

01622

**B.Tech. IN COMPUTER SCIENCE AND
ENGINEERING (BTCSVI)**

Term-End Examination

December, 2011

BICS-003 : OBJECT ORIENTED PROGRAMMING

Time : 3 hours

Maximum Marks : 70

Note : Attempt any five questions. Question no. 1 is compulsory.

1. (a) What will be the values of x, m, n after execution of following statements ? **2x7=14**
- int x, m, n ;
- m = 10;
- n = 15;
- X = ++m + n++ ;
- (i) X = 25, m = 10, n = 15
- (ii) X = 27, m = 10, n = 15
- (iii) X = 26, m = 11, n = 16
- (iv) X = 27, m = 11, n = 16
- (b) By default members of a class are -
- (i) Private (ii) Public
- (iii) Protected (iv) Void

- (c) For overloading a binary operator, friend function requires :
 - (i) one argument
 - (ii) two argument
 - (iii) three argument
 - (iv) zero argument
- (d) The break statement -
 - (i) Causes exit from outer most loop
 - (ii) Causes exit from inner most loop
 - (iii) Causes exit from nested loop
 - (iv) None of these
- (e) Which of the following can be overloaded ?
 - (i) =
 - (ii) ::
 - (iii) Sizeof ()
 - (iv) ? :
- (f) Templates are range of related :
 - (i) classes
 - (ii) objects
 - (iii) arrays
 - (iv) variables
- (g) Exceptions are handled using :
 - (i) operator overloading
 - (ii) try and catch block
 - (iii) friend function
 - (iv) virtual function

2. (a) Can we use the same function name for a member function of a class and an outside function in the same program file ? If yes, how are they distinguished ? If no give reasons. 7
- (b) What is a friend function ? What are the merits and demerits of using friend functions ? 7

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| 3. | (a) | What is containership ? How does it differ from inheritance ? | 6 |
| | (b) | What is a virtual base class ? When do we make a class virtual ? Explain with an example. | 8 |
| 4. | (a) | What are input and output stream ? Explain. | 6 |
| | (b) | Write a program to input some numbers in a file. Read this file and store even and odd numbers into two separate files namely "EVEN" and "ODD" respectively. | 8 |
| 5. | (a) | Write a program containing a possible exception. Use a try block to throw it and a catch block to handle it properly. | 8 |
| | (b) | What is an algorithm ? How STL algorithms are different from the conventional algorithm ? | 6 |
| 6. | (a) | Use friend function to overload the addition operator for the addition of two complex numbers. | 7 |
| | (b) | What is a conversion function ? How is it created ? Explain its syntax. | 7 |
| 7. | (a) | Describe the syntax of multiple inheritance. How is it different from multilevel inheritance ? | 7 |
| | (b) | What is virtual function ? Why do we need virtual functions ? | 7 |