

S.K.R. & S.K.R. Govt. College for Women (A), Kadapa
NAAC Reaccredited – B Level
II B.Com, III SEMESTER
PROGRAMMING WITH C & C++

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

Loops And 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 Function: 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
Single Inheritance- Hierarchical Inheritance - Multilevel Inheritance – Multiple Inheritance – Hybrid Inheritance Learning – Polymorphism – Compile Time Polymorphism-Function Overloading-Operator Overloading – Run Time Polymorphism-Virtual Functions.

Prescribed Book:

(1)E. Balagurusamy "Object oriented programming with C++

Reference Books:

(1) R.Ravichandran "Programming with C++"

(2) Mastering C by K R Venugopal and Sudeep R Prasad, McGraw Hill

(3) Expert C Programming: Deep Secrets Kindle Edition Peter van der Linden

(4) Let Us C YashavantKanetkar

(5) The C++ Programming Language Bjarne Stroustrup

(6) C++ Primer Stanley B. Lippman, Josée Lajoie, Barbara E. Moo

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DATABASE MANAGEMENT SYSTEMS

UNIT – I

Overview of Database Management System: Introduction, Data and Information, Database, Database Management System, Objectives of DBMS, Evolution of Database Management System, Classification of Database Management System.

UNIT – II

File-Based System: File Based System. Drawbacks of File-Based System, DBMS Approach, Advantage of DBMS, Data Models, Components of Database System, Database Architecture, DBMS Vendors and their products.

UNIT – III

Entity-Relationship Model: Introduction, The Building Blocks of an Entity-Relationship, Classification of Entity Set, Attribute Classification, Relationship Degree, Relationship Classification, Generalization and Specialization, Aggregation and Composition, CODD's Rules, Relational Data Model, Concept of Relational Integrity.

UNIT – IV

Structured Query Language: Introduction, History of SQL Standards, Commands in SQL, Data types in SQL, Data Definition Language (DDL), Selection Operation Projection Operation, Aggregate Functions, Data Manipulation Language, Table Modification, Table Truncation, Imposition of Constraints, Set Operations.

UNIT – V

PL/SQL: Introduction, Structure of PL/SQL, PL/SQL Language Elements, Data Types, Control Structure, Steps to Create a PL/SQL Program, Iterative Control Cursors, Steps to Create a Cursor, Procedure, Functions, Packages, Exceptions Handling, Database Triggers, Types of triggers.

Prescribed Book:

1. Pane erselvam: Database Management system, PHI.

Reference Books:

1. David Kuklinski, Osborne, Data management system McGraw Hill Publication.
2. Shgirley Neal And Kenneth LC Trunik Database management system in Business-PHI.

3. Godeon C. EVEREST, Database Management-McGraw Hill Book Company.
4. MARTIN, Database Management-Prentice Hall of India, New Delhi.
5. Bipin C. Desai, 'An Introduction to Database System', Galgotia Publications
6. Korth, Database Management System.
7. Navathe, Database Management System.
8. S. Sumathi, S. Esakkirajan, Fundamentals of Relational Database Management System

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OBJECT ORIENTED PROGRAMMING WITH JAVA

UNIT I

Introduction to OOPs: Problems in Procedure Oriented Approach, Features of Object Oriented Programming Introduction to Java: Features of Java, The Java Virtual Machine (JVM), Parts of Java program, Naming Conventions in Java, Data Types in Java, Operators in Java, Reading Input using scanner Class, Displaying Output using System. out.println (), Command Line Arguments.

UNIT II

Control Statements in Java: if... else, do... while Loop, while Loop, For loop, Switch Statement, break Statement, continue Statement Arrays: Types of Arrays, array name, length, Strings: Creating Strings, String Class Methods, String Comparison, Immutability of Strings.

UNIT III

Classes and Objects: Object Creation, Initializing the Instance Variables, Access Specifiers, Constructors Inheritance: Inheritance, Types of Inheritance Polymorphism: Method overloading, Operator overloading Abstract Classes: Abstract Method and Abstract Class

UNIT IV

Packages: Package, Different Types of Packages, Creating Package and Accessing a Package Streams: Stream classes, Creating a File using File Output Stream, Reading Data from a File using File Input Stream, Creating a File using File Writer, Reading a File using File Reader

UNIT V

Exception Handling: Errors in Java Program, Exceptions, throws Clause, throw Clause, Types of Exceptions Threads: Single Tasking, Multi-Tasking, Uses of Threads, Creating a Thread and Running it, Terminating the Thread, Thread Class Methods.

References:

1. The Complete Reference JAVA Seventh Edition Herbert Schildt. Tata McGraw Hill Edition.
2. Core Java: An Integrated Approach, Dr. R. Nageswara Rao & Kogent Learning Solutions Inc.
3. E. Balaguruswamy, Programming with JAVA, A primer, 3e, TATA McGrawHill Company