

ALCCS – (NEW SCHEME)

Code: CT21
Time: 3 Hours

Subject: OOPS USING JAVA
Max. Marks: 100

MARCH 2011

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**
- What are the differences between an abstract class and an interface?
 - How can you create a package of your own in Java? Explain with the help of an example.
 - What are different types of exceptions in Java? Why do you need to catch an exception in Java? Explain.
 - What is synchronization in the context of Java? What is the difference between notify and notifyAll method?
 - How can you implement, an array in Java, whose size may change during execution of a program?
 - Write a note on Stateful session bean.
 - What is an adapter class? (7 × 4)
- Q.2**
- Explain the concepts of encapsulation, inheritance, dynamic binding and message communication using an example(s). (8)
 - What is the contribution of Java to the World Wide Web? (5)
 - Write a brief note on JVM. How a Java program is converted into machine code. (5)
- Q.3**
- Explain with the help of a Java program how an interface can be used to support multiple inheritance. (9)
 - Describe complete life cycle of a thread. Write a Java program that shows the use of priority in threads. (9)
- Q.4**
- Create a try block that will generate three types of exception and also create necessary catch blocks to catch these exceptions and handle these. You should also use finally statement in your block. (9)

- b. Write a Java program that creates a file stream concatenating two existing files. Also make use of input buffer to read the content of resultant file and output buffer to display the content. (9)
- Q.5** a. Write a program in Java that demonstrates the use of polymorphism. Write the suitable classes and main method for the same. (8)
- b. Write a java program that draws a rectangle whose size increases every 1,000 ms.(10)
- Q.6** a. Discuss advantages and disadvantages of Java applets. Develop an applet that receives two numerical values as input from the user and then displays the sum of these numbers on the screen. Write the HTML code that calls the applet. (10)
- b. Make an inheritance diagram of the AWT event classes. What is meant by Semantic and Low-level events in the AWT? List various semantic and low-level event classes in java.awt.event package. (8)
- Q.7** Write notes on any **FOUR** of the following. Also give small java code wherever necessary:
- (i) Java Beans
 - (ii) Grid layout manager
 - (iii) Static members
 - (iv) Strings in Java
 - (v) Use of sound and video in Java.
- (4.5 × 4)