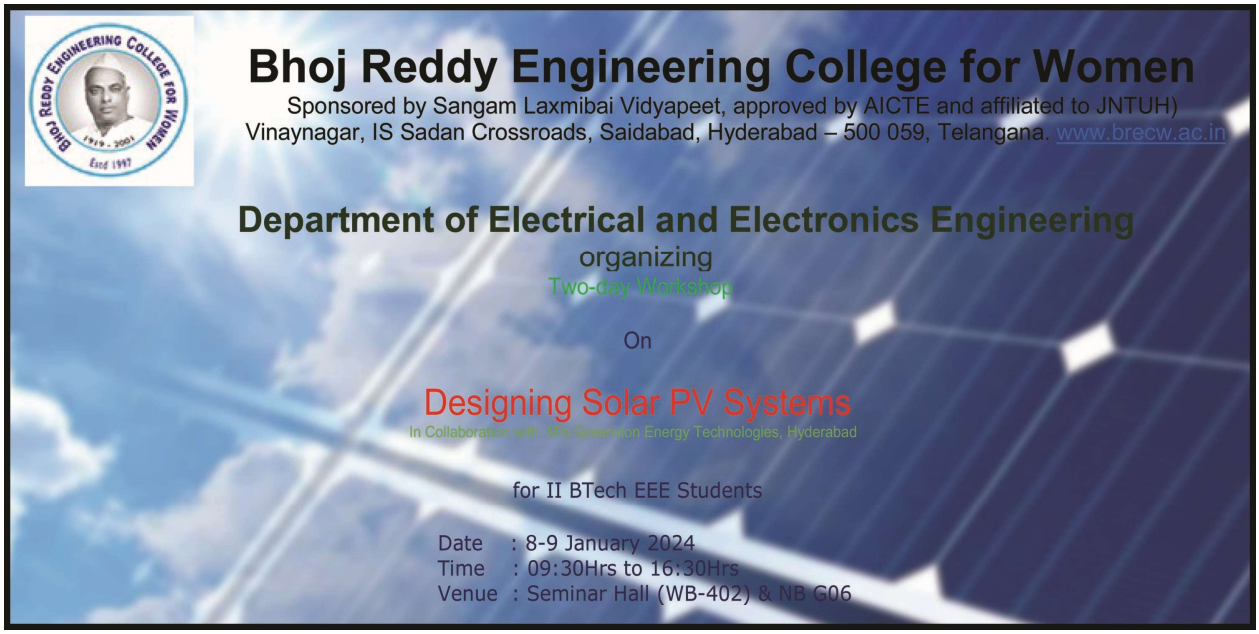
Bhoj Reddy Engineering College for Women

(Sponsored by Sangam Laxmibai Vidyapeet, approved by AICTE and affiliated to JNTUH)
Vinaynagar, IS Sadan Crossroads, Saidabad, Hyderabad – 500 059, Telangana. www.brecw.ac.in

10 January 2024

Report on two-day workshop on "Designing of Solar PV Systems"

EEE Department has organized a two-day workshop on "Designing of Solar PV Systems" for II BTech EEE students on 8-9 January 2024. 54 (II EEE) students got registered. The workshop was scheduled from 09:30 to 16:30 Hrs.



Schedule :

S No	Topics	Time
	Day 1	
1	World Energy scenario National Energy Scenario . Types of energy's . Conventional . Non conventional sources of energy	11:15AM to 12:30PM
	LUNCH BREAK 12:30PM TO 1:30PM	
2	Introduction to solar energy . Solar Thermal . Solar Photo voltaic Energy Solar radiation . Sun & Earth moment . Sun tracking . Solar irradiation Industrial manufacturing process of solar cells & classification of solar cells . Efficiency of solar cells and modules . String and array's of SPV modules . Finding fill factor of SPV Modules	1:30PM to 3:00PM
3	Types of solar photovoltaic systems . Stand alone 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 11:00AM
2	Practical's on measuring PV module specifications . Measuring Voc, Vmax . Measuring Isc, Imax . Finding efficiency of SPV module . Measuring incoming solar radiation (Pin)	11:00 AM to 12:30PM
	LUNCH BREAK 12:30PM TO 1:30PM	
	Factors effecting electricity generated by solar PV module . Effect of conversion efficiency . Change in the amount of input light (Pin) . Effect of change in PV module temperature . Change in PV module area (A) change in angle of light falling on PV module Factors on environmental impact on PV modules and solar power plant . Dust conditions on PV module & finding efficiency . Rain condition on PV module & finding efficiency . Different temperatures on PV module and finding efficiency Practical's on Series and Parallel connections of SPV modules . 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

The workshop was conducted by Greenvion Energy Technologies, Hyderabad.

The first day (8 Janaury 2024) started with an inaugural function.

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Department of Electrical and Electronics Engineering

File No: BRECW/EEE/AY23-24/Workshop/008 Date: 06/01/2024

Invitation

The EEE department is hosting a two-day workshop on "Designing Solar PV Systems" for II B Tech EEE students during 8-9 January 2024.
The Inaugural Session Schedule for two-day workshop on "Designing Solar PV Systems" is as follows:

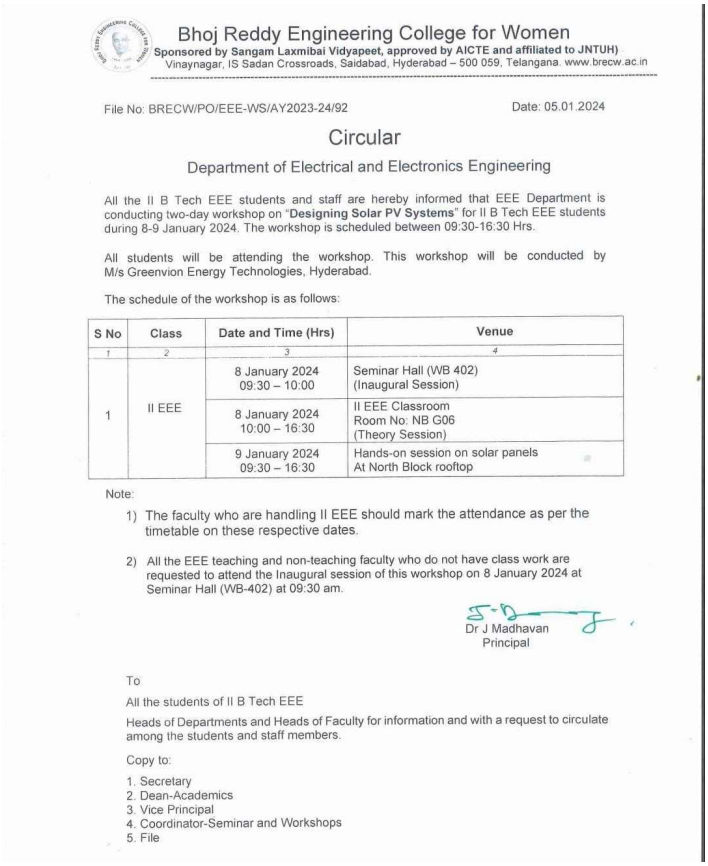
S.No.	Time	Speaker
1	09:40 Hrs	Welcome Address by II EEE Student
2	09:45 Hrs	Address by Principal, Dr J.Madhavan
3	09:50 Hrs	Address by Vice-Principal, Mr G Dayakar Reddy
4	09:55 Hrs	Address by HoD-EEE, S Deepti
5	10:00 Hrs	Key Note address by Resource Person B Purushotham Chary
5	10:05 Hrs	Session starts

So, we cordially invite you for the inaugural session on 08 January 2023 (during 09:30-10:05 Hrs) at Seminar Hall (WB 402). Out of your hectic schedule, kindly make it convenient to enlighten our students.

R Manju Bhargavi 6/1/24
Seminars and Workshops Incharge

S Deepti 6/1/24
HoD-EEE

Circular:



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File No: BRECW/PO/EEE-WS/AY2023-24/92 Date: 05.01.2024

Circular

Department of Electrical and Electronics Engineering

All the II B Tech EEE students and staff are hereby informed that EEE Department is conducting two-day workshop on "**Designing Solar PV Systems**" for II B Tech EEE students during 8-9 January 2024. The workshop is scheduled between 09:30-16:30 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 EEE	8 January 2024 09:30 – 10:00	Seminar Hall (WB 402) (Inaugural Session)
		8 January 2024 10:00 – 16:30	II EEE Classroom Room No: NB G06 (Theory Session)
		9 January 2024 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 8 January 2024 at Seminar Hall (WB-402) at 09:30 am.

Dr J Madhavan
Principal

To

All the students of II B Tech EEE

Heads of Departments and Heads of Faculty for information and with a request to circulate among the students and staff members.

Copy to:

1. Secretary
2. Dean-Academics
3. Vice Principal
4. Coordinator-Seminar and Workshops
5. File

Inaugural function :

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.

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.

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 (if necessary), 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.

In the second day (09 January 2024) of the workshop, Forenoon session started with financial analysis and how to install a solar Photo-Voltaic system. The afternoon session was a practical session. This involves mounting the panels, connecting the components, and testing the system to ensure that it is working properly. Installation should be carried out by qualified professionals to ensure that the system is installed safely and correctly. At last students learnt that regular maintenance is essential to ensure that the system continues to function properly over time. This may include regular inspections, cleaning the panels, and replacing components as necessary. For this, students are divided into ten groups and practicals are conducted on solar panels. The students analyzed a solar photo-voltaic module and calculated the performance of solar photo-voltaic module.

All the participants were given the participation certificates in the valedictory function at the end of second day.


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Department of Electrical and Electronics Engineering


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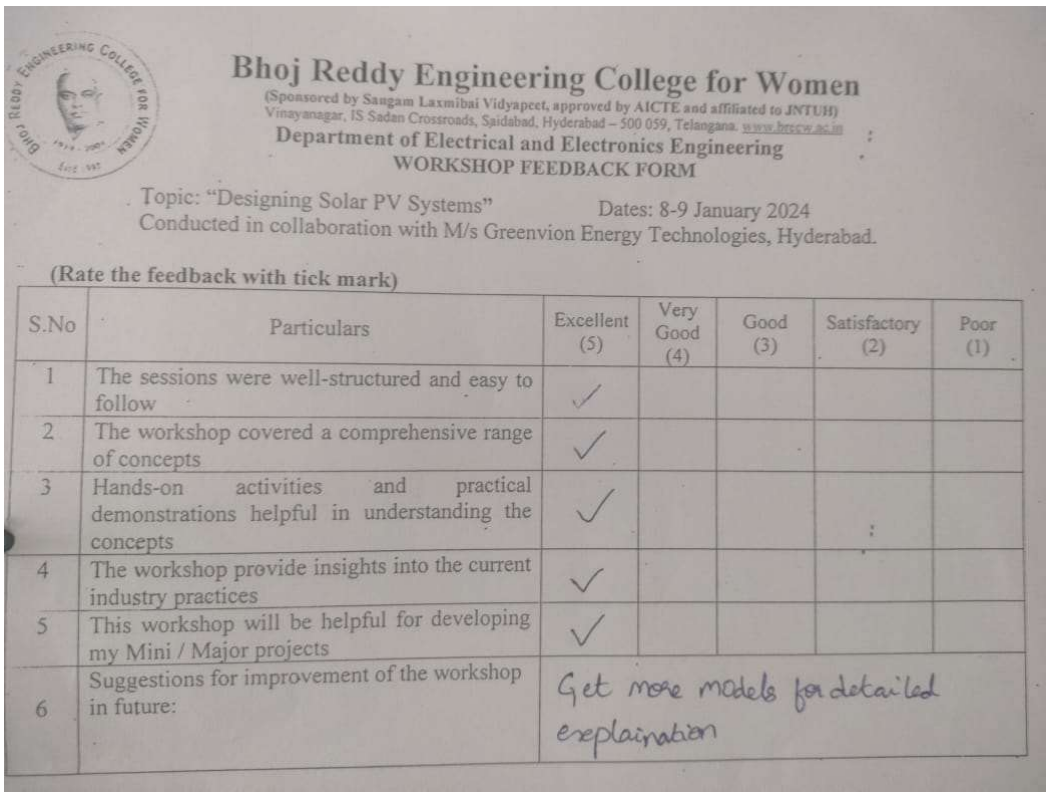
In Collaboration with
Greenvion Energy Technologies
Certificate of Participation
This is to certify that Ms. Jyothsna Korra Roll No 22321A0207
has participated in two-day workshop on "Designing of Solar PV Systems" organized by Department of Electrical and Electronics Engineering at Bhoj Reddy Engineering College for Women on 08-09 January 2024
Manju Bhargavi
Coordinator
S Deepti
HOD - EEE
B Purushotham Chary
Manager-GVET, HYD
Dr. J Madhavan
Principal

Sample feedback form is attached for reference.



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Department of Electrical and Electronics Engineering

WORKSHOP FEEDBACK FORM

Topic: "Designing Solar PV Systems" Dates: 8-9 January 2024
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	✓				
2	The workshop covered a comprehensive range of concepts	✓				
3	Hands-on activities and practical demonstrations helpful in understanding the concepts	✓				
4	The workshop provide insights into the current industry practices	✓				
5	This workshop will be helpful for developing my Mini / Major projects	✓				
6	Suggestions for improvement of the workshop in future:	Get more models for detailed explaination				

The Feedback from the students was collected. Total 54 students provided the feedback. 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 by K Jyothsna Roll Number 22321A0207, student of II EEE.

R Manju Bhargavi
Seminars and Workshops In-charge

S Deepti
HOD-EEE