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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.

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.

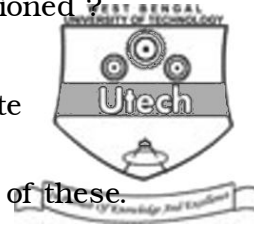
iii) In binary operator overloading how many arguments does a member function take ?

- a) One
- b) Two
- c) Three
- d) Four.



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.

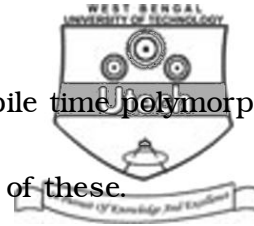
viii) Which operator of the following cannot be overloaded ?

- 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 ? 3 + 2
- 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. 3 + 2
- 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