



Bhoj Reddy Engineering College for Women

Sponsored by Sangam Laxmibai Vidyapeet, Approved by AICTE and Affiliated to JNTUH)

Accredited by NAAC with A Grade, Recognized under section 2(f) of the UGC act, 1956

Vinaynagar, I S Sadan X Roads, Saidabad, Hyderabad - 500 059, Telangana

Telephone: 040-2453 1725/7282, Email: principal@brecw.ac.in, Website: www.brecw.ac.in



25 February 2026

Report on two-day workshop on “Design & Development of Solar Photovoltaic System”

The Department of Electrical and Electronics Engineering organized a two-day workshop on “Design & Development of Solar Photovoltaic System” for II B.Tech EEE students on 23rd and 24th February 2026. The workshop was conducted by Greenvion Energy Technologies, Hyderabad, with the objective of enhancing students’ practical knowledge in the field of solar energy systems.

A total of 56 students actively participated in the program. The sessions were scheduled from 09:30 AM to 04:30 PM on both days. The workshop covered fundamental concepts of solar energy, components of solar PV systems, system design considerations, sizing of panels & inverters, installation practices and performance analysis.



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Department of Electrical and Electronics Engineering

Under Internal Quality Assurance Cell

Organizing

Two-day Workshop

On

Design & Development of Solar Photovoltaic System

in Collaboration with M/s Greenvion Energy Technologies, Hyderabad

For II BTech EEE Students

Date : 23-24 February 2026
Time : 09:30Hrs to 16:30Hrs
Venue : Theory Session NB G06 &
Hands-on Solar panels at North Block Rooftop

Figure 1: Banner



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File No: BRECW/EEE/AY2025-26/Workshop/107

Date: 23/02/2026

CIRCULAR

All the II B Tech EEE students and staff are hereby informed that the EEE Department is conducting a two-day workshop on "Design & Development of Solar Photovoltaic System" under the Internal Quality Assurance Cell (IQAC) for II B Tech EEE students during 23-24 February 2026. The workshop is scheduled between 09:30 and 16:30 Hrs.

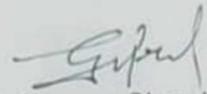
All students will be attending the workshop. This workshop will be conducted by M/s Greenvion Energy Technologies, Hyderabad.

The schedule of the workshop is as follows:

S No	Class	Date and Time (Hrs)	Venue
1	2	3	4
1	II Btech EEE	23 February 2026 & 09:30 – 16:30	II EEE Class Room, Room No: NB G06 (Inauguration & Theory Session)
		24 February 2026 & 09:30 – 16:30	Hands-on session on solar panels at North Block rooftop

Note:

- 1) The faculty who are handling II EEE should mark the attendance as per the timetable on these respective dates.
- 2) All the EEE teaching and non-teaching faculty who do not have class work are requested to attend the Inaugural session of this workshop on 23 February 2026 at NB G06 at 09:30 am


Dr G Shyama Chandra Prasad
Principal

PRINCIPAL
Bhoj Reddy Engineering College for Women
Vinaynagar, Santoshnagar Cross Roads,
Hyderabad-500 059, Telangana

To,
EEE- HoD

Copy to

1. Chief Operating Officer, SLV
2. Director-HR & Academics, SLV
3. Vice Principal, BRECW
4. IQAC Coordinator
5. Seminar & Workshop Coordinator
6. Maintenance Officer, BRECW
7. Security Supervisor
8. Notice Board
9. File

Figure 2 : Circular

The day-wise schedule of the two-day workshop is given below:

S No	Topics	Time
Day 1		
1	World Energy scenario National Energy Scenario <ul style="list-style-type: none"> . Types of energy's . Conventional . <u>Non conventional</u> sources of energy 	11:15AM to 12:30PM
LUNCH BREAK 12:30PM TO 1:30PM		
2	Introduction to solar energy <ul style="list-style-type: none"> . Solar Thermal . Solar Photo voltaic EnergySolar radiation <ul style="list-style-type: none"> . Sun & Earth moment . Sun tracking . Solar irradiation Industrial manufacturing process of solar cells & classification of solar cells <ul style="list-style-type: none"> . Efficiency of solar cells and modules . String and <u>array's</u> of SPV modules . Finding fill factor of SPV Modules 	1:30PM to 3:00PM
3	Types of solar photovoltaic systems <ul style="list-style-type: none"> . <u>Stand alone</u> PV system . Hybrid PV system . Grid connected PV system . Off Grid PV system 	3:00 PM to 4:30 PM

S No	Topics	Time
Day 2		
1	Designing of solar photovoltaic systems with real time calc & case study	09:30 AM to 11:00 AM
2	<u>Practical's</u> on measuring PV module specifications <ul style="list-style-type: none"> . Measuring <u>V_{oc}</u>, V_{max} . Measuring <u>I_{sc}</u>, I_{max} . Finding efficiency of SPV module . Measuring incoming solar radiation (<u>P_{in}</u>) 	11:00 AM to 12:30PM
LUNCH BREAK 12:30PM TO 1:30PM		
	Factors effecting electricity generated by solar PV module <ul style="list-style-type: none"> . Effect of conversion efficiency . Change in the amount of input light (<u>P_{in}</u>) . Effect of change in PV module temperature . Change in PV module area (<u>A</u>) change in angle of light falling on PV module Factors on environmental impact on PV modules and solar power plant <ul style="list-style-type: none"> . Dust conditions on PV module & finding efficiency . Rain condition on PV module & finding efficiency . Different temperatures on PV module and finding efficiency <u>Practical's</u> on Series and Parallel connections of SPV modules <ul style="list-style-type: none"> . Dust conditions on PV module & finding efficiency . Rain condition on PV module & finding efficiency . Different temperatures on PV module and finding efficiency 	1:30 PM to 4:30 PM

Figure 3: Two day Schedule

The first day (23 February 2026) started with an inaugural function. Inaugural function was attended by the resource person Mr B Purushotham Chary, Manager M/s Greenvion Energy Technologies, Hyderabad.; HOD-EEE Dr S Asha Kiranmai, Workshop in-charge Mrs. R Manju Bhargavi, EEE staff , II B.Tech EEE students.

Solar PV systems have become increasingly popular in recent years due to their ability to generate clean energy and reduce reliance on fossil fuels. However, designing an efficient and effective solar PV system requires careful planning and attention to detail.

In the forenoon session of workshop, students learnt the designing a solar PV system, which is to determine the energy requirements of the building or facility where the system will be installed. This involves calculating the energy consumption of the building, including the lighting, heating, and cooling systems, as well as any other electrical appliances.



Figure 4 : Photos during Inauguration session

Afternoon session of the workshop was dealt with the basics of the Present Energy Scenario in India Types of PV systems, Power and energy calculation. The afternoon session was on Components of solar Photo-Voltaic system, Load analysis, Component selection, battery safety, Voltage drops, controllers, commissioning procedures. Then learnt to select the components for the solar PV system. This includes selecting the solar panels, inverters, batteries and other components required the system to function. The selection of components should be based on the energy requirements of the building, the site analysis and the available budget. System Design involves determining the number of panels, the configuration of the panels and the sizing of the other components to ensure that the system can meet the energy requirements. The design should also take into account any shading or other factors that may affect the performance of the system.



Figure 5: Resource person Mr B Purushotham Chary during the sessions

On the second day (24 February 2026) of the workshop, the forenoon session commenced with a detailed discussion on the financial analysis of Solar Photovoltaic (PV) systems, including cost estimation, payback period, and return on investment. This was followed by a technical session on the installation process of a solar PV system, covering panel mounting techniques, electrical connections, inverter integration, and system testing procedures to ensure proper operation. Emphasis was laid on the importance of carrying out installation through qualified professionals to guarantee safety, reliability, and compliance with standards.

The afternoon session was devoted to hands-on practical training. Students learned that regular maintenance is crucial for sustaining the efficiency and longevity of a solar PV system. The session covered routine inspections, cleaning of panels, checking electrical connections, and timely replacement of components when required. For effective learning, the students were divided into ten groups, and practical experiments were conducted on solar panels. Each group analyzed a solar photovoltaic module and calculated its performance parameters, thereby gaining practical exposure to real-time system evaluation and performance assessment.

This information will be used to determine the size of the solar PV system needed to meet the energy demand. Then they learnt to conduct a site analysis to determine the optimal location for the solar PV system. This includes assessing factors such as the orientation and angle of the roof or ground, shading from trees or other structures, and the climate of the region. The analysis will

help determine the size and type of solar panels needed for the system, as well as the best location for the panels to maximize energy production.



Figure 6 : Hands on sessions photos



Figure 7: Certificate Distribution and Valedictory Ceremony photos

All the participants were given the participation certificates in the valedictory function at the end of second day. Valedictory Ceremony was attended by the resource person Mr B Purushotham Chary, Manager M/s Greenvion Energy Technologies, Hyderabad.; Principal Dr G Shyama Chandra Prasad, HOD-EEE Dr S Asha Kiranmai, Wokrshop in-charge Mrs. R Manju Bhargavi, EEE staff and II B.Tech EEE students.



Figure 8 : Certificate sample

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Department of Electrical and Electronics Engineering
WORKSHOP FEEDBACK FORM

Topic: “Design & Development of Solar Photovoltaic System” Dates: 23-24 February 2026
 Conducted in collaboration with M/s Greenvion Energy Technologies, Hyderabad.

(Rate the feedback with tick mark)

S.No	Particulars	Excellent (5)	Very Good (4)	Good (3)	Satisfactory (2)	Poor (1)
1	The sessions were well-structured and easy to follow	5				
2	The workshop covered a comprehensive range of concepts	5				
3	Hands-on activities and practical demonstrations helpful in understanding the concepts	5				
4	The workshop provide insights into the current industry practices	5				
5	This workshop will be helpful for developing my Mini / Major projects	5				
6	Suggestions for improvement of the workshop in future:	We learnt many things from this workshop. This kind of workshops improves our knowledge so conduct more workshops like this.				

Figure 9 : Sample feedback form

The Feedback from the students was collected. Overall feedback of the workshop is Excellent and active participation of students during the workshop was notable, and students were engaged throughout the session. Student’s thoughtful questions and insightful comments added a lot of value to the overall discussion. We could tell that students have a good grasp of the subject matter as the workshop was informative and enlightening. In future, we can encourage students to continue attending such events and to keep learning and growing in their field of interest.

R Manju Bhargavi, Seminars and Workshops In-charge faculty expressed her sincere gratitude for allowing EEE department with and the opportunity to conduct a workshop at BRECW. She appreciated the support that management gave and said it was informative session. Once again, she said thank you for allowing them to contribute to the learning and development of their students and the session was concluded by the vote of thanks and certificates distribution.

Ms R Manju Bhargavi
 Seminars and Workshops In-charge

Dr S Asha Kiranmai
 HOD-EEE

Dr G Shyama Chandra Prasad
 Principal