15095 N

M.Sc. DEGREE EXAMINATION, OCTOBER/NOVEMBER 2018.

FIRST SEMESTER

Computer Science

Paper V –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.

1. What is abstract data type?

2. Describe about the various notations and their benefits.

3. Differentiate stack and queue

4. Differentiate array and linked list.

5. What is minimal spanning tree?

6. Write a short note on file organization.

7. What is hashing and its analysis?

8. Describe the collision resolution methods.

PART B — (4 × 15 = 60 marks)

Answer ALL questions.

Each question carries 15 marks.

9. Explain the primitive and composite data types with an example.

Or

10. Discuss about the various linked lists along with operations.

11. Explain the representation, operations and applications of stacks.

Or

12. Explain the representation, operations and applications of queues.

13. Explain about the traversal techniques and other operations of graphs with an example.

Or

14. Explain about the tree traversal techniques with an illustration.

15. Explain any two internal sorting techniques.

Or

16. Explain the following with an example:

(a) Linear search

(b) Binary search