

POKHARA UNIVERSITY

Level: Bachelor

Semester: Fall

Year : 2023

Programme: BE

Full Marks: 100

Course: Advanced 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) Explain the Java architecture and significance of class path. 8
Differentiate between error and exception.
- b) Define Package. Explain the types of access modifiers in Java. 7
2. a) Define interface. Write Java program that override methods 8
(getUserValue() and displayUserDetail()), where getUserValue() is defined to get user detail(name, address, age) and displayUserDetail() to display user detail.
- b) Define subclass and super class. How can we achieve multiple 7
inheritance in Java? Explain.

OR

Differentiate between Java abstract class and interface with a sample program

3. a) Write a program to create a Frame that has two TextField 8
components, one Label, and a Button. When the user clicks on the button, calculate the sum of the values entered in the first and second TextField and display the result on the third Label.
- b) What are the pros and cons of JavaFX. Explain any two JavaFX 7
layout managers.
4. a) Create a TCP client server application where the client sends a string 8
and the server responds by echoing the same string in upper case.
- b) What is JavaMail API? Explain type of protocol used in JavaMail 7
API.

OR

Define RMI stubs and skeleton. Create an RMI application where a client can remotely invoke a method that sends the sum of any two given integers.

5. a) A table `tbl_student` consists of `id`, `name` and `program`. Write a program that asks users to enter a program name and displays all the students records enrolled in that program. 8
- b) Differentiate between GET and POST methods. Write java program that depict Sessions and Cookies. 7
6. a) Explain life cycle methods of servlet. Write a servlet program that accept input string from user through form and then check if it is palindrome or not. 8
- b) Why do we need design patterns? Explain Singleton Pattern and Factory Method Pattern in detail. 7
7. Write short notes on: (**Any two**) 2×5
- a) SQL Injection
- b) ORM
- c) CORBA