



NATIONAL ENGINEERING COLLEGE

(AN AUTONOMOUS INSTITUTION)

K.R.NAGAR, KOVILPATTI - 628503.



EEE NEWSLETTER

Sep 2021
Volume 9 Issue 1

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

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ACHIEVEMENTS OF NEC



Our NEC Bagged 191th position in NIRF 2021 Ranking



Our NEC has secured Band A Rank (Between 6th – 25th) among the 373 Self-financed Institutions all over the Nation applied for Atal Ranking of Institutions on Innovation Achievements (ARIIA) 2020.



Our NEC secured 5-Star rating with a score of 97.5 out of 100 for the academic year 2019-20



U.G – EEE Programme got Re-accreditation by NBA-Tier 1 (Washington Accord) for the year of July 2021 to June 2022

FEATURES OF NEC – DEPARTMENT OF EEE

Think EEE Think NEC

NATIONAL ENGINEERING COLLEGE
(An Autonomous Institution, Affiliated to Anna University – Chennai)
K.R. NAGAR, KOVILPATTI – 628 503
Department of Electrical and Electronics Engineering

- State of art Infrastructure Facilities
- 24 x 7 Wi-Fi enabled Campus
- Experienced Faculty with Ph.D
- Consistent 90% Placement Record (2021 Batch)
- Highest Salary Package of 12 Lakhs /Annum
- Exclusive Hands on Training @ Mini Project Forum
- Smart Classrooms with interactive learning
- Moodle/Google based online Learning Management System
- Exposure in MATLAB, LABVIEW, ANSYS, ETAP, PSIM
- Sports Facilities and Scholarship
- NBA Tier -I Accredited Program

TNEA Counseling Code **4962**

nirf
RANK 191

Our Top Recruiters

Cognizant, TSTC, accenture, VVDN, cadence, Datalogics, e-con Systems, DATA PATTERNS, Zoho, Hexaware, TATA, BOSCH, TESSOLVE, Schneider Electric, Infosys, HCL, Caliber Interconnect Solutions

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PLACEMENT ACHIEVEMENTS

ACADEMIC YEAR (2021 – 2022)

On behalf of the Chairman, Correspondent, Director, Principal, Head of the Department, and staff members, we heartily congratulate the final year students who got placed in the various Campus drive in our campus during the academic year 2021 – 2022.

(As on Date: 15th Sep 2021)

NATIONAL ENGINEERING COLLEGE
(An Autonomous Institution - Affiliated to Anna University, Chennai)
K.R. NAGAR, KOVILPATTI – 628503

STUDENT PLACEMENT DETAILS (EEE)
Academic Year 2021-2022

Students placed in various companies including KARR Technologies, VVRAM Technology and Services, VVDN Technologies, and DATA Patterns. The poster highlights a placement record of 34 offers up to September 2021, with 6 more placements ongoing with companies like Accenture, TCS, Wipro, Infosys, Hexaware Technologies, Cognizant, and Capgemini.

Placement Record upto Sept, 2021 - 34 Offers
6 Placement going on with companies
Accenture, TCS, Wipro, Infosys, Hexaware Technologies, Cognizant & Capgemini

nirf NBA NAAC TNEA 4962 #ThinkEEethinkNEC

STILL PLACEMENT PROGRESS CONTINUING....

STAFF ACTIVITIES**COURSE ATTENDED**

S.No.	Name of the Staff	Events	Topic/Event	Date	College/ Industry
1	Dr.M. Bakrutheen, AP(SG), Mr. K. Kumar, AP & Ms.G. Shunmugalakshmi, AP	ATAL Online FDP	State of the art applications and research areas in high voltage engineering (RAHVE-2021)	05th – 09th July 2021	National Institute of Technology, Calicut
2	Dr.R.V. Maheswari, Professor, Dr.B. Vigneshwaran, AP(SG)	ATAL Online FDP	Application of Artificial Intelligence in Research and development	05th – 09th July 2021	CSIR -Advanced Materials and Processes Research Institute, Bhopal
3	Dr.L.Kalaivani, Professor	AICTE - NITTT	Orientation Training Programme for Mentors	14th – 18th July 2021	NITTTR, Chennai
4	Dr.N.B Prakash, Associate Professor			05th – 09th July 2021	NITTTR, Chennai
5	Dr.R.V. Maheswari, Professor			26th – 30th July 2021	NITTTR, Chennai
6	Dr.M. Ravindran, Associate Professor			26th – 30th July 2021	NITTTR, Chennai
7	Mr.K. Karthik Kumar, AP	FDP	Impact of Controllers in Power Electronics Converter for Electric Vehicles	01st – 03rd June 2021	Dr. N.G.P. Institute of Technology, Coimbatore
		FDP	Recent Advances in E-mobility and charging	19th – 23rd July 2021	National Institute of Technology, Trichy
8	Mr.P. Nirmal Kumar, AP	FDP	Recent Advances in E-mobility and charging	19th – 23rd July 2021	National Institute of Technology, Trichy
9.	Dr.B. Vigneshwaran, AP(SG), Mr.M. Gengaraj, AP & Mr.M. Sivapalanirajan, AP	Webinar	Artificial Intelligence and Machine Learning using MATLAB	28.05.2021	NITTTR Chennai

10	Mr.P. Samuel Pakianathan, AP	FDP	Electronic Circuit I	24th – 29th May 2021	Madras Institute of Technology, Chennai
11	Mr.M. Sivapalanirajan, AP	FDP	Fundamentals of AI and ML	10th – 14th May 2021	ICT Academy
12	Dr.M.Bakrutheen, AP(SG)	Innovation Ambassador Training	Foundation level	05 th August – 31 st August 2021	MoE's Innovation Cell & AICTE
13	Dr.L.Kalaivani, Professor	National level Webinar	Research and Innovation	27.08.2021	Institute of Academic Excellence (IAE)
14	Dr.R.V.Maheswari, Professor		Research project and fund raising	31.08.2021	
15	Dr.M.P.E.Rajamani, AP(SG)		IPR and Patent	30.08.2021	
16	Mr.M. Sivapalanirajan, AP	Internship on MATLAB		1.05.2021 to 30.05.2021	PANTECH Solutions

ONLINE CERTIFICATION

S.No.	Name of the Staff	Course Name	Date	Institute
1	Mr.K.Kumar, AP	Fundamental of Electrical Power System Protection	28.05.2021	Udemy
2.	Ms.K. Gowthami, AP	Mathematics for Machine Learning: Linear Algebra	23.02.2021	Coursera
3.	Ms. Antony Jeffry Vaz, AP	Learn Python & Ethical Hacking from Scratch	05.02.2021	Udemy
		Crash Course on Python	17.07.2021	Coursera
4.	Mr.M. Sivapalanirajan, AP	Exploratory Data Analysis with MATLAB	12.07.2021	Coursera
5.	Dr.B. Vigneshwaran, AP(SG)	Exploratory Data Analysis with MATLAB	17.07.2021	Coursera
6.	Mr. M. Gengaraj, AP	Exploratory Data Analysis with MATLAB	July 2021	Coursera
7.	Dr.M. Bakrutheen, AP(SG)	Neural Networks and Deep Learning	August 2021	Coursera

8.	Mr.M. Gengaraj, AP	Fuzzy Sets, Logic, and Systems & Applications	August 2021	Elite (NPTEL, IIT Kanpur)
9.	Dr.S. Sankarakumar, AP(SG)	Electrical Machines	August 2021	Elite (NPTEL, IIT Madras)

EXPERT LECTURE DELIVERED

- ✓ **Dr. M.Willjuice Iruthayarajan**, Professor and Head/EEE has delivered the expert lecture in a **AICTE ATAL FDP on “Predictive Intelligence Models and its Applications”**, organized by Department of CSE, National Engineering College, Kovilpatti on July 14, 2021.
- ✓ **Dr. N.B.Prakash**, Associate Professor/EEE has delivered the expert lecture in a **Webinar on “Innovation in Biomedical Engineering”**, organized by Department of Biomedical Engineering, Karpagam Academy of Higher Education, Coimbatore, on August 27, 2021.

STAFF PUBLICATIONS

S.No	Authors Name List	Name of the Journal	Title of the Paper	Vol. No & Page No	Impact Factor
1	A. Manjula, L. Kalaivani, M. Gengaraj	Intelligent Automation & Soft Computing	PSO Based Torque Ripple Minimization of Switched Reluctance Motor using FPGA Controller	Vol.29, No.2, 2021, pp.451-465	1.276
2	Kiranmai Bellam, N.Krishnaraj, T.Jayasankar, N.B.Prakash, and G.R.Hemalakshmi.	Journal of Medical Imaging and Health Informatics.	Adaptive Multimodal Image Fusion with a Deep Pyramidal Residual Learning Network	Vol 11 No 8 pp 2135 - 2143	0.659
3	K. Muthumayil, R. Karuppathal, T. Jayasankar, B. Aruna Devi, N.B.Prakash, and S.Sudhakar.	Journal of Medical Imaging and Health Informatics.	A Big Data Analytical Approach for Prediction of Cancer Using Modified K-Nearest Neighbour Algorithm.	Vol 11 No 8 pp 2184 - 2189	0.659

4	R.Pathiran, R. Muniraj, M, Willjuice Iruthayarajan , S.R. Boselin Prabhu T. Jarin	Archives of Control Science	Unified design method of time delayed PI controller for first order plus dead- time process models with different dead-time to time constant ratio	Vol 31 No 2 PP 447-476	1.088
5	N.B.Prakash , M.Murugappan, G.R.Hemalakshmi, M.Jayalakshmi and Mafti Mahmud	Sustainable Cities and Society	Deep transfer learning for COVID-19 detection and infection localization with superpixel based segmentation	Vol 75, 103252, 2021	7.587
6	Giri Rajanbabu Venkatakrishnan, Ramasubbu Rengaraj and Nattamai Balasubramanian Prakash	International Journal of Numerical Modeling	Optimally manage the energy between electric vehicle charging stations and electricity distribution system: A hybrid technique	DOI: 10.1002/jnm.2 944	1.296
7	Ajitha Priyadarsini Sobhanam, Paulraj Melba Mary, Willjuice Iruthayarajan Mariasiluvairaj , Rajeev Davy Wilson	IETE Journal of Research	Automatic Generation Control Using an Improved Artificial Electric Field in Multi-Area Power System	https://doi.org/10.1080/03772063.2021.1958076	2.333
8	A. Manjula, L. Kalaivani, M. Gengaraj, R.V. Maheswari , S. Vimal, Seifedine Kadry	Computers & Electrical Engineering	Performance enhancement of SRM using smart bacterial foraging optimization algorithm- based speed and current PID controllers	Volume 95, October 2021, 107398	3.818

STAFF ACHIEVEMENTS

2317N APP.No. 201920R0710 FSIESRP

Innovative Technological Research &

Dedicated, Excellent Professional Achievement Award

Specialization: Electrical & Electronics Engineering

Dr.N.B.Prakash Ph.D.,

B.E.,M.E.,Ph.D.,AMIE.,LMISTE.,MIETE.,FSIESRP.,

Associate Professor,

Department of EEE,

National Engineering College,,K.R.Nagar, Kovilpatti - 628503,Tamilnadu.



DEPARTMENT ACTIVITIES**EVENT ORGANIZED**

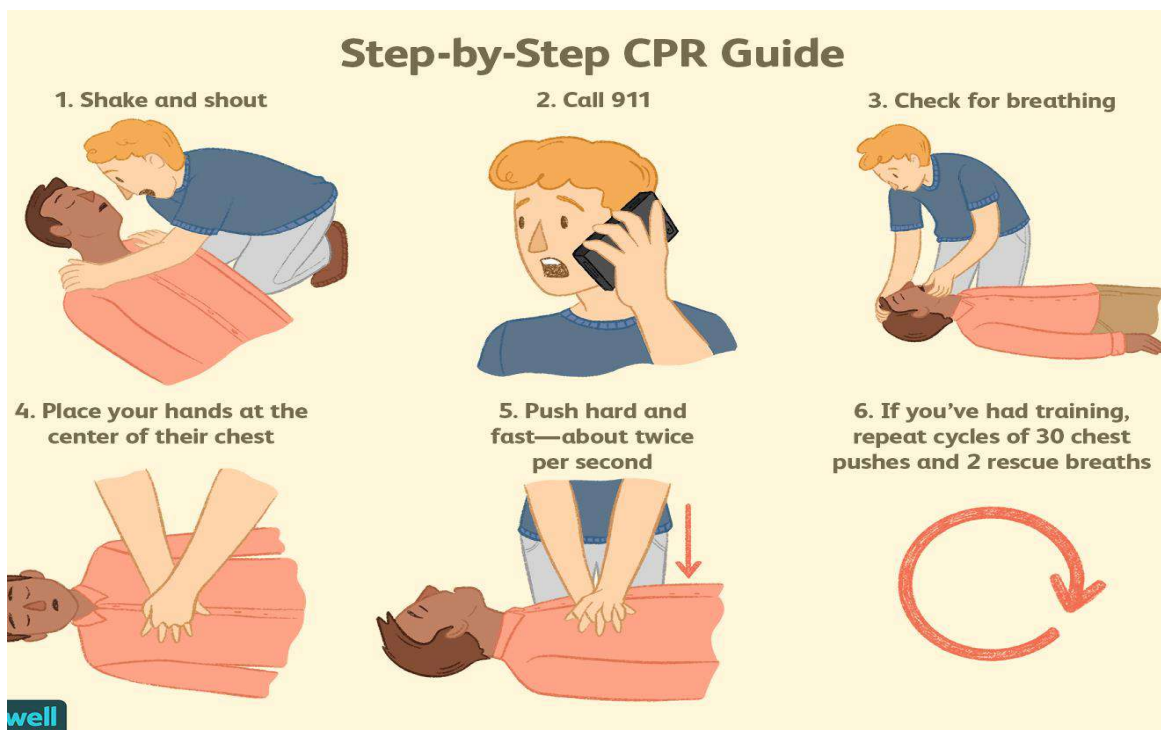
S. No	Title of the Webinar	Date	Resource Person	Participants
1	Electricity Energy Conservation- Awareness program. "Electricity Usage, Safety and First aid"	26.08.2021	<i>Dr.M.Ravindran, Asso. Prof</i> <i>Mr.K.Kumar, AP/EEE</i>	Lakshmi Ammal Polytechnic College, Kovilpatti. (Through virtual mode)
2	Electricity Conservation safety and First Aid	07.09.2021	<i>Dr.M.Ravindran, Asso. Prof</i> <i>Mr.K.Kumar, AP/EEE</i>	St. Xaviers, Polytechnic College, Tuticorin (Through virtual mode)

SOCIAL AWARENESS CELL - SAC

Social Awareness cell of EEE department has given a awareness program on the title, "**Electricity Conservation safety and First Aid**", for the students of EEE department, Lakshmi Ammal Polytechnic College, K. R.Nagar, Kovilpatti on 26.08.2021 at 11.00 AM through virtual mode (Google meet). The program was started with welcome speech followed by explaining the objectives of social awareness cell by **Mr.K.Kumar, AP/EEE**. In his speech he addressed the need for energy conservation by explaining the following points

- ✓ Electricity is an essential resource for a thriving life. It runs our daily life. Life without electricity would be impossible to imagine now.
- ✓ However, people do not realize the natural resources to do as are limited and non-renewable. We must conserve electricity so that we can conserve these resources.
- ✓ Today 85% of primary energy sources come from non-renewable and fossil sources.
- ✓ These reserves are increasing consumption and will not exist for future generations.

Followed by that he described the electrical hazards exist in almost every workplace and common causes of electrocution like Contacting overhead wires, undertaking maintenance on live equipment, working with damaged electrical equipment, such as extension leads, plugs and sockets, using equipment affected by rain or water ingress etc. Also, the step-by-step procedure to rescue a person getting electric shock with Cardiopulmonary resuscitation treatment has been explained to the students.



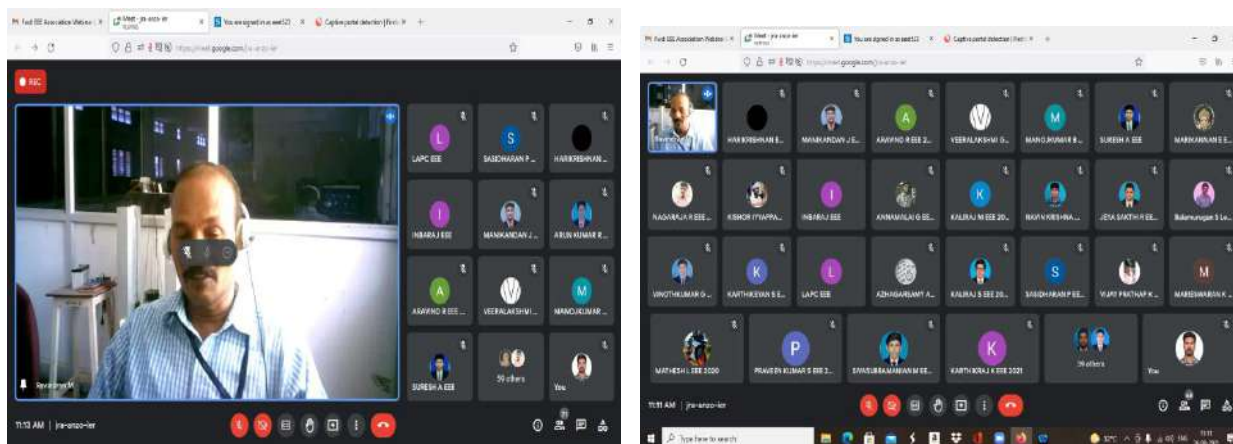
Dr.M.Ravindran, Asso Prof (SG) in his talk explained that energy conservation is the effort made to reduce the consumption of energy by using less of an energy service. Energy can be conserved by reducing wastage and losses, improving efficiency through technological upgrades and improved operation and maintenance. He pointed out the 10 ways to save energy and electricity is as follows

- ✓ Adjust your day-to-day behaviors
- ✓ Replace your light bulbs
- ✓ Use smart power strips
- ✓ Install a programmable thermostat
- ✓ Use energy efficient appliances
- ✓ Reduce water heating expenses
- ✓ Install energy efficient windows
- ✓ Upgrade your HVAC system
- ✓ Weatherize your home
- ✓ Insulate your home

In addition to that he also discussed the safety tips with respect to electricity usage and listed the do's and don'ts as follows.

Do's	Don'ts
Use only electrical gadgets with ISI mark and carry out all electrical works by certified electricians	Do not hang wet clothes on electric wires will prove fatal.

Inspect electrical wiring regularly and renew deteriorated wiring	Do not go near or touch the electric poles, stay wires, fencing etc., during rainy seasons
If any snapped electricity conductors are noticed, inform the nearest Electricity Board Office and do not touch or go near them	Do not secure poultries/ domestic animals to the electric poles or the stay wires
While digging the ground for other works, care should be taken while working near underground electric cables.	Do not drive vehicles, carry ladders etc, which are of greater height beneath the electric lines..



Social Awareness Cell – “Electricity Conservation safety and First Aid” – Awareness program - Report

Social Awareness cell of EEE department has given a awareness program on the title, **“Electricity Conservation safety and First Aid”**, for the students of EEE department, St.Xaviers, Polytechnic College, Seydunganallur, Tuticorin on 07.09.2021 at 11.00 AM through virtual mode (Google meet). The program was started with welcome speech given by principal of St.Xaviers, Polytechnic College, followed by explaining the objectives of social awareness cell by **Mr.K.Kumar, AP/EEE**. In his speech he addressed the need for energy conservation by explaining the following points

- ✓ Conservation of electricity by consumers is an easier way, involving no cost, to fill the gap.
- ✓ Conservation of electricity is becoming a vital element of economic growth giving benefit to state's exchequer as well as accounts of consumers.
- ✓ Conservation of electricity is more essential due to the concern for fast depletion of non-renewable sources of energy in the country.
- ✓ Conservation of electricity necessary to save the environment and the Earth from warming.

Followed by that he described the electrical hazards exist in almost every workplace and common causes of electrocution like Making contact with overhead wires, Undertaking maintenance on live equipment, Working with damaged electrical equipment, such as extension leads, plugs and sockets, Using equipment affected by rain or water ingress etc. Also the step by step procedure to rescue a person getting electric shock with Cardiopulmonary resuscitation treatment has been explained to the students.

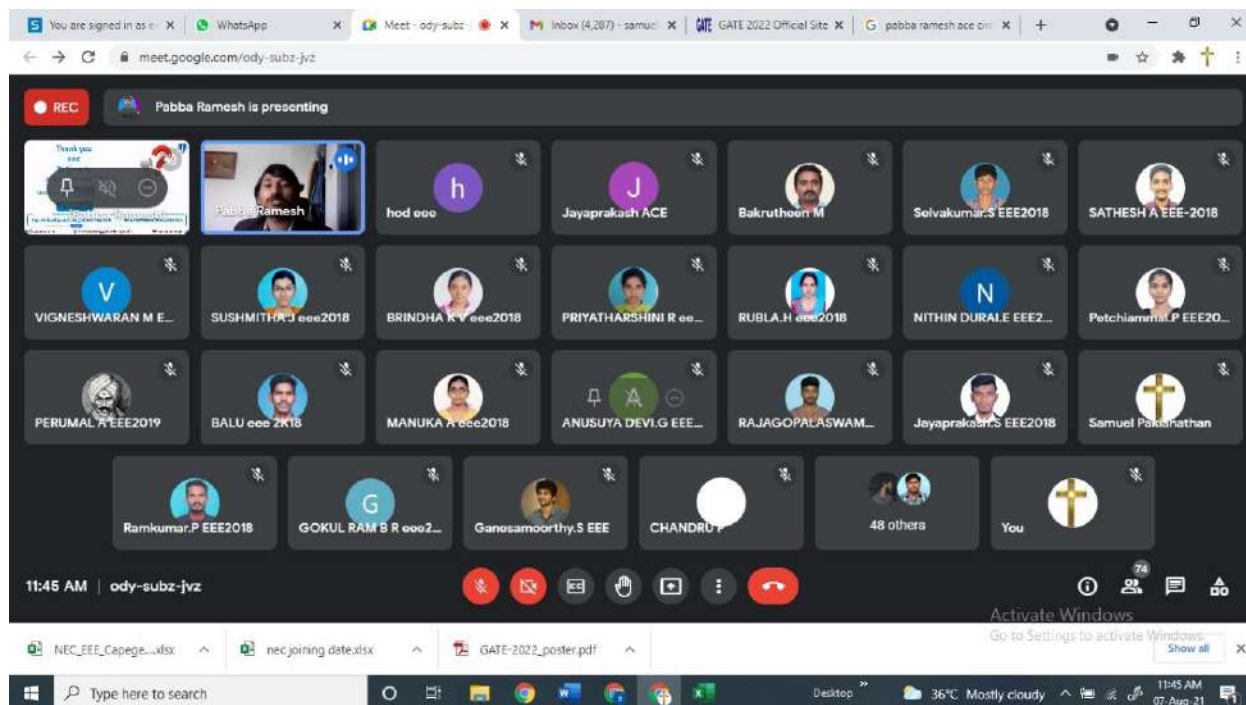
Dr.M.Ravindran, Asso Prof (SG) in his talk explained that safe work environment is not always enough to control all potential electrical hazards. You must be very cautious and work safely. Safety rules help you control your and others risk of injury or death from workplace hazards. He listed out some rules to the students regarding safety measures,

- ✓ Treat all electrical devices as if they are live or energized.
- ✓ Disconnect the power source before servicing or repairing electrical equipment.
- ✓ Use only tools and equipment with non-conducting handles when working on electrical devices.
- ✓ Never use metallic pencils or rulers, or wear rings or metal watchbands when working with electrical equipment.
- ✓ Minimize the use of electrical equipment in **cold rooms** or other areas where **condensation** is likely. If equipment must be used in such areas, mount the equipment on a wall or vertical panel.

Nearly 50 students have participated and acquired the knowledge on Electricity Conservation safety and First Aid and finally the program ended with vote of thanks given by Head of the department /EEE of St.Xaviers, Polytechnic College, Seydunganallur, Tuticorin.

GATE FORUM

The Graduate Aptitude Test in Engineering (GATE) is an examination that primarily tests the comprehensive understanding of various undergraduate subjects in engineering and science for admission into the master's Program and Job in Public Sector Companies. GATE is conducted jointly by the Indian Institute of Science and seven Indian Institutes of Technologies. To give awareness about the GATE exam a webinar has been arranged for the third year and final year students by GATE – EEE Forum on 07.08.2021. Special guest from ACE academy Mr. Pabba Ramesh has delivered the lecture about the GATE/ESE exam preparation strategy for public sector companies and higher studies. He explained about the benefits of the GATE and ESE. Students from final year and pre final year students have participated and got benefited.



TRAINING COUNSELING AND PLACEMENT CELL

TRAINING – 1:

Our college Training and Placement Centre (TPC) has organized placement training program for our EEE department third year students to give opportunity to gain skills specific to their subject or industry of choice as well as the employability skills required for real-life work.

In line with the focus of our college TPC team, our EEE department faculty and coordinators team cooperated for the betterment of industrial knowledge and allowing them to make better informed decisions about future career choices.

Providing placement opportunities enhances an institution's reputation for graduate employment as quality placements. Keeping in mind, our college TPC team organizes training programs in all the Quant's, verbal, aptitude, logical, programming and soft skills etc with **R sequence, Chennai** with three phases.

Phase I:

Aptitude is a very important aspect of a person's life. By aptitude, we usually refer to Quantitative aptitude – that basically judges our analytical and problem solving skills. It

refers to your unique abilities as a human being – and how well you are able to apply them to specific questions. In this regard, Phase I training was conducted

Date: **24.02.2021 to 02.03.2021 (09.00AM – 05.15PM)**

Topics: **Aptitude and Verbal Skills**

Venue: **EEE Department Seminar Hall & Product Development Lab**

Timing: **9AM to 11.10AM, 11.30AM to 12.50PM, 1.40PM to 03.30PM, 03.40PM to 05.00PM**

Based on the training given, assessments were conducted by R sequence & with the help of the tutors and coordinators our department students attended all the assessments.

R SEQUENCE TRAINING AT NATIONAL ENGINEERING COLLEGE :: MODULE 1 (APTI & VERBAL)																				
	BATCH 1		BATCH 2		BATCH 3		BATCH 4		BATCH 5		BATCH 6		BATCH 7		BATCH 8		BATCH 9		BATCH 10	
	SESSION 1&2	SESSION 3&4	SESSION 1&2	SESSION 3&4	SESSION 1&2	SESSION 3&4	SESSION 1&2	SESSION 3&4	SESSION 1&2	SESSION 3&4	SESSION 1&2	SESSION 3&4	SESSION 1&2	SESSION 3&4	SESSION 1&2	SESSION 3&4	SESSION 1&2	SESSION 3&4	SESSION 1&2	SESSION 3&4
24th FEB	QUANTS 1	VERBAL 1	VERBAL 1	QUANTS 1	QUANTS 2	VERBAL 2	VERBAL 2	QUANTS 2	QUANTS 3	VERBAL 3	VERBAL 3	QUANTS 3	VERBAL 4	QUANTS 4	QUANTS 4	VERBAL 4	VERBAL 5	QUANTS 5	QUANTS 5	VERBAL 5
WED	Suresh	Sowmiya	Sowmiya	Suresh	Arun	Karthik	Karthik	Arun	Sathish	Nithya	Nithya	Sathish	Kevin	Gokul	Gokul	Kevin	Sindhu	Sitharaman	Sitharaman	Sindhu
25th FEB	VERBAL 2	QUANTS 2	QUANTS 2	VERBAL 2	VERBAL 1	QUANTS 1	QUANTS 1	VERBAL 1	VERBAL 4	QUANTS 4	QUANTS 4	VERBAL 4	QUANTS 5	VERBAL 5	VERBAL 5	QUANTS 5	QUANTS 3	VERBAL 3	VERBAL 3	QUANTS 3
THURS	Karthik	Arun	Arun	Karthik	Sowmiya	Suresh	Suresh	Sowmiya	Kevin	Gokul	Gokul	Kevin	Sitharaman	Sindhu	Sindhu	Sitharaman	Sathish	Nithya	Nithya	Sathish
26th FEB	QUANTS 4	VERBAL 4	VERBAL 4	QUANTS 4	QUANTS 5	VERBAL 5	VERBAL 5	QUANTS 5	QUANTS 2	VERBAL 2	VERBAL 2	QUANTS 2	QUANTS 3	VERBAL 3	VERBAL 3	QUANTS 3	VERBAL 1	QUANTS 1	QUANTS 1	VERBAL 1
FRI	Gokul	Kevin	Kevin	Gokul	Sathish	Nithya	Nithya	Sathish	Arun	Karthik	Karthik	Arun	Sathish	Nithya	Nithya	Sathish	Sowmiya	Suresh	Suresh	Sowmiya
27th FEB	QUANTS 3	VERBAL 3	VERBAL 3	QUANTS 3	QUANTS 4	VERBAL 4	VERBAL 4	QUANTS 4	VERBAL 5	QUANTS 5	QUANTS 5	VERBAL 5	VERBAL 1	QUANTS 1	QUANTS 1	VERBAL 1	QUANTS 2	VERBAL 2	VERBAL 2	QUANTS 2
SAT	Sathish	Nithya	Nithya	Sathish	Gokul	Kevin	Kevin	Gokul	Sindhu	Sitharaman	Sitharaman	Sindhu	Sowmiya	Suresh	Suresh	Sowmiya	Arun	Karthik	Karthik	Arun
1st MAR	VERBAL 5	QUANTS 5	QUANTS 5	VERBAL 5	QUANTS 3	VERBAL 3	VERBAL 3	QUANTS 3	VERBAL 1	QUANTS 1	QUANTS 1	VERBAL 1	QUANTS 2	VERBAL 2	VERBAL 2	QUANTS 2	QUANTS 4	VERBAL 4	VERBAL 4	QUANTS 4
MON	Sindhu	Sitharaman	Sitharaman	Sindhu	Sathish	Nithya	Nithya	Sathish	Sowmiya	Suresh	Suresh	Sowmiya	Arun	Karthik	Karthik	Arun	Gokul	Kevin	Kevin	Gokul
2nd MAR	QUANTS 6	VERBAL 6	VERBAL 6	QUANTS 6	QUANTS 6	VERBAL 6	VERBAL 6	QUANTS 6	QUANTS 6	VERBAL 6	VERBAL 6	QUANTS 6	QUANTS 6	VERBAL 6	VERBAL 6	QUANTS 6	QUANTS 6	VERBAL 6	VERBAL 6	QUANTS 6
TUES	Suresh	Sowmiya	Sowmiya	Suresh	Arun	Karthik	Karthik	Arun	Sathish	Nithya	Nithya	Sathish	Kevin	Gokul	Gokul	Kevin	Sindhu	Sitharaman	Sitharaman	Sindhu
TOPICS																				
QUANTS 1: Number System, progression				QUANTS 4: Time & Work, Mensuration				VERBAL 1: synonyms, antonyms, prefix, suffix, substitution, relevance								VERBAL 4: tenses, comprehension				
QUANTS 2: Percentages, profit and loss, S.I & C.I				QUAN 5: Time, speed and distance (problems on boats and trains)				VERBAL 2: Sentence correction (pronoun, prepositions, parallelism, determiners, conjunction, articles, modifiers)								VERBAL 5: joining sentences, para jumbles				
QUANTS 3: Ratios, ages, mixtures and allegations				QUANTS 6: Permutations and combinations, Probability				VERBAL 3: reading skills, analysing ability, lateral thinking								VERBAL 6: subject verb agreement, voices				
SESSION TIMINGS: 09:00PM - 11:10 AM; 11:30 AM - 12:50 PM; 1:40 PM - 03:30 PM; 03:40 PM - 05:00 PM; BREAK TIMINGS: 11:10 AM - 11:30 AM; 03:30 PM - 03:40 PM; LUNCH: 12:50 PM - 1:40 PM; TRAINING CO-ORDINATOR: DHEERHAN@7010007420; ESCALATION PO: RAJESH@9884644465																				





Phase II

Soft Skill training is working on personal attributes, communication abilities, personality traits, etc. which are important socially and professionally. These skills help you with a lot of things in the workplace. Soft skills play an important role in the success and growth of a person. Logical thinking skills give learners the ability to understand what they have read or been shown, and also to build upon that knowledge without incremental guidance.

In this regard Phase II training was conducted focusing on **Logical and soft skills**.

Date: **22.03.2021 to 28.03.2021 (09.00AM – 05.15PM)**

Topics: **Logical and Soft Skills**

Venue: **EEE Department Seminar Hall, Product Development Lab & Active classroom**

Timing: **9AM to 11.10AM, 11.30AM to 12.50PM, 1.40PM to 03.30PM, 03.40PM to 05.00PM**

R SEQUENCE TRAINING AT NATIONAL ENGINEERING COLLEGE - MODULE 2 (LOGIC & SOFTSKILLS)																			
BATCH 1		BATCH 2		BATCH 3		BATCH 4		BATCH 5		BATCH 6		BATCH 7		BATCH 8		BATCH 9		BATCH 10	
SESSION 1&2	SESSION 3&4	SESSION 1&2	SESSION 3&4	SESSION 1&2	SESSION 3&4	SESSION 1&2	SESSION 3&4	SESSION 1&2	SESSION 3&4	SESSION 1&2	SESSION 3&4	SESSION 1&2	SESSION 3&4	SESSION 1&2	SESSION 3&4	SESSION 1&2	SESSION 3&4	SESSION 1&2	SESSION 3&4
22nd MAR	LOGICAL 1	SOFT SKILLS 1	SOFT SKILLS 1	LOGICAL 1	SOFT SKILLS 2	LOGICAL 2	SOFT SKILLS 2	LOGICAL 1	SOFT SKILLS 3	LOGICAL 3	SOFT SKILLS 3	LOGICAL 3	SOFT SKILLS 4	LOGICAL 4	SOFT SKILLS 4	LOGICAL 4	SOFT SKILLS 5	LOGICAL 5	SOFT SKILLS 5
MON	Arun	Kumaran	Kumaran	Arun	Kevin	Sitharaman	Sitharaman	Kevin	Jay	Sathish	Sathish	Jay	Sowmya	Karunanathi	Karunanathi	Sowmya	Nithya	Vickram	Vickram
23rd MAR	SOFT SKILLS 2	LOGICAL 2	LOGICAL 2	SOFT SKILLS 2	LOGICAL 1	SOFT SKILLS 1	SOFT SKILLS 1	LOGICAL 1	SOFT SKILLS 4	LOGICAL 4	SOFT SKILLS 4	LOGICAL 4	VERBAL	SOFT SKILLS 5	SOFT SKILLS 5	VERBAL	SOFT SKILLS 3	LOGICAL 3	LOGICAL 3
TUES	Kevin	Sitharaman	Sitharaman	Kevin	Arun	Kumaran	Kumaran	Arun	Sowmya	Karunanathi	Karunanathi	Sowmya	Nithya	Vickram	Vickram	Nithya	Jay	Sathish	Sathish
24th MAR	SOFT SKILLS 3	LOGICAL 3	LOGICAL 3	SOFT SKILLS 3	VERBAL	SOFT SKILLS 5	SOFT SKILLS 5	VERBAL	LOGICAL 1	SOFT SKILLS 1	SOFT SKILLS 1	LOGICAL 1	SOFT SKILLS 2	LOGICAL 2	LOGICAL 2	SOFT SKILLS 2	LOGICAL 4	LOGICAL 4	SOFT SKILLS 4
WED	Jay	Sathish	Sathish	Jay	Nithya	Vickram	Vickram	Nithya	Arun	Kumaran	Kumaran	Arun	Kevin	Sitharaman	Sitharaman	Kevin	Sowmya	Karunanathi	Karunanathi
25th MAR	SOFT SKILLS 4	LOGICAL 4	LOGICAL 4	SOFT SKILLS 4	SOFT SKILLS 3	LOGICAL 3	LOGICAL 3	SOFT SKILLS 3	VERBAL	SOFT SKILLS 5	SOFT SKILLS 5	VERBAL	LOGICAL 1	SOFT SKILLS 1	SOFT SKILLS 1	LOGICAL 1	SOFT SKILLS 2	LOGICAL 2	LOGICAL 2
THURS	Sowmya	Karunanathi	Karunanathi	Sowmya	Jay	Sathish	Sathish	Jay	Nithya	Vickram	Vickram	Nithya	Arun	Kumaran	Kumaran	Arun	Kevin	Sitharaman	Sitharaman
26th MAR	VERBAL	SOFT SKILLS 5	SOFT SKILLS 5	VERBAL	SOFT SKILLS 4	LOGICAL 4	LOGICAL 4	SOFT SKILLS 4	SOFT SKILLS 2	LOGICAL 2	LOGICAL 2	SOFT SKILLS 2	SOFT SKILLS 3	LOGICAL 3	LOGICAL 3	SOFT SKILLS 3	LOGICAL 1	SOFT SKILLS 1	LOGICAL 1
FRI	Nithya	Vickram	Vickram	Nithya	Sowmya	Karunanathi	Karunanathi	Sowmya	Kevin	Sitharaman	Sitharaman	Kevin	Jay	Sathish	Sathish	Jay	Arun	Kumaran	Kumaran
27th MAR	Quants	SOFT SKILLS 6	SOFT SKILLS 6	Quants	Quants	SOFT SKILLS 6	SOFT SKILLS 6	Quants	Quants	SOFT SKILLS 6	SOFT SKILLS 6	Quants	Quants	SOFT SKILLS 6	SOFT SKILLS 6	Quants	Quants	SOFT SKILLS 6	SOFT SKILLS 6
SAT	Arun	Kumaran	Kumaran	Arun	Sitharaman	Kevin	Kevin	Sitharaman	Sathish	Jay	Jay	Sathish	Karunanathi	Sowmya	Sowmya	Karunanathi	Nithya	Vickram	Vickram
TOPICS																			
LOGICAL 1: Syllogism, Logical deductions, Directions and Distances.				LOGICAL 4: Arrangement puzzles (circular, linear etc), Ordering and ranking, Coded inequalities, Flow chart questions, Cause and effect.				SOFTSKILLS 1: Introduction to soft skills, Interview and its types.								SOFT SKILLS 4: Body language, business etiquette and JAM			
LOGICAL 2: Blood relation, Number series, Letter series, Odd man out, Input and output.				QUANTS 1: Doubt clarification & Revision.				SOFT SKILLS 2: LSRW and Email writing								SOFT SKILLS 5: Team work, time management & Customer			
LOGICAL 3: Coding decoding, Visual reasoning, Clocks and calendars.				VERBAL: Doubt clarification & Revision.				SOFT SKILLS 3: Resume writing and Effective communication (Verbal & Nonverbal)								SOFT SKILLS 6: Group discussion & Telephone etiquette.			
SESSION TIMINGS: 09:30 AM - 11:30 AM; 11:30 AM - 12:50 PM; 1:40 PM - 03:30 PM; 03:40 PM - 05:00 PM; BREAK TIMINGS: 11:30 AM - 11:30 AM; 03:30 PM - 03:40 PM; LUNCH: 12:50 PM - 1:40 PM; TRAINING CO-ORDINATOR: DHEERHAN@7020007420; ESCALATION PO: RAJESH@988646466																			



TRAINING 2:

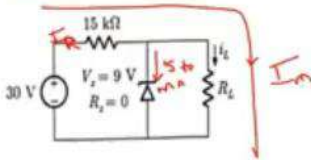
Our EEE department training and placement cell has conducted the company specific technical training activities for the final year student's in order to enhance their performance towards the written test and further technical rounds with respect to TESSOLVE drive scheduled from 02.06.2021 – 08.06.2021. The training program schedule from 02.06.2021 is listed below reference.

Date	Time	Topic	Faculty In-charge
02.06.2021	03:00 PM – 04:30 PM	Circuit Theory	Dr.M.Ravindran
03.06.2021	03:00 PM – 04:30 PM	Electronic Circuits	Mr.B.Venkatasamy
04.06.2021	03:00 PM – 04:30 PM	Linear Integrated Circuits	Mr.M.Sivapalanirajan
05.06.2021	03:00 PM – 04:30 PM	Digital Logic Circuits	Mr.K.Kumar
08.06.2021	03:00 PM – 04:30 PM	Assessment	Mr.P.Samuel Pakianathan

Basic concepts and company specific questions related to Tessolve has been taught to students and assessments on each subject has been conducted and analysed the performance of the students. Moreover, interaction through online google meet with alumni working in Tessolve was arranged and the students interacted with alumni regarding recruitment process, Interview questions, Hiring process, work nature etc.

In the voltage regulator circuit shown below the maximum load current i_L that can be drawn is

Zener diode in ON state.
So, the equivalent circuit is,



According to KCL

$$i_R = i_Z + i_L$$

For $i_{L(max)} \Rightarrow i_{Z(min)} = 0$

$$i_R = i_{L(max)}$$

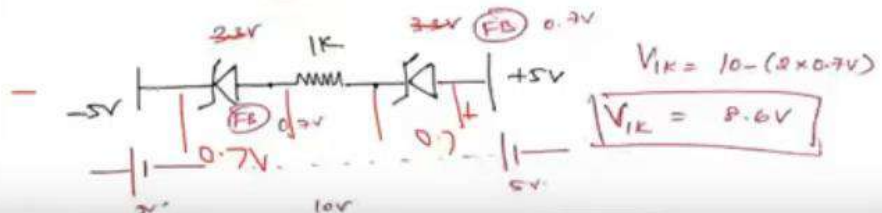
$$i_{L(max)} = \frac{30 - 9}{15 \text{ k}\Omega} = 1.4 \text{ mA}$$

24:49 / 1:23:32

(2) An AC Voltmeter reads a sine wave to be 12V
What is the peak to peak value of the signal?

(A) 1.414V (B) 1V (C) 0.707V (D) 2.828V

(11) Assume that Zener is made up of silicon and its Zener Voltage is 3.3V. What will be Voltage across the Resistor?



$V_{R} = 10 - (2 \times 0.7V)$
 $V_{R} = 8.6V$

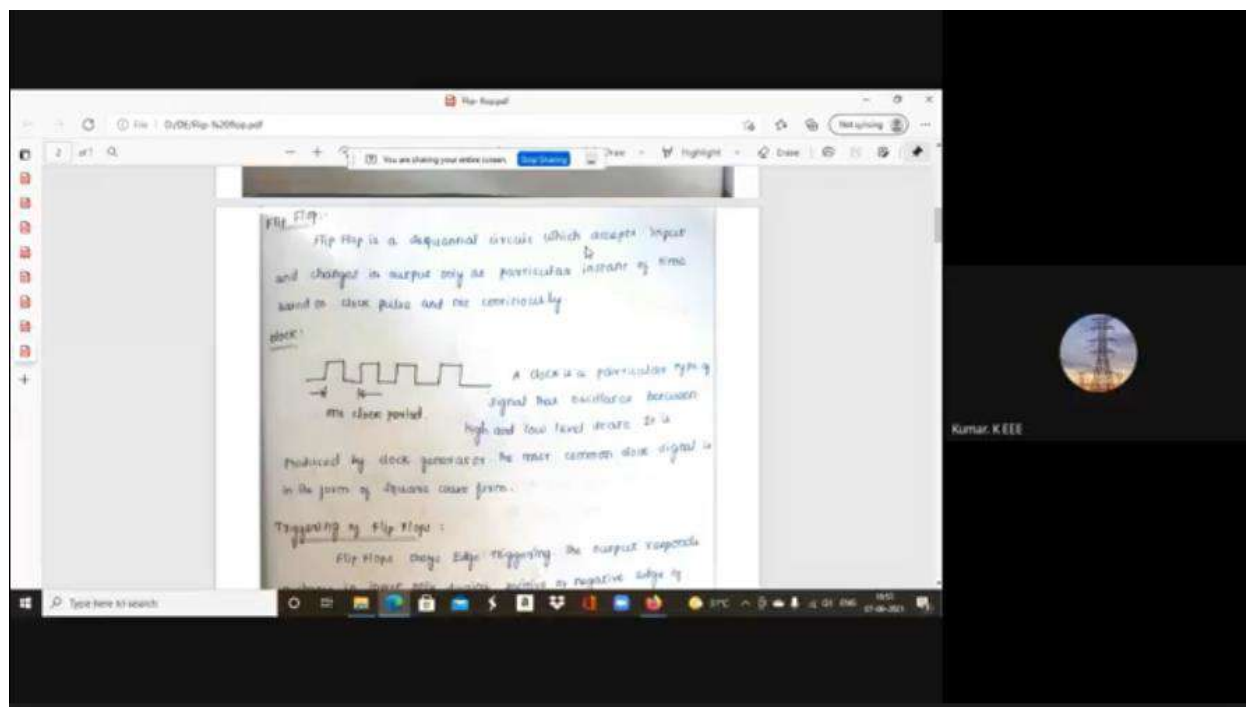
1:12:29 / 1:23:32

The screenshot shows a video player displaying a PowerPoint presentation. The slide is titled "Click to add title" and contains two circuit diagrams. The left diagram is a differential amplifier circuit with two input transistors, a common-emitter resistor, and two output nodes. The right diagram is a more complex circuit, possibly a differential amplifier with feedback. The video player interface includes a pause button, a progress bar at 11:27 / 1:15:09, and a "Pause (k)" button.

The screenshot shows a video player displaying a PowerPoint presentation. The slide is titled "Input offset current & voltage". It contains the following text:

- The input offset current is defined as the algebraic difference between two input bias currents.
- Even though the op-amps are of the same type, the output voltage in various op-amps of same batch are not of the same amplitude and polarity, because of mass production.

The slide also includes two circuit diagrams. The left diagram shows an op-amp circuit with input bias currents I_{B1} and I_{B2} , and input offset current I_{OS} . The right diagram shows an op-amp circuit with input offset voltage V_{OS} and input offset current I_{OS} .



TRAINING 3:

Our college Training and Placement Centre (TPC) and Department placement cell (DPC) has organized placement training program for our EEE department regarding CTS, TCS, Accenture and Capgemini drives. The training was given by R Sequence Chennai from (09.08.2021-17.08.2021) for Capgemini, (25.08.2021-30.08.2021) for CTS GenC, (10.09.2021-12.09.2021) for TCA and Accenture through online mode. For all the drives the company specific training based on the recruitment process has been given to students.

Capgemini Recruitment Process:



TCS NQT Recruitment Process:✓ **Written test:**

TCS NQT's first round is an online written test, which is regarded as one of the most difficult rounds in the entire process. Aptitude, Logical, Verbal, CMCQ, and Coding are the five sections of the written test.

✓ **Technical Interview:**

This is the most difficult phase of the whole TCS NQT 2022 Hiring Procedure since the interviewer's major goal in this round is to assess the students' technical knowledge.

✓ **HR Round**

During the TCS NQT Hiring Procedure, this Round is regarded the simplest. They will simply ask you questions in this round to assess your confidence and leadership abilities.

CTS GenC Recruitment Process:

- ✓ Aptitude Test
- ✓ Interview+ HR Discussion

The following Topics have been covered in the training.

Accenture Recruitment Process:**Cognitive and Technical Assessment**

This is the written test and this round is elimination round.

**Coding Ability**

This round is considered as one of the toughest round. You will be provided by 2 questions.

**Communication Assessment Round**

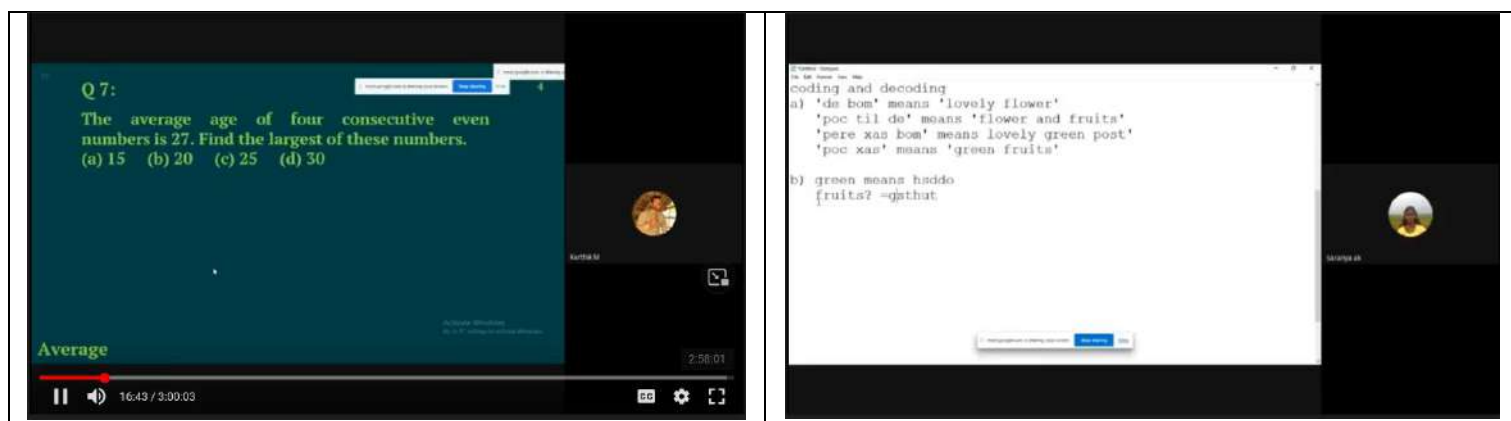
This Round is to check your communication ability, and Vocabulary etc

**Interview Technical/ HR**

Interview Round is divided into 2 parts i.e Technical and HR Round.

The following concepts have been taught in training for the above-mentioned drives commonly. In addition to that to improve the coding ability of the students coding based training has also been given and question banks with respect to all drives was also sent to students to make them get practiced.

Quantitative syllabus	Logical Reasoning	Verbal Reasoning
<ul style="list-style-type: none"> ○ LCM & HCF ○ Divisibility ○ Numbers, decimal fractions and power ○ Averages ○ Ratio & Proportion ○ Profit and Loss ○ Simple and Compound Interest ○ Time, Speed and Distance ○ Inverse ○ Time and Work ○ Allegation & Mixtures ○ Percentage ○ Permutation and Combinations ○ Probability ○ Pipes and Cisterns ○ Geometry, Coordinate Geometry ○ Clocks & Calendar 	<ul style="list-style-type: none"> ○ Coding deductive logic ○ Blood Relation ○ Directional Sense ○ Objective Reasoning ○ Selection decision tables ○ Syllogism ○ Statement & Conclusion ○ Seating Arrangements 	<ul style="list-style-type: none"> ○ Error Identification ○ Sentence Improvement & Construction ○ Subject-Verb Agreement ○ Tenses & Articles ○ Preposition & Conjunctions ○ Speech & Voices ○ Contextual Vocabulary ○ Comprehension ordering ○ Sentence Selection ○ Selecting Words



TRAINING 4:

Our EEE department training and placement cell has conducted the company specific technical training activities for the final year student's in order to enhance their performance towards the written test and further technical rounds with respect to Data patterns drive scheduled from 07.08.2021-11.08.2021.

Date	Time	Topic	Faculty In-charge
07.08.2021	02.00-03.00PM	Circuit Theory	Dr.M.Ravindran
07.08.2021	03.15-04.15 PM	Electronic Circuits	Mr.B.Venkatasamy
09.08.2021	04.00-05.00PM	Linear Integrated Circuits	Mr.M.Sivapalanirajan
10.08.2021	04.00-05.00PM	Digital Logic Circuits	Mr.K.Kumar
11.08.2021	04.00-05.00PM	Assessment	Mr.P.Samuel Pakianathan

The following Basic concepts and company specific questions related to Datapatterns has been taught to students and assessments on each subject has been conducted and analysed the performance of the students.

Subject	Topics taught by faculties
Circuit Theory	Electronic Notations and Unit, Resistor, Inductor, Capacitor- (Solving Series network, Parallel network, Series / Parallel combination, Stress for resistor (Power) calculation, Frequency response, Power dissipation), RC circuit, RLC circuit, LC circuit response function / curve, Circuit rule / law, Kirchhoff theory, Ohms law, Norton theory, Thevenin circuit, Maximum power transfer theory, Super position theory, Voltage division, Current division, Power dissipation, Voltage source in series and parallel Current source in series and parallel, Battery, Parallel and series effect
Analog Circuits	Opamp basic, Voltage follower, Inverting amplifier, Non-Inverting amplifier, positive loop back, negative loop back, open loop, close loop, summing amplifier, differential amplifier, differentiator, integrator, low pass filter, high pass filter. Transistor- CE, CB, CC, voltage follower, current amplifier, ON/OFF control, V-I curve, Instrumentation amplifier, Usage / benefits of instrumentation amplifier, Diode, Zener Diode, Transient Voltage Suppressor - Leads, Characteristics, Difference between each, V-I Curve, function,
Digital Electronics	Logic Gates, Combination of Logic Gates, Truth Table and Function, Flip flops, Type, Truth Table, Multiplexer, De Multiplexer, Encoder, Decoder, Digital Function theory / rules

In addition to that mock interview has been conducted for the Data Patterns Short Listed student's in order to enhance their performance towards the further technical rounds w.r.t Data Patterns drive scheduled on 21.08.2021 (Saturday). The schedule for mock interview has been listed below.

Date	Time	Topic	Faculty In-charge
18.08.2021	02:00PM-05:00PM	Batch A	Dr.N.B.Prakash Mr.P.Nirmal Kumar
		Batch B	Dr.B.Vigneshwaran Mr.M.Gengaraj
		Batch C	Mr.K.Kumar Mr.K.Karthik Kumar

The faculties asked question from the above-mentioned subjects and data pattern interview related questions and a rubrics has been framed to assess the performance of the students during interview.



Moreover interaction through online google meet with alumni working in Data patterns was arranged and the passed out alumni Mr. Joseph Francis, Mr. Harish Kumar, Mr. Gopinath and Mr. Blessing interacted with students regarding recruitment process, Interview questions, Hiring process, work nature etc.

STUDENT CONFERENCE DETAILS

S. No.	Name of the authors	Title of the Paper	Name of the Journal/Conference	Year
1	Akshaya. P, Jouslin Janet. J, Mohana Indhu Priya. A, Anusya Devi. G, Karthik Kumar. K, Kamaraja. A.S	Steady State and dynamic performance investigation of solar interlinking BLDC motor for electric vehicle application	2nd International Conference on Electronics and Sustainable Communication Systems ICESC 2021	2021
2	Kannayeram. G, Madhumitha. M, Mahalakshmi. S, Menaga Devi. P, Monika. K, Prakash. N.B	Smart Environmental Monitoring using LoraWAN	3rd International Conference on Communication, Devices and Computing (ICCDC 2021)	2021

STUDENT ACHIEVEMENTS/PARTICIPATIONS

S.No.	Name of the students	Year	Event	Organizer	Date	Rank/status
1	P.SUSEEL RAJA	III EEE	ECOGRAPHY GENRE -2	ECO Club, National Engineering College	18.08.2021	Ist Prize
2	A.S.N.JAANU	III EEE	CANDID CAPTURES	Department of Science and Humanities, National Engineering College	22.07.2021	Ist Prize
3	A.S.N.JAANU	III EEE	ECO LAWN'21	National Service Scheme, National Engineering College	05.05.2021	Ist Prize
4	AKSHAYA. P, JOUSLIN JANET. J, MOHANA INDHU PRIYA. A, ANUSYA DEVI. G	III EEE	International Conference	Hindustan Institute of Technology, Coimbatore	04th-06th August 2021	Participated
5	MADHUMITHA. M, MAHALAKSHMI. S, MENAGA DEVI. P, MONIKA. K	IV EEE	International Conference	Haldia Institute of Technology, West Bengal	16th-18th August 2021	Participated
6	VIGNESHWARI. G	III EEE	Technical - Quiz	L.D. College of Engineering, Ahmedabad	11th August 2021	Ist Prize
7	RUBLA. H, RAJESH KANNA. J, SATHESH. A, VISWANATHAN. S	III EEE	Technical - Quiz	L.D. College of Engineering, Ahmedabad	11th August 2021	Participated
8	RAJESH. R	IV EEE	Founders's Day Celebration – JCI Club – Pencil Sketch	National Engineering College, Kovilpatti	17th September 2021	Ist Prize
9	RAJESH. R	IV EEE	Founders's Day Celebration – Fine arts Club - Drawing	National Engineering College, Kovilpatti	17th September 2021	Ist Prize
10	RAMKUMAR. P	IV EEE	Founders's Day Celebration – YRC - Photography	National Engineering College, Kovilpatti	17th September 2021	Ist Prize
11	JAANU. A. S. N	III EEE	Founders's Day Celebration – YRC - Photography	National Engineering College, Kovilpatti	17th September 2021	IIInd Prize
12	NAVEEN KUMAR. P	IV EEE	Founders's Day Celebration –	National Engineering College, Kovilpatti	17th September 2021	IIIrd Prize

			YRC - Photography			
13	VASUKI. G	III EEE	Founders's Day Celebration – Just a Minute	National Engineering College, Kovilpatti	17th September 2021	Ist Prize
14	RUSHMITHA. S. P, ANURAGA. J, VINOTHINI. M	III EEE	Founders's Day Celebration – EEE Association - Quiz	National Engineering College, Kovilpatti	17th September 2021	Ist Prize
15	VINOTH. A, BALAGANESH. S, KASI VISHA. K.P	III EEE	Founders's Day Celebration – EEE Association - Quiz	National Engineering College, Kovilpatti	17th September 2021	IIInd Prize
16	RAMANA. A, VISWASANTHOSH. S.A	III EEE	Founders's Day Celebration – EEE Association - Quiz	National Engineering College, Kovilpatti	17th September 2021	IIIrd Prize
17	RAGHUL. S	II EEE	Founders's Day Celebration – EEE Association – Poster presentation	National Engineering College, Kovilpatti	17th September 2021	Ist Prize
18	AKSHAYA. P	III EEE	Founders's Day Celebration – EEE Association – Poster presentation	National Engineering College, Kovilpatti	17th September 2021	IIInd Prize
19	STEPHEN. A, PON SARAVANAKUMAR. P	III EEE	Founders's Day Celebration – EEE Association – Poster presentation	National Engineering College, Kovilpatti	17th September 2021	IIIrd Prize
20	SEETHARAMAN. M	IV EEE	Founders's Day Celebration – EEE Association – Debate	National Engineering College, Kovilpatti	17th September 2021	Ist Prize

STUDENT FEEDBACK ABOUT INTERVIEW PROCESS

- *Latha Nivetha P – Final Year*

- *Gomathi Arasu A – Final Year*

VVDN RECRUITMENT PROCESS

Round 1:

Online exam full of MCQ type consists of different sections like aptitude, programming related MCQ, technical (core) questions and verbal reasoning.

Round 2:

Technical interview:

The following questions were asked in the interview,

1. Have u buy any components from shop?
2. Power supply is 12V, 1A, adapter rating is 12V, 5A, whether it can be connected to an LED TV.
3. Can we measure a resistor's value while the power supply is ON.
4. Construction of ohmmeter.
5. Microcontroller's active high signal value is 3.3V, how it can be connected to a LED rating 5V, to make the led on and off.
6. By using what specifications u buy a resistor & transformer from shop.
7. Which has the low current rating NPN transistor or n-MOSFET and why.

Finally, the interviewer asked do I have any questions for him.

KAAR INTERVIEW PROCESS

There will be three rounds. Before the first round, they will give a google form in that you want to fill the marksheet details, personal information, and some general questions to be answered.

First Round:

This round consists of aptitude and programming questions on java.

If you are strong in aptitude, you can be able to clear it. And the programming questions are like snippets and the concepts on exception handling, threads.

Second Round:

This round is a Group discussion. The shortlisted students are divided into group of 7/8 members. The discussion was held on a general topic (e.g.: is social media killing book reading habit). Be an initiator if not that's not a problem (I am not an initiator) but tell your points shortly and correctly. You will get only one or two chances to speak. BE confident and bold. Discussion will be held only for 20-30 minutes.

Third Round:

This round is technical round (L1 & L2 discussion). In this round, they will ask to give a self-introduction. And they asked the role on your projects, technologies you learnt from the first year, do u ever worked on databases. They gave a logic to program. Afterwards, they asked about sap, ERP.

In the above L1 round, you want to be strong in the basics of programming like array concepts, pointers and then if you have learnt any simple technology related to databases that will add your point.

In L2 round, they asked me to give a real time example of polymorphism and asked about the company. Told about the internship period on Kaar likewise.

- *Vigneshwari G, Final EEE*- *Balu P, Final EEE***DATA PATTERNS RECRUITMENT PROCESS**

The first round of the recruitment process was conducted online, it consists of a written test which includes aptitude questions, verbal, logical reasoning, and technical question through a website with some restriction and question where simple and most of the technical questions where from the previous year questions.

The second round of the recruitment process was individual technical interview, this was face to face interview. This interview lasted more than 40 minutes. These are some of the hardware questions that were asked to me:

1. About project and block diagram of the project.
2. Problems on diodes and transistors
3. Characteristics of PN junction and Zener diode.
4. What is transistor and types?
5. Voltage divider
6. Difference between BJT and FET.
7. Difference between voltage division and current division.
8. Avalanche breakdown
9. Application of RC circuit
10. Any questions to the interviewer?

The third round of the recruitment process was HR round, in this interview most of the questions were based on about family and common details .so it went smooth and lasted for more than 30 minutes.

TESSOLVE INTERVIEW PROCESS**First Round:**

This Round consists of only 30 Technical Questions with time Duration of 45 minutes by online Assessment mode.

To crack this Round, I have gone through the previous year questions and practiced solving it. I have come to know the important field which requires for the company by the Preplacement talk and that is very helpful for us.

Second Round:

This is a technical discussion round, Here we discussed about my mini project and Internship details. In this round most of the questions are from the area of interest and it in the basic level. (Duration: 20 Minutes)

In the L2 round, Question from First round and problem solving was done. Simple c program using for and while loop and for loop had asked me to find the output. Different types of filters and some components replaced by other component then what will be the output. (Duration:30 Minutes)

Third Round:

This round is HR round.

In this round, they will ask about your family background, native place and discussion regarding company internship, salary package and queries.

STUDENT ARTICLES

FLEXIBLE GENERATORS



Solid-state devices that directly convert heat to electricity without moving parts, TEGs (thermoelectric generators) are typically made from inorganic semiconductors. Yet polymers are attractive materials due to their flexibility and low thermal conductivity.

These qualities enable clever designs for high-performance devices that can operate without active cooling, which would dramatically reduce production costs. The researchers have developed P- and N-type semiconducting polymers with high performing ZT values (an efficiency metric for thermoelectric materials).

Project funded by the Air Force Office of Scientific Research; the team has developed a radial TEG that can be wrapped around any hot water pipe to generate electricity from waste heat. Such generators could be used to power light sources or wireless sensor networks that monitor environmental or physical conditions, including temperature and air quality.

This opens opportunities in wearable devices, including clothing or jewelry that could act as a personal thermostat and send a hot or cold pulses. Granted, this can be done now with inorganic thermoelectric. Although these are not suitable for grid-scale application, such devices could provide significant savings.

- *Mohana Indhu Priya A, Third EEE*

EXTREME HEAT EXCHANGER CREATED USING METAL 3D PRINTING



Used in most major industries -- including energy, water, manufacturing, transportation, construction, electronic, chemical, petrochemical, agriculture, and aerospace -- heat exchangers transfer thermal energy from one medium to another. For decades, heat exchanger designs have remained relatively unchanged. Recent advancements in 3D printing allow the production of three-dimensional exchanger designs previously thought impossible. These new and innovative designs operate significantly more effectively and efficiently but require specific software tools and design methods to manufacture the high-performance devices.

Recognizing the need to unlock new, high-performing heat exchangers, Grainger College of Engineering researchers have developed software tools that enable new 3D heat exchanger designs. "We developed shape optimization software to design a high-performance heat exchanger," said William King, professor of Mechanical Science and Engineering at The Grainger College of Engineering and co-study leader. "The software allows us to identify 3D designs that are significantly different and better than conventional designs."

The team started by studying a type of exchanger known as a tube-in-tube heat exchanger -- where one tube is nested inside another tube. Tube-in-tube heat exchangers are commonly used in drinking water and building energy systems. Using a combination of the shape optimization software and additive manufacturing, the researchers designed fins (only made possible using metal 3D printing) internal to the tubes.

With billions of heat exchangers in use worldwide today and even more attention placed on our need to reduce fossil fuel consumption, compact and efficient heat exchangers are increasing in demand, particularly in industries where heat exchanger size and mass significantly impacts performance, range, and costs. Research sponsored by the National Science Foundation Engineering Research Center for Power Optimization of Electro-Thermal systems (POETS) and the International Institute for Carbon Neutral Energy Research (WPI-I2CNER).

- *Subalakshmi J, Third EEE*

PADRONE RING



A reinvented mouse, designed to bring new user experience. The Padrone ring is a small and nimble finger ring that can be used as computer mouse. The Ring Mouse connect to the computer through smart Bluetooth and is equipped with multiple sensors to track movements of the fingers.

The trackpads on our laptops and mice are still irreplaceable because of the high freedom of movement and the speed they offer. The special feature is this mouse ring connect to any device over low energy Bluetooth and supports a variety of clicking and scrolling gestures. More importantly, it comes in 12 different sizes and is waterproof, which means you can continue wearing it anywhere you go without worrying about breaking it or frying the internals.

- Yamini Rajam R, Third EEE

STUDENT INTERNSHIP

S.No	Name	Year	Company name	Duration	
1	JAGANATH RP	III EEE	Electric Loco Shed, Southern Railways, Erode.	23-08-2019	27-08-2019
2	ANUSUYA DEVI.G	III EEE	The India Cements LTD, Sankar Nagar, Tirunelveli	17-02-2020	22-02-2020
3	JOYSLIN JANET J	III EEE		17-02-2020	22-02-2020
4	VINOTH A	III EEE	Techieegy	24-03-2021	24-07-2021
5	SHIVRAM KUMAR. M	III EEE	BOLT(Inventrom Private Limited)	09-04-2021	07-06-2021
6	JOYSLIN JANET J	III EEE	EdGate Technologies Pvt Ltd Bangalore	31-05-2021	13-06-2021
7	JEY SHREE LAKSHMI J	III EEE	Edgate Technologies private limited, Bangalore.	31-05-2021	13-06-2021
8	MOHANA INDHU PRIYA A	III EEE	Edgate Technologies private limited, Bangalore.	31-05-2021	11-06-2021

9	YAMINI RAJAM R	III EEE	EDGATE technologies Pvt Ltd Bangalore	31-05-2021	13-06-2021
10	VINOTH A	III EEE	National Small Industries Corporation Limited, Hyderabad.	01-06-2021	15-06-2021
11	JAGANATH RP	III EEE	National Small Industries Corporation Limited, Chennai	01-06-2021	15-06-2021
12	JAANU A S N	III EEE	National Small Industries Corporation Limited, Chennai	01-06-2021	15-06-2021
13	JAGATHISH L	III EEE	National Small Industries Corporation Limited, Chennai	01-06-2021	15-06-2021
14	JASSIM MOHAMMED S	III EEE	National Small Industries Corporation Limited, Chennai	01-06-2021	15-06-2021
15	JEKHAN J.S.	III EEE	National Small Industries Corporation Limited, Chennai	01-06-2021	15-06-2021
16	MOHAMED RIYAS P S	III EEE	National Small Industries Corporation Limited, Chennai	01-06-2021	15-06-2021
17	NOORUL IRFAN .A	III EEE	National Small Industries Corporation Limited, Chennai	01-06-2021	15-06-2021
18	PON SARAVANA KUMAR S	III EEE	National Small Industries Corporation Limited, Chennai	01-06-2021	15-06-2021
19	RAHUL R	III EEE	National Small Industries Corporation Limited, Chennai	01-06-2021	15-06-2021
20	STEPHEN A	III EEE	National Small Industries Corporation Limited, Chennai	01-06-2021	15-06-2021
21	SUSEEL RAJA.P	III EEE	National Small Industries Corporation Limited, Chennai	01-06-2021	15-06-2021
22	AKSHAYA.P	III EEE	National Small Industries Corporation Limited, Chennai	01-06-2021	15-06-2021
23	BALAGANESH S	III EEE	National Small Industries Corporation Limited, Hyderabad.	01-06-2021	15-06-2021
24	ESAKKI SANTHIYA S	III EEE	National Small Industries Corporation Limited, Hyderabad.	01-06-2021	15-06-2021
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