DPU

Dr. D. Y. Patil Unitech Society's
Dr. D. Y. Patil Institute of Technology, Pimpri, Pune
Department of Electrical Engineering

Activity: "Innovative Teaching Learning Pedagogy"

Date & Day: 5/08/2024

Activity Name: Simulation

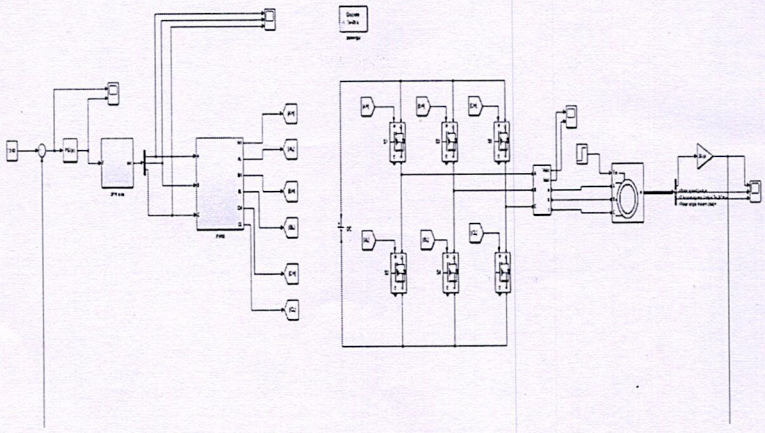
Subject : Electric and Hybrid Vehicle

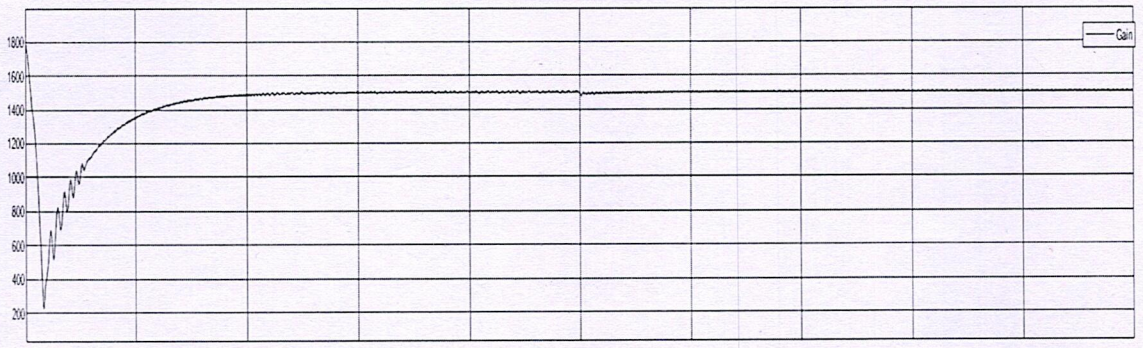
Venue: Computer Lab

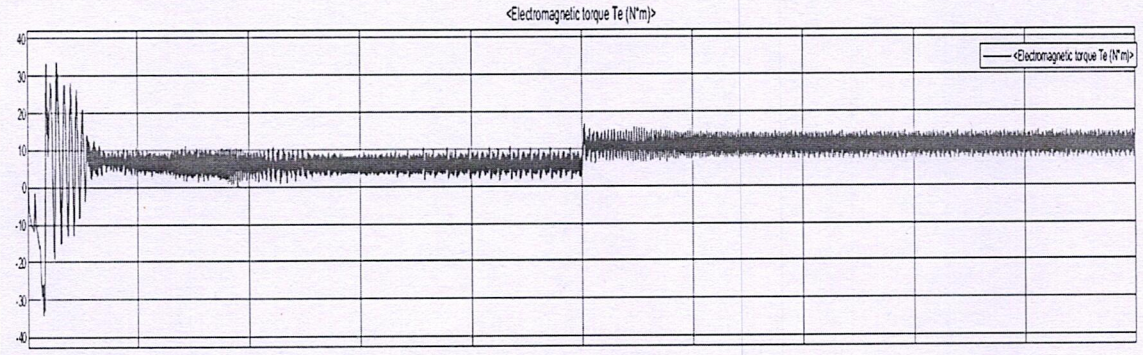
Activity conducted by: Mr. Digvijay B Kanase

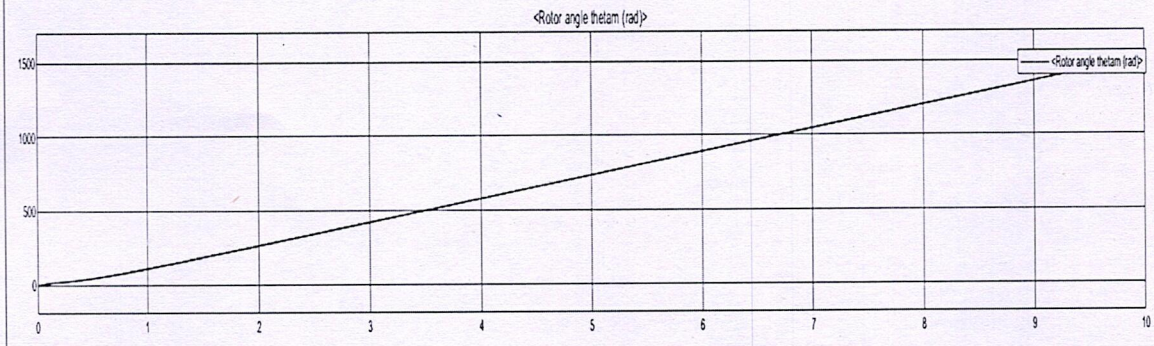
Objectives:
To enable students to understand and simulate the speed control techniques of Induction Motors used in Electric and Hybrid Electric Vehicles, thereby bridging the gap between theoretical knowledge and practical implementation through MATLAB/Simulink or equivalent tools.

Simulation:









Outcome:

1. Analyze the dynamic behavior of an induction motor under different speed control methods.
2. Implement scalar (V/f) and vector control techniques in a simulation environment.
3. Interpret simulation results to determine suitable control strategies for EV applications.
4. Correlate motor control methods with energy efficiency and performance in Electric Vehicles.

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Mapping of POs and PSOs with Justification:

PO/PSO	Description	Justification
PO1	Engineering Knowledge	Students apply basic electrical engineering principles to understand induction motor operation and control.
PO2	Problem Analysis	Analyzing the effect of different speed control techniques develops problem-solving skills.
PO3	Design/Development of Solutions	Designing a simulation model for motor control fulfills this outcome.
PO5	Modern Tool Usage	Use of simulation software like MATLAB/Simulink enhances proficiency with modern engineering tools.
PO12	Lifelong Learning	Exposure to advanced tools and techniques promotes self-directed learning beyond the curriculum.

Course Coordinator | DAC | HOD