**ASIAN SCHOOL OF MANAGEMENT AND TECHNOLOGY (ASMT)**

**GONGABU, KATHMANDU**

**LAB REPORT**

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**DATA STRUCTURE AND ALGORITHM**

**SUBMITTED BY: SUBMITTED TO :**

**AASHISH RIJAL CHAKRA NARAYAN RAWAL ROLL: 3 (CSIT 3nd SEMESTER) …………….**

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| **S.N** | **Program** |
| 1. | WAP menu driven program to implement array operations |
| 2. | WAP to implement array operations using function. |
| 3. | WAP using stack to convert infix expression to postfix |
| 4. | WAP using stack to convert infix expression to prefix expression. |
| 5. | WAP using stack to evaluate postfix/prefix expression. |
| 6. | WAP to implement queue operations  a. Without using function b. Using pointer and function |
| 7. | WAP to implement Circular queue operations  a. Using pointer and function |
| 8. | WAP to implement operations in priority queue. |
| 9. | Write a menu driven program to illustrate basic operations of Singly Linked list with following operations:  i. Insert at first  ii. Insert at last  iii. Insert at nth position  iv. Delete from first  v. Delete from last  vi. Delete from nth position  vii. Traverse all the nodes  viii. Search any value |
| 10. | Write a menu driven program to implement Circular Linked List with the operations. |
| 11. | Write a menu driven program to implement Doubly Linked List with the operations. |
| 12. | Write a menu driven program to implement Doubly circular Linked List with the operations. |
| 13. | Writing recursive programs to implement factorial of a given number. |
| 14. | WAP to implement   1. Fibonacci sequence 2. GCD. |
| 15. | WAP to implement Tower of Hanoi algorithms with n number of disk. |
| 16. | Write a program to implement   1. Bubble sort 2. Insertion sort 3. Merge sort 4. Quick sort |
| 21. | Write a program to implement  a. Sequential search  b. Binary search |
| 22. | Write a program to implement collision resolution technique  a. Linear probing  b. Double hashing |
| 23. | Write program to implement   1. Binary Search Tree 2. AVL Tree |
| 24. | Write a program to implement   1. Kruskal’s algorithm 2. Prims algorithm |
| 25. | Write a program to implement Dijkstras algorithm. |