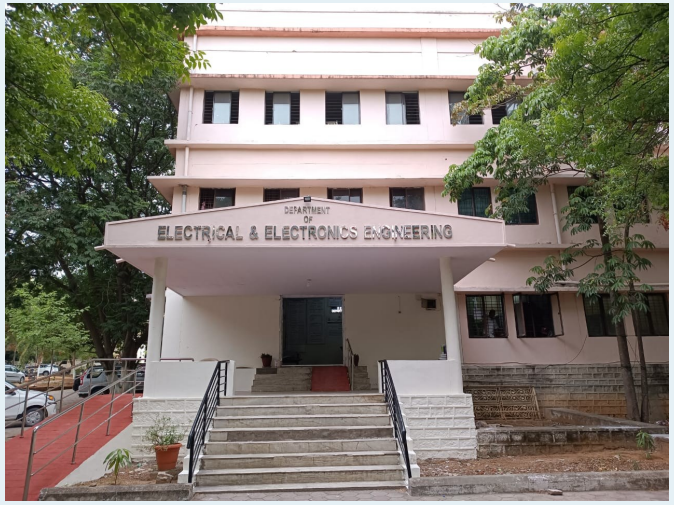
ABOUT DEPARTMENT OF EEE, JNTUH UCESTH:

This department at JNTUH College of Engineering Hyderabad is established to impart state-of the- art education, training and research in the field of Electrical and Electronics Engineering and allied areas. It offers B.Tech, M.Tech and Ph.D Programme in the domain of Electrical and Electronics Engineering. The expertise of the faculty members includes Power Systems, Power Electronics and Drives, Control and Instrumentation and other frontier areas.



OBJECTIVES OF THE WORKSHOP:

The objective of this workshop is to introduce photovoltaic (PV) systems from basic operation to grid integration, while building practical skills in modeling, power converters, MPPT techniques, and inverter control using MATLAB. It also aims to prepare participants to handle real-world challenges and design efficient solar energy systems.

ABOUT JNTUH UCESTH:

The Nagarjunasagar Engineering College was established in the year 1965 and taken into the control of Jawaharlal Nehru Technological University Hyderabad, which was established in the 1972 and renamed the college as JNTUH College of Engineering since then. In the year 2024, it is again renamed as JNTUH University College of Engineering Science and Technology (JNTUH UCESTH) to promote multi disciplinary and holistic education.

The college activities are observed and supported by the budgetary allocations from the State Government. Specific grants from various funding agencies such as UGC, MHRD, AICTE, DST, DRDO are also sought from time to time for the development of the college. The college has received funds from Technical Education Quality Improvement Program (TEQIP) - A World Bank-Aided Project. The college celebrated its Silver Jubilee mark in 1990. The infrastructure development in the past two decades in the college has been substantial. Presently the college has eight Engineering Departments viz Civil Engineering, Electrical & Electronics Engineering, Mechanical Engineering, Electronics & Communication Engineering, Computer Science Engineering, "Metallurgical Engineering and Chemical Engineering and four Sciences and Humanities Departments (Maths, Physics, Chemistry and HSS).

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

JNTUH UNIVERSITY COLLEGE OF ENGINEERING SCIENCE AND TECHNOLOGY HYDERABAD

KUKATPALLY, HYDERABAD — 500085

organizes

A FIVE DAY WORKSHOP ON

GRID CONNECTED SOLAR PHOTOVOLTAIC SYSTEMS

from

8th **to** *12th* **of June** *2026*

in collaboration with

IEEE PES/PELS/IAS Hyderabad Section Joint Chapter

(CH*10103*)

MathWorks®

HEAD OF THE DEPARTMENT:

Dr. K. H. Phani Shree

Professor & Head of EEE, JNTUH UCESTH

COORDINATOR:

Mr. P. Venkata Narayana

Associate Professor of EEE, JNTUH UCESTH

RESOURCE PERSON:

Dr. Naga Brahmendra Yadav Gorla
Assistant Professor of EEE, IIT Palakkad

WHO CAN ATTEND?

- B.Tech final year students who are working on projects related to renewable energy systems and ntegration to grid.
- M.Tech students having interest in power electronics.
- Professionals who want to broaden their knowledge in grid-connected photovoltaic systems.

TOPICS TO BE DISCUSSED:

Day 1: PV Systems
- Solar spectrum, pn junction, PV cell basics
- I–V, P–V characteristics & modeling
- Effect of insolation & temperature
- Cells -Modules -Arrays
- Partial shading & protection (bypass diodes)
- MATLAB: PV modeling & characteristics

Day 2: PV Optimizers & MPPT
- DC-DC boost converter (steady-state & dynamic)
- Duty cycle vs output relation
- MPPT algorithms (P&O, Incremental Conductance)
- MATLAB: Boost converter & MPPT

Day 3: Grid Inverters
- Inverter types & models (switching vs average)
- α-β and d-q reference frames
- Current & voltage control (two-loop control)
- PLL for grid synchronization
- MATLAB: Controllers & PLL

Day 4: Transformerless Inverters
- Common-mode voltage & leakage current
- HERIC & H5 topologies
- Unipolar vs bipolar PWM
- MATLAB: Inverter implementations

Day 5: Hardware Implementation

REGISTRATION QR:

- Workshop will be conducted through Offline Mode only.
- Meritorious Performers will receive further mentorship and guidance
- Registration Fee of 2800/-
- Limited Seats of 50 only to be allotted on a first come-first serve basis

REQUIREMENTS:

- Laptop with good specifications is mandatory.
- Introduction Course on Power Electronics
- Introduction Course on Control Systems

DATES TO REMEMBER:

- Last date for registration:

5th **of June** *2026*

- Workshop Dates:

8th **to** *12th* **of June** *2026*

VENUE:

Golden Jubilee Conference Hall, JNTUH

CONTACT US:

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Phone Number: +91 98665 01034

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OFFLINE REGISTRATION FORM

NAME:

DESIGNATION:

DEPARTMENT:

COLLEGE/INDUSTRY:

PHONE NUMBER:

DATE: **SIGNATURE**