

E-Yantra 2021-2022

Participants :- 1. Mukul Anand
2. Zeeshan Naseem
3. Shikhar Trivedi
4. Kunal S Bhandari

Theme:- Autonomous Dairy Bike (DB)

Detail:- We design a Dairy Bot comprising a Two Wheeled Self Balancing Robot. The robot loads/unloads dairy products from a dairy farm to designated delivery points. We use a Linear Quadratic Regulator (LQR) control strategy for balancing the robot equipped with a flywheel mechanism. We help you discover your talent in designing and building a robot from scratch and learn how to build a challenging control system to balance a two-wheeled robot. After building the bot, we navigate it in an arena to complete a set of tasks.

Concept:- Self-Balancing Robot, State-Space Modelling, Euler-Lagrange Mechanics, Linear Quadratic Regulator, Lua Language, Octave Programming, Coppelia Sim, Fusion 360.