

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

II B.Tech - I Semester – Regular Examinations - DECEMBER 2024**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)	Develop a program to implement Command Line Arguments in Java.	L3	CO1
1.b)	Explain the purpose of type casting in Java.	L2	CO1
1.c)	How do you access private members of a class? Explain.	L2	CO2
1.d)	Explain the methods used for searching with-in string in Java.	L2	CO2
1.e)	Explain how you can dynamically change the size of an array.	L2	CO2
1.f)	Define abstract class. Differentiate with concrete class.	L2	CO2
1.g)	Identify the differences between auto-boxing and auto-unboxing.	L2	CO3
1.h)	How does the Scanner class facilitate input	L2	CO3

	operations in Java? Explain.		
1.i)	Identify the main states in the Java thread life cycle.	L2	CO4
1.j)	What is the purpose of Collection Framework in Java?	L1	CO4

PART – B

			BL	CO	Max. Marks
UNIT-I					
2	a)	List and explain different data types supported by Java. Give suitable example program.	L2	CO1	5 M
	b)	Write a Java program to calculate the tax on a salary. The program should prompt the user to enter their annual salary. Use the following tax brackets: Sal < 2,50,000 rupees – No tax Sal > 2,50,001 and < 5,00,000 - 10% tax Sal > 5,00,000 – 5% tax Display the tax amount based on the entered salary.	L3	CO1	5 M
OR					
3		Explain the different types of operators in Java with examples.	L2	CO1	10 M
UNIT-II					
4	a)	Differentiate constructor overloading and method overloading. Give suitable examples.	L3	CO2	5 M

	b)	Explain how you can modify a string with example program.	L2	CO2	5 M
OR					
5	a)	Describe the process of declaring and initializing class and objects in Java with suitable example.	L2	CO2	5 M
	b)	Construct a Java program to differentiate passing arguments by Value and by Reference.	L3	CO2	5 M
UNIT-III					
6	a)	List and explain different operations that can be performed on Array elements.	L2	CO2	5 M
	b)	What is inheritance? Explain different types of inheritance techniques which are supported by Java.	L2	CO2	5 M
OR					
7	a)	Explain the following: i) final keyword in inheritance ii) Vector	L2	CO2	5 M
	b)	Discuss the concepts of default and static methods in Interface.	L2	CO2	5 M
UNIT-IV					
8	a)	How do different access control specifiers control access to class members across different packages? Explain.	L2	CO3	5 M
	b)	Differentiate between checked and unchecked exceptions. Give suitable examples.	L3	CO3	5 M

OR					
9	a)	Explain the usage of try, catch, throw, throws and finally keywords in exception handling. Give simple example.	L2	CO3	5 M
	b)	Illustrate the difference between byte streams and character streams in Java. Draw the stream hierarchies.	L3	CO3	5 M
UNIT-V					
10	a)	Explain how thread priority is set and used in Java with example program.	L4	CO4	5 M
	b)	Illustrate the use of HashSet class in collection framework with an example program.	L3	CO4	5 M
OR					
11	a)	Analyze different procedures for creating a thread in Java. Explain any one mechanism with example program.	L4	CO4	5 M
	b)	Define List and differentiate ArrayList, LinkedList.	L2	CO4	5 M