

**PROGRAMMING IN C++**

**Unit I:**

Principles of object oriented programming(OOP) : software evolution-object oriented Programming paradigm-basic concepts of OOP'S -benefits of oop's .  
Introduction to C++ - tokens, keywords, identifiers, variables, operators, manipulators, expression.

**Unit II:**

Control structures in C++-Functions in c++ - main functions-function prototyping-call by reference -return by reference -functions overloading -friend and virtual functions.

**Unit III:**

CLASSES AND OBJECTS:- Specification of a class-Accessing class members-member functions of-class, -objects-array of objects-passing objects as Function arguments-Friend Functions-Const Member functions-Special member functions constructors-Destructors-operator overloading-overloading operators-Rules for overloading operators-Type conversions.

**Unit IV: Inheritance:**

Single inheritance-Multilevel inheritance-multiple inheritance-hierarchical inheritance-hybrid inheritance pointers-Virtual functions and polymorphism managing console I/O operations working with files -classes for file stream operations -opening and closing a file -end -of -file, deduction-file pointers updating a file error handling during file operations- commandline arguments.

**Unit V: PROGRAMS**

1. Arranging words in alphabetical order
2. Picking largest and smallest of a set of numbers.
3. Solving quadratic equation
4. Multiplication of two square matrices
5. Least square curve fitting
6. Programs for handling files
7. To solve simultaneous equation by Gauss elimination method.
8. Write a program to convert a number given in base to other bases and number to words.
9. Write functions for (i) find the length of the string (ii) to find a substring with a given string.
10. Write functions for (i) reversing the string(ii) converting integer into string
11. Write functions for (i) String copy (ii) string compare (iii) to replace a substring with another string.
12. Read in a string of characters and determine if they are Palindrome (i) to replace the half with first holy (ii) reverse them half separately.

**TEXT BOOK:**

E. Balagursamy- Object Oriented programing with C++ Tata Mc-Graw Hill publishing company Ltd., 1998.