SRI VENKATESWARA UNIVERSITY
BACHELOR OF COMPUTER APPLICATIONS
SEMESTER- III
UNDER CBCS W.E.F. 2021-22

Accounting and Financial Management

Semester	Course Code	Course Title	Hours/Week	Hours	Credits
III	C7	Accounting and Financial Management	4	60	4

Course Objectives:

- This paper is designed to impart knowledge regarding concepts of Financial Accounting. This course is useful for Students to get placements in different offices as well as companies in Accounts departments.

Course Outcomes:

- Company Setup &Configurations.
- Recording Financial Transactions.
- Financial Reports Analysis.

Syllabus

Unit I

Fundamentals of Accounting

Meaning of Accounting, its scope; Objects and limitations; Meaning and application of double entry system , Books of Accounts , Ledgers -Debtors ledger, Creditors ledgers and General ledger; Cash Book and Bank Reconciliation Statement.

Unit II

Financial Statements

Meaning and Components of Financial statements, Preparation of Financial Statements, Trading Account, Profit and loss Account, Meaning and Purpose of Balance Sheet, Steps for preparation of Balance Sheet, Marshalling of Balance Sheet, Format of Balance Sheet

Unit III

Accounting Ratio and Cash Flow Statement

Ratio Analysis, Objectives of Ratio Analysis, Classification of Accounting Ratios, Advantages of Ratio Analysis, Analysis of Financial Statement through Ratios, Cash Flow Statement, Meaning of Cash Flow Statement, Importance of Cash Flow Statement, Cash Flow Statement as per as 3, Illustration Preparation of Cash Flow Statement.

Unit IV

Cost Concepts and Cost Sheet

Meaning of Cost, Classification of Cost, Various Cost Concepts, Cost Centre, Types of Cost Centres, Cost Unit, Elements of Costs, Cost Sheet

Unit V

Budgetary Control and Marginal Costing

Meaning of Budget, Purpose of Budget, Budgetary Control: Meaning and Essentials, Merits OF budgetary Control system, Steps in preparation of budgets, Classification of budgets, Standard cost and standard costing, Variance analysis, Marginal cost and marginal costing, Advantages of marginal costing, Managerial Application of marginal costing, Break Even Analysis

Capital and Working Capital

Meaning of capital, cost of capital, shares, debentures, capitalization and capital structure; Meaning of working capital, its components and estimation

Suggested Readings:

1. Financial Accounting, Ashis Bhattacharya, prentice-Hall India Publication.
2. Financial Accounting, S.N. Maheshwari, Vikas Publication House Pvt. Ltd., New Delhi.
3. Theory and Practice of Accountancy By B. B. Dam, R. A. Maheswari, R. Barman and BKalita

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Accounting and Financial Management Lab

Semester	Course Code	Course Title	Hours/Week	Hours	Credits
III	C7-P	Accounting and Financial Management Lab	2	30	1

List of Lab Experiments

1) Create Company using Accounts only.
2) Alter a Company, Shut a Company and Delete a Company in Tally?
3) Splitting Company Data.
4) Creation of Group Companies.
5) Single Ledger Creation with Interest parameters setting.
6) Multi Ledger creation any Ten Accounts.
7) Bank Reconciliation Statement in Tally.
8) Creation of Tally Vault & Change Tally vault Password.
9) Creating Contra voucher.
10) Creating Payment voucher.
11) Creating Receipt voucher.
12) Creating Journal voucher.
13) Creating Sales voucher.
14) Creating Credit Note voucher.
15) Creating Purchases voucher.
16) Creating Debit Note voucher.
17) Displaying Day Book.
18) Displaying Trial Balance.
19) Displaying Profit and Loss Account.
20) Displaying Balance Sheet.

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Object Oriented Programming through Java

Semester	Course Code	Course Title	Hours/Week	Hours	Credits
III	C8	Object Oriented Programming through Java	4	60	4

Course Objectives:

To make the students understand fundamentals of Java programming.

- To expose the students to develop OOPs Concepts
- To make the students to design appropriate Exception Handling in Java
- To make the students to understand the concepts of Threads, Files and
- I/O Streams, Applets, Serve lets in java.

Course Outcomes:

The student would become competent enough to write, debug, and document well-structured java applications

- Demonstrate good object-oriented programming skills in Java
- Able to describe, recognize, apply and implement selected design patterns in Java
- Understand the capabilities and limitations of Java
- Be familiar with common errors in Java and its associated libraries
- Develop excellent debugging skills

SYLLABUS

Unit I

Object Oriented Programming: Introduction to OOP, Objects and Classes, Characteristics of OOP, Difference between OOP and Procedure Oriented Programming.

Introduction to Java Programming: Introduction, Features of Java, Comparing Java and other languages (C & C++), Java Development Kit, Structure of Java Program, Prerequisites for Compiling and Running Java Programs.

Unit II

Java Language Fundamentals: Data types, variable declarations, Operators and Assignment, Control structures, Arrays, Strings, The String Buffer Class.

Java as an OOP Language: Defining classes, Constructors, Overloading, Modifiers, Packages.

Unit III

Inheritance, Interfaces, Exception Handling: Inheritance, Types of Inheritance, Interfaces, Interface Implementation, Exception Handling in Java, Throwing User-defined Exceptions, Advantages of Exception.

Multithreading: An Overview of Threads, Creating Threads, Thread Life–cycle, Thread Priorities, Thread Synchronization, Daemon Threads, Communication of Threads.

Unit IV

Files and I/O Streams: An Overview of I/O streams, Java I/O, File Streams, File Input Stream and File Output Stream, Filter streams, Random Access File, Serialization.

Applets: Introduction, Java applications versus Java Applets, Applet Life-cycle, Working with Applets, The HTML Applet Tag.

Unit V

Database Handling Using JDBC: An Overview of DBMS, JDBC Architecture, Working with JDBC

Servlets: Introduction, How to run servlets, The Life–cycle of the servlet, servlet API, Multitier Applications using JDBC from a servlet.

Text *books:*

- **Object Oriented Programming through Java,** Universities Press (2008),by P. Radha Krishna.

REFERENCE *BOOKS:*

Author	Title	Publisher
Venkateswarlu, EVPrasad, S. Chand	Learn Object Oriented Programming using Java	S CHAND
DrKSoma Sundaram	Programming in Java2	JAICO Publishing house
R Nageswararao	JAVA8	Core Java Black Book. An Integrated approach

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Object Oriented Programming through Java Lab

Semester	Course Code	Course Title	Hours/Week	Hours	Credits
III	C8-P	Object Oriented Programming through Java Lab	2	30	1

List of Lab Experiments

1. Write a Java program that prints all roots of quadratic equation $ax^2 + bx + c = 0$.
2. Write a Java program that prompts the user for an integer and then prints out all prime numbers up to that integer.
3. Write a Java program to create a Student class with following fields
   i. Hall ticket number

   ii. Student Name

   i. Department
   Create 'n' number of Student objects where 'n' value is passed as input to constructor
4. Write Java program to implement Hierarchical Inheritance
5. Write Java program to implement multiple inheritance through interface
6. Write a Java program to demonstrate String comparison using == and equals method.
7. Write a Java program that creates three threads. First thread displays "Good Morning" everyone second, the second thread displays "Hello" every two seconds and the third thread displays "Welcome" every three seconds
8. Write a Java program to demonstrate Exception Handling
9. Write a Java program that displays the number of characters, lines and words in a text file
10. Write a Java Program to create Applet for timer
11. Write a Java program to connect to Database using JDBC
12. Write a Java program to demonstrate Servlet life cycle

13. Write a Java program to draw the line, Rectangle, oval, text using the graphics method.
14. Write a Java program to create Menu using the frame.
15. Write a Java program to create Dialog box.
16. Write a Java program to implement the flow layout And Border Layout.
17. Write a Java program to implement the Grid Layout, Card Layout.
18. Write a Java program to create Frame that display the student information.

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OPERATING SYSTEMS

Semester	Course Code	Course Title	Hours/Week	Hours	Credits
III	C9	OPERATING SYSTEMS	4	60	4

Course Objectives:

1. To know the basic Structure, Components and Organization of Operating System.
2. To learn the notation of a Process-a Program in Execution, Management, Scheduling and Classic Problems of Synchronization.
3. To gain knowledge in various Memory Management Techniques.
4. To understand Unix Operating System and Various File operations.

Course Outcomes:

The students will be able to:

1. Understand the main components and Structure of Operating System& their functions.
2. Analyze various ways of Process Management& CPU Scheduling Algorithms.
3. Evaluate various device and resources like Memory, Time and CPU Management techniques in distributed systems.
4. Apply different methods for Preventing Deadlocks in a Computer System.
5. Create and build an Application/Service over the UNIX operating system.

Syllabus

Unit I

Introduction: What Operating Systems do, Computer system organization, Computer system architecture, Operating system structure. **System Structure:** Operating system services, User operating system interface, System Calls, Types of System Calls, Overview of UNIX Operating System, Basic features of Unix operating System.

Unit II

Process Concept: Process Concept, Process Scheduling, Operation on Process. **Process Scheduling:** Basic Concepts, Scheduling Criteria, Scheduling Algorithms, CPU Scheduling in UNIX.

Unit III

Synchronization: Background, The critical section problem. **Semaphores:** Usage, Implementation, Deadlocks and Starvation, Classic problems of synchronization. **Deadlocks:** System Model, Deadlock Characterization, Deadlock Prevention.

Unit IV

Memory Management: Background, Basic hardware, Address Binding, Swapping, Contiguous memory allocation, **Paging:** Basic Method, Hardware Support, Protection, Memory Management in UNIX.

Unit V

Files and Directories in UNIX, File Structure, File System Implementation of Operating System Functions, File permission, Basic Operation on Files, Changing Permission Modes, Standard files, Processes Inspecting Files, Operating On Files

TEXT BOOKS

1. Operating system Concepts: Abraham Silberschatz, Peter B. Galvin, Greg Gagne, 8th Edition,Wiley.
2. Unix and shell Programming by B.M Harwani, OXFORD University Press

REFERENCE BOOKS:

1. Operating System Principles, Abraham Silberchatz, Peter B. Galvin, Greg Gagne 8thEdition, Wiley Student Edition.
2. Principles of Operating Systems by Naresh Chauhan, OXFORD University Press
3. Unix Concept and application-Sumitabha das
4. Unix Shell Programming-Yashwant Kanetkar

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OPERATING SYSTEMS Lab

Semester	Course Code	Course Title	Hours/Week	Hours	Credits
III	C9-P	OPERATING SYSTEMS Lab	2	30	1

List of Experiments

1. Introduction to UNIX Operating System, Compare with Windows OS. Writing and executing simple Hello World C Program in UNIX Environment.
2. Working with vi editor: Creating and editing a text file using the standard commands.
3. Getting hands-on on basic UNIX Commands.
4. Execute of various file/directory handling commands.
5. Write a Simple shell script for basic arithmetic and logical calculations.
6. Write Shell scripts to check various attributes of files and directories.
7. Write Shell scripts to perform various operations on give n strings.
8. Write Shell scripts to explore system variables such as PATH, HOME etc.
9. Use seed instruction to process /etc/password file.
10. Write a shell script to display list of users currently logged in.
11. Write a shell script to delete all the temporary files.
12. Write a shell script to search an element from an array using binary searching.
13. Write C programs to implement the following Scheduling Algorithms:
    i. First Come First Serve.
    ii. Shortest Job First.
    iii. Round Robin.

Reference Text Books:

1. Brian W. Kernighan and Rob Pike, “The UNIX Programming Environment” Prentice Hall India (Edition available in LRC and in the form of E Book on student resource).
2. Yashwant Kanetkar, “UNIX Shell Programming” BPB Publications (First Edition).