Brief Answer Questions: Group A 10*1 = 10

1. Define abstract data type.
2. Difference between tail and non - tail recursion.
3. How Stack and Queue is ADT?
4. What are the advantages of doubly linked list over single linked list?
5. Define circular queue with application.
6. Define skip list.
7. List the techniques of handling collision in hashing.
8. How shell short is used in the real system.
9. List the applications of stack?
10. Which is more efficient a binary search or a linear search? Justify your answer on the basis of time complexity
11. What is tail recursion?
12. List out the practical applications of tree data structure?
13. Define max heap with example
14. What do you mean by adjacency matrix? Ludy Notes
15. What is shortest path problem?
16. How can DSA can be implemented in the real-life systems?
17. What is Merge sort?
18. How collision occur in Hashing?
19. What is binary search?
20. Why worst case is widely used in algorithm design than best and average case complexity?
21. How java uses the import Arrays class in DSA?
22. Define expression. What are the different types of expression?
23. How the AVL tree is balanced?
24. Write short step for the working of Radix sort.
25. Define B tree in DSA.

Group B

Short Answer question: (Attempt any FIVE Questions) 5*3 = 15

26. Write an algorithm or function for pop operation in stack.
27. Write a function to traverse array in doubly linked list.
28. Write short notes on B tree with example.
29. How linked list can be considered as an abstract data type?
30. Write an algorithm or function for selection sort.
31. Compare different types of linked list.
32. Write a recursive algorithm of function to compute ged of any two positive integers.
33. Compare different types of Queue.
34. Write a function or an algorithm for enqueue and dequeue operation in circular queue.
35. Convert the following infix expression to equivalent postfix expression
    i. A*(B+C)/D

    ii. (A*B)+(C*D)

36. Write short notes on recursion in Java with example.
37. How topological sort works?
38. How normal sorting differs from java.util package.