

ALCCS – NEW SCHEME

Time: 3 Hours

FEBRUARY 2012

Max. Marks: 100

PLEASE WRITE YOUR ROLL NO. AT THE SPACE PROVIDED ON EACH PAGE IMMEDIATELY AFTER RECEIVING THE QUESTION PAPER.

NOTE:

- Question 1 is compulsory and carries 28 marks. Answer any FOUR questions from the rest. Marks are indicated against each question.
- Parts of a question should be answered at the same place.

- Q.1**
- a. What is encapsulation? Explain with the help of an example using JAVA.
 - b. What is JVM? Why is it needed?
 - c. What is an event? What is the event delegation model? List various mouse and keyboard events.
 - d. What is the difference between final, finally and finalize keywords in JAVA?
 - e. What is the life cycle of an Applet? Explain each state of Applet in brief.
 - f. What are the differences between Swing and AWT?
 - g. What is HTTP Servlet? Explain any four methods of HTTPServlet class. (7 × 4)
- Q.2**
- a. Explain with the help of a program how object oriented programming overcomes the shortcomings of procedure oriented programming. (9)
 - b. Create a Java Class “Shape” with constructor to initialize the one parameter “dimension”. Now create three sub classes of Shape with following methods
 - (i) “Circle” with methods to calculate the area and circumference of the circle with dimension as radius.
 - (ii) “Square” with methods to calculate the area and length of diagonal of the square with dimension as length of one side.
 - (iii) “Sphere” with methods to calculate the volume and surface area of the sphere with dimension as radius of the sphere.Write appropriate main method to create object of each class and test every method. (9)
- Q.3**
- a. Explain the use of any four bitwise operators and instance of operator with the help of examples. (9)

Code: CT21**Subject: OOPS USING JAVA**

- b. What are the differences between Array List and Array? Explain the use of Array List with the help of an example. (9)
- Q.4** a. Define an interface using JAVA that contains a method to calculate the perimeter of an object. Define two classes-circle and Rectangle with suitable fields and methods. Implement the interface “perimeter” in these classes. Write the appropriate main() method to create object of each class and test all the methods. (9)
- b. Explain Method overloading & Method overriding with suitable example. Can you overload operators in java? (9)
- Q.5** a. Discuss basic in-built packages in java and their uses in application development in brief. Which package is the default package? (9)
- b. Explain Multithreading. In how many ways java implements multithreading? Explain at least one of these ways with appropriate example. (9)
- Q.6** a. What is an exception? What are different exceptions in Java? Explain how you can handle exception in JAVA with the help of an example using try-catch-finally block. (9)
- b. Write a program to list all the files and directories contained in a directory given as the command line argument. (9)
- Q.7** a. Explain different types of Layout Manager (Flow Layout, Grid Layout, and Border Layout) available in Java with help of an example of each. (9)
- b. Discuss class hierarchy of javax.Swing package. List Three Controls of this package along with their use. (9)