Roll No .....

MCA - 405(A)

MCA. IV Semester

Examination, June 2014

Java Programming and Technology

(Elective-I)

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.

ii) All parts of each question are to be attempted at one place.

iii) All questions carry equal marks, out of which part A and B (Max. 50 words) carry 2 marks, part C (Max. 100 words) carry 3 marks, part D (Max. 400 words) carry 7 marks.

iv) Except numericals, Derivation, Design and Drawing etc.

Unit - I

1. a) Java is a platform independent language. Comment. 2

   b) What is the scope and lifetime of a variable? 2

   c) What is constructor? Explain with suitable example. 3

   d) Explain the type of inheritance with examples. What are the benefits of inheritance? 7

   OR

   Explain the following: 7

   i) This pointer

   ii) Finalize ( ) method

   iii) Dynamic method dispatch

Unit - II

2. a) What is interface? Why is it needed? 2

   b) What are the two methods by which we may stop threads? 2

   c) List some of the most common types of exceptions that might occurs in Java. Give examples. 3

   d) What is exception? Explain how exception handling mechanism can be used for debugging a program. 7

OR

Describe the complete life cycle of a thread. Develop a real life application program to illustrate the use of multithreads. 7

Unit - III

3. a) Describe the AWT class hierarchy. 2

   b) What are the major components of Java's event delegation model? Briefly explain. 2

   c) How do applets differ from application programs? 3

   d) Describe the different stages in the life cycle of an applet. Distinguish between init ( ) and start ( ) methods. 7

OR

Write a simple Java program to create a 4 × 4 grid and fills it in with 15 buttons, each labeled with its index. 7

Unit - IV

4. a) What is a stream class? How the stream classes classified? 2

   b) Describe the most commonly used classes for handling I/O related exceptions. 2

   c) Explain the architecture of JDBC. 3

   d) Distinguish between
      i) Input stream and reader classes
      ii) Output stream and writer classes

OR

Write a JDBC program for student mark list processing. 7

Unit - V

5. a) Differentiate between TCP sockets and UDP sockets. 2

   b) Explain the client/server architecture. 2

   c) Write steps to create RMI applications. 3

   d) How do we establish a connection with database in Java? Write a code for connection. 7

OR

What is the purpose of collection frame work? What is collection interface? Illustrate its usage. 7

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