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Total No. of Pages : 02

Total No. of Questions : 09

MCA (2012 & Onward) (Sem.–3)

JAVA PROGRAMMING

Subject Code : MCA-304

Paper ID : [B1160]

Time : 3 Hrs.

Max. Marks : 100

INSTRUCTIONS TO CANDIDATES :

1. **SECTIONS-A, B, C & D** contains **TWO** questions each carrying **TWENTY** marks each and students has to attempt any **ONE** question from each **SECTION**.
2. **SECTION-E** is **COMPULSORY** consisting of **TEN** questions carrying **TWENTY** marks in all.
3. Use of non-programmable **scientific calculator** is allowed.

SECTION-A

1. What is the Object-Oriented Approach of software development? What are its advantages? What are its disadvantages? (10,5,5)
2. Explain a class as a user defined data type. How does use of access modifiers help in controlling access to members of a class? (5,15)

SECTION-B

3. What is Multiple Inheritance? Explain diagrammatically. How is it implemented in JAVA? (3,2,15)
4. a) What is exception handling? How is it implemented in Java?
b) Write a program to read a person's details such as name, age, gender, address, occupation. Handle all the exceptions if a user enters invalid data. (15,5)

SECTION-C

5. Write a short note on:
a) JDBC (10)
b) Swings (10)
6. What is an applet? What are the different types of applets? Design an applet that displays a message in the centre of the screen. (5,10,5)

SECTION-D

7. a) What is the role of a socket in network communication? Write the classes that are available in java net package for supporting communication in client and server programs. (6,4)
- b) Write down the steps for creating :
- i) a simple client program in Java. (5)
- ii) a simple server program in java. (5)
8. Explain the Servlet life cycle and its methods. (20)

SECTION-E

9. Write briefly :

- a) Write atleast two basic differences between Java and C++.
- b) What is a data stream?
- c) How is garbage collection useful?
- d) What is the use of finalize method?
- e) How applets differ from applications?
- f) Draw the coordinate system of Java.
- g) Differentiate between TCP and UDP sockets.
- h) What is the role of the init method in a servlet?
- i) Declare an array of names. Write code to print this array.
- j) What is RMI in Java?