

### Bansilal Ramnath Agarwal Charitable Trust's Vishwakarma Institute of Technology

(An Autonomous Institute affiliated to Savitribai Phule Pune University)
PUNE-411037



## THE ROBOTICS FORUM

# TRF LEVEL 2 ELECTRICAL DOMAIN TASK - 1

### **TASK - 1.1**

- 1. Write algorithm for
  - a. Infix expression to prefix.
  - b. Infix expression to postfix.
  - c. Write code for balance bracket.
- 2. Given "n" ropes of different lengths, connect them into a single rope with minimum cost. Assume that the cost to connect two ropes is the same as the sum of their lengths.

(Hint: Use Priority Queue)

3. Implement binary search tree

### **TASK - 1.2**

You are supposed to complete these tasks in Proteus.

- 1) Construction of gates using NAND and NOR @member1
- 2) Design D flip flop using logic gates @member2
- 3) Construct JK flip flop using D flip flop @member3
- 4) 4 bit adder using gates @member4
- 5) S-R flip-flop Using NAND gate @member5

Deadline: 17<sup>th</sup> September 22

Make sure you follow the deadline strictly.