
DEPARTMENT OF COMPUTER SCIENCE**OOPS THROUGH C++****Class - I CSE (B) - II Semester****Regulation: R16****UNIT-I**

- 1) A) Explain Object Oriented Programming (7 M)
B) What are problems in procedural programming?(3 M)
- 2) A) Explain the differences between C and C++ (6 M)
B) Discuss about the applications and benefits of OOP. (4 M)
- 3) A) Explain briefly the following object oriented concepts. (5 M)
i) Data Abstraction ii) Encapsulation
B) Explain briefly the following object oriented concepts (5M)
i) Polymorphism ii) Inheritance
- 4) A) Explain the benefits of OOP (5 M)
B) Explain briefly the following object oriented concepts. (5 M)
i) Dynamic Binding ii) Message Communication
- 5) A) Explain about object based programming and object oriented programming languages (6 M)
B) Explain about class and object in OOP.(4 M)

UNIT – II

- 1) A) Explain about the class specification in C++ language with a suitable example(3 M)
B) Explain how to create an object in C++ language with a suitable example(3 M)
- C) What are the access specifiers available in C++ language? How to access class members in C++ language? Explain with suitable examples. (4M)
- 2) A) How to define member functions of a class.(5 M)
B) Create a class that holds name and address information. Store all the information in character strings that are private members of the class. Include a public function that stores the names and address, also include a public function that displays the name and address. (5 M)
- 3) A) Explain about Constructor and destructor functions with suitable examples (5 M)
B) Explain about constructor function characteristics (5 M)
- 4) A) Explain about parameterized constructor with suitable example (5 M)
B) Explain about function overloading with suitable examples (5M)
- 5) A) Explain about inline functions with suitable examples (5 M)
B) Explain about default arguments with suitable examples (5 M)
- 6) A) Explain about friend function and its characteristics (5 M)
B) Explain about assignment of an object to another object with suitable example (5 M)

UNIT - III

- 1) A) Explain about operator overloading and operator function (5 M)\
B) Write a program to overload binary + operator (5M)
- 2) A) Write a program to overload relational and/or logical operators(5 M)
B) Write a program to overload unary operators (5 M)
- 3) A) Write a program to overload binary + operator using friend function (5 M)

Write a program to overload unary operator using friend function (5 M)

- 4) A) Write a program to overload assignment operator(5 M)
B) What is inheritance? Explain the various types of inheritances (5M)
- 5) A) Write a program to implement single inheritance (5 M)
B) Explain about how the constructor and destructor functions will be called in inheritance path(5 M)
- 6) A) Explain about overriding functions with suitable example(5 M)
B) Write a program to implement multilevel inheritance(5 M)

UNIT-IV

- 1.A) What is pointer, reference and this pointer ? (2+2+2 M)
B) Write a program to demonstrate call by value mechanism (4M)
- 2.A) Write a program to demonstrate call by reference mechanism with references (5M)
B) Write a program to demonstrate call by reference mechanism with pointers (5M)
- 3 A) Explain about virtual functions with suitable example (5M)
B) Explain about pure virtual function with suitable example (5M)
- 4 A) Write the rules for virtual functions (5M)
B) Write a program to implement runtime polymorphism (5M)
- 5 A) Write a program to implement hybrid inheritance (5M)
B) Explain about virtual base classes with suitable example (5M) 6
A) Explain about static data members with suitable example (5M)
B) Explain about static member functions with suitable example (5M)
- 7. A) Explain the concept of constructor overloading with suitable example (5 M)
B). Explain about creation and usage of copy constructor with suitable example (5M)
- 8. A). Explain about member function overloading with suitable example (5M)
B). Explain about the ambiguity in the programs when the program contains function overloading with suitable example(5M)

UNIT-V

- 1) A) Explain about generic functions with a suitable example (5M)
B) Explain about generic classes with suitable example (5M)
- 2) A) Explain the exception handling mechanism in C++ (7M)
B) Differentiate between templates and macros (3M)
- 3) A) Write a program to implement bubble sort technique by using function templates (5M)
B) Explain about overloading of template functions with suitable example (5M)
- 4) A) Write a program to catch all exceptions using catch(...) (5M)
B) Write a program for multiple catch statements– 5 M

UNIT VI

- 1) A) Write about Standard Template Library (7M)
B) Explain about algorithms of STL(3M)
- 2) A) Explain about containers of STL(3M)
B) Explain about maps of STL (7M)
- 3) A) Explain about vectors of STL (5M)
B) Explain about lists of STL (5M)