Name: Enrolment No:	UPES UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2019

Course: Java Programming **Semester: IV**
Program: BCA **Time 03 hrs.**
Course Code: CSBC2007 **Max. Marks: 100**

Instructions:

SECTION A

S. No.		Marks	CO
Q 1	Describe the use of wrapper class in Java. Write all the wrapper classes and its associated primitive data types.	**4**	**CO1**
Q 2	What are the different access modifiers? Explain all the access modifiers.	**4**	**CO1**
Q 3	Compare and contrast object type and reference type with suitable example.	**4**	**CO2**
Q 4	Define the following: • throw • LocalDateTime • this() • equals	**4**	**CO2, CO4**
Q 5	How to use ArrayList in java? Write a program to demonstrate it.	**4**	**CO4**

SECTION B

Q 6	What do you meant by method overloading? Illustrate overloading with suitable example code. **OR** What do you meant by method overriding? Illustrate overriding with suitable example code.	**10**	**CO2**
Q 7	How can we create a string object? Compare and contrast mutable and immutable strings in Java with program code.	**10**	**CO3**
Q 8	Write a program to declare an abstract class called Shape, which has three subclasses say Triangle, Rectangle, and Circle. Use one abstract and non-abstract method inside abstract class and override the abstract method in its three subclasses to calculate area for specific object.	**10**	**CO2**
Q 9	Discuss the use of super keyword in Java. Explain the usage of super keyword with variable, method and constructor with suitable program.	**10**	**CO2**

SECTION-C			
Q 10	What is an interface? What is the importance of following keywords in an interface (i.e. static, default). Write a program to illustrate the use of interface. Is it possible to implement the concept of multiple inheritance using interface, if yes, how?	**20**	**CO2, CO4**
Q 11	What are the various types of Exceptions in Java? Differentiate between checked and unchecked exceptions. You have to develop a custom exception program where if the average marks obtained by the student is <60, it will display the output as "***Not eligible for placement process"***. The method you will declare should be static which throws exception class you have declared. OR Write the program for the following: a. Java Program to Find the Length of the String b. Java Program to Find All Possible Subsets of given Length in String c. Java Program to Remove the White Spaces d. Java Program to Convert a String into Upper Case e. Java Program to Find the Largest & Smallest word in a String	**20**	**CO3**

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SECTION A

S. No.		Marks	CO
Q 1	How to use ArrayList in java? Write a program to demonstrate it.	**4**	**CO4**
Q 2	What are various advantages of using Package in java?	**4**	**CO2**
Q 3	What are the usage of Final variables and methods? Write the proper syntax.	**4**	**CO2**
Q 4	Define the following: • finally • throws • instanceof • switch statement	**4**	**CO1, CO3**
Q 5	Describe the use of wrapper class in Java. Write all the wrapper classes and its associated primitive data types.	**4**	**CO2**
	SECTION B		
Q 6	What do you meant by method overriding? Illustrate overriding with suitable example code.	**10**	**CO2**
Q 7	Compare and contrast String, StringBuffer and StringBuilder. Write a program to demonstrate all.	**10**	**CO3**
Q 8	Write a program to declare an abstract class called Shape, which has three subclasses say Triangle, Rectangle, and Circle. Use one abstract and non-abstract method inside abstract class and override the abstract method in its three subclasses to calculate area for specific object.	**10**	**CO2, CO4**
Q 9	Differentiate between Abstract class and an Interface with suitable program.	**10**	**CO2, CO4**
	SECTION-C		
Q 10	a. What are the various types of Exceptions in Java? Explain custom exception with suitable program code.	**10**	**CO1, CO3**

	b. Print the following pattern using for loop: 1 2 1 2 3 2 1 2 3 4 3 2 1 2 3 4 3 2 1 2 3 2 1 2 1	**10**	
Q 11	Write a program in Java to create a class 'Box' which contains three data members for holding width, height and length of box and two methods 'area' and 'volume' to calculate and return the area and volume of box. Create another class named 'BoxDemo' which uses Box class. i. Demonstrate the use of overloaded constructors. ii. Calculate the area and volume of box. OR What are the different types of Inheritance in Java? Multiple inheritance is not supported by java, why? If, you have to incorporate the multiple inheritance in java, how you will incorporate? Write a program to illustrate it. Write a real time program to demonstrate hierarchical inheritance.	**20**	**CO2, CO4**