

(6) TBC-303/TBI-305

Write a Java Code to perform the following task [Search, Save and Update are Buttons) :

- Write a JDBC code (Assume table emp(e\_id,e\_name,\_course,e\_address)
- Write a code to save the data in respective table.
- Write a code to Update the record (As per the roll no).
- Write a code to search the record as per the Search (Button mentioned above). (CO5)

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Roll No. ....

**TBC-303/TBI-305**

**B. C. A./B. SC. (IT)  
(THIRD SEMESTER)  
END SEMESTER**

**EXAMINATION, Jan., 2023**

**JAVA PROGRAMMING**

**Time : Three Hours**

**Maximum Marks : 100**

**Note :** (i) All questions are compulsory.

(ii) Answer any *two* sub-questions among (a), (b) and (c) in each main question.

(iii) Total marks in each main question are **twenty**.

(iv) Each sub-question carries 10.marks.

1. (a) Define Arrays in Java. State its classification. Write a Java programme to accept 10, 45, 67, 45, 67 values in an Array through user and print them. (CO1)

*P. T. O.*

- (b) What is Interface in Java. Explain its usage. Explain how interfaces are used for implementing multiple inheritance in Java.

(CO1)

- (c) Write a Program in Java to calculate Simple Interest. (SI :  $P \times R \times T / 100$ ). Here accept the values for P, R, T by user through Scanner class.

(CO1)

2. (a) Describe packages in Java. State the benefits of using packages in Java. Write a programme to create package shape and add the following (as given below) in the package.

(CO2)

Interface : Test
Area (int l, int b)

Class : Rectangle
Area (int l, int b)

- The above package must contain interface Test and Class Rectangle.

- Also, write a code for the following :
  - To show the inheritance between Test and Rectangle
  - Write a code for Area () method

- (b) Illustrate the usage of throw and throws by using suitable example. (CO2)

- (c) Define Exceptions in Java. Write a Java code to show the implementation of ArrayIndexOutOfBoundsException and ArithmeticException. (CO2)

3. (a) Define Multithreading in Java ? Explain life cycle of thread ? State the programme which shows the difference between Runnable and Thread class. (CO3)

- (b) Explain collections in Java. Write a programme to insert following values (5, 6, 7, 8, 4, 5) through ArrayList Class. Also state the difference while adding these contents through simple array or by using array list class ? (CO3)

- (c) Write a program to create a file, which stores information about (roll, name, address). All the information is provided by the user during run time. (CO3)

4. (a) Define Sockets in Java ? Write a programme to design the chat application.

(CO4)

- (b) Define Swing in Java ? Explain any five Java components associated with Swing by using suitable example. (CO4)

(c)

Number 1	<input type="text"/>
Number 2	<input type="text"/>
Answer	<input type="text"/>
<input type="button" value="Add"/> <input type="button" value="Sub"/> <input type="button" value="Multiply"/> <input type="button" value="Divide"/>	

In above code Add/Sub/Multiply and Divide are the button(s). Now perform the following task by using Applet/Swing to design the above application. (CO4)

- Write a code by using Adapter or Interface for the following :
  - Add : Button to add two numbers and display the result
  - Sub : Button to subtract two numbers and display the result

- Multiply : Button to multiply two numbers and display the result
- Divide : Button to divide two numbers and display the result

5. (a) Explain Servlet. Show the life cycle of Servlet and explain some commonly used methods of Servlet. (CO5)

- (b) Define JSP ? Write some merits of JSP in comparison to servlets ? Write a JSP programme to accept two numbers and print greater number. (CO5)

(c)

Roll	<input type="text"/>	Search
E_ID	<input type="text"/>	
E_Name	<input type="text"/>	
E_Course	<input type="text"/>	
E_Address	<input type="text"/>	
<input type="button" value="Save"/> <input type="button" value="Update"/>		