662 Register No.: [ ]

October 2018

Time – Three hours
(Maximum Marks: 75)

[N.B: (1) Q.No. 8 in PART – A and Q.No. 16 in PART – B are compulsory. Answer any FOUR questions from the remaining in each PART – A and PART – B

(2) Answer division (a) or division (b) of each question in PART – C.

(3) Each question carries 2 marks in PART – A, 3 marks in Part – B and 10 marks in PART – C.]

PART – A

1. What is time complexity?
2. What is traversing an array?
3. Write the condition for stack full and stack empty.
4. Define de-queue.
5. What is null pointer in a list?
6. What are the three fields in doubly linked list?
7. What is in-degree of a graph?
8. Define collision.

PART – B

9. What are the advantages and disadvantages of linear array?
10. Explain searching an element in array.
11. Explain briefly about priority queue.
12. List down the differences between linked list and sequential list.
13. Explain list representation of binary tree.
14. What is complete binary tree?
15. Explain sequential search algorithm.
16. Write algorithm for insertion sort.

[Turn over.....

PART – C

17. (a) (i) Explain top-down approach.
(ii) Explain the methods to implement 2D array.

(Or)

(b) Explain the algorithm for inserting an element into an array with an example.

18. (a) (i) Explain implementation of stack operations.
(ii) Write about circular queue.

(Or)

(b) (i) Explain how to evaluate a postfix expression.
(ii) List down the advantages of using recursion.

19. (a) (i) Explain searching an element in singly linked list.
(ii) Write notes on doubly linked list.

(Or)

(b) Explain with an example for deleting a last node from singly linked list.

20. (a) (i) Explain post order traversal with an example.
(ii) Explain BFS algorithm.

(Or)

(b) Explain graph representation methods with an example.

21. (a) (i) Explain selection sort.
(ii) Explain binary search.

(Or)

(b) Explain collision resolution techniques.
