

Semester:- 3rd Semester

Subject Name : Object Oriented Programming

Subject Code : CSE303

L T P

Total Hours 42 Th

3 2

FM Marks : 100 (80+20)

1. Concept of Object Oriented Programming 4 hrs

Basic concepts, Benefits of OOPs, Procedure Oriented Programming versus Object Oriented Programming, Structure of C++ Programs.

2. Objects & Classes 6 hrs

Specifying a Object & Class, Access Specifiers, Defining member functions, Inline function, Arrays within a class, Static data& member functions, Arrays of Objects, Objects as Function Arguments, Friend function.

3. Constructors & Destructors 5 hrs

Concept of Constructor, Types of Constructors (Parameterized, Copy, Default), Overloaded Constructors (Multiple constructor), Constructor with default arguments, Destructors.

4. Inheritance 7 hrs

Concepts of Inheritance, Types of Inheritance(Single, Multilevel, Multiple, Hierarchical, Hybrid), Virtual Base Class, Abstract Class, Constructor in Derived Class, Member Classes, Concepts of Overriding.

5. Polymorphism 6 hrs

Concepts of Polymorphism, Types of Polymorphism, Function overloading, Operator Overloading(Unary & Binary Operator), Rules for overloading operators, Virtual Functions, Rules for Virtual Functions, Pure Virtual Function.

6. I/O Operations and File Processing 8 hrs

C++ Stream Classes, Formatted & Unformatted I/O Operations, Managing output with Manipulators, Classes for file stream operations, Opening and Closing a file, Reading and Writing character from a file(get(), put(), getline(), write(),eof()), File Pointers and their manipulations, Command-Line Arguments.

7. Exception Handling 6 hrs

Basics of Exception Handling, Exception Handling Mechanism, Throwing Mechanism, Catching Mechanism, Rethrowing an Exception Specifying Exceptions.

Reference Books:-

1. Object Oriented Programming with C++ - E.Balagurusamy (Tata McGraw Hill)
2. Object Oriented Programming in Turbo C++ - Lafore Robert (Galgotia)
3. C++ The Complete Reference - Schilt(Tata McGraw Hill)

Subject :-OOPS Lab

Subject Code :-CSE305

List of Practicals:

1. WAP to input integer ,float, char and string using c in and display using c out statement.
- 2.WAP to create objects of class.
- 3.WAP to access static member variables and static member functions.
- 4.WAP to print all even numbers in between two values entered by user using loop statement.
- 5.WAP to print list of prime numbers between any two entered values.
- 6.WAP to print factorial of a given number.
- 7.WAP to display whether a number is Palindrome or not.
- 8.WAP to display whether a number is Armstrong or not.
- 9.WAP to display Fibonacci series up to n times entered by user.
- 10.WAP to demonstrate execution of constructor and destructor.
- 11.WAP to implement inline and friend function.
- 12.WAP to declare a pointer to array and display the elements.
- 13.WAP to implement this pointer.
- 14.WAP to overload unary and binary operator.
- 15.WAP to show hierarchical inheritance.
- 16.WAP to access private member variables of base class using pointers.
- 17.WAP to overload member function in base and derived class.
- 18.WAP to implement virtual function.
- 19.WAP to format output using manipulators.
- 20.WAP to read and write contents of file. Use of () function.