


Name:			
Enrolment No:			
<b>UPES</b> <b>End Semester Examination, May 2024</b>			
<b>Course: Java Programming</b> <b>Program: MCA all branches</b> <b>Course Code: CSEG 7014</b>		<b>Semester : 2</b> <b>Time : 03 hrs.</b> <b>Max. Marks: 100</b>	
<b>Instructions: NOT APPLICABLE</b>			
<b>SECTION A</b> <b>(5Qx4M=20Marks)</b>			
S. No.		Marks	CO
Q 1	Write four differences between method overloading and method overriding in Java.	4	CO1
Q2	What is a package and why is it used? Write a simple java program to print "Hello World"; we want this program to belong to a package "mypack". Mention clearly the steps involved in creating the package using the command line interface.	4	CO2
Q3	Write a Java program to iterate through all elements in an array list. Create a list containing five different colors (red, blue, etc.). Then print the list of colors in a vertical order.	4	CO2
Q4	What are the various interfaces used in Java Collections Framework? Explain any four of them.	4	CO2
Q5	What is a "prepared statement" in the context of database connectivity in Java? Explain with an example.	4	CO4
<b>SECTION B</b> <b>(4Qx10M= 40 Marks)</b>			
Q6	Explain the life-cycle of a servlet. Write a description of each phase.  <p style="text-align: center;"><b>OR</b></p> What is JDBC and what is its purpose? Explain the different types of JDBC drivers with reference to the Java programming language.	10	CO4
Q7	How many ways are there in the STRING class to create a string? Write down the syntax for them and give one example for each. Given the following pseudocode, give the output of the print statements.  Consider the following pseudocode:  <pre>String s = "Computer Science";</pre>	10	CO4

	<pre>StringBuilder s2 = new StringBuilder("Object Oriented Programming");  a) System.out.println(s.length()); b) System.out.println(s.indexOf("Oriented")); c) System.out.println(s.regionMatches(true, 10, "science", 0, 7)); d) System.out.println(s.trim()); e) char[] ch = s.toCharArray(); System.out.println(ch); f) s2.setLength(8); System.out.println(s2);</pre>		
Q8	<p>Write a program to mimic the actions of a printer using wait() and notify(). The printer has a capacity of 60 pages. The user gives a total of 100 pages to print. The printer uses a method to print 60 pages at first. Once the printer is empty, the user reloads the printer with additional pages and then the remaining pages are printed. Write this program using the concepts of threads.</p> <ol style="list-style-type: none"> <li>1. Thread 1 prints the pages</li> <li>2. Thread 2 is used for reloading the pages in the printer.</li> <li>3. Once thread 2 completes the reloading task, thread 1 is invoked to restart the printing process.</li> </ol> <p>Put comments on each portion of your code to describe the purpose of that component.</p>	10	CO5
Q9	<p>Explain the following with example pseudocodes:</p> <ol style="list-style-type: none"> <li>a) 'this' and 'super' keyword</li> <li>b) 'native' method and 'main' method</li> </ol>	10	CO1
<b>SECTION-C</b> <b>(2Qx20M=40 Marks)</b>			
Q 10	<p>Write a servlet program to take the user's name as input. The program should then print "Welcome &lt;username&gt;" as the output. (Do not write your own name in the program. Use a generic username.)</p>	20	CO5
Q11	<p>Write a java program to describe the characteristics of a human baby.</p> <ul style="list-style-type: none"> <li>• The baby inherits characteristics of both the father and the mother.</li> <li>• The baby takes the father's hair-color</li> <li>• The baby takes the mothers eye-color</li> <li>• The name of the baby is not inherited from either parent but is a personal characteristic of the baby</li> </ul> <p>Write your program to incorporate the following:</p> <ol style="list-style-type: none"> <li>a) Identify the classes/interfaces that your program shall contain.</li> <li>b) Describe the features of the baby in your output. The features are: <ol style="list-style-type: none"> <li>i. Name of the baby</li> <li>ii. Gender of the baby</li> <li>iii. Hair color of the baby</li> <li>iv. Eye color of the baby</li> </ol> </li> </ol> <p>Write separate methods and/or fields in appropriate classes/interfaces to print statements that describe the baby's features.</p>	20	CO3