

MCA Semester 2 Examination

Java Programming

June-2024

Time : 3-00 Hours]

[Max. Marks : 50

**Instructions: Draw Diagrams wherever necessary.
Make Assumptions wherever necessary.**

SECTION - I

- Q-1 Explain the following terms with an appropriate example:** 9
- a. Dynamic method dispatch
 - b. Functional Interface
 - c. Multithreading
- Q-2 Attempt the following :** 8
- a. Describe the Garbage collection process in Java 4
 - b. Why insertion and deletion in ArrayList is slow compared to LinkedList and also how do you decide when to use ArrayList and when to use LinkedList 4
- OR**
- Q-2 Attempt the following :** 8
- a. Differentiate : Byte Stream Vs Character Stream 4
 - b. Explain JDK root directory with diagram 4
- Q-3 Attempt the following :** 8
- a. Compare String, StringBuffer and StringBuilder 4
 - b. Draw the diagram of Collections hierarchy from the root, and explain any 2 classes 4
- OR**
- Q-3 Attempt the following:**
- a. Using exceptions to manage errors has some advantages over traditional error-management techniques. Discuss them in detail with appropriate example 4
 - b. Compare Primitive Types Vs Reference Types 4

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SECTION - II

- Q-4 Explain the following Terms with an appropriate example. 9**
- a. Daemon Threads
 - b. Immutable objects
 - c. Notify()

- Q-5 Attempt the following: 8**
- a. Does Thread implements their own Stack, if yes how? 4
 - b. When should you use abstract classes and when should you use interfaces? 4

OR

- Q-5 Attempt the following: 8**
- a. Discuss the benefit of Generic over non-generic types? 4
 - b. Explain Thread life cycle with diagram 4

- Q-6 Attempt the following: 8**
- a. Explain channels with reference to file-handling in Java. And also discuss at least one operation of File Handling(Input/Output) 4
 - b. Discuss any two classes from four major classes of Java.io package 4

OR

- Q-6 Attempt the following: 8**
- a. Consider first n even numbers starting from Zero(0). Complete the code segment to calculate sum of all these numbers divisible by 3. Print the sum. 3

Sample Test cases

	Input	Output
Test case 1	1	0
Test case 2	2	0
Test case 3	10	36

Just write the code snippet

- b. Why java does not support pointers? 3
- c. Why there are no Global variables in Java 2

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