USN | | | | | | | | | | **10CS/IS753**

Seventh Semester B.E. Degree Examination, Jan./Feb. 2021
Java and J2EE

Time: 3 hrs.   Max. Marks:100

Note: *Answer any FIVE full questions, selecting at least TWO full questions from each part.*

PART – A

1   a.   Explain the scope and life time of a variable used in Java.   **(04 Marks)**
    b.   Explain the importance and creation of 1D, 2D and multi-dimensional arrays in Java with the help of a Java program.   **(10 Marks)**
    c.   Write a Java program to accept the marks scored by N students in the subject 'JAVA and J2EE' and find the highest mark scored in that subject.   **(06 Marks)**

2   a.   Write short notes on:
       i)   'this' keyword
       ii)   finalize( )
       iii)   'final' keyword.   **(08 Marks)**
    b.   Explain how nested class and inner classes are created in Java.   **(06 Marks)**
    c.   What is an applet? Write an applet program to accept two numbers and display the product of those two numbers.   **(06 Marks)**

3   a.   How to create multiple threads in JAVA? Explain with the help of a program.   **(06 Marks)**
    b.   What do you mean by 'Deadlock'? How to avoid deadlock condition in JAVA.   **(06 Marks)**
    c.   Display the different OS like Windows, Linux, Unix, Mac etc on the window layout created using AWT selection button. Write an event handling JAVA program which displays the OS name when it is selected through mouse.   **(08 Marks)**

4   a.   Explain any two key features of SWING.   **(05 Marks)**
    b.   Write a swing applet to create a simple calculator.   **(10 Marks)**
    c.   Explain how painting can be used in swing.   **(05 Marks)**

PART – B

5   a.   Compare and contrast four groups of JDBC drivers.   **(05 Marks)**
    b.   Explain the steps involved in database connectivity. Explain with the help of a program which also handles various exceptions while connecting to the database.   **(05 Marks)**
    c.   Explain the 3 types of 'statement' object which are used to execute the SQL query. Write a JAVA code which uses the statement object to execute a query.   **(10 Marks)**

6   a.   Write a Servlet program which accepts the temperature in Farenheit and converts it into celcius. [Hint: $F = c * a/5 + 32$].   **(08 Marks)**
    b.   Explain any 2 methods defined in servlet interface.   **(04 Marks)**
    c.   How cookie and session differ? Write a servlet program which demonstrates both.   **(08 Marks)**

7   a.   What is JSP? Explain the 3 types of JSP elements with an example each.   **(08 Marks)**
    b.   Define: Scriplet. Explain how it could be useful in a JSP program.   **(04 Marks)**
    c.   What is the use of RMI? Explain with the use of client side and server side applications.   **(08 Marks)**

8   a.   What do you mean by EJB? Explain 3 types of EJBs in detail.   **(08 Marks)**
    b.   What is the use of JAR file? Explain in detail how it could be created and viewed.   **(06 Marks)**
    c.   Explain about the stateless session beans with the help of a program.   **(06 Marks)**

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