B.Sc. DEGREE EXAMINATION,NOVEMBER 2019
II Year III Semester
Data Structures and Algorithms

Time : 3 Hours **Max.marks :75**

Section A $(10 \times 2 = 20)$ Marks

Answer any **TEN** questions

1. What is Data Structure?
2. What is an Array?
3. Define Stack
4. What is meant by Recursion?
5. Define Singly Linked List.
6. Write any two applications of Linked List.
7. What is Binary Tree?
8. Define Hashing Function.
9. What is an Algorithm?
10. What is Divide and Conquer Algorithm.
11. Define Graph.
12. What do you mean by Abstract Data Types?

Section B $(5 \times 5 = 25)$ Marks

Answer any **FIVE** questions

13. Discuss about Primitive and Composite Data Types.
14. Explain infix to postfix conversion algorithm with example.
15. Explain how a recursion algorithm works in detail with example.
16. Explain the various types of Graph.
17. Write an algorithm for Binary Search.
18. How do you find the complexity of an algorithm? Compare time and space complexities of an algorithm.
19. Explain the Circular Queue with example.

Section C $(3 \times 10 = 30)$ Marks

Answer any **THREE** questions

20. Elaborate about Operations on Arrays.
21. Illustrate Applications and Operations on Queues.
22. Write an algorithm for the following in doubly linked list.
    (i) Inserting a node. (ii) Deleting a node.
23. Exemplify Binary Tree Traversals with example.
24. Write an algorithm for Merge Sort with suitable example.

B.Sc. DEGREE EXAMINATION,NOVEMBER 2019
II Year III Semester
Data Structures and Algorithms

Time : 3 Hours **Max.marks :75**

Section A $(10 \times 2 = 20)$ Marks

Answer any **TEN** questions

1. What is Data Structure?
2. What is an Array?
3. Define Stack
4. What is meant by Recursion?
5. Define Singly Linked List.
6. Write any two applications of Linked List.
7. What is Binary Tree?
8. Define Hashing Function.
9. What is an Algorithm?
10. What is Divide and Conquer Algorithm.
11. Define Graph.
12. What do you mean by Abstract Data Types?

Section B $(5 \times 5 = 25)$ Marks

Answer any **FIVE** questions

13. Discuss about Primitive and Composite Data Types.
14. Explain infix to postfix conversion algorithm with example.
15. Explain how a recursion algorithm works in detail with example.
16. Explain the various types of Graph.
17. Write an algorithm for Binary Search.
18. How do you find the complexity of an algorithm? Compare time and space complexities of an algorithm.
19. Explain the Circular Queue with example.

Section C $(3 \times 10 = 30)$ Marks

Answer any **THREE** questions

20. Elaborate about Operations on Arrays.
21. Illustrate Applications and Operations on Queues.
22. Write an algorithm for the following in doubly linked list.
    (i) Inserting a node. (ii) Deleting a node.
23. Exemplify Binary Tree Traversals with example.
24. Write an algorithm for Merge Sort with suitable example.