Paper: 201 / Subject: Computerized Financial Accounting

Credits 2 **Total Hrs/Week: 2**

Aim: **To teach basic concepts of Financial Accounting & use of a good Financial Accounting Software**

Prerequisite: **None**

1. **Introduction to Accounting System**
   - 1.1. Meaning & Definition of Accounting
   - 1.2. Objectives of Accounting
   - 1.3. Concepts and Features of Book Keeping
   - 1.4. Branches of Accounting (Financial Management, Cust)
   - 1.5. Basis of Accounting (Accrual Bases, Cash Bases)

2. **Accounting Concepts**
3. **Accounting Equation & Transaction Analysis**
   - 3.1. Introduction to Assets, Liabilities, Equities
   - 3.2. Concepts of Transaction Analysis
   - 3.3. Classification of Accounts (Real Account, Personal Account, Nominal Account)

4. **Concepts of Book-Keeping**
   - 4.1. Introduction of Single Entry System and its advantages/disadvantages
   - 4.2. Introduction of Double Entry System and its advantages
   - 4.3. Types of Business Transaction
     - 4.3.1. Cash Transaction
     - 4.3.2. Credit Transaction
     - 4.3.3. Barter Transaction
   - 4.4. Concepts of important Terminologies: Opening Stock, Closing Stock, Goods, Inventory, Assets, Liabilities, Capital, Debit, Debtors, Creditors, Income, Expenses, Loss, Profit, Credit, Debit.

5. **Journal & Subsidiary Books (With Preliminary examples)**
   - 5.1. Meaning of Journal
   - 5.2. Format of Journal
   - 5.3. Concept and format of cash Book
   - 5.4. Concept and format of Petty cash Book
   - 5.5. Concept and format of Purchase, Sale, Purchase Return and Sale Return Book

6. **Concept of Accounting Mechanism**
   - 6.1. Meaning and Definition of Ledger
   - 6.2. Types of Ledger
   - 6.3. Trial Balance and its objectives

Reference Books:

1. Accounting for Management – By Dr. Hawaharlal
2. Financial Management - By Dr. S.N. Maheshwari
3. Accounting for Management – By S.K. Bhattacharya & John Deardon
4. Advanced Accountancy – By S.P. Jain & K.I. Narang
5. Implementing Tally 6.3 – By K.K. Nathani – BPB Publication
6. Implementing Tally 7.2 – By A.K. Nathani & K.K. Nathani BPB Publication

Paper: 202 / Subject: Organization Structure & Behaviour

Credits 3 **Total Hrs/Week: 3**

Aim: **To make students aware about the Structure of an Organization and also provide them teaching that leads to better understanding of human behaviour in an organization.**

Prerequisite: **Basic Communication Skills**

1. **Introduction to Organization**
   - 1.1. What makes an organization
   - 1.2. Structure of organization
   - 1.3. What is Management
   - 1.4. Scope of Management

2. **Need for Management**
   - 2.1. Role of Management
   - 2.2. Manager's Role (Interpersonal Role, Information Role and Decisional Role)
   - 2.3. Managerial Skills (Technical Skills, Human Skills, Conceptual Skills)

3. **Attitude**
   - 3.1. Meaning of Attitudes
   - 3.2. Characteristics of Attitudes

4. **Motivation**
   - 4.1. What is motivation?
   - 4.2. Nature and Characteristics of Motivation
   - 4.3. Importance & Benefits of Motivation

5. **Leadership**
   - 5.1. What is Leadership?
   - 5.2. Characteristics of Leadership
   - 5.3. Leadership Styles
   - 5.4. Leadership Skills (Technical Skills, Human Skills, Conceptual Skills. Personal Skills)

6. **BPO & Call Center**
   - 6.1. What is B.P.O?
   - 6.2. What is out-sourcing? Benefits of outsourcing
   - 6.3. What is Call Center?
   - 6.4. Call center setup & functions

Reference Books:

1. Management & Organization Development – By Ahmed Abod Rachna Prakashan, New Delhi
2. Organization Behaviour – By Aplewhite Philip, Prentice hall
3. Management & Organization Development – By Argyris Chris, McGraw Hill
4. Human Behaviour at work – By Davis Keeth, Tata McGraw Hill

5. Organization Behaviour – By L.M. Prasad.
6. Principles and Practices of Management – By L.M. Prasad.
7. Managing People at work – By Harris O Jeff, John Wiley & Sons Publication
8. Call Centers – By S. Pankaj (APII Publication)

Paper: 203 / Subject: Introduction to Operating System

Credits 4 **Total Hrs/Week: 4**

Aim: **To understand functionality provided by an Operating System and basic concepts of Windows O.S. Management.**

Prerequisite: **Basic Knowledge of Operating System**

1. **Operating System Concepts**
   - 1.1. Evolution of Operating System & History
   - 1.2. Need of an Operating System
   - 1.3. Single User & Multi User Operating System
   - 1.4. Elements of an Operating System
   - 1.5. Operating System as a Resource Manager

2. **Introduction to File System and File Management**
   - 2.1. File Concept
   - 2.2. Operations on File
   - 2.3. File Access Methods (Sequential Access and Direct Access)
   - 2.4. Directory Systems File Management Functions.
   - 2.5. File System and Directory Structure organization.
   - 2.6. File Protection.

3. **Microsoft Windows Management**
   - 3.1. System properties using My Computer
   - 3.2. Concept of Domain
   - 3.3. Windows Administration Tools
   - 3.4. Event Viewer
   - 3.5. Computer Management
   - 3.6. System Tools
   - 3.7. Storage
   - 3.8. Introduction to Local Security Policy
   - 3.9. Windows MMC & Snap-ins
   - 3.10. System Configuration Utility (msConfig)

4. **Device Management**
   - 4.1. Device Management Function
   - 4.2. Device Characteristics
   - 4.3. Disk space Management
   - 4.4. Allocation and Disk Scheduling Methods

Reference Books:

1. Operating System Concepts – James Peterson – McGraw Hill
2. Operating System – Stallings - PHI
3. Operating System Principles – Silberschatz, Galvin, Gagne -- Willey, India
4. Operating Systems – A. S. Godbole – Tata McGraw Hill

5. Operating Systems (Design & Implementation) – Tanenbaum - PHI
6. Advanced MSDOS - Ray Duncon – McGraw Hill

Paper: 204 / Subject: Advanced 'C' Programming

Credits 4 **Total Hrs/Week: 4**

Aim: **To introduce to the students the advanced topics of 'C' language.**

Prerequisite: **Fundamental knowledge of computer programming using 'C' language.**

1. **Pre-processor Directives**
   - 1.1. Macro Definitions (#define, #undef)
   - 1.2. File Inclusion (#include)
   - 1.3. Conditional Compilation (#ifdef, #ifndef, #if, #endif, #else, #elif)

2. **Arrays**
   - 2.1. Multi-Dimensional Character Array
   - 2.2. Passing Array to user defined functions (Discuss this topic after discussing the topic on User Defined Functions)

3. **Structure & Union**
   - 3.1. Defining Structure
   - 3.2. Processing Structure
   - 3.3. Array of Structures.
   - 3.4. Structure & Pointer
   - 3.5. Passing Structure to functions
   - 3.6. Self Referential Structures
   - 3.7. Defining Union
   - 3.8. Comparison between Structure & Union

4. **User Defined Functions**
   - 4.1. Definition & Accessing of a function
   - 4.2. Function prototype
   - 4.3. Recursive functions
   - 4.4. Call by Value
   - 4.5. Call by Reference (Discuss this topic after discussing the topic on Pointers)

5. **Pointers**
   - 5.1. Pointer Variable Declaration & Memory Storage
   - 5.2. Address and value operators
   - 5.3. Pointer Arithmetic
   - 5.4. Passing pointers to functions
   - 5.5. Pointer to Array
     - 5.5.1. Pointer to One-Dimensional Array
     - 5.5.2. Pointer to Multi-Dimensional Array
   - 5.6. Array of Pointers

6. **File Handling in C**

6.1. Types of Files in C
6.2. Defining, Opening & Closing a File
6.3. Read, Write & Append operations in a File
6.4. Reading & Writing Records (Structures) to a File
6.5. Random Access of Files
  6.5.1. File positions: *ftell*() and *fseek*()
  6.5.2. *rewind*()
  6.5.3. *fflush*()

7. Other Features of C
7.1. Command Line Arguments
7.2. Storage Classes & their use
  7.2.1. Automatic Storage Class
  7.2.2. Register Storage Class
  7.2.3. Static Storage Class
  7.2.4. Extern Storage Class
7.3. Enumerated Data Type (*enum*)
7.4. Type Definitions (*typedef*)
7.5. Bitwise Operators
  7.5.1. Shift Operators (Right Shift & Left Shift)
  7.5.2. The AND Operator & AND Masking
  7.5.3. The OR Operator & OR Masking
  7.5.4. The XOR Operator & XOR Masking

Reference Books:

1. Programming in C - Balaguruswami - TMH
2. C Programming Language - Kernigham & Ritchie - TMH
3. The spirit of C - Cooper H & Mullish H - Jaico Pub.
4. Programming in C - Stephan Kochan – CBS
5. Mastering Turbo C - Kelly & Bootle – BPB
6. C Language Programming - Byron Gottfried –TMH
7. Mastering Turbo C - Stan Kelly – BPB
8. Let us C – Yashwant Kanetkar - BPB Publication
9. Magnifying C – Arpita Gopal, PHI
10. Problem Solving with C – Somashekara PHI
11. Programming with ANSI and TURBO C - Ashok Kamthane, Pearson Education
12. Programming in C by Pradip Dey & Manas Ghosh, Oxford

Paper: 205 / Subject: Database Management System (DBMS)

Credits 4 **Total Hrs/Week: 4**

Aim: **To make students understand the basic concepts of Database Management System, Create Databases and Manage Databases using Structured Query Language (SQL).**

Prerequisite: **Basic Operating Knowledge of Computer and Basic Knowledge of Programming.**

1. Introduction to Database Systems
- 1.1. Drawbacks of Conventional File Processing System
- 1.2. Need of Database Management System
- 1.3. Organization of database (Physical, Conceptual, Logical)
- 1.4. Data Models
  - 1.4.1. Object based data models: E-R Model
    - 1.4.1.1. E-R Diagram
    - 1.4.1.2. Entities & entity sets
    - 1.4.1.3. Types of relationships
  - 1.4.2. Record based data models: Network, Hierarchical & Relational
  - 1.4.3. Physical data models
- 1.5. Components of Data Base Management System
  - 1.5.1. Query Language: DDL, DML, TCL
  - 1.5.2. Database Users: DBA, Programmer, Other Users
- 1.6. Data independence: Logical & Physical
- 1.7. Functional Dependencies & Closure of Functional Dependencies
- 1.8. Keys: Super Key, Candidate Key, Primary Key, Alternate Key, Foreign Key
- 1.9. Constraints
  - 1.9.1. Domain Integrity
  - 1.9.2. Referential Integrity
  - 1.9.3. Entity Integrity

2. Normalization
- 2.1. Need of Normalization (Consequences of Bad Design-Insert, Update & Delete Anamolies)
- 2.2. Normalization
  - 2.2.1. First Normal Form
  - 2.2.2. Second Normal Form
  - 2.2.3. Third Normal Form
  - 2.2.4. BCNF

3. Microsoft Access
- 3.1. Working with databases & tables
- 3.2. Managing Constraints & Relationships
- 3.3. Using SQL Queries

Reference Books:

1. Database System Concepts – Henry F. Korth & Abrahim Silberschatz - IMR
2. Introduction to Database Management System – Bipin C. Desai - Galgotia
3. Principles of database systems – Jeffery Ullman – Galgotia Publication
4. An introduction to Database Systems – C.J. Date – Addison Wesley
5. Introduction to database Management – Navin Prakash -TM
6. Access- The Complete Reference – Virginia Andersen – McGraw-Hill
7. Access Database Design & Programming – Steven Roman –O'Reilly
8. ABC of Microsoft Access: Cowart Robert: BPB Publication

Paper: 206 / Subject: Practical
(Based on Papers 204 & 205)

Credits 6 **Total Hrs/Week: 12**

1. Batch Size – 30 Maximum

2. In case of more than 10 students in a batch, separate batch should be considered.

3. The journal should be certified by the concerned faculty and also by the Head of the Department, failing which the student should not be allowed to appear for External Practical Examination.

TEACHING & EVALUATION SCHEME

No.	Course Type	Subject	Credit	Hrs./ Week	Internal Marks	External Marks	External Exam Duration	Total Marks
201	Foundation Compulsory	Organization Structure Behaviour	2	2	30	70	3 Hrs	100
202	CORE Elective	Financial Accounting	3	3	30	70	3 Hrs	100
203	CORE	Introduction to Operating System	4	4	30	70	3 Hrs	100
204	CORE	Advanced 'C' Programming	4	4	30	70	3Hrs	100
205	CORE	Database Management System (DBMS)	4	4	30	70	3 Hrs	100
206	CORE	Practical (Based on Papers 204 & 205)	6	12	60	140	5 Hrs	200
	Foundation Elective	To be Selected from the list (eg NCC/NSS/Saptdhara	2	2				
TOTAL			25		210	490		700