

**BACHELOR OF INFORMATION TECHNOLOGY**

**Term-End Examination**

**December, 2010**

00775  
2200

**CSI-24 : OBJECT ORIENTED PROGRAMMING**

*Time : 2 hours*

*Maximum Marks : 60*

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*Note : There are two sections in this paper. All questions from Section-A are compulsory. Answer any two questions from Section-B.*

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**SECTION - A**

1. State whether following statements are *true* or *false* : 5
- (i) Because friend functions are inherited, deriving a class from a base class with friends can violate the encapsulation of the derived class.
  - (ii) Having a derived class function with the same name as a function in the corresponding base class is called function overloading.
  - (iii) In C++, a pointer to base class can point to objects of a derived class.

- (iv) Polymorphism makes systems less extensible.
- (v) When deriving from a private base class, the public, protected and private members of the base class become private members of the derived class.

2. Differentiate between the following : 3x5=15

- (a) Structure and Union.
- (b) Call by value and call by reference
- (c) Method overloading and method overriding.

3. (a) Write a program to find the reverse of the given number. 5

(b) Explain the concept of encapsulation with an example program. 5

## SECTION - B

1. (a) Explain the concept of operator overloading with the help of an example program. 7
  - (b) Write a menu drivers temperature conversion program that gives the user the option of converting Fahrenheit to Celsius or Celsius to Fahrenheit. Then carry out the conversion. Use floating point numbers. 8
  
  2. (a) Write a program in C++ for generating first 15 prime numbers. 10
  - (b) Differentiate between runtime polymorphism and compile time polymorphism. 5
  
  3. (a) Explain the following concepts in brief :  $3 \times 3 = 9$ 
    - (i) 'Abstract class'
    - (ii) Destructor
    - (iii) Copy constructor
  - (b) Write declaration in C++ for the following : 6
    - (i) A pointer to a character.
    - (ii) An array of 10 integers.
    - (iii) A reference to an array of 10 integers.
    - (iv) A pointer to an array of character strings.
    - (v) A pointer to a pointer to a character.
    - (vi) A pointer to function.
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