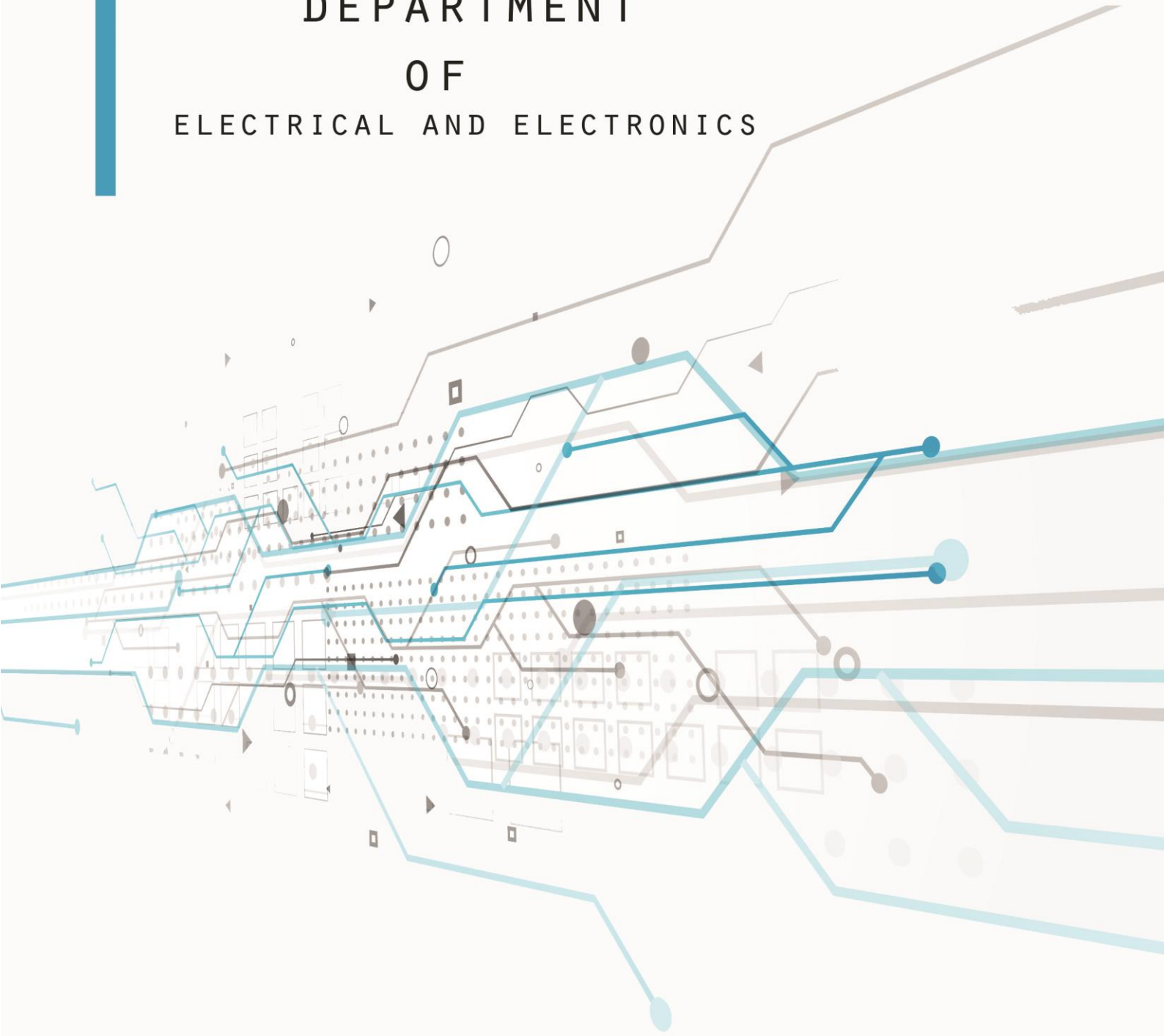
PULSE NEWSLETTER

DEPARTMENT OF ELECTRICAL AND ELECTRONICS



PULSE NEWSLETTER

FROM THE EDITORIAL

The written world has never ceased to withdraw its influence over the educated community. A written word is a record of an event, which will exist forever, long after the grandeur of that event has subsided.

Presenting you PULSE– one such avatar of the written world, which eliminates the darkness of ignorance by spreading its rays of Knowledge?

"A successful team beats with one heart"

This year, 2017 the team has stepped into office with high hopes and ambitions. With an able guidance of Dr.K.Umamaheshwari, AP (SG), EEE and Mr. M.Balaji AP (SS), EEE and a strong leadership under Selvan K.Prasanna Ezhilan, final year, EEE, and an effective team, the past year was a very productive one. With a clear cut plan and an effective & workaholic team, the past year was a uphill ride for the department of EEE. The year was busy with Guest lectures, events and workshops occupying the calendar.

Dr. A. Senthil Kumar
Head of the Department, EEE.

Dr. K.Umamaheshwari, AP (SG), EEE
Faculty advisor, AVERA

Dr. M. Balaji, AP (SS), EEE
Faculty advisor, AVERA

VISION

Emerge as the world leader for the Electrical and Electronics Engineering Education and research for the application of knowledge to the society.

MISSION

- A stimulating learning environment with a technological orientation to maximize individual potential
- Continuous pursuit of quality and excellence.
- Appropriate know-how and up-to-date knowledge.
- Nurture creativity and ambit for research.

VIRTUAL TECHNOLOGY

Virtual reality (**VR**) is an interactive computer generated experience within a simulated environment mainly incorporates auditory and visual feedback, but may also allow other types of sensory feedback like haptic (ability to grasp something). This technology can give us unimaginable things before our eyes as like reality. Augmented reality systems may also be considered one among type of VR that gives virtual information over a live camera that is fed into a headset or through a smartphone giving the user to feel and enjoy the three-dimensional images.Current VR technology uses virtual reality headsets or multi-projected environments, to generate realistic images, sounds and other sensations that simulate the person physical presence in a virtual or imaginary environment. A person could experience, feel or move around in it, and interact with virtual features or items using VR equipment. The effect is commonly created by VR headsets consisting of a head-mounted display with a small screen in front of the eyes or through specially designed rooms with multiple large screens. This technology is mainly used in video games, military, space works

Fig*:Scientists using VR technology for controlling planetary rovers in space.*

and in medical field. In recent years it is also used in safety training. For example, flight simulators utilise VR to show the visual environment for road-safety training as it can avoid the danger and also in construction companies. **VR Displays** are based on the technology for smartphones. They are very sensitive, light weighted.

VR technology is used in entertainment applications like 3D cinemas and in gaming. Virtual reality headsets were first released in mid 1990's. 3D cinemas were used for sport events, fine art, music, video, short films. Since 2010, this technology also used in theme parks to entertain people.

VR is used to control robots in telepresence and telerobotic.

Telepresence refers to a set of technologies which allows a person to feel as if they were present, to give the appearance of the being, when they are at far place. Telerobotic refers to area of robotics concerned with the control of semi-autonomous robots from a distance, chiefly using wireless network or tethered connections.

Simulated VR surgical environments - under the supervision of experts - can provide effective and repeatable training at low cost, allowing trainees to recognize and amend errors as they occur.A number of unwanted symptoms has been by prolonged use VR and this made the slow proliferation of this technology. Most virtual reality systems come with consumerwarnings,including seizures; developmental issues in children; trip-and-fall and collision warnings; discomfort; repetitive stress injury; and interference with medical devices.

DIGITAL TWIN TECHNOLOGY

Digital twin technology has moved beyond manufacturing and in the merging worlds of the Internet of Things, artificial intelligence and data analytics. Digital Twin Technology is one among the top 10 strategic technology trends named by Gartner Inc. in 2017. It's a digital representation of a physical object or system.

Throughout the product development life cycle, right from the design phase to the development phase, organizations can have a complete digital foot print of their products. These 'connected digital things' generate data in real time, and this helps business in better analyse and predict the problems in advance or give early warnings, prevent downtime, develop new opportunities and even plan better products for the future at lower costs by simulations.

Digital Twins, the virtual counterparts of the physical assets are created as digitalized duplicate of machines/ equipment or physical sites using sensors. These digital assets can be created even before an asset is built physically. To create a digital twin of any physical asset, the engineers collect and synthesize data from various sources including physical data, manufacturing data, operational data and insights from analytics software. All this information along with AI algorithms is integrated into a physics-based virtual model and by applying Analytics into these models we get the relevant insights regarding the physical asset. The consistent flow of data helps in getting the best possible analysis and insights regarding the asset which helps in optimizing the business outcome.

Digital Twins is at the core of the new industrial revolution bringing in unlimited possibilities. It changes the traditional approach of 'the first build and then weak' in the industrial world and brings in a more virtual system based design process that brings in the much more efficient role out of any equipment or system by understanding its unique features, performance, and potential issues if any. With Digital Twin, an operator can get trained on a virtual machine without spending for a dedicated trainer or simulator.

Such machines will be capable of optimizing its performance, coordinating with other machines, doing self-diagnosis and self-repairing the faults if any, with minimal intervention from a manual operator. Digital twins could be used in manufacturing, energy, transportation and construction. Large, complex items such as aircraft engines, trains, offshore platforms and turbines could be designed and tested digitally before being physically produced. Thus digital twins can save dying cities in future.

FLEXIBLE ELECTRONICS

Flexible which means thin, bendable, elastic, lightweight, non-breakable, roll-to-roll manufacturable, or large-area. To the industrial community today, flexible electronics means flexible displays and X-ray sensor arrays. To researcher's flexible means conformally shaped displays and sensors, electronic textiles, and electronic skin.

Forty years ago single-crystalline silicon solar cells were thinned to raise their power/weight ratio for use in extraterrestrial satellites. The development of flexible electronics dates back to the **1960s.** The first flexible solar cell arrays were made by thinning single crystal silicon wafer cells to ~100µm and then assembling them on a plastic substrate to provide flexibility. In **1973**stimulated work on thin-film solar cells as a path to reducing the cost of photovoltaic electricity. Because of their relatively low deposition temperature, hydrogenated amorphous silicon cells lend themselves to fabrication on flexible metal or polymer substrates. In 1976, three peoples Wronski, Carlson, and Daniel at RCA Laboratories reported a Platinum/hydrogenated amorphous silicon Schottky barrier solar cell made on a stainless steel substrate, which also served as the back contact. Beginning in the **early 1980s**, the roll-to-roll fabrication of hydrogenated amorphous silicon solar cells on flexible steel and organic polymer substrates was introduced. Today, hydrogenated amorphous silicon solar cells are routinely made by roll-to-roll processes. In the **mid-1980s**, the active-matrix liquid-crystal display (AMLCD) industry started in Japan by adopting the large-area plasma enhanced chemical vapor deposition (PECVD) machines that had been developed for hydrogenated amorphous silicon solar cell fabrication. The success of the hydrogenated amorphous silicon TFT backplane-based AMLCD industry and the demonstration of hydrogenated amorphous silicon solar cells on flexible substrates stimulated research on silicon-based thin-film circuits on novel substrates. In **1994**, Constant et al. at Iowa State University demonstrated hydrogenated amorphous silicon TFT circuits on flexible polyimide substrates. Their demonstration included two approaches to achieving overlay registration in photolithography:(1) the edge of the polyimide substrate was affixed to a rigid silicon wafer by using vacuum compatible epoxy resin.

(2) a conformal coating of polyimide was applied to a silicon wafer to form a polyimide film.

IOT IN MEDICAL SCIENCE

The Internet of Medical Things (also called the internet of health things) is an application of the IoT for medical and health related purposes, data collection and analysis for research, and monitoring. This 'Smart Healthcare', as it can also be called, led to the creation of a digitized healthcare system, connecting available medical resources and healthcare services. IoT devices can be used to enable remote health monitoring and emergency notification systems. These health monitoring devices can range from blood pressure and heart rate monitors to advanced devices capable of monitoring specialized implants, such as pacemakers, Fitbit electronic wristbands, or advanced hearing aids. Some hospitals have begun implementing "smart beds" that can detect when they are occupied and when a patient is attempting to get up. It can also adjust itself to ensure appropriate pressure and support is applied to the patient without the manual interaction of nurses. A 2015 Goldman Sachs report indicated that healthcare IoT devices "can save the United States more than $300 billion in annual healthcare expenditures by increasing revenue and decreasing cost. "Moreover, the use of mobile devices to support medical follow-up led to the creation of 'm-health', used "to analyze, capture, transmit and store health statistics from multiple resources, including sensors and other biomedical acquisition systems". Specialized sensors can also be equipped within living spaces to monitor the health and general well-being of senior citizens, while also ensuring that proper treatment is being administered and assisting people regain lost mobility via therapy as well. These sensors create a network of intelligent sensors that are able to collect, process, transfer and analyze valuable information in different environments, such as connecting in-home monitoring devices to hospital-based systems. Other consumer devices to encourage healthy living, such as connected scales or wearable heart monitors, are also a possibility with the IoT. End-to-end health monitoring IoT platforms are also available.

METALLIC HYDROGEN- A SPECTACULAR INVENTION

Metallic hydrogen is a phase of hydrogen in which it behaves like an electrical conductor.

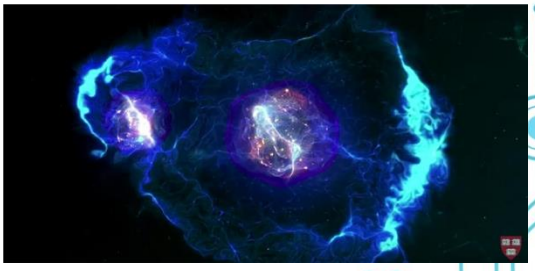
This phase was predicted in 1935 on theoretical grounds by Eugene Wigner and Hillard Bell Hunnington.

Athigh pressure and temperatures, metallic hydrogen can exist as a liquid rather than a solid, and researchers think it is present in large quantities in the hot and gravitationally compressed interiors of Jupiter, Saturn, and in some exoplanets.

On 5 October 2016,Ranga Dias and Isaac F. Silvera of Harvard University released claims of experimental evidence that solid metallic hydrogen had been synthesized in the laboratory at a pressure of around 495 gigapascals (4,89,000 atm; 71,800,000 psi) using a diamond anvil cell.
Silvera also claimed that the metallic hydrogen could be metastable which means that even if you release the pressure it will be metallic.
Most importantly, physicists think that metallic hydrogen could be a roomtemperature superconductor, which would mean that the material could conduct electricity with zero resistance and without having to be cooled to crazy temperatures first. If scientists could achieve that same superconductivity at room temperature, it would be huge, because it means we could create things like power lines that don't lose any electricity between the power plant and your home. Right now, the grid loses as much as15 percent of itsenergy as heat, due to resistance.
The material could also be the most powerful rocket propellant everdiscovered, with incredible energy stored up in its bondscapable ofblasting us to distant worlds.

The metallic hydrogen has a wide exposure in transportation system as it can be used as a magnetic levitation of high speed trains as the current maglev trains are expensive and no practical for many purposes because they are only capable of achieving superconductivity Below -269 degree Celsius.

The metallic hydrogen can also be used in solar and hydrogen power plants that its energy released could be used to serve electricity across the nation for decades. If this happens the nuclear power plants will be uninhabited. Balancing power will become easier.
Also in August 2018, scientists announced new observations regarding the rapid transformation of fluid deuterium, one of two stable isotopes' of hydrogen, from an insulating to a metallic form below 2000 K. Remarkable agreement is found between the experimental data and the predictions based on Quantum Monte Carlo simulations.



WATER CONSERVATION

Basic requirement of our body and thus life. Water is also named as 'life' because of being important element for all the living beings. Noting can survive without water on the earth. Three-fourth part of the earth is water however only 2% of the water is usable for us. At some places in India, people face water scarcity and draught condition whereas, in other places there is plenty of water available. So, the people living in areas with plenty of water must realize its importance and save water.

We are living in the time when we need to save clean water
and use it according to our use only.

People have to depend on the government water supply by tanks or some natural water reservoirs at long distance. They have
to go for a long distance on daily basis to arrange drinking water. India is one of the countries worldwide facing huge level water scarcity today. Places in India like Rajasthan and some parts of Gujarat are facing water scarcity where women and girls of the houses cover a long distance on bare foot to just get a pot of water. In some cities like Bangalore people have to buy water bottles worth Rs. 25 to Rs. 30 to drink clean water. People face more problems during summer months when the daily need of water increases. Recently, it is studied that around 25% urban population lacks availability to clean drinking water. In some areas, the privatization of water bodies is the main reason of water scarcity.

Rain water harvesting is one of the most effective and suitable method among save water techniques. Afforestation is also best method .We can also take pledges like "SAVE WATER,SAVE NATURE".

Water is known as the elixir of life, so we should save it to save life on the earth. We need water for many purposes in our daily walks of life. So, we should understand the value of water drops and save it.

INDUCTION OF TEAM 2K19

CHIEF GUEST ADDRESS

INAUGURATION REPORT

The inaugural function of the new team of AVERA, the department association of Electrical and Electronics Engineering, included a guest lecture by Dr.Saravana Kumar Thangaraj, Sr. Manager, Schneider Electric Ltd. Bangalore. The inauguration function of the new team of Avera held at C .Subramaniam hall on 14th July 2018(Saturday) from 11.00AM to 1.00PM. The welcome address was given by Dr.M.Balaji, Faculty co-ordinator, AVERA. He introduced the president of the association followed by this, the executive members of AVERA were introduced by Selvan.K.R.Prasana Ezhilan, President of AVERA. The year plan for this academic year was mentioned by him. Followed by him, Dr.A.Senthil Kumar, Head of the Department, EEE reminded the students about their social responsibilities and explained the new curriculum for the first year. Then, the winners of ARM TVS project were rewarded by the chief guest. The chief guest was introduced by Dr.K.Uma Maheswari, Faculty co-ordinator, AVERA. The inaugural address was given by Dr.Saravana Kumar Thangaraj, Sr. Manager, Schneider Electric Ltd. Bangalore. In the guest lecture, he explained about “Making of 1KVA Transformer” and its application through his informative lecture. Finally, the vote of thanks was presided by Selvi.SM.Kannammai, Secretary, AVERA.

STUDENTS INTERACTION REPORT

An interaction for first year students was conducted by AVERA, the department association of electrical and electronics on 21st August 2018 from 3.30pm to 5.00pm at A413.An informative speech to the students about our department classrooms, tutorial classes, laboratories is given by Dr.M.Kaliamoothy, Assistant Professor EEE this also includes information about our department professors , faculty advisors, non-teaching staff members .He explained them clearly about their curriculum that is “project based learning” .Followed by him, Dr.A.Sakthivel, Head of the science and humantics department, addressed students the beneficial of selecting the department EEE, and he noticed that more job opportunities are available in our department by specifying a news which he saw the day before. The executive members of AVERA were introduced by Selvan.K.R.Prasana Ezhilan, President of AVERA .The use of the app MCET edu was mentioned by him. Finally, feedback forms are distributed for students and collected with more informations for improvement are gained.

GUEST LECTURE

CAREER OPPORTUNITIES IN ENGINEERING

A guest lecture on career opportunities was conducted by AVERA was held at seminar hall on 18.08.2018 (Saturday) from 2.00pm to 3.30pm.The chief guest was **DR. MALLIKAARJUNA A KAMBALYAL,** CEO of **SUNSHUBH RENEWABLES ,** Bangalore. The introduction for the lecture was given by Dr. M . Balaji ,Faculty coordinator of AVERA. The guest presented information about the inter relationship between different departments in industrial field. He even shared his views on energy auditing, waste water management, energy management, etc. We also came to know different opportunities present in today's world. Finally the vote of thanks was given by Selvan K. R. PrasanaEzhilan , President of AVERA.

MARKETING EVENT REPORT

Marketing event was organised by Selvan K.R. PrasanaEzhilan, President of AVERA and coordinated by AVERA team members. Marketing event was a whole day long and was held in their class room on 11.08.2018 (Saturday). There were about 60 students in the class room. A brief introduction of the event was given by Dr. M.Balaji , the faculty coordinator of AVERA. Marketing event yielded a huge range of ideas and suggestions for future learning. We shared our creative ideas. We were separated into ten groups. Each group had 5 members. We were given with project reports of our seniors. We are asked to go through it. After the case study of project reports, by knowing the specifications and applications of the product. We were asked to market our product. It was a good interactive session between seniors and juniors. The seniors were guiding us to present the project. This made us to develop the project to the next level. While we marketing our product, the seniors were judging the group of respondents who have been selected on the basis of their views, characteristics, opinions, behaviour and outlook of marketing the product. During the marketing of one group, the other groups came out with different and interesting doubts. Finally, marketing event session ended up with innovative ideas.

INFOSYS MOCK INTERVIEW REPORT

A mock interview as an event was conducted by AVERA, the department association of electrical and electronics on 8th September, 2018 from 9.45am to 12.00pm. This event is conducted for final years to make them prepared for their placements. This event consists of two round, Round1 is conducted from 9.45 am to 11.20 am this consists of 45 questions whereas first 10 questions from QUANTZ followed by this next 10 questions from ANALYTICAL, last 40 questions from VERBAL COMMUNICATIONS. After completing round1 students are selected for round2 based on the marks they obtained in Round1. They are allotted for respected faculty members for round2 which of HR technical interview. Finally students those who are cleared round1 with higher scores has attended their round2 with company members.

INTERACTION WITH INDUSTRIAL EXPERT

An interaction session with **Mr.Prasanth** from **JOTUN PAINT INDUSTRY, Dubai** was conducted by the team AVERA and the department of Electricals and Electronics Engineering on 15.12.2018 at the Seminar Hall A313 at 2:55 pm for the third year students of EEE The session was stated by Dr.M.Balaji by introducing the chief guest who had 10 years of industrial experience in various fields. He then shared his work experience in various companies in maintainance and automation departments. He shared his ideas in future scope of electrical engineer, comparison of employee's salary in India and UAE, Roles of electrical engineers in maintenance and project works. He also explained about various job opportunities for electrical engineer in various industries like oil and gas production , power plants, chemical industries, aluminium and steel producing industries, etc,.He then clarified the doubts of students in building resume and how to face the interview and also gave us the ideato prepare for interview and also shared the expectation of the industry people.

PLACEMENT DETAILS

CALIBER INTERCONNECT 1

WIPRO 1

IDBI 3

AVANIKO 1

XCELCORP 2

KOTAK MAHINDRA 12

SOLITON TECHNOLOGIES 1

ZOHO - 2

TESSOLVE SEMICONDUCTORS 3

INFOSYS 25

INTEL 1

VERNALIS 1

NTT DATA 8

STAFF DEVELOPMENT PROGRAMMES

CONTINUING EDUCATION PROGRAMS / FACULTY DEVELOPMENT PROGRAMMES / CONFERENCES / SEMINARS / WORKSHOPS/ SHORT TERM TRAINING COURSES ETC. ORGANIZED AT MCET

Dept.	Name of the Coordinator(s) with Designation	Title	Conducted at (Venue)	Sponsored by	No. of Participants attended	Date(s)
EEE	Dr.L.Chitra AP(SG)	DC chroma power source and PV syst training	SWELECT-MCET Centre	Dr.MCET	15	18.06.2018
EEE	Dr.A.Senthilkumar HoD/EEE Mr.C.Kannan AP Mr.T.Anandkumar AP Mr.M.Prabhuraj AP Mr.K.M.Manu Mr.D.Gananaprakasam AP	Two-Days National Level Workshop On "Artificial Intelligent Techniques And Its Application In Medical Diagnosis"	Dr.MCET	ICMR	30	13.07.2018 to 14.07.2018
EEE	Dr.B.Vinothkumar ASP Ms.K.Saranya AP Ms.N.Krishnaveni AP Ms.M.Sathyapriya TA	VAC on "Verilog Modeling of digital circuits in CADENCE EDA Tool"	Dr.MCET	Dr.MCET	24	14.07.2018 & 27.07.2018
EEE	Dr.L.Chitra AP(SG) Mr.M.Prabhuraj AP Mr.G.Thirumoorthy LA	VAC on Design and Construction of SPV System	Dr.MCET	Dr.MCET	20	04.07.2018 to 18.07.2018
EEE	Dr.L.Chitra Mr.M.Prabhuraj Ms.Helen catherine Mr.D.Saravanaraj Mr.G.Thirumoorthy	VAC on Design and Construction of SPV System	Dr.MCET	Dr.MCET	26	27.07.2018& 28.07.2018
EEE	Mr.B.Kishore AP(SS)	Executive Members Orientation Programme	Dr.MCET	Dr.MCET	30	30.07.2018
EEE	Dr.L.Chitra AP(SG) Mr.M.Prabhuraj AP Mr.D.Saravanaraj TA	Two days Workshop on Design and Installation of Solar Power Plant	Swelect Lab , Dr.MCET	Dr.MCET	23	30.08.2018 to 31.08.2018

EEE	Dr.L.Chitra AP(SG) Mr.M.Prabhuraj AP Ms.R.L.Helen Catherine AP Mr.D.Saravanaraj TA	Value Added Course on Design and Installation of Solar Power Plant	Swelect Lab , Dr.MCET	Dr.MCET	10	Aug 2018
EEE	Dr.L.Chitra AP(SG) Mr.M.Saravanakumar AP Ms.R.L.Helen Catherine AP Ms.N.Krishnaveni AP Ms.K.Durgalakshmi AP Mr.D.Gnanaprakasam AP Mr.S.Dinesh AP	Recent Technological Development in Energy conservation and storage	Dr.MCET	BRNS	50 External 7 Internal	14.09.2018 to 15.09.2018
EEE	Dr.B.Vinothkumar ASP Ms.K.Saranya AP Ms.N.Krishnaveni AP	VAC on "Digital System Design Implementation and Verification using FPGA"	Dr.MCET	Dr.MCET	25	Sep 2018
EEE	Dr.L.Chitra AP(SG)	Energy Ambassador Programme of Diploma Students	Dr.MCET	IAEMP	250	11.09.2018
EEE	Dr.B.Vinothkumar ASP Ms.K.Saranya AP Ms.N.Krishnaveni AP	VAC on "Digital System Design Implementation and Verification using FPGA"	Dr.MCET	Dr.MCET	25	Oct 2018
EEE	Dr.L.Chitra Mr.M.Prabhuraj	Design and Construction of SPV System	Dr.MCET	Dr.MCET	20	Oct 2018
EEE	Dr.L.Chitra Mr.M.Prabhuraj Mr.D.Saravanaraj	SURYAMITRA Solar PV Technician	Dr.MCET	Dr.MCET	28	Oct 2018
EEE	Dr.L.Chitra Mr.M.Prabhuraj Mr.D.Saravanaraj	TEDA - Solar PV Technician	Dr.MCET	Dr.MCET	15	Oct 2018
EEE	Dr.L.Chitra Mr.M.Prabhuraj	VAC on Design and Construction of SPV System	Dr.MCET	Dr.MCET	55	12.11.2018 To 17.11.2018
EEE	Dr.L.Chitra Mr.M.Prabhuraj Mr.D.Saravanaraj	SURYAMITRA Solar PV Technician	Dr.MCET	Dr.MCET	28	Aug - Nov 2018
EEE	Dr.L.Chitra Mr.M.Prabhuraj Mr.D.Saravanaraj	TEDA - Solar PV Technician	Dr.MCET	TEDA	15	Oct – Nov 2018

EEE	Dr.L.Chitra AP(SG) Mr.M.Prabhuraj AP Mr.D.Saravanaraj TA	VAC on Design and Construction of SPV System	Dr.MCET	Dr.MCET	15	14.12.2018 to 22.12.2018
EEE	Mr.B.Kishore AP(SS)	STEP II Programme for II Year Circuit Branch Students	Dr.MCET	Dr.MCET	300	29.12.2018

PARTICIPATION IN SEMINAR / CONFERENCE / WORKSHOP / TRAINING ETC. BY MCET STAFF

Dept.	Name of the Faculty with Designation	Details of Program	Place of Program	Date
EEE	Mr.B.Kishore AP(SS)/EEE	PALS - Industry Academia Conclave	IIT Madras	30.06.2018
EEE	Dr.M.Kaliamoorthy ASP Dr.K.Umamaheswari AP(SG) Dr.L.Chitra AP(SG) Ms.R.L.Helen Catherine AP Ms.N.Krishnaveni AP Ms.K.Durgalakshmi AP Mr.M.Prabhuraj AP Mr.C.Kannan AP Mr.D.Saravanaraj TA Mr.K.M.Manu AP Mr.T.Anandkumar AP Ms.M.Sathyapriya TA Mr.V.Prabhu LA	DC chroma power source and PV syst training	SWELECT-MCET Centre Dr.MCET	18.06.2018
EEE	Dr.K.Umamaheswari AP(SG) Mr.B.Kishore AP(SS) Ms.K.Saranya AP	National Level Workshop On “Artificial Intelligent Techniques And Its Application In Medical Diagnosis”	Dr.MCET	13.07.2018 to 14.07.2018

	Mr.D.Gnanaprakasam AP Dr.G.Sophia Jasmine AP Mr.M.Prabhuraj AP			
EEE	Dr.L.Chitra AP(SG)	Training of Trainer	GCT, Coimbatore	06.08.2018 to 10.08.2018
EEE	Mr.B.Kishore AP(SS)	PALS - IITM Inauguration	IIT Madras	18.08.2018
EEE	Ms.J.S.Shiny AP	FDP on "Teaching Learning Process"	IIT Chennai	03.12.2018 to 05.12.2018
EEE	Mr.K.M.Manu AP	One Week Shot Term Training Course on Power Converter Design	National Institute of Technology, Karnataka	17.12.2018 to 21.12.2018
EEE	Dr.K.Umamaheswari AP(SG)	Regional Summit on Higher Education	Hotel Residency, Coimbatore	19.12.2018 to 20.12.2018

PROFESSIONAL SOCIETY / DEPARTMENT ASSOCIATION / GUEST LECTURES ORGANIZED:

Dept.	**Co-ordinator / Co-coordinator with Designation**	**Details of Program**	**Date**
EEE	Dr.K.Umamaheswari AP(SG) Dr.M.Balaji AP(SS)	Association inauguration with Guest Lecture	14.07.2018

PAPERS PRESENTED IN INTERNATIONAL CONFERENCE / SEMINAR / SYMPOSIUM / WORKSHOP BY STAFFS

Dept.	Name of the Author(s) with Designation	Title of the Paper Presented	Title of the Conference / Seminar	Conducted by	Conducted at (Venue)	Date(s) of Paper Presented	Proceedings page(s) nos.
EEE	Dr.B.Vinothkumar ASP/EEE	Analysis Of Biomarkers In Sweat And Its Comparative Study With Blood	International conference on Science & Technology, Engineering and Management 2018	Kumaraguru College of Technology	Kumaraguru College of Technology	10.06.2018	02

PAPER PUBLISHED IN INTERNATIONAL JOURNALS

Dept.	Name of the Author(s) with Designation	Title of the Paper	Title of the Journal	Volume	No	Page(s) No	Date (When Published)
EEE	Dr.L.Chitra AP(SG)/EEE R.Porkodi, Dr.M.Karpagam	Comparative Analysis of MPPT Based Two Input Boost Converter	Journal of Electrical engineering	18	2	145-153	June 2018
EEE	Mr.M.Saravanakumar AP	Design and Simulation of converter for	International Journal of Innovative	5	6	91 - 95	Dec 2018

	V.Abinaya, M.Manimozhi Final Year Students	improved performance in Switched Reluctance Motor	Research Technology				
EEE	Mr.M.Saravanakumar AP	Modeling and simulation of cost effective sensor less BLDC motor drive for Electric Vehicle Applications	International Journal of Trend in Scientific Research and Development	3	1		Dec 2018

BOOKS / MONOGRAPHS PUBLISHED:

Dept.	**Name of the Faculty (s) with Designation**	**Title of the Book**	**Name of the Publisher**	**Date of Publication / Year**	**Vol./No./Printed Pages**
EEE	Ms.K.Saranya AP Dr,B.Vinothkumar ASP	ASIC Implementation of Pezaris Multiplier in DIT FFT Architecture	LAMBERT Publication	Aug 2018	
EEE	Mr.B.Kishore AP(SS)	Certain Investigation Titles on the Segmentation of Colon and Removal of Opacified Fluid for Virtual Colonoscopy" - Chapter 6	Certain Investigation Titles on the Segmentation of Colon and Removal of Opacified Fluid for Virtual Colonoscopy: Medicine & Healthcare	Aug 2018	
EEE	Ms.K.Saranya AP	Braille Learning System using Raspberry Pi	GRIN	Sep 2018	52

PARTICIPATION OF MCET FACULTY AS RESOURCE PERSON

Dept.	Name of the Faculty with Designation	Title of the Programme	Details & Venue	Date
EEE	Dr.B.Vinothkumar ASP	ICMR Sponsored 2 Days National Level Workshop On "Artificial Intelligent Techniques And Its Application In Medical Diagnosis"	Dr.MCET	14.07.2018

PARTICIPATION IN SEMINAR / CONFERENCE / WORKSHOP / TRAINING ETC. BY THE STUDENTS

S.No	Student's Name	Branch and Department	Details of Event	Organizer and Place of program	Date
1	Anbarasu.S Kovarthanan.S Ram Kumar.S Sanjay.G Adhithya Mannan.M B Jeevan Kumar.M Ajith Bhaskar.X Vishnu.T Sarankumar.T Rahul.M	III EEE	VAC on "Design and Construction of SPV SYSTEMS (Module –VI)"	Dr.MCET	04.07.2018 to 18.07.2018

	Sakthivel.S Karthikeyan.S Santhoshkumar.M Arun Kumar.S Govarthini.S Abinaya.M Vinothini.R Mythili.K Dhivya.T				
2	S.Balaji V.Thiruvenkidu S.Yuvaraj K.S.Ajaysankar A.Saravana Prakash M.Rhithik Y.Subhasree R.Janeswari Soundharya.S A.Vinod Aswanth Krishna.S B.Dinaka Sundar Hrashavardhan R.Priveen Kumar Parthasarathi.M C.V.Karmughil P.Manohar J.Surya	II EEE	VAC on Hardware Modeling of Digital Circuits using Verilog in CADENCE EDA Tool"	Dr.MCET	14.07.2018 & 28.07.2018

	K.V.Naveen Kumar M.Selva Prasad Rajesh Krishnan.G S.Ravinath G.Sumithra Jayanandhini				
3	Mahalingam.K Anbarasu.S Kovarthanan.S Ram Kumar.S Sanjay.G Adhithya Mannan.M B Jeevan Kumar.M Ajith Bhaskar.X Vishnu.T Sarankumar.T Rahul.M Sakthivel.S Karthikeyan.S Santhoshkumar.M Arun Kumar.S Govarthini.S Abinaya.M Vinothini.R Mythili.K Dhivya.T	III EEE	Design and Construction of SPV System	Dr.MCET	04.07.2018 to 18.07.2018

PARTICIPATION IN SEMINAR / CONFERENCE / WORKSHOP / TRAINING ETC. BY THE STUDENTS

S.No	Student's Name	Branch and Department	Details of Event	Organizer and Place of program	Date
1	Asif Khan.Y Subha Sree J Vinod A Yuva Prasanth B Seshan Anthony F Janswari R Jayaraj A Saravanan V Ravinath Selva Prasad Praveen Rajesh Krishnan Parthasarathy	II EEE	International Workshop on ARDUINO in Robotics - IWAR 18	Coimbatore Institute of Technology , Lansa Informatics Pvt. Ltd., & Thick India	31.08.2018
2	Shobanadevi C Sharmila S	III EEE	Youth Zest V2.0	Youth Red Cross, Dr.MCET	28.09.2018 to 29.09.2018
3	Tharani N Shruthi R Shobanadevi C Sharmila S	III EEE	MOTIF	Coimbatore Institute of Technology, Coimbatore	29.09.2018
4	Sharmila S Shobanadevi C	III EEE	404 Error	Coimbatore Institute of Technology, Coimbatore	29.09.2018

5	Shobanadevi C Sharmila S	III EEE	VOLTA	Coimbatore Institute of Technology, Coimbatore	29.09.2018

INDUSTRIAL VISITS / TOUR

S. No	Dept.	Class	Place of Industrial Visit	Total No. of Students Visited	Date
1	EEE	II A	Enbest Pumps, Coimbatore	62	15.09.2018
2	EEE	II B	Enbest Pumps, Coimbatore	62	14.09.2018

INDUSTRY INSTITUTE PARTNERSHIP PROGRAMMES

Name of the Faculty with Designation	**Name of the Industry Visited**	**Purpose of Visit**	**Date of Visit**
Mr.B.Kishore AP(SS)	Schenider Technologies Bangalore Swaminathan G, Senior R & D Aum-Infotech, Mr Srinivas, Mr. Thirugnanam, Consultant Hinduja Global Solutions Mr Senthilkumar, HR iInterchange Systems,	SME Visit	13.07.2018 to 14.07.2018

	Anna Nagar, Chennai 1. Mr.Issac-Mathew, Head-Hr, Training & Admin, 2. Suresh Babu, HRM, Tevel Cyber Corps, Chennai Mr.Sathesh.T AM-Talent Acquisition, Photon Infotech, DLF Tech Park Chennai Ms.Yazhini HR-Campus hiring Ionixx Systems, Chennai Senthil Hr-Executive e-con systems, Guindy Industrial Estate, Chennai Ms. Archana. R Manager-Hr,	Placement And Internship	17.08.2018 to 18.08.2018

1INDUSTRIAL VISITS BY STAFFS PHASE I

Name of the Faculty with Designation	Name of the Industry Visited	Purpose of Visit	Date of Visit
Dr.A.Senthilkumar HoD/EEE Dr.M.Kaliamoorthy ASP/EEE Dr.B.Vinothkumar ASP/EEE Dr.J.Amudha ASP/EEE Dr.K.Umamahewari AP(SG)/EEE Mr.M.Saravanakumar AP/EEE Mr.K.M.Manu AP/EEE Mr.C.Kannan AP/EE	TVS Motors, Hossur	PBL SME meet	26.09.2018

PHASE II

Name of the Faculty with Designation	Name of the Industry Visited	Purpose of Visit	Date of Visit
Dr.A.Senthilkumar HoD/EEE Dr.B.Vinothkumar ASP/EEE Mr.M.Saravanakumar AP	TVS Motors, Hossur	Regarding the discussion with TVS Students Performance	19.12.2018 to 20.12.2018

RESEARCH AND DEVELOPMENT-CONSULTANCY

Dept.	Name of the Faculty (s)	Designation	Title of the Consultancy Work	Name of the organization / Firm/ Company	Amount	Period of Consultancy	
						From	To
EEE	Dr.L.Chitra Mr.D.Saravanaraj Mr.K.Karthi	AP(SG) TA LA	Energy Audit	M/s. Sri Iyyan Textile Mills Pvt Ltd, Coimbatore	Rs.4500	19.06.2018	
EEE	Dr.L.Chitra Mr.D.Saravanaraj Mr.K.Karthi	AP(SG) TA LA	Energy Audit	M/s. Sakthi Sugars Ltd (Soya Division), Pollachi	Rs.30000	23.06.2018	
EEE	Dr.L.Chitra Mr.D.Saravanaraj Mr.Y.Chrishtopher Michael Raj	AP(SG) TA LA	Energy Audit	Government Hospital, Pollachi	Rs.10000	26.06.2018	
EEE	Dr.L.Chitra Mr.G.Thirumoorthy Mr.Y.Christopher	AP(SG) LA LA	Energy Audit	Anusham Knitters, Pallladam	Rs.10000	10.07.2018	13.07.2018
EEE	Dr.L.Chitra Mr.D.Saravanaraj	AP(SG) TA	Energy Audit	Government Hospital, Pollachi		28.09.2018	
EEE	Dr.L.Chitra Mr.D.Saravanaraj	AP(SG) TA	Thermography Audit	Hindustan Petroleum Corporation Ltd, Coimbatore		13.10.18	
EEE	Dr.L.Chitra Mr.D.Saravanaraj	AP(SG) TA	Thermography Audit	Century Flour Mills		29.10.18	30.10.18

TECHNOLOGY UPDATES: PATENT

Name of the Faculty (s)	Title of Patent	Patenting Body	Year of Patent
Dr.J.Amudha ASP	Virtual Friend For Elderly	DST	2018

DETAILS OF RESEARCH ACTIVITIES / PAPER REVIEWED BY THE FACULTY

Dept.	Faculty name with Designation	Details of Paper Reviewed / Activities	Month of Work
EEE	Mr.B.Kishore AP(SS)/EEE	Now I Can See More Clearly- An Enhanced Image Quality Approach for Brain MR Images" for the journal " Current Medical Imaging Reviews	June 2018
		Triple-Negative Breast Cancer: What Crucial Information Can Imaging Add to the Diagnosis, Treatment and prognosis?" for the journal " Current Medical Imaging Reviews	
		Directivity improvement of microstrip antenna by inverse refraction metamaterial," for the journal "Journal of Engineering Research (JER)"	
EEE	Dr.M.Kaliamoorthy ASP/EEE	MPC based Voltage Sensing for Quasi Z-Source Cascaded Multilevel Inverter of PV system – Solar Energy	
EEE	Mr.B.Kishore AP(SS)	Hybrid Fuzzy Filter And Integer Wavelet Transform For Noise Diminution In Medical Image - journal Current Medical Imaging Reviews"	July 2018
		Towards Improved Lossless Compression for Mammogram Images using Differential Pulse Code Modulation - Journal Current Medical Imaging Reviews	
		Directivity improvement of micro strip antenna by inverse refraction math material, for Journal of Engineering Research	

		A Systematic Review of Energy Harvesting from Biomechanical Factors - Journal Biomedical Research- Allied Academies	
EEE	Mr.B.Kishore AP(SS)	Torsion of Wandering Spleen: Importance of Splenic Density and Liver-to-spleen attenuation ratio on CT for Current Medical Imaging Reviews "Prone Myocardial Perfusion Imaging and Breast Attenuation: a Phantom Study" for Current Medical Imaging Reviews A Broadband Circularly Polarized Substrate Integrated Antenna with Dual Magnetoelectric Dipoles coupled by Crossing Elliptical Slots" for the 2018 18th IEEE International Conference on Communication Technology, China	Aug 2018

AWARDS RECEIVED

Dept	Name of the Faculty (s)	Designation	Title of Award	Award by (Name of the Organization)	Date of awards received
EEE	Mr.M.Prabhuraj Mr.D.Saravanaraj	AP TA	2nd Runner up in Solar Skill Competition 2018	REI Expo in association with GERMI and UBM at India Expo Mart, Greater Noida	19.09.2018

NAME AND ADDRESS OF IMPORTANT VISITORS

S. No	Name of the Visitors	Purpose	Date of Visit
1	Mr.Arulmurugan R & D manager SWELECT	DC chroma power source and PV system training	18.06.2018
2	Mr.P.Srinivasa Ragavan TVS Motors	PBL Course Development Meeting	25.06.2018 to 26.06.2018
1	Mr.Kasi Viswanath Mr.Manoj	Regarding SURYAMITRA	19.07.2018
3	Mr.M.G.Easwar	General Visit	30.07.2018
4	Dr. U. S. Raghupathy Prof & Head, Electronics and Instrumentation Engineering, Kongu Engineering College, Perundurai Dr. S. Mohamed Mansoor Roomi, Department of Electronics and Communication Engineering, Thiyagarajar College of Engineering, Madurai Mr. Raghesh Krishnan K, Assistant Professor(Sr), Department of Computer Science and Engineering, Amrita School of Engineering,	ICMR Sponsored 2 Days National Level Workshop On “Artificial Intelligent Techniques And Its Application In Medical Diagnosis”	13.07.2018 & 14.07.2018

	Amrita Vishwa Vidyapeetham,		
5	Dr.Saravanakumar Thangaraj Sr. Manager Schneider Electric Ltd., Bangalore	AVERA Inauguration	14.07.2018
6	Dr.P.Somasundaram Associate Professor, Department of EEE, College of Engineering, Guindy , Anna University, Chennai.	8th BOS Meeting	03.11.2018
7	Dr.VasanthaRathna Professor and HoD Department of EEE, Coimbatore Institute of Technology, Coimbatore.		
8	Dr.P.Rajkumar Project Manager, Robert Bosch Engineering andBusiness Solutions Limited, Coimbatore- 641 035		
9	Er. Shankar Balaji Assistant Manager, Senior Software Engineer Robert Bosch Engineering and Business Solutions Limited ,Coimbatore.		

IMPORTANT VISITORS FROM INDUSTRY

S. No	Name of the Visitors	Purpose	Date of Visit
10	Mr.K.Arumugam DGM, Kone Elevators Chennai	STEP –II program for II year circuit stream students	29.12.2018
11	Mr.K.Shemmozhi Pandian Lead- Safety Systems Engineer, Silvertech Middle East		
12	Mr.Nagaraj CEO, Latha Infotech, Coimbatore		

AVERA TEAM 2K18-2K19

S.NO	POSTING	NAME OF THE STUDENT	YEAR
1.	PRESIDENT	K. PRASANNAH EZHILAN	IV Yr
2.	SECRETARY	KANNAMMAI.S.M	
3.	VICE PRESIDENT	V. LOGANATHASANJEEV	III Yr
4.	JOINT SECRETARY	VAISHANAVI. S	
		NAVEEN KUMAR. S	
6.	TREASURER	NIVETHA. R	IV Yr
7.	JOINT TREASURER	AGILA. R	III Yr
8.	OFFICE BEARERS	S. RAM KUMAR V. POOVITHA	IV Yr
		AKSHAY S SHAJI HARSHINI PREETHI S P YOGESHWARAN G KOWSALYA DEVI S SHARMILA M RAVI RAHUL	III Yr
		N SHANMUGHA PRIYA K. ARAVINTH A CHANDRU	II Yr
9.	NEWSLETTER EDITORIAL MEMBERS	S. HARIPRASAD	IV Yr
		M. PRIYADHARSHINI U. N. THENMOZHI R SHRUTHI R. HARSHAVARTHINI	III Yr
		K. S. ABINAYA	II Yr

Programme Educational Objectives (PEOs)	
PEO1. Technical Expertise	Actively apply technical and professional skills in engineering practices to face industrial challenges around the globe.
PEO2. Lifelong Learning	Own their professional and personal development by continuous learning and apply to create new knowledge.
PEO3. Ethical Knowledge	Conduct themselves in a responsible, professional and ethical manner supporting sustainable economic development which enhances the quality of life.
Programme Outcomes (POs)	
PO1. Engineering Knowledge	Apply the knowledge of Mathematics, Science and Engineering to solve problems in the field of Electrical and Electronics Engineering.
PO2. Problem Analysis	Identify, formulate/model, analyze and solve complex problems in the field of Electrical and Electronics Engineering.
PO3. Design/ Development of Solutions	Design an Electrical/Electronic System/Component or Process to meet specific purpose with due consideration for economic, environmental, social, political, ethical, health and safety issues.
PO4. Conduct Investigations of Complex Problems	Design and conduct experiment, analyze and interpret data to provide valid conclusions in the field of Electrical and Electronics Engineering.
PO5. Modern Tool Usage	Apply appropriate techniques and modern tools for design and analysis of Electrical/Electronic systems with specified constraints.
PO6. Engineer & Society	Apply contextual knowledge to provide engineering solutions with societal, professional & environmental responsibilities.
PO7. Environment & Sustainability	Provide sustainable solutions within societal and environmental contexts for problems related to Electrical and Electronics Engineering.
PO8. Ethics	Comply with code of conduct and professional ethics in engineering practices.
PO9. Individual & Team Work	Work effectively as an individual or as a member/leader in multi-disciplinary team to find solutions for engineering problems.
PO10. Communication	Communicate effectively to engineering community and society with proper aids and document.
PO11. Project Management & Finance	Demonstrate knowledge and understanding of the engineering and management principles to manage projects in multidisciplinary environment.
PO12. Lifelong Learning	Recognize the need for, and have the ability to engage in independent and lifelong learning.
Programme Specific Outcomes (PSOs)	
PSO1. Design and Analysis	Design and analyze systems associated with industrial control, power and automotive industries.
PSO2. Competency in Technology	Develop products to cater the societal and industrial needs considering recent technological developments in Electrical and Electronics Engineering.

AVERA

PULSE NEWSLETTER

Sincere thanks to

Editorial team: Akshay S Shaji
M Sheik Badusha
C Akilan

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R Sruthi
R Harshavarthini
U N Thenmozhi
G Kowsalya