



Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/BCA/SEM-4/BCA-402/2011  
2011**

**OBJECT ORIENTED PROGRAMMING WITH C++**

Time Allotted : 3 Hours

Full Marks : 70

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

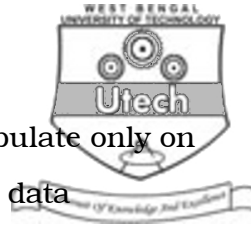
**GROUP – A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for the following :

10 × 1 = 10

- i) The declaration `int const * p = &a` signifies `p` as a
  - a) constant pointer
  - b) pointer to an integer
  - c) pointer to constant
  - d) none of these.
- ii) The constructor is invoked at the time of
  - a) creating an object
  - b) releasing an object
  - c) calling member function of an object
  - d) none of these.



- iii) The static member function can manipulate only on
  - a) global data
  - b) local data
  - c) private data
  - d) static data.
- iv) If  $P$  and  $Q$  are pointers of type  $\text{int}$  and  $m$  is an  $\text{int}$  type variable, which of the following is legal ?
  - a)  $p - q$
  - b)  $m + p$
  - c)  $p - m$
  - d)  $m - q$ .
- v) 'cin' is
  - a) an object
  - b) function
  - c) class
  - d) none of these.
- vi) void is a ..... in C++
  - a) data type
  - b) function
  - c) operator
  - d) none of these.
- vii) The reinitialization of the object can be by
  - a) constructor
  - b) destructor
  - c) copy constructor
  - d) none of these.
- viii) Friend class can be declared
  - a) inside the class
  - b) outside the class
  - c) both (a) and (b)
  - d) none of these.
- ix) All the function defined inside the class specified are inline by
  - a) auto
  - b) static
  - c) default
  - d) none of these.
- x) Static members are initialized to
  - a) 1
  - b) 0
  - c) garbage
  - d) none of these.



**GROUP – B**

**( Short Answer Type Questions )**

Answer any *three* of the following.  $3 \times 5 = 15$

2. Explain friend function with proper example. Differentiate between dynamic constructor and copy constructor.  $2 + 3$
3. What do you mean by abstraction ? Define virtual function with the help of a C++ program.  $1 + 4$
4. What is "this" pointer ? Differentiate between
  - a) local class and global class.
  - b) local object and global object.  $1 + 2 + 2$
5. Differentiate between object oriented programming and procedural programming.  $5$
6. Explain with the help of examples private, public and protected access Specifiers.  $5$

**GROUP – C**

**( Long Answer Type Questions )**

Answer any *three* of the following.  $3 \times 15 = 45$

7.
  - a) What is manipulator ? Explain multiple inheritance.
  - b) When do we need virtual function ? When would you make it pure ?
  - c) How would you create space for an array of objects using pointer ? Give example.  $( 2 + 3 ) + 5 + 5$

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8. What is class templates ? Give example. Write a program to sort  $n$  data items using templates function. What is virtual class ?

3 + 3 + 6 + 3

9. What is inline function ? Write down its limitations. What is default arguments ? Explain constructor with default arguments. What is function overloading ?

2 + 3 + 2 + 5 + 3

10. a) What is operator overloading ? Why is it necessary to overload an operator ?

b) A friend function cannot be used to overload the assignment. Explain why.

c) Write a program in C++ to overload a binary operator.

5 + 5 + 5

11. Write short notes on any *three* :

3 × 5 = 15

- a) Asynchronous exception
- b) Hybrid inheritance
- c) Compile time polymorphism
- d) Container class
- e) Overriding.

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