UNIVERSITY WITH A PURPOSE

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

Course: Java SE Fundamentals **Semester: III**
Program: BCA (IoT & BFSI) **Time 03 hrs.**
Course Code: CSBC 2012 **Max. Marks: 100**

Instructions:
Section A: Short answer type questions. Attempt all the questions, each Question carries 4 Marks

Section B: Medium answer type questions. Attempt all the questions, each Question carries 10 Marks

Section C: Long answer type questions. Attempt all the questions, each Question carries 20 Marks

SECTION A

(5Qx 4M = 20 Marks)

S. No.		Marks	CO
Q 1	Explain the usages of final variables and methods. Write the proper syntax.	**4**	**CO1**
Q 2	How interface is different from an abstract class? Illustrate it with code structure.	**4**	**CO3**
Q 3	Why Exception handling is important?	**4**	**CO4**
Q 4	Summarize the various advantages of using Packages in java.	**4**	**CO2**
Q 5	What is an ArrayList? How can you add, access, and delete the elements of an ArrayList?	**4**	**CO2**

SECTION B

(4Qx10M = 40 Marks)

Q 1	Define an Array and explain the advantages of using array. Create a program to multiply two 3x3 matrices using arrays and display the result.	**10**	**CO2**
Q 2	i. Explain the different conditional statements of java with proper syntax. ii. Explain in details about Java operators and expressions with examples.	**10**	**CO1**
Q 3	What do you meant by method overloading and overriding? Illustrate them with suitable program code.	**10**	**CO3**
Q 4	Compare and contrast String, StringBuffer and StringBuilder. Write a program to demonstrate all.	**10**	**CO2**

SECTION-C

(2Qx 20M= 40 Marks)

Q 1	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.	**20**	**CO3**
Q 2	Define Exception Handling. Give an overview of your understanding about Exception Handling in Java. Explain and write a program of the following: i. Propagation of exceptions ii. Catching and throwing exceptions iii. Handling multiple exceptions and errors	**20**	**CO4**

	OR Distinguish the various types of Exceptions. Demonstrate custom exception with suitable program code.		