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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.

### 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.

### ONE WEEK ONLINE FACULTY DEVELOPMENT PROGRAMME ON “KEY ISSUES AND CHALLENGES IN SMART GRID TECHNOLOGY”

A one week Faculty Development Programme on “KEY ISSUES AND CHALLENGES IN SMART GRID TECHNOLOGY” was organized by Department of Electrical & Electronics Engineering at Narayana Engineering College, Nellore, from 04<sup>th</sup> to 09<sup>th</sup> Jan 2021, in online mode using ZOOM app.

The Resources persons of this Programme, was Dr. S Ravindra, Professor in Department of EEE,VVIT, Guntur and Dr. T. Rama Rao, Professor in Department of EEE, BV Raju Engineering College, Bhemavaram., 43 faculty members attended this program, out of this 21 members were from dept. of EEE and 22 members were from other colleges.

On Day-1 in the morning session, the FDP begins with Registration & Inauguration, after a break the resource person started with introduction of the program objectives to the participants. Afternoon session covered the Introduction to Smart Grid Applications in power System.

On Day-2&3 the Resource person Dr. S Ravindra discussed about the What is Key Issues And Challenges In Smart Grid. Speaker also explained about the What Is Prompting Smart Grid Development.



During Day-4&5 Dr. T. Rama Rao discussed on. Inadequate grid infrastructure, low metering efficiency , Solutions To Overcome Barrier In Implementation are the major concern of this FDP.

Also discussed about Barriers in Implementation of Smart Grid, Solutions to Overcome Barrier in Implementation and How to Achieving Greater Efficiency In Energy Delivery On the Last day of the Programme Resource person has discussed about The Key Issues occur in implementation of Smart Grid in Indian power sector specially transmission and distribution poses a number of issues such as minimizing T&D losses, power theft, inadequate grid infrastructure, low metering efficiency and lack of awareness are the major concern of this FDP

All the participants have appreciated the department for organizing the FDP. Program was ended with vote of thanks by Dr. B AKHIB KHAN, Assoc. Prof. EEE Dept. & Coordinator of the FDP. At the end of the valedictory program, certificates were distributed to the participants.

### ONE WEEK ONLINE FDP MICRO GRID APPLICATIONS TO RENEWABLE ENERGY RESOURCES

A one week Faculty Development Programme on “MICRO GRID APPLICATIONS TO RENEWABLE ENERGY RESOURCES” was organized by Department of Electrical & Electronics Engineering at Narayana Engineering College, Nellore, from 06<sup>th</sup> to 10<sup>th</sup> Apr 2021, in Edison Auditorium.

The Resources persons of this Programme, was Dr. k Baskar, Professor in Department of EEE, VELTEH University Chennai. and Dr. k. Sreenivas, SE APTRANSCO, Ongole, 40 faculty members attended this program, out of this 20 members were from dept. of EEE and 20 members were from other colleges.

On Day-1 in the morning session, the FDP begins with Registration & Inauguration, after a break the resource person started with introduction of the program objectives to the participants. Afternoon session covered the Introduction to Micro Grid Applications in power System.



DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

On Day-2 & 3 the Resource person Dr. S Ravindra discussed about the What is Key Issues And Challenges In Micro Grid. Speaker also explained about the What Is Prompting Micro Grid Development.

During Day-4&5 Dr. k. Sreenivas discussed on. Inadequate grid infrastructure, low metering efficiency , Solutions To Overcome Barrier In Implementation are the major concern of this FDP.

Also discussed about Barriers In Implementation Of Smart Grid, Solutions To Overcome Barrier In Implementation and How to Achieving Greater Efficiency In Energy Delivery

### AN AWARENESS PROGRAM ON SAFETY MEASURES IN THE LABORATORIES

The Programme Resource person has discussed about the Key Issues occur in implementation of Micro Grid in Indian power sector specially transmission and distribution poses a number of issues such as minimizing T&D losses, power theft, inadequate grid infrastructure, low metering efficiency and lack of awareness are the major concern of this FDP All the participants have appreciated the department for organizing the FDP. Program was ended with vote of thanks by Dr. B AKHIB KHAN, Assoc. Prof. EEE Dept. & Coordinator of the FDP. At the end of the valedictory program, certificates were distributed to the participants.



### AN AWARENESS PROGRAM ON SAFETY MEASURES IN THE LABORATORIES (FOR LAB TECHNICIANS)

The Department of EEE has conducted an Awareness Program An awareness program “Safety Measures in the Laboratories” (For Lab Technicians) on 19<sup>th</sup> Feb, 2021 at Edison Auditorium in Faraday Block, NECN, Nellore. Total Non-Teaching staff attended this program was 11. Resource Person was Mr. K.V. KISHORE, Associate Professor in Department of EEE, Narayana Engineering College, SPSR Nellore.

Resource Person Mr.K.V. KISHORE explained Introduction of Safety Measures in the Laboratories, what is need of safety in lab, what are the Types of faults accord in the Laboratories, he explained about what are the measures taken to clear the faults.



Mr. KV. KISHORE, the resource person is delivering the lecture. This program was considered highly useful for Lab Technicians in their day to day working in labs. Dr. G. Venkateswarlu, HOD of Dept. EEE, Convener of the Program has encapsulated the outcome of the Program and concluded the program with a vote of thanks.

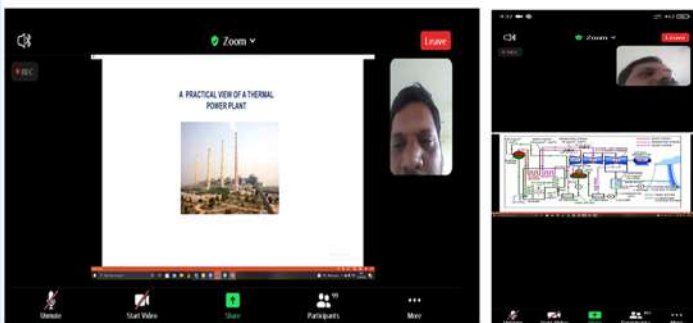
### GUEST LECTURE ON MODREN TRENDS IN SUBSTATION

On 22/4/2021 Narayana engineering college, Nellore EEE Department Organized a Guest lecture on "MODREN TRENDS IN SUBSTATION". The session was conducted through online mode by using zoom app and the resource person of the program is T.Venkateswarlu, Assistant Engineer, APSPDCL, Nellore. In this lecture they discussed about today most of the electricity produced throughout the world is from steam power plants. However, electricity is being produced by some other power generation sources such as hydropower, gas power, bio-gas power, solar cells, etc. One newly developed method of electricity generation is the Magneto hydro dynamic power plant.

This paper deals with steam cycles used in power plants. Thermodynamic analysis of the Rankine cycle has been undertaken to enhance the efficiency and reliability of steam power plants.

The thermodynamic deviations resulting in non-ideal or irreversible functioning of various steam power plant components have been identified.

A comparative study between the Carnot cycle and Rankine cycle efficiency has been analyzed resulting in the introduction of regeneration in the Rankine cycle. Factors affecting efficiency of the Rankine cycle have been identified and analyzed for improved working of thermal power plants.



### GUEST LECTURE ON CHOPPERS AND REGULATORS

On 20/1/2021 Narayana engineering college, Nellore EEE Department Organized a Guest lecture on "CHOPPERS AND REGULATORS". The session was conducted by our college Alumni Mr. SHAURYA SABHARWAL, Asst.engineer Hitachi Hi-Rel Power Electronics, Bangalore, Karnataka-560010. In this session they discussed about DC-TO-DC converters and the DC-TO-DC converter products are used extensively for diverse applications in the healthcare (bio-life science, dental, imaging, laboratory, medical), communications, computing, storage, business systems, test and measurement, instrumentation, and industrial equipment industries. They are used in electric motor drives, in switch mode power supplies (SMPS), trolley cars, battery operated vehicles, traction motor control, control of large number of d.c. motors, etc. They are also used as d.c. voltage regulators. Total 100 Students are participated in this program.

This program was co-ordinate with the help of 2 Faculty members.



### WORKSHOP ON ADVANCED MACHINES

The workshop was organized on 12<sup>th</sup> january 2021 at 10:30 am in Faraday's Block by D.S Pradeep Kuamr Sharma, Manager BHEL, Bangalore. The main Moto to organize this lecturer to increase the knowledge on Advanced machines at respective departments, its importance in getting a good jobin private sectors . Total of 40 students from 2<sup>nd</sup> year participated in this workshop.

The Resource person of the workshop was D.S Pradeep Kuamr Sharma, 2010 passed out student. He was selected for Manager BHEL, Bangalore

