

Ballari Institute of Technology & Management
Ballari
Department of Electrical and Electronics Engineering

Vision & Mission of the Institute

Vision

We will be a top notch educational Institution that provides best of breed educational services by leveraging technology and delivered by best in class people in line with the globalized world.

Mission

To empower the students with Technical, Managerial Skills, Professional Ethics & Values and an appreciation of Human Creativity & Innovation for an inquisitive mind.

Vision & Mission of the Department

VISION

To create a centre for innovation and excellence in teaching, research and service in a learning environment in the high academic ambiance for imparting technical education of high standards to meet the current and future challenges of the technological developments.

MISSION

- To provide highest quality teaching and learning environment with emphasis to produce competent and compassionate graduates in electrical engineering.
- To discover, disseminate and apply knowledge related to the broad aspects of electrical engineering through education and research in close interaction with industry thus produce graduates who are fully equipped to achieve highest personal and professional standards for overall.

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Program Educational Objectives-(PEOs)

1. To prepare graduates to excel in professional career by acquiring the broad knowledge of electrical engineering.
2. To prepare graduates capable of pursuing higher education and research.
3. To prepare graduates to engage in lifelong learning, professional development activities, and/or other career enhancing activities.
4. To prepare graduates to develop leadership qualities, professional ethics and soft skills to be successful in their professional careers in industry or academia. learning and to introduce them to professional ethics and codes of professional practice.

Programme Outcomes (PO'S)

- (a) Graduates will be in a position to apply knowledge of mathematics, science and allied engineering subjects as applicable to Electrical & Electronics Engineering.
- (b) Graduates will have the ability to identify, formulate and design solutions in the areas of Electrical & Electronics Engineering
- (c) Graduates will demonstrate the abilities to design and conduct experiments, analyze interpret data.
- (d) Graduates are able to address the challenges of complex Problems of Electrical & Electronics Engineering.
- (e) Graduates will have the ability to visualize and work independently or in teams
- (f) Graduates will be able to adopt any modern engineering tool or software for analyzing and solving various problems of Electrical & Electronics Engineering.
- (g) Graduates will have knowledge of professional and ethical responsibilities
- (h) Graduates are able to communicate effectively.
- (i) Graduates will be able to incorporate the understanding of impact of social, cultural and global aspects in their professional practice.
- (j) In the fast changing scenario of technical and business eco system, the graduates will understand the need for quality, timeliness, life-long learning and adopt themselves accordingly
- (k) Graduates will have the knowledge of contemporary issues and able to apply effectively for project management
- (L) Graduates will understand the impact of professional engineering solutions in environmental contexts and the need for sustainable development.

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Definition and Validation of Course Outcomes and Programme Outcomes

Course code	Course name	Course outcomes	PO'S Relevance
(10EE81)	ELECTRICAL DESIGN, ESTIMATING & STING	CO1: Define Estimation & tendering. CO2: Calculate load Of buildings. CO3: Explain the different methods earthing. CO4: Estimate wiring installations. CO5: Identify the components transmission & distribution systems. CO6: Evaluate the load calculation, wire size selection wiring materials for the power circuits. CO7: Explain the different types of service installations. CO8: Estimate the service wiring installation CO9: Estimate the motor installation CO10: Draw key layout diagrams of 66kv substation.	a, b, c, d, e, g, i, j, k
(10EE82)	POWER SYSTEM OPERATION AND CONTROL	CO1: Summarize the importance of SCADA CO2: List the importance of Digital computer configuration CO3: Evaluate Area control error. CO4: Describe Tie- line and frequency deviation CO5: Explain Parallel operation of generators CO6: How do we use Automatic voltage regulator, Automatic load frequency and concept of control area. CO7: Explain the Optimal operation of thermal plants, Incremental production cost Transmission loss formula and The B-efficient. CO8: List the importance of Unit commitment and Spinning reserve CO9: Explain the Factors affecting the power system security CO10: Discuss in brief about Power system contingency	a, b, c, d, e, f, g, h, i, j, k, l
(10EE836)	ELECTIVE -1 RENEWABLE ENERGY SOURCES	CO1: Explain the importance of conventional energy source. CO2: Define solar constant, basic Sun-Earth angle. CO3: Evaluate solar radiation on horizontal and tilted surface. CO4: Demonstrate the working principle of solar cooker, water heater. CO5: Derive the equation for solar angle. CO6: Describe the necessity of energy storage. CO7: Explain the basic principle of wind energy conversion system. CO8: Explain the factors governing site selection for wind power generation. CO9: Explain the process of bio gas production from	a, b, c, d, e, f, g, h, i, j, k, l

		<p>bio mass.</p> <p>CO10: Estimate the energy by single basin and double basin type tidal power plant.</p> <p>CO11: Explain the methods of ocean thermal energy conversion.</p> <p>CO12: Demonstrate energy generation by using bio mass.</p>	
(10EE842)	ELECTIVE -2 ENERGY AUDITING &DEMAND SIDE MANAGEMENT	<p>CO1: Predict energy situation and energy consumption in India and world.</p> <p>CO2: Analyze the energy economic analysis payback, depreciation and taxes.</p> <p>CO3: Explain the elements of energy audits and energy audit reports.</p> <p>CO4: Analyze the optimization of electrical power by power triangle method.</p> <p>CO5: Describe correction and location of capacitor for power factor improvement.</p> <p>CO6: Explain the Demand Side Management (DSM) .</p> <p>CO7: Describe the concept of DSM and different techniques of DSM.</p> <p>CO8: Discuss the practical applications of DSM techniques</p> <p>CO9: Explain the importance of energy efficient equipments.</p> <p>CO10: Organize energy conservation awareness programs.</p>	a, b, c, g, h, i, j, k