Seventh Semester B.E. Degree Examination, June/July 2024
JAVA and J2EE

Time: 3 hrs.   Max. Marks:100

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

PART – A

1 a. Explain the role of byte code and JVM in JAVA. **(05 Marks)**
   b. Write a program to find the sum and average of {2, 4, 6, 7, 1, 5} using for each loop. Differentiate between for and for each loop. **(05 Marks)**
   c. Explain widening conversion and norrowing conversion with example. **(06 Marks)**
   d. Compare >> and >>> operators with example. **(04 Marks)**

2 a. Explain the concept of Garbage Collection and finalize( ) method in Java. **(05 Marks)**
   b. Explain how the variables and methods are declared in interfaces and how they are used outside the interface. **(04 Marks)**
   c. Write a program that generates and handles the following exceptions appropriately: ArrayIndexOutOfBoundsException and NumberFormatException **(05 Marks)**
   d. Write a program to create an applet that receives two parameters namely "subjectname" and "subcode" from applet tag and displays the same on it. **(06 Marks)**

3 a. Give the general form of isAlive( ) and join( ) methods. Explain their functionality. **(04 Marks)**
   b. Define Thread. What is main thread? **(04 Marks)**
   c. Explain ActionEvent class and ItemEvent class. **(12 Marks)**

4 a. Explain the two key features of swings. **(05 Marks)**
   b. List four types of swing buttons. Explain the functionality of JToggleButton in detail. **(05 Marks)**
   c. Write a program to create 4 checkbox and a label on JApplet. When user clicks on checkbox an event is generated and suitable message is displayed on the label. **(10 Marks)**

PART – B

5 a. Explain the JDBC Driver Types. **(08 Marks)**
   b. What is ResultSet? Explain. **(02 Marks)**
   c. Explain the steps of JDBC process with code snippet. **(10 Marks)**

6 a. Define Servlet. Compare Servlet with CGI programs. **(06 Marks)**
   b. What is Cookie? What are the information saved in each cookie? **(06 Marks)**
   c. Design a Servlet that contains HTML page with 3 color options and a submit button. HTML page allows user to choose a color and submits it. Servlet accepts the color and display a message "You have selected colorname" on browser window. **(08 Marks)**

7 a. What is JSP? What are its advantages compared to Servlets? **(04 Marks)**
   b. Explain the JSP tags with syntax. Write a HTML code to illustrate any three of them. **(09 Marks)**
   c. Explain how RMI works in Java. **(07 Marks)**

8 a. Explain EJB container, EJB clause, and EJB Interfaces. **(06 Marks)**
   b. Write short notes on: (i) Session Java beans (ii) Entity Java beans **(08 Marks)**
   c. Explain JAR files with its contents. **(06 Marks)**

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