Bhoj Reddy Engineering College for Women

(Sponsored by Sangam Laxmibai Vidyapeet,approved by AICTE and affiliated to JNTUH)
Vinay Nagar,IS Sadan Crossroads,Saidabad,Hyderabad-500059,Telangana.

Academic Year : 2021 Volume-III

ELECTRIKA

Technical Magazine

Department of
Electrical and Electronics Engineering

www.brecw.ac.in

Bhoj Reddy Engineering College for Women is run by Sangam Laxmibai Vidyapeet, a registered voluntary social action group working since 1952 for empowerment of women and girls through education.The Vidyapeet has more than 60 years of experience in the field of education.

The College has been in the fore front in organizing various short-term courses, conferences, symposia, workshops, seminars and special lecturers.

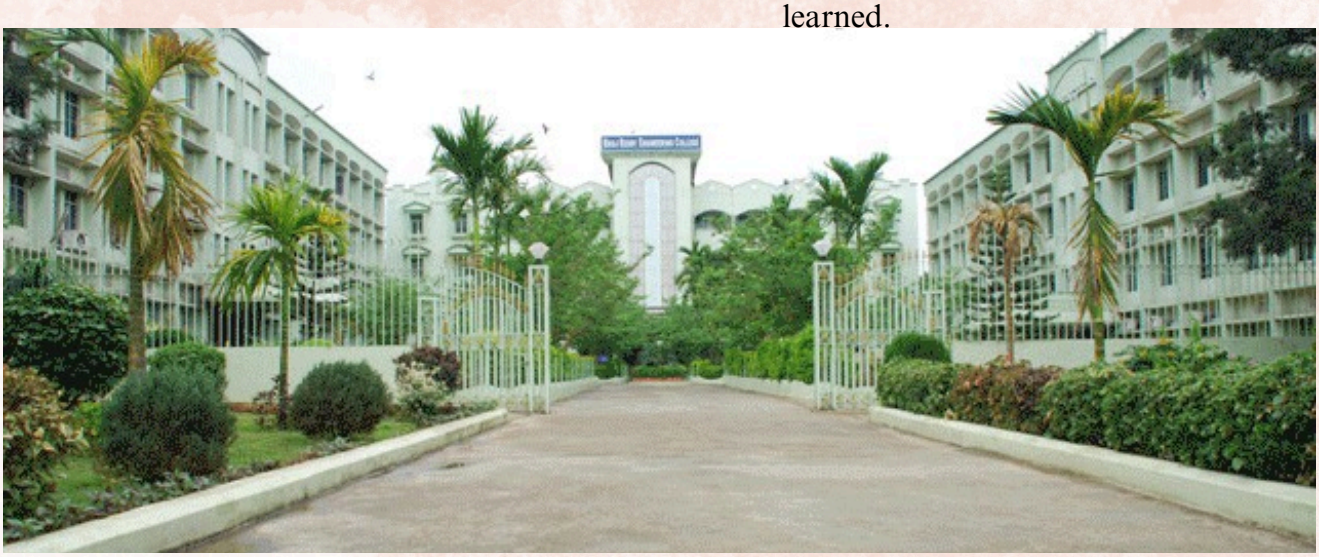
Founders of Sangam Laxmibai Vidyapeet

Vision

BRECW develops confident and articulative young women into dynamic Engineers equipped with skills, knowledge, values and an attitude to contribute to the society.

Mission

- BRECW is committed to providing a challenging, enriching, safe and supportive technical learning environment through its core values of responsibility, respect and compassion.
- Fosters intellectual, spiritual and personal development of young women so that they develop the tools necessary to lead meaningful lives.
- Offers academic curriculum along with an extensive co-curricular program with the support of dedicated staff who ensure that students identify their strengths and develop their skills such as teamwork, leadership, creativity and entrepreneurship.
- Develops independent, adaptable thinkers with a passion for learning, courage to take risks and initiative to apply what is learned.



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About EEE

The EEE branch offers a wide variety of employment opportunities to its graduates. They can choose a career in Electonic Power Systems, Power Electronics, Electronics and Software, etc. Electrical and Electronic Engineering is an exciting and dynamic field. Electrical engineers are responsible for the generation, transfer and conversion of electrical power, while electronic engineers are concerned with the transfer of information using radio waves, the design of electronic circuits, the design of computer systems and the development of control systems such as aircraft autopilots.

These sought-after engineers can look forward to a rewarding and respected career. A number of jobs in public and private sectors are open to them. The Department has well-established labs as per norms of the JNTUH.

The department continues to add special equipment to the Projects Lab for carrying out better projects within the college.

Vision

- To produce globally competent Electrical and Electronics Engineers, Researchers and Enterpreneurs with high Human Values.
- To strive for excellence in Education and Research, meet the requirements of industry in the field of Electrical Engineering.

Mission

- To provide the form of Education to the students so that upon Graduation,they not only possess academic learning,but also learn and acquire knowledge for the benefit of the Society.
- To deepen and extend knowledge about the formation and utilization of Human capabilities.
- To create a transformative educational experience for students focused on deep disciplinary knowlegde, problem solving,leardership, communication and interpersonal skills, personal health and well-being.

Principal's Message

"Motivation is what gets you started. Habit is what keeps you going. And resilience is what propels you through the challenges on your path to success" Your journey at our institution has been marked by dedication, perseverance, and a relentless pursuit of excellence. I am thrilled to share that your hard work has yielded remarkable results, as evidenced by the abundance of placement offers you have received. Together, we have created an environment conducive to learning, growth, and success. As you step into the professional world, equipped with knowledge and skills honed during your time here, I urge you to embrace every challenge as an opportunity for growth. Your individual talents are your greatest assets, and it is imperative that you harness them to carve out a fulfilling career path. Remember, the journey ahead may not always be smooth sailing, but with determination and resilience, you can overcome any obstacle that comes your way. I have full faith in your abilities to excel in whatever you choose to pursue. On behalf of the entire institution, I extend my heartfelt wishes for the success of your future endeavours. May you continue to strive for greatness, leaving an indelible mark wherever you go.

Dr J Madhavan
M.E, Ph.D, MISTE, MIE
Principal

HOD's Message

On behalf of our faculty, it is my privilege to welcome all of you to the Department of Electrical Engineering at Bhoj Reddy Engineering College for Women. We take pride in our faculty, a team of highly capable and dedicated professionals, most of whom have academic experience and degrees from leading universities of the India. We provide ample opportunities to our faculty and students, through in-house trainings, workshops and trainings outside the college campus for further growth and development in their areas of expertise.

We at EEE Department are committed with the following objectives.

- The Department has taken up the task of developing competent Electrical engineers of high quality, capable of facing various challenges of the power situation in the country.
- To produce graduates with the necessary background and scientific skills to work professionally in several fields in particular with IT Industries and Power sectors.
- To train and encourage the graduates for personal and professional success with awareness and commitment to their ethical and social responsibilities, both as individuals and in team environments.

Mrs S Deepti
M.E(PS), LMISTE
HOD-EEE

Student Contributions

Title of the Project: "Mathematical Modelling And Design of DC Motor"

Name	Roll Number
G Ramya	17321A0228
M Soumya	17321A0242
M Manasa	17321A0220

ABSTRACT

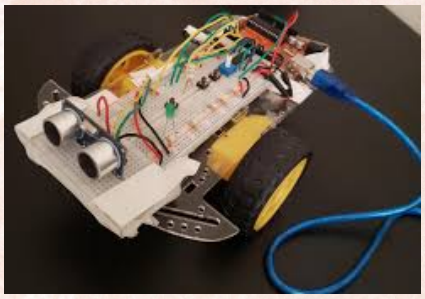
One of the most used actuator in control systems is direct current (D.C.) motor. The general output variable of this actuator can by angular speed or angular displacement motion, but coupled with wheels or drums and cables, can provide translate motion.

This project is a state-space model of the D.C. motor build for constant flux and considering two inputs: supply voltage and resistive torque. The three states of the resulted model are represented by angular speed, angular displacement and current supply and either of these states can be an output variable for simulation model. Consequently, the system's model has two inputs and three outputs.

For the system's simulate is build a VI where the most important element is a Matlab script which contains the matrices A, B, C, D of the state-space model, the independent variable time and the Matlab simulation function Isim. The motor's parameters are given by digital controls on the panel so that these parameters can by interactive modified.

To generate inputs, there are used two CASE structures where can by set the inputs variables form: impulse, step and ramp and here is also possible to set the signal amplitude and duration by knob or slide control. The output signals are live display one by one or together on the WAVEFORM GRAPH.

This paper presents a model of a DC motor. The construction, operation and types of DC Motor presented and the state space model also derived. Current, Speed and torque feedback control applied by using Hysteresis band control and PWM control. All the designing part and analysis is done in the MATLAB and Simulink environment.



Title of the Project: "Analysis of Load Loss Reduction by Improving the Load Side Power Factor at BRECW"

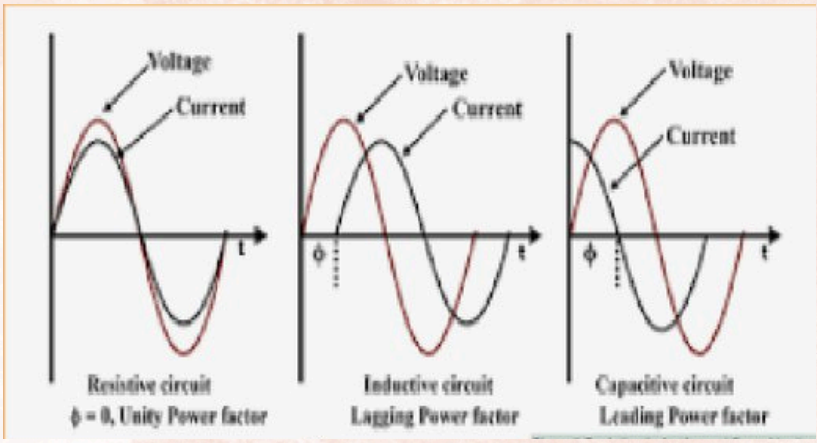
Name	Roll Number
Sai Sri Kanya Kencha	17321A0232
Anusha Guddeti	17321A0205
Palleboina Anusha	18325A0201
Gudipalli Lakshmi Deepika	1832540205

ABSTRACT

This project deals with the analysis of distribution losses that occur and herw these looses can be reduced by installing the required capacitor bank at load end and thereby improving the power factor. Power factor is the ratio of true power (kW) to apparent power (LVA). Power factor correction is obtained via the connection of capacitors which produce reactive power compensation in opposition to the energy absorbed by inductive loads. So. at load end or in PCC (Power Control Centre), capacitors have to be installed in parallel to improve the power factor. If the power factor is less, the system draws more current and distribution loss will be huge. So, the power factor has to be maintained nearly to unity.

Required Capacitor bank (kVAr)kWx(tanφ2-tanφ1). This is the formula used to calculate the capacity of the capacitor bank, which is needed to improve the power factor from cosφ1to cosφ2.

Power Factor Correction (PFC) aims to improve power factor and thereby pover quality. It increases energy efficiency and reduces electricity costs. It also decreases the fluctuation of input voltage.

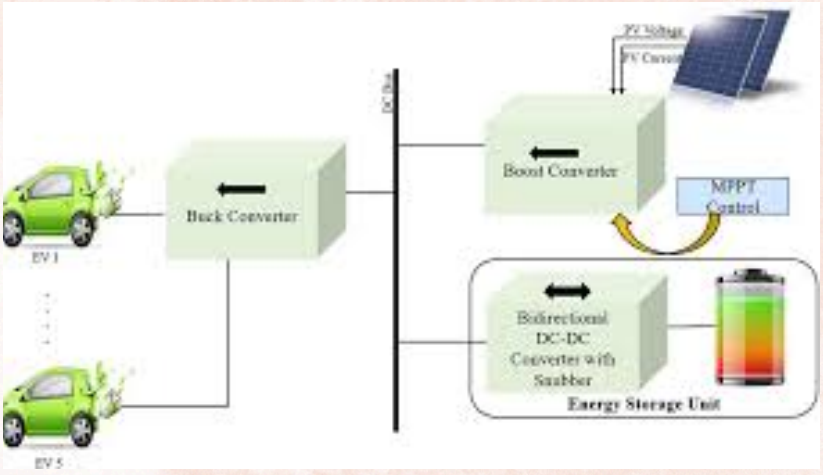


Title of the Project: "EV Charging by Utilising PV and Wind Energy Sources by Coordination between Home and Grid Energy Management Systems"

Name	Roll Number
CH. SREEJA REDDY	17321A0244
D. VINITHA	17321A0260
B. SWARNA LATHA	17321A0252
N. SHRISHNA	17321A0240

ABSTRACT

This project proposes an electric vehicle (EV) charge management framework for the effective utilization of photovoltaic (PV) with Wind energy source as back-up through coordination based on information exchange between home energy management system (HEMS) and grid energy management system (GEMS). In our proposed framework, the HEMS determines an EV charge plan for reducing the residential operation cost on the basis of voltage constraint information in the grid provided by the GEMS and forecasted power profiles. Then, the HEMS controls the EV charge according to the determined plan and real-time monitored data, which is utilized for mitigating the negative effect caused by forecast errors of power profiles. The proposed framework was evaluated on the basis of the Japanese distribution system simulation model. The simulation results show the effectiveness of our proposed framework from the viewpoint of reduction of the residential operation cost and PV curtailment.



Title of the Project: "Construction of 33/11kV Indoor Substation"

Name	Roll Number
G. KAVYA SRI	1732140217
P. GREESHMA	17321A0210
K. SHREYA	17321A0239
T. SOWMYA	16321A0251

ABSTRACT

A substation is a part of an electrical generation, transmission and distribution system. Substation transform voltage from high to low or the reverse or perform any of several other important functions. The word substation comes from the days before the distribution system became a grid. The project deals with the study of construction of power lines and indoor substation switchyard of 33/11kV. In today's life, electricity plays a very vital role. The demands of electricity is being increased day by day. Switchyard is the collection of equipment where high voltage electricity is switched using various components. Electrical switchyard is usually a part of substation where electricity is transferred from one voltage to another for the transmission and distribution purpose.

In these indoor substations, all apparatus is installed within the substations building. Such substations are usually for a voltage up to 11kV but can be erected for 33kV and 66kV when the surrounding atmosphere is contaminated with impurities such as metal corroding gases and fumes, conductive dust etc. The switchgear on supply or primary side will consist of oil circuit breaker only

The auxiliaries of the indoor substation are

1) Storage batteries

2) Fire-fighting equipment such as water buckets, fire extinguishert

Mini Project List

Batch No.	Roll No.	Name of the Student	Title of the Project
1	17321A0203	Amulya P	Earthing and Grounding Practices
	17321A0209	Deepika Yapala	
	18325A0204	Jogi Haripriya	
	17321A0211	Hari Keerthi Thumma	
2	17321A0259	Vijaya Laxmi Purnapanda	Axle counter
	18325A0210	Kummarikunta Sathwika	
	17321A0255	Uma Barmavath	
	17321A0247	Srinidhi Yadla	
3	17321A0232	Sai Sri Kanya Kencha	A study on Life cycle Management of transformer
	17321A0205	Anusha Guddeti	
	18325A0201	Palleboina Anusha	
	18325A0205	Gudipalli Lakshmi Deepika	
4	17321A0258	Vandana Gunda	Solar fencing to prevent crop damage by animals
	17321A0226	Priyanka Kudithi	
	17321A0225	Praveena Koninti	
	17321A0216	Jyotsna Guddati	
5	17321A0233	Sakhi Jadhav	Smart home energy management including renewable energy
	17321A0257	Vaishnavi Sanjannagari	
	17321A0222	Mowneka Sabavath	
	18325A0202	Gummadi Divya	
6	1832540208	Gugloth Mounika	Construction of 33/11 KV outdoor substation
	17321A0245	Sridevi Annadi	
	17321A0219	Mahitha Bonugula	
	17321A0212	Harika Gaddam	

Mini Project List

Batch No.	Roll No.	Name of the Student	Title of the Project
7	17321A0201	Aakanksha Namilikonda	Reactive Power Management and Monitoring of Capacitor Banks
	17321A0213	Harshitha Tiwari	
	17321A0221	Manichandana Pathanaboina	
	17321A0202	Adhvithi Potharaju	
8	17321A0235	Sanjuna Gopu	Modelling Of HVDC Tie Links And Their Utilization In Agc/Lfc Operations Of Multi Area Power System
	17321A0243	Sowmya Sree Maringanti	
	17321A0248	Suchitha Mothkuri	
	17321A0254	Tejaswi Gummadavelli	
9	17321A0246	Srinidhi Pavushetty	Mobile Battery Charger on coin insertion
	18325A0212	Jakinboina Vinnela	
	17321A0204	Anjali Guntur	
	17321A0251	Sushmitha Jakkani	
10	17321A0244	Sreeja Reddy Chiligireddy	A medium-frequency transformer based wind energy conversion system used for current-source converter-based off shore wind farms
	17321A0260	Vinitha Danthala	
	17321A0252	Swarnalatha Burra	
	17321A0240	Shrishna Naini	
11	17321A0238	Shravya Chilukuri	Roof Top Solar System and Net Meter Technologies
	17321A0229	Sabiha Shaik	
	18325A0209	Angadi Omkari	
	17321A0256	Gottemukkala Uma Maheswari	
12	17321A0234	Samhitha Sree Meghi	Solar power based industrial boiler control with temperature display
	18325A0203	Avusula Hari Chandana	
	17321A0208	Chaturya Nagubandi	
	17321A0207	Chandana K	

Mini Project List

Batch No.	Roll No.	Name of the Student	Title of the Project
13	17321A0218	Mahima Sureka	Electrical accidents and behavioral safety
	17321A0250	Sushma Sree Laskar	
	17321A0241	Shriya Naini	
	17321A0237	Shravani G	
14	17321A0215	Irene Kristen Anilija Kadari	Theft intimation of vechile over GSM modem
	17321A0236	Sathvika Bachireddy	
	18325A0206	Dayyala Lenina	
	17321A0249	Sumanjali Chowgani	
15	18325A0207	Devunuri Meghana	GSM Based Energy meter billing via SMS
	18325A0211	Alkachanu Shailaja	
	17321A0230	Sai Akshitha Mogiligidda	
	17321A0206	Bhavani P	
16	17321A0217	Kavya Sri Ganji	Construction of 33/11kv indoor substation
	17321A0210	Greeshma Perabhathini	
	17321A0239	Shreya Katla	
	16321A0251	Talari Sowmya	
17	17321A0214	Himanya Ponaganti	A Study on categorization of services and Electrical tarrif
	17321A0224	Niharika Thatikonda	
	17321A0227	Rakshitha P	
18	17321A0228	Ramya Guda	A study on energy efficiency and energy conservation practices
	17321A0242	Soumya Muddasani	
	17321A0220	Manasa Manchireddy	

Major Project List

Batch No.	Roll No.	Name of the Student	Title of the Project	Internal Guide
1	17321A0203	Amulya P	Analysis Of Power Charges Before And After Solar Power Installation At BRECW.	R Manju Bhargavi
	17321A0209	Deepika Yapala		
	18325A0204	Jogi Haripriya		
	17321A0211	Hari Keerthi Thumma		
2	17321A0259	Vijaya Laxmi Purnapanda	Electronic Interlocking In Railway Signalling System.	S Deepti
	18325A0210	Kummarikunta		
	17321A0255	Sathwika		
	17321A0247	Uma Barmavath		
3	17321A0232	Sai Sri Kanya Kencha	Analysis Of Load Loss Reduction By Improving The Load Side Power Factor At BRECW.	S Asha kiranmai
	17321A0205	Anusha Guddeti		
	18325A0201	Palleboina Anusha		
	1832540205	Gudipalli Lakshmi Deepika		
4	17321A0258	Vandana Gunda	WSN Based Covid 19 Symptoms Detection System.	S Mayuri
	17321A0226	Priyanka Kudithi		
	17321A0225	Praveena Koninti		
	17321A0216	Jyotsna Guddati		
5	17321A0233	Sakhi Jadhav	Simulation Of DC Microgrid Three- Phase AC-DC Converter Control Strategy Based On Double Loop.	Sk Vali
	17321A0257	Vaishnavi Sanjannagari		
	17321A0222	Mowneka Sabavat		
	1832540202	Gummadi Divya		
6	18325A0208	Gugloth Mounika	Design Of IOT Based Coal Mine Monitoring System Using LORA.	J Ashwini Kumari
	17321A0245	Sridevi Annadi		
	17321A0219	Mahitha Bonugula		
	17321A0212	Harika Gaddam		
7	17321A0201	Aakanksha Namilikonda	Implementation Of PLC Automation For Effluent Treatment Plant Recirculation Pump House.	G Poorna
	17321A0213	Harshitha Tiwari		
	17321A0221	Manichandana Pathanaboina		
	17321A0202	Adhvithi Potharaju		
8	17321A0235	Sanjuna Gopu	Sensorless Dc-Link Control Approach For Three-Phase Grid Integrated PV System	K Chandana
	17321A0243	Sowmya Sree Maringanti		
	17321A0248	Suchitha Mothkuri		
	17321A0254	Tejaswi Gummadavelli		
9	1732140246	Srinidhi Pavushetty	Renewable Powered Portable Weather Update Station	K Ravi Kumar
	1832540212	Jakinboina Vinnela		
	17321A0204	Anjali Guntur		
	17321A0251	Sushmitha Jakkani		

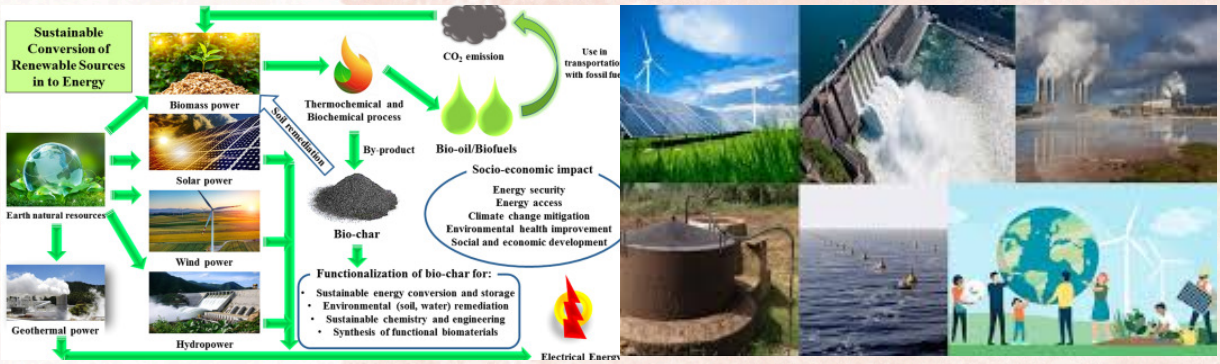
Major Project List

Batch No.	Roll No.	Name of the Student	Title of the Project	Internal Guide
10	17321A0244	Sreeja Reddy	EV Charging By Utilising PV and Wind Energy Sources By Coordination Between Home And Grid Energy Management Systems.	S Mayuri
	17321A0260	Chiligireddy Vinitha Danthala		
	17321A0252	Swarnalatha Burra		
	17321A0240	Shrishna Naini		
11	17321A0238	Shravya Chilukuri	Analysis Of Hybrid Storage System In DC Microgrid.	E Nikhila Sarayu
	17321A0229	Sabiha Shaik		
	18325A0209	Angadi Omkari		
	17321A0256	Gottemukkala Uma Maheswari		
12	17321A0234	Samhitha Sree Meghi	Development Of An IOT Driven Building Environment For Prediction Of Electrical Energy Consumption.	G Poorna
	1832540203	Avusula Hari Chandana		
	17321A0208	Chaturya Nagubandi		
	17321A0207	Chandana K		
13	17321A0218	Mahima Sureka	A Power Quality Improved EV Charger With Bridgeless Cuk Converter.	J Ashwini Kumari
	17321A0250	Sushma Sree Laskar		
	17321A0241	Shriya Naini		
	17321A0237	Shravani G		
14	17321A0215	Irene Kristen Anilija Kadari	Flexible Power Sharing Control For Inverters Based Microgrid Systemp BN.	Sk Vali
	17321A0236	Sathvika Bachireddy		
	18325A0206	Dayyala Lenina		
	17321A0249	Sumanjali Chowgani		
15	18325A0207	Devunuri Meghana	Investigation And Application Of Smart Door Locks Based On Bluetooth Control Technology.	K Ravi Kumar
	18325A0211	Alkachanu Shailaja		
	17321A0230	Sai Akshitha Mogiligidda		
	17321A0206	Bhavani P		
16	17321A0217	Kavya Sri Ganji	RF Based War Field Spying Robot With Wireless Night Vision Camera.	S Asha kiranmai
	17321A0210	Greeshma Perabhathini		
	17321A0239	Shreya Katla		
	16321A0251	Talari Sowmya		
17	17321A0214	Himanya Ponaganti	Arduino Based Real Time Drowsiness And Fatigue Detection For Bikers Using Helmet.	S Deepti
	17321A0224	Niharika Thatikonda		
	17321A0227	Rakshitha P		
18	17321A0228	Ramya Guda	Mathematical Modelling And Design Of DC Motor.	R Manju Bhargavi
	17321A0242	Soumya Muddasani		
	17321A0220	Manasa Manchireddy		

Enrichment Course On Renewable Energy Systems

Bhoj Reddy Engineering College for Women, Hyderabad has organized an add on Program on "Artificial Intelligence for Renewable Energy Systems" from 13/09/2021 to 18/09/2021. Our faculty Ms. S Mayuri, Assistant Professor, EEE department, extended welcome note for program to the participants. The Resource Person Mr. U Vikramsena Reddy, Coign Consultants Private Limited, Ballad Estates, Tarnaka, Secundrabad took over the session and gives the brief introduction to the Artificial intelligence for Renewable Energy Systems.

In this Programme, the resource person explained about the overview of renewable energy and its significance in combating climate change, Introduction to Artificial Intelligence (AI) and its potential applications in various industries and Challenges faced in optimizing renewable energy systems (intermittency, variability, etc.).



Special Features of Bhoj Reddy Engineering College for Women

- Exclusively for women, with good discipline and security
- Women Protection Cell and Anti-Sexual Harassment Cell are established
- Centrally located and well connected by RTC bus services to various parts of the twin cities.
- The college is just 4 kms from Koti Bus Stop
- Housed in buildings with a total plinth area of 20,000 square meters
- Well-equipped and state-of-the-art laboratories as per the norms specified by JNTUH & AICTE
- Cultural and co-curricular activities are encouraged for overall personality development of students
- Technical Associations are formed to promote professional activities in each department
- Practical training to the faculty and students during summer vacation
- IEEE, ISTE, IETE, CSI student chapters are formed
- Alumnae Association is formed to provide a forum for alumnae interaction
- Post box facility is available within the campus
- More than 90% of the final year students have taken up practical problems from industries as their design projects
- Well-designed classrooms with audio visual aids
- Indoor and outdoor sports and games facilities
- Banking facility is available adjacent to the campus
- Sangam Laxmibai Vidyapeet, the sponsor of the college, is a non-profit organisation
- Students are encouraged to write technical papers and to participate in seminars, workshops and conferences conducted by the college and other institutions
- Private hostels exclusively for women are available within 200 meters of the campus

Editors Board:

Ms J Ashwini Kumari-Asst. Professor- EEE
S Pooja - III EEE (22325A0206)
S Gnaneshwari - III EEE (21321A0207)
Humera - II EEE (23325A0205)
Ruchitha - II EEE (23325A0211)
J Sriya Deepthi - II EEE (22321A0228)

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