



Name :

Roll No. :

Invigilator's Signature :

**CS/B.TECH(ICE)/SEM-5/IC-502/2011-12
2011**

OBJECT ORIENTED PROGRAMMING & DESIGN

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 any *ten* of the following :

10 × 1 = 10

i) The cin and count functions require the header file to include

- | | |
|---------------|-------------------|
| a) iostream.h | b) stdio.h |
| c) iomanip.h | d) none of these. |

ii) The buffer is a

- | | |
|----------------------|-------------------|
| a) block of memory | b) part of ram |
| c) part of hard disk | d) none of these. |



iii) The :: is known as

- a) scope access operator b) double colons
- c) both (a) and (b) d) none of these.

iv) The new and delete are

- a) operators b) keywords
- c) both (a) and (b) d) none of these.

v) In nested loop

- a) the innermost loop is completed first
- b) the outermost loop is completed first
- c) both (a) and (b)
- d) none of these.

vi) The members of a class are by default

- a) private b) public
- c) protected d) none of these.



vii) A non-member function that can access the private data of class is known as

- a) friend function b) static function
- c) member function d) library function.

viii) Constructors and destructors are automatically invoked by

- a) compiler b) operating system
- c) main () function d) object.

ix) Destructors can be

- a) overloaded b) of any data type
- c) able to return result d) explicitly called.

x) The keyword operator is used to overload a / an

- a) operator b) function
- c) class d) none of these.



- xi) The protected keyword allows
- a) derived class to access base class member directly
 - b) prevents direct access to public members
 - c) allows objects to access private members
 - d) all of these.
- xii) The class is declared virtual when
- a) two or more classes involved in inheritance have common base class
 - b) more than one class is derived
 - c) we want to prevent a base class from inheritance
 - d) none of these.

GROUP – B

(Short Answer Type Questions)

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

2. What are static objects ? What is the difference between object and variables ? $2 + 3$
3. Write a program to define three classes. Read and display the data for three classes using common functions and friend functions.



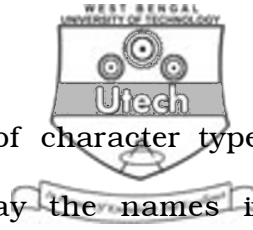
4. What are inline functions ? Discuss its advantages and disadvantages. 3 + 2
5. What do you mean by overloading of constructors ? What is copy constructor ? 3 + 2
6. What is this pointer ? What are the features of using pointers ? 2 + 3

GROUP – C

(Long Answer Type Questions)

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

7.
 - a) What is function overloading ? Give an example. 3
 - b) Write a program to display only integer portion of the given float numbers without type casting. 4
 - c) What is the difference between public, private and protected variables and functions ? 4
 - d) What are friend function and friend classes ? Explain it. 4
8.
 - a) How are arguments passed to the constructors ? 3
 - b) What is anonymous object ? What are qualifier classes ? 2 + 2
 - c) What is parameterized constructor ? What do you mean by default constructor ? 2 + 2
 - d) Write a program to create object without name. 4



9. a) Write a program to declare array of character type. Store ten names in array. Display the names in ascending order. 4
- b) Explain the properties of new and delete operators. 2 + 2
- c) What are pure functions ? How are they declared ? 3
- d) What is virtual function ? Explain virtual destructor. 2 + 2
10. a) What do you mean by exception handling ? 3
- b) Describe the role of keywords try, catch and throw in exception handling. 3
- c) Write a program to accept 10 integers in an array. Check all numbers in the array. When any negative number is found, throw an exception. 3
- d) Write a program to read a string. Add the same string in the reverse order to the end of the same string. 3
- e) Write a program to exchange the contents of two string objects. 3
- Use the member function swap (). 3



11. a) What is Bit Fields ? How it will be declared ? 1 + 2
- b) What are the Manipulators in C++ ? 3
- c) What are identifiers, variables and constants ? 3
- d) What is dynamic initialization ? What are the type modifiers ? 1 + 2
- e) Explain type casting. What is explicit and implicit type casting ? 1 + 2

