

SEMESTER-I

Core: Theory -I **Managerial Economics – 24PCC101**

Contact Hours/Week: 04
Credit: 04

Internal Mark: 25
External Mark: 75

Course Outcome

Unit	Co. No	Upon Completion of this Course the students will be able to	Cognitive Level
Unit I	CO1	Know about a Comprehensive Overview of Managerial Economics.	K1 – K4
Unit II	CO2	Analyses demand through concepts like the Demand Schedule, Law of Demand, Elasticity and Indifference Curves.	K1 – K5
Unit III	CO3	Acquire Knowledge on the Production Function, Supply Analysis and their Managerial Applications.	K1 – K5
Unit IV	CO4	Apply various methods for price forecasting to predict future price movements and inform business decisions.	K1 – K6
Unit V	CO5	Understand the significance of National income and its significance in economy.	K1 – K6

K1 : Remember,**K2** : Understand, **K3** : Apply,**K4**: Analyze,**K5**: Evaluate,**K6**: Create

Syllabus

Unit I: Introduction to Managerial Economics

Managerial Economics– Meaning, Nature, Scope and Application–Relationship with other discipline – Role of Managerial Economist – Micro and Macro Economics relating to Business.

Unit II: Demand Analysis

Demand Analysis - Demand Schedule - Law of demand- Elasticity of demand - Indifference curve analysis - Marginal rate of substitution -Demand Determinants – forecasting and techniques.

Unit III: Production & Supply

Production Function–Managerial use of production function-Supply analysis - Law of Supply - managerial uses of supply curve. Cost Concepts, classification & determinants – Cost Output relationship – Economics of scale - Cost Control and Cost Reduction.

Unit VI: Price and Marketing Structure

Price and Output decisions under different marketing structures-Perfect competition, Monopoly, Oligopoly & Monopolistic Competition – Price discrimination – Pricing Objectives, policies, Strategies and methods –Price differentials–Price forecasting.

Unit V: Profit

Profit – Nature & Concept – Profit Planning, Policies and Forecasting- profit theories - Measurement of profit - Interest – Rent and theories. Business Cycle and policies– Economic forecasting of business–Input Output Analysis-National Income Accounting and Measurement.

Text Books

- Unit I - Managerial Economics by Varshney and Maheswari, published in 2009
Sultan Chand
- Unit II - Managerial Economics and Financial Analysis by Siddiqui S.A. and Siddiqui A.S., published in 2013 by New Age International Publishers in Hyderabad
- Unit III - Managerial Economics and Financial Analysis by Kasi Reddy M. and Saraswathi, published in 2012 by PHI New Delhi
- Unit IV - Managerial Economics, Principles and Worldwide Applications by Dominick Salvatore , , 9E (Adaptation)
- Unit V - . Managerial Economics, 8ed, (An Indian Adaptation): Analysis, Problems, Cases: Truett J Lila , Dale Truett, and Leela Rani. B,

Core: Theory -II
Strategic Cost Management– 24PCC102

Contact Hours/Week: 04
Credit: 04

Internal Mark: 25
External Mark: 75

Course Outcome

Unit	Co. No.	Upon Completion of this Course: the Students will be able to	Cognitive Level
Unit I	CO1	Understanding the cost accounting principles and practices for effective cost control and informed business decision-making.	K1 – K4
Unit II	CO2	Gain comprehensive knowledge of labour cost management,	K1 – K5
Unit III	CO3	Develop proficiency in management accounting techniques for strategic planning, decision making, and performance evaluation.	K1 – K6
Unit IV	CO4	Analyse financial movements with funds and cash flow statements and manage working capital for liquidity and operational success.	K1 – K6
Unit V	CO5	Acquire expertise in CVP analysis, marginal costing, break-even analysis, and budgeting for informed managerial decisions and effective financial control.	K1 – K6

K1 : Remember **K2** : Understand **K3** : Apply **K4**: Analyze **K5**: Evaluate **K6**: Create

Syllabus

Unit I: Introduction

Cost Accounting – Meaning – Definition – Difference between Financial and Cost Accounting – Importance of Cost Accounting – Relationship between Cost and management Accounting – Methods of Costing – Elements of Cost – Cost Concepts – preparation of Cost Sheet – Material Control – Fixation of Stock levels – E.O.Q -FIFO, LIFO – HIFO

Unit II: Labour Cost

Labour Cost – Methods of Wage payment – Incentive Systems – idle time – over-time – labour Turnover – Causes of Labour Turnover – overheads – allocation and absorption of overheads.

Unit III: Ratio Analysis

Nature and Scope of Management accounting – Meaning – Objectives – Importance – limitations – Financial Statement Analysis – Ratio Analysis – Uses and limitations of Ratios.

Unit IV: Financial Statement Analysis

Funds Flow and Cash Flow statements, Working Capital Management

Unit V: Budgeting

Cost – Volume – Profit Analysis – marginal costing – Break Even Analysis – Managerial application of Marginal Costing – significance – limitations – Budgeting and Budgetary Control – Preparation of Budgets – Material Procurement – Production – Sales – Flexible and Cash budgets.

Text Books

- Unit I- Advanced Cost Accounting (Cost Management) by Narang S. P. Jain, Agarwal's and K.L leventh Edition, Ludhiana, Kalyani Publishers, 2015
- Unit II - Management Accounting by Sharma. R.K & Gupta K. Shashi, ", New Delhi, Kalyani Publishers, 14th Edition.
- Unit III - Management Accounting by Pillai R.S.N & Bhagirathi, New Delhi, S-Chand & Co, 2010
- Unit IV - Management Accounting by Agarwal. M. L & Dr. Gupta L. K., Satya Bhawan Publications: Agra.
- Unit V - Cost and Management Accounting by Reddy T.S. and Reddy Y.H.P Fourth Edition, Chennai, Margham Publishers, 2017.

Core: Theory -II
Artificial Intelligence in Business– 24PCC103

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	CO.No	Upon completion of the course the Students will be able to	Cognitive level
Unit I	CO1	To understand the basic idea of artificial intelligence and its application areas.	K1- K4
Unit II	CO2	Apply basic principles of AI in solutions that requires problem solving, inference, perception, knowledge representation, and learning.	K1-K6
Unit III	CO3	Demonstrate awareness and a fundamental understanding of various applications of AI techniques	K1- K6
Unit IV	CO4	Understand about Logic programming and about Reasoning related to AI.	K1- K5
Unit V	CO5	To know about the different representational techniques in AI.	K1- K6

K1 : Remember **K2** : Understand **K3** : Apply **K4**: Analyze **K5**: Evaluate **K6**: Create

Syllabus

Unit I: Artificial Intelligence

AI Problems – Underlying Assumption – AI Technique – Level of the Model – Criteria of Success – Some General References. Problems, Problem Spaces, and Search: Defining the Problem as a State Space Search – Production Systems – Problem Characteristics – Production System Characteristics – Issues in the Design of Search Programs.

Unit II: Heuristic Search Techniques

Generate and Test – Hill Climbing – Best-First Search – Problem Reduction – Constraint Satisfaction – Means-ends Analysis. Knowledge Representation Issues: Representations and Mappings – Approaches to Knowledge Representation – Issues in Knowledge Representation – The Frame Problem.

Unit III: Using Predicate Logic

Representing Simple Facts in Logic – Representing Instance and ISA Relationships – Computable Functions and Predicates – Resolution – Natural Deduction - Representating Knowledge Using Rules: Procedural Versus Declarative Knowledge – Logic Programming – Forward Versus Backward Reasoning – Matching – Control Knowledge.

Unit IV: Symbolic Reasoning Under Uncertainty

Introduction to Non-monotonic Reasoning – Logics for Non-monotonic Reasoning – Implementation Issues – Augmenting a Problem-solver – Implementation Depth First Search – Implementation Breadth First Search. Statistical Reasoning: Probability and Baye's Theorem – Certainty Factors and Rule- based Systems – Bayesian Networks – Dempster-Shafer Theory – Fuzzy Logic

Unit V: Reasoning Under Uncertainty

Semantic Nets- Frames.- Conceptual Dependency – Scripts – CYC. -
Syntactic- Semantic Spectrum of Representation – Logic and Slot-and-
Filler Structures – Other Representational Techniques.

Text Books

- Unit I- Introduction to Artificial Intelligence by Wolfgang Ertel,Publication :Spring Cham
- Unit II- Artificial Intelligence: A Modern Approach by Stuart Russell and Peter Norvig,Publication :Englewood Clifs
- Unit III- Artificial Intelligence: Foundations of Computational Agents by David Poole and Alan Mack worth, Publication Cambridge University Press
- Unit IV- Artificial Intelligence: A New Synthesis by Nils Nilsson . JPublication :Morgan Kaufmann
- Unit V- Semantic Networks in Artificial Intelligence by Daniel Cohen. J, Publication :Elsevier Science inc.

Elective -I
Introduction to IoT– 24PCC201

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	Co. No.	Upon Completion of this Course: the Students will be able to	Cognitive Level
Unit I	CO1	Obtain a perception into the concepts of internet of Things	K1 – K4
Unit II	CO2	Analyze and understand the components of various network protocols.	K1 – K5
Unit III	CO3	Provoke the requirements for real-time problem using sensors	K1 – K6
Unit IV	CO4	knowledge about the analyze, design, and development prototypes of internet-connected products using appropriate tools.	K1 – K6
Unit V	CO5	Design and estimate an IOT based smart system using open hardware platform and open cloud	K1 – K6

K1 : Remember K2 : Understand K3 : Apply K4: Analyze K5: Evaluate K6: Create

Syllabus

Unit I: Introduction to IoT

Internet of things – Physical Design – Logical Design – IoT Enabling Technologies – IoT Levels & Development Templates – Domain Specific IoTs – IoT and M2M – IoT System Management with NETCONF – YANG – IoT Platforms Design Methodology.

Unit II: IoT Architecture

M2M high – level ETSI architecture – IETF architecture for IoT – OGC architecture – IoT reference model – Domain model – Information model – Functional model – Communication Model – IoT Reference architecture.

Unit III: Fundamentals of IoT

IoT Protocols: Link Layer – Protocols, Network Layer protocols, Transport Layer and application layer protocols – IoT Levels – IoT versus M2M – Sensors and Actuators – Power Sources.

Unit IV: Building IoT

Open Hardwar Platforms: Interfaces, Programming, APIs and Hacks – Web Services – Integration of sensors and Actuators with Arduino - Raspberry Pi/ Other Light Weight boards.

Unit V: Applications

Complete Design of Embedded system – Smart Cities: Smart Parking, Smart Traffic Control, Surveillance – Home Automation: Smart Appliances, Intrusion Detection, Smoke/Gas Detection and communication APIs: WAMP, Xively, Django – data and analytics for IoT.

Text Book

- Unit I - IoT Revolution: A Comprehensive Guide to the Internet of Things by Dr. Hiroshi Tanaka, Springer, Publication :Acad Pr
- Unit II - An Introduction to the Internet of Things by Dr. Elsa Bjornsson - - Publication :River series
- Unit III - *Principles and Paradigms* by Internet of Things: Raj kumar Buyya, Amir Vahid Dastjerdi, Elsevier,– Publication :Todd Green
- Unit IV- On IoT Solutions with Block chain- Build effective block chain IoT projects using Hyper ledger and Ethereum by Hands-Ankur Pandey, -Publication :Arvind Ravulavaru
- Unit V- Building the Internet of Things-Implement New Business Models, Disrupt Competitors, Transform Your Industry by Maciej Kranz, -Publication :Wiley

Elective
Global Logistics Management– 24PCC204

Contact Hours/Week: 04
Credit: 04

Internal Mark: 25
External Mark: 75

Course Outcome

Unit	CO	Upon completion of the course the Students will be able to	Cognitive level
Unit I	CO1	Acquire knowledge in Global management concepts	K1-K5
Unit II	CO2	Achieve comprehensive understanding and implementation of clustering techniques.	K1-K5
Unit III	CO3	Develop skills in logistics software	K1-K5
Unit IV	CO4	Elevate the inventory management system for global operations.	K1-K5
Unit V	CO5	Understand the concepts and techniques of global logistics.	K1-K5

K1-Remember, **K2**- Understand, **K3**- Apply ,**K4**-Analyzing, **K5**- Evaluate, **K6**-Create

Syllabus

Unit I: Basics of Logistics management

Introduction to physical distribution - Logistics management - Logistics Management and its elements- Modern Concepts in Logistics - Role of logistics in strategy -Inbound and outbound supply chain management

Unit II: Commercial geography

Definition, Nature and Scope of Commercial Geography-Role of Industries in Economic Development.-Need and importance of transportation in Commercial Development -Geographical factors affecting International Trade -Major logistics routes in India -Major trade routes in world - International logistics and economic development.

Unit III: Marketing in shipping and logistics

Principles and practice in Marketing -Segmentation, Targeting and Positioning - Consumer Behaviour-Marketing in service sector-Marketing in Ports and shipping- Marketing in Freight Forwarding Company

Unit IV: Trends in logistics

Introduction – recent developments in logistics-Transport and mobility technologies - Green logistics- Cold chain logistics -Block chain and big data analytics in logistics -D printing and wearable devices in logistics

Unit V: Risk and Insurance management

Introduction & Significance of Risk, Disaster and Insurance Management-
Risk in Supply Chain, Risk Management Framework - Disaster Management -
Principles of insurance -Future of Insurance market- Fire insurance.

Text Book

- Unit I - Supply Chain Logistics Management (6th Edition) (Logistics Management and Supply Chain Integration) by Donald J. Bowersox, David J. Closs & M. Bixby Cooper
- Unit II - Global Logistics and Supply Chain Management.by John Mangan, Chandra Lalwani & Tim Butcher,
- Unit III - Marketing Management (Pearson) by Philip Kotler & Kevin Lane Keller
- Unit IV- Global Logistics and Supply Chain Management by John Mangan, Chandra Lalwani & Tim Butcher,
- Unit V- Principles of Risk Management and Insurance by George E. Rejda & Michael McNamara

Elective
Android Application Development– 24PCC207

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	CO	Upon completion of the course the Students will be able to	Cognitive level
Unit I	CO1	Explain the basics of mobile application development	K1-K5
Unit II	CO2	Develop Android application with User inter face, networking and animation.	K1-K5
Unit III	CO3	Uses immolator tools to test and publish the application	K1-K5
Unit IV	CO4	Elevate user engagement and interaction by incorporating SMS messaging, email sending.	K1-K5
Unit V	CO5	Optimize performance and expand functionality in your Android app by efficiently consuming JSON web services.	K1-K5

K1-Remember, K2- Understand, K3- Apply, K4-Analyzing ,K5- Evaluate ,K6-Create

Syllabus

Unit I: Android Application Development

Android Application Development - Mobile Applications and Device Platforms - Alternatives for Building Mobile Apps -Comparing Native vs. Hybrid Applications -The Mobile Application Development Lifecycle

Unit II: Activity Essentials

Understanding Activities - Linking Activities Using Intents-Fragments-Displaying Notifications-Understanding the Components of a Screen

Unit III: Views Fundamentals

Using Basic Views-Using Picker Views -Using List Views to Display Long Lists- Understanding Specialized

Unit IV: Data Sharing Techniques

Sharing Data in Android-Creating Your Own Content Providers -Using the Content Provider-SMS Messaging-Sending Email-Displaying Maps

Unit V: Service Integration

Consuming Web Services Using HTTP- Consuming JSON Services- Creating Your Own Services –Binding Activities to Services-Understanding Threading.

Text Book

- Unit I - Professional Android by Reto Meier, Wrox Publications
- Unit II - Android Programming: The Big Nerd Ranch Guide by Bill Phillips, Chris Stewart & Kristin Marsicano, Big Nerd Ranch Guides (Pearson)

- Unit III - Android Programming for Beginners by John Horton, Packt Publishing Ltd.
- Unit IV- Android Application Development All-in-One For Dummies by Barry Burd, John Wiley & Sons.
- Unit V- Android Studio Development Essentials by Neil Smyth, ayload Media / Techotopia.

Elective
Data Warehousing and Data Mining– 24PCC210

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	CO	Upon completion of the course the Students will be able to	Cognitive Level
Unit I	CO1	Acquire knowledge in Data Mining Concepts	K1-K5
Unit II	CO2	Achieve comprehensive understanding and implementation of clustering techniques.	K1-K5
Unit III	CO3	Develop skills in statistical analysis	K1-K5
Unit IV	CO4	Elevate user engagement and interaction by incorporating SMS messaging, email sending.	K1-K5
Unit V	CO5	Understand the concepts and techniques of association rule mining	K1-K5

K1 : Remember **K2** : Understand **K3** : Apply **K4**: Analyze **K5**: Evaluate **K6**: Create

Syllabus

Unit I: Introduction to Data Mining

Basic Data Mining Tasks – Data Mining Versus Knowledge Discovery in Data Bases – Data Mining Issues – Data Mining Matrices – Social Implications of Data Mining – Data Mining from Data Base Perspective.

Unit II: Data Mining Techniques

Data Mining Techniques – a Statistical Perspective on data mining – Similarity Measures –Decision Trees–Neural Networks–Genetic Algorithms.

Unit III: Statistical Algorithms

Classification: Introduction – Statistical – Based Algorithms – Distance Based Algorithms –Decision.

Unit IV: Clustering Tree

Clustering Tree–Based Algorithms–Neural Network Based Algorithms– Rule Based Algorithms–Combining Techniques: Introduction–Similarity and Distance Measures– Outliers – Hierarchical Algorithms. Partitioned Algorithms.

Unit V: Association Rules

Association Rules: Introduction - Large Item Sets – Basic Algorithms – Parallel & Distributed Algorithms–Comparing Approaches–Incremental Rules– Advanced Association Rules Techniques –Measuring the Quality of Rules.

Text Book:

- Unit I - Data Mining: Concepts and Techniques by iawei Han, Micheline Kamber & Jian Pei, Morgan Kaufmann

- Unit II - Introduction to Data Mining by Pang-Ning Tan, Michael Steinbach, Anuj Karpatne & Vipin Kumar, Pearson.
- Unit III - Data Mining: Practical Machine Learning Tools and Techniques by Ian H. Witten, Eibe Frank, Mark A. Hall & Christopher J. Pal, Morgan Kaufmann.
- Unit IV- Data Mining Techniques: For Marketing, Sales, and Customer Relationship Management by Michael J. A. Berry & Gordon S. Linoff, Wiley India John Wiley & Sons.
- Unit V- Introduction to Data Mining by Arun K. Pujari, Universities Press.

Elective
Forensic Accounting– 24PCC213

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	Co. No.	Upon Completion of this Course: the Students will be able to	Cognitive Level
Unit I	CO1	Comprehend the definition, scope, history, evolution, roles, responsibilities of forensic accounting, and various types of fraud and financial crimes.	K1 – K4
Unit II	CO2	Develop skills in financial statement analysis and fraud risk assessment.	K1 – K5
Unit III	CO3	Learn Fraud detection methods, investigative techniques and tools used in forensic accounting.	K1 – K5
Unit IV	CO4	Gain knowledge of legal and ethical issues in forensic accounting	K1 – K6
Unit V	CO5	Acquired knowledge in Forensic Accounting Software.	K1 – K6

K1 : Remember **K2** : Understand **K3** : Apply **K4**: Analyze **K5**: Evaluate **K6**: Create

Syllabus

Unit I: Introduction to Forensic Accounting

Introduction to Forensic Accounting: Definition – Scope of Forensic Accounting – History and Evolution of the Field – Roles and Responsibilities of a Forensic Accountant. Types of Fraud and Financial Crimes.

Unit II: Financial Statement Fraud

Financial Statement Fraud: Introduction – Common Schemes and Red Flags – Analytical Procedures for Detecting Fraud – Role of Technology in Detecting Fraud.

Unit III: Fraud Deduction and Prevention Techniques

Fraud Deduction and Prevention Techniques: Methods of Fraud Detection - Internal Controls – Risk Assessment – Auditing for Fraud – Use of Data Analytics in Fraud Detection.

Unit IV: Legal Elements of Fraud and Forensic Accounting

Legal Elements of Fraud and Forensic Accounting: Legal Framework for Fraud Investigations – Courtroom Procedures and Expert Testimony – Litigation Support and Consulting – Evidence Gathering and Documentation.

Unit V: Forensic Accounting Software

Forensic Accounting Software: Data Acquisition: Captures data from a wide range of devices including computers and mobile phones - Analysis – Reporting – Security.

Text Book:

- Unit I - Forensic and Investigative Accounting 8th Edition by Crumbley, Larry. D, Heitger, Lester E., and Smith, G. Stevenson, CCH Inc.
- Unit II - Fraud Examination - *Mark F.* by Albrecht, W. Steve, Albrecht, Conan C& Albrecht, Chad O., and Zimbelman *5th Edition*, Cengage Learning,.
- Unit III - Forensic Accounting and Fraud Examination by Hopwood, William S., Leiner, Jay J., and Young, George R., 2nd Edition, McGraw-Hill Education.
- Unit IV- Young Forensic Accounting and Fraud Examination by William S. Hopwood, Jay J. Leiner, and George R. McGraw-Hill Education
- Unit V- Fraud Auditing and Forensic Accounting by Tommie W. Singleton and Aaron J. Singleton, Wiley

Elective
Teaching Pedagogy– 24PCC216

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	CO. No	Upon completion of the course the Students will be able to	Cognitive Level
Unit I	CO1	Acquire knowledge about various methods of Teaching.	K1-K5
Unit II	CO2	Gain knowledge about the concept of Perception and Memory and its types.	K1-K5
Unit III	CO3	Understand the motivation and its various theories.	K1-K5
Unit IV	CO4	Acquire knowledge about the concepts of intelligence and creativity.	K1-K5
Unit V	CO5	Familiarize with the concepts and theories of personality	K1-K5

K1 : Remember **K2** : Understand **K3** : Apply **K4**: Analyze **K5**: Evaluate **K6**: Create

Syllabus

Unit I: Emergence of Indian Education System

Introduction-Educational Policies in India adopted in the British Era- Lord Bentinck's Resolution of 7th March 1835- The Policy of Downward Filtration Theory- Reasons for Adopting Filtration Theory- Reasons for Adopting Filtration Theory- The Indian Education Commission (1882)- Lord Curzon's Educational Policy- Government Resolution on Education Policy, 1913

Unit II: Attention, Perception and Memory

Attention: Meaning, Nature and Determinants of Attention – Sensation and Perception – Laws of Perception - Errors in Perception: Illusion and Hallucination - Memory: Meaning - Types of memory and Strategies for improving memory.

Unit III: Motivation and Learning

Motivation: Meaning and definitions - Maslow's Theory of Motivation and its Educational Implications – Level of Aspiration – Learning: Theories of learning and its Educational Implications – Cognitive Theory: Jean Piaget - Behaviourist Theory - Pavlov's Classical, Conditioning, Skinner's Operant Conditioning and Thorndike Connectionism.

Unit IV : Intelligence and Creativity

Intelligence: Meaning, definitions and types - Theories of Intelligence - Quotient (IQ) - Assessment of Intelligence – Creativity: Concept, factors and process

- Strategies for fostering creativity

Unit V: Personality

Personality: Meaning, definitions, and determinants of personality - Theories of Personality: Type, trait, and psychoanalytic - Assessment of personality: Projective and non- projective - Techniques.

Text Book:

- Unit I - History of Education in India by S. N. Mukherjee, Surjeet Publications.
- Unit II - Educational Psychology by S. K. Mangal, PHI Learning Pvt. Ltd.
- Unit III - Educational Psychology by Anita Woolfolk, Pearson Education.
- Unit IV- Advanced Educational Psychology by S. S. Chauhan, Vikas Publishing House Pvt. Ltd..
- Unit V- Psychology for Effective Teaching by C. L. Kundu & D. N. Tutoo, Sterling Publishers Pvt. Ltd.

Elective
Teaching Pedagogy– 24PCC216

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	CO.No	Upon completion of the course the Students will be able to	Cognitive Level
Unit I	CO1	Understand the fundamentals of Personal Financial Planning	K1-K5
Unit II	CO2	Learn the basics of managing personal tax liabilities	K1-K5
Unit III	CO3	Learn the basic concepts and underlying principles for Retirement Planning.	K1-K5
Unit IV	CO4	Ascertain and choose appropriate insurance policies for managing personal risks.	K1-K5
Unit V	CO5	Evaluate various asset classes on the basis of risk-return and personal investment goals	K1-K5

K1 : Remember, **K2** : Understand, **K3** : Apply , **K4**: Analyze , **K5**: Evaluate, **K6**: Create

Syllabus

Unit I: Basics of Personal Finance and Tax Planning

Understanding Personal Finance. Rewards of Sound Financial Planning. Personal Financial Planning Process. Personal Financial Planning Life Cycle. Making Plans to Achieve Your Financial Goals. Common Misconceptions about Financial Planning. Personal Tax Planning – Fundamental Objectives of Tax Planning, Tax Structure in India for Individuals, Common Tax Planning Strategies – Maximizing Deductions, Income Shifting, Tax-Free and Tax-Deferred Income.

Unit II: Strategic Planning

Analysis of external and internal factors affecting strategy - Long-term mission and goals - Alignment of tactics with long-term strategic goals - Strategic planning models and analytical techniques - Characteristics of successful strategic planning process.

Unit III: Budgeting and Forecasting

Characteristics of a successful budget process – Resource allocation - Regression analysis - Learning curve analysis - Expected value - Annual business plans (master budgets) - Project budgeting - Activity-based budgeting - Zero-based budgeting -

Continuous (rolling) budgets - Flexible budgeting - Annual profit plan and supporting schedules - Operational budgets - Financial budgets - Capital budgets - Pro forma income – Financial statement projections - Cash flow projections.

Unit IV: Cost and Variance Measures

Comparison of actual to planned results - Use of flexible budgets to analyse performance - Management by exception - Use of standard cost systems - Analysis of variation from standard cost expectations.

Unit V: Responsibility centres and reporting segments

Types of responsibility centres - Transfer pricing - Reporting of organizational segments

Text Book:

- Unit I - Personal Finance by Jack R. Kapoor, Les R. Dlabay & Robert J. Hughes, McGraw-Hill Education
- Unit II - Strategic Management: Concepts and Cases by Fred R. David & Forest R. David, Pearson Education
- Unit III - Cost and Management Accounting by S. P. Jain & K. L. Narang, Kalyani Publishers.
- Unit IV- Cost Accounting: A Managerial Emphasis by S. Charles T. Horngren, Srikant M. Datar & Madhav V. Rajan, Pearson Education
- Unit V- Advanced Management Accounting by Robert S. Kaplan & Anthony A. Atkinson, Pearson Education.

Core Laboratory- I
Web Technology Lab – 24PCC301

Contact Hours/Week: 04

Internal Mark: 40

Credit: 04

External Mark: 60

Course Outcome

CO	Upon completion of the course the Students will be able to	Cognitive Level
CO1	Obtain knowledge and develop application programme using python	K1-K5
CO2	Create dynamic Web applications such as content management, user registration and ecommerce using PHP and to understand the ability to post and publish a PHP website.	K1-K5
CO3	Learn to manipulate HTML output with PHP, including string operations and inline CSS styling.	K1-K5
CO4	Explore different methods of accessing data in an XML document using the DOM and XPath, improving their versatility in data retrieval techniques.	K1-K5
CO5	Develop a MYSQL database and establish connectivity using MYSQL	K1-K5

K1 : Remember, **K2** : Understand, **K3** : Apply, **K4**: Analyze, **K5**: Evaluate, **K6**: Create

Syllabus

1. Write a PHP program which adds up columns and rows of given table
2. Write a PHP program to compute the sum of first n given prime number
3. Write a PHP program to find valid an email address
4. Write a PHP program to convert a number written in words to digit.
5. Write a PHP script to delay the program execution for the given number of seconds.
6. Write a PHP script, which changes the color of the first character of the word.
7. Write a PHP program to find multiplication table of a number.
8. Write a PHP program to calculate Factorial of a number.
9. Write a PHP code to create a student mark sheet table. Insert, delete and modify records.
10. From a XML document (email.xml), write a program to retrieve and print all the e-mail addresses from the document using XML.
11. From a XML document (tree.xml), suggest three different ways to retrieve the text value 'John' using the DOM
12. Write a program that connects to a MYSQL database and retrieves the contents of any one of its tables as an XML file. Use the DOM.

Core Laboratory- II
Advanced Database Management System Lab– 24PCC302

Contact Hours/Week: 04

Internal Mark: 40

Credit: 02

External Mark: 60

Course Outcome

CO.No	Upon completion of the course the Students will be able to	Cognitive Level
CO1	Recall the steps involved in table creation, sorting, and setting relations between tables.	K1-K5
CO2	Explain the process of writing queries using single and multiple tables.	K1-K5
CO3	Apply techniques to import and export tables.	K1-K5
CO4	Analyze query performance and identify optimization opportunities.	K1-K5
CO5	Design and implement a relational database schema that effectively sets relations between tables.	K1-K5

K1 : Remember, **K2** : Understand , **K3** : Apply , **K4**: Analyze, **K5**: Evaluate, **K6**: Create

Syllabus

LIST OF PRACTICALS

Implement the following Concepts:

- Tables Creations, Sorting, Setting relation between tables
- Queries using single and multiple tables
- Exception Handling
- Cursor and Triggers
- Import & Export Tables
- Indexing and Query Processing
- Reports

SEMESTER-II

Core Course -IV Advanced Corporate Accounting– 24PCC104

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	CO. No	Upon Completion of this Course the students will be able to	Cognitive Level
Unit I	CO1	Enable the students to have a comprehensive practice in the Preparation of corporate accounts	K1–K5
Unit II	C02	Familiarize with the provisions of Companies Act that are Suitable to corporate sector.	K1–K5
Unit III	C03	Acquaint with the knowledge relating to Holding Company Accounts along with the accounting standards.	K1–K5
Unit IV	C04	Able to construct the accounting process relating with Liquidation process.	K1–K6
Unit V	C05	Elaborate the knowledge relating principles and provisions Relating to banking and insurance companies.	K1–K6

K1–Remember; **K2**–Understand; **K3**–Apply; **K4**–Analyse; **K5**–Evaluate; **K6**- Create

Syllabus

Unit I: Good will and Shares

Basic accounting standards–Provisions relating to Valuation of Goodwill (ASNo.26) and Shares

Unit II: Merger and Acquisitions

Nature of Merger–Nature of Purchase (AS No.14) and Re-Construction of Companies–Internal Re-Construction and External Re-Construction–Companies final accounts

Unit III: Holding Company

HoldingCompanyAccountsASNo.21 (excluding chain and cross owing)

Unit IV: Liquidation

Liquidation-FinalStatementofAccounts–Statementofaffairs–Deficiencyaccount.

Unit V: Banking and Insurance Companies

Accounts of Banking Companies–Insurance Companies (New Format only)–Life Insurance- General Insurance (New Format)-Human Resource Accounting–Definition, Objectives and Valuation Methods.

Text Books

- Unit I- Advanced Accountancy by R .L. Guptaand M. Radhaswamy , Latest

- Unit II- Corporate Accounting by T. S. Reddy & A. Murthy, Margham Publications.
- Unit III- Corporate Accounting by S. P. Jain & K. L. Narang, Kalyani Publishers.
- Unit IV- Corporate Accounting by M. C. Shukla, T. S. Grewal & S. C. Gupta, S. Chand & Company Ltd.
- Unit V- Corporate Accounting by S . N. Maheshwari & S. K. Maheshwari , *Vikas*

Core Course -V
Business Research Methods– 24PCC105

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	CO.No	Upon Completion of this Course the students will be able to	Cognitive Level
Unit I	CO1	Understand the fundamental concepts and objectives of business research.	K1–K5
Unit II	C02	Formulate and test hypotheses, understanding their characteristics, roles, and types.	K1–K5
Unit III	C03	Develop the ability to choose appropriate research designs based on objectives.	K1–K5
Unit IV	C04	Determine appropriate sample sizes and methods of data collection.	K1–K6
Unit V	C05	Gain expertise in preparing annexures and presenting research findings effectively.	K1–K6

K1–Remember; **K2**–Understand; **K3**–Apply; **K4**–Analyse; **K5**–Evaluate; **K6**– Create

Syllabus

Unit I: Business Research

Business Research – Research- Meaning and Definition- Objectives, Characteristics and Importance of research – Research Method vs Research Methodology - Types of Research - Business Research- Elements of Business Research – Ethics in Business Research - Research Process.

Unit II: Research Problem

Research Problem Identification – Selection – Criteria for Selecting a Problem – Steps in Defining a Problem – Sources of Review of Literature – Formulation and Testing of Hypotheses – Characteristics – Roles of Hypotheses – Types of Hypotheses – Testing.

Unit III: Research Design

Research Design – Components – Need for Research Design – Types of Research Design: - Exploratory Design – Descriptive Design – Diagnostic Design – Analytical Design – Experimental Design – Case Study Method – Longitudinal vs Cross-Sectional Study.

Unit IV: Sample Design

Sampling Techniques – Need, Characteristics and Limitation of Sampling Design – Sampling and Non-sampling Errors – Sampling Designs – Sample Size – Collection and Processing of Data - Methods of Data Collection. Data Analysis – Tests of Significance.

Unit V: Research Report

Report Writing – Meaning – Characteristics – Techniques of Interpretation – Precautions in Interpretation – Research Report – Layout – Types of Report – Plagiarism – Annexures – Presentation of Research Report

Text Book:

- Unit I- Research Methodology: Methods and Techniques, by Kothari, C. R., New Delhi: New Age International Publishers.
- Unit II- Research Methods for Business, Sekaran, Uma and Bougie, Roger, Chennai: Wiley India Pvt. Ltd.
- Unit III- Business Research Methods by Cooper, Donald R. and Schindler, Pamela S., New York: McGraw-Hill Education.
- Unit IV- Research Methods in Business Studies, Ghauri, Pervez, Cambridge: Cambridge University Press.
- Unit V- A Manual for Writers of Research Papers, Theses, and Dissertations by Turabian, Kate L Chicago: University of Chicago Press.

Core Course -V
Cyber Security in Financial System– 24PCC106

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	CO	Upon Completion of this Course the students will be able to	Cognitive Level
Unit I	CO1	Define cyber security and articulate its importance and scope in various domains.	K1–K4
Unit II	CO2	Identify the role of cyber security in commerce and business environments.	K1–K5
Unit III	CO3	Analyze the cyber threat landscape and classify different types of cyber threats.	K1–K6
Unit IV	CO4	Evaluate the advantages and disadvantages of implementing cyber security measures.	K1–K6
Unit V	CO5	Understand the vulnerabilities in digital commerce and propose basic security measures to mitigate risks.	K1–K5

K1–Remember;**K2**–Understand;**K3**–Apply;**K4**–Analyse;**K5**-Evaluate;**K6**- Create

Syllabus

Unit I: Introduction to Cyber security

Definition- Importance- Scope of Cyber security- Cyber security in Commerce and Business- Cyber Threat Landscape- Types of cyber threats -Importance- characteristics- Advantages and disadvantages of cyber security- Overview of Digital Commerce and Its Vulnerabilities

Unit II: Introduction to Cyber Security in financial system and Banking

Introduction to Cyber security in Financial Systems- Overview of cyber security in financial systems-Importance- characteristics- Meaning of cyber security in banking-importance- Cyber Attacks in banking- Vulnerabilities in banking systems- Cyber Security Measures in Banking.

Unit III: Fundamentals of Networking and Security

Basics of Networking LAN, WAN, Internet, IP Addressing- Types of Networks: Wired and Wireless-Introduction to Firewalls, VPNs, and Antivirus- Password Security and Best Practices- Cyber Threats and Prevention- Protecting Payment Gateways and Transactions.

Unit IV: Risk Management and Compliance

Cyber Risk Assessment and Risk Mitigation in Financial Systems- Compliance Standards: ISO 27001, NIST, RBI Cyber security Framework- Business Continuity Planning for Financial Institutions-Cybersecurity Audits and Reporting

Unit V: Digital Payment Systems theft

Digital payment system UPI, NEFT, RTGS, SWIFT- Vulnerabilities in Payment Systems and Fraud Prevention-Two-Factor Authentication (2FA) and Biometric Security- Compliance Standards: PCI-DSS for Payment Card Security

Text Book:

- Unit I- Guide to Computer Network Security by Joseph Migga Kizza, Springer.
- Unit II- Electronic Commerce: A Manager's Guide by Ravi Kalakota & Andrew Winston, , Pearson.
- Unit III - Principles of Information Security by Michael E. Whitman & Herbert J. Mattord, Cengage Learning.
- Unit IV – Information Security Risk Analysis by Thomas R. Peltier, Auerbach Publications.
- Unit V- Digital Payment Systems and Cyber Fraud, by S. Balaji, Himalaya Publishing House.

Elective
IoT Networking and Connectivity – 24PCC202

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	CO	Upon Completion of this Course the students will be able to	Cognitive Level
Unit I	CO1	Understand the core concepts and characteristics of IoT, including its architecture and design principles (physical and logical).	K1–K5
Unit II	CO2	Identify and describe different types of sensors and actuators and their working principles.	K1–K5
Unit III	CO3	Compare various PAN technologies for IoT, such as Zig bee, NFC, BLE, Z-Wave, and more.	K1–K6
Unit IV	CO4	Apply concepts of data handling and analytics to process IoT-generated data for insights.	K1–K6
Unit V	CO5	Explore the applications of IoT in various domains, including smart cities, home automation, healthcare, agriculture, and industrial IoT.	K1–K5

K1–Remember;K2–Understand;K3–Apply;K4–Analyse;K5-Evaluate;K6- Create

Syllabus

Unit I: Fundamentals of IoT

Introduction, Definitions & Characteristics of IoT, IoT Architectures, Physical & Logical Design of IoT, Enabling Technologies in IoT, History of IoT, About Things in IoT, The Identifiers in IoT, About the Internet in IoT, IoT frameworks, IoT and M2M.

Unit II : Sensors Networks

Definition, C, Types of Actuators, Examples and Working, IoT Development Boards: Adriano IDE and Board Types, Raspberri Pi Development Kit, RFID Principles and components, Wireless Sensor Networks: History and Context, The node, Connecting nodes, Networking Nodes, WSN and IoT.

Unit III : Wireless Technologies for IoT

WPAN Technologies for IoT: IEEE802.15.4, Zigbee, HART, NFC, Z-Wave, BLE, Bacnet, Modbus. IP Based Protocols for IoT : IPv6,6Low PAN, RPL ,REST ,AMPQ , CoAP ,MQTT. Edge connectivity and protocols

Unit IV: Data Handling& Analytics

Introduction, Big data, Types of data, Characteristics of Big data, Data handling Technologies, Flow of data, Data acquisition, Data Storage, Introduction to Hadoop. Introduction to data Analytics, Types of Data analytics, Local Analytics, Cloud analytics and applications

Unit V : Applications of IoT

Home Automation, Smart Cities, Energy, Retail Management, Logistics, Agriculture, Health and Lifestyle, Industrial IoT, Legal challenges, IoT design Ethics, IoT in Environmental Protection.

Text Books:

Unit I - Internet of Things – A Hands-On Approach, by Bahga, A. & Madiseti, V, Universities Press, India.

Unit II –Wireless Sensor Networks: Technology, Protocols and Applications by Sohraby, K., Minoli, D. & Znati, T., Wiley India.

Unit III – Building the Internet of Things by Kranz, M., Wiley Publications.

Unit IV –Big Data Analytics: Systems, Algorithms and Applications by Agrawal, D., Das, S. & El Abbadi, A., Springer.

Unit V –Internet of Things: Principles and Paradigms by Buyya, R. & Dastjerdi, A. V., Morgan Kaufmann (Elsevier).

Elective
Inventory and Purchase Management– 24PCC205

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	CO.No	Upon Completion of this Course the students will be able to	Cognitive Level
Unit I	CO1	Effective purchasing management can help businesses negotiate	K1–K5
Unit II	CO2	Enhanced Supply Chain Efficiency	K1–K5
Unit III	CO3	Increased Customer Satisfaction	K1–K6
Unit IV	CO4	Strategic purchasing management can lead to stronger, more collaborative relationships with suppliers	K1–K6
Unit V	CO5	Effective inventory management ensures that products	K1–K5

K1–Remember;**K2**–Understand;**K3**–Apply;**K4**–Analyse;**K5**–Evaluate;**K6**– Create

Syllabus

Unit I : Purchasing and Procurement Management

Purchasing : Purchasing objectives - Purchasing Responsibilities - Purchasing process - Purchasing Management Process - Quotation and Purchase order - Types of purchase order(PO) - Contract - Advantages and Disadvantages - Contents of Contract - Purchasing Organization Structure - Advantages and disadvantages of Centralization and decentralization - Procurement and E-Procurement – Value chain of E-Procurement - Difference between procurement and purchasing - Buyer profiles and division of responsibilities.

Unit II : Strategic Sourcing and Supplier Management

Strategic Sourcing - Strategic sourcing process - The Kraljic Matrix- (Case Study) - Supplier Evaluation - Selection-Key factors for supplier selection - Standards for supplier selection - Standards and certification - Quality Characteristics - Supplier Quality Management.

Unit III : Pricing and Budgetary Control

Meaning of Right Price – Price Analysis - Determination of Right Price – Influencing Factors on Pricing - Classification of Pricing - Price Forecasting - Right Place – Purchase Budgets - Budgetary control - Need Identification Problems - Definition of lead time Elements- Cost Reduction and Lead time

Unit IV : Materials Management and Inventory Planning

Material Management – Nature, Objectives - Significance of material management – Key function of material management Material classification - Role of Material Management - Material handling principles - Materials and Profitability & Profit Center Concept - Definition of Material Planning - Bill of Material – Material Requirement Planning - Importance of Material Research, Definition Unitizing, packaging and shipping - Inventory: Importance, Types, Functions and characteristics.

Unit V : Inventory Management and Control

Inventory costs and its relevance for decision making - Inventory policies and control - Push Pull inventory methods - Risk pooling - Inventory management process - Inventory control system - Performance measurement in inventory management.

Text Books:

Unit I - Purchasing and Supply Chain Management, by Robert M. Monczka, Robert B. Handfield, Larry C. Giunipero & James L. Patterson, Cengage Learning

Unit II – Strategic Supply Chain Management by Shoshanah Cohen & Joseph Roussel, McGraw-Hill Education.

Unit III – Materials Management: An Integrated Systems Approach by P. Gopalakrishnan & M. Sundaresan, PHI Learning.

Unit IV –Materials Management by S. A. Chunawalla & D. R. Patel, Himalaya Publishing House.

Unit V –Production and Operations Management by R. Paneerselvam, PHI Learning.

Elective
End to End Development– 24PCC208

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	CO.No	Upon Completion of this Course the students will be able to	Cognitive Level
Unit I	CO1	Explain the concepts of end-to-end software development and SDLC.	K1–K5
Unit II	CO2	Develop responsive front-end interfaces using modern web technologies.	K1–K5
Unit III	CO3	Design and implement secure back-end services with database integration.	K1–K6
Unit IV	CO4	Test, deploy, and maintain full-stack web applications using DevOps practices.	K1–K6
Unit V	CO5	Build and present a complete industry-level end-to-end web application.	K1–K5

K1–Remember;**K2**–Understand;**K3**–Apply;**K4**–Analyse;**K5**–Evaluate;**K6**- Create

Syllabus

Unit I: Software Development Fundamentals & Front-End Development

Introduction to End-to-End Development - Software Development Life Cycle -Agile Methodology and Scrum - Version Control using Git and GitHub - HTML5 Fundamentals - UI/UX Design Principles

Unit II: Back-End Development

Client-Server Architecture - Node.js Fundamentals - Express.js Framework - RESTful API Development Authentication and Authorization - Middleware - Error Handling - API Testing using Postman - Secure Coding Practices

Unit III: Database Management & API Integration

Relational Databases - NoSQL Databases - Database Design and Normalization - CRUD Operations - SQL Queries -Database Connectivity

Unit IV: Testing, DevOps & Deployment

Software Testing Fundamentals - Unit Testing - Integration Testing - End-to-End Testing - Debugging Techniques - Docker Basics

Unit V: Full-Stack Project Development & Maintenance

Requirement Gathering - System Design - Full-Stack Application Development - Third-Party API Integration - Project Documentation - Deployment and Monitoring - Maintenance and Version Upgrades

Text Books:

Unit I - Web Development and Design Foundations with HTML5, by Terry Felke-Morris, Pearson

Unit II – Web Development with Node and Express by Ethan Brown, O'Reilly Media

Unit III – Database System Concepts by Abraham Silberschatz, Henry F. Korth & S. Sudarshan McGraw-Hill Education.

Unit IV – Foundations of Software Testing by Dorothy Graham, Erik van Veenendaal & Isabel Evans, Cengage Learning

Unit V – Full Stack Development with React and Node.js by Nabendu Biswas, Packt Publishing.

Elective
Big Data Analytics– 24PCC211

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	CO.No	Upon Completion of this Course the students will be able to	Cognitive Level
Unit I	CO1	Effective purchasing management can help businesses negotiate	K1–K5
Unit II	CO2	Enhanced Supply Chain Efficiency	K1–K5
Unit III	CO3	Increased Customer Satisfaction	K1–K6
Unit IV	CO4	Strategic purchasing management can lead to stronger, more collaborative relationships with suppliers	K1–K6
Unit V	CO5	Effective inventory management ensures that products	K1–K5

K1–Remember;**K2**–Understand;**K3**–Apply;**K4**–Analyse;**K5**–Evaluate;**K6**– Create

Syllabus

Unit I: Introduction to Big Data

Introduction to Big Data -Characteristics of Big Data -Traditional Data vs. Big Data
Sources of Big Data -Big Data Lifecycle - Applications of Big Data

Unit II: Big Data Storage and Processing

Hadoop Ecosystem - Hadoop Distributed File System - MapReduce Framework -
YARN Architecture Apache Hive -Apache Pig - Introduction to Apache Spark

Unit III: Data Analytics and Visualization

Data Collection and Data Cleaning - Data Preprocessing - Exploratory Data Analysis -
Statistical Analysis - Data Visualization Techniques

Unit IV: Machine Learning for Big Data

Introduction to Machine Learning - Supervised Learning - Unsupervised Learning -
Classification and Clustering - Predictive Analytics

Unit V: Big Data Applications and Security

Cloud-Based Big Data Analytics - Internet of Things (IoT) and Big Data - Social
Media Analytics Healthcare Analytics - Financial Analytics - Big Data Security and Privacy

Text Books:

Unit I - Big Data Fundamentals: Concepts, Drivers & Technique, by Thomas Erl, Wajid Khattak & Paul Buhler, Pearson

Unit II – Learning Spark by Holden Karau, Andy Konwinski, Patrick Wendell & Matei Zaharia, O'Reilly Media

Unit III – Storytelling with Data by Cole Nussbaumer Knaflic, Wiley

Unit IV – Introduction to Machine Learning with Python by Andreas C. Müller & Sarah Guido, O'Reilly Media

Unit V – Big Data Analytics by Seema Acharya & Subhasini Chellappan, Wiley India.

Core Laboratory -III
Design Technology for Accounting Professionals Lab– 24PCC303

Contact Hours/Week: 04

Internal Mark: 40

Credit: 02

External Mark: 60

Course Outcome:

Unit	CO.No	Upon Completion of this Course the students will be able to	Cognitive Level
Unit I	CO1	Design and Implementation of Employee Database	K1–K5
Unit II	CO2	Exercise using Open-Source Software like MySQL	K1–K5
Unit III	CO3	Forms, Triggers, and Menu Design	K1–K6
Unit IV	CO4	Understanding of form design principles	K1–K6
Unit V	CO5	Familiarity with database implementation tools	K1–K5

K1–Remember;K2–Understand;K3–Apply;K4–Analyse;K5-Evaluate;K6- Create

Syllabus

List of practical:

1.Design and implementation of employee

2.An exercise using Open-Source Software like MySQL

3.Forms- triggers- menu design.

SQL–Data Definition Language :

4. Table Creation with Constraints

5. Table Alteration (Add Column, Modify the size and data type, Drop Column) 3. Drop Table

6. Database SET Operation

7. Creating Database Triggers

8.Opening and Importing Photos, Creating Documents with Various Sizes

- Inserting of images
- New document properties
- 9.About Photoshop and its Features
- Software development and design
- Wallpapers
- Advertisement Creation
- Photo Modification Purpose
- 10.3D Object Creation
- A wine bottle
- Soda Can
- Cone
- Cube
- Sphere

TEXT BOOKS:

1.Accounting Information Systems by Marshall B. Romney and Paul J. Steinbart
2021 (14th Edition)

REFERENCE BOOKS

1. Information Technology Auditing,by James A. Hall2020 (5th Edition) ,Cengage Learning
2. Using Excel for Business Analysis, A Guide to Financial Modelling Fundamentals by Danielle Stein Fairhurst ,2020 (3rd Edition)
3. Fundamentals of Accounting Information Systems: by Robert Hurt,2021,McGraw-Hill

Core Laboratory -III
Systems, Applications & Products (SAP) in Data Processing Lab– 24PCC303

Contact Hours/Week: 04

Internal Mark: 40

Credit: 02

External Mark: 60

Course Outcome

CO	Upon Completion of this Course the students will be able to	Cognitive Level
CO1	Understand the structure and functionality of SAP ERP, including key modules like FI, CO, MM, SD, HR, and PP.	
CO2	Competence in bank reconciliation and generating financial statements.	K1-K3
CO3	Configure procurement processes and manage material/vendor master data.	K1-K3
CO4	Understand credit management within SAP SD.	K1-K4
CO5	Learn to create and manage work breakdown structures (WBS), configure networks and activities, and track project costs and schedules.	K1-K4

K1–Remember;**K2**–Understand;**K3**–Apply;**K4**–Analyse;**K5**-Evaluate;**K6**- Create

Syllabus

List of Practical

1. Introduction to SAP ERP System

Overview of SAP modules (FI, CO, MM, SD, HR, etc.)

Logging into SAP GUI

Navigating the SAP interface

Introduction to organizational units in SAP

2. SAP Financial Accounting (FI)

Chart of accounts creation

General Ledger accounting

Accounts Payable and Receivable

Bank reconciliation

Creating and managing financial statements

3. SAP Controlling (CO)

Cost centre and profit centre accounting

Internal orders management

Budgeting and overhead cost control

Product costing

4. SAP Materials Management (MM)

Procurement process configuration

Material master data setup

Vendor master data management

Purchase order creation

Inventory management and goods receipt

Invoice verification

5. SAP Sales and Distribution (SD)

Customer master data setup

Sales order processing

Pricing configuration

Delivery and billing documents

Credit management

6. SAP Human Resource Management (HR)

Employee master data creation

Payroll processing

Time management

Recruitment process

7. SAP Production Planning (PP)

Master data for production (BOM, routing)

Production order management

Capacity planning

Material Requirement Planning (MRP)

8. SAP Project Systems (PS)

Work breakdown structure (WBS)

Network and activity configuration

Project scheduling and cost tracking

9. Advanced Topics

SAP Fiori and UI5 (modern user interfaces)

SAP Business Warehouse (BW) / Business Intelligence (BI)

SAP HANA (high-performance in-memory database)

Integration with third-party applications

10. Practical Assignments

Case studies based on real-world scenarios

Configuring end-to-end business processes in SAP

Generating and analyzing reports using SAP modules

TEXT BOOKS:

1. *A Quick Guide for Beginners*, Peter Moxon, 2020

SEMESTER-III

Core Course-VII Banking and Insurance– 24PCC107

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	CO.No	Upon Completion of this Course the students will be able to	Cognitive Level
Unit I	CO1	Explain the origin and development of banking and understand the structure of the banking system in India and globally.	K1-K3
Unit II	CO2	Understand the organizational structure and the key functions of the Reserve Bank of India (RBI) as the central bank of the country.	K1-K3
Unit III	CO3	Analyze the organizational structure of treasury departments in banks and their role in managing financial resources effectively.	K1-K4
Unit IV	CO4	Learn and apply the fundamental principles of insurance such as utmost good faith, insurable interest, indemnity, contribution, subrogation, and proximate cause.	K1-K4
Unit V	CO5	Interpret the Policy Value using symbols and apply formula-based approaches in calculating reserves and premiums.	

K1–Remember;K2–Understand;K3–Apply;K4–Analyse;K5-Evaluate;K6- Create

Syllabus

Unit I: Introduction to Banking Business

Origin and development of Banking- Banking System - Concept and Different Important Terms used in Banking Business - Banking Sector Reforms in India - Banks and Economic Development - Functions of Commercial Banks - Banker and Customer Relationship - General and special types of customers - Overview of Banking Regulation Act 1949.

Unit II: Role of Reserve Bank of India

Role of Reserve Bank of India – Organization and Functions – RBI and Credit Policy – Regulatory Aspects of RBI – Role of Reserve Bank of India – Powers – Winding Up of Banks – Power to Impose Penalties – Role of Comptroller and Auditor General of India.

Unit III: Treasury and Funds Management in Banks

Introduction – Emergence of Unified Financial Market – Functions of Treasury Management – Organizational Structure of Treasury in Banks – Pricing of Assets and Liabilities of Bank – Capital Allocation and Optimisation of Business for Bank – Categories of Non-Performing Assets – Valuation of Investment – Credit Management.

Unit IV: Introduction to Insurance

Concept – Advantages and Disadvantages – Principles of Insurance – Elements of Insurance Contract – Various Kinds of Insurance - History of Insurance in India and Formation of LIC and GIC – Formation and Structure of LIC and GIC – Reinsurance Business in India – Global Reinsurers' Capitalization – India's Share of World Life Insurance – Revival of Policies and Claims – Insurance Frauds and Risk and Loss Mitigation.

Unit V:Policy Values

Present Value of Policies – Tow kinds of Policy Values – Policy Value in Symbols - Calculation of Policy Value for Unit Sum Assured – Surrender Values – Paid-up Policies – Alteration of Policy Contracts. Methods of Valuation: Net Premium Method of Valuation – Modified Net Premium Method of Valuation – Gross Premium Method of Valuation – Gross Premium Method for With-profits Policies – Gross Premium Bonus Reserve Method of valuation – Special Use of Retrospective Method.

Text Books:

- Unit I - Banking Theory: Law and Practice by S. Gurusamy McGraw Hill.
- Unit II – Banking Theory, Law and Practice by Gordon & Natarajan, Himalaya Publishing House
- Unit III – Banking Law and Practice by P. N. Varshney Sultan Chand & Sons.
- Unit IV – Insurance: Principles and Practice by Himalaya Publishing House.
- Unit V – *Insurance: Principles and Practice* by E. Gordon & K. Natarajan Himalaya Publishing House.

Core Course - VIII
Advanced Income Tax– 24PCC108

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

CO	Upon Completion of this Course the students will be able to	Cognitive Level
CO1	Students will be able to explain the key concepts and definitions under the Income Tax Act	
CO2	Students will be able to compute taxable income from salaries and house property, incorporating the relevant exemptions and deductions	K1-K3
CO3	Students will be able to compute income from business or profession, capital gains, and other sources, using the appropriate provisions of the Income Tax Act	K1-K3
CO4	Students will be able to calculate deductions from gross total income	K1-K4
CO5	Students will gain proficiency in the procedures of income tax assessment,	K1-K4

K1–Remember;**K2**–Understand;**K3**–Apply;**K4**–Analyse;**K5**–Evaluate;**K6**- Create

Syllabus

Unit I: Introduction

Income tax act-Definition-income-Agriculture Income – Assesse - Previous Year - Assessment Year - Residential Status - Scope of total income - Capital and revenue - Receipts and Expenditure - Exempted Incomes.

Unit II: Income from Salary and House Property

Computation of income from salaries - Income from House property.

Unit III: Business, Profession, Capital Gain and Other Sources

Computation of Profit and Gains of Business or Profession - Computation of Capital Gain - Computation of Income from other Sources.

Unit VI: Deduction and Tax Liabilities

Setoff and carry forward of Losses - Deduction from Gross Total Income - Computation of Tax Liability

Unit V: Income Tax Authorities, Assessment and TDS

Income Tax Authorities - Procedure for Assessment - Tax Deducted at Source (TDS)- Assessment of Individuals, Hindu Undivided Family, Partnership Firm and Companies

Text Books:

- Unit I - Income Tax Law and Practice by Dr. T. Srinivasan, Vijay Nicole Imprints Private Limited, Chennai, 2024.
- Unit II – Income Tax Theory, Law and Practice by T.S. Reddy & Y. Hari Prasad Reddy, Margham Publications, Chennai, 2023
- Unit III – - Income Tax Law and Practice by Dr. T. Srinivasan, Vijay Nicole Imprints Private Limited, Chennai, 2024.
- Unit IV – Income Tax by Bhagwati Prasad, Vishnu Prakashan, Agra, 2023.
- Unit V – Income Tax – Law & Practice by Dinkar Pagare, Sultan Chand & Sons, Delhi, 2023

Core Course - IX
Digital Marketing Management– 24PCC109

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	CO	Upon Completion of this Course the students will be able to	Cognitive Level
Unit I	CO1	Understand the fundamental concepts and objectives of digital marketing and how it fits into the overall marketing strategy.	K1-K4
Unit II	CO2	Explain the basic structure and functionality of the Internet and differentiate it from the World Wide Web.	K1-K4
Unit III	CO3	Understand the purpose and significance of Google Analytics in digital marketing	K1-K5
Unit IV	CO4	Apply digital marketing strategies across various social networking platforms	K1-K5
Unit V	CO5	Develop and manage effective search engine marketing strategies	K1-K6

K1–Remember;**K2**–Understand;**K3**–Apply;**K4**–Analyse;**K5**–Evaluate;**K6**- Create

Syllabus

Unit I: Introduction

Meaning and Definition of Marketing Management - Scope of Marketing Management - Nature of Marketing Management - Importance of Marketing Management - Problems of Marketing Management - Difference between Sales Management and Marketing Management - Important Functional Areas of Management - Functions of Marketing Manager/Marketing Management - Tasks of the Marketing Management - Principles of Marketing Management - Marketing Organizational Structures

Unit II: Marketing Information System

Meaning and Definition of Marketing Information System - Features of Marketing Information System-Market Information and Marketing Information System - Need for a Marketing Information System - Uses of the Marketing Information System - Components of the Marketing Information System - Internal Accounting System - Marketing Intelligence System-Marketing Research System - Marketing Management System

Unit III: Social Media Marketing

Introduction, Face book marketing, Face book advertising, YouTube marketing, Twitter marketing, Google+ marketing, LinkedIn marketing, Pinterest marketing

Unit VI: Mobile and Mail Marketing

Email Marketing Campaigns – Tools and Techniques - SMS and WhatsApp Marketing - Mobile App Marketing - Affiliate Marketing – Networks and Models - Automation Tools in Digital Marketing

Unit V: Emerging Trends and Career Opportunities

Artificial Intelligence in Digital Marketing - Voice Search and Smart Assistants - Augmented Reality (AR) & Virtual Reality (VR) in Marketing - Blockchain in Digital Marketing - Career Opportunities and Certifications in Digital Marketing – Search Engine.

Text Books:

- Unit I - Marketing Management by Philip Kotler & Kevin Lane Keller, Pearson Education, New Delhi, 2022.
- Unit II – Marketing Management by Philip Kotler & Kevin Lane Keller, Pearson Education, New Delhi, 2022
- Unit III – Digital Marketing by Seema Gupta, McGraw Hill Education (India) Private Limited, Noida, 2020.
- Unit IV – Digital Marketing by Seema Gupta, McGraw Hill Education (India) Private Limited, Noida, 2020.
- Unit V – Marketing Management by Philip Kotler & Kevin Lane Keller, Pearson Education, New Delhi, 2022.

Elective
Accounting Information System– 24PCC214

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	CO.No	Upon Completion of this Course the students will be able to	Cognitive Level
Unit I	CO1	Understand the concepts and applications of CAS, DBMS, and electronic spreadsheets in accounting.	K1-K4
Unit II	CO2	Learn to use technology to generate accounting information, prepare financial statements, and analyze data.	K1-K4
Unit III	CO3	Explore the impact of emerging technologies on accounting practices.	K1-K5
Unit IV	CO4	Develop skills to apply technology in accounting and finance.	K1-K5
Unit V	CO5	Knowledge of accounting software and systems is desirable but not mandatory.	K1-K6

K1–Remember;**K2**–Understand;**K3**–Apply;**K4**–Analyse;**K5**–Evaluate;**K6**- Create

Syllabus

Unit I: An Introduction to Accounting and Information Systems

Define Accounting Information Systems - The relationship between accounting information systems and the more general information systems- Apply documentation techniques.

Unit II: Risks, Risk Assessments, Risk Management, and Internal Controls

Describe the nature of risk-Classify risk into different risk categories- Determine the quantitative value of risk- Businesses respond to risk- Three functions of internal controls - Implementation Importance of frameworks in an internal control environment.

Unit III: Components of an Accounting Information System and Supporting Data

Characteristics and components of information systems- Identify technologies used by startups and small businesses - Businesses enhance their systems - Features of and implementation (ERP) system- Outline the systems development life cycle (SDLC) – Block chain's accounting professionals.

Unit IV: Business Processes and Accounting Information Systems and Risks

Human Resources and Payroll- Employee on Boarding Process - Employee termination Process- Processing process- Credit Payments Process- Conversion Processes, Inventory, and Supply Chain Management- Challenges in Digital Manufacturing- Processes for Business-To - Consumer Sales.

Unit V: Systems Security Risks, Issues, Failures, and Fraud and Cybercrimes

COBIT Framework and five Domains - Changes Over Time- Centric Design and Storytelling in Data Visualization- Principles to data visualizations- Techniques for Exploratory Analysis- Create Explanatory Stories

Text Books:

- Unit I - Accounting Information Systems by Marshall B. Romney & Paul J. Steinbart, Pearson Education, New Delhi, 2020
- Unit II – Concepts of Accounting Information Systems (15th Edition) by Mark G. Simkin, James L. Worrell & Arline A. Savage, Wiley, 2023.
- Unit III – Management Information Systems: Managing the Digital Firm (16th Edition) by Kenneth C. Laudon & Jane P. Laudon, Pearson Education, New Delhi, 2020.
- Unit IV – Accounting Information Systems by Marshall B. Romney & Paul J. Steinbart, Pearson Education, New Delhi, 2020
- Unit V – Management Information Systems: Managing the Digital Firm (16th Edition) by Kenneth C. Laudon & Jane P. Laudon, Pearson Education, New Delhi, 2020.

Elective
Teaching Commerce with Technology– 24PCC217

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	CO	Upon Completion of this Course the students will be able to	Cognitive Level
Unit I	CO1	Understand the fundamentals of commerce education including its meaning, scope, and challenges.	K1-K3
Unit II	CO2	Analyze recent trends in commerce teaching and curriculum at the school level.	K1-K4
Unit III	CO3	Design engaging and interactive lesson plans incorporating multimedia, flipped classroom models, and blended learning strategies.	K1-K5
Unit IV	CO4	Implement effective digital assessment techniques including quizzes, e-portfolios, and online feedback mechanisms.	K1-K5
Unit V	CO5	Promote digital literacy among students and maintain academic integrity in tech-enabled environments.	K1-K6

K1–Remember;K2–Understand;K3–Apply;K4–Analyse;K5–Evaluate;K6– Create

Syllabus

Unit I: Fundamentals of Commerce Education

Introduction- Meaning- nature- objectives of commerce education- Scope of commerce at secondary and higher secondary levels- Recent trends in commerce education- Challenges in teaching commerce.

Unit II: Role of Technology in Commerce Education

Importance of ICT in teaching commerce- Benefits and limitations of using technology- National and state-level ICT initiatives in education (e.g., DIKSHA, SWAYAM)- Digital literacy for commerce teachers.

Unit III: Tech Tools for Teaching Commerce

Software & Applications- MS Excel- Tally- QuickBooks- Google Sheets- Online Platforms- YouTube- Khan Academy- Biju's- Google Classroom- Google Forms- Collaboration Tools- Zoom, Google Meet, Padlet, Trello.

Unit IV: Designing Tech-Integrated Commerce Lessons

Preparing digital lesson plans-Use of multimedia presentations (PowerPoint, Canva)- Creating e-content and digital resources-Flipped classroom and blended learning models.

Unit V: Evaluation and Assessment using Technology

Online tests and quizzes- E-portfolios and student progress tracking- Feedback using tech tools- Ensuring academic integrity in digital environments.

Text Books:

- Unit I - ICT in Education by M. Srivastava & S. Srivastava, APH Publishing Corporation, New Delhi, 2020.
- Unit II – Education and Technology: Key Issues and Debates by Neil Selwyn, Bloomsbury Publishing, London, 2023.
- Unit III – Technology for Teaching by Peter Norton & Debra Sprague, Houghton Mifflin, Boston, 2001
- Unit IV – ICT in Education by M. Srivastava & S. Srivastava, APH Publishing Corporation, New Delhi, 2020.
- Unit V – ICT in Education by M. Srivastava & S. Srivastava, APH Publishing Corporation, New Delhi, 2020

Elective
Digital Finance– 24PCC220

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	CO.No	Upon Completion of this Course the students will be able to	Cognitive Level
Unit I	CO1	Define and differentiate key concepts such as Measurement, Assessment, and Evaluation in the context of education.	K1-K3
Unit II	CO2	Describe the traditional behaviourist model of student evaluation and critically examine its limitations in fostering deep learning.	K1-K4
Unit III	CO3	Explain the meaning and significance of rubrics and demonstrate the ability to use them effectively in evaluating student performance.	K1-K5
Unit IV	CO4	Develop and use scoring keys, marking schemes, and perform question-wise analysis to ensure accurate and fair evaluation.	K1-K5
Unit V	CO5	Apply the role of assessment in promoting better learning, learner confidence, and creativity in educational settings.	K1-K6

K1–Remember;K2–Understand;K3–Apply;K4–Analyse;K5–Evaluate;K6– Create

Syllabus

Unit I: Introduction to Digital Finance

Overview of Digital Finance-Evolution of financial technology (Fin Tech)-Traditional vs. Digital Finance- Key drivers of digital transformation in finance- Benefits and challenges of digital finance-Regulatory landscape.

Unit II: Digital Payment Systems

Overview of digital payment methods-Mobile wallets and payment apps (e.g., Paytm, Google Pay)-UPI (Unified Payments Interface)-RTGS, NEFT, IMPS-Cryptocurrencies and block chain-based payments-Payment gateways and acquiring banks.

Unit III: Digital Banking

Concepts of digital and neo-banking-Core banking solutions (CBS)-Internet banking and mobile banking services-APIs in banking-KYC and digital on boarding-Cybersecurity in digital banking.

Unit IV: Emerging Technologies in Finance

Artificial Intelligence & Machine learning in finance-Blockchain and Distributed Ledger Technology (DLT)-Robotic Process Automation (RPA)-Big Data and Predictive Analytics-Cloud computing in financial services-Internet of Things (IoT) and its financial applications.

Unit V: Fin Tech Ecosystem and Applications

Fin Tech startups and business models-Crowdfunding and P2P lending platforms - Insur Tech and Reg Tech-Robo-advisors and wealth management platforms-Case studies of successful Fin Tech firms-Government and regulatory support for Fin Tech.

Text Books:

- Unit I - Digital Banking and Financial Technologies by Vinod Kumar & Geeta Vashisth, Kalyani Publishers, New Delhi, 2022
- Unit II – Digital Banking and Financial Technologies by Vinod Kumar & Geeta Vashisth, Kalyani Publishers, New Delhi, 2022.
- Unit III – Digital Finance by Dr. S. Shanmugam, Himalaya Publishing House, New Delhi, 2024.
- Unit IV – Digital Banking and Financial Technologies by Vinod Kumar & Geeta Vashisth, Kalyani Publishers, New Delhi, 2022.
- Unit V – Emerging Technologies in Finance by Sandeep Mehta, BPB Publications, New Delhi, 2021.

Core Laboratory -V
Block Chain Technology in Crypto currency Lab– 24PCC303

Contact Hours/Week: 04

Internal Mark: 40

Credit: 02

External Mark: 60

Course Outcomes

CO.No	Upon completion of the course the Students will be able to	Cognitive Level
CO1	Understand the principles and applications of Merkle trees in block chain technology.	K1-K4
CO2	Gain hands-on experience in creating and managing blocks within a blockchain.	K1-K4
CO3	Develop the ability to implement and code a block chain system using Java.	K1-K5
CO4	Learn to create and deploy ERC20 tokens on the Ethereum block chain.	K1-K6
CO5	Build a functional cryptocurrency wallet and understand peer-to-peer interactions in block chain	K1-K6

K1–Remember;**K2**–Understand;**K3**–Apply;**K4**–Analyse;**K5**–Evaluate;**K6**– Create

Syllabus

LIST OF EXPERIMENTS

- Creating Merkle tree
- Creation of Block
- Block chain Implementation Programming code
- Creating ERC20 token
- Java code to implement blockchain in Merkle Trees
- Java Code to implement Mining using block chain
- Java Code to implement peer-to-peer using block chain
- Creating a Crypto-currency Wallet

E Resources:

<https://www.geeksforgeeks.org/java/https://docs.oracle.com/en/java/javase/>

**Ability Enhancement
Entrepreneurial Development skills– 24PCC220**

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

K1–Remember;K2–Understand;K3–Apply;K4–Analyse;K5-Evaluate;K6- Create

Unit	Co. No.	Upon Completion of this Course: the Students will be able to	Cognitive Level
Unit 1	CO1	Understand the concept, characteristics, functions, and types of entrepreneurs	K1 – K4
Unit 2	CO2	Explain the objectives, structure, and phases of Entrepreneurship Development Programmes	K1 – K4
Unit 3	CO3	Identify the importance and challenges of starting Small-Scale Industries (SSIs)	K1 – K5
Unit 4	CO4	Develop the ability to identify, classify, and appraise projects	K1 – K5
Unit 5	CO5	Examine the institutional and financial support systems	K1 – K6

K1–Remember;K2–Understand;K3–Apply;K4–Analyse;K5-Evaluate;K6- Create

Syllabus

Unit I: Entrepreneurship and Economic Development

Entrepreneur – Meaning, Characteristics, Functions and Types; Entrepreneur vs Manager; Entrepreneur vs Intrapreneur; Meaning of Entrepreneurship – Positive Aspects, Obstacles, Factors Stimulating Entrepreneurship; Role of Entrepreneurship in Economic Development.

Unit II: Entrepreneurship Development Programmes and Women Entrepreneurs

Meaning, Objectives, Course Contents and Curriculum of EDP; Phases; Institutions for EDP – NIESBUD, NAYE & TCOs; Problems in EDP; Women Entrepreneurs – Types, Problems and Remedies.

Unit III : Small Scale Industries and Forms of Ownership

Meaning, Importance and Problems of Starting an SSI; Steps in Establishing SSI; Forms of Ownership – Sole Proprietorship, Partnership, Joint Stock Company, and Co-operatives – Features, Merits and Demerits.

Unit IV: – Project Identification and Appraisal

Meaning and Steps in Project Identification; Project Classification; Project Life Cycle; Project Report – Contents; Project Appraisal – Meaning and Feasibility Analysis: Market, Technical, Financial, Economic, Managerial and Social.

Unit V: – Institutional Support and Small-Scale Industrial Sickness

Institutional Support – SIDO, SISI, NSIC, SIDCO, DIC – Functions; SIDBI's Schemes; Incentives – Subsidy, Tax Concessions, Marketing and Export Assistance; Industrial Sickness – Definition, Symptoms, Causes and Measures to Prevent Sickness in Small Units.

Text Books:

- Unit I - Entrepreneurship Development S. S. Khanka, S. Chand Publishing.
- Unit II – Entrepreneurship Development by C. B. Gupta & N. P. Srinivasan, Sultan Chand & Sons.
- ,Unit III – Small Scale Industries and Entrepreneurship by Poornima M. Charantimath, Pearson Education India.
- Unit IV – Dynamics of Entrepreneurial Development and Management by Vasant Desai, Himalaya Publishing House.
- Unit V – Entrepreneurship Development by C. B. Gupta & N. P. Srinivasan, Sultan Chand & Sons.

SEMESTER-IV

Elective **Applications of IoT in Industry– 24PCC203**

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	CO	Upon Completion of this Course the students will be able to	Cognitive Level
Unit I	CO1	Basic concept and meaning of IoT (Internet of Things).	K1-K4
Unit II	CO2	Group of sensors that monitor and communicate data.	K1-K4
Unit III	CO3	WPAN Technologies: Short-range communication protocols.	K1-K5
Unit IV	CO4	Large and complex data from IoT devices.	K1-K6
Unit V	CO5	Monitoring pollution, conservation.	K1-K6

K1–Remember;**K2**–Understand;**K3**–Apply;**K4**–Analyse;**K5**–Evaluate;**K6**- Create

Syllabus

Unit I: Introduction

Industry: Meaning, Types - Industrial Revolution: Industrial Revolution Goals and Design Principles - Technologies of Industry 4.0 - Big Data – Artificial Intelligence (AI) – Industrial Internet of Things - Cyber Security – Cloud – Augmented Reality.

Unit II: Artificial Intelligence

Artificial Intelligence (AI): Need, History and Foundations -The AI - environment - Societal Influences of AI – Application Domains and Tools - Associated Technologies of AI - Future prospects of AI – Challenges of AI.

Unit III: Big Data

Evolution - Data Evolution - Data : Terminologies - Essential of Big Data in Industry 4.0 - Big Data Merits and Limitations - Big Data Components : Big Data Characteristics - Big Data Processing Frameworks - Big Data Tools- Internet of Things (IoT) : Introduction to IoT – Architecture of IoT Technologies for IoT - Developing IoT Applications - Applications of IoT - Security in IoT.

Unit IV: Applications of IoT

IoT in Manufacturing – Healthcare – Education – Agriculture – Transportation and Logistics – Impact of Industry 4.0 on Society: Impact on Business, Government, People -

Tools for Artificial Intelligence - Big Data and Data Analytics - Virtual Reality - Augmented Reality –IoT - Robotics.

Unit V: Industry 4.0

Education 4.0 – Curriculum 4.0 – Faculty 4.0 – Skills required for Future - Tools for Education – Artificial Intelligence Jobs in 2030 – Jobs 2030 - Framework for aligning Education with Industry 4.0

Text Book:

- Unit I- Industry 4.0: The Industrial Internet of Things by Alasdair Gilchrist, Apress.
- Unit II- Artificial Intelligence: A Modern Approach by Stuart Russell & Peter Norvig, Pearson Education.
- Unit III –Big Data: A Revolution That Will Transform How We Live by Viktor Mayer-Schönberger & Kenneth Cukier, Houghton Mifflin.
- Unit IV- How Smart, Connected Products Are Transforming Companies by Michael E. Porter & James Heppelmann HBR.
- Unit V- Shaping the Fourth Industrial Revolution by Klaus Schwab World Economic Forum.

Elective
Logistics Strategy and Planning – 24PCC206

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	CO	Upon Completion of this Course the students will be able to	Cognitive Level
Unit I	CO1	Define the foundational concepts, scope, and objectives of logistics.	K1-K5
Unit II	CO2	Describe the. structure of distribution channels	K1-K5
Unit III	CO3	Explain the evolution and structure of transportation systems and networks.	K1-K5
Unit IV	CO4	Develop the importance of logistics performance measurement systems	K1-K6
Unit V	CO5	Apply structure, design, and operational needs of logistics information systems.	K1-K6

K1–Remember;**K2**–Understand;**K3**–Apply;**K4**–Analyse;**K5**–Evaluate;**K6**- Create

Syllabus

Unit I: Introduction

Definition and Scope of Logistics – Functions & Objectives – Customer Value Chain – Service Phases and attributes – Value added logistics services – Role of logistics in Competitive strategy –Customer Service.

Unit II: Distribution Channels and Outsourcing Logistics

Distribution channel structure – channel members, channel strategy, role of logistics and support in distribution channels. Logistics requirements of channel members. Logistics outsourcing – catalysts, benefits, value proposition. Third and fourth party logistics .Selection of service provider.

Unit III: Transportation and Packaging

Transportation System – Evolution, Infrastructure and Networks. Freight Management – Vehicle Routing – Containerization. Modal Characteristics, Inter-modal Operators and Transport Economies. Packaging- Design considerations, Material and Cost. Packaging as Unitization. Consumer and Industrial Packaging.

Unit IV: Performance Measurement and Costs

Performance Measurement – Need, System, Levels and Dimensions. Internal and External Performance Measurement. Logistics Audit. Total Logistics Cost – Concept, Accounting Methods. Cost – Identification, Time Frame and Formatting.

Unit V: Current Trends

Logistics Information Systems – Need, Characteristics and Design. E-Logistics – Structure and Operation. Logistics Resource Management

Text Book:

Unit I- Logistics Management and Supply Chain Management by Satish C. Ailawadi & Rakesh Singh, PHI Learning Pvt. Ltd., 2021

Unit II- Logistics Management: The Supply Chain Imperative by Vinod V. Sople, Pearson Education, New Delhi, India, 2022.

Unit III – Logistics Management and Supply Chain Management by Satish C. Ailawadi & Rakesh Singh, PHI Learning Pvt. Ltd., 2021

Unit IV- Logistics and Supply Chain Management by Martin Christopher, Pearson Education, New York, USA, 2023

Unit V- Logistics Management: The Supply Chain Imperative by Vinod V. Sople, Pearson Education, New Delhi, India, 2022.

Elective
Mobile Application – 24PCC209

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	CO.No	Upon Completion of this Course the students will be able to	Cognitive Level
Unit I	CO1	Identify the key components and setup process required for the installation of the Flutter/Kotlin multi-platform environment.	K1-K3
Unit II	CO2	Analyze the design and development process of gaming applications that utilize 2-D animations, gestures, and other interactive elements.	K1-K4
Unit III	CO3	Assess the effectiveness of web services integration in mobile applications, including data retrieval via HTTP and the design of web servers with push notifications.	K1-K5
Unit IV	CO4	Undertake mini projects that integrate learned skills to develop complete, functional, and multi-featured applications using Flutter/Kotlin	K1-K5
Unit V	CO5	Create functional mobile applications such as a native calculator and a shopping app, demonstrating the ability to apply basic programming and design principles	K1-K6

K1–Remember;**K2**–Understand;**K3**–Apply;**K4**–Analyse;**K5**–Evaluate;**K6**- Create

Syllabus

Unit I: Introduction to Android

The Android Platform- Android SDK- Eclipse Installation- Android Installation- Building you First Android application- Understanding Anatomy of Android Application- Android Manifest file.

Unit II: Android Application Design Essentials

Anatomy of an Android applications- Android terminologies- Application Context- Activities- Services- Intents- Receiving and Broadcasting Intents- Android Manifest File and its common settings- Using Intent Filter- Permissions.

Unit III: Android User Interface Design Essentials

User Interface Screen elements- Designing User Interfaces with Layouts- Drawing and Working with Animation.

Unit IV: Testing Android applications

Testing Android applications- Publishing Android application- Using Android preferences-Managing Application resources in a hierarchy- working with different types of resources.

Unit V: Using Common Android APIs

Using Android Data and Storage APIs- Managing data using Sqlite- Sharing Data between Applications with Content Providers- Using Android Networking APIs.

Text Book:

- Unit I- Android Programming: The Big Nerd Ranch Guide by Bill Phillips, Chris Stewart & Kristin Marsicano, Addison-Wesley Professional.
- Unit II- Beginning Android Application Development by Wei-Meng Lee, John Wiley & Sons (Wiley India).
- Unit III – Professional Android by Reto Meier & Ian Lake, Wrox Publications.
- Unit IV- Mobile Application Development by Jacob Schatz, Delmar Cengage Learning.
- Unit V- Android Programming: The Big Nerd Ranch Guide by Bill Phillips, Chris Stewart & Kristin Marsicano, Addison-Wesley Professional .

Elective
Green Computing – 24PCC212

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	CO	Upon Completion of this Course the students will be able to	Cognitive Level
Unit I	CO1	Explain the fundamentals of Green Computing, Green IT strategies, and environmentally responsible business practices.	K1-K5
Unit II	CO2	Analyze green assets, enterprise architecture, green supply chains, and sustainable information system models.	K1-K5
Unit III	CO3	Apply green computing technologies such as virtualization, green data centers, grid computing, and resource optimization techniques.	K1-K5
Unit IV	CO4	Evaluate green compliance standards, environmental protocols, carbon management strategies, and sustainability frameworks.	K1-K6
Unit V	CO5	Assess emerging trends in Green Computing, including green cloud computing, IoT, AI, renewable energy integration, e-waste management, and sustainable computing practices.	K1-K6

K1–Remember;**K2**–Understand;**K3**–Apply;**K4**–Analyse;**K5**–Evaluate;**K6**- Create

Syllabus

Unit I: Fundamentals

Green IT Fundamentals: Business, IT, and the Environment-Green computing: carbon footprint, power consumption-Green IT Strategies: Drivers, Dimensions, and Goals-Environmentally Responsible Business: Policies, Practices, and Metrics.

Unit II: Green Assets and Modeling

Green Assets: Buildings, Data Centers, Networks, and Devices-Green Business Process Management: Modeling, Optimization, and Collaboration-Green Enterprise Architecture-Environmental Intelligence-Green Supply Chains-Green Information Systems: Design and Development Models

Unit III: Grid Framework

Virtualization of IT systems-Role of electric utilities, Telecommuting, teleconferencing, and teleporting-Materials recycling-Best practices for Green PCs-Green Data Centers-Green Grid framework

Unit IV: Green Compliance

Socio-cultural aspects of Green IT-Green Enterprise Transformation Roadmap-Green Compliance: Protocols, Standards, and Audits-Emergent Carbon Issues: Technologies and Future

Unit V: Emerging Trends and Applications

Green Cloud Computing - Internet of Things (IoT) and Sustainable Computing - Artificial Intelligence for Green Computing - Renewable Energy in Data Centers -E-Waste Management and Circular Economy -Green Computing Case Studies and Future Trends

Text Book:

- Unit I- Green IT Strategies and Applications: Using Environmental Intelligence by Bhuvan Unhelkar, CRC Press, Taylor & Francis Group, Boca Raton, Florida, USA
- Unit II- Harnessing Green IT: Principles and Practices by San Murugesan, G. R. Gangadharan, Wiley India Pvt. Ltd., New Delhi, India.
- Unit III – Green IT: Reduce Your Information System's Environmental Impact While Adding to the Bottom Line by Toby Velte, Anthony Velte, Robert Elsenpeter, McGraw-Hill Education, New York, USA.
- Unit IV- Harnessing Green IT: Principles and Practices by San Murugesan, G. R. Gangadharan, Wiley India Pvt. Ltd., New Delhi, India.
- Unit V- Green IT: Reduce Your Information System's Environmental Impact While Adding to the Bottom Line by Toby Velte, Anthony Velte, Robert Elsenpeter, McGraw-Hill Education, New York, USA.

Elective
International Accounting Standards – 24PCC215

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	CO.No	Upon Completion of this Course the students will be able to	Cognitive Level
Unit I	CO1	Identify how standards ensure consistency, comparability, and transparency in financial statements.	K1-K5
Unit II	CO2	Understand the primary goals of IASC, including the development and promotion of international accounting standards.	K1-K5
Unit III	CO3	Explain how IFRS improves the quality and consistency of financial reporting.	K1-K5
Unit IV	CO4	Compare financial reporting formats, disclosure requirements, and transparency standards used globally.	K1-K6
Unit V	CO5	Define key concepts such as functional currency, presentation currency, and exchange differences.	K1-K6

K1–Remember;**K2**–Understand;**K3**–Apply;**K4**–Analyse;**K5**–Evaluate;**K6**- Create

Syllabus

Unit I: Global accounting standard

Meaning –needs-benefits of accounting standards- types of accounting standards-Argument for and against Global accounting standards-Concept of Harmonization and Convergence- Obstacles in Harmonization and Convergence-Suggestions for increased convergence and harmonization.

Unit II: International Accounting Standard Committee (IASC)

Objectives –Working- Composition of IASC-Reasons of Failure of IASC- IAS-I (Presentation of Financial Statements)-Process of developing International Accounting Standards-International Accounting Standard Board (IASB): Creation of IASB,-Organizational Structure-Standard Setting Procedure -enforcement powers of IASB and Achievements of IASB.

Unit III: International Financial Reporting Standards (IFRS)

Main feature- Uses and objectives of IFRS- IFRS issued by IASB -Principle based vs. Rule based standards- Fair Value Accounting (FVA)- Public sector and IFRS.

Unit IV: A Comparative Perspective of Accounting

Unit V: Accounting for foreign operations

IAS 21 and reporting foreign currency transactions in the functional currency- IAS 21 and financial statement translation of foreign operations: foreign branches- IAS 21 and financial statement translation of foreign operations: consolidated finance

Text Book:

- Unit I- International Accounting by Frederick D.S. Choi & G. Mueller, Prentice Hall.
- Unit II- *International Accounting and Multinational Enterprises* (6th Edition) by Lee H. Radebaugh, Sidney J. Gray & Ervin L. Black, John Wiley & Sons.
- Unit III – International Accounting by Frederick D.S. Choi & G.K. Meek, Prentice Hall.
- Unit IV- *International Accounting and Multinational Enterprises* (6th Edition) by Lee H. Radebaugh, Sidney J. Gray & Ervin L. Black, John Wiley & Sons.
- Unit V- International Accounting (*7th Edition*) by Frederick D.S. Choi & G.K. Meek, Prentice Hall.

Elective
Learning, Teaching & Assessment– 24PCC218

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	CO.No	Upon Completion of this Course the students will be able to	Cognitive Level
Unit I	CO1	Define and differentiate key concepts such as Measurement, Assessment, and Evaluation in the context of education.	K1-K4
Unit II	CO2	Describe the traditional behaviorist model of student evaluation and critically examine its limitations in fostering deep learning.	K1-K4
Unit III	CO3	Explain the meaning and significance of rubrics and demonstrate the ability to use them effectively in evaluating student performance.	K1-K5
Unit IV	CO4	Develop and use scoring keys, marking schemes, and perform question-wise analysis to ensure accurate and fair evaluation.	K1-K5
Unit V	CO5	Apply the role of assessment in promoting better learning, learner confidence, and creativity in educational settings.	K1-K6

K1–Remember;K2–Understand;K3–Apply;K4–Analyse;K5–Evaluate;K6- Create

Syllabus

Unit I: Basics of Assessment

Meaning and definitions - Measurement, Assessment and Evaluation - Role of assessment in learning- as learning, for learning, and of learning - Formative and Summative assessment - purpose of assessment -Principles of assessment practices – Principles related to selection of methods for assessment, collection of assessment information, judging and scoring of students' performance, summarization and interpretation of results.

Unit II: Assessment for Learning In Classroom

Student evaluation in transmission- Behaviourist model of education- drawbacks - Changing assessment practices- Assessment in Constructivist approach - Continuous and Comprehensive Evaluation- Projects, Seminars, Assignments, Portfolios; Grading - Types of assessment- practice based, evidence based, performance based, examination based - Practices of Assessment dialogue, Feedback through marking, peer and self –assessment.

Unit III: Tools & Techniques for Classroom Assessment and Issues

Tools & techniques for classroom assessment: Observation, self-reporting, Check lists, rating scale, types of tests - rubrics- meaning and importance - assessment tools for affective domain- attitude scales, motivation scales - Types of test items-Principles for constructing test items. Major issues-commercialization of assessment, poor test quality, domain dependency, measurement issues, system issues.

UNIT IV: Assessment Practices in Inclusive School

Differentiated Assessment - Culturally Responsive Assessment - Use of tests for learner appraisal - Achievement test, Diagnostic test - Construction of scoring key - Marking

scheme - question wise analysis - Quality of a good test - Assessment for enhancing confidence in learning - Assessing the disabled and performance outcomes of diverse learners -Assessment and feedback - Process of feedback .

Unit V: Prevalent Practices of Assessment And Reporting Of Quantitative Data

Drawbacks of Present Assessment System – Assessment for Better Learning, Confident learning and creative learners – Reflective journal – Students portfolio. Interpreting and reporting quantitative Data – Measures of central tendency, Measures of dispersion and correlation – graphs and diagrams.

Text Book:

- Unit I- Learning, Teaching, and Assessment Methods for Contemporary Learners: Pedagogy for the Digital Generation by K. G. Srinivasa, Muralidhar Kurni & Kuppala Saritha, Springer Nature Singapore.
- Unit II- Classroom Assessment: Principles and Practice for Effective Standards-Based Instruction (*7th Edition*) by James H. McMillan, Pearson Education.
- Unit III – Principles of Instructional Design (*5th Edition*) by Frederick D.S. Choi & G.K. Meek, Prentice Hall.
- Unit IV- Learning, Teaching, and Assessment Methods for Contemporary Learners: Pedagogy for the Digital Generation by K. G. Srinivasa, Muralidhar Kurni & Kuppala Saritha, Springer Nature Singapore.
- Unit V- Learning, Teaching, and Assessment Methods for Contemporary Learners: Pedagogy for the Digital Generation by K. G. Srinivasa, Muralidhar Kurni & Kuppala Saritha, Springer Nature Singapore.

Elective
Investment and Capital Markets– 24PCC221

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

Unit	CO.No	Upon Completion of this Course the students will be able to	Cognitive Level
Unit I	CO1	To Define the meaning, definition, and significance of capital markets in the financial system.	K1 – K4
Unit II	CO2	To Identify the various financial instruments, preference shares, bonds, and derivatives.	K1 – K4
Unit III	CO3	To Explain the influence of investor behavior and behavioral finance	K1 – K5
Unit IV	CO4	To Understand the trading mechanisms, order types	K1 – K5
Unit V	CO5	To Determine the regulatory framework and governance of capital markets	K1 – K6

K1–Remember;**K2**–Understand;**K3**–Apply;**K4**–Analyse;**K5**–Evaluate;**K6**- Create

Syllabus

Unit I: Introduction to Capital markets

Introduction: Meaning, Definition, and Importance- Structure of Capital Markets- Difference Between Capital Market and Money Market- Stock Exchanges in India and Abroad- Regulatory Framework: Role of SEBI and Other Regulatory Authorities- Contribution of Capital Markets to Economic Growth- Recent Trends and Developments in Capital Markets

Unit II: Financial Instruments and Market Participants

Types of Financial Instruments- Equity and Preference Shares- Bonds, Debentures, and Fixed Income Securities- Derivatives: Futures, Options, and Swaps- Mutual Funds and Exchange-Traded Funds (ETFs) Key Market Participants: Retail and Institutional Investors- Foreign Institutional Investors (FIIs) and Foreign Portfolio Investors (FPIs)- Role of Investment Banks, Brokers, and Credit Rating Agencies

Unit III: Risk, Return, and Portfolio Management

Concept of Risk and Return in Investments: Systematic and Unsystematic Risk- Risk Measurement Tools: Standard Deviation, Beta, and Value at Risk - Portfolio Management and Asset Allocation: Portfolio Diversification and Risk Mitigation- Modern Portfolio Theory - Capital Asset Pricing Model and Arbitrage Pricing Theory - Investor Behavior and Behavioral Finance

Unit IV: Securities Trading and Investment Strategies

Stock Market Trading Mechanisms: Trading Process, Order Types, and Settlement System-Online Trading and Dematerialization - Investment Strategies and Analysis- Fundamental Analysis vs. Technical Analysis- Value Investing vs. Growth Investing-

Derivatives and Hedging Strategies- Arbitrage, Hedging, and Speculation in Financial Markets- Role of Foreign Direct Investment and Foreign Portfolio Investment

Unit V: Emerging Trends and Regulations

Regulatory Framework and Market Governance- Role and Functions of SEBI in Investor Protection- Technological Innovations in Capital Markets- Blockchain and Cryptocurrency in Financial Markets- Sustainable Investing and Environmental, Social-Financial Inclusion and the Rise of Retail Investors- Globalization and Integration of Capital Markets

Text Book:

- Unit I- Investment Analysis and Portfolio Management by Prasanna Chandra, McGraw Hill Education.
- Unit II- Investment Science by David G. Luenberger, Oxford University Press.
- Unit III – Capital Market and Investment Management by William F. Sharpe, Gordon J. Alexander & Jeffery V. Bailey, PHI Learning Pvt. Ltd.2023.
- Unit IV- Investments by Zvi Bodie, Alex Kane & Alan J. Marcus, McGraw Hill Education,2023.
- Unit V- Capital Market and Investment Management by William F. Sharpe, Gordon J. Alexander & Jeffery V. Bailey, PHI Learning Pvt. Ltd.2023.

Core Laboratory-VI
Cloud Computing Lab– 24PCC306

Contact Hours/Week: 04

Internal Mark: 25

Credit: 04

External Mark: 75

Course Outcome

CO.No	Upon completion of the course the Students will be able to	Cognitive Level
CO1	Develop Java programs using arrays, sorting techniques, and string manipulation.	K1-K4
CO2	Apply object-oriented principles such as inheritance , polymorphism, and interfaces to real-world problems.	K1-K4
CO3	Implement multithreading, file handling, and database connectivity for efficient application development.	K1-K5
CO4	Design and manage threads, applets, and event-driven applications for interactive user experiences.	K1-K6
CO5	Gainpracticalexperienceinhandlingcommand-linearguments,performing arithmetic operations, and retrieving data from external sources.	K1-K6

K1–Remember;K2–Understand;K3–Apply;K4–Analyse;K5-Evaluate;K6- Create

Syllabus

1. Install Virtual box/VMware Workstation with different flavours of linux or windows OS on top of windows7 or 8.
2. Install a C compiler in the virtual machine created using virtual box and execute Simple Programs.
3. Install Google App Engine. Create hello world app and other simple web applications using python/java.
4. Use GAE launcher to launch the web applications.
5. Simulate a cloud scenario using Cloud Sim and run a scheduling algorithm that is not present in CloudSim.
6. Find a procedure to transfer the files from one virtual machine to another virtual machine.
7. Find a procedure to launch virtual machine using try stack (Online Open stack Demo Version)
8. Install Hadoop single node cluster and run simple applications like word count

E Resources:

- <https://www.geeksforgeeks.org/java/>
- <https://docs.oracle.com/en/java/javase/>