

Paper Code & Roll No. to be filled in your Answer Book

Roll No.

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**B.Tech.**

**UTU (Sem III) (ODD Sem) EXAMINATION, 2013-14**

**Object Oriented Programming**

Time : Three Hours

[Max. Marks : 100

**Note:** Attempt all questions as per direction given thereof.

All questions carry equal marks. Be precise with your answer.

### Unit-I

1. Attempt any two of the following : (5×2=10)
  - a) Explain what is the importance of Object Oriented Programming?
  - b) Differentiate between an association and aggregation?
  - c) Explain what is an abstract class? How is it different from a concrete class?
  - d) Define the term multiple inheritance. Also explain the problem associated with it and a solution to deal with the problem.

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(b) What is exception handling? Give an example to handle multiple exceptions in java.

(c) What are the controls supported by AWT? Discuss the different types of layout manager used in java.

### Unit-V

5. Attempt any two of the following: (10×2=20)

(a) Explain what was the need of migrating from C++ to Java in software development?

(b) Describe the following in brief:

i) Java Swing

ii) Applications of Java

(c) Differentiate JDBC with ODBC. Write a program for establishing a connection with database using java.

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- e) What is a state diagram? Explain the state diagram for a phone line.
- f) What do you mean by Scenario and event trace? Write a scenario for an elevator ride to the top floor.

### Unit-II

2. Attempt any two of the following : (10×2=20)
- (a) Explain the concept of functional modeling with respect to data flow diagram.
- (b) Describe what are the various OMT (Object Modeling Techniques) methodologies?
- (c) Prepare a DFD for computing the root of a quadratic equation  $ax^2+bx+c=0$ , where a, b, c are inputs and  $x=R_1$ ,  $x=R_2$  are the outputs that satisfy the equation.  $R_1$  and  $R_2$  may be real or complex depending upon the values of a, b, c. The quadratic formula for  $R_1$  and  $R_2$  is

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}.$$

3. Attempt any two of the following: (10×2=20)
- (a) Discuss the thread model in java. How can we create a new thread in java?
- (b) What is stream in java? Differentiate between a character stream and byte stream with examples.
- (c) What is an applet? Describe the life cycle methods of java applet and explain the two different ways to execute an applet.

### Unit-III

4. Attempt any two of the following: (10×2=20)

- (a) Differentiate between String and StringBuffer? For a string `str="AEIOU"`, write a program to do the following:
- i) To display the number of characters in the str;
- ii) To display the str in lower case.
- iii) To display the str in reverse order.

### Unit-IV

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P.T.O.