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Vellore Institute of Technology

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SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

CONTINUOUS ASSESSMENT TEST - I

FALL SEMESTER 2025-2026

Programme Name & Branch	: M. Tech. Integrated (CSE Core and Data Science)
Course Code and Course Name	: CSI2008 & Programming in Java
Faculty Name(s)	: Prof. V. Sivakumar, Prof. Bhuvaneswari M S, Prof. Debarati Dutta, Prof. Ramesh C
Class Number(s)	: VL2025260102497, VL2025260102508, VL2025260102510, VL2025260102500
Date of Examination	: 20-08-2025
Exam Duration	: 90 minutes
Maximum Marks: 50	

Answer All Questions

1. Analyze the programs involving the fundamental program constructs.
2. Choose the appropriate OOP technique for solving the real-world problem.
3. Demonstrate exception handling and use of threads in Java.

Q. No	Question	M	CO	BL
1.	The Java method is performing very slowly, even though the algorithm has been optimized. Just-In-Time (JIT) compilation is suspected to be the cause. Analyze the role of the JVM's JIT compiler and explain how it might impact the method's performance during execution.	10	1	4
2.	Create a game score tracker that stores scores of 4 players over 3 rounds. Use the suitable array to store and print the final score table to identify the winner based on the total score.	10	1	3
3.	Write a Java program to print student details using a class and methods. Create a class named Student with four data members: name, roll no, subject1 and subject2 to display the values of data members, calculate total marks, percentage and grade of the student.	10	2	3
4.	Assume you are part of a software development team tasked with designing a scientific calculator application. The calculator must support basic arithmetic operations, such as addition, for multiple numeric types. To enhance user experience, the application must allow users to input: i. Two integers ii. Two floating-point (double) numbers iii. Mixed types (int + double), ensuring Java handles type promotion accurately Design overloaded methods named add() to handle both int and double inputs. Justify the benefit of overloading in this context.	10	2	3
5.	a) A banking application reads account details from a file. If the file is not found, the program crashes. Write a java program to apply appropriate exception handling to ensure the application displays a friendly message instead of crashing when the file is missing.	6	3	3
	b) A software Engineer writes multiple catch blocks in a program, but places Exception before ArithmeticException. Evaluate the impact of this order on program execution and correctness. Justify the correct approach.	4		