BRAMHAELECTRO-2K25

BRAHMDEVDADA MANE POLYTECHNIC, SOLAPUR

Department of Electrical Engineering

Newsletter Highlights

- HOD Desk
- Expert Lectures
- Industrial Visit
- Student achievements
- Faculty achievements
- Faculty Development Program, MOU
- Academic performance, Co & extra-curricular activities

STRENGTH

- Mr. L. B. Chougule
- Mr. O. D. Thombare
- Mrs. S.S. Dhange
- Mr. A. A. Awatade
- Ms. A. B. Patil
- Ms. S. R. Sayyad
- Mrs. R. P. Naikude
- Mr. A. S. Pawar
- Mr. M. S. Awatade

HOD Desk

HOD
Mr. L. B. Chougule

Electrical Engineering is the core study of the applications of electricity and electronics, which is one of the most chosen streams by engineering students. It was introduced long back in 19th century. The primary objective of the Electrical Engineering students to enter and programmer is to prepare in electrical engineering positions in business, industry, and Government sectors. Graduates are generally expected to work in the research and development of ides, products, and process by applying engineering principles to the solution of practical problem in the Electrical Engineering field.

VISION AND MISSION OF INSTITUTE

VISION

- "To become center of excellence by producing techno – societal change agents."

MISSION

- To provide qualitative and skill based technical education in accordance with the needs of industry through various academic programs.
- To strive for excellence by improving teaching – learning environment and encouraging self-development.
- To prepare the students to face technological and environmental changes by imbibing engineering ethics and social values.

VISION AND MISSION OF DEPARTMENT

VISION

- To produce skill based technical manpower in Electrical Engineering field as per the needs of industry and society

MISSION

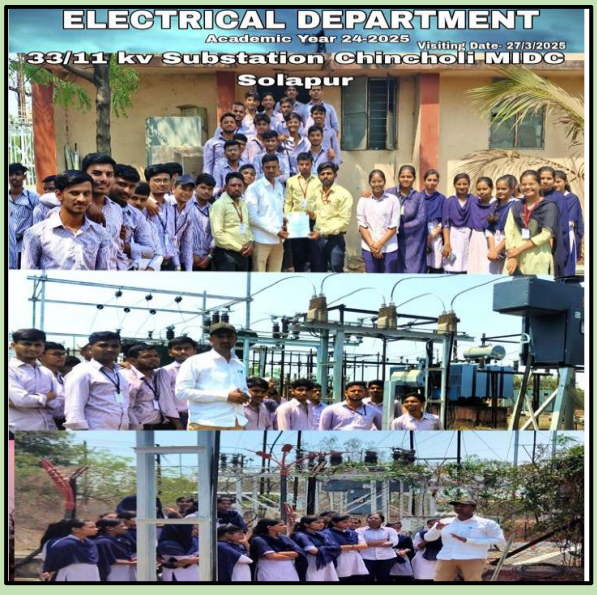
- To furnish the students with insights of modern Electrical Engineering by improved teaching.
- To train the students to develop entrepreneur skills and leadership abilities for the benefits of Electrical Engineering industry and society.
- To provide an environment that promotes self-development and social ethics.

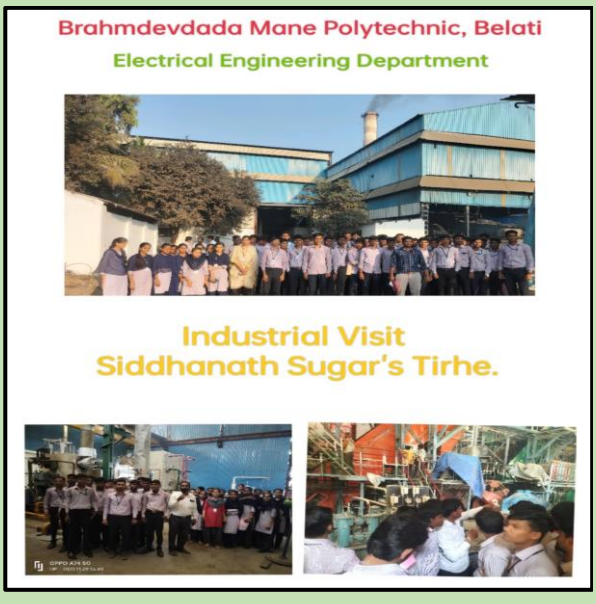
EXPERT LECTURE

- Expert Lecture on “Role of Solar Energy by 2030 and Government Support Schemes” by Mr. A. V. Khedikar
- Expert Lecture on “Power System” by Prof. Dhananjaya H. R.

INDUSTRIAL VISIT

- Industrial Visit at Chincholi MIDC, Solapur on 27th March 2025
- Industrial visit at Siddhnath Sugar Factory, Solapur on 24th Jan 2025





STUDENT ACHIEVEMENTS

Mr. Gaurav Sale & Mr. Siddesh Kulkarni Taking Third Prize for State level Technical Quiz at BIGCE, Solapur on 3rd March 2025.

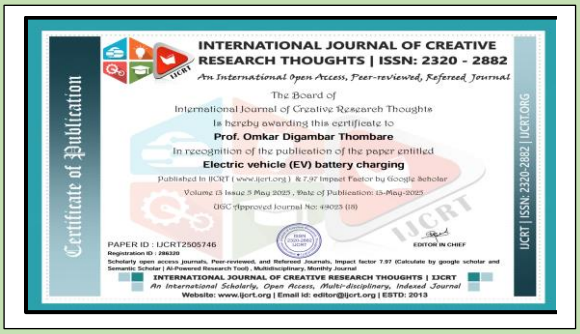
Mr. Prem Pawar & Mr. Shivraj Bandgar Taking First Prize for State level Technical Quiz at A.G. Patil Polytechnic, Solapur on 8th March 2025.

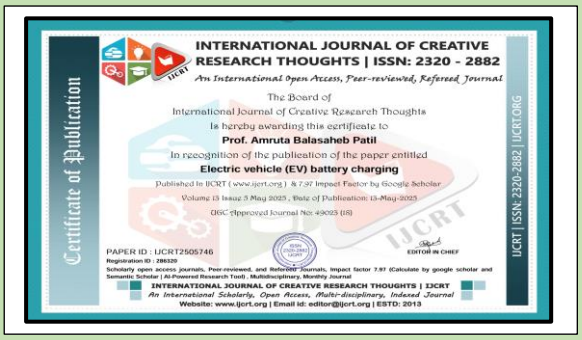
Ms. Anjali Gaikwad & Ms. Samata Gaikwad Taking Third Prize for State level Technical Quiz at A. G. Patil Polytechnic, Solapur on 8th March 2025.

JOURNAL PUBLICATION OF FACULTY

1. Mr. Chougule L. B., Mrs. S. S. Dhange and Mr. Awatade A. A., published paper on “Kinetic Power System Employed in Power Generation in” International Journal of Advanced Research in Science, Communication and Technology (IJARSCT) Volume: 05 Issue: 09 | June - 2025 ISSN No: 2581-9429

2. Mr. Thombare O. D. & Ms. Patil A. B. paper published on “Electric vehicle (EV) battery charging” International Journal of Creatine Research Thoughts (IJCRT) Volume: 13 Issue:05| May - 2025 ISSN No: 2320-2882

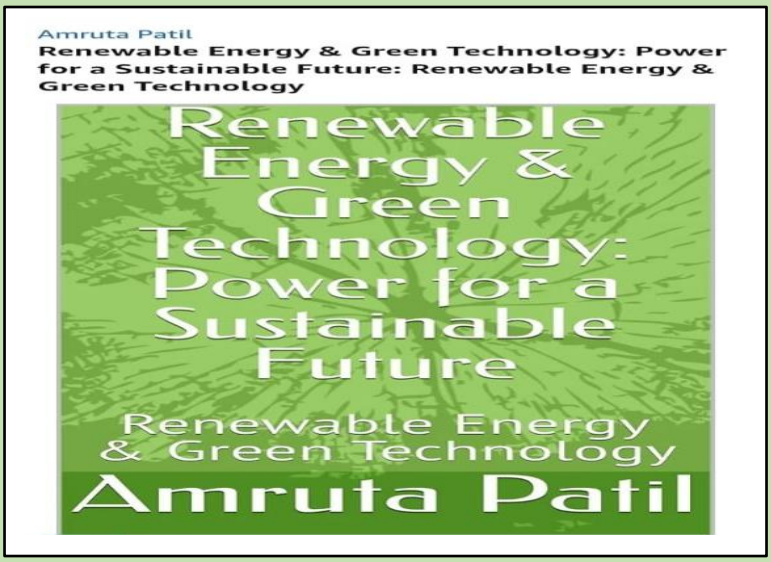




Book Publication

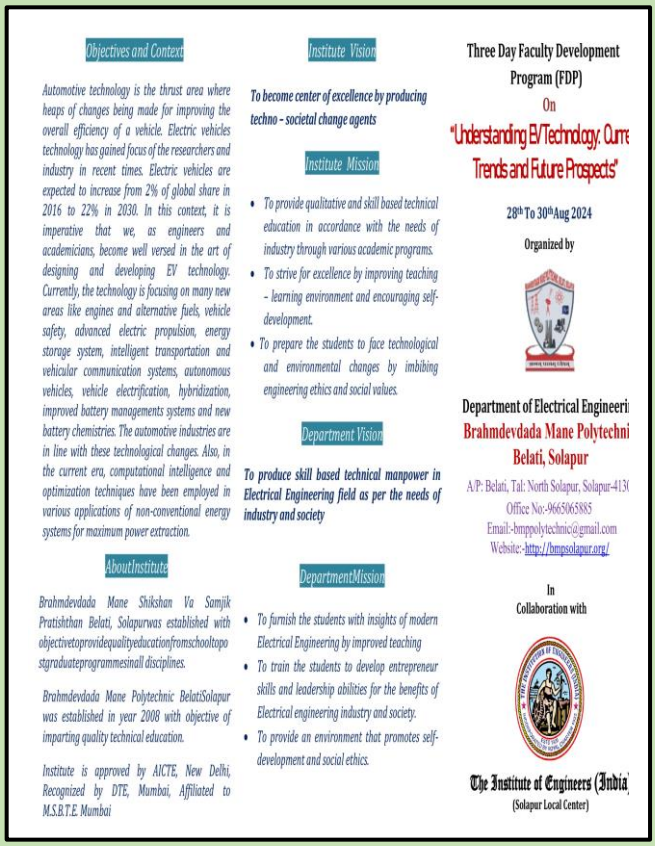
Ms. A. B. Patil was published book on “Renewable Energy and Green Technology: Power for Sustainable future.

Ms. A. B. Patil



Faculty Development Program

"Understanding EV Technology. Current Trends and Future Prospect"



Objectives and Context

Automotive technology is the thrust area where heaps of changes being made for improving the overall efficiency of a vehicle. Electric vehicles technology has gained focus of the researchers and industry in recent times. Electric vehicles are expected to increase from 2% of global share in 2016 to 22% in 2030. In this context, it is imperative that we, as engineers and academicians, become well versed in the art of designing and developing EV technology. Currently, the technology is focusing on many new areas like engines and alternative fuels, vehicle safety, advanced electric propulsion, energy storage system, intelligent transportation and vehicular communication systems, autonomous vehicles, vehicle electrification, hybridization, improved battery managements systems and new battery chemistries. The automotive industries are in line with these technological changes. Also, in the current era, computational intelligence and optimization techniques have been employed in various applications of non-conventional energy systems for maximum power extraction.

AboutInstitute

Brahmdevdada Mane Shikshan Va Samjik Pratishthan Belati, Solapurwas established with objectivetoprovidequalityeducationfromschooltopostgraduateprogrammesinall disciplines.

Brahmdevdada Mane Polytechnic BelatiSolapur was established in year 2008 with objective of imparting quality technical education.

Institute is approved by AICTE, New Delhi, Recognized by DTE, Mumbai, Affiliated to M.S.B.T.E. Mumbai

Institute Vision

To become center of excellence by producing techno - societal change agents

Institute Mission

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Department Vision

To produce skill based technical manpower in Electrical Engineering field as per the needs of industry and society

DepartmentMission

- To furnish the students with insights of modern Electrical Engineering by improved teaching
- To train the students to develop entrepreneur skills and leadership abilities for the benefits of Electrical engineering industry and society.
- To provide an environment that promotes self-development and social ethics.

Three Day Faculty Development Program (FDP)

On

"Understanding EVTechnology. Curre Trends and Future Prospects"

28th To 30thAug 2024

Organized by

Department of Electrical Engineeri

Brahmdevdada Mane Polytechni

Belati, Solapur

A/P: Belati, Tal: North Solapur, Solapur-413(

Office No:-9665065885

Email:-bmppolytechnic@gmail.com

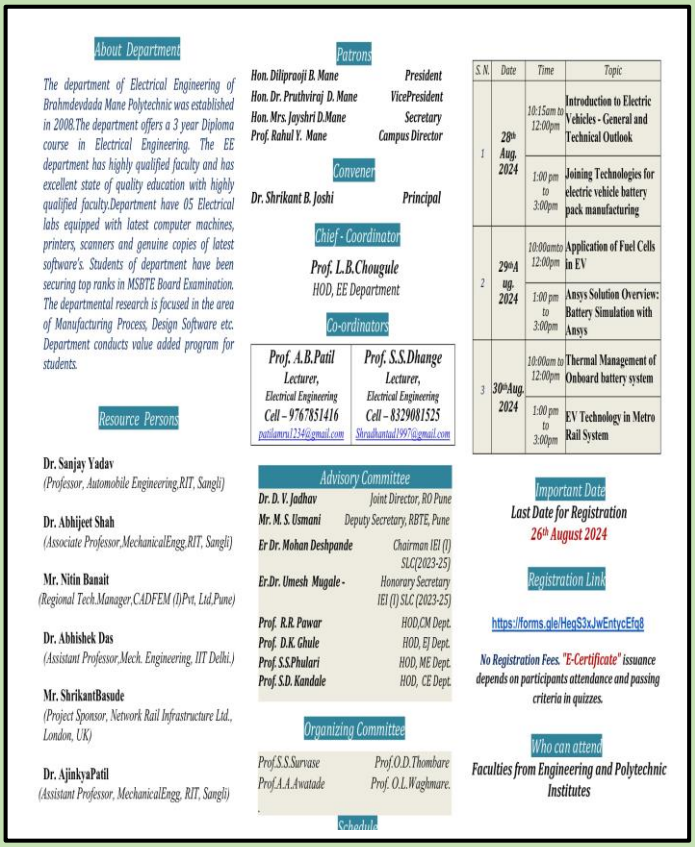
Website:-http://bmpsolapur.org/

In

Collaboration with

The Institute of Engineers (India

(Solapur Local Center)



About Department

The department of Electrical Engineering of Brahmdevdada Mane Polytechnic was established in 2008.The department offers a 3 year Diploma course in Electrical Engineering. The EE department has highly qualified faculty and has excellent state of quality education with highly qualified faculty.Department have 05 Electrical labs equipped with latest computer machines, printers, scanners and genuine copies of latest software's. Students of department have been securing top ranks in MSBTE Board Examination. The departmental research is focused in the area of Manufacturing Process, Design Software etc. Department conducts value added program for students.

Resource Persons

Dr. Sanjay Yadav
(Professor, Automobile Engineering,RIT, Sangli)

Dr. Abhijeet Shah
(Associate Professor,MechanicalEngg.RIT, Sangli)

Mr. Nitin Banait
(Regional Tech.Manager,CADFEM (I)Pvt, Ltd.Pune)

Dr. Abhishek Das
(Assistant Professor,Mech. Engineering, IIT Delhi.)

Mr. ShrikantBasude
(Project Sponsor, Network Rail Infrastructure Ltd., London, UK)

Dr. AjinkyaPatil
(Assistant Professor, MechanicalEngg. RIT, Sangli)

Patrons

Hon. Dilipraoji B. Mane	President
Hon. Dr. Pruthviraj D. Mane	VicePresident
Hon. Mrs. Jayshri D.Mane	Secretary
Prof. Rahul Y. Mane	Campus Director

Convener

Dr. Shrikant B. Joshi — Principal

Chief - Coordinator

Prof. L.B.Chougule
HOD, EE Department

Co-ordinators

Prof. A.B.Patil	Prof. S.S.Dhange
Lecturer, Electrical Engineering	Lecturer, Electrical Engineering
Cell – 9767851416	Cell – 8329081525
patilamru1224@gmail.com	Shrudhantad1997@gmail.com

Advisory Committee

Dr. D. V. Jadhav	Joint Director, RO Pune
Mr. M. S. Usmani	Deputy Secretary, RBTE, Pune
Er Dr. Mohan Deshpande	Chairman IEI (I) SLC(2023-25)
Er.Dr. Umesh Mugale -	Honorary Secretary IEI (I) SLC (2023-25)
Prof. R.R. Pawar	HOD,CM Dept.
Prof. D.K Ghule	HOD, EJ Dept.
Prof. S.S.Phulari	HOD, ME Dept.
Prof. S.D. Kandale	HOD, CE Dept.

Organizing Committee

Prof.S.S.Survase	Prof.O.D.Thombare
Prof.A.A.Awatade	Prof. O.L.Waghmare.

Schedule

S.N.	Date	Time	Topic
1	28th Aug. 2024	10:15am to 12:00pm	Introduction to Electric Vehicles - General and Technical Outlook
		1:00 pm to 3:00pm	Joining Technologies for electric vehicle battery pack manufacturing
2	29thAug. 2024	10:00amto 12:00pm	Application of Fuel Cells in EV
		1:00 pm to 3:00pm	Ansys Solution Overview; Battery Simulation with Ansys
3	30thAug. 2024	10:00am to 12:00pm	Thermal Management of Onboard battery system
		1:00 pm to 3:00pm	EV Technology in Metro Rail System

Important Date

Last Date for Registration
26th August 2024

Registration Link

https://forms.gle/HeqS3xJwEntycEfq8

No Registration Fees. "E-Certificate" issuance depends on participants attendance and passing criteria in quizzes.

Who can attend

Faculties from Engineering and Polytechnic Institutes

DEPARTMENT 'MOU'

Sr. No.	Memorandum of Understanding (MoU)	Dates
1	**Sidhanath Sugar Mills Ltd.**, Tirhe Solapur	7 Feb 2025 to 7 Feb 2028
2	**PMS Robotics Research Center Pune.,** Pimple Saudagar, Pune	1 Mar 2025 to 1 Mar 2028
3	**A.S. Electricals and Works, Solapur.,** Vijapur Road Solapur	1 Feb 2025 to 1 Feb 2028
4	**Shams Energy** Ashok Chowk Solapur	1 Feb 2025 to 1 Feb 2028
5	**MAHAVITARAN** Solapur	22 Dec 2022 to 22 Dec 2025

FACULTY ARTICLES

HOD
Mr. L. B. Chougule

Kinetic Power System Employed in Power Generation in Gym

Are you tired of the fact that your monthly gym sessions add to your sedentary lifestyle and energy consumption? Would it be possible for your workout to generate power instead of just consuming it? Discover the world of kinetic power gyms, a cutting-edge idea that is turning physically demanding sports into eco-friendly ones. By using the energy produced during our workouts to power the facility's infrastructure, these innovative fitness centers are completely changing the way we think about exercising. For a brief moment, imagine yourself riding a stationary bike while conscious of the fact that your sweat equity is physically illuminating the gym. The following describes the possibilities of kinetic power gyms [1–20]. The basic concept is simple: specially designed kinetic power equivalents are utilized in place of traditional training equipment. These devices, which include stationary bikes, elliptical trainers, and weightlifting stations, are equipped with generators that convert the mechanical energy produced during exercise into electrical energy. The electricity is then released back into the fitness center's electrical system, which can either replace or augment traditional energy sources. This could be thought of as a small human-powered power plant.

These workout facilities are always introducing new technologies. However, new advancements in energy storage, generator technology, and smart grid integration are making kinetic power gyms more viable and inexpensive than ever. Previous models were often inefficient and cumbersome. These workout facilities are always introducing new technologies.

However, ne generator technology, and smart grid integration are making kinetic power gyms more viable and inexpensive than ever before Previous models were often inefficient and cumbersome. Modern kinetic power bikes and elliptical trainers usually have simple, intuitive user interfaces and streamlined designs, which improves and expedites the workout experience overall. Furthermore, advanced energy management systems make it easier to optimize the flow of electricity, ensure businesses are at the forefront of the development of kinetic power equipment. These businesses include: liptical trainers usually have simple, intuitive user interfaces and streamlined designs, which improves and expedites the workout experience overall. Furthermore, advanced energy management systems make it easier to optimize the flow of electricity, ensuring maximum efficiency.

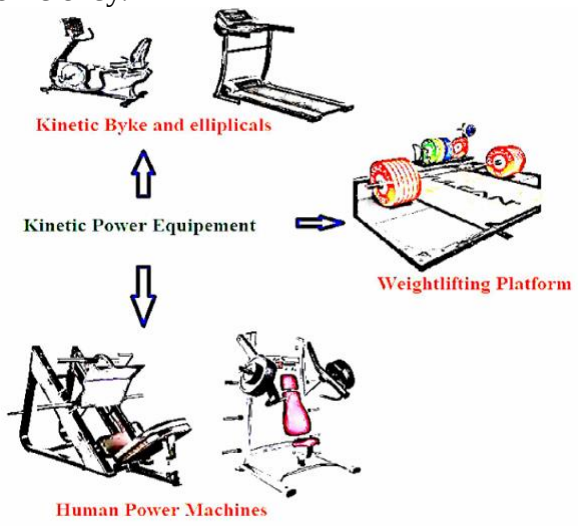


Figure 1: Kinetic power equipment's in Gym

Conclusion:

Kinetic power gyms provide an intriguing convergence of fitness and environmental responsibility, which is a noteworthy advancement. By harnessing the strength of the human movement, these progressive businesses are contributing to a more ecologically sustainable future in addition to promoting healthier lifestyles. Kinetic power gyms have the potential to become a popular concept in the years to come, completely changing how we approach energy usage and exercise.

FACULTY ARTICLES

Ms. S. R. Sayyad
Lecturer

Intelligent control of Grid-Connected Wind Photovoltaic Hybrid Power Systems to Improve Efficiency

With rising energy consumption and concerns about environmental degradation around the world, renewable energy solutions are becoming increasingly popular. The characteristics of wind energy and photovoltaic energy are complimentary. Combining wind and photovoltaic energy in one system (hybrid system) improves the system's reliability and minimizes the need for storage batteries [1]. The system's main benefit is that it meets the basic power needs of non-electrified rural places where grid power has yet to arrive. The energy generated by the wind and solar panels is stored in a battery bank and can be used anytime it is needed. A hybrid renewable energy system combines two or more energy generation technologies, most commonly solar and wind. The fundamental benefit of a solar/wind hybrid system is that it improves the system's reliability by combining solar and wind power generation. Additionally, because there is less reliance on one form of power generation, the amount of battery storage can be reduced slightly. When the sun isn't shining, there's usually a lot of wind. When the sun's resources are at their peak (summer, eventually), wind speeds are generally low. The wind, on the other hand, is generally stronger during seasons (primarily the winter) when there are fewer sun resources. There are various and opposing patterns in terms of wind and solar resources even on the same day, in many places throughout the world, or at different times of the year.

Because of its simplicity and system independence, the P&O method is used by the majority of studies.

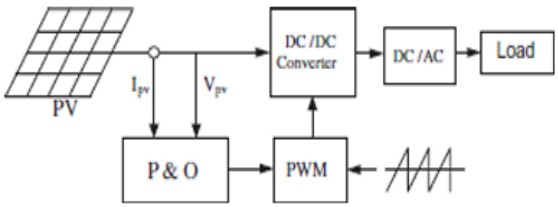


Fig. 2.4- Block diagram of P&O Method

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MPPT Control for PV systems Due to the high cost of PV cells, MPPT must be used to keep the voltage close to the maximum power point in a changing environment. The proposed PV systems consist of an array of 4 3 and 4 6 panels, a dc/dc converter, a dc/ac inverter, and a control algorithm, which is typically performed by a microcontroller to continuously track the maximum power. MPPT is also used to ensure that the required load receives a constant voltage The P&O method is the most widely used method in this field. It seeks the maximum power point by periodically increasing or decreasing the voltage of the PV cell, as previously mentioned.

Conclusion: Natural processes continuously replenish renewable energy sources, often known as non- conventional energy. Hybrid systems are the best option for producing renewable energy. A new wind-PV hybrid generation system has been designed and implemented in this paper. Four case studies illustrate that voltage and power in a hybrid system can be well regulated in a changing environment. MATLAB/Simulink was used to create the simulation model for the hybrid generation system. To extract the greatest power from the wind and solar energy sources, this grid-connected hybrid generation system can fully exploit the characteristics of the proposed wind generator and PV panels. The GRNN and RBFNSM algorithms can track the maximum power output of a hybrid power system rapidly and accurately. Furthermore, efficient power sharing among energy sources has been successfully proven with increased efficiency, improved transient, and increased stability, even under varying load situations and disturbances.

Student Article

Ms.A.S.Gaikwad
Student

INTERNET OF THINGS IN A GREENHOUSE USING ARDUINO

Like it is mentioned in literature, green house is a structure designed to create a controlled environment for growing plants.

Figure 1. Plants in a greenhouse.

Greenhouses are commonly used for various purposes, including growing vegetables, fruits, flowers, and other plants year-round, regardless of external weather conditions. They can be found in commercial agriculture, research facilities, and home gardening. Also, greenhouses are typically made of transparent materials, such as glass or plastic, which allow sunlight to enter while trapping heat inside

Greenhouses play a vital role in modern agriculture and environmental control. Also, greenhouses play a crucial role in enhancing food production efficiency while minimizing environmental impact.

Using Internet of things in a greenhouse can greatly enhance your ability to monitor and control the environment for optimal plant growth.

This controlled environment helps regulate temperature, humidity, and light levels, promoting optimal growth conditions for plants.

Figure 2. Internet of things in greenhouse

Parameter monitoring in a greenhouse is crucial for optimizing plant health, growth, and yield. One of the most important parameters to monitor is temperature. Maintaining the optimal range for plant growth usually between 18-27°C is essential for a well-developed plant.

Another important parameter to monitor is humidity. Like it is mentioned in literature, ideal humidity levels vary, but generally range from 40% to 70% depending on different plants. Also, an important aspect is that high humidity can lead to mold and diseases.

Also, monitoring light levels usually in micromoles of photons per meter squared per second is important for photosynthesis. Another aspect to mention is that supplemental lighting may be required in low-light conditions.

Other sensors such as soil moisture sensors, pH level sensors, carbon dioxide electrical conductivity sensors are also very important when implementing a microprocessor-based systems project in a warehouse. Using moisture sensors can help track the moisture levels in the soil to ensure proper watering without over or under-watering.

For soil or hydroponic systems, maintaining the right pH, which is typically around 6.0-7.0 for most plants, is essential for nutrient uptake.

Toppers 24-25

First Year

Ms. Vaibhavlaxmi Mergu
76.82 %

Mr. Amar Falake
74.94 %

Mr. Sarfraj Tamboli
74.94 %

Mr. Nilesh Shinde
70.35 %

Second Year

Mr. Prafull Ingale
84.76 %

Ms. Anjali Gaikwad
84.24 %

Ms. Sakshi Kore
81.77 %

Third Year

Mr. Parmeshwar Kadam
87.50 %

Ms. Tanvi Swami
86.88 %

Ms. Gayatri Chavare
86.50 %

Placement 24-25

Cummins India Pvt.

Mr. Mayuresh Bansode

Mr. Shashikant Gujji

Mr. Zaidalli Mulla

PV Clean Mobility

Mr. Rushikesh Kadam

Vitesco Pvt. Ltd

Ms. Divya Sakhare

Ms. Priyanka Yenape

Ms. Pratiksha Gaikwad

Ms. Sandiksha Bhosale

Finolex Pvt. Ltd

Mr. Gaurav Sale

Mr. Rakesh Mergu

Mr. Onkar Ambarshetti

Mr. Laxman Dagade

Mr. Rohan Kavade

Mr. Samarth Pawar

Mr. Sangram Pawar

Mr. Shivam Kokade

Mr. Shahid Shaikh

Bajaj Pvt. Ltd.

Mr. Omkar Ghadge

Mr. Parmeshwar Kadam

Mr. Siddhesh Kulkarni

Ms. Prerna Londhe

Ms. Mahek Pathan

STUDENT PARTICIPATION IN EVENT

Sr. no.	Type of Activity & Details (Paper Presentation /Project/ Quiz etc.)	Date	Name of Participating Student	Organizing Body and Organizing Institute	Awards (Winner /Participation)	Level (State / National / etc.)
1	Technical Quiz	28-01-2025	Gaurav Sanjay Sale	Jawaharlal Neharu Institute Technology, Pune	Participant	State
2			Mayuresh Vishal Bansode			
3	Technical Quiz	01-03-2025	Zaidali Mulla Ansar	VVP Polytechnic, Solapur	Participant	State
4	Technical Quiz	03-03-2025	Gaurav Sanjay Sale	BIGCE, Solapur	3rd Prize	State
5			Siddhesh Sachin Kulkarni			
6			Mayuresh Vishal Bansode		Participant	
7			Sangram Sushilkumar Pawar		Participant	
8			Rushikesh Pradeep Kadam		Participant	
9			Samarth Ashok Pawar		Participant	
10			Laxman Rajaram Dagade		Participant	
11			Amit Vijaykumar Gaddi		Participant	
12			Shreedhar Sanjay Hukkire		Participant	
13			Shivam Nitin Kokade		Participant	
14			Shreyash Subhash Gurakhe		Participant	
15	Technical Quiz	08-03-2025	Shivraj Gundappa Bandgar	A.G.Patil Polytechnic,Solapur	1St Prize	State
16			Prem ganesh Pawar			
17			Anjali Ashok Gaikwad		3rd Prize	
18			Samata Sanjay Gaikwad			
19			Sushant Ramesh Sangangiri		Participant	
20			Rakesh Mohan Meragu		Participant	
21			Swapnil Sunil Vasekar		Participant	
22			Shubham Siddharam Katare		Participant	
23			Ganesh Kailas Konale		Participant	
24			Salgar Vishwanath Sidram		Participant	
25			Revane Kiran Santosh		Participant	
26			Ajnalkar Darshan Devidas		Participant	
27			Prafull Kiran Ingale		Participant	
28			Prem Anil Maske		Participant	
29			Aware Vaibhav Hanumant		Participant	
30			Pratik Prakash Rathod		Participant	


Happy
Independence Day