



ROHINI

COLLEGE OF ENGINEERING & TECHNOLOGY

Approved by AICTE and Affiliated to Anna University, (An ISO Certified Institution)



ELEKTRA

Voice of EEE

NEWSLETTER

Electrical &
Electronics Engineering

2020



Email: hodeee@rcet.org.in

VISION AND MISSION OF THE DEPARTMENT

VISION

To create technically competent technocrats to meet the demand of Electrical and Electronics industry and societal need for the well being of human kinds.

MISSION

- M1. To provide knowledge and skills necessary for professional Development in Electrical and Electronics Engineering.
- M2. To promote research and creativity in the area of Electrical and Electronics Engineering.
- M3. To promote team work and professional conduct in sociological activities.

PROGRAM EDUCATIONAL OBJECTIVES

- PEO 1: Graduates of the programme will possess career in technical and allied fields.
- PEO 2: Graduates will have the ability to adapt to the growing technological requirement of the society through lifelong learning and team work.
- PEO 3: Graduates of the programme will possess knowledge to pursue higher studies.

Programme Outcomes (POs)

Graduates of Electrical and Electronics Engineering will be able to:

P01 Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

P02 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.

P03 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.

P04 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.

P05 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.

P06 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.

P07 Environment 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.

P08 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

P09 Individual and Team Work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

P010 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 presentations, and give and receive clear instructions.

PO11 Project Management and Finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12 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)

Graduates of Electrical and Electronics Engineering will able to:

- PSO1.** Develop skills to the expectations of the dynamic industrial practices in Electrical Engineering and allied areas.
- PSO2.** Analyse, design and integrate various renewable energy sources to meet the energy demand.

FOUNDER'S MESSAGE

Shri.KNEELA MARTHANDAN

CHAIRMAN

Rohini College of Engineering and Technology

I am very glad to know that the students of the Department of EEE are bringing out a newsletter to throw light on the activities and achievements of their department. Such activities among the students will enhance their communication skills, technical skills, innovative thinking, analytical thinking and knowledge as well. I congratulate the students of department of EEE for taking up this task and I wish all the students of EEE can have a great future which is ahead.

"Be attentive at your work to achieve your goal"

MANAGING DIRECTOR'S MESSAGE

Dr.N.NEELA VISHNU

MANAGING DIRECTOR

Rohini College of Engineering and Technology

It is a great pleasure for me that our Electrical and Electronics Engineering department is releasing E- Newsletter "ELEKTRA". As the Managing Director of Rohini College of Engineering and Technology, I feel proud about it. We have taken an oath that we will develop RCET to world class standard and provide an overall development to all the students. We march towards that goal. We are happy that the students of RCET are properly shaping up, facilitating us to meet our goal. I wish all success to the EEE students.

"Training your minds to become engineers of innovation should be the first motto during your under graduation"

I wish you all success for your bright future.

PRINCIPAL'S MESSAGE

Dr.R.Rajesh,M.E.,Ph.D.

Principal

Rohini College of Engineering And Technology

It is a great pleasure for me that our Electrical and Electronics Engineering department is releasing E- Newsletter "ELEKTRA".

The magazine is presenting a glimpse of the growth of the institution on many fronts. Our students and faculties have performed exceedingly well and competent enough in all the fields. Beyond academics, the research activities are being conducted.

The college also motivates and encourages staff and students to undertake research and enterprising skills. The faculty members plays major role in the overall development of department and institute.

I extend my greetings and best wishes to the faculties and students of the department and wish their endeavors my very best.

Head of Department's Message

Prof.A.Nabisha

HOD / EEE

Rohini College of Engineering and Technology

Dear students of the Department of Electrical & Electronics Engineering, I am happy with an immense pleasure to convey my message for newsletter. Such activities will help the professional students to begin and pursue their voyage into new realms of knowledge.

On behalf of our students and faculty, it is my privilege to welcome all. We takes pride in our faculty, a team of highly capable and dedicated professionals, most of whom have academic and industrial experience and degrees from leading universities of the India. We provide ample opportunities to our faculty and students, through in house trainings, workshops and trainings outside the college campus for further growth and development.

The main objective of department of Electrical and Electronics Engineering is to conduct competitive research and deliver high quality teaching. We want to develop graduate engineers with the skills, knowledge and imagination to help shape our country.

I congratulate the department of EEE for delivering such a wonderful newsletter.

“Where hope would otherwise become hopelessness, it becomes faith”.

EDITORIAL MESSAGE

*‘Creativity comes from trust. Trust your instincts.
And never hope more than you work.’*

It is an occasion of immense pleasure for the Department of Electrical and Electrical & Electronics Engineering to publish the E- Newsletter “ELEKTRA”.

This newsletter is a digital way for us to communicate with our students, faculty members, alumni and industrial partners. This newsletter will provide a glimpse of the departmental activities and achievements.

This Newsletter focusing about different activities of department and achievement of students, Also it enlightens the readers about the latest happenings in Electrical department.

We look forward for more activities and achievements for the department to march towards excellence in the future.

The Editorial board also wants to thanks the Management of the Institute and Head of the department for inspiring us to go forward in publishing this newsletter.

Editorial Board

Prof. G.K.Jabash Samuel (Editor in Chief)

Prof. V.Ponselvan (AssociateEditor)

Miss.P.Latha (Assistant Editor)

About the Department

The Department of Electrical and Electronics Engineering was established in the year 2012 with an intake of 60 students with an objective of creating a leader in engineering education and research with the application of knowledge for uplifting the society globally. The Department stands as a unique centre for promotion of excellence in Electrical Engineering and has been successful in fulfilling its role in the rocketing technologies. The department is in the process of forming research groups in some of the key areas and collaborating with various institutions and corporations.

Electrical and Electronics Engineering discipline is multi-disciplinary by nature, representing a veritable synergy of different technologies. To meet the challenges of the new millennium, we train our students in the areas of artificial neural networks, fuzzy logic, finite element analysis, computer aided design of electrical machines, micro-controllers and digital signal processing, generation, transmission and distribution of power, power system operation and control, Electrical Machines, Power Electronics and their control using computer methods etc.

The field of electrical and electronics engineering is one of the most important engineering disciplines that have changed the course of the world. The aim of the department is to establish itself as a center of excellence of teaching in its chosen areas. We are committed to establishing human and material infrastructure in this cause. A number of laboratories are in the process of being established for make teaching a effective way.

Basic Electrical Engineering Laboratory:

This lab aims at familiarizing the students with the basic electrical components, their characteristics & applications in day to day life. Moreover in this lab we are making the students aware with the different theorems, laws, networks, circuit etc. which are the basic building materials of all those huge electrical equipments, transmission lines, motors, generators etc. The purpose of this lab is to provide a clear concept with basic idea related to electrical circuits RC, RL, LC, RLC, etc. with which they will have to carry for better understanding in the coming semesters. The lab has all the facilities to perform the experiments.

Electrical Machines Laboratory:

Machines laboratory is one of the biggest lab of the department. It is equipped With various conventional AC , DC machines along with other accessories like DC voltage source, loads, rheostats, modern ammeters, voltmeters, watt meters, millimeters etc. for conducting various experiments & developmental works .

All these machines are used for training the students to impart sound knowledge in the area of electrical machines. Some of the major setups are:-

- 10 KVA alternator coupled with synchronous machine
- IM coupled with DC shunt motor.
- 1-phase transformers.
- Coupled DC Machine (shunt, series, compound).

Electrical machines lab is one of the oldest lab established in the Institute. The machine lab has DC machines, AC machines and special type of machines. This lab is used by undergraduate students in their regular lab work. All available machines are having a set up bench with latest supporting measuring equipment. Lab also supports students in their different type of project work and various experiments based on machines are performed in Electrical machines course.

Control System Laboratory:

It is well equipped lab with all the facilities like multi meters, voltmeters etc. including proper guidance as in all other labs .Major setups available with this lab are DC Servomotor speed torque characteristics trainer, AC servo position control system trainer, AC servomotor speed torque characteristic trainer etc. Here students can exercise their theoretical knowledge to gather an overall sound knowledge in this area.

Power electronics & drives Laboratory:

Power electronics & drives laboratory has all the facilities to gather sufficient knowledge. Here students are provided with all the facilities like electronics components, DSO's, Multimeters etc so that students can make their own circuits like control, triggering, power circuits etc requires to perform different experiments to correlate with the theoretical studies. This lab has the major setups like Speed control of 3 phase SRIM using static Kramer drive, Thyristorised drive for 1- HP DC Motor with closed loop control trainer, 3 Phase IGBT based PWM Inverter & V/F control trainer, Closed loop speed control of 3 Phase/0.5 HP Induction using vector controlled method etc.

Scope and Objective of the Course/Laboratory:

Power Electronics (PE) is a branch of engineering which requires the knowledge of Analog/Digital Electronics and Control Systems domain. Nowadays, PE is employed in applications ranging from few Watts residential to several Megawatts industrial systems and processes. PE is the integral part of modern technology. Application of semiconductor switching devices such as Diode, BJT, SCR, MOSFET, IGBT, GTO etc. to convert and control the amplitude and direction of power flow to meet the load requirements is the main objective of this course/laboratory. Practical design issues are also covered in laboratory experiments. After successful completion of this laboratory, students will be able to design, simulate, develop and analyze the performance of various power electronic converters including AC/AC Converters, AC/DC Converters, DC/DC Converters & DC/AC Converters.

Software's/Controllers:

- Power System Computer Aided Design (PSCAD): 3.1 Version
- Electrical Transient and Analysis Program (ETAP)
- Solar PV Emulator

MOUs signed by the department

S.NO	Name of Industry/Institute	Year of MOU Signed	Purpose
1	SMEC LAB	2019	Skill Development program.
2	AB TECHNOLOGIES	2020	Industrial visit, Industrial Training Placement
3	CYRIL SOLAR	2020	Visiting Faculty Seminar
4	BULE HORA UNIVERSITY ETHIOPIA	2020	conferences seminars; Project Visiting Faculty Research
5	ONDEZX GROUPS	2020	Conference, Seminars Workshop.Skill Development & Faculty Development Programme Guest Lecture
6	NICE PANEL Electrical and Automation	2020	Industrial Training Project
7	NIT TRICHI	2019	Research

Faculty Members undergone Industrial Training

S.NO	Faculty Under went for Industrial Training	Name of Industry/Institute
1	D.Sam Harison	AB TECHNOLOGIES
2	V.Ponselvan	SE Electricals
3	Bsaker.C	ELCOMPO
4	S.Gopakumar	ELCOMPO
5	G.Murugan	NICE PANEL Electrical and Automation

SEMINARS/WORKSHOPS ATTENDED BY FACULTY

No	Name of the Faculty	FDP/SSTP Topic	Duration	College Name
1.	Dr.D. SAM HARISON	FDP on Managing online classes and co creating MOOCS	5 days	Ramanujam college of university , Delhi
2.	DR.T.SREEDHAR	FDP on Application of power electronics for renewable energy	7 days	RVS College of Engineering and technology
3.	DR.NABISHA A	1.FDP on OBE implementation towards accreditation 2.FDP on renewable Energy System	1.7 days 2.5 days	1.Kalasalingam Academic of research and education. 2. Panimalar Institute of Technology

4.	Mr.JEYAKUMAR. P	FDP on Application of power electronics for renewable energy	7 days	RVS College of Engineering and technology
5.	Mr.G.K.JABASH SAMUEL	FDP on Application of power electronics for renewable energy	7 days	RVS College of Engineering and technology
6.	Mr.PONSELVAN. V	FDP on Application of power electronics for renewable energy	7 days	RVS College of Engineering and technology
7.	Mr.BASKER .C	FDP on Application of power electronics for renewable energy	7 days	RVS College of Engineering and technology
8.	Mrs.NITHYA. S	1.FDP on renewable Energy System	7 days	1.Panimalar Institute of Technology.
9.	Mrs.THANGASAKTHI	FDP on OBE implementation towards accreditation	7 days	Kalasalingam Academic of research and education.

PRODUCT OF THE YEAR

No	Name of the Product	Image of the Product	Description & Application
1.	Portable solar Study Lamp		The solar study lamp, commonly known as Solar (Energy) Lamp is a lighting device consisting of a solar PV module, battery, LED, and electronics.

INDUSTRIAL VISITS:

The department is associated with various government, quasi-government and private industries in the field of Electrical Engineering.

Our students visit these companies to get a practical exposure to current work practices.

The details of the industrial visits are furnished below

Date of Visit	Name of Industry	Scope of Visit
5-12-2019	Koodangulam Atomic power station	To study about generation and distribution of power plant.
6-9-2019	Kerala Electrical and Allied Engine Ring CO LTD	To study about Assembly and testing of transformer

Participation of students in National and International Conferences:

no	Authors	Title	Conference	Venue	Date
1.	P.LATHA	Electric lineman system with IOT based circuit breaker	National conference	Dr.Sivanthi Aditanar College of Engineering Tiruchendur	15.2.2020
2.	P.LATHA	Design of energy harvesting by stick on sensor for small grid	National conference	VV College of Engineering	21.02.2020
3.	R.JEEVITHA	Design of harvesting by stick on sensor for the smart grid	National conference	VV College of Engineering	21.02.2020
4.	G.GANGA	Smart incubator	National conference	VV College of Engineering	21.02.2020
5.	M.V.SORNA SALINI	Electric power generation from foot step for auditorium	National conference	VV College of Engineering	21.02.2020
6.	R.JEEVITHA	Robotics in agriculture	National conference	Dr.Sivanthi Aditanar College of Engineering Tiruchendur	15.02.2020
7.	C.ABISHA	Front office smart man	National conference	VV College of Engineering	21.02.2020
8.	HEMA.N	Front office smart man	National conference	VV College of Engineering	21.02.2020
9.	P.ANANTHA SHIJI	Front office smartman	National conference	VV College of Engineering	21.02.2020

10.	A.JEYA MALINI	Smart incubator for premature babies	National conference	VV College of Engineering	21.02.2020
11.	VALARMATHI	Performance and analysis of piezo electric energy harvesting system employing bridge less boost rectifier	National conference	VV College of Engineering	21.02.2020
12.	SHARAN JEBAMALAR	Performance and analysis of piezo electric energy harvesting system employing bridge less boost rectifier	National conference	VV College of Engineering	21.02.2020
13.	SUVI.P	Performance and analysis of piezo electric energy harvesting system employing bridge less boost rectifier	National conference	VV College of Engineering	21.02.2020
14.	DAYANA.R	Front office smartman	National conference	VV College of Engineering	21.02.2020
15.	T.SUBHASHINI	Electric power generation from fost step for smart auditorium	National conference	VV College of Engineering	21.02.2020
16.	S.SABEENA	Electric power generation from fost step for smart auditorium	National conference	VV College of Engineering	21.02.2020
17.	R.RAMYA	Smart incubator for premature babies	National conference	VV College of Engineering	21.02.2020

Faculty –Journal Publication

S.No.	Name of the Author	Title	Name of the Journal	Volume No, Issue No, PP & Year
1.	Dr.A.Nabisha	<i>Optimal placement of Phasor measurement unit using Genetic Algorithm</i>	<i>International Research Journal of Engineering and Technology.</i>	<i>ISSN 2395-0056 Volume:7, Issue:7 June 2020</i>
2.	Ms.S.Nithiya	<i>Optimal placement of Phasor measurement unit using Genetic Algorithm</i>	<i>International Research Journal of Engineering and Technology.</i>	<i>ISSN 2395-0056 Volume:7, Issue:7 June 2020</i>
3.	Mr.S.Gopakumar	<i>Optimal placement of Phasor measurement unit using Genetic Algorithm</i>	<i>International Research Journal of Engineering and Technology.</i>	<i>ISSN 2395-0056 Volume:7, Issue:7 June 2020</i>
4.	Mr.G.KJabash samuel	<i>Optimal placement of Phasor measurement unit using Genetic Algorithm</i>	<i>International Research Journal of Engineering and Technology.</i>	<i>ISSN 2395-0056 Volume:7, Issue:7 June 2020</i>
5.	Mr.V.Ponselvan	<i>Front office Smart man</i>	<i>International research journal of Modernization in Engineering Technology & Science</i>	<i>ISSN 2582-5208 Volume:2, Issue:7 July 2020</i>
6.	Mr.C.Basker	<i>Front office Smart man</i>	<i>International research journal of Modernization in Engineering Technology & Science</i>	<i>ISSN 2582-5208 Volume:2, Issue:7 July 2020</i>

7.	Mr.P.Jeya Kumar	<i>Front office Smart man</i>	<i>International research journal of Modernization in Engineering Technology & Science</i>	<i>ISSN 2582-5208 Volume:2,Issue:7 July 2020</i>
8.	Dr.A.Nabisha	<i>Automatic Air Pollution n control and alert to pollution control board</i>	<i>International Journal of Advances in Engineering and Management</i>	<i>ISSN 2395-5252 Volume:2,Issue:3 July 2020</i>
9.	Mr.G.Murugan	<i>Automatic Air Pollution n control and alert to pollution control board</i>	<i>International Journal of Advances in Engineering and Management</i>	<i>ISSN 2395-5252 Volume:2,Issue:3 July 2020</i>
10.	Mrs.T.Thanga Sakthi	<i>Automatic Air Pollution n control and alert to pollution control board</i>	<i>International Journal of Advances in Engineering and Management</i>	<i>ISSN 2395-5252 Volume:2,Issue:3 July 2020</i>
11.	Mr.Sanju	<i>Automatic Air Pollution n control and alert to pollution control board</i>	<i>International Journal of Advances in Engineering and Management</i>	<i>ISSN 2395-5252 Volume:2,Issue:3 July 2020</i>
12.	Mr.P.Jeya Kumar	<i>Deep Learning Based Human Emotion Recognition From Speech Signal</i>	<i>Bioscience Biotechnology Research Communications</i>	<i>Volume:13,Issue:3 July 2020</i>

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UG COURSES

- BE-Civil Engineering
- BE-Computer Science And Engineering
- BE-Electronics And Communication Engineering
- BE-Electrical And Electronics Engineering
- BE-Mechanical Engineering

PG COURSES

- ME-Communication Systems
- ME-Computer Science And Engineering
- ME-Thermal Engineering
- ME-Construction Engineering And Management

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