Roll No .....

IT - 505

B.E. V Semester

Examination, December 2013

Java Programming

Time : Three Hours

Maximum Marks : 70

Note: Attempt all questions.. All questions carry equal marks.

1. a) Why Java is called a strongly-typed language?
   b) With the help of your own examples, Discuss the primitive's data types of the Java language.

OR

2. a) Discuss the scope and lifetime of variables in a Java program.
   b) What are the advantages of object-oriented programming?

3. a) Illustrate, with a small program, the dynamic initialization of variables.
   b) Write a temperature-conversion application that converts from Fahrenheit to Celsius. The Fahrenheit temperature should be entered from the keyboard (via a JText Field). A JLabel should be used to display the converted temperature. Use the following formula for the conversion: Celsius = $5/9 \times$ (Fahrenheit-32)

OR

4. a) Create the components listed below. Each component's event handler should call the appropriate method in class DrawPanel.
      i) A button to undo the last shape drawn.
      ii) A button to clear all shapes from the drawing.
      iii) A combo box for selecting the shape to draw.
      iv) A checkbox that specifies whether a shape should be filled or unfilled.

   b) When is it necessary to cast a data type? Explain the type casting with the help of an example.

5. a) What is meant by priority of a thread? Which are the three constants associated with thread priorities? With the help of a sample program, explain the setting and getting of thread priorities.
   b) Explain the theory of thread synchronization. How is it achieved in Java?

OR

6. a) With the help of your own program, explain how threads can be created by:
      i) Extending the **Thread** class and
      ii) Implementing the **Runnable** interface
   b) Explain the Producer-Consumer problem and demonstrate with the help of a program how this problem can be solved by using the **wait** ( ) and **notify** ( ) methods.

7. a) Explain the constructors of **FileInputStream** class. Write a program to read a text file stored in the same directory as the program, reverse its contents and display them on screen.
   b) Write a sample program and explain how to compare two files and test them for equality.

OR

8. a) Write a program to demonstrate the use of SequenceInputStream to concatenate 2 byte array input streams.
   b) Explain the function of JDBC. Describe the JDBC connection model to connect the database.

9. a) Describe how a client connects to a server.
   b) How does a server listen for stream-based socket connections at a port?

OR

10. a) Distinguish between connection-oriented and connectionless network services.
    b) Use a socket connection to allow a client to specify a file name of a text file and have the server send the contents of the file or indicate that the file does not exist.