Electrical and Electronics Engineering

Department of Electrical Engineering
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- Our life would be unthinkable without electrical energy
- The progress of the country now-a-days is measured in terms of electrical energy generating capacity of that country
- A world without electrical engineers = A world without electrical devices = Back to the 19th century

Content :

- What is ELECTRICAL AND ELECTRONICS ENGINEERING?
- Role of an Electrical Engineer in Modern Society
- Goal of the Program
- Curriculum
- Career
- Research/ Higher education
- Students are expected to
- About the Department

What is ELECTRICAL AND ELECTRONICS ENGINEERING?

Electrical Engineering is a core evergreen branch of engineering, that mainly deals with the study of

- Generation, transmission and distribution of electrical power
- Efficient control and conversion of electrical power to meet demand of various applications
- Efficient utilization of electrical energy
- Electronics, instrumentation and control systems, electronic devices and circuits etc.

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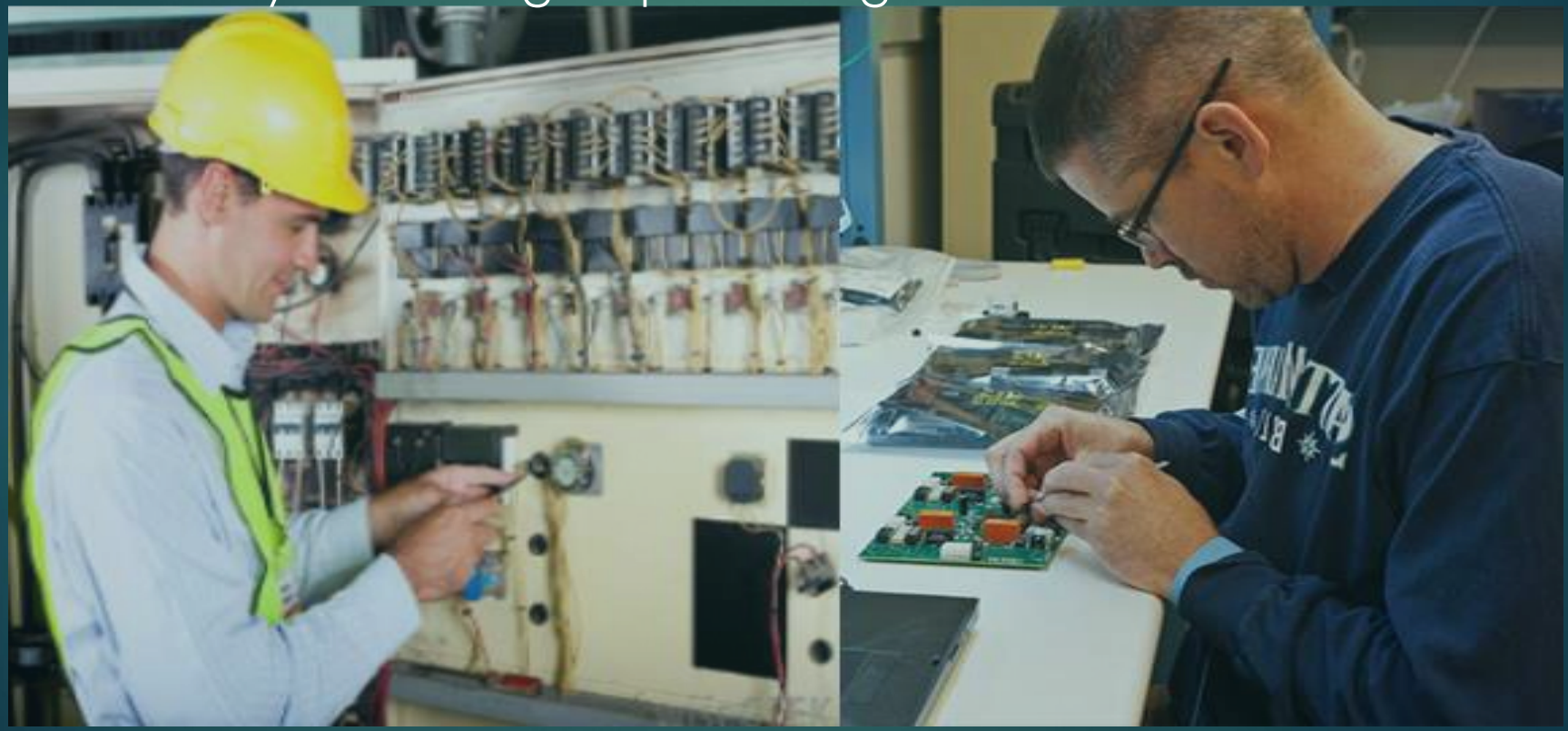
- Electrical engineers focus on the generation, supply of electrical power in large scale and efficient utilization of electrical energy
- Electronics engineers work on applications of electricity to control systems or signal processing



ROLE OF THE ELECTRICAL & ELECTRONICS ENGINEERS IN THE MODERN SOCIETY

- Erection, commissioning and installation of electrical equipment
- Monitoring of the generation and transmission of electrical energy
- Optimal control, Conversion and transfer the electrical power
- Design, develop, test, and supervise the manufacture of electrical equipment's
- Design high voltage equipment such as wiring systems, lighting systems and generators

Contd..

- Contribution to the technology in the field of solar and other renewable energy systems in the world
- Modernizing the electricity grid framework and simultaneously deploying low cost decentralized solar power
- Design the electrical systems of automobiles and aircraft
- Design electronic circuits to help speed up networks and processors that run smart phones and other electronic devices

Goal of the program

- To provide the engineers to the industry in various fields of electrical and electronics engineering
- To provide industrial interaction to the students in order to meet the requirements of the modern society
- Moulding the rural students of Telangana and Andhra Pradesh to meet the growing needs and fulfilling global requirements in power sector

Curriculum

- The training that Electrical & Electronics engineering students undergo during their course will enhance their analytical ability and knowledge in the field of electrical and electronics engineering

- **Basic Courses**

  - Mathematics
  - Network Theory
  - Electronic circuits
  - Electromagnetic Field Theory
  - Signals and Systems
  - Electrical Measuring Instruments

Contd..

- **The courses offered to impart knowledge in Power Engineering**
  - Electrical Machines
  - Power systems
  - Power systems protection
  - Power systems operation and control
  - Utilization of electrical energy

- **The courses offered to impart knowledge in efficient conversion of Electric power**
  - Power Electronics
  - Power Semiconductor drives

Contd..

- **The courses offered to impart knowledge in the field of electronics and control engineering**
  - Linear and Digital Electronic Circuits
  - Microprocessors and Microcontrollers
  - Control systems

- **The Courses offered in the field of Computer science**
  - Programming in C
  - Scripting Languages
  - Object oriented programming

Contd..

- Curriculum also includes foundation courses to strengthen the communication and managerial skills

- Apart from the above courses, Curriculum includes the following components to enhance the technical, communication and managerial skills

  - Technical seminars
  - Comprehensive viva
  - Summer Internship
  - Major project

Career

- There is a great need of electrical engineers in modern society as the demand graph of electric power always has positive slope
- The scope for graduates in Electrical and Electronics Engineering is very vast in field of generation, transmission, distribution and utilization of electric power optimally and economically
- Apart from the power plants, every manufacturing industry is in great need of the electrical engineers as the manufacturing process involves power control and automation in each and every unit of the industry

- **Most of the Electrical & Electronics Engineering jobs are in:**
  - **Government agencies**
  - **Manufacture and control of electrical, electronic, and computer and office equipment**
  - **Manufacture and control of industrial machinery**
  - **Manufacturers of professional and scientific instruments**

- The top recruiters for the electrical & electronics engineers

  - GENCO
  - TRANSCO
  - DISCOMS
  - BHEL
  - NTPC
  - Power Grid Corporation of India Ltd
  - SAIL
  - ONGC
  - IOCL
  - HPCL
  - ISRO
  - DRDO
  - IES
  - GAIL
  - VIZAG STEEL PLANT
  - General Electrics
  - General Motors
  - NSPCL
  - L&T Construction and Steel
  - ALSTOM India Power projects
  - Tata Motors
  - Tata Steel & Power Limited
  - Jindal Steel & Power Limited
  - Hindustan Motors
  - BSNL etc.

- Under graduates in EEE are also eligible to join the various jobs in the field of computer science and electronics

Research/ Higher education:-

- There is a global need for young researcher in the field of electrical engineering to meet future demand of electricity
- One of the leading research area in this century is renewable energy sources such as solar energy, wind energy and tidal energy etc
- Apart from this, the other research areas such as non-linear control, intelligent distributed control, bioelectricity, switch mode power supply design, micro grids, distributed energy generation, electric drives, hybrid electric vehicles etc.

- Various disciplines in research
  - Power Systems
  - Control Systems
  - Electrical Machines and Industrial Drives
  - Power Electronics and Drives
  - Renewable Energy systems (Solar, wind etc.)
  - Distribution Systems

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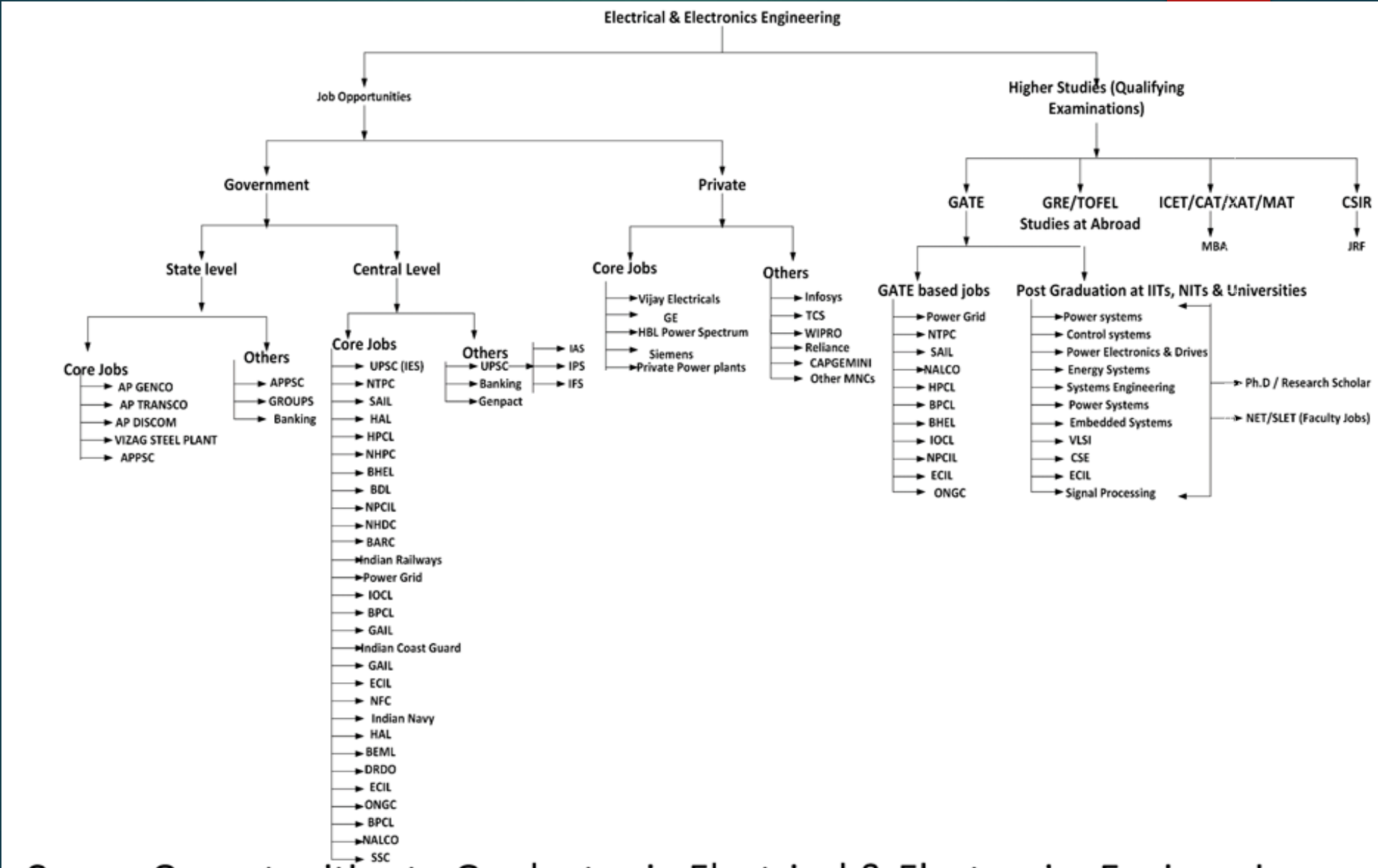

Career Opportunities to Graduates in Electrical & Electronics Engineering

Students are expected to

- Maintain High discipline in academics
- Choose their seminar topics which can be linked to summer internship and project
- Update their knowledge about recent trends and advancements in field of electrical and electronics engineering and choose their project accordingly
- Prepare for learning not for exams
- Students are encouraged to interact with the faculty to enhance their knowledge in various aspects
- Electrical and Electronics Engineering is the best branch for the students who have got logical and analytical skills and ability to keep learning and adaptability to change in technology

About the Department

- Department of electrical engineering stared offering B.Tech (EEE) from AY.2016-17 onwards
- At present, the department exclusively has eight qualified faculty members who have post- graduate degree from reputed institutes/Universities
- The department has well established Electrical Technology laboratory and Power Electronics laboratory
- Currently department has sufficient infrastructure to cater the present educational needs of the students

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Faculty details:

Name of the faculty	Designation	Qualification	Specilization	Teaching experience
Laxman Mutyam	Assistant Professor	M.Tech	Systems and Control	6.5 yrs.
Bandi Raj Kumar	Assistant Professor	M.Tech	Power Systems	3.8 yrs.
N. Rakesh	Assistant Professor	M.S	Power Electronics	4 yrs.
Ranjana sharma	Assistant Professor	M.Tech	Hydro power	3.8 yrs.
Kandi Vijay Kumar	Assistant Professor	M.Tech	Electrical Power Engineering	8 months
BHUKYA BHAVSINGH	Assistant Professor	M.Tech	Power Electronics	4 yrs.
V Vinay Kumar	Assistant Professor	M.Tech	Computational Electrical Engineering	1.5 yrs.
K Jyosthna	Assistant Professor	M.Tech	Power and Energy systems	8 months

Thank you