UPES
End Semester Examination, December 2023

Course: Java Programming   **Semester: VII**
Program: B.Tech ECE   **Time   : 03 hrs.**
Course Code: CSEG4003   **Max. Marks: 100**

Instructions:

SECTION A
(5Qx4M=20Marks)

S. No.		Marks	CO
Q 1	Explain the various access specifiers are used in java.	4	CO1
Q 2	Demonstrate the uses of java packages and describe how to define and access them?	2+2	CO2
Q 3	Illustrate the Life Cycle of a Servlet.	4	CO4
Q 4	Explain the types of exceptions in java.	4	CO3
Q 5	Describe the differences between Lists and Sets?	4	CO1

SECTION B
(4Qx10M= 40 Marks)

Q 6	a) Illustrate the use of multiple catch blocks for a try block with a sample program. b) Distinguish the uses of 'throw' and 'throws' clauses for exception handling?	5+5	CO2
Q7	a) Explain multilevel inheritance with the help of abstract class in your program. b) Is it feasible to employ inheritance among interfaces? Justify your answer.	5+5	CO3
Q8	a) Outline the differences between the overloading overriding methods with an example. b) Write a java program to display the following output pattern. 1 1 2 1 2 3 1 2 3 4 1 2 3 4 5	5+5	CO1

Q9	Describe the need for thread synchronization. How is it achieved in Java programming? Explain with a suitable program. (OR) a) Describe the different types of data types used in java. b) Write a program to convert the temperature in Fahrenheit to centigrade.	**10**	**CO1**

SECTION-C **(2Qx20M=40 Marks)**			
Q 10	a) Define Java nested class? Differentiate between static and non-static nested classes. b) Discuss the errors and exception handling in Java? How would you handle the exception using Try and Catch?	**10+10**	**CO3**
Q 11	a) Design an interface called Shape with methods draw() and getArea(). Further design two classes called Circle and Rectangle that implements Shape to compute area of respective shapes. Use appropriate getter and setter methods. Write a java program for the same. b) Explain the JDBC characteristics and describe the steps to connect to the database in Java. (OR) a) Define a vector? How does it differ from array and list? b) Explain the file management using File class. c) Write a program which stores a list of strings in an ArrayList and then displays the contents of the list.	**10+10** **(8+6+6)**	**CO4**