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COLLEGE

Vision of the Institute

To be one of the nation's premier Institutions for Technical and Management Education and a key contributor for Technological and Socio-economic Development of the Nation.

Mission of the Institute

To produce technically competent Engineers and Managers by maintaining high academic standards, world class infrastructure and core instructions.

To enhance innovative skills and multi disciplinary approach of students through well experienced faculty and industry interactions.

To inculcate global perspective and attitude of students to face real world challenges by developing leadership qualities, lifelong learning abilities and ethical values.

EEE Department

Vision of the Department

To impart knowledge in the field of Electrical and Electronics Engineering to meet the technical challenges of industry and society with strong innovative skills, leadership qualities and ethics.

Mission of the Department

To provide standard training and effective teaching learning process to the students by using the state-of-the-art laboratories, core instruction and efficient faculty.

To enhance competent, innovative and technical skills amongst the students through training programs by industry and external participation.

To inculcate leadership qualities, ethical values and lifelong learning skills in learners to serve the society and nation for overall development through value based education.

Program Educational Objectives (PEOs)

Programme Educational Objectives (PEOs) of B.Tech (Electrical and Electronics Engineering) program are: Within few years of graduation, the graduates will

PEO-1: To solve composite problems using mathematics, basic sciences and engineering principles in the domains of testing, design and manufacturing.

PEO-2: To achieve higher positions in their profession by demonstrating leadership qualities, research and innovative abilities.

PEO-3: To contribute in the field of Electrical and Electronics Engineering to finding solutions for societal problems through their lifelong learning skills and ethical values.

Program Outcomes (POs)

PO-1 : Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO-2 : Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO-3 : Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO-4 : Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO-5 : Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO-6 : The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO-7 : Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO-8 : Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO-9 : Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO-10 : Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO-11 : Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO-12 : Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PSOs of the Department

On completion of the B.Tech. (Electrical and Electronics Engineering) degree, the graduates will be able to

PSO-1: Provide alternate solutions to address the problems with specific requirements in the field of Electrical and Electronics Engineering.

PSO-2: be ready to work professionally in relevant industries like power systems, control systems and software industries.

Value Added Course – "IoT with Aurdiuno and Cloud"

A value added course on "IoT with Aurdiuno and Cloud" was conducted by the Department of Electrical & Electronics Engineering for the students of Second Year from 26th Dec 2022 to 31st Dec 2022 in association with Pantech e-learning, Chennai.The objectives of the course were to introduce the students to the core concepts of Internet of Things (IoT), make them understand the building blocks & characteristics of IoT and to explain the role & scope of smart sensors for ensuring convergence of technologies.

The course covered various topics starting from the basics of IoT, different operating systems used on IoT, basics of the different programming languages related to IoT and more. The students were also given hands on training during the practical sessions, where the students experienced and understood how to use the different boards such as Raspberry Pi and Intel Edison Boards. The students also performed simple programs using different components and sensors during the practical session.

The internet of things (IoT) is connecting the devices and tools to the internet network to be controlled by websites and smart phone applications remotely, also, to control tools and instruments by codes and algorithms structures for artificial intelligence issues. In case we want to create advanced systems using python algorithms, Wi-Fi or Ethernet connection is connected to our tools, equipment, and devices controlling them by smart phone applications or internet websites. That's actually the simplified definition of IoT. Further than just using the IoT as a smart home to operate lamps or other home-use devices, it can be used as a security system or an industrial-use system, for example, to open or close the main building gate, to operate full automatic industrial machine, or even to control internet and communication ports.

Machine Learning Applications in Electrical Engineering

On 22nd of September, 2022 Narayana engineering college, nellore organized a guest lecture on "Machine Learning Applications in Electrical Engineering". Lecture was conducted by Sk.Masumsattar, Data Scientist,HP Bangalore. He started his lecture Machine learning is a great concept in which the machine will have the ability to learn things without being explicitly programmed.

He explained how machine learning can be used in electrical field. he explained how some domain or field in electrical engineering can apply machine learning concepts.

he speaker gave an extremely insightful lecture on the importance of Speed Control Of Motor Using Machine Learning model to control the speed of the motor in both forward and reverse rotation with regenerative braking. mart Grid Using Machine Learning model will be handled automatically whenever fault occurs. Battery Management Using Machine Learning model will monitor and control the battery state of charge, voltage, temperature, etc.. Home Automation Using Machine Learning model can be used to take decisions smartly when to turn on the heater, when to open the door, when to turn on the TV, etc. Faults in transmission lines and distribution lines are very common, here machine learning algorithms can help to find the spot where the fault has occurred. Also discussed about Autonomous Vehicle Using Machine Learning and Control System Using Machine Learning.

Value Added Course – EMBEDDED ROBOTICS

The department of Electrical & Electronics Engineering has organized a value added course on "Embedded Robotics" for III B.Tech EEE students from 21st Nov to 26th Nov 2022. Mr. R. Vikas Reddy, Managing Director, Technotron Electronic Solutions, Nellore, one of the resource persons for the value added course. The course was started on 21st Nov 2022 at 9:30 am in EEE Seminar Hall with an inauguration function followed by the session.

The resource person has explained about Embedded systems & Robotics as follows:

A system which is programmed to control and operate a specific functions within a mechanical or electrical system in real-time, such a system is an known as embedded system. Most of the microprocessors are resulting components of embedded systems. A device developed from embedded systems technology has low power consumption, smaller size and high operating ranges. These characteristics are the reasons why embedded systems is finding its way in every industry based on electronics and thus, creating endless application for its usage as a significant technology.

For high precision jobs and under dangerous working conditions for humans the world is now taking advantage of robotic application and technology. A robotic application has primarily three main components:• Mechanical device, to interact with surroundings. • Sensors

• Embedded System, to bridge the communication between the mechanical devices and sensors. With the wide of use of robotics application and advancement of technology around the globe, it is important for humans to acknowledge the Asimov's Three Laws of Robotics which are as follows: • Robots are the result of human intelligence; thus, they must not harm humans.

• They should be programmed to follow commands and must be precise in their completion of task.

• Robots must have the intelligence to protect themselves in situations of emergency.

Thus, we can understand that a mechanical device which has the ability to react to a situation logically by using the intelligence programmed in it by humans can be classified as a robot.

Dr G. Venkateswarlu, HOD of EEE Department have felicitated the resource persons in valedictory function i. e, on 26th Nov 2022 and motivated the students that to develop innovative products with effective use of Robotic technology to enhance their knowledge.
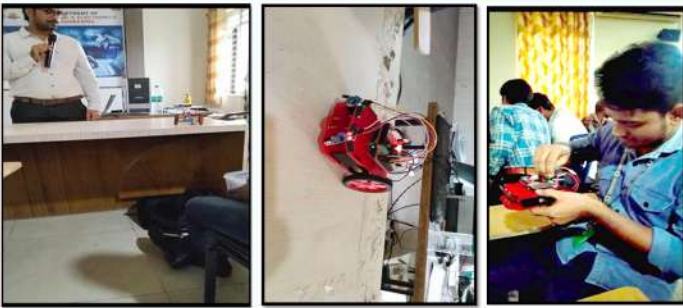
SEMINAR ON POWER MANAGEMENT USING PLC & SCADA

USING PLC & SCADA in association with Sri SK. Amenuddin, Field Operation Manager, ETCAM Institute of EEE Engineers,, Nellore at the Edison auditorium, Narayana Engineering College, SPSR Nellore on Thursday, 18th August, 2022.

Dr. G. Venkateswarlu, HOD, Dept.of EEE, welcomed the students and given introduction on the programme. The number of Students attended the seminar is 106. This programme was conducted with the help of Faculty member. The Resource person of the Seminar was SK. Amenuddin, Field Operation Manager, ETCAM Institute of EEE Engineers, Nellore. The topics covered are:

• Discussed about Power Management
• How to implement PLC & SCADA in Power Management
• Tools importance and coding for PLC & SCADA

Before concluding, Head of the Department Dr G. Venkateswarlu expressed his sincere appreciation to the Speaker Sri SK.Amenuddin, Field Operation Manager who has elevated the occasion with their presence. Students were also satisfied with this Technical Talk and given their positive feedback.

Industrial Visit

It is bring to your kind notice that II B.Tech EEE students was visited 33/11KV Substation, Haranathapuram, Nellore. About 30 members students along with 3 staff members on 08/07/2022.

The Site Engineer was given complete demo about the basic substation configuration and components:

First Students were entered into the 33/11KV Transformer, the site engineer explain clearly about the working and construction of Transformer and its specifications. Later, he explained how the electrical energy transfer to one circuit to another circuit without change of frequency into busbars.

After that students were entered into circuit breaker section, where the breaker operate in substation. In this area the site engineer explained about the contacts of relay working and circuit breaker working.

Finally the students were entered into the Surge arrester. Their they had learn to how the surge arrester working.

Finally the students were entered into the surege arrester. Their they had learn to how the surge arrester working.

The Engineer explained with clarity about each and every equipment and also cleared all our doubts. Really we should thank our college management and plant management for giving as permission to visit such a 33/11KV Substation by this visit we gained lot of practical knowledge, it is very useful to us through this practical view we can remember this subject for long time.