DSA Lab report details

Lab 1: Implementation of Stack

1. Coverpage (P)
2. Introduction to Stack (H)
   Definition, applications, terminologies, operations
3. Algorithm to PUSH and POP data from the stack (H)
4. Program Code (P/H)
5. Outputs of the program (P)
6. Conclusion (H)

P – Printed, H – Handwritten

Lab 2: Conversion of Infix expression to postfix and evaluation of postfix expression using STACK

1. Coverpage (P)
2. Introduction to the mathematical expressions (infix, postfix and prefix) (H)
3. Algorithm to convert infix expression to postfix (H)
4. Program code and output to convert infix expression to postfix (P)
5. Algorithm to evaluate postfix expression (H)
6. Program code and output to evaluate postfix expression (P)
7. Conclusion

Lab 3: Implementation of Linear Queue

1. Coverpage (P)
2. Introduction to Queue (H)
   Definition, applications, terminologies, operations
3. Introduction to Linear queue (H)
4. Algorithm to insert and delete data from the linear queue (H)
5. Program Code (P/H)
6. Outputs (P)
7. Conclusion (H)
   P – Printed, H – Handwritten

Lab 4: Implementation of Circular Queue

1. Coverpage (P)
2. Introduction to Circular queue (H)
3. Advantages of circular queue over linear queue (H)
4. Algorithm to insert and delete data from the circular queue (H)
5. Program Code (P/H)
6. Outputs (P)
7. Conclusion (H)
   P – Printed, H – Handwritten

Lab 5: Implementation of Recursion

1. Coverpage (P)
2. Introduction to recursion (H)
   Definition, applications, advantages & disadvantages

3. Algorithm to calculate factorial (H)
4. Program code and output to calculate factorial (P)
5. Algorithm to calculate term of a Fibonacci series (H)
6. Program code and output to calculate the term of a Fibonacci series (P)
7. Algorithm to calculate the reverse of a number(H)
8. Program code and output to calculate the reverse of a number (P)
9. Algorithm to check if a number is prime or not (H)
10. Program code and output to check if a number is prime or nor (P)
11. Algorithm to solve the Tower of Hanoi (TOH) (H)
12. Program code and output to solve the Tower of Hanoi (P)
13. Conclusion (H)

P – Printed, H – Handwritten

Lab 6: Implementation of Singly Linked List

1. Coverpage (P)
2. Introduction to Linked list and singly linked list (H)
3. Algorithms to insert and delete data in singly linked list (H)
4. Program Code (P/H)
5. Outputs (P)
6. Conclusion (H)

P – Printed, H – Handwritten

Lab 7: Implementation of Sorting algorithms

1. Coverpage (P)
2. Introduction to Sorting and sorting algorithms (H)
3. Algorithm (H), Program Code (P) and output (P) to implement:
    a) Bubble sort
    b) Selection sort
    c) Insertion sort
4. Conclusion (H)

P – Printed, H – Handwritten

Lab 7: Implementation of Searching algorithms

1. Coverpage (P)
2. Introduction to Searching and Searching algorithms (H)
3. Algorithm (H), Program Code (P) and output (P) to implement:
    a) Linear search
    b) Binary search
4. Conclusion (H)

P – Printed, H – Handwritten