CBCS SCHEME

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BPLCK105C

First Semester B.E/B.Tech. Degree Examination, Dec.2024/Jan.2025
Basic of Java Programming

Time: 3 hrs. Max. Marks:100

Note: *1. Answer any FIVE full questions, choosing ONE full question from each module.*
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
1	a.	Discuss the different primitive data types available in Java. Provide examples for each.	6	L1	CO1
	b.	Differentiate between stack memory and heap memory in Java.	4	L1	CO1
	c.	Define arrays in Java. Write a program to initialize an array and find the sum of all elements.	10	L2	CO1
		OR			
2	a.	Explain the key features of Java as an object – oriented programming language.	4	L1	CO1
	b.	Explain different lexical issues in Java.	8	L1	CO1
	c.	Write a Java program that prints all real solution to the quadratic equation : $ax^2 + bx + c = 0$ Read in a, b, c and use the quadratic formula.	8	L2	CO1
		Module – 2			
3	a.	Explain the significance of the ternary operator in Java. Write a code snippet to demonstrate its usage.	6	L1	CO2
	b.	Explain the different types of control statement in Java and provide examples.	6	L1	CO2
	c.	Write a Java program to compute the factorial of a number using loop.	8	L2	CO2
		OR			
4	a.	Write a program to sort the elements using for loop.	10	L2	CO2
	b.	Write a Java program for multiplication of two arrays.	10	L2	CO2
		Module – 3			
5	a.	What are constructors? Explain two types of constructors.	6	L1	CO1
	b.	Explain use of this in Java.	6	L1	CO1
	c.	Write a Java program demonstrating method overloading.	8	L2	CO1
		OR			
6	a.	Explain static variable and static methods in Java.	6	L1	CO1
	b.	Explain memory allocation and use of garbage collector in Java.	6	L1	CO1
	c.	Write a Java program that creates a class Student with attribute name, rollno, and marks and displays the details of Student.	8	L2	CO1
		Module – 4			
7	a.	Define inheritance and its types in Java. How does Java support single and multilevel inheritance.	10	L1	CO3
	b.	Explain the concept of method overriding with a Java program.	10	L1	CO3

OR					
8	a.	Demonstrate the working of final class and final method in Java.	**8**	**L1**	**CO3**
	b.	Explain two uses of super keyword with example.	**6**	**L1**	**CO3**
	c.	Write a Java program demonstrating constructor overloading.	**6**	**L2**	**CO3**
Module – 5					
9	a.	What is a package? Explain with example.	**6**	**L1**	**CO4**
	b.	Explain different access modifiers in Java.	**6**	**L1**	**CO4**
	c.	Explain the try, catch and finally blocks in Java. Provide code to demonstrate.	**8**	**L2**	**CO4**
OR					
10	a.	What is an interface in Java? Explain how interfaces are different from abstract classes.	**8**	**L1**	**CO4**
	b.	Write a Java program to read two integers a and b. compute a/b and print, when b is not zero. Raise an exception when b is equal to zero. Also demonstrate its working of ArrayIndexOutofBoundException.	**12**	**L2**	**CO4**

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