

23001

M.C.A. DEGREE EXAMINATION, APRIL/MAY 2020

SECOND SEMESTER

Paper I – DATA STRUCTURES

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 3 = 15 marks)

Answer any FIVE questions.

Each question carries 3 marks.

Each answer should not exceed 1 page.

1. Write a short note on primitive and composite data types.
2. What is Big O notation?
3. Write a short note on linked list application.
4. Write about a priority queue.
5. Explain briefly about binary trees.
6. What is Tree Traversal techniques?
7. What is access table hashing?
8. Explain briefly about Bubble sort.

PART B — (4 × 15 = 60 marks)

Answer ALL questions.

Each question carries 15 marks.

Each answer should not exceed 6 pages.

UNIT-I

9. Explain sparse matrix representation and its operations in detail.

Or

10. Explain about linked list.

## UNIT-II

11. Explain array and linked list implementation.

Or

12. Explain in detail about circular queues.

## UNIT-III

13. What is sequential file organization in detail?

Or

14. Explain about

(a) Warshall and minimal algorithm

(b) Minimum spanning tree.

## UNIT-IV

15. Explain collision resolution method.

Or

16. Discuss about

(a) Tape sorting

(b) Linear and binary search

