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1012E1479

Candidate's Seat No : _____

IMSc IT SD Sem.-3 Examination
SMD-306

Fundamentals of Data Structure

December-2025

Time : 2-30 Hours]

[Max. Marks : 70

Instructions:

- Figures to the right indicate Full Marks.
- Do not write anything on the question paper.

MARKS

Q.1

1. Which of the following is the time complexity to access an element in an array using its index?

- a) $O(1)$ b) $O(n)$
c) $O(\log n)$ d) $O(n^2)$

2. Which of the following sorting algorithms works best on nearly sorted data?

- a) Bubble Sort b) Selection Sort
c) Insertion Sort d) Quick Sort

3. What is the maximum number of elements that can be stored in a two-dimensional array $arr[m][n]$?

- a) m b) n
c) $m + n$ d) $m \times n$

4. What does a "NULL" pointer represent in a linked list?

- a) Beginning of the list b) Middle node
c) End of the list d) None of these

5. Which data structure uses LIFO (Last In First Out)?

- a) Queue b) Stack
c) Tree d) Heap

6. Which of the following operations is not possible in a circular queue?

- a) Enqueue b) Dequeue
c) Traversal d) None of the above

7. BFS (Breadth First Search) uses which data structure?

- a) Stack b) Queue
c) Array d) Linked List

P.T.O

