Roll No:
Date: __/__/____

St. Claret College

Autonomous, Bengaluru

ST. CLARET COLLEGE LIBRARY Bengaluru-13 AUTONOMOUS

UG END SEMESTER EXAMINATION-MAY 2026
B.Sc. IV SEMESTER
CS 425: OBJECT ORIENTED PROGRAMMING USING JAVA

23

TIME: 3 hours. **MAX. MARKS: 80**

This paper contains TWO printed pages and FOUR parts

Instructions:
1. **Verify and ensure that the question paper is completely printed.**
2. **Any discrepancies or questions about the exam paper must be reported to the COE within 1 hour after the examination.**
3. **Students must check the course title and course code before answering the questions.**

PART-A

Answer ALL questions. Each answer carries ONE mark. **[10 x 1 = 10]**

1. Java is _____, meaning it can run on any platform with a Java Virtual Machine.
   a) Platform-independent b) Platform-dependent
   c) Procedure oriented programming language d) All of the above
2. What makes Java platform-independent?
   a) Compiler b) Bytecode c) JVM d) Classloader
3. What does Math.sqrt(16) return?
   a) 2 b) 4 c) 8 d) 16
4. Java does not support _____ inheritance to avoid ambiguity issues.
   a) Hierarchical b) Multiple c) Multilevel d) Single
5. In Java, this keyword is used to refer to the _____ object.
   a) Input b) Output c) Current d) Exception
6. Which of the following options correctly arranges the visibility modifiers in Java in ascending order based on their scope (from least accessible to most accessible)?
   a) public < protected < default < private b) private < default < protected < public
   c) protected < private < default < public d) default < private < protected < public
7. To include a package into a Java program, we use the _____ keyword.
   a) include b) implements c) import d) extends
8. The feature of Java that allows it to run multiple tasks simultaneously is called _____.
   a) Multithreading b) Interface c) Package d) Exception handling
9. The _____method is called automatically when the user revisits an applet page.
   a) start() b) init() c) begin() d) open()
10. The KeyEvent class is used to handle _____ events.
    a) keyboard b) mouse c) action d) window

PART-B

Answer any TEN questions. Each answer carries TWO marks. **[10 x 2 = 20]**

11. List out four methods of Math class.
12. What is a variable? Write the syntax of variable declaration in Java.
13. Distinguish keywords and identifiers in Java with examples.
14. List out the types of inheritance in Java.
15. What is a class in Java? Give the general structure of a class definition in Java.
16. What is an object in Java? Give the syntax for creating an object in Java.
17. What is an interface?
18. What is a package? List out the any two packages in Java.
19. Compare multithreading and multitasking.
20. What is event handling in Java?
21. How does an applet differ from a Java application?
22. Write short notes on major events in Java.

PART-C

Answer any FOUR questions. Each answer carries FIVE marks. **[4 x 5 = 20]**

23. Explain the features of Java.
24. Discuss Scanner class in Java with example.
25. Explain the types of constructors in Java with examples.
26. Explain the life cycle a thread with a diagram.
27. Discuss the awt package in Java with an example.
28. Briefly explain the event types in Java.

PART-D

Answer any THREE questions. Each answer carries TEN marks. **[3 x 10 = 30]**

29. Describe and illustrate the structure of a Java program with a suitable example.
30. Explain and demonstrate the concept of polymorphism in Java with appropriate examples.
31. a) Develop and demonstrate a Java program to perform string operations such as finding string length, concatenation, and substring extraction. (5M)
    b) Develop and implement a Java program that demonstrates single inheritance. (5M)
32. Explain and apply the usage of try, catch, and finally blocks in exception handling, and develop a sample program to demonstrate their functionality.
33. Explain and analyse the life cycle of an applet in detail, and represent it using a labelled diagram.