

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION SP/2025)

CLASS: I.MSc.
BRANCH: CSE

SEMESTER : IV/ADD
SESSION : SP/2025

SUBJECT: CS233 OBJECT ORIENTED PROGRAMMING AND DESIGN PATTERN
TIME: 02 Hours

FULL MARKS: 25

INSTRUCTIONS:

1. The question paper contains 5 questions each of 5 marks and total 25 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates

	CO	BL
Q.1(a) Discuss the reason that makes java as platform independent. What will happen if more than one class contains main() method in the same program?	[2] 1	1
Q.1(b) Provide a comparative analysis between Java Virtual Machine (JVM), Java Runtime Environment (JRE) and Java Development Kit (JDK).	[3] 1	1
Q.2(a) While compiling a java program why is it recommended to use same file name as of class name where main() method exists? What do you understand by Just In Time Compiler (JITC)?	[2] 2	4
Q.2(b) Consider a scenario where a class named Student has been created that consists of 2 variables, one is name, and another is roll. There are two methods in the class where one is to set the values of the student details, and another is to display the details of the student. Create 2 objects of the class student and use the method to set and display the values of the variable.	[3] 2	6
Q.3(a) Consider the following code snippet class Test { static { System.out.println("Static Block"); } public static void main(String [] args) { System.out.println("Main Block"); } }	[2] 2	4
Q.3(b) What will be the output of the above program? Justify your answer. Consider the following code snippet float x=158.67; int a=x; What will be the output of the above? Justify your answer and discuss the concept related to the output of the above snippet.	[3] 2	2
Q.4(a) What do you understand by method overloading? Discuss various conditions that need to be addressed while implementing method overloading with suitable example.	[2] 2	1
Q.4(b) Create a class named Employee having 3 data members named id, name and salary. Create a method to set the value and to display the value. In main() method create an array of object where the size of array is provided by user and it accept the user entered value for id, name and salary. Finally, display the value of each employee details using display() function. Write a program in java to perform the above-mentioned tasks.	[3] 2	6

PTO

- Q.5(a) Consider the given scenario where an array is defined and declared as follows: [2] 2 4
int [][] arr=new int[2];
int arr[0]=new int[3];
What will be the error in the above snippet? Justify your answer with corrected syntax of the above snippet to create a jagged array.
- Q.5(b) What do you understand by autoboxing and unboxing? Use a suitable example to [3] 2 2
create your own wrapper class for the conversion of primitive datatype to wrapper class.

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