ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

Model Syllabus for 4-Year UG Honours in B.Com. (Computer Applications) as Major in consonance with Curriculum framework w.e.f. AY 2025-26

COURSE STRUCTURE

Year	Semester	Course	Title of the Course	No. of Hrs /Week	No. of Credits
I	I	1	Financial Accounting I	4	4
		2	Business Organisation and Management	4	4
	II	3	Financial Accounting II	4	4
		4	Office Tools for Business	3	3
			Office Tools for Business-Practical	1	2
II	III	5	Advanced Accounting	4	4
		6	Business Statistics	4	4
		7	Data Base Management System	3	3
			Data Base Management System-Practical	1	2
	IV	8	Corporate Accounting	4	4
		9	Cost and Management Accounting	4	4
		10	Computerised Accounting with Tally	3	3
			Computerised Accounting with Tally-Practical	1	2
III	V	11	Entrepreneurship & Startups	4	4
		12 A	E-Commerce	3	3
			E-Commerce-Practical	1	2
		OR			
		12 B	Business Intelligence and Data Visualisation	3	3
			Business Intelligence and Data Visualisation-Practical	1	2

Year	Semester	Course	Title of the Course	No. of Hrs /Week	No. of Credits
		13 A	Business Analytics Using Excel and Power BI	3	3
			Business Analytics Using Excel and Power BI-Practical	1	2
		OR			
		13 B	Accounting Information System	3	3
			Accounting Information System-Practical	1	2
	VI	14 A	Auditing	4	4
		OR			
		14 B	Financial Institutions and Markets	4	4
		15 A	Income Tax	4	4
		OR			
		15 B	Financial Planning	4	4
IV	VII	16	Accounting for Service Organisations	4	4
		17	Indian Accounting Standards	4	4
		18	Programming with C++	3	3
			Programming with C++-Practical	1	2
	VIII	19	Advanced Cost and Management Accounting	4	4
		20	Forensic Accounting	4	4
		21	Web Technology for Business	3	3
			Web Technology for Business-Practical	1	2

Note: In the III Year (during the V and VI Semesters), students are required to select a pair of electives from one of the **Two** specified domains. **For example: if set 'A' is chosen, courses 12 to 15 to be chosen as 12 A, 13 A, 14 A and 15 A.** To ensure in-depth understanding and skill development in the chosen domain, students must continue with the same domain electives in both the V and VI Semesters.

SEMESTER-I

COURSE 1: FINANCIAL ACCOUNTING I

Theory **Credits: 4** **4 hrs/week**

Course Objectives
This course is designed to:

- Understand and explain the foundational principles, concepts, and process of accounting, including classification and rules of debit and credit;
- Record and process business transactions through journals, ledgers, subsidiary books, and correct errors through rectification entries;
- Apply and compare different methods of depreciation and amortisation to account for asset value reduction;
- Identify and distinguish between provisions and reserves and apply their treatment in final accounts with suitable adjustments; and
- Prepare accurate final accounts (Trading, Profit & Loss, and Balance Sheet) incorporating necessary adjustments.

Course Outcomes (COs)

Upon successful completion of this course, students will be able: to
CO1: Understand the basic concepts of financial accounting;
CO2: Analyse the accounting process;
CO3: Enable the students to understand the various methods of depreciation and its calculation;
CO4: Examine the impact of provisions and reserves on profitability of business;
CO4: Workout with final accounts and assess the financial position of the concern.

SYLLABUS

Unit – I: Introduction
Meaning– Definitions -Objectives – Functions – Bookkeeping and Accounting – Branches of Accounting - Advantages and Limitations –GAAP- Accounting Concepts and Conventions – Accounting Cycle- Double Entry Accounting System- Classification of Accounts - Debit and Credit Rules. (Theory)

Unit – II: Accounting Process
Journal –Ledger – Subsidiary Books- Single, Double and three Column Cash Book-Preparation of Trial Balance- Rectification of Errors (Including Problems)

Unit – III: Depreciation & Amortisation
Meaning and Causes of Depreciation & Amortisation – Depreciation Vs Amortisation- Methods of Depreciation: Straight Line – Written Down Value – Annuity and Depletion Method (Including Problems).

Unit – IV: Provisions and Reserves

Provisions and Reserves – Meaning – Objectives – Types of Provisions and Reserves – Differences between Provisions and Reserves – Accounting Treatment – Journal Entries – Adjustment in Final Accounts – Impact on Profit – (Including Problems).

Unit – V: **Final Accounts**

Preparation of Trading Account, Profit & Loss Account and Balance Sheet with adjustments (Including Problems)

Activities

- Quiz on accounting principles, concepts, and classification of accounts.
- Assignment on classification of accounts and journal entries.
- Group activity: calculation of problems on depreciation using different methods.
- Comparative presentation of Depreciation and Amortisation.
- Field-based report: Collect and analyse final accounts of a local business.

References:

1. Ranganatham, G., & Venkataramanaiah, M. (2019). *Financial accounting*. New Delhi: S. Chand Publications.
2. Jain, S. P., & Narang, K. L. (n.d.). *Accountancy*. Ludhiana: Kalyani Publishers.
3. Arulanandam, M. A. (n.d.). *Advanced accountancy*. Mumbai: Himalaya Publishing House.
4. Goyal, V. K. (n.d.). *Financial accounting*. New Delhi: Excel Books.
5. Tulsian, P. C. (n.d.). *Accountancy–I*. New Delhi: Tata McGraw Hill Publishing Co.

SEMESTER-I

COURSE 2: BUSINESS ORGANIZATION AND MANAGEMENT

Theory **Credits: 4** **4 hrs/week**

Course Objectives

This course is designed to:

- Acquire conceptual knowledge of business and the formation of various business organizations;
- Provide insights into mergers, acquisitions, CSR practices and quality management concepts ;
- Develop understanding of key management functions;
- Understand motivation and leadership theories; and
- Understand line and staff relationships and gain insights into the control process.

Course Outcomes (COs)

Upon successful completion of this course, students will be able to:

CO1: Identify and differentiate various forms of business organisations including P4 models and franchising systems.
CO2: Analyse the impact of business environment factors like mergers, acquisitions, and CSR on organisational sustainability.
CO3: Demonstrate knowledge of key managerial functions including planning, delegation, decision-making, and organisational structure.
CO4: Apply motivation and leadership theories to workplace scenarios and assess their implications on employee performance.
CO5: Develop foundational skills in business analysis using tools such as SWOT, TQM, and quality circles.

SYLLABUS

Unit I: Business: Forms of Business Organization - Sole Proprietorship, Partnership, Joint Stock Companies & Co-operatives and their Characteristics, relative merits and demerits, Difference between Private and Public Company, Concept of One Person Company, Public- Private-People-Partnership Model (P4), Franchising, Business Chains.

Unit II: Business Environment:
Mergers and Acquisitions- Business Takeovers- Corporate Social Responsibility (CSR)- examples with reference to AP state, Concept of Quality- Total Quality Management (TQM)- 6 Sigma. Kizen, Quality Circles.

Unit III: Management:
Functions of Management- planning- SWOT analysis – Short-term & Long-term Planning- Decision Making- Delegation of authority- Decentralisation- Departmentation.

Unit IV: Motivation:
Maslow's Need Hierarchy Theory- Theory X and Theory Y -McClelland's Need for Achievement Theory– Leadership concept- Styles of Leadership -Theories of leadership: Traits theory, Behavioural Leadership Theory, **Situational Leadership Theory**.

Unit V: Staffing
Line and staff relationship - Control: meaning and importance- process of control-control techniques- budgetary control.

Activities:

- Assignment on business organizations and modern business.
- Group Discussion on factors that influence plantlocation
- Seminars on different topics related to Business organization
- Case studies of successful corporate/business heroes.

Reference Books:

1. Gupta, C. B. (2014). *Business organisation*. Mayur Publication.
2. Singh, B. P., & Chhabra, T. N. (2014). *An introduction to business organisation & management*. Kitab Mahal.
3. Sherlekar, S. A., & Sherlekar, V. S. (2000). *Modern business organization & management: Systems approach*. Himalaya Publishing House.
4. Bhushan, Y. K. (Year Unknown). *Business organization*. Sultan Chand & Sons. *(Please insert the year if available.)*
5. Prakash, J. (Year Unknown). *Business organisation and management* (Hindi and English ed.). Kitab Mahal Publishers

SEMESTER-II

COURSE 3: FINANCIAL ACCOUNTING II

Theory **Credits: 4** **4 hrs/week**

Course Objectives:
This course is designed to:

- Understand consignment accounts.
- Evaluate different methods of joint ventures accounting.
- Familiarise with the preparation of accounts in non-profit organizations.
- Acquaint with preparation of partnership deed and treatment of various accounts.
- Give practical insights on partnership accounts which; admission, retirement, death and dissolution.

Course Outcomes(COs):
Upon successful completion of this course, students will be able to:
CO1: Analyse the various accounts related to consignment business.
CO2: Prepare accounts of joint ventures under different methods.
CO3: Understand the preparation of receipts and payment, income and expenditure accounts;
CO4: To explore the essence of partnership deed and preparation of accounts in partnership;
CO5: Apply accounting procedures for partner's death, firm dissolution, and insolvency, including the Garner v. Murray Rule.

SYLLABUS

Unit I: Bills of Exchange

Meaning of Bill – Features of Bill – Parties in the Bill – Discounting of Bill – Renewal of Bill – Entries in the Books of Drawer and Drawee (Including Problems).

Unit-II: Consignment Accounts

Consignment - Features - Proforma Invoice - Account Sales – Del-credere Commission - Accounting Treatment in the Books of Consigner and Consignee - Valuation of Closing Stock - Normal and Abnormal Losses (including Problems).

Unit-III: Joint Venture Accounts

Joint Venture - Features - Difference between Joint-Venture and Consignment – Accounting Procedure – Methods of Keeping Records–One Vendor Keeps the Accounts and Separate Set off Books Methods (including Problems).

Unit IV: Partnership Accounts-I

Meaning – Partnership Deed - Fixed and Fluctuating Capitals Accounting Treatment of Goodwill – Admission, Retirement (including problems).

Unit V: Partnership Accounts-II:

Death of a Partner - Dissolution of a Partnership Firm – Application of Garner v/s Murray Rule in India – Insolvency of Partners (including problems)

Activities:

- Visit a local consignment agency to collect and analyze real samples of proforma invoices and account sales statements.
- Prepare a comparative chart highlighting key differences between consignment and joint venture transactions, roles, and accounting procedures.
- Draft Receipts & Payments Account and Income & Expenditure Account using simulated or real data from a non-profit organization.
- Conduct interviews or field interaction with office bearers of a local non-profit organization to understand their accounting practices and compliance with Sec 8.
- Group activity to draft a model partnership deed, including clauses on profit sharing, admission, retirement, and treatment of goodwill.

References:

1. Ranganatham, G., & Venkata Ramanaiah, M. (2019). *Financial accounting*. New Delhi: S. Chand Publications.
2. Gupta, R. L., & Gupta, V. K. (2022). *Principles and practice of accounting* (18th ed.). New Delhi: Sultan Chand & Sons.
3. Reddy, T. S., & Murthy, A. (2022). *Financial accounting* (Revised ed.). Chennai: Margham Publications.
4. Jain, S. P., & Narang, K. L. (2023). *Advanced accountancy – Vol. I* (Latest ed.). Ludhiana: Kalyani Publishers.
5. Maheshwari, S. N., & Maheshwari, S. K. (2021). *Introduction to accountancy* (12th ed.). New Delhi: Vikas Publishing House.

SEMESTER-II

COURSE 4: OFFICE TOOLS FOR BUSINESS

Theory **Credits: 3** **3 hrs/week**

Course Objectives

This course is designed to:

- Provide fundamental knowledge of computers and their applications in business.
- Develop proficiency in using office productivity tools like Word, Excel, and PowerPoint.
- Familiarize students with cloud-based tools and collaborative platforms used in modern workplaces.
- Enable students to prepare professional business documents, reports, and presentations.
- Inculcate practical skills for managing emails, scheduling, and virtual collaboration.

Course Outcomes (COs):

After successful completion of the course, the student will be able to:
(CO1): Understand the basic components and operations of computers and operating systems.
(CO2): Create and format professional documents using word processing tools.
(CO3): Analyze and organize business data using spreadsheets and basic data functions.
(CO4): Design and deliver effective presentations for business purposes.
(CO5): Use cloud-based tools and communication platforms for efficient workplace collaboration.

Syllabus

Unit I: Fundamentals of Computers and Operating Systems

Meaning and Characteristics of Computers – Components: Input, Output, and Storage Devices – Classification of Computers – Software: System Software and Application Software – Introduction to Operating Systems: Functions and Types – File Management – Data Security Concepts – Uses of Computers in Business and Commerce.

Unit II: Word Processing Tools

Creating and Formatting Documents – Paragraph Alignment and Indentation – Inserting Tables,Images, and Charts – Mail Merge – Page Layout and Styles – Review Features: Spelling, Grammar, Track Changes – Printing Documents – Business Applications: Writing Letters, Circulars, and Resume Preparation.

Unit III: Spreadsheets and Data Analysis

Creating and Formatting Spreadsheets – Use of Basic Formulas and Functions (SUM, AVERAGE, IF, VLOOKUP) – Data Sorting and Filtering – Charts and Graphs – Pivot Tables – Conditional Formatting – Business Applications: Budgeting, Sales Tracking, and Financial Modeling.

Unit IV: Presentation and Communication Tools

Creating Slides Using PowerPoint or Google Slides – Slide Layouts, Design Themes – Inserting Images, Videos, Charts, and SmartArt – Animation and Transition Effects – Effective Presentation Techniques – Business Applications: Product Presentation, Report Presentation, Training Slides.

Unit V: Email, Collaboration, and Cloud Tools

Creating and Managing Emails – Email Etiquette – Google Calendar and Microsoft Outlook Features – Real-Time Document Sharing using Google Workspace and MS Office 365 – Collaboration Tools: Google Meet, Microsoft Teams, Zoom – Cloud Storage and File Management: Google Drive, OneDrive – Business Applications of Digital Collaboration.

Student Centric Activities

- Prepare a business report and resume using MS Word with formatting and mail merge features.
- Create and analyze sales data using Excel functions, charts, and pivot tables.
- Design a business presentation using PowerPoint or Google Slides with animations and transitions.
- Collaborate in teams to create shared documents and schedule meetings using Google Workspace or MS Teams.
- Participate in a quiz and role-play on email etiquette, file sharing, and virtual communication.

Reference Books

1. Sinha, P. K., & Sinha, P. (2021). *Computer Fundamentals*. BPB Publications.
2. Reding, E. E. (2022). *Microsoft Office 365: In Practice*. McGraw-Hill Education.
3. Goel, R. (2020). *Computer Applications in Business*. New Age International Publishers.
4. Mansfield, R. (2021). *Mastering Microsoft Office 365*. Wiley.
5. Vermaat, M. E. (2022). *Microsoft Office 365: Word, Excel, PowerPoint, and Outlook 2022*. Cengage Learning.

SEMESTER-II

COURSE 4: OFFICE TOOLS FOR BUSINESS

Practical **Credits: 1** **2 hrs/week**

1. **Document Preparation in MS Word**
    - Create a professional business letter using formatting features (headings, bullets, alignment).
    - Execute a *mail merge* to send personalized invitations or circulars.
    - Insert tables and images into a report and apply styles, headers/footers, and page layout settings.
2. **Spreadsheet Management with MS Excel**
    - Input sales data and apply formulas such as SUM, AVERAGE, IF, and VLOOKUP.
    - Perform data sorting, filtering, and conditional formatting for business scenarios.
    - Create pivot tables and graphical charts to summarize and interpret data (e.g., sales performance).
3. **Presentations with MS PowerPoint or Google Slides**
    - Design a 5-slide business presentation incorporating themes, transitions, animations, SmartArt, and media.
    - Embed charts and tables into slides using linked Excel data.
    - Practice delivery and peer-review of presentations for clarity and effectiveness.
4. **Cloud Collaboration and Communication**
    - Share and co-edit documents using Google Docs and MS Office 365 with version control.
    - Schedule meetings using Google Calendar or Microsoft Outlook.
    - Conduct and participate in a virtual meeting via Microsoft Teams or Google Meet, including screen sharing and chat features.
5. **Email Communication and File Management**
    - Draft professional emails following business etiquette (formal tone, subject line, signature).
    - Organize mailbox using folders, filters, and calendar invites.
    - Use Google Drive and OneDrive for uploading, sharing, and managing business documents.

SEMESTER-III

COURSE 5: ADVANCED ACCOUNTING

Theory **Credits: 4** **4 hrs/week**

Course Objectives

This course is designed to enable students to achieve the following objectives:

- Understand the basic principles and procedures of single entry system of accounting
- Deal with branch accounting
- Identify and analyse banking company accounts.
- Record and prepare final accounts for insurance companies in accordance with IRDA regulations;
- Examine the various accounts of non-profit organizations..

Course Outcomes:

Upon successful completion of this course, students will be able to:

CO1: Reconstruct financial statements from incomplete records using logical accounting procedures.

CO2: Prepare branch accounts using cost price, invoice price, and debtor system methods.

CO3: Prepare banking company accounts with schedules as per regulatory norms.

CO4: Prepare revenue accounts and balance sheets for life and general insurance companies.

CO5: Prepare accurate financial statements for non-profit organizations and interpret financial performance and position.

SYLLABUS

Unit-I: Accounting for Incomplete Records

Incomplete Records – Features – Differences between Single Entry and Double Entry – Limitations – Ascertainment of Profit using Statement of Affairs Method (Including Problems)

Unit-II: Accounting for Non-Profit Organisations

Non-Profit Organisations – Features – Provisions of Section 8 of Companies Act 2013- Books Maintained – Receipts and Payments Account – Income and Expenditure Account – Balance Sheet – Special Items: Subscription, Donations, Legacies, Entrance Fees – Capital and Revenue Items – Accounting Principles (including Problems).

UNIT-III: Branch Accounting

Branches – Types of Branches – Dependent Branches – Debtors System – Stock and Debtors System – Branch Accounts at Cost Price and Invoice Price – Independent Branches (including Problems).

Unit-IV: Accounting for Banking Companies

Banking Companies – Legal Framework – Banking Regulation Act, 1949 – Final Accounts of Banking Companies – Profit and Loss Account – Balance Sheet with Schedules (including Problems).

Unit-V: Insurance Company Accounts

Insurance Companies – Life and General Insurance – IRDA Guidelines – Preparation of Revenue Account, Profit & Loss Account and Balance Sheet of Life Insurance Companies (including Problems).

Activities

- Prepare reconstructed final accounts from incomplete records using a given data set.
- Solve problems on dependent and independent branch accounting using ledger accounts and adjustment entries.
- Draft financial statements for a simulated banking company using RBI-prescribed format.
- Analyze the annual reports of real insurance companies and identify accounting components.
- Visit a local NGO and collect data to prepare a sample Receipts & Payments Account and Income & Expenditure Account.

References:

1. Gupta, C. B. (2014). *Business organisation*. Mayur Publication.
2. Singh, B. P., & Chhabra, T. N. (2014). *An introduction to business organisation & management*. Kitab Mahal.
3. Sherlekar, S. A., & Sherlekar, V. S. (2000). *Modern business organization & management: Systems approach*. Himalaya Publishing House.
4. Bhushan, Y. K. (2003). *Business organization*. Sultan Chand & Sons.
5. Prakash, J. (2011). *Business organisation and management* (Hindi and English ed.). Kitab Mahal Publishers.

SEMESTER-III

COURSE 6: BUSINESS STATISTICS

Theory **Credits: 4** **4 hrs/week**

Course Objectives:
This course is designed to:

- Understand and be able to collect and present data in the most refined and relevant manner pertaining to the research
- Enable students to understand, different measures of central tendency.
- Develop the ability to compute and interpret various measures of dispersion. Compute skewness
- Establish the relationship between two variables by using measures of relations

Course Outcomes (COs)
Upon successful completion of this course, students will be able to:
CO1: Understand the basic concepts and significance of statistics, and present data using classification, tabulation, and graphical methods.
CO2: Compute and interpret various measures of central tendency to analyze datasets effectively.
CO3: Apply measures of dispersion to evaluate variability and consistency in data.
CO4: Analyze data distribution using skewness measures and interpret asymmetry in datasets.
CO5: Evaluate relationships between variables using correlation techniques like Pearson's and Spearman's methods.

SYLLABUS

Unit I: Introduction to Statistics
Definition, Importance, Characteristics, and Limitations of Statistics – Classification and Tabulation of Data – Construction of Frequency Distribution Tables – Diagrammatic and Graphical Representation of Data (Bar Diagrams, Pie Charts, Histogram, Frequency Polygon, Ogive curves) – (Including problems)

Unit II: Measures of Central Tendency
Types of Averages – Characteristics of an Ideal Average – Computation and Application of Mean, Median, Mode – Median-based Averages – Geometric Mean – Harmonic Mean – (Including problems)

Unit III: Measures of Dispersion
Concept and Properties of Dispersion – Absolute vs. Relative Measures – Types: Range, Quartile Deviation (Semi-Interquartile Range), Mean Deviation, Standard Deviation – Coefficient of Variation(Including problems)

Unit IV: Skewness
Meaning and Importance of Skewness – Absolute and Relative Measures – Karl Pearson's, Bowley's, and Kelly's Coefficients of Skewness (Including problems)

Unit V: Measures of Relation

Correlation: Concept, Need, and Uses – Types of Correlation – Karl Pearson's Correlation Coefficient – Interpretation using Probable Error – Spearman's Rank Correlation – (Including problems)

Activities:

- Organize student-led seminars and quizzes on statistical concepts.
- Collect and interpret demographic and economic statistics of local areas (village/town/district).
- Participate in government-led statistical experiments (e.g., crop-cutting surveys).
- Practice statistical functions and data visualization using MS Excel.
- Prepare questionnaires and conduct sample surveys.

References :

1. Reddy, C. R. (1994). *Business statistics*. Deep & Deep Publications.
2. Gupta, S. P. (1992). *Statistical methods*. Sultan Chand & Sons.
3. Kapoor, V. K. (2018.). *Statistics: Problems and solutions*. Sultan Chand & Sons.
4. Elhance, D. N. (2017). *Fundamentals of statistics*. [Sultan Chand & Sons].
5. Vittal, P. R. (2018). *Business statistics*. Margham Publications.

SEMESTER-III

COURSE 7: DATABASE MANAGEMENT SYSTEM (DBMS)

Theory **Credits: 3** **3 hrs/week**

Course Objectives

This course is designed to:

- Introduce the basic concepts and applications of database systems.
- Explain data models, schema, and instances.
- Develop skills in relational database design using normalization techniques.
- Provide hands-on experience with Structured Query Language (SQL).
- Explore transaction processing, concurrency control, and database recovery concepts.

Course Outcomes

After successful completion of this course, the student will be able to:
CO1: Understand the concepts of DBMS, database models, and architecture.
CO2: Design ER models and convert them into relational models.
CO3: Apply normalization techniques to design efficient database schemas.
CO4: Write SQL queries to manage and manipulate data.
CO5: Explain transaction management, concurrency control, and recovery strategies.

Syllabus

Unit I: Introduction to DBMS and Data Models

Definition, Purpose, and Characteristics of DBMS – Database Applications – Data Models: Hierarchical, Network, Relational – Database System Architecture – Levels of Abstraction – Schema and Instance – Data Independence – Users of DBMS – Role of DBA.

Unit II: Entity-Relationship (ER) Model

Entities, Attributes, Entity Sets, Relationships, Keys – ER Diagrams – Mapping ER Model to Relational Model – Constraints and Their Representation – Enhanced ER Model.

Unit III: Relational Model and Relational Algebra

Relational Model Concepts – Domains, Attributes, Tuples, Relations – Integrity Constraints: Domain, Key, Referential – Relational Algebra: Operations and Expressions – SQL: DDL, DML, DCL – Basic Queries, Joins, Subqueries.

Unit IV: Database Design and Normalization

Functional Dependencies – Closure of Set of Attributes – Normal Forms: 1NF, 2NF, 3NF, BCNF – Decomposition – Lossless Join and Dependency Preservation – Denormalization.

Unit V: Transaction Management and Database Recovery

Transaction Concepts – ACID Properties – Schedules and Serializability – Concurrency Control: Lock-based and Timestamp-based Protocols – Deadlock Handling – Recovery Techniques: Log-based, Shadow Paging.

Student Centric Activities

- ER Diagram Design Project: Students create ER diagrams for real-world applications (e.g., hospital, library, e-commerce) and convert them to relational schemas.
- SQL Query Competitions: Conduct lab-based contests where students write optimized queries for given problems using SELECT, JOIN, GROUP BY, etc.
- Mini-Project on Database Creation: Each student group builds a working database system (using MySQL or PostgreSQL) for a business scenario and presents its features.
- Case Study Analysis: Analyze and present cases of failed database designs and propose improvements using normalization principles.
- Transaction Simulation Roleplay: Students simulate database transactions, highlighting ACID properties and concurrency issues with peer discussion.

Reference Books

1. Silberschatz, A., Korth, H. F., & Sudarshan, S. (2020). *Database System Concepts* (7th ed.). McGraw-Hill Education.
2. Elmasri, R., & Navathe, S. B. (2021). *Fundamentals of Database Systems* (7th ed.). Pearson Education.
3. Date, C. J. (2019). *An Introduction to Database Systems* (8th ed.). Pearson Education.
4. Ramakrishnan, R., & Gehrke, J. (2020). *Database Management Systems* (3rd ed.). McGraw-Hill Education.
5. Coronel, C., & Morris, S. (2022). *Database Systems: Design, Implementation, and Management* (14th ed.). Cengage Learning.

SEMESTER-III

COURSE 7: DATABASE MANAGEMENT SYSTEM (DBMS)

Practical **Credits: 1** **2 hrs/week**

1. **Introduction to DBMS Tools and SQL Environment**
    - Installing and setting up MySQL/PostgreSQL or any RDBMS tool.
    - Understanding SQL interfaces and database creation basics.
2. **ER Modeling and Schema Design**
    - Draw ER diagrams for real-life applications (e.g., hospital, banking, inventory systems).
    - Convert ER diagrams into relational schemas and define constraints.
3. **Table Creation and Data Definition Language (DDL)**
    - Create tables with proper data types and integrity constraints (Primary Key, Foreign Key, Unique, Check).
    - Alter and drop tables as per given scenarios.
4. **Data Manipulation Language (DML)**
    - Insert, update, and delete records in multiple tables.
    - Write SELECT queries with operators, sorting, and grouping.
5. **Joins and Subqueries**
    - Use INNER JOIN, LEFT JOIN, RIGHT JOIN, and FULL JOIN to retrieve data.
    - Write nested subqueries and correlated subqueries for advanced data retrieval.
6. **Aggregate Functions and Views**
    - Apply aggregate functions (COUNT, SUM, AVG, MAX, MIN) and GROUP BY with HAVING clause.
    - Create and use database views for simplified data access.
7. **Normalization Exercises**
    - Normalize unstructured data up to 3NF and BCNF.
    - Demonstrate lossless join and dependency preservation properties.

8. **Transactions and Concurrency Control**
    - Implement ACID properties through transaction control commands (COMMIT, ROLLBACK, SAVEPOINT).
    - Demonstrate concurrency issues (lost update, uncommitted data) using multiple sessions.
9. **Stored Procedures, Functions, and Triggers (Optional Advanced Task)**
    - Write and execute simple stored procedures and user-defined functions.
    - Implement triggers for data validation and audit logs.
10. **Mini Project**
    - Students design and develop a complete database for a business case (e.g., online shopping, university database, hotel management).
    - Include ER modeling, table creation, queries, transactions, and reporting.

SEMESTER-IV

COURSE 8: CORPORATE ACCOUNTING

Theory **Credits: 4** **4 hrs/week**

Course Objectives (CO):
This course is designed to:

- Understand the types of share capital and apply correct accounting treatment for issue, forfeiture, and reissue of shares;
- Bring up with the principles and procedures of issue of shares and debentures
- Evaluate goodwill using various valuation methods and apply the same in accounting problems;
- Ascertain the methods of valuation of shares;
- Prepare final accounts of companies as per provisions of the Companies Act, 2013, incorporating relevant adjustments.

Course Outcomes:
Upon successful completion of this course, students will be able to:
CO1: Apply accounting treatment for issue, forfeiture, and reissue of various types of shares including those issued at par, discount, and premium.
CO2: Record and analyze transactions related to the issue and redemption of debentures and issue of bonus shares under different conditions.
CO3: Compute the value of goodwill using various methods such as Average Profit, Super Profit, Capitalization, and Annuity Methods.
CO4: Evaluate the value of shares using Net Assets, Yield Basis, and Fair Value methods for decision-making purposes.
CO5: Prepare final accounts of companies as per the Companies Act, 2013 with adjustments to the Profit and Loss Account and Balance Sheet.

SYLLABUS

Unit I: Accounting for Share Capital
Kinds of Shares – Types of Preference Shares – Issue of Shares at Par, Discount and Premium - Forfeiture and Reissue of Shares (including problems).

Unit II: Issue and Redemption of Debentures and Issue of Bonus Shares
Accounting Treatment for Debentures Issued and Repayable at Par, Discount and Premium - (including problems).

Unit III: Valuation of Goodwill
Need and Methods - Average Profit Method, Super Profits Method – Capitalization Method and Annuity Method (including problems).

Unit IV: Valuation of Shares
Need for Valuation - Methods of Valuation - Net Assets Method, Yield Basis Method, Fair Value Method (including problems).

Unit V: Company Final Accounts

Provisions of the Companies Act, 2013 - Preparation of Final Accounts – Adjustments Relating to Preparation of Final Accounts – Profit and Loss Account and Balance Sheet – (including problems with simple adjustments).

Activities:

- Solve practical problems on the issue, forfeiture, and reissue of shares using real-time scenarios andaccounting formats.
- Prepare a simulated ledger and journal entries for the issue and redemption of debentures at par, discount, and premium.
- Conduct a group activity to study bonus share announcements of listed companies and record corresponding accounting treatments.
- Practice valuation of goodwill using various methods (Average Profit, Super Profit, Capitalization, and Annuity) with guided worksheets.
- Organize a role-play or mock business scenario to perform share valuation using Net Asset, Yield Basis, and Fair Value methods.

References

1. Jain, S. P., & Narang, K. L. (2022). *Corporate accounting* (Latest ed.). Ludhiana: Kalyani Publishers.
2. Reddy, T. S., & Murthy, A. (2022). *Corporate accounting* (Revised ed.). Chennai: Margham Publications.
3. Maheshwari, S. N., & Maheshwari, S. K. (2021). *Advanced accountancy – Volume II* (11th ed.). New Delhi: Vikas Publishing House.
4. Gupta, R. L., &Radhaswamy, M. (2022). *Advanced accounting* (19th ed.). New Delhi: Sultan Chand & Sons.
5. Shukla, M. C., Grewal, T. S., & Gupta, S. C. (2021). *Advanced accounts – Volume II* (20th ed.). New Delhi: S. Chand Publishing.

SEMESTER-IV

COURSE 9: COST AND MANAGEMENT ACCOUNTING

Theory **Credits: 4** **4 hrs/week**

Course Objectives:
This course is designed to enable students to :

- Introduce the principles, objectives, and methods of Cost Accounting and preparation of cost sheets.
- Impart knowledge on material cost control techniques and pricing methods of material issues.
- Familiarize students with labour cost computation and overhead allocation techniques.
- Develop analytical skills for interpreting financial statements using various analytical tools.
- Enable students to compute and interpret financial ratios for assessing business performance.

Course Outcomes:
Upon successful completion of this course, students will be able to:

CO1: Understand and differentiate Cost, Financial, and Management Accounting concepts, and prepare a cost sheet using appropriate classifications.
CO2: Apply inventory control techniques and material pricing methods to manage and account for material costs.
CO3: Compute labour costs using various incentive wage plans and distinguish between direct and indirect labour.
CO4: Analyze and interpret financial statements using comparative, common-size, and trend analysis techniques.
CO5: Evaluate business performance through various financial ratios including liquidity, solvency, profitability, and activity ratios.

SYLLABUS

UNIT - I: INTRODUCTION:

Cost Accounting: Definition – Features – Objectives – Functions – Scope – Advantages and Limitations - Essentials of a good cost accounting system- Management Accounting: Features – Objectives-functions-Management Accountant's role–Difference between Cost Accounting, Financial Accounting and Management Accounting– Cost concepts – Cost Classification - Preparation of Cost Sheet. (Including problems)

UNIT-II: MATERIAL:

Direct and Indirect Material cost – Inventory Control Techniques – Stock Levels – EOQ – ABC Analysis – JIT - VED - FSND - Issue of Materials to Production – Pricing methods: FIFO - LIFO with Base Stock and Simple and Weighted Average methods. (including problems)

UNIT-III: LABOUR

Labour: Direct and Indirect Labour Cost – Methods of Payment of Wages (only Incentive Plans): Halsey, Rowan, Taylor Piece Rate and Merrick Multiple Piece Rate Methods. (including problems)

UNIT-IV: FINANCIAL STATEMENT ANALYSIS AND INTERPRETATION

Financial Statements - Features, Limitations. Need, Meaning, Objectives, and Process of Financial Statement Analysis- Comparative Analysis – Common Size Statement and Trend Analysis (including problems)

UNIT -V: RATIO ANALYSIS

Meaning - Advantages and Limitation of Ratio Analysis – Types of Ratios –Liquidity Ratios- Solvency Ratios- Profitability Ratios- Activity Ratios (including problems)

Activities:

- Listing of industries located in your area and methods of costing adopted by them
- Collectionoffinancialstatementsofanytwoorganizationfortwoyearsandpreparea common Size Statements
- Collection of cost sheet and pro-forma of quotation
- Invited Lectures and presentations on related topics.
- Examinations (Scheduled and surprise tests)

Reference Books:

1. S.P.Jain and K.L.Narang–Advanced Cost Accounting, Kalyani Publishers.
2. M.N.Arora–A test book of Cost Accounting, Vikas Publishing House Pvt. Ltd.
3. S.N.Maheswari–Principles of Management Accounting, Sultan Chand &Sons.
4. Sharma &Shashi Gupta–Management Accounting, Kalyani Publishers.
5. S.P.Gupta–Management Accounting, S. Chand Publishing, NewDelhi.

SEMESTER-IV

COURSE 10: COMPUTERISED ACCOUNTING WITH TALLY

Theory **Credits: 3** **3 hrs/week**

Course Objectivities:
This course is designed to:

- Familiarize with the fundamentals of computerised accounting.
- Introduce tally to maintain, create and delete companies, ledgers and vouchers etc.
- Understand how to deal with different vouchers and its creation
- Compute diverse methods of inventory management by using Tally Software.
- Assess the tax liability and report generation of financial transactions of company by using Tally Software.

Learning outcomes:
Upon successful completion of this course, students will be able to:

CO1: Understand the concept, features, advantages, and limitations of computerized accounting and distinguish it from manual accounting systems.
CO2: Operate Tally software for company creation, group management, ledger creation, and configuration of accounting settings.
CO3: Record business transactions through various accounting vouchers, including those with foreign currency, and manage voucher types in Tally.
CO4: Manage inventory through Tally, including stock items, valuation methods, purchase/sales orders, and costing with features like POS, cost centers, and godowns.
CO5: Enable GST and TDS in Tally, perform voucher entries with tax compliance, and generate statutory and financial reports including BRS, P&L, balance sheet, and fund flow.
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SYLLABUS

Unit I: Introduction to Computerized Accounting
Introduction to Computerized Accounting – Meaning and Scope – Features of Computerized Accounting - Advantages and Limitations of Computerized Accounting –Computerized Accounting VS Manual Accounting – Accounting Software – Types of Accounting Software.

Unit II: Accounting Software Tally
Features of Tally – Tally Configuration - Tally Screen Components – Company Creation, Alter and Delete – Company features – Configuration – Group Company – Creating and Altering GROUP of a Company – Processing Transactions in Tally – Tally Groups and sub Groups – Group Creation, Alter and Delete — Managing Groups - Ledgers – Creation, Alter and Delete Ledgers.

Unit II: Accounting Vouchers

Recording of Transactions – Voucher Types – Payment Voucher – Receipt Voucher – Contra Voucher – Sales Voucher – Purchase Voucher – Journal Voucher – Creation, Alteration and Deletion of Vouchers – New Voucher Types – Display Vouchers – Create, Alter and Delete Foreign Currencies – Voucher entry using foreign currencies.

Unit IV: Accounts with Inventory

Introduction to inventory – Inventory Methods – Units of Measurement Creation, Alter and Delete – Stock Groups – Creation, Display, Alter and Deletion of Stock Groups –Stock Items – Create, Alter, Display and Deletion of Stock Items – Stock Valuation methods – FIFO, LIFO, Average stock level, Minimum Level and Maximum Level –Creation of Sales order and Purchases Order – Rejection In and Rejection Out –Manufacturing journal – POS Invoice -- Creation of Cost Centers – Creation of Godown.

Unit V: Taxes and Report Generation:

Enabling TDS/TCS and GST --- GST configuration at Company level, Stock group level and stock item level – GST Ledgers creation – Voucher entry using GST – Financial Reports in Tally – Trial Balance - Trading and Profit and Loss Account – Balance Sheet –Bank Reconciliation Statement - Stock Summary Report – Ratio Analysis – Funds Flow Statement – Godown summary Report – Statutory Reports – GST, TDS Reports.

Activities:

1. Students should practice Tally vouchers and company creation in tally software
2. Identifying different transactions along with correct voucher entries, identifying heads of incomes and expenses also assets and liabilities.
3. Practice on latest provision examples which include TDS and GST
4. All students should attend the practical sessions to generate financial reports.

References:

1. Tally, C.Nellai Kannan, Nels Publications, 2009, 2nd Edition, New Delhi.
2. Asok K. Nadhani, Tally. ERP 9, BPB Publications, 2010, 1st Edition, New Delhi.
3. Tally 9, Dr. K. Kiran Kumar, Sri Laasya Publications, 2009, 2nd Edition, New Delhi.
4. Comdex Tally 9 Course Kit – Namrata Agrawal, Sanjay Kumar – wiley, 2009 1st Edition, New Delhi.
5. Tally 9 In Simple Steps - Kogent Learning Solutions Inc. - Dreamtech Press, 2009, 6th Edition, New Delhi.

SEMESTER-IV

COURSE 10: COMPUTERISED ACCOUNTING WITH TALLY

Practical **Credits: 1** **2 hrs/week**

The following hands-on activities will be carried out in a Tally-enabled lab environment to ensure skill development and real-time application of theoretical concepts:

1. Company Creation and Ledger Setup:
    - Create multiple companies in Tally.
    - Configure company features.
    - Create, alter, and delete groups and ledgers.
2. Voucher Entry Practice:
    - Record day-to-day business transactions using various vouchers like payment, receipt, contra, journal, purchase, and sales.
    - Perform voucher entries involving foreign currency and GST components.
3. Inventory and Stock Management:
    - Create and configure stock groups, items, and godowns.
    - Apply inventory valuation methods (FIFO, LIFO, Average).
    - Generate stock summary and godown reports.
4. Taxation in Tally:
    - Enable and configure GST and TDS at multiple levels.
    - Create GST and TDS ledgers.
    - Perform tax-compliant entries and generate statutory reports.
5. Financial Report Generation:
    - Generate Trial Balance, P&L Account, Balance Sheet, Fund Flow and Ratio Analysis reports.
    - Perform Bank Reconciliation using BRS tools in Tally.

SEMESTER-V

COURSE 11: ENTREPRENEURSHIP AND STARTUPS

Theory **Credits: 4** **4 hrs/week**

Course Objectives:
This course is designed to:

- Understand the concept of entrepreneurship, traits of entrepreneurs, and their role in economic development.
- Explore methods for identifying business opportunities and fostering creativity and innovation.
- Develop the ability to prepare feasibility reports and business plans for new ventures.
- Gain knowledge of funding sources, team management, and operational controls for start-ups.
- Recognize the role of various institutional supports available for promoting entrepreneurship.

Course Outcomes:
Upon successful completion of this course, students will be able to:

CO1: Understand the concept of entrepreneurship, traits of entrepreneurs, types of entrepreneurs, and their role in economic development with emphasis on women entrepreneurs.

CO2: Identify viable business opportunities through creativity and innovation, and apply methods for generating and evaluating new business ideas.

CO3: Prepare a feasibility report assessing technical and economic viability, and develop the core components of a business plan.

CO4: Explore various sources of finance, and apply basic principles of capital management, team building, sales, and e-commerce for running a new venture.

CO5: Analyze the role and support of institutional frameworks in promoting entrepreneurship, including the functions of SIDBI, DICs, KVIC, NSIC, and others.

SYLLABUS

UNIT I: Introduction to Entrepreneurship

Definition of Entrepreneur, Entrepreneurial Traits, Entrepreneur Vs. Manager-Types of Entrepreneurs-Entrepreneurial decision process. Role of Entrepreneurship in Economic Development. Woman as Entrepreneur- Success stories of Entrepreneurs.

UNIT II: New Venture Creation

Identification of Business Opportunities-Sources of new ideas-methods of generating new ideas-creativity and innovations- process of creativity-barriers to creative thinking.

UNIT-III: Preparation of Feasibility Report
Technical feasibility-economic viability-business plan-salient features of business plan

UNIT-IV: Financing and Managing the new venture
Sources of capital, Record keeping, recruitment, motivating and leading teams- Fixed and Working Capital- Management of Working Capital- Marketing and Sales Management – E-Commerce.

UNIT-V:InstitutionalsupporttoEntrepreneurship
Role of Directorate of Industries, District Industries Centers (DICs), Industrial Development Corporation (IDC), State Financial corporation (SFCs), Commercial banks, Small Scale Industries Development Corporations(SSIDCs), Khadi and village Industries Commission (KVIC), National Small Industries Corporation (NSIC),Small Industries Development Bank of India(SIDBI).

Activities:

- Case Study Analysis: Analyze success stories of Indian entrepreneurs, highlighting traits and contributions to economic development.
- Idea Generation Workshop: Conduct a brainstorming session where students generate and present innovative business ideas using creativity techniques.
- Feasibility Report Preparation: Prepare a mini feasibility report for a selected business idea, covering technical and economic viability.
- Start-up Simulation Activity: Simulate startup operations including budgeting, recruitment, team leadership, and digital marketing strategies.
- Institutional Mapping Project: Create a presentation or chart showing the functions and support provided by key entrepreneurial institutions in India.

References:

1. Entrepreneurship Development by S.S. Khanka S. Chand &Company
2. Entrepreneurship by Robert D. Hisrich, Michael P. Peters, and Dean A. Shepherd, McGraw Hill
3. Small Scale Industries and Entrepreneurship by Vasant Desai Himalaya Publishing House
4. Entrepreneurship Development and Small Business Enterprises by Poornima M. Charantimath, Pearson Education
5. Essentials of Entrepreneurship and Small Business Management by Norman M. Scarborough, Pearson Education

SEMESTER-V

COURSE 12 A: E-COMMERCE

Theory **Credits: 3** **3 hrs/week**

Course Objectives

This course is designed to:

- Provide an overview of the fundamentals of e-commerce and its role in modern business.
- To enable students to understand e-commerce infrastructure and technologies.
- To introduce various business models used in e-commerce.
- To familiarize students with the legal, ethical, and security issues in e-commerce.
- To equip students with knowledge of digital payment systems and emerging trends in e-commerce.

Course Outcomes

Upon successful completion of this course, students will be able to:

CO1: Understand the structure, components, and evolution of e-commerce.

CO2: Explain different e-commerce business models and strategies.

CO3: Identify the technological infrastructure required for implementing e-commerce platforms.

CO4: Analyze issues related to cyber security, privacy, and legal frameworks in e-commerce.

CO5: Evaluate digital payment systems and explore future trends such as mobile commerce and block chain.

Syllabus

Unit I: Introduction to E-Commerce

Definition, Nature, and Scope of E-Commerce – Evolution of E-Commerce – Traditional Commerce vs. E-Commerce – E-Commerce Framework – Benefits and Limitations of E-Commerce – E-Commerce Applications.

Unit II: E-Commerce Business Models and Strategies

Business-to-Consumer (B2C), Business-to-Business (B2B), Consumer-to-Consumer (C2C), Government-to-Citizen (G2C) – Revenue Models – Value Chains in E-Commerce – E-Commerce Strategy Formulation.

Unit III: E-Commerce Infrastructure and Technology

Hardware and Software Requirements – Web Hosting and Internet Services – Website Development and Maintenance – Client–Server Architecture – Mobile Commerce – Cloud Computing in E-Commerce.

Unit IV: Security, Legal, and Ethical Issues

Security Threats in E-Commerce – Encryption, Digital Signatures, and Firewalls – Cyber Laws in India – Intellectual Property Rights – Ethical Issues in E-Commerce – Data Privacy and Protection.

Unit V: E-Payment Systems and Emerging Trends

Digital Payment Systems – Credit/Debit Cards, Net Banking, Mobile Wallets, UPI – Electronic Fund Transfer (EFT) – Payment Gateways – Block chain and Crypto currencies – Artificial Intelligence and E-Commerce – Future of E-Commerce.

Student-Centric Activities

- Create a Mock E-Commerce Website: Students design a basic e-commerce storefront using platforms like Shopify, Wix, or Word Press with product listings, payment options, and navigation features.
- Case Study Presentation: Analyze real-world e-commerce giants (like Amazon, Flipkart, Meesho) to understand business models, logistics, and digital strategies, and present findings.
- Digital Payment Demo: Students simulate or demonstrate various digital payment systems (e.g., UPI, Paytm, net banking) and compare their working, security features, and user experience.
- Online Consumer Behaviour Survey: Conduct a small-scale survey among peers or local consumers to study preferences, trust issues, and buying patterns in online shopping.
- Debate on Legal & Ethical Issues in E-Commerce: Organize a debate/discussion on topics such as data privacy, fake reviews, taxation of e-commerce, or counterfeit goods.

Reference Books

1. Laudon, K. C., & Traver, C. G. (2021). *E-Commerce 2021: Business, Technology, Society* (16th ed.). Pearson Education.
2. Schneider, G. (2022). *Electronic Commerce* (13th ed.). Cengage Learning.
3. Rayport, J. F., & Jaworski, B. J. (2018). *Introduction to E-Commerce* (3rd ed.). McGraw-Hill Education.
4. Elias M. Awad (2020). *Electronic Commerce: From Vision to Fulfillment* (5th ed.). Pearson Education.
5. Joseph, P. T. (2021). *E-Commerce: An Indian Perspective* (5th ed.). PHI Learning Pvt. Ltd.

SEMESTER-V

COURSE 12 A: E-COMMERCE

Practical **Credits: 1** **2 hrs/week**

The following practical exercises are designed to provide hands-on exposure to core concepts of e-commerce:

1. Designing a Sample E-Commerce Website:
    - Students create a mock online store using tools such as Shopify, WordPress (with WooCommerce), or Wix.
    - Include basic features: product catalog, shopping cart, payment options, user interface, and contact forms.
2. Digital Payment Demonstration:
    - Simulation of online payment systems including UPI, mobile wallets, and credit/debit card interfaces.
    - Demonstrate integration with payment gateways (e.g., Razorpay, PayU) in a test environment.
3. E-Commerce Business Model Mapping:
    - Identify local businesses and map their online/offline models into B2B, B2C, C2C, or G2C categories.
    - Present findings through charts and short write-ups using case templates.
4. Security Practices in E-Commerce:
    - Demonstrate use of SSL certificates, two-factor authentication, CAPTCHA, and data encryption in online forms.
    - Use online tools to simulate ethical hacking and website security checks.
5. E-Commerce Analytics and User Behaviour:
    - Introduce basic use of Google Analytics to track page views, bounce rate, and user demographics.
    - Students analyze mock data sets to study trends in user behaviour and recommend improvements.

SEMESTER-V

COURSE 12 B: BUSINESS INTELLIGENCE TOOLS AND DATA VISUALIZATION

Theory **Credits: 3** **3 hrs/week**

Course Objectives

This course is designed to:

- Develop student understanding of Business Intelligence (BI) principles and decision support systems.
- Train students in Advanced Excel for data analysis and visualization.
- Impart working knowledge of Tableau for real-time data visualization and dashboards.
- Equip learners with hands-on skills to analyze, interpret, and communicate data.
- Integrate BI tools for business forecasting, decision-making, and storytelling.

Course Outcomes

By the end of this course, the student will be able to:

CO1: Describe the framework, scope, and applications of Business Intelligence.

CO2: Analyze business datasets using advanced Excel functions like pivot tables, Power Query, and dashboards.

CO3: Visualize data interactively using Tableau and build industry-grade dashboards.

CO4: Apply BI tools to different business domains (Finance, Marketing, HR, Operations).

CO5: Present analytical findings to stakeholders using compelling data storytelling techniques.

SYLLABUS

Unit I: Introduction to Business Intelligence and Data-Driven Decisions

Meaning and Definition of Business Intelligence – Evolution of BI – Role in Managerial Decision Making – BI Architecture – Data Warehousing Basics – Data Marts – OLAP vs OLTP – BI Applications in Functional Areas – Business Metrics and KPIs – Data-Driven Culture.

Unit II: Business Intelligence with Advanced Excel – Part I

Introduction to Excel for BI – Data Types – Data Cleaning Using Flash Fill, Text Functions, Remove Duplicates – Logical Functions (IF, AND, OR, Nested IF) – Lookup Functions (VLOOKUP, HLOOKUP, XLOOKUP, INDEX & MATCH) – Sorting and Filtering – What-If Analysis – Data Validation.

Unit III: Business Intelligence with Advanced Excel – Part II

Pivot Tables and Pivot Charts – Slicers and Timelines – Power Query and Power Pivot – Creating Dashboards in Excel – Forecasting Using Excel – Goal Seek and Solver – Scenario Analysis – Macro Basics – KPI Tracking Templates – Interpreting Excel BI Outputs.

Unit IV: Business Intelligence with Tableau – Part I

Getting Started with Tableau – Connecting to Data Sources – Data Types and Dimensions/Measures – Simple Visualizations (Bar, Line, Pie, Map, Scatter) – Filters, Sorting, Grouping – Calculated Fields – Parameters – Basic Dashboard Creation – Story Points.

Unit V: Business Intelligence with Tableau – Part II

Interactive Dashboards – Dual-Axis Charts – Forecasting in Tableau – Trend and Reference Lines – Real-time Data Streams – Tableau Public vs Desktop – BI Case Studies Using Tableau in Marketing, HR, and Finance – Exporting and Publishing Dashboards – Data Storytelling and Presentation Skills.

Student-Centric Activities

- Excel Dashboard Project: Students will create an interactive dashboard using Excel (Pivot Tables, Charts, Slicers, Power Query) to visualize sales, HR, or financial data for a fictional company.
- Tableau Data Storytelling Challenge: Students will import a dataset into Tableau (e.g., from Kaggle or Data.gov) and build a multi-chart visualization, interpreting trends and patterns for decision-making.
- Live Case Analysis Using BI Tools: Analyze a real-time business problem (e.g., declining sales in a region) using Excel analytics or Tableau, and present visual insights with actionable recommendations.
- Data Cleaning & Preparation Drill: Students will be given a messy dataset and must use Excel functions (Power Query, Text to Columns, Flash Fill, Remove Duplicates) to clean it for analysis.
- Group Presentation: BI in Industry: Each group researches and presents how business intelligence tools are used in sectors like healthcare, retail, banking, or logistics (with example dashboards).

Reference Books

1. Sharda, R., Delen, D., & Turban, E. (2020). *Business Intelligence, Analytics, and Data Science: A Managerial Perspective* (5th ed.). Pearson.
2. Murray, D. (2016). *Tableau Your Data!: Fast and Easy Visual Analysis with Tableau Software*. Wiley.
3. Kusleika, D. (2022). *Excel 2021 Power Programming with VBA*. Wiley.
4. Alexander, M., & Walkenbach, J. (2021). *Excel Dashboards and Reports* (4th ed.). Wiley.
5. McKinney, W. (2022). *Data Science for Business Intelligence with Excel and Tableau*. O'Reilly Media.

SEMESTER-V

COURSE 12 B: BUSINESS INTELLIGENCE TOOLS AND DATA VISUALIZATION

Theory **Credits: 1** **1 hrs/week**

To complement theoretical understanding, the following hands-on practical exercises are proposed:

1. **Interactive Excel Dashboards:**
    - Create dashboards using Pivot Tables, Pivot Charts, Slicers, and Timelines to analyze multi-dimensional data (e.g., regional sales, HR turnover, product profitability).
    - Use Power Query for importing and transforming raw datasets.
2. **Advanced Excel BI Simulations:**
    - Practice What-If Analysis, Goal Seek, and Solver for business decision problems (e.g., breakeven analysis, loan repayment planning).
    - Build KPI templates and use conditional formatting for performance visualization.
3. **Tableau Visualization Lab:**
    - Connect Tableau to various data sources (Excel, CSV, Google Sheets).
    - Develop visualizations such as dual-axis charts, maps, and trend lines.
    - Build and publish dashboards using filters, parameters, and story points.
4. **BI Mini Project:**
    - Teams develop a BI project analyzing sectoral data (e.g., Retail, Banking, Healthcare) and present insights using Tableau dashboards and Excel analytics.
    - Include executive summary, KPIs tracked, and business recommendations.
5. **Real-Time Case-Based BI Analysis:**
    - Use a case scenario (e.g., employee attrition or customer churn) and apply both Excel and Tableau to derive insights.
    - Evaluate data cleanliness, visualization effectiveness, and decision relevance.

SEMESTER-V

COURSE 13 A: BUSINESS ANALYTICS USING EXCEL AND POWER BI

Theory **Credits: 3** **3 hrs/week**

Course Objectives

This course is designed to:

- Introduce the fundamentals of Business Analytics and data-driven decision-making.
- To train students in Excel-based analytics including data cleaning, transformation, and visualization.
- Equip learners with skills to use Power BI for real-time interactive data dashboards.
- Help students understand how to draw insights from data for business problem-solving.
- Develop analytical thinking and storytelling abilities using visual tools.

Course Outcomes

Upon successful completion, the student will be able to:

CO1: Understand the role of analytics in business problem-solving and strategic planning.

CO2: Use Excel for advanced analytics including pivot tables, statistical functions, and dashboards.

CO3: Transform, model, and visualize data using Power BI.

CO4: Interpret insights and present business intelligence reports using visual storytelling.

CO5: Apply analytics to domains such as Marketing, Finance, HR, and Operations.

SYLLABUS

Unit I: Introduction to Business Analytics

Definition and Importance of Business Analytics – Types: Descriptive, Predictive, Prescriptive – Analytics vs. Analysis – Business Analytics Life Cycle – Role of a Business Analyst – Data-Driven Decision Making – Data Sources – Case-based Applications.

Unit II: Data Analytics using Excel – Part I

Working with Raw Data – Data Cleaning & Structuring – Text Functions – Logical Functions (IF, AND, OR, IFERROR) – Lookup Functions (VLOOKUP, HLOOKUP, XLOOKUP, INDEX-MATCH) – Data Validation – Conditional Formatting – Named Ranges – Form Controls.

Unit III: Data Analytics using Excel – Part II

Pivot Tables and Charts – Slicers and Timelines – Power Query – Data Modeling with Power Pivot – What-if Analysis – Goal Seek, Solver – Statistical Tools in Excel – Excel Dashboards for KPI Tracking – Forecast Sheet – Exporting Reports.

Unit IV: Power BI – Data Loading and Modeling

Overview of Power BI Desktop and Power BI Service – Data Loading from Excel/CSV/Cloud – Data Transformation in Power Query Editor – Relationships and Data Modeling – Calculated Columns and Measures using DAX – Data Types and Hierarchies – Star Schema.

Unit V: Power BI – Visualization and Insights

Creating Interactive Visuals (Bar, Line, Pie, Cards, Maps, Gauge) – Filters and Slicers – Drill Down/Up – Tooltips and Bookmarks – Dashboard Design Principles – Publishing Reports to Power BI Service – Sharing and Collaborating – Case Study: Power BI Dashboard for Sales/Finance/HR Analytics.

Student-Centric Activities

- Mini-Project on Business Scenario Analysis: Students analyze a real or simulated business problem (e.g., sales performance, inventory control) using Excel functions (e.g., VLOOKUP, Pivot Tables, What-If Analysis) and visualize key metrics using Power BI dashboards.
- Data Cleaning Challenge in Excel: Students are given a raw dataset and asked to clean and organize the data using Power Query, Remove Duplicates, Data Validation, and other Excel tools, followed by importing into Power BI.
- Power BI Dashboard Competition: Students design an interactive dashboard in Power BI using slicers, cards, charts, and KPIs to present insights on a provided dataset (e.g., retail sales, customer feedback, or financials).
- Business Insights Presentation: Each student presents a data-driven story based on Excel/Power BI analysis, explaining trends, insights, and business implications to simulate stakeholder reporting.
- Group Activity: Excel vs Power BI Tools Debate: Student groups compare features and use-cases of Excel and Power BI for business analytics, culminating in a classroom debate with examples.

Reference Books

1. Winston, W. L. (2021). *Microsoft Excel Data Analysis and Business Modeling* (7th ed.). Microsoft Press.
2. Jablonski, D. (2022). *Data Analytics with Microsoft Excel: Building Data Models and Dashboards*. Apress.
3. Souder, M. (2023). *Beginning Power BI: A Practical Guide to Self-Service Data Analytics*. Apress.
4. Sharda, R., Delen, D., & Turban, E. (2020). *Business Intelligence, Analytics, and Data Science: A Managerial Perspective* (5th ed.). Pearson.
5. Padilla, J. (2023). *The Definitive Guide to DAX: Business Intelligence for Microsoft Power BI, SQL Server Analysis Services, and Excel* (3rd ed.). Microsoft Press.

SEMESTER-V

COURSE 13 A: BUSINESS ANALYTICS USING EXCEL AND POWER BI

Practical **Credits: 1** **2 hrs/week**

The following lab-based practical exercises are designed to reinforce theoretical knowledge through hands-on learning:

1. Excel Analytics Lab

- **Data Cleaning & Transformation:**
  - Clean messy business data using Flash Fill, Text to Columns, Remove Duplicates, and Data Validation.
- **Analytical Functions Practice:**
  - Apply IF, AND, OR, IFERROR, and nested formulas to solve business case questions.
  - Use lookup functions like VLOOKUP, HLOOKUP, XLOOKUP, INDEX & MATCH for dataset linkage.
- **Dashboards & Reports:**
  - Build a sales performance dashboard using PivotTables, PivotCharts, Slicers, and conditional formatting.
  - Perform scenario analysis using Goal Seek and Solver for forecasting or financial planning.

2. Power BI Fundamentals Lab

- **Data Import & Cleaning:**
  - Import sales/HR/finance datasets from Excel into Power BI.
  - Clean and transform data using Power Query Editor (e.g., remove nulls, split columns, change data types).
- **Data Modeling:**
  - Create relationships using Star Schema.
  - Create calculated columns and DAX measures (e.g., Total Sales, Profit Margin).

3. Power BI Visualization Projects

- **Build Interactive Dashboards:**
    - Visualize business metrics using cards, bar/line charts, maps, pie charts, slicers, and filters.
    - Apply drill-down, bookmarks, tooltips, and hierarchy features for layered insights.
- **Insight Reporting:**
    - Use dashboard output to prepare a brief business report summarizing key patterns and suggested decisions.

4. Business Case Study Project

- Mini-project on a domain of choice (Marketing/HR/Finance/Operations):
    - Analyze data in Excel, transform in Power BI, and visualize outcomes.
    - Present insights using storytelling techniques to simulate real-world stakeholder presentations.

5. Skill-Based Student Activities

- Weekly peer reviews on dashboard aesthetics, insights, and clarity.
- Weekly speed challenge on formula writing, data import, or chart creation.
- Mock client reporting using data-driven slides built from Excel/Power BI.

SEMESTER-V

COURSE 13 B: ACCOUNTING INFORMATION SYSTEM

Theory **Credits: 3** **3 hrs/week**

Course Objectives

This course is designed to:

- Provide conceptual and applied understanding of Accounting Information Systems (AIS) in a computerized environment.
- Enable students to use Microsoft Excel for recording, processing, and reporting accounting data.
- Develop practical skills in financial modelling, dashboards, and internal control using Excel.
- Expose students to analytical and reporting tools in Excel for decision support.
- Prepare students for technology-integrated accounting roles in organizations.

Course Outcomes

After completing this course, students will be able to:

CO1: Demonstrate a clear understanding of the role of AIS in business operations.
CO2: Record and process financial transactions using Excel templates.
CO3: Apply advanced Excel tools for analysis and reporting of accounting information.
CO4: Build control mechanisms and audit trails using Excel features.
CO5: Create dashboards and interactive MIS reports for financial decision-making.

Syllabus

UNIT I: Fundamentals of AIS and Excel for Accounting

Definition and Components of AIS – Manual vs. Computerized Accounting Systems – Importance of Excel in AIS – Excel Basics: Interface, Formatting, Formula Entry – Cell Referencing (Relative, Absolute) – Sheet Linking – Creating Basic Accounting Templates (Journal, Ledger, Trial Balance).

UNIT II: Transaction Processing in Excel

Preparation of Journal and Posting to Ledger in Excel – Trial Balance and Adjustments – Preparation of Trading, Profit & Loss Account and Balance Sheet – Linking Sheets for Dynamic Updates – Automating Final Accounts with Excel Formulas – Conditional Formatting for Alerts – Creating Templates for Recurring Use.

UNIT III: Data Analytics using Excel – Part II (Dashboards & Tools)

Pivot Tables and Charts – Slicers and Timelines – Power Query – Data Modelling with Power Pivot – What-if Analysis – Goal Seek, Solver – Statistical Tools in Excel – Excel Dashboards for KPI Tracking – Forecast Sheet – Exporting Reports.

UNIT IV: Internal Control and Audit Features in Excel

Internal Control in AIS – Data Validation Techniques – Drop-down Lists – Protecting Worksheets and Workbooks – Excel-based Audit Trails – Introduction to Excel Macros – Audit Schedules Using Excel – Error Handling Functions – Use of Track Changes and Comments for Audit Trails.

UNIT V: Management Reporting and MIS with Excel

MIS Reports: Types and Uses – Budget Preparation and Variance Analysis – Fund Flow and Cash Flow Analysis – Creating Management Dashboards – Graphical Reports – KPIs for Business Functions – Connecting Excel with External Data Sources – Exporting and Presenting Reports for Stakeholders.

Student-Centric Activities

- Design a Basic AIS in Excel: Students create a simple accounting system in Excel including journal entries, ledgers, trial balance, and financial statements using formulas and cell referencing.
- Simulate a Business Transaction Cycle: Students are assigned roles (sales, purchase, cashier, accountant) and record a full transaction cycle (from sales order to financial report) using AIS principles in Excel templates.
- Internal Controls Audit Exercise: Students review a mock Excel-based accounting system and identify missing or weak internal controls, then suggest corrective measures.
- AIS Case Study Analysis: Students study real-life AIS implementations (e.g., Tally, SAP, Quick Books) and compare their functionality to Excel-based AIS models.
- Group Presentation on AIS Modules: Teams present specific AIS modules (General Ledger, Inventory, Payroll, etc.) with examples of how Excel can be used to build or simulate these functions.

Reference Books

1. Romney, M. B., & Steinbart, P. J. (2021). *Accounting Information Systems* (15th ed.). Pearson Education.
2. Hurt, R. L. (2020). *Accounting Information Systems: Basic Concepts and Current Issues* (5th ed.). McGraw Hill.
3. Winston, W. L. (2019). *Microsoft Excel Data Analysis and Business Modeling* (6th ed.). Microsoft Press.
4. Collings, S., & Ameen, J. (2022). *Excel for Accountants* (2nd ed.). Kogan Page.
5. Purbhoo, M. (2021). *Excel-Based Accounting Information Systems for Small Businesses*. Routledge.

SEMESTER-V

COURSE 13 B: ACCOUNTING INFORMATION SYSTEM

Practical **Credits: 1** **2 hrs/week**

To enhance the theoretical understanding of Accounting Information Systems (AIS), the following hands-on lab activities are proposed:

1. Excel-Based Accounting Templates Lab

- Create Excel templates for:
  - **Journal Entries and Ledger Posting** with dynamic formulas
  - **Trial Balance** with auto-summing features
  - **Trading and Profit & Loss Account**
  - **Balance Sheet with auto-linking**
- Use **cell referencing** (relative and absolute) to ensure dynamic data updates across sheets.

2. Transaction Processing & Automation

- Simulate recording of a **complete business transaction cycle**:
  - Sales, Purchases, Returns, Payments, Receipts, and Adjustments
- Automate final accounts generation using:
  - **Excel functions** like SUMIF, IF, AND, OR, and nested formulas
  - **Named Ranges** for easy data handling

3. MIS and Dashboard Design

- Create **KPI Dashboards** using Pivot Tables, Charts, Slicers, and Conditional Formatting.
- Use **Goal Seek**, **Solver**, and **Forecast Sheet** for management analysis (e.g., break-even, budgeting).
- Develop **Graphical MIS Reports** for Cash Flow, Expenses, or Profitability using charts and trendlines.

4. Internal Control Simulation

- Apply **Data Validation** to restrict wrong entries (e.g., dropdowns for voucher types).
- Protect sheets/workbooks and track changes to simulate **audit trail**.
- Use **Comments, Notes, and Conditional Formatting** to indicate discrepancies.
- Create a basic **Macro** to automate repetitive entries.

5. Integrated AIS Project

- Create a mini AIS using Excel with:
  - Journals → Ledgers → Trial Balance → Final Accounts → MIS Reports
- Present the final integrated report as a **case study** simulating an organization's financial reporting process.

SEMESTER-VI

COURSE 14 A: AUDITING

Theory **Credits: 4** **4 hrs/week**

Course Objectives:
This course is designed to:

- Understand the fundamentals and importance of auditing.
- Identify and differentiate various types of audits.
- Learn audit planning procedures and internal control systems.
- Understand vouching and distinguish it from investigation.
- Gain knowledge of company audit and audit report preparation

Course Outcomes (CO):
Upon successful completion of this course, students will be able to:

CO1: Understand the meaning, objectives, and importance of auditing, and differentiate auditing from book-keeping and accounting, emphasizing the auditor's role in detecting corporate frauds.

CO2: Identify and distinguish various types of audits based on ownership, timing, and objectives, including statutory and specialized audits.

CO3: Apply knowledge of audit planning processes including audit programmes, working papers, audit evidence, and systems of internal check, control, and internal audit.

CO4: Understand the principles and procedures of vouching for different business transactions and differentiate between auditing and investigation.

CO5: Explain the legal provisions related to company audit including auditor qualifications, appointment, rights, responsibilities, and the structure and contents of an audit report under the Companies Act, 2013.

SYLLABUS

Unit I: Introduction
Meaning – Objectives – Importance of Auditing – Characteristics – Book Keeping vs Auditing - Accounting vs Auditing – Role of Auditor in Checking Corporate Frauds.

Unit II: Types of Audits
Based on Ownership, Time and Objective - Independent, Financial, Internal, Cost, Tax, Government, Secretarial Audits.

Unit III: Planning of Audit
Steps to be taken at the Commencement of a New Audit – Audit Programme - Audit Note Book– Audit Working Papers - Audit Evidence - Internal Check, Internal Audit and Internal Control.

Unit IV: Vouching and Investigation
Definition and Importance of Vouching – Objectives of Vouching -Vouching of Cash andTrading Transactions – Investigation - Auditing vs. Investigation.

Unit V: Company Audit and Auditors Report
Auditor's Qualifications – Appointment and Reappointment – Rights, Duties, Liabilities and Disqualifications - Audit Report: Contents –Preparation - Relevant Provisions of Companies Act, 2013.

Activities:

- Prepare a comparative chart on Bookkeeping vs Accounting vs Auditing.
- Create a presentation on different types of audits with real-life examples.
- Draft a sample audit programme and audit working papers for a small business.
- Practice vouching with sample cash and trading transaction documents.
- Prepare a mock audit report based on Companies Act, 2013 provisions

References:

1. Basu, S. K. (2013). *Fundamentals of auditing*. PHI Learning.
2. Kumar, P., Sachdeva, B., & Singh, J. (2022). *Auditing: Theory and practice* (Latest ed.). Kalyani Publishers.
3. Kapoor, N. D. (2022). *Auditing* (Latest ed.). S. Chand & Company Ltd.
4. Saxena, R. G. (2021). *Principles and practice of auditing* (Latest ed.). Himalaya Publishing House.
5. Gupta, P. (2010). *Internal auditing practices in India: Effectiveness, independence and benefits*. MPG Books.

SEMESTER-VI

COURSE 14 B: FINANCIAL INSTITUTIONS AND MARKETS

Theory **Credits: 4** **4 hrs/week**

Course Objectives

1. To provide knowledge about the structure, role, and functioning of financial institutions and markets in India.
2. To acquaint students with the regulatory framework governing financial systems.
3. To understand the operations of money and capital markets.
4. To explore the functioning and significance of banking and non-banking institutions.
5. To enable students to analyze the role of financial institutions and instruments in economic development.

Course Outcomes

Upon completion of the course, students will be able to:

1. Explain the evolution, structure, and role of financial institutions and markets in India.
2. Analyze the regulatory framework and its impact on financial markets.
3. Differentiate between various segments of money and capital markets.
4. Examine the role of commercial banks, development banks, and NBFCs in the financial system.
5. Assess the impact of global financial developments on Indian markets.

Syllabus

UNIT I: Introduction to Financial System

Structure of the Indian Financial System – Financial Institutions, Financial Markets, Financial Instruments – Role and Functions of Financial System – Financial Sector Reforms – Regulatory Framework: RBI, SEBI, IRDA, PFRDA – Overview of Financial Services.

UNIT II: Money Market

Concept and Functions of Money Market – Features and Structure – Components of Money Market: Call Money Market, Treasury Bills Market, Commercial Paper, Certificates of Deposit, Repo and Reverse Repo Markets – Role of RBI in Money Market Regulation.

UNIT III: Capital Market

Capital Market: Meaning, Structure, and Functions – Primary and Secondary Markets – Stock Exchanges – Instruments of Capital Market – Listing of Securities – SEBI Guidelines – NSE and BSE – Role of Clearing Corporation and Depositories (NSDL, CDSL).

UNIT IV: Financial Institutions

Commercial Banks – Public and Private Sector Banks – Cooperative Banks – Regional Rural Banks – Development Financial Institutions: NABARD, SIDBI, EXIM Bank, IFCI – Non-Banking Financial Companies (NBFCs) – Mutual Funds – Credit Rating Agencies.

UNIT V: Global Financial Environment and Emerging Trends

International Financial Institutions: IMF, World Bank, ADB – Foreign Capital Flows: FDI and FII – Global Financial Markets – Eurocurrency Markets – Derivatives Market – FinTech and Digital Innovations in Financial Services – Financial Inclusion.

Recommended Reference Books

1. Bhole, L. M., & Mahakud, J. (2017). *Financial institutions and markets* (6th ed.). McGraw Hill Education.
2. Pathak, B. V. (2018). *The Indian financial system: Markets, institutions and services* (5th ed.). Pearson Education.
3. Khan, M. Y. (2021). *Indian financial system* (11th ed.). McGraw Hill Education.
4. Gurusamy, S. (2019). *Financial markets and institutions* (4th ed.). Tata McGraw Hill.
5. Machiraju, H. R. (2020). *Indian financial system* (5th ed.). Vikas Publishing House.

SEMESTER-VI

COURSE 15 A: INCOME TAX

Theory **Credits: 4** **4 hrs/week**

Course Objectives (CO):
This course is designed to:

- Acquire the complete knowledge of the tax evasion, tax avoidance and tax planning.
- Understand the provisions and compute income tax for various sources.
- Grasp amendments made from time to time in Finance Act.
- Compute total income and define tax complicacies and structure.
- Prepare and File IT returns of individual at his own.

Course Outcomes:
Upon successful completion of this course, students will be able to:
CO1: Understand the basic concepts and definitions under the Income Tax Act, 1961, including person, assessee, income, residential status, and tax exemption provisions.

CO2: Compute taxable salary income by applying relevant provisions related to allowances, perquisites, and deductions.

CO3: Analyze and calculate taxable income from house property and business/profession, distinguishing capital and revenue expenses.

CO4: Apply rules for computing capital gains and income from other sources, identifying long-term and short-term classifications.

CO5: Integrate various heads of income to compute the total taxable income of an individual with accuracy.

SYLLABUS

Unit-I: Introduction
Income Tax Act-1961 - Basic Concepts: Income, Person, Assessee -Assessment Year, Previous Year, Rates of Tax, Agricultural Income, Residential Status of Individual -Incidence of Tax – Incomes Exempt from Tax (Theory only).

Unit-II: Income from Salaries
Basis of Charge- Components of Salary- Allowances, Perquisites, Profits in Lieu of Salary, Deductions from Salary Income, Computation of Salary Income (including problems).

Unit-Ill: Income from House Property and Profits and Gains from Business
Annual Value, Let-out/Self Occupied/Deemed to be Let-out house -Deductions from Annual Value -Computation of Income from House Property Definition of Business and Profession Procedure for Computation of Income from Business – Revenue and Capital Nature of Incomes and Expenses – Admissible and Inadmissible Expenses – Expenses Expressly Disallowed – Computation (including problems).

Unit-IV: Income from Capital Gains - Income from Other Sources
Meaning of Capital Asset – Types – Procedure for Computation of Long-term and Short-term Capital Gains/Losses Meaning of Other Sources - General Incomes – Specific Incomes – Computation (including problems).

Unit-V: Computation of Total Income of an Individual
Computation of Total Income (Simple problems)
Activities

- Practice of provisions of Taxation
- Visit a Tax firm
- Talk on Finance Bill at the time of Union Budget
- Guest lecture by Chartered Accountant
- Presentation of tax rates
- Practice of filing IT Returns online

References:

1. Singhania, V. K., & Singhania, M. (2024). *Students' guide to income tax (including GST)*. Taxmann Publications.
2. Mehrotra, H. C., & Goyal, S. P. (2023). *Income tax: Law and accounts*. Sahitya Bhawan Publications.
3. Lal, B. B., & Vashisht, N. (2023). *Income tax and tax planning*. Pearson Education.
4. Reddy, T. S., & Reddy, Y. H. P. (2023). *Taxation*. Margham Publications.
5. Ahuja, G., & Gupta, R. (2024). *Systematic approach to income tax*. Bharat Law House.

SEMESTER-VI

COURSE 15 B: FINANCIAL PLANNING

Theory **Credits: 4** **4 hrs/week**

Course Objectives

1. To introduce students to the concept and importance of financial planning in personal and professional life.
2. To enable students to develop budgeting, saving, and investment strategies.
3. To familiarize learners with insurance planning, tax planning, and retirement planning.
4. To equip students with the knowledge to evaluate financial products and services.
5. To instill financial discipline and help in creating short-term and long-term financial goals.

Course Outcomes

By the end of the course, students will be able to:

1. Understand the process and significance of personal and corporate financial planning.
2. Apply budgeting and saving strategies for effective money management.
3. Evaluate various investment avenues and develop appropriate investment plans.
4. Assess insurance, tax, and retirement planning needs.
5. Design a comprehensive financial plan tailored to different life stages.

Unit I: Introduction to Financial Planning

Concept of Financial Planning – Objectives and Importance – Steps in Financial Planning – Time Value of Money – Role of Financial Planner – Legal and Ethical Aspects of Financial Planning – Financial Goals and Risk Profiling.

Unit II: Budgeting and Savings

Budgeting Process – Types of Budgets – Creating a Household Budget – Importance of Savings – Emergency Fund Planning – Saving Instruments – Bank Deposits, Recurring Deposits, Fixed Deposits, PPF, NSC – Financial Discipline.

Unit III: Investment Planning

Investment Objectives – Risk-Return Analysis – Asset Allocation – Types of Investments: Equity, Bonds, Mutual Funds, Real Estate, Gold – SIPs and Portfolio Management – Factors Affecting Investment Decisions – Use of Robo-Advisors.

Unit IV: Insurance and Tax Planning

Concept of Insurance – Types of Insurance: Life, Health, Property, Liability – Principles of Insurance – Tax Planning: Basic Concepts – Tax Saving Instruments under Sections 80C, 80D, 10(10D) – Filing Income Tax Returns – Tax Planning for Salaried and Business Professionals.

Unit V: Retirement and Estate Planning

Retirement Planning: Importance, Estimating Retirement Needs – Retirement Products: EPF, PPF, NPS, Annuities – Estate Planning: Wills, Trusts, Nomination – Succession Planning – Legal and Regulatory Framework.

Reference Books

1. Kapoor, J. R., Dlabay, L. R., & Hughes, R. J. (2021). *Personal finance* (13th ed.). McGraw Hill Education.
2. Gitman, L. J., Joehnk, M. D., & Billingsley, R. S. (2020). *Personal financial planning* (14th ed.). Cengage Learning.
3. Sinha, M. (2022). *Financial planning: A ready reckoner*. Taxmann Publications.
4. Keown, A. J. (2022). *Personal finance: Turning money into wealth* (8th ed.). Pearson Education.
5. Bhargava, B. S. (2020). *Financial planning for individuals*. Himalaya Publishing House.

SEMESTER-VII

COURSE 16: ACCOUNTING FOR SERVICE ORGANISATIONS

Theory **Credits: 4** **4 hrs/week**

Course Objectives:
This course is designed to:

- Introduce the conceptual framework of accounting practices for service organisations.
- Enable students to prepare and analyse financial statements of various service sectors.
- Impart knowledge of revenue and expense recognition applicable to service entities.
- Familiarise students with sector-specific reporting systems such as in hospitals, hotels, and educational institutions.
- Develop practical skills in using accounting software for service organisation transactions.

Course Outcomes (COs):
At the end of the course, the student will be able to:

CO1: Understand the concept, characteristics, and regulatory framework of accounting for service organisations and distinguish it from goods-based accounting.

CO2: Prepare financial statements for educational institutions by applying principles of fund-based accounting and recognising various income streams.

CO3: Apply accounting techniques for hospitals and healthcare organisations by identifying revenue sources and cost elements, and preparing income and expenditure accounts.

CO4: Prepare departmental accounts and final accounts for hotels and hospitality organisations using industry-standard practices such as USALI.

CO5: Record and analyse financial transactions in transport and miscellaneous services and demonstrate the use of accounting software for service organisations.

SYLLABUS

Unit I: Introduction to Accounting for Service Organisations

Meaning and Characteristics of Service Organisations – Difference between Goods and Services Accounting – Need and Scope of Service Sector Accounting – Regulatory Framework for Service Organisations – Applicable Accounting Standards (Overview) – Preparation of Basic Financial Statements for Service Entities

Unit II: Accounting for Educational Institutions

Nature of Educational Institutions – Types of Income: Fees, Donations, Grants – Accounting for Scholarships and Endowments – Preparation of Income and Expenditure Account and Balance Sheet – Fund-Based Accounting (General Fund, Capital Fund)

Unit III: Accounting for Hospitals and Health Services

Types of Healthcare Institutions – Sources of Revenue: Patient Fees, Grants, Donations – Accounting for Consumables and Medicines – Preparation of Income and Expenditure Account and Balance Sheet – Budgeting and Cost Control in Hospitals

Unit IV: Accounting for Hotels and Hospitality Organisations

Revenue Streams: Room Rent, Restaurant, Event Services – Departmental Accounting in Hotels – Treatment of Tips and Service Charges – Uniform System of Accounts for the Lodging Industry (USALI) – Preparation of Final Accounts for Hotels

Unit V: Accounting for Transport and Miscellaneous Services

Types of Transport Services – Revenue and Cost Structure in Transport Accounting – Ticketing, Freight, and Fuel Accounting – Accounting for Other Services: Consultancy, Legal, Telecom – Application of Accounting Software (Tally/ERP) in Service Sector

Activities:

- Field Visit to a local service organisation (hospital, hotel, school, or transport company) to observe real-time accounting practices.
- Preparation of Sample Accounts (Income & Expenditure, Receipts & Payments, Balance Sheets) for different service entities using dummy data.
- Group Presentations on sector-specific accounting practices (e.g., hotel vs. hospital accounting).
- Guest Lecture by an industry expert or CA specializing in service industry audits.
- Seminar on Uniform Systems of Accounting, especially in hospitality and education sectors.

Reference Text books

1. Maheshwari, S. N., & Maheshwari, S. K. (2021). *Advanced accountancy* (Vol. 2). Vikas Publishing House.
2. Tulsian, P. C. (2018). *Financial accounting*. Pearson Education.
3. Gupta, R. L., &Radhaswamy, M. (2020). *Advanced accountancy*. Sultan Chand & Sons.
4. Arora, M. N. (2022). *Cost and management accounting*. Himalaya Publishing House.
5. Horngren, C. T., Datar, S. M., & Rajan, M. V. (2022). *Cost accounting: A managerial emphasis*. Pearson.

SEMESTER-VII

COURSE 17: INDIAN ACCOUNTING STANDARDS (Ind AS)

Theory **Credits: 4** **4 hrs/week**

Course Objectives:
This course is designed to:

- Introduce the conceptual and legal framework for Ind AS implementation in India.
- Provide a comprehensive understanding of the presentation and disclosure requirements under Ind AS.
- Enable students to apply Ind AS in recognising and measuring assets, liabilities, income, and expenses.
- Tain students in applying revenue recognition, financial instrument, and group reporting standards.
- Analyse emerging issues in Ind AS with reference to real-world financial reporting.

Course Outcomes:
Upon successful completion of this course, students will be able to:

CO1: Understand the need for IFRS convergence, the regulatory framework governing Ind AS, and the applicability and adoption roadmap under the Companies Act, 2013.

CO2: Apply disclosure and presentation standards (Ind AS 1, 7, 8, 10, 24) to financial statements in accordance with Ind AS requirements.

CO3: Evaluate and account for various assets including property, plant, equipment, intangibles, and discontinued operations as per applicable Ind AS.

CO4: Recognise and measure revenues, provisions, and financial instruments using Ind AS 115, 37, 32, 107, and 109 including fair value and amortised cost methods.

CO5: Analyse group accounting standards, business combinations, joint arrangements, and emerging areas like leases, share-based payments, and first-time adoption of Ind AS.

SYLLABUS

Unit I: Introduction to Ind AS and Regulatory Framework

Need and Objectives of Convergence with IFRS – Introduction to Indian Accounting Standards – Legal Framework under Companies Act, 2013 – Role of MCA, ICAI, NFRA – Applicability of Ind AS to Companies – Roadmap for Ind AS Adoption – Structure of Financial Statements as per Schedule III

Unit II: Presentation and Disclosure Standards

Ind AS 1: Presentation of Financial Statements – Ind AS 7: Statement of Cash Flows – Ind AS 8: Accounting Policies, Changes in Accounting Estimates and Errors – Ind AS 10: Events after the Reporting Period – Ind AS 24: Related Party Disclosures – Concepts, Formats, and Disclosure Requirements.

Unit III: Asset Measurement and Recognition

Ind AS 16: Property, Plant and Equipment – Ind AS 38: Intangible Assets – Ind AS 105: Non-Current Assets Held for Sale and Discontinued Operations – Ind AS 36: Impairment of Assets – Measurement Criteria, Recognition, Depreciation, Impairment, and Disclosure Requirements

Unit IV: Revenue, Provisions and Financial Instruments

Ind AS 115: Revenue from Contracts with Customers – Ind AS 37: Provisions, Contingent Liabilities and Contingent Assets – Financial Instruments: Ind AS 32 (Presentation), Ind AS 107 (Disclosures), and Ind AS 109 (Recognition and Measurement) – Application of Amortised Cost, Fair Value, and Risk Disclosure

Unit V: Group Accounting and Emerging Trends

Ind AS 103: Business Combinations – Ind AS 110: Consolidated Financial Statements – Ind AS 111: Joint Arrangements – Ind AS 112: Disclosure of Interests in Other Entities – Overview of Ind AS 116 (Leases), Ind AS 102 (Share-based Payments), and Ind AS 101 (First-time Adoption of Ind AS) – Recent Developments and Implementation Challenges.

Activities:

1. Comparative Analysis Projects: Prepare a report comparing AS, Ind AS, and IFRS for selected standards (e.g., revenue recognition, PPE, leases).
2. Financial Statement Review: Analyse published financial statements of listed Indian companies prepared under Ind AS (e.g., Reliance Industries, Infosys, etc.).
3. Mock Presentations: Group presentations simulating boardroom disclosures and notes to accounts using Ind AS Schedule III format.
4. Guest Lectures/Webinars: Organise talks by practicing Chartered Accountants or financial reporting analysts on Ind AS implementation challenges.
5. Case Study Discussions: Solve studies on transition to Ind AS, revenue recognition under Ind AS 115, or financial instruments reporting.

References:

1. Ghosh, T. P. (2023). *Illustrated guide to Indian Accounting Standards (Ind AS)*. Taxmann Publications.
2. ICAI. (2023). *Ind AS: Study material and implementation guidance*. Institute of Chartered Accountants of India.
3. Maheshwari, S. N., & Maheshwari, S. K. (2021). *Corporate accounting* (6th ed.). Vikas Publishing House.
4. Tulsian, P. C. (2020). *Financial reporting*. Pearson Education.
5. Bhandari, K. V. (2022). *Ind AS and IFRS: Practical approach*. Bharat Law House Pvt. Ltd.

SEMESTER-VII

COURSE 18: PROGRAMMING WITH C & C++

Theory **Credits: 3** **3 hrs/week**

Course Objectives

This course is designed to:

1) Develop logical thinking and problem-solving skills to design and implement solutions using C and C++.
2) Apply appropriate data structures (e.g., linked lists, stacks, queues, trees) to solve various computing problems.
3) Develop and executing C++ programs in a practical environment.
4) Develop logical thinking and problem-solving skills to design and implement solutions using C and C++.
5) Develop Applying and executing C++ programs in a practical environment.

Course Outcomes:

CO1. Apply C and C++ Language basic concepts in constructing simple programs
CO2. Be able to write the program, edit, compile, debug, correct, recompile and run in
CO3. To design an algorithm for the given problem
CO4. To write a C and C++.program for a given algorithm
CO5. Construct top down structured c program using functions

Unit - I :Introduction and Control Structures

History of 'C' - Structure of C program – C character set, Tokens, Constants, Variables, Keywords, Identifiers – C data types - C operators - Standard I/O in C - Applying if and Switch Statements

Unit -II :LoopsAnd Arrays

Use of While, Do While and For Loops - Use of Break and Continue Statements - Array Notation and Representation - Manipulating Array Elements - Using Multi Dimensional Arrays

Unit - III :Strings and Functions

Declaration and Initialization of String Variables - String Handling Functions -Defining Functions - Function Call - Call By Value, Call By Reference – Recursion

Unit IV: Classes and Objects

Introduction to OOP and its basic features - C++ program structure - Classes and objects - Friend Functions-Constructor – Types of constructors – Destructors.

Unit V: Inheritance

Inheritance - Types of Inheritance -Types of derivation- Public – Private - Protected Hierarchical Inheritance - Multilevel Inheritance – Multiple Inheritance - Hybrid Inheritance

Student Centric Activities

- Mini Projects in C/C++: Develop simple applications such as a calculator, quiz program, student database, or library management system.
- Pair Programming Sessions: Practice writing and debugging C/C++ code in pairs to enhance peer learning and logical thinking.
- Code Debugging Contests: Conduct timed competitions where students identify and fix bugs in pre-written C/C++ programs.
- Lab Journals and Weekly Assignments: Maintain a coding journal with programs for different concepts like loops, functions, structures, arrays, and pointers.
- Presentation on C++ OOP Concepts: Students give a short presentation or demo explaining core concepts such as classes, inheritance, polymorphism, and encapsulation using code examples.

References:

1. Kanetkar, Y. (2021). *Let us C* (18th ed.). BPB Publications.
2. Balagurusamy, E. (2019). *Programming in ANSI C* (8th ed.). McGraw-Hill Education.
3. Schildt, H. (2017). *C++: The complete reference* (4th ed.). McGraw-Hill Education.
4. Stroustrup, B. (2013). *The C++ programming language* (4th ed.). Addison-Wesley.
5. Venugopal, K. R., & Prasad, S. R. (2007). *Mastering C++*. McGraw-Hill Education.

SEMESTER-VII

COURSE 18: PROGRAMMING WITH C & C++

Practical **Credits: 1** **2 hrs/week**

To complement theoretical learning, the following lab-based practical activities are suggested:

1. C Programming Practice

- **Basic Programs:**
  - Write programs to demonstrate variables, data types, operators, and input/output operations.
  - Example: Program to swap two numbers, calculate factorial, sum of digits, etc.
- **Control Structures:**
  - Programs using if, else, switch, nested if, and conditional logic.
  - Example: Grading system, calculator using switch-case.
- **Loops and Arrays:**
  - Practice with for, while, and do-while loops.
  - Arrays: One-dimensional and two-dimensional arrays for matrix operations, searching, and sorting.

2. String Manipulation and Functions

- Programs using standard string functions: strlen(), strcpy(), strcmp(), etc.
- Develop user-defined functions to modularize code.
- Implement recursion (e.g., Fibonacci, factorial).
- Distinguish between call by value and call by reference.

3. C++ Programming Labs

- **OOP Concepts in Practice:**
  - Create classes and objects with member functions.
  - Demonstrate encapsulation and data abstraction.
- **Constructors and Destructors:**
  - Use default, parameterized, and copy constructors.
  - Write programs with destructors to manage memory.

4. Inheritance and Friend Functions

- Practice programs on:
    - Single, multilevel, and multiple inheritance.
    - Access specifiers: public, private, and protected.
    - Friend functions and their usage for cross-class access.

5. Mini Projects and Real-Time Simulations

- Group/individual mini-projects using C/C++:
    - Examples:
        - **Student Management System**
        - **Banking Application**
        - **Quiz Game**
        - **Library Management System**
        - **Billing System**
- Integrate multiple concepts: arrays, functions, file handling (optional extension), classes, and inheritance.

Tools Required

- Code::Blocks / Turbo C++ / Dev C++ / Online IDEs (Repl.it, GeeksforGeeks IDE)
- Whiteboard or shared document for algorithm/pseudocode planning.

Evaluation Strategy

- Weekly Lab Journal (Programs and Output Snapshots)
- Internal Practical Exam (based on Unit-wise programming)
- Viva Voce (based on lab work and mini project)
- Mini Project Evaluation (code correctness + presentation)

SEMESTER-VIII

COURSE 19: ADVANCED COST AND MANAGEMENT ACCOUNTING

Theory **Credits: 4** **4 hrs/week**

Course Objectives:

This course is designed to:

- Understand the conceptual and practical aspects of marginal costing and its applications in decision-making.
- The procedures of standard costing and perform variance analysis for effective cost control.
- Gain knowledge on budgeting techniques and budgetary control mechanisms for planning and control.
- Understand and analyse the fund flow statement to interpret changes in the financial position of an organization.
- Prepare and interpret cash flow statements as per Accounting Standard 3 (AS-3) to evaluate the liquidity position of a firm.

Course Outcomes (COs):

Upon successful completion of this course, students will be able to:

CO1: Explain the concept of marginal costing and apply CVP analysis and break-even analysis in decision- making.

CO2: Calculate and analyse material, labour, overhead, and sales variances using standard costing techniques.

CO3: Prepare various types of budgets and implement budgetary control systems for financial planning.

CO4: Construct and interpret fund flow statements to identify the sources and uses of funds.

CO5: Prepare cash flow statements as per AS-3 and differentiate between cash flow and fund flow statements.

SYLLABUS

UNIT-I: MARGINAL COSTING

Meaning – Importance – Marginal Cost Equation – Difference between Marginal Costing and Absorption Costing: Differential Costing– Application of Marginal Costing – CVP Analysis – Break Even Analysis: Meaning – Assumptions – Importance – Limitations.(Including Problems)

UNIT-II: STANDARD COSTING AND VARIANCE ANALYSIS

Standard Costing: Meaning – Importance – Standard Costing and Historical Costing – Steps involved in Standard Costing. Variance Analysis: Material variance – Labour variance – Overhead variance – Sales variance. (Including Problems)

UNIT-III: BUDGETS AND BUDGETARY CONTROL

Budget: Meaning – Objectives – Advantages and Limitations – Essentials of Budgets – Budgetary Control – Classification of Budgets – Preparation of Budgets. (Including Problems)

UNIT-IV Funds Flow Analysis

Meaning and Concept of Working Capital (Fund) – Funds Flow Statement –Meaning and Uses of Funds Flow Statement – Preparation of Funds Flow Statement. (Including Problems)

UNIT – V: Cash Flow Analysis as per AS3

Cash Flow Statement – Meaning and Uses of Cash Flow Statement – Preparation of Cash Flow Statement – Difference between Cash Flow Statement and Funds flow Statement. (Including Problems)

Activities:

- Break-Even Analysis Project – Prepare a break-even chart using marginal costing and CVP analysis.
- Variance Calculation Workshop – Calculate and interpret material, labour, and overhead variances.
- Budget Preparation Assignment – Draft a functional budget for a business scenario.
- Fund Flow Case Study – Analyze balance sheets and prepare a fund flow statement.
- Cash Flow Statement Activity – Prepare a cash flow statement as per AS-3 and compare it with fund flow.

References:

1. Sharma, R. K., & Gupta, S. K. (2023). *Management accounting: Principles & practice* (Latest ed.). Kalyani Publishers.
2. Jain, S. P., & Narang, K. L. (2022). *Advanced cost and management accounting* (Latest ed.). Kalyani Publishers.
3. Kaplan, R. S., & Atkinson, A. A. (2015). *Advanced management accounting* (3rd ed.). Pearson Education.
4. Horngren, C. T., Datar, S. M., & Rajan, M. V. (2018). *Cost accounting: A managerial emphasis* (15th ed.). Pearson Education.
5. Drury, C. (2017). *Management and cost accounting* (10th ed.). Cengage Learning.

SEMESTER-VIII

COURSE 20: FORENSIC ACCOUNTING

Theory **Credits: 4** **4 hrs/week**

Course Objectives:
This course is designed to:

- Introduce the fundamentals and scope of forensic accounting and its growing relevance in financial fraud detection and litigation support.
- Equip students with skills to identify and analyse fraudulent activities using forensic tools and investigative techniques.
- Familiarize learners with legal procedures, ethical standards, and financial crime legislation.
- Enable learners to apply forensic techniques in corporate investigations, digital fraud, and money laundering cases.
- Develop a sound understanding of data analytics and technology in modern forensic accounting.

Course Outcomes (CO):
Upon successful completion of this course, students will be able to:
CO1: Understand the role of forensic accounting in detecting, investigating, and preventing financial fraud.
CO2: Identify types of fraud and apply investigative procedures using accounting evidence.
CO3: Interpret laws and ethical frameworks related to forensic audits and financial crimes.
CO4: Use forensic tools and techniques to analyse complex financial transactions.
CO5: Gain practical knowledge on forensic accounting.

SYLLABUS

Unit I: Introduction to Forensic Accounting

Definition, Nature, and Scope of Forensic Accounting – Differences between Forensic Accounting and Auditing – Evolution and Development of Forensic Accounting – Types of Frauds and Financial Crimes – Importance of Forensic Accounting in Modern Business Environment

Unit II: Tools and Techniques of Forensic Accounting

Forensic Techniques: Document Verification, Data Mining, Ratio Analysis, Benford's Law – Investigative Methods and Interviews – Red Flags and Symptoms of Financial Fraud – Forensic Audit Trail – Role of Internal Controls – Case Studies on Fraud Detection

Unit III: Legal and Regulatory Framework

Overview of Indian Legal Provisions Related to Fraud- Companies Act, 2013- Indian Penal Code- Prevention of Corruption Act- Money Laundering Act (PMLA)- Income Tax and GST Fraud Provisions- Role of Enforcement Agencies: CBI, SFIO, ED, SEBI, and RBI

Unit IV: Corporate Fraud and Forensic Investigation Process

Types of Corporate Fraud: Misappropriation, Falsification of Records, Insider Trading – Fraud Risk Management – Steps in Forensic Investigation – Reporting and Documentation – Role of Forensic Accountant in Court Proceedings – Expert Witness

Unit V: Technology and Forensic Accounting

Use of Digital Tools and Data Analytics in Forensic Accounting – Computer-Assisted Audit Techniques (CAATs) – Cyber Fraud and Digital Forensics – Block chain and its Impact on Fraud Prevention – Emerging Trends in Forensic Accounting

Activities:

- Conduct mock forensic investigations using sample data.
- Case study analysis of major Indian and global corporate frauds (e.g., Satyam, Enron).
- Organize student-led debates or role-plays on ethical issues in forensic investigations.
- Guest lecture by a forensic accountant or law enforcement officer.
- Field visit to auditing firms or economic offenses wings.

References:

1. Bologna, G. J., & Lindquist, R. J. (1995). *Fraud auditing and forensic accounting* (2nd ed.). Wiley.
2. Dutta, S. K. (2022). *Forensic accounting: Principles and practice*. Taxmann Publications.
3. Crumbley, D. L., Heitger, L. E., & Smith, G. S. (2015). *Forensic and investigative accounting* (8th ed.). CCH Incorporated.
4. Singh, K. (2021). *Forensic accounting and fraud examination*. Dreamtech Press.
5. Tiwari, B. (2020). *Forensic accounting*. New Age International Publishers.

SEMESTER-VIII

COURSE 21: WEB TECHNOLOGY FOR BUSINESS

Theory **Credits: 3** **3 hrs/week**

Course Objectives

This course is designed to:

- Introduce the fundamentals of web technologies and their role in modern business environments.
- Develop skills in designing static and dynamic web pages using HTML, CSS, and JavaScript.
- Explore server-side scripting and database integration relevant to business applications.
- Familiarize students with hosting, domain management, and web analytics.
- Enable the creation and management of basic e-business websites and digital interfaces.

Course Outcomes

Upon completion, students will be able to:

CO1: Understand web architecture and protocols used in business communication.
CO2: Design and develop user-friendly, responsive web pages for business use.
CO3: Apply client-side and server-side scripting to business-oriented web solutions.
CO4: Integrate databases with web applications for transaction processing.
CO5: Analyze website performance and manage online presence for business growth.

Syllabus

UNIT I: Basics of Web and Internet Technology

Evolution of Web – Internet, Intranet, Extranet – Web Browsers and Servers – HTTP, HTTPS, DNS – Structure of a Website – Domain Names and Hosting – Introduction to Web 1.0, 2.0, 3.0 – Role of Web Technology in E-business – Business Applications of Web.

UNIT II: HTML and CSS for Business Websites

HTML Basics: Elements, Tags, Attributes – Formatting Text, Tables, Lists, Hyperlinks, Images, Forms – HTML5 Features – Introduction to CSS – Inline, Internal, External CSS – Styling Elements, Layout Design – Responsive Web Design using Media Queries – Business Homepage Design Project.

UNIT III: JavaScript and Client-Side Scripting

Introduction to JavaScript – Variables, Operators, Control Structures, Functions – DOM Manipulation – Form Validation using JavaScript – Introduction to Bootstrap for UI Design – Creating Interactive Business Forms – JavaScript in Business Analytics Dashboards.

UNIT IV: Server-Side Technologies and Database Integration

Introduction to PHP or Node.js – Embedding Server-Side Code in HTML – Form Handling – Introduction to MySQL/PostgreSQL – Connecting Database to Website – Creating Dynamic Business Webpages – CRUD Operations – E-commerce Transaction Flow Design.

UNIT V: Web Hosting, SEO, and Analytics

Web Hosting Platforms (Free and Paid) – FTP Tools – Uploading and Managing Website – Basics of SEO – Keyword Optimization – Google Search Console and Google Analytics – Site Performance Metrics – Security Essentials (SSL, HTTPS, Captcha) – Managing a Small Business Website.

Student-Centric Activities

- Website Development Project: Each student designs and develops a basic business website using HTML, CSS, and JavaScript (e.g., a product catalogue, service page, or start-up landing page).
- CMS Hands-on Workshop: Practical session using Word Press to create a functional business blog or small e-commerce site using themes, plugins, and contact forms.
- Web Hosting & Deployment Demo: Students perform domain purchase simulations, configure cPanel, upload their websites using FTP, and test site performance live.
- Digital Audit Presentation: Group activity to evaluate real-time business websites for usability, SEO, mobile responsiveness, and suggest improvements.
- Web Technology Quiz/Game-Based Learning: Conduct online quizzes or interactive games (like Kahoot) covering HTML tags, CSS rules, JavaScript syntax, and web business terms.

Reference Books

1. Sebesta, R. W. (2018). *Programming the World Wide Web* (8th ed.). Pearson Education.
2. Duckett, J. (2011). *HTML and CSS: Design and Build Websites*. Wiley.
3. Meloni, J. C. (2018). *PHP, MySQL & JavaScript All-in-One* (6th ed.). Sams Publishing.
4. Flanagan, D. (2020). *JavaScript: The Definitive Guide* (7th ed.). O'Reilly Media.
5. Beighley, L., & Morrison, M. (2021). *Head First PHP & MySQL* (2nd ed.). O’Reilly Media.

SEMESTER-VIII

COURSE 21: WEB TECHNOLOGY FOR BUSINESS

Practical **Credits: 1** **2 hrs/week**

To complement theoretical knowledge with applied skills, the following lab-based practical activities are recommended:

I. HTML & CSS Practice

- **Design a Static Business Website**
  - Create a homepage with company logo, navigation menu, business introduction, and contact form.
  - Add a product/service list using tables and images.
  - Format the layout with CSS (inline, internal, external styles).
  - Apply media queries for responsive design.
- **Sample Tasks:**
  - Develop a startup landing page.
  - Create a personal portfolio site for a freelancer or consultant.

II. JavaScript and UI Interactions

- **Client-Side Functionalities:**
  - Form validation using JavaScript (e.g., login, feedback, or registration forms).
  - Interactive components like sliders, dropdowns, and popups.
  - DOM manipulation for dynamic UI behavior (e.g., color switcher, dynamic content loading).
- **Sample Tasks:**
  - Create a quote calculator for a business service.
  - Build a rating system for customer feedback.

III. Server-Side Scripting & Database Integration

- **PHP or Node.js with MySQL/PostgreSQL**
  - Build a dynamic web page that fetches data from a database.
  - Implement a user login/registration system.
  - Perform CRUD operations (Create, Read, Update, Delete) for a small business product inventory.
- **Sample Mini Project:**
  - Simple e-commerce cart flow or student record system.

IV. Web Deployment and Hosting

- **Web Hosting Practice:**
  - Simulate domain name search and registration.
  - Use FTP tools (like FileZilla) to upload a local website to a free hosting server (e.g., InfinityFree or 000Webhost).
  - Configure hosting settings including SSL, HTTPS, file permissions.
- **Search Engine Optimization (SEO) Basics:**
  - Add meta tags, alt text, and keyword-rich titles.

    - Submit site to Google Search Console.
    - Analyze site metrics using Google Analytics (demo using instructor's tracking code or simulated report).

V. Mini Project and Assessment

Each student or team will:

- **Design and Deploy** a responsive business website integrating:
    - HTML, CSS, and JavaScript
    - Server-side form handling
    - Dynamic database-backed content
    - Hosting and analytics tools
- **Documentation:** Prepare a project report describing:
    - Technology stack used
    - Sitemap and page structure
    - Key design features
    - Future enhancements

Tools Required

- Text Editors: VS Code, Sublime Text
- Browsers: Chrome, Firefox (with DevTools)
- Hosting Tools: FileZilla, InfinityFree, 000Webhost
- CMS (optional): WordPress for blogging/e-commerce demo
- Local Servers: XAMPP/WAMP/LAMP (for PHP & MySQL)