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B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

September / October 2023 Supplementary Examinations

Programme: B.E.

Branch: Artificial Intelligence and Machine Learning

Course Code: 22AM5PCOPJ

Course: Object Oriented Programming using Java

Semester: V

Duration: 3 hrs.

Max Marks: 100

Date: 13.09.2023

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

UNIT - I

1	a) Explain three object oriented programming principles	6
	b) Demonstrate method and constructor overloading concept in java with appropriate examples for each.	10
	c) with a suitable java program illustrate how to define and use inner class.	4

UNIT - II

2	a) Design a java program and explain how java implements run-time polymorphism through dynamic method dispatch	7
	b) With a suitable java program demonstrate the use of defining the class as abstract class. Further, illustrate the limitations of abstract class.	8
	c) Define Inheritance. Discuss the use of Super Keyword in java programming	5

OR

3	a) Define package. Explain how packages are created in java with a suitable example.	8
	b) Illustrate the general form of interface with an example. And differentiate interface from abstract class.	7
	c) Design a java program to demonstrate multilevel inheritance.	5

UNIT - III

4	a) With an example program illustrate the use of enumeration in java.	6
	b) Develop a java program to read the contents of a file and to print the same.	6
	c) Apply any three string modifying methods on the sentence “This is a test. This is an exam too.”, that generates possible outputs.	8

UNIT - IV

5	a) List and explain any 5 java unchecked runtime exception subclasses defined in java.lang.	5
	b) Apply multiple catch blocks to catch any 3 different types of exception in a java program. Explain how to overcome the problem of unreachable code when multiple catch statements are used.	8

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

c) With an example program, illustrate the use of nested try statements in java 7

OR

6 a) Apply wait(), notify() and notify all() methods in a sample java program and demonstrate how interthread communication is achieved in java using these methods. 7

b) Illustrate how synchronization is achieved in java when two or more methods need access to a shared resource with an example. 7

c) Create a new thread by implementing runnable interface and explain the steps with a program 6

UNIT - V

7 a) List and explain the commonly used event classes in java.awt.event 6

b) Design a java program demonstrating the drawing methods using AWT. 7

c) Analyze the use of different methods defined by mouse listener interface 7
