

U.S.N.										
--------	--	--	--	--	--	--	--	--	--	--

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**
