

Code: 23CS3302, 23IT3302, 23AM3302, 23DS3302

**II B.Tech - I Semester – Regular / Supplementary Examinations
NOVEMBER 2025****OBJECT ORIENTED PROGRAMMING THROUGH
JAVA
(Common for CSE, IT, AIML, DS)**

Duration: 3 hours

Max. Marks: 70

Note: 1. This question paper contains two Parts A and B.

2. Part-A contains 10 short answer questions. Each Question carries 2 Marks.

3. Part-B contains 5 essay questions with an internal choice from each unit. Each Question carries 10 marks.

4. All parts of Question paper must be answered in one place.

BL – Blooms Level

CO – Course Outcome

PART – A

		BL	CO
1.a)	List any four Java buzzwords and explain their importance.	L2	CO1
1.b)	Differentiate between while and do-while loops.	L2	CO1
1.c)	Define the terms polymorphism and Encapsulation.	L2	CO1
1.d)	Explain any two methods to extract the characters from string.	L2	CO1
1.e)	What is an abstract class? How is it different from an interface?	L2	CO1
1.f)	How to declare and initialize a two-dimensional array?	L2	CO1
1.g)	Differentiate between throw and throws in exception handling.	L2	CO1

1.h)	Explain the use of the finally block in exception handling.	L2	CO1
1.i)	What is thread priority in Java? How is it set?	L2	CO1
1.j)	Distinguish between a thread and a process.	L2	CO1

PART – B

			BL	CO	Max. Marks
UNIT-I					
2	a)	What are literals and symbolic constants in Java? Illustrate with examples.	L2	CO1	5 M
	b)	Write a Java program using nested if-else statements to determine the largest of three numbers.	L2	CO1	5 M
OR					
3	a)	What are escape sequences in Java? Write a program that uses escape sequences to format output.	L2	CO1	3 M
	b)	Develop a program that calculates grades based on the marks for the following ranges: <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">Range</div> <div style="text-align: center;">Grade</div> </div> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">90-100</div> <div style="text-align: center;">S</div> </div> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">80-89</div> <div style="text-align: center;">A</div> </div> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">70-79</div> <div style="text-align: center;">B</div> </div> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">60-69</div> <div style="text-align: center;">C</div> </div> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">50-59</div> <div style="text-align: center;">D</div> </div> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">40-49</div> <div style="text-align: center;">E</div> </div> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">Less than 40</div> <div style="text-align: center;">Fail</div> </div>	L3	CO1	7 M

UNIT-II					
4	a)	Define classes and objects in Java. Write a program to create a class Student with attributes and methods to display details.	L3	CO2	5 M
	b)	Write a program to count the number of vowels, consonants, spaces, digits and special characters in a string.	L3	CO2	5 M
OR					
5	a)	What is a final method? How does it differ from a normal method?	L2	CO2	5 M
	b)	Develop a program to demonstrate how to access private members of a class.	L2	CO2	5 M
UNIT-III					
6	a)	Explain the use of the super keyword in inheritance.	L2	CO2	5 M
	b)	Differentiate between method overloading and method overriding with suitable examples.	L2	CO2	5 M
OR					
7	a)	Explain the concept of extending an interface with a suitable example.	L2	CO2	5 M
	b)	Write a Java program to accept a matrix of order NxN and interchange the diagonals.	L3	CO2	5 M
UNIT-IV					
8	a)	Explain the behavior of different access specifiers in packages with examples.	L2	CO3	5 M

	b)	A file contains 5 integers. Write a program to fetch the numbers from the file, and then calculate their sum, and append its sum to the file.	L3	CO3	5 M
OR					
9	a)	Write a program in Java to demonstrate the use of try, catch, and finally blocks.	L2	CO3	5 M
	b)	What are checked and unchecked exceptions? Explain with examples.	L2	CO3	5 M
UNIT-V					
10	a)	Write a Java program to create multiple threads by extending the Thread class.	L3	CO4	5 M
	b)	Explain thread life cycle with a neat sketch.	L2	CO4	5 M
OR					
11	a)	Explain how to insert and delete elements from a list collection with an example.	L2	CO4	5 M
	b)	Explain about hierarchy of collection interfaces.	L2	CO4	5 M