Jawahar Education Society's,
INSTITUTE OF TECHNOLOGY, MANAGEMENT & RESEARCH, NASHIK.
(Accredited by NAAC)
(Approved by AICTE, New Delhi, DTE, Government of Maharashtra, Affiliated to Savitribai Phule Pune University)

Department of Electrical Engineering

Course Outcomes (CO)

Syllabus Pattern:-2019

Class:-TE Semester:- I

Sr. No	Subject	Course Outcomes (CO)
1	**303141: Industrial and Technology Management**	**CO1:** Differentiate between different types of business organizations and discuss the fundamentals of economics and management **CO2:** Explain the importance of technology management and quality management. **CO3:** Explain the importance of IPR and role of Human Resource Management. **CO4:** Understand the importance of Quality and its significance. **CO5:** Describe the characteristics of marketing & its types and overview of financial Management. **CO6**: Discuss the qualities of a good leader and road map to Entrepreneurship.
2	**303142: Power Electronics**	**CO1:** Develop characteristics of different power electronic switching devices. **CO2:** Reproduce working principle of power electronic converters for different types of loads. **CO3:** Choose the appropriate converter for different applications.
3	**303143: Electrical Machines-II**	**CO1:** Learn construction, working principle of three phase Synchronous Machines, Induction Motors, A.C. Series Motor and Special Purpose Motors. **CO2:** Understand characteristics of three phase Synchronous Machines, Induction Motors, A.C. Series Motor and Special Purpose Motors. **CO3:** Select the above machines in Power System, industrial, household & Military Engineering applications. **CO4:** Testing of machines to evaluate the performance through experimentation
4	**303144: Electrical Installation, Design and Condition Based Maintenance**	**CO1:** Classify different types of distribution supply system and determine economics of distribution system. compare and classify various substations, bus-bars and Earthing systems. **CO2:** Demonstrate the importance and necessity of maintenance. **CO3**:Analyse and test different condition monitoring methods. **CO4:** Carry out estimation and costing of internal wiring for residential and commercial installations. **CO5:** Apply electrical safety procedures.

5	**303145A:** **Elective-I: Advanced Microcontroller and Embedded System**	**CO1:** Explain architecture of PIC 18F458 microcontroller, its instructions and the addressing modes. **CO2:** Use Ports and timers for peripheral interfacing and delay generation. **CO3:** Interface special and generate events using CCP module. **CO4**: Effectively use interrupt structure in internal and External interrupt mode. **CO5:** Effectively use ADC for parameter measurement and also understand LCD interfacing.
6	**303147A:** **Audit Course V: Energy Storage System**	**CO1**: Describe role of incubation for Startup and recent national policy. **CO2** :Identify various types of Startups. **CO3**: Explain impacts of disruptive innovation and Differentiate between disruptive innovation and disruptive technology

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Department of Electrical Engineering

Course Outcomes (CO)

Syllabus Pattern:-2019

Class:-TE Semester:- II

Sr. No	Subject	Course Outcomes (CO)
1	**303148: Power System-II**	**CO1:** Solve problems involving modelling, design and performance evaluation of HVDC and EHVAC power transmission lines. **CO2:** Calculate per unit values and develop Y bus for solution power flow equations in power transmission networks **CO3:** Calculate currents and voltages in a faulted power system under both symmetrical and asymmetrical faults, and relate fault currents to circuit breaker ratings.
2	**303149:** **Computer Aided Design of Electrical Machines**	**CO1:** Summarize temperature rise, methods of cooling of transformer and consider IS 2026 in transformer design. **CO2:** Design the overall dimensions of the transformer. **CO3:** Analyze the performance parameters of transformer. **CO4:** Design overall dimensions of three phase Induction motor **CO5:** Analyze the performance parameters of three phase Induction motor. **CO6** :Implement and develop computer aided design of transformer and induction motor
3	**303150: Control System Engineering**	**CO1**: Construct mathematical model of Electrical and Mechanical system using differential equations and transfer function and develop analogy between Electrical and Mechanical systems. **CO2 :**Determine time response of systems for a given input and perform analysis of first and second order systems using time domain specifications. **CO3:** Investigate closed loop stability of system in s-plane using Routh Hurwitz stability criteria and root locus. **CO4**:Analyze the systems in frequency domain and investigate stability using Nyquist plot and Bode plot .
4	**303151D: Elective-II Energy Management**	**CO1** :Describe BEE Energy policies, Energy ACT. **CO2:** List and apply demand side management measures for managing utility systems. **CO3**: Explore and use simple data analytic tools. **CO4 :**Use various energy measurement and audit instruments. **CO5:**Evaluate economic feasibility of energy conservation projects. **CO6:** Identify appropriate energy conservations methods for electric and thermal utilities.

5	**303153B: Audit Course VI: Project Management**	**CO1**: Elaborate importance of project management and its process. **CO2:** Learn about the role of high performance teams and leadership in project management