

PAPER-VI

Group A :Object Oriented Programming with C++

UNIT-1:

Introduction to C++

1. Describe the following characteristics of OOP . i
Encapsulation
ii Polymorphism,
iii Inheritance
2. Discuss function prototyping, with an example. Also write its advantage .
3. Write the general form of function. Explain the different types of argument passing techniques with example.
4. Define the 'this' pointer, with an example, indicate the steps involved in referring to members of the invoking object.
5. Discuss the issues of procedure oriented systems with respect to object oriented systems?
6. Why C++ introduced reference variable?
7. Give the comparison of C and C++ with examples..
8. What are pointers explain with an example. . .
9. What is function overloading give example?.
10. Differentiate between procedure oriented and object oriented programming.
11. Explain inline functions? .

UNIT-2:

Classes & Objects

1. Write a C++ program to count the number of objects of a certain class.
2. What is a class? How is it created? Write an example class.
3. What are constructors? How are they different from member functions?
4. What are static data members? Explain with an example what the use of static data members is.
5. Demonstrate with C++ program for
 - i) Passing objects to functions
 - ii) Returning objects

UNIT-3

Classes & Objects II

1. Explain the features of new and delete?
2. What is the benefit of copy constructor? Explain the necessity of defining your own copy constructor?.
3. What is a friend function? Why is it required? Explain with an example.
4. What is the use of operator overloading? Write a program to overload post and pre increment operators.
5. Explain Generic function with example..

UNIT-4

Inheritance I

1. Explain different types of inheritance with block diagram and an example for each
2. What is the ambiguity that arises in multiple inheritance? How it can be overcome. Explain with example.
3. Discuss with examples, the implications of deriving a class from an existing class by the 'public' and 'protected' access specifiers.
4. Write a c++ program to initialize base class members through a derived class constructor..
5. What is inheritance? How to inherit a base class as protected? Explain it in Multiple base classes?
6. With an example explain, multiple base class inheritance?

UNIT-5

Inheritance II

1. What is a virtual table? .How does the implementing dynamic polymorphism. Explain with an example.
2. is the need of virtual function? With an example, explain overriding of
3. What is the virtual destructor?
4. List the library classes that handle streams in c++.
5. When Constructors and Destructors Are Executed.

6. Explain Granting Access.
7. What are virtual functions. What is the use. Give an example. How compilers Resolve a function call.
8. Describe briefly with a figure, class hierarchy provided by c++for stream handling.
9. Define and give the syntax for the following.
 - a)Virtual function
 - b)Pure Virtual function
 - c)Abstract Base Class

UNIT-6

Virtual functions, Polymorphism

1. Explain error handling and manipulators in c++?
2. Why friend f unction is required to overload binary operators?
3. What are the rules for overloading operators?
4. Write the difference between Early and Late Binding.
5. Explain Pure Virtual Functions.
6. Explain Calling a Virtual Function Through a Base Class Reference.
7. Describe the use of following manipulators :
8. What are the rules for overloading the operator?

9. Define a class Date, use overloaded + operator to add two dates and display the result. Assume non leap year dates.

UNIT-7

I/O System Basics, File I/O

1. Demonstrate overloading of assignment operator in c++?
2. Explain C++ Stream Classes.
3. Explain Formatted I/O.
4. Explain File operations.
5. Explain ignore (), flush (), peek () and putback() functions.
6. With an example, explain how to overload pointer to member operator
7. Define a function template giving its syntax. Write a c++ program to implement array representation of a stack for integers, characters and floating point numbers using class template.
8. Explain new and delete operators overloading in c++ with examples?

UNIT-8

Exception Handling, STL

1. What are the new style cast operators explain the syntax of these operators with example ?
2. What are class templates.? How are they created? What is the need for class templates? Create a template for bubble sort functions.

3. Explain the C++-style solution for handling exceptions
4. Explain try catch and throw exception handling in c++
5. Explain different types of type conversion.
6. Explain with example, how Function Templates are implemented?