

DEPARTMENT OF ELECTRICAL ENGINEERING

(2016-17)

ACTIVITY REPORT



GOVERNMENT ENGINEERING COLLEGE PALAKKAD

1. ACADEMIC PROGRAMME

This academic year witnessed the starting of a B.Tech. Programme in Electrical and Electronics Engineering.

A Department Advisory Board (DAB) has been constituted to steer and guide all the activities of the academic programme in the department. This committee is headed by Dr. Abraham T. Mathew, Professor of Electrical Engg., NIT Calicut and comprises of members from the academia, industry, parents, etc. The first meeting of the board was held on 08 March 2017.



First meeting of Department Advisory Board in progress

Deliberations were conducted in the DAB on the formulation of the department vision, department mission, programme education objectives (PEOs), program outcomes (POs) and programme specific outcomes (PSOs) of the B. Tech. programme in Electrical and Electronics Engg. The approved statements are given below.

Department Vision

To become a Centre of Excellence in Electrical Engineering and allied disciplines for the service of the society.

Department Mission

- To impart high quality education to meet the challenges in the field of Electrical and Electronics Engineering.
- To nurture creativity and transform the young minds to become competent electrical engineers.
- To inculcate a sense of commitment to ethical values and a passion to serve the society.
- To foster research, innovation and entrepreneurship skills.

B.Tech.Programme in Electrical and Electronics Engineering

Programme Educational Objectives (PEOs)

PEO1: To lay a strong foundation in basic sciences, mathematics, electrical engineering and computational technology that would enable the graduates to find solution to engineering problems.

PEO2: To strengthen the knowledge of the graduates in other engineering disciplines also, in order to address real-life problems in multi-disciplinary context.

PEO3: To foster in the graduates strong research, design, management, communication, self-learning and teamwork skills coupled with adherence to ethical values.

PEO4: To nurture a passion in the graduates for pursuing higher studies and to engage in life-long learning in their profession.

Programme Outcomes (POs)

Engineering Graduates will be able to

1. **Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.
2. **Problem Analysis:** Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
3. **Design/Development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal and environmental considerations.
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

6. **The Engineer and Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice
7. **Environmental and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and Team work:** Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentation, and give and receive clear instruction
11. **Project management and finance:** Demonstrate knowledge and undertaking of engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects in multi-disciplinary environments
12. **Life-long learning:** Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Programme Specific Outcomes (PSOs)

At the end of the course the graduates are able to

1. Analyse and design power systems, power electronic systems, electrical drives, instrumentation and control systems.
2. Test electrical and electronic circuits & systems by simulation and hardware implementation.
3. Develop and design renewable energy based systems and practice energy conservation in processes, systems and buildings.

Student Performance

Remedial classes were conducted for the first year student to enhance their understanding of the courses and their performance in the tests. These classes were held for selected courses like 'Introduction to Electrical Engineering', 'Engineering Physics', etc.

In the **KTU results**, the pass percentage of the first semester students is 82.8 % (Maths results awaited).

2. STUDENT PROGRAMMES

An Orientation programme was conducted for the first year students on 03 Aug. 2017. Dr. S. Radhakrishnan, Former Principal, GEC Palakkad was the resource person. A talk on 'Industry readiness skill Development' was conducted by the ICT Academy, Thiruvananthapuram on 06 Oct. 2017.

Dr. Abraham T. Mathew, Professor of Electrical Engg., NIT Calicut delivered a talk on 'Opportunities for Electrical Engineers' for the first year students on 08 March 2017.



Dr. Abraham T. Mathew addressing the students

3. FACULTY PROGRAMMES

In-House FSD Organised

A Faculty Staff Development programme on 'Energy Management and Audit' was organised from 31 Nov. to 02 Dec. 2017. The programme was coordinated by Dr. Vincent G, Prof. Lisy E. R. and Prof. Madhu V. The FSD attracted 34 participants and was well received.



Inaugural session of the FSD on Energy Management and Audit



Field visit to MILMA plant, Palakkad during the FSD

Faculty FSD Attended

The faculty and staff attended training programmes in premier institutes like IIT, IIM, NIT, ESCI, PETARC, etc to enhance their technical know-how and skills.

Faculty/Staff	Name of The Programme	Organised by	Period of the Programme
Dr. Vincent G., Asso. Prof.	Pedagogical Training	IIT , Madras	18-20 August 2016
Dr. Vincent G., Asso. Prof.	Management Development Program on "Effective Communication for Managerial Success"	IIM- Lucknow	10-12 Nov 16
Dr. Vincent G., Asso. Prof.	Workshop on Fundamentals and Designs of Grid Connected Solar PV System	Cochin International Airport Academy	21 Dec16
Dr. Vincent G., Asso. Prof.	Image Processing using LabView	RIT, Kottayam	20-22 June 16
Smt. Lisy E.R, Asst. Prof.	Short Term Training Program on Energy Audit	GEC Thrissur	17-19 Oct 16
Smt. Lisy E.R, Asst. Prof	FSDTC on Digital Signal Processing and its Application	GEC Thrissur	5-9 Dec.16
Smt. Lisy E.R, Asst. Prof	Training programme on " Student Evaluation and Question paper setting"	KTU Trivandrum	13-15 Feb. 2017
Sri. Madhu V., Asst. Prof.	Systems and Control	NIT Calicut	29 June-6July 2016
Sri. Madhu V., Asst. Prof.	Workshop on "Outcome based Assessment and Accreditation Preparation of NBA SAR"	ESCI Hyderabad at Hotel Soorya, Shimla	24-26 March 2017
Sri. Baves M., T/I	Electrical Safety at Work Place and First Aid	Advanced Training Institute, Chennai	25-29 July 16
Sri. Baves M., T/I	Personality Development	NITTR Chandigarh	1-5 Feb 2016
Sri. Baves M., T/I	Energy management	NITTR Chandigarh	3 to 7 Oct 2016
Sri. Baves M., T/I	Operation and maintenance of power transformers	ATI Chennai	5-9 Dec 2016
Sri. Baves M., T/I	Concepts, techniques and practices of mechanical testing of metals	ATI Chennai	19-30 Dec 2016
Sri. Baves M., T/I	Power Electronics and its Applications	Apex hi-tech Institute, Bangalore	23-27 Jan 2017
Sri. Baves M., T/I	Basic industrial instruments and automation	ATI Chennai	27 Feb to 10 Mar 2017
Sri. Shiju K., T/I	Trouble Shooting and Maintenance of Electrical Motors	Advanced Training Institute(ATI), Chennai	17-21 Oct' 2016
Sri. Shiju K., T/I	Operation and maintenance of power transformers	ATI Chennai	5-9 Dec 2016
Sri. Shiju K., T/I	Concepts, techniques and practices of mechanical testing of metals	ATI Chennai	19-30 Dec 2016
Sri. Shiju K., T/I	Power & Control Equipment Familiarization Program	PETARC, Moolamattam, Idukki	21-23 Feb 017