



**ENGINEERING & MANAGEMENT EXAMINATIONS, JUNE - 2009**  
**OBJECT ORIENTED PROGRAMMING WITH C++**  
**SEMESTER - 2**

Time : 3 Hours ]

[ Full Marks : 70

**GROUP - A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for any *ten* of the following : 10 × 1 = 10

i) Which of the following operators is used to bind the functions to the class to which they belong ?

- |       |  |
|-------|--|
| a) ~  | b) :   |
| c) :: | d) none of these. <input style="float: right;" type="checkbox"/> |

ii) Which of the following statements is correct ?

- a) Destructors have a default value
- b) Destructors can take arguments
- c) Destructors deallocate memory allocated for the object by the constructor
- d) None of these.

iii) In binary operator overloading how many arguments does a member function take ?

- |          |   |
|----------|---|
| a) One   | b) Two  |
| c) Three | d) Four. <input style="float: right;" type="checkbox"/> |



iv) Which is the default if no access specifier is mentioned ?

- a) Public                                      b) Private
- c) Protected                                      d) None of these.

v) When is the call by reference method used ?

- a) Values of the original variables are to be changed
- b) Memory needs to be properly utilized
- c) Both of these
- d) None of these.

vi) All public and protected members of a base class become private members of the derived class by using which access specifier ?

- a) Public                                      b) Private
- c) Protected                                      d) None of these.

vii) Which input function reads a line of text that ends with a new line character ?

- a) gets( )                                      b) getline ( )
- c) inline ( )                                      d) none of these.

viii) Which operator of the following cannot be overloaded ?

- a) ::                                      b) [ ]
- c) ->                                      d) =



- ix) Which events occur during early binding ?
- a) Run-time polymorphism      b) Compile time polymorphism
- c) Both of these      d) None of these.
- x) A pure virtual function is a virtual function with which of the following ?
- a) Complex constructs      b) No body
- c) No Syntax Error      d) None of these.
- xi) Which operator frees memory previously allocated using new ?
- a) Free      b) Malloc
- c) Delete      d) None of these.
- xii) Which of the following statements is incorrect ?
- a) Exceptions are errors that occur at compile-time
- b) Exception is caught using Catch
- c) The Catch block must immediately following the try block
- d) None of these.

**GROUP - B****( Short Answer Type Questions )**

Answer any three of the following.

3 × 5 = 15

2. Explain template with an example. 5
3. a) When do you declare a member of a class static ?
- b) What do you mean by manipulators in C++ ? Give some examples. 2 + 3



4. a) What is a parameterized constructor ?  
b) Is it mandatory to use constructors in a class ? 3 + 2
5. a) What do you mean by copy constructor ? Illustrate with proper example.  
b) Why is it necessary to overload an operator ? 3 + 2
6. What is a friend function ? "Use of friend function and encapsulation are contradictory" — comment critically. 2 + 3

**GROUP - C****( Long Answer Type Questions )**Answer any *three* of the following.**3 × 15 = 45**

7. a) What is inheritance ? Mention some advantages of inheritance.  
b) Describe different types of inheritance with examples.  
c) Explain some characteristics of object oriented programming. 3 + 8 + 4
8. a) What is virtual base class ? When and why is it required to inherit a base class as virtual ?  
b) Write a program in C++ to show the implementation of virtual base class.  
c) Write a program in C++ to pass arguments to the constructor of a base class from the constructor of the derived class.  
d) Why is reference of an object used in copy constructor ? 4 + 6 + 3 + 2
9. a) Write a program in C++ to delete a student record from a student's database and display the remaining records using file handling.  
b) What is Exception handling ? What is the usefulness of exception handling ? Explain the same citing a suitable example. 8 + 7



10. a) Differentiate the following :

- i) Malloc() and new
- ii) inline function and macro
- iii) friend and member function.

b) What is a constructor ? Explain different types of constructor with example.

c) What is the advantage of user-defined copy constructor over default copy constructor ? 6 + 7 + 2

11. Write short notes on any *three* from the following :

3 × 5

- a) Namespace
- b) Explicit
- c) Mutable
- d) Operator overloading.

---

END