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I Semester M.C.A. Degree Examination, April/May - 2026

COMPUTER SCIENCE

Data Structures Using Java

(CBCS Scheme 2025)

Paper - MCA102T

Time : 3 Hours

Maximum Marks : 70

*Instructions to Candidates:*

1. Answer any Five questions from Section - A
2. Answer any Four questions from Section - B

**SECTION - A**

Answer any Five of the following questions. Each question carries 6 marks. (5×6=30)

1. Explain the different OOPs concepts with an example.
2. Explain the different types of constructors in Java with an example.
3. What are abstract classes? Explain with a programming example.
4. Explain method overloading and method overriding with an example.
5. Explain the different classifications and applications of Data Structures.
6. What is double-ended queue? Explain its implementation and applications.
7. Explain the concepts of binary search with an example.
8. Explain hash tables and collision handling techniques with an example.

**SECTION - B**

Answer any Four of the following questions. Each question carries 10 marks.

(4×10=40)

9. a) Explain the different features of Java in detail. (7+3)  
b) Write a note on JVM architecture.
10. Explain the different types of Inheritance in Java with an example.
11. Explain the mechanism of Exception handling in Java with an example.

[P.T.O.]



12. Implement a Java program to perform push, pop and display operations on a stack using arrays.
  13. What is linked list? Explain the insertion and deletion of singly linked list with an example.
  14. Explain the different Tree traversal techniques with a programming example.
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