Name: Enrolment No:	![UPES logo] **UPES** UNIVERSITY OF TOMORROW

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2023

Course: Java Programming   Semester: II
Program: MCA   Time: 03 hrs.
Course Code: CSEG 7014   Max. Marks: 100

Instructions: Attempt all questions.

<table>
<tr><th colspan="4">SECTION A
(5Qx4M=20Marks)</th></tr>
<tr><td>S. No.</td><td></td><td>Marks</td><td>CO</td></tr>
<tr><td>Q 1</td><td>State the differences between JRE and JVM.</td><td>4</td><td>CO1</td></tr>
<tr><td>Q 2</td><td>Discuss the role of constructor in java with suitable example.</td><td>4</td><td>CO2</td></tr>
<tr><td>Q 3</td><td>Illustrates the concept of inheritance.</td><td>4</td><td>CO3</td></tr>
<tr><td>Q 4</td><td>Differentiate between method overriding and method overloading.</td><td>4</td><td>CO4</td></tr>
<tr><td>Q 5</td><td>Justify the role of super keyword in java.</td><td>4</td><td>CO1</td></tr>
<tr><th colspan="4">SECTION B
(4Qx10M= 40 Marks)</th></tr>
<tr><td>Q 6</td><td>Sketch and explain the Servlet Life Cycle in java.</td><td>10</td><td>CO5</td></tr>
<tr><td>Q 7</td><td>Describe all types of JDBC drivers with diagram.</td><td>10</td><td>CO4</td></tr>
<tr><td>Q 8</td><td>Demonstrate the concept of Inner class with suitable example.
Or
Demonstrate the concept of Multithreading with suitable example.</td><td>10</td><td>CO4</td></tr>
<tr><td>Q 9</td><td>Sketch and explain the JSP Life Cycle in java.</td><td>10</td><td>CO5</td></tr>
<tr><th colspan="4">SECTION-C
(2Qx20M=40 Marks)</th></tr>
<tr><td>Q 10</td><td>Demonstrate the importance of packages in java. Compare all kind of access modifiers and their visibility with suitable example.</td><td>20</td><td>CO 3</td></tr>
<tr><td>Q 11</td><td>Discuss the concept of exception handling. Consider the following scenarios of exception handling with example:
   a) Java Multiple Catch block
   b) Java Finally Block</td><td>20</td><td>CO 4</td></tr>
</table>

	c) Java Throw keyword
	d) Java Throws keyword
	 Or
	Describe the following methods of String class with example:
	   a) Take two strings as input and compare the both strings.
	   b) Convert the two strings into lowercase and uppercase.
	   c) Print the two String into reverse order.
	   d) Replace n^{th} character of first String by a new character		