Name: Enrolment No:	 **UPES** UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2021

Course: Object Oriented Programming   Semester: III
Program: B.Tech CSE + ALL IBM Branch and Xebia Big Data, DevOps   Time   : 03 hrs.
Course Code: CSEG 2020   Max. Marks: 100

Instructions:

All Questions are compulsory.

<div align="center">SECTION A</div>

S. No.		Marks	CO
Q 1	Provide your explanation on keeping a constructor private.	**4**	**CO1**
Q 2	"There can be one public class in Java source file". Justify this statement.	**4**	**CO1**
Q 3	Define auto boxing and unboxing in java. Also give the difference between primitive data type and wrapper classes? Is the use of primitive data type in java violation of object orientated rules?	**4**	**CO2**

Q 4	Differentiate between throw and throws. Identify an error in following program.
	
	``java
	class z extends Exception {
	 z(int g) {
	        System.out.println("its user defined exception");
	 } }
	public class Test{
	 void test() throws z {
	throw new z(86); }
	 public static void main(String[] args) {
	Test u=new Test();
	u.test();
	
	} }
	``
		4	**CO3**

Q 5	Differentiate between overloading and overridden method and explain covariant return type.	**4**	**CO2**

<div align="center">SECTION B</div>

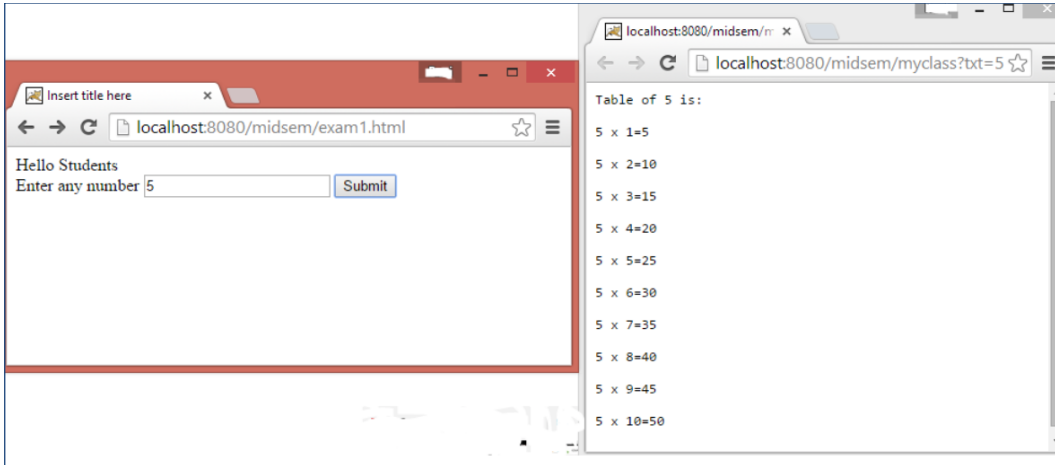| Q 6	Describe the steps involved in establishment a JDBC connection to retrieve the data from database. Write a Java program to connect to MYSQL database and fetch the data from the Table Emp in database Employee having columns emp_id, emp_name and salary by making use of Statement Interface.	**10**	**CO4**
Q 7	Enlist access modifiers and define the usage of access modifiers in java inside and outside package with example. Consider the following class definition:	**10**	**CO2**

| | ```
package com.one;
public class A
{
 public void methOne(){}
 void methTwo(){}
 protected void methThree(){}
 private void methFour(){}
}
```<br><br>If we create a new Class B in package com.two and try to access methods of class A inside class B. What all methods are accessible ? | | |
Q 8	Look at the following code carefully and you will notice 10 places are underlined. Explain purpose and kind of each in detail. Be as much detailed as possible and write point wise.
	
	package com.upes;
	
	class EndSem{
	
	public static void main(String args[])
	{
	
	EndSem obj=new EndSem();
	
	System.out.println("Hello World");
	
	}
	
	}
		10	CO1

Q 9	Explain Deep Cloning and Shallow cloning with the help of a program. **OR** Write a program in Java to store the marks of 10 students. Define your own exception. Make use of your exception if entered marks are less than 0 or greater than 100	10	CO3
	SECTION-C		
Q 10	Explain with code snippets. (a) Write a Java program to create two threads using Runnable Interface. Assign both threads different task to perform. Also, synchronize the execution of the threads such that second will start its execution after first finishes using inter-thread communication.	20	CO4

	(b) Complete hierarchy of Collection interface in Java.		

Q 11	Write all (HTML, XML, JAVA) along with steps sequentially involved in creating, describing & deploying the given problem on server.
	
	NOTE: LOOK URL OF BOTH WINDOWS CAREFULLY
	
	OR
	
	Answer the following:
	
	   a) Differentiate between JSP and Servlets.
	   b) Illustrate the significance of deployment descriptor for a web application. Give a brief description of 4 tags used in deployment descriptor, with relevant example.
	   c) HttpServlet are preferred over GenericServlet.
	   d) Session Management in Servlets.
		20	CO5