

**A-1141**

Total Pages : 3

Roll No. ....

**BCA (N)-202**

**Data Structure and Program Methodology**

Examination February, 2026

Time : 2:00 Hrs.

Max. Marks : 70

*Note :-* This paper is of Seventy (70) marks divided into Two (02) Sections 'A' and 'B'. Attempt the questions contained in these Sections according to the detailed instructions given therein. *Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.*

**Section-A**

**(Long Answer Type Questions) (2×19=38)**

*Note :-* Section 'A' contains Five (05) Long-answer type questions of Nineteen (19) marks each. Learners are required to answer any *two* (02) questions only.

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( 1 )

P.T.O.

1. Explain types of data structures. Discuss bit manipulation methods and memory representation.
2. Explain sorting techniques. Compare merge sort, and quick sort.
3. Explain searching techniques. Discuss linear search and binary search with complexity analysis.
4. Explain different tree traversal algorithms.
5. Explain program development life-cycle. Discuss coding standards, testing methods, and verification procedures.

### **Section–B**

**(Short Answer Type Questions) (4×8=32)**

**Note** :- Section ‘B’ contains Eight (08) Short-answer type questions of Eight (08) marks each. Learners are required to answer any *four* (04) questions only.

1. Define algorithm and list its characteristics.
2. Explain queue implementation using linked list,
3. What is priority queue ?

4. Write a short note on AVL trees.
5. Explain minimum spanning tree.
6. Define hash table and explain double hashing.
7. Explain Bubble sort.
8. Write a short note on programming style.

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