POKHARA UNIVERSITY

Level: Bachelor   Semester: Spring   Year _ : 2024

Programme: BE   Full Marks:100

Course: Advance Programming with Java   Pass Marks: 45

                                                                 Time   : 3hrs.

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Attempt all the questions.

1. a) Define ClassPath? Write a program with custom exception handler that handle arithmetic exception.   7

   b) Explain the architecture of Java, including the role of the JVM, JRE, and JDK.   8

   OR

   Define collection framework in java. Explain the different components of java collection framework.

2. a) What are the implications in Java when defining a variable, method, and class as final? Explain the various access modifiers in Java and their significance.   8

   b) Define abstraction. Write Java program that override methods (getUserValue() and displayUserDetail()). Where getUserValue() is defined to get user detail(name, address, age) and displayUserDetail() to display user detail.   7

3. a) Pros and Cons of JavaFx. Create GUI application with two buttons "RED" and "Green". When clicking "RED" button change background of "GREEN" button to red and clicking "GREEN" button change background of "RED" button to green. Also, console button clicked message.   8

   b) Define stage and scene in JavaFX. Explain any two JavaFX layout managers.   7

4. a) Explain RMI architecture. Develop RMI application where client request to identify given number is Odd or Even.   8

   b) Write a TCP client server program, where a client sends an integer value and server responds by sending the squared value of that integer.   7

5. a) Differentiate between Statement and PreparedStatement. Consider db_college and tbl_student as database name and table respectively where a tbl_student has columns name, faculty and batch. Write Console application with CREATE, READ, UPDATE and DELETE queries only using Prepared Statement. **8**

   b) What is a JDBC driver? Explain the different JDBC drive types and can figuration **7**

OR

Write all steps to connect Java Application with any Database. Insert student detail (roll,name,address,age) into table "student_tbl"

6. a) Describe the life cycle of a servlet. Explain the use of doGet() and doPost() methods of the Servlet with an example. **7**

   b) Create a Servlet application to showcase the concept of session and cookies **8**

7. Write short notes on: (Any two) **2×5**
   a) Design patterns
   b) Over view of ORM
   c) RMI vs. CORBA