**3E1654**

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B. Tech. III Semester (Main/Back) Examination-2014

Computer Engg. & Information Tech.

**3CS4A & 3IT4A Object Oriented Programming**

(Common with EE, EX)

Time : 3 Hours

Maximum Marks : 80

Min. Passing Marks : 24

*Instructions to Candidates:*

*Attempt any **five** questions, selecting **one** question from **each** unit. All questions carry **equal** marks. (Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly)*

### Unit - I

1. a) Explain difference between classes and structures (in C) in detail. (8)

   b) Write down the syntax for accessing members of structure using structure variables with suitable example. (8)

**OR**

1. a) What is the difference between structured programming and object oriented programming. (8)

   b) Explain structure as a user defined data type in 'C' with the help of suitable example. (8)

### Unit - II

2. a) What is object oriented concept of programming? Discuss with all features? (8)

   b) What are Friend functions in C++? Explain characteristics of Friend functions. (8)

## OR

2. a) What are classes and objects? Explain the process of creating and destroying objects dynamically using "new" and "delete" operators. (8)

   b) What is the basic difference in inheritance and polymorphism. (8)

## Unit - III

3. What is operator overloading? How will you overload binary unary operations? Discuss both processes with the help of programming implementation. (16)

## OR

3. a) What is type conversion in C++? How it is achieved in user defined data types? (8)

   b) What is function overloading? Explain with help of a suitable example. (8)

## Unit - IV

4. a) Define super class and subclass. Explain the concept of public, private and protected inheritance. (8)

   b) What is Dynamic binding? Explain the concept of virtual function with the help of an example. (8)

## OR

4. Define inheritance. Explain single, multiple and multi level inheritance with the help of block diagram. What ambiguity may arise in case of multiple inheritance and how it is resolved. (16)

## Unit - V

5. What is the exception handling. Discuss the exception handling mechanism. (16)

5.  Write short notes (on any **four**)

   a)  Composition of classes.

   b)  Templates.

   c)  Keyword "using"

   d)  Abstract class.

   e)  Function overloading and function over riding.

   f)  Container and proxy classes.                                        (16)

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