SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)
Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai
Accredited by NAAC-UGC with 'A++' Grade (Cycle III) &
Accredited by NBA (B.E - CSE, EEE, ECE, Mech& B.Tech.IT)
COIMBATORE-641 035, TAMIL NADU

ACADEMIC YEAR 2025– 2026 (ODD SEMESTER)

Course Code / Name: 23CST205 - Object Oriented Programming Using Java

Semester : II

Faculty Name with Designation : Mrs. Kalaivani K, AP/CSCST

UNIT 4

Exception Handling and Multithreading

S.NO	Question	Bloom's Level	Company Map	Marks
1.	Define exception and exception handling in Java.	Remembering	TCS, Infosys	2
2.	Differentiate between checked and unchecked exceptions.	Understanding	Wipro, IBM	2
3.	What is the purpose of the `finally` block?	Remembering	Amazon	2
4.	Explain the difference between `throw` and `throws`.	Understanding	Capgemini	2
5.	Define multithreading. Why is it used?	Remembering	Cognizant	2
6.	What are the two ways to create a thread in Java?	Remembering	Google	2
7.	What is a race condition?	Understanding	Microsoft	2
8.	State the significance of the `synchronized` keyword.	Remembering	Oracle	2
9.	What is inter-thread communication?	Understanding	Infosys	2
10.	Differentiate between `wait()` and `sleep()`.	Remembering	IBM	2

Part B – 13 Mark Questions (Applying & Analyzing)				
1.	Apply exception handling concepts to design a robust banking transaction system.	Applying	TCS, Infosys	13
2.	Analyze how multithreading improves performance with a suitable real-time example.	Analyzing	Amazon	13
3.	Compare checked and unchecked exceptions with proper Java code examples.	Analyzing	Google, Microsoft	13
4.	Apply thread synchronization to solve the producer-consumer problem.	Applying	HDFC, Capgemini	13
5.	Examine the role of final, finally, and finalize() with examples.	Analyzing	Oracle	13
6.	Design a multi-threaded ticket booking system using proper synchronization.	Applying	Flipkart, IBM	13
Part C – Case Study / Advanced Analytical Questions				
7.	A ride-sharing app needs to handle concurrent ride bookings and payments. Design a solution using multithreading and exception handling. Justify your design.	Analyzing	Ola, Uber	15
8.	Case Study: Amazon's order processing system handles multiple orders simultaneously. Model this using threads and discuss exception handling strategy.	Analyzing	Amazon, Paytm	15

9.	A banking application must prevent overdraft in concurrent transactions. Demonstrate using synchronization and exception handling.	Analyzing	Microsoft, IBM	15
10.	Design a healthcare appointment system that handles multiple patient requests using multithreading and proper exception management.	Analyzing	Practo, Apollo	15