Roll No. ⎕⎕⎕⎕⎕⎕⎕⎕⎕⎕⎕   **Total No. of Pages : 04**

Total No. of Questions : 14

MCA   (Sem.–5)
INTERNET PROGRAMMING AND JAVA
Subject Code : MCA-502
Paper ID : A0522

Time : 3 Hrs.   **Max. Marks : 75**

INSTRUCTIONS TO CANDIDATES :
1. **SECTION-A will be compulsory and have 20 questions of 1 mark each.**
2. **SECTION-B will have 8 short answer type questions of 5 marks each, out of which candidate will have to attempt any 5.**
3. **SECTION-C will have 5 long answer type questions of 10 marks each, out of which candidate will have to attempt any 3.**

SECTION-A

1. **Multiple Choice Questions :**

    a. Which of the following is not OOPS concept in Java?

        a) Inheritance   b) Encapsulation

        c) Polymorphism   d) Compilation

    b. Which component is used to compile, debug and execute java program?

        a) JVM   b) JDK

        c) JIT   d) JRE

    c. Which of these is a mechanism for naming and visibility control of a class and its content?

        a) Object   b) Packages

        c) Interfaces   d) None of the Mentioned.

    d. The Java ………………….. packages contains all the classes and methods required for even handling.

        a) java.applet   b) java.awt

        c) java. event   d) java.awt.eve

e. Which of these methods can be used to output a string in an applet?

   a) display()   b) print()

   c) drawString()   d) transient()

f. Which of these keywords must be used to monitor for exceptions?

   a) try   b) finally

   c) throw   d) catch

g. Which of these method is used to implement Runnable interface?

   a) stop()   b) run()

   c) runThread()   d) stopThread()

h. Which of these classes are used by Byte streams for input and output operation?

   a) InputStream   b) InputOutputStream

   c) Reader   d) All of the mentioned

i. Which of the following is advantage of using JDBC connection pool?

   a) Slow performance   b) Using more memory

   c) Using less memory   d) Better performance

j. Which method is used to get three-letter abbreviation for locale's country in servlets?

   a) Request.getIS03Country()   b) Locale.getIS03 Country()

   c) Response.getIS03Country()   d) Local. retrieveIS03Country()

State True or False :

k. Java Programming promises programmer - "Write Once, Run Anywhere".

l. Method overriding is combination of inheritance and polymorphism.

m. Java supports operator overloading.

n.   An arithmetic operations can also be performed by an Applet.

o.   A servlet is a Java program that is invoked via HTTP on the Web server.

p.   A Java class may implement one or more interfaces.

q.   Servlets execute within the address space of web server and uses the functionality of java class libraries.

r.   ObjectFilter interface is not a member of java.io.package.

s.   Session.updateAttribute(String name) is used to get an attribute in a HTTP Session object in servlets.

t.   In JDBC the java.sql.ResultSet interface represents the result set of a database query.

SECTION-B

2.   Explain JDK, JRE and JVM with a suitable diagram.

3.   What are different types of access modifiers in Java? Discuss the procedure for initializing objects of a class.

4.   How Java packages differ from Interfaces? Explain it with a suitable example.

5.   How do we create a Java applet? Discuss its life cycle showing passing parameters to Applets.

6.   Explain exception and when it is raised in Java? Discuss how does the exceptions are handled in Java?

7.   Describe Event Handling and explain five widely used Listener Interface to implement this in Java.

8.   What is Java Swing and describe its working? Justify why Swing components are called lightweight?

9.   Justify the purpose of different classes and methods used for Java I/O (Input/Output) handling.

SECTION-C

10. Explain the concept of OOPS in detail and differentiate between Java, C and C++ programming languages.

11. Write a Java program to design a front end for a login page using Swing components with the following :

   a) Border layout,

   b) Grid Layout managers :

12. What is Multithreading and how it is implemented in Java? Explain the stages of a thread life cycle.

13. What is JDBC and explain its architecture. Write the purpose of the following JDBC classes : (a) DriverManager, (b) ResultSet, (c) Statement Interface, (d) Connection Interface

14. Differentiate the following with suitable examples of each:

   a) TCP and UDP Sockets in Java Socket programming.

   b) doGet and doPost method in Java Servlets.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.