B.C.A 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. Define primitive data types.
3. How do you push and pop the elements in a stack?
4. Define circular queue.
5. Define linked list.
6. How will you represent a polynomial?
7. Define siblings.
8. What is forest?
9. What is an algorithm?
10. Define divide and conquer method.
11. Define the term recursion.
12. What is meant by traversal?

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

Answer any **FIVE** questions

13. Write a note on asymptotic notations.
14. Explain the procedure to convert infix expression into postfix expression.
15. Explain the procedure to insert and delete a node in a singly linked list.
16. What is graph? Explain its types.
17. Explain binary search with example.
18. Give a brief account on hashing function.
19. Write an algorithm to find the maximum and minimum number presented in a given list.

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

Answer any **THREE** questions

20. Write a short note on arrays and order lists with suitable example.
21. Briefly explain the concept of queue. Also write the procedures to add and delete elements in a queue.
22. Explain the procedure to add two polynomials using arrays.
23. Explain Dijkstra's algorithm with example.
24. Explain merge sort with an example.

B.C.A 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. Define primitive data types.
3. How do you push and pop the elements in a stack?
4. Define circular queue.
5. Define linked list.
6. How will you represent a polynomial?
7. Define siblings.
8. What is forest?
9. What is an algorithm?
10. Define divide and conquer method.
11. Define the term recursion.
12. What is meant by traversal?

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

Answer any **FIVE** questions

13. Write a note on asymptotic notations.
14. Explain the procedure to convert infix expression into postfix expression.
15. Explain the procedure to insert and delete a node in a singly linked list.
16. What is graph? Explain its types.
17. Explain binary search with example.
18. Give a brief account on hashing function.
19. Write an algorithm to find the maximum and minimum number presented in a given list.

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

Answer any **THREE** questions

20. Write a short note on arrays and order lists with suitable example.
21. Briefly explain the concept of queue. Also write the procedures to add and delete elements in a queue.
22. Explain the procedure to add two polynomials using arrays.
23. Explain Dijkstra's algorithm with example.
24. Explain merge sort with an example.