online filing- Tax planning- Relevant case problems.

Unit V:

Income Tax Authorities, Assessment, Collection of Income Tax and Direct Tax Code: Overview of Income Tax authorities- Procedure for Assessment-Types of assessment: Self and Best Judgment assessments- Income escaping assessment- Direct payment and Tax Deducted at Source (TDS)- Advance Payment of Tax- Direct Taxes Code-2010: Significance and Provisions- Relevant case problems.

Note: The question paper shall consist of 40% Theory and 60% Problems.

Books for Reference:

Author(s)	Title	Publisher
V.K. Singhanian and KapilSinghanian	Direct Taxes Law and Practice	Taxmann
V.K. Singhanian and Monica Singhanian	Student's Guide Income Tax Act	Taxmann
Dr.Hariharan N	Income Tax Law and Practice	Vijay Nicole Imprints
Lakhotia, Ram Niwas and Lakhotia, Subhash	How to Save Income Tax through Tax Planning	Vision Books
Dr. GirishAhuja& Dr. Ravi Gupta	Direct Taxes	Bharat Law Publishers
Bharat Law Publishers	Direct Taxes Code	Publishers



**II YEAR – IV SEMESTER
COURSE CODE: 7MCC4C2**

CORE COURSE XIV – HUMAN RESOURCE MANAGEMENT

Unit I:

Human Resource Management (HRM): Meaning, Nature, Objectives, Scope and Functions – HRM Department: Structure and Functions – Managerial and Operating Functions – HRM as a Profession- Growing Significance and Challenges of HRM.

Unit II:

HR Planning: Concept and Scope – Requirements for Manpower Planning – Job Analysis – Job Description – Job Specification – Job Design – Job Simplification – Job Enlargement – Job Rotation – Job Enrichment – Absenteeism: Causes and Consequences – Relevant case study.

Unit III:

Recruitment and Selection: Policy – Sources of Recruitment – Process and Problems – Recruitment Practices in India – Selection: Concept and Process – Placement and Induction – Bases for Promotions and Transfers – Need for Demotions and Separations- Labour Turnover: causes and consequences- Employee Retention: Need and Methods – Relevant case study.

Unit IV:

Training and development – Need and importance – Steps in Training Programs – Evaluation of Training Programs – Concept of Management Development Programs – Techniques of training and development – Group Discussions – Conferences and Seminars – Case studies – Role Playing – Business Games – Sensitivity Training – Stages of Career Development – Personnel Training: Importance, Types and Methods – Executive Development: Importance, Types and Methods – Relevant case study.

Unit V:

Wages and Salary Administration – Compensation Plans – Cafeteria Approach- Job Evaluation – Individual and Group Incentives – Bonus – Fringe benefits – Performance Appraisal – Meaning, Need and Importance – Objectives, Methods and Modern Techniques of Performance Appraisal – Requisites of a Good Appraisal Plan – Problems in Performance Appraisal – Relevant case study.

Books for Reference:

Author(s)	Title	Publisher
K. Aswathappa	Human Resource Management	Tata McGraw-Hill
Edwin B. Flippo	Personnel Management	McGraw-Hill
P.C. Tripathy	Personnel Management	Sultan Chand & Sons
K. Rakesh Chopra	Managing Human Resources	V. K. Publishing.
V.S.P. Rao	Human Resource Management	EXCEL BOOKS
Dr. V. Balu	Human Resource Development	Venkateswara Publications.
Steve Brown, Alan Price, et al.	Human Resource Management	Routledge



**II YEAR – IV SEMESTER
COURSE CODE: 7MCC4E1**

ELECTIVE COURSE IV (A) – INVESTMENT AND PORTFOLIO MANAGEMENT

Unit I:

Concept of Investment – Types of Investment – Features of Real, Financial and Derivative investments – Features of Financial Investment instruments: Money & Capital Market investment instruments; Primary & Secondary Market Investment instruments; Fixed & Varying income investment instruments – Direct and Portfolio investments – Distinctions among Investment, Speculation and Gambling – Features of Ideal investments – Functions of Investment Management: Selecting, Scaling, Spreading, Spacing and Timing – Tax considerations and investment management.

Unit II:

Investment Goals, Return & Risk Analyses: Investment Goals: Return, Risk, Growth, Control and Tax-related goals – Goal differences of investors – Matching the Goals and Investments – Allocation of funds to different investments – Constraints and Strategies – Return and Risk analysis: Concepts and Measures of Return: Current Return, Holding Period Return – Concepts and Measures of Risk: systematic and unsystematic risks and their measures: Standard deviation, Variance and Beta – Risk-Return Relationship.

Unit III:

Investment Valuation Measures and Approaches: Equity and Debt Valuation: Methods of valuation of Equity and Debt investments – Price and Value analysis – Cootner's Hypothesis – Fundamental Analysis for investment evaluation – Economy, Industry and Company analysis – Technical Analysis: Concept and emphasis – Dow Theory – Important Charts Patterns – Lead and Lag Indicators – Price-Earnings analysis.

Unit IV:

Investment Portfolios, Mutual Funds and Efficient Market Hypotheses: Portfolio Concept and Construction – Portfolio risk and Return – Efficient Portfolios – Portfolio Choice – Mutual funds: Concept, Need and Types – Portfolio Performance Measures – Portfolio Revision – Random Walk Theory – Different Forms of Market Efficiency: Weak, Semi-strong and Strong forms and their tests.

Unit V:

Derivative Investments: Concept of Derivatives – Types – Options as a derivative investment – Terminologies in options market – Options types – Pay-off for holders and writers of call and put options contracts – Futures Market: Features of Futures contracts – Types of futures contracts – Uses – Swap contracts and their uses and types.

Note: The question paper shall consist of 60% Theory and 40% Problems.

Books for Reference:

Author(s)	Title	Publisher
B. K Bhalla	Investment Management	S.Chand and co
Frank Reilly and Keith Brown	Investment Analysis and Portfolio Management	Cengage Learning
Bodie, Kane and Marcus	Investments	McGraw Hill/Irvin.
William Sharpe and Bailey	Investments	Prentice Hall
Preeti Singh	Investment Management	Himalaya
Elton, Gruber, Brown and Goetzmann	Modern Portfolio Theory & Investment Management	John Wiley & Sons
Madhumati and Ranganatham	Investment Analysis and Portfolio Management	Pearson Education India

**II YEAR – IV SEMESTER
COURSE CODE: 7MCC4E2**

ELECTIVE COURSE IV (B) – ENTERPRISE RESOURCE PLANNING

Unit I:

Introduction to ERP: Conceptual model of ERP – Evolution of ERP Structure of ERP – Reasons for Growth – Advantages of ERP – Enterprise: An overview. ERP and related Technologies: Business Process Re-engineering - Management Information System – Decision Support System – Executive Information system–Data Warehousing– Data Mining – Online Analytical Processing (OLAP) –Business Process Mapping for ERP Module Design - Hardware Environment and its Selection for ERP Implementation- Relevant one or two case studies.

Unit II:

ERP in Business Perspectives: Materials Requirement Planning - Distribution Requirements Planning – ERP applications in Just in Time (JIT), Computer Aided Design (CAD) and Computer Aided Manufacturing (CAM) - Product Data Management – ERP Modules: Plant Maintenance – Quality Management – 6 Sigma Applications- Relevant one or two case studies.

Unit III:

ERP Benefits and Special Applications: Reduction of Lead Time - Reduction of Cycle Time- Improved Resource Utilization – Reduced Quality Costs – Increased Flexibility- Improved Information accuracy and Decision making capability- Supply Chain Management (SCM)- Customer Relationship Management (CRM) - Relevant one or two case studies.

Unit IV:

ERP Implementation Lifecycle: Introduction – Pre – evaluation screening - ERP Project Planning – Gap Analysis – Reengineering – Configuration – Implementation – Testing – Training & Maintenance- In-house Implementation –Pros and Cons – Vendors – Consultants – End users- Overview of ERP Markets: SAP AG, Oracle Corporation, People Soft, System Software Associates, Inc. (SSA) - A Comparative Assessment and Selection of ERP Packages and Modules- Relevant one or two case studies.

Unit V:

Future Directions in ERP: New Markets – New Channels – Faster Implementation Methodologies – Business Models – Application Platforms - New Business segments – Web-enabling – Market Snapshot- Relevant one or two case studies.

Books for Reference:

Author(s)	Title	Publisher
Leon Alexis	Enterprise wide Resource Planning	Tata McGraw – Hill
Rahul V. Altekar	Enterprise-wide Resource Planning – Theory and practice	Prentice Hall
Vinodkumargarg&N.K.Ve nkitakrishnan	Entreprisewide Resource	Prentice Hall of India
SubodhKesharwani	ERP systems – Application, Experiences & Upsurge,	PragatiPrakathan Publications, Meerut.
Ashim Raj Shingla	Enterprise Resource Management	Cengage Learning
Rajesh Ray	ERP Text and Cases	Tata McGraw – Hill
Marakas	Decision Support System in the 21 Century	Prentice Hall;



**II YEAR – IV SEMESTER
COURSE CODE: 7MCC5E1**

ELECTIVE COURSE V (A) – MULTIMEDIA AND MOBILE COMMUNICATIONS

Unit I:

Fundamentals Concepts in Text and Image: Multimedia and Hypermedia – World Wide Web – Overview of Multimedia Software Tools – Graphics and image – Data Representation Graphics/Image Data Types- File Formats – Color in Image and Video: color Science – Color Models in Images – Image – Color Models in Video.

Unit II:

Multimedia in use and technology: Multimedia definition – Need, benefits and problems – System Components – Multimedia Platforms – Development tools: Types – Cross platform compatibility – Commercial tools – Standards – Media types: Non temporal – text, image, graphics – Temporal – Analog, digital audio/video, music, animation, other media types – Extended Images, digital ink and speech audio.

Unit III:

Wireless LAN Infrared Vs Radio Transmission – Infrastructure Networks – Adhoc Networks– IEEE 802.11 – HIPERLAN – Bluetooth – Wireless ATM Working Group – Services – Reference Model – Functions – Radio Access Layer – Handover – Location Management – Addressing Mobile Quality of Service – Access Point Control Protocol.

Unit IV:

Mobile IP Goals – Assumptions and Requirement – Entities – IP Packet Delivery – Agent Advertisement and Discovery – Registration – Tunneling and Encapsulation – Optimization – Reverse Tunneling – IPv6 – DHCP – Ad-hoc Networks.

Unit V:

Traditional TCP – Indirect TCP – Snooping TCP – Mobile TCP – Fast Retransmit/ Fast Recovery – Transmission/Timeout Freezing – Selective Retransmission – Transaction Oriented TCP Architecture – Datagram Protocol – Wireless Telephony Applications.

Books for Reference:

Author(s)	Title	Publisher
Nigel Chapman & Jenny Chapman	Digital Multimedia,2009	Wiley – Dreamtech
Walterworth A John	Multimedia Technology and Applications,1991	Ellis Horowood Ltd
William Stallings	Wireless Communication and Networks,2005	Prentice Hall
John .F. Koegel Buford	Multimedia systems,1994	Pearson education
Judith Jeffcoate	Multimedia in Practice Technology and Application,1995	Prentice Hall PTR
Singhal	Wireless Application Protocol,2001	Pearson Education India
LotherMerk, Nicklaus and Thomas Stober	Principles of Mobile Computing	Springer
William C. Y. Lee	Mobile Communication Design Fundamentals,2010	John Wiley & Sons



**II YEAR – IV SEMESTER
COURSE CODE: 7MCC5E2**

ELECTIVE COURSE V (B) – COMPUTER NETWORKS

Unit I:

Introduction:OSI, TCP/IP and other networks models, Examples of Networks: Novell Networks, Arpanet, Internet, Network Topologies WAN, LAN, MAN. Physical Layer: Transmission media copper, twisted pair wireless, switching and encoding asynchronous communications; Narrow band, broad band ISDN and ATM.

Unit II:

Data Link Layer: Design issues, framing, error detection and correction, CRC, Elementary Protocol – stop and wait, Sliding Window, Slip, Data link layer in HDLC, Internet, ATM. Medium Access sub layer:ALOHA, MAC addresses, Carrier sense multiple access. IEEE 802.X Standard Ethernet, wireless LANS, Bridges.

Unit III:

Network Layer:Virtual circuit and Datagram subnets – Routing algorithm shortest path routing, Flooding, Hierarchical routing, Broad cast, Multi cast, distance vector routing, Dynamic routing – Broadcast routing, Rotary for mobility.

Unit IV:

Congestion, Control Algorithms – General Principles of Congestion prevention policies. Internet working: The Network layer in the internet and in the ATM Networks.

Unit V:

Transport Layer:Transport Services, Connection management, TCP and UDP protocols; ATM AAL Layer Protocol. Application Layer– Network Security – Domain Name Space (DNS) – SMTP – FTP – HTTP – WWW – Security – Cryptography – Electronic Mail.

Books for Reference:

Author(s)	Title	Publisher
Andrew S Tanenbaum	Computer Networks,2011	Pearson
Behrouz A. Forouzan	Data Communications and Networking,2006	McGraw-Hill Higher Education
S.Keshav	An Engineering Approach to Computer Networks,2001	Pearson Education
W A Shay	Understanding communications and Networks,2004	Brooks/Cole
VS Bagad and IA Dhotre	Computer Networks,2009	Technical Publications

