

E Spark

Department of
Electrical
Engineering

ANJUMAN COLLEGE OF ENGINEERING & TECHNOLOGY

ISSUE - 14

FROM HOD'S DESK



Dr. Ruhi Uzma Sheikh
HEAD OF DEPARTMENT

CONTENTS

- From HOD's Desk
- Message from Editor
- Faculty Publication
- Faculty Achievements
- Placement , Internship
- Teachers Day Celebration
- Parent Teachers Meet
- Seminars
- Departmental Activities
- Toppers
- Students Forum
- Articles

The Anjuman College of Engineering and Technology [A.C.E.T.] is Accredited by NAAC A+ Grade. The Electrical Engineering Department commenced in the year 1999. The Department has established itself as one of the most disciplined and vibrant department of A.C.E.T. in a time span of more than 23 years and has helped my students to become qualified technocrats who are well placed and working at very well known organization in India and abroad.

It is with great pride and pleasure that I extend my warmest greetings to you through the annual newsletter of the Electrical Engineering Department. This newsletter is a testament to the hard work, dedication, and achievements of our students, faculty, and staff throughout the academic year.

The field of Electrical Engineering continues to evolve rapidly, bringing new challenges and opportunities. Our department has consistently strived to stay at the forefront of innovation and learning, fostering an environment where knowledge meets creativity. This year, we have seen remarkable progress in academic pursuits, technical events, and industry collaborations. Our students have made us proud with their performance in competitions, project work, and placements, while our faculty continues to push the boundaries of research and innovation.

This newsletter captures some of the highlights from the year — from academic achievements to technical workshops, industrial visits, and cultural events. These activities not only enhance technical knowledge but also help in developing leadership and teamwork skills among our students.

I would like to take this opportunity to thank all faculty members, students, and staff for their relentless efforts in driving the department towards greater heights.

"Wiring the future with innovation, knowledge, and passion — may our pursuit of excellence in Electrical Engineering continue to light the path towards a brighter and smarter world."-----

Message from EDITOR



Prof. Ishraque Ahmad
Assistant Professor

"If you do not hope, you will not find what is beyond your hopes."

A thought that has been enduring in a mind when it becomes real, is truly an interesting and exciting experience. This news letter "e-Spark-24" was one such cherished work that had its roots in the persuasion. It would be a snapshot of the various activities and advancements for all associated with Electrical Engineering Department. It also include technical articles related to developing technology in engineering field .Proper communication plays a vital role in institution's development. This news letter "e-Spark-24" will serve to reinforce and allow increased awareness, improved interaction and integration among all of us.. To achieve progress and to meet objectives we have to cross numerous milestones. I would like to thanks Principal Dr. K.S. Zakiuddin and Head of Department Dr. Ruhi Uzma Sheikh for perennial growth and development of newsletter.

This issue of newsletter "e-Spark-24" should inspire all of us for a new beginning enlighten with hope, confidence and faith in each other in the road ahead.....

Happy Reading!

Faculty Publications (Electrical Engineering)

TITLE OF PAPER	NAME OF THE AUTHOR/S	NAME OF JOURNAL	YEAR OF PUBLICATION	ISSN NUMBER
Design of Sensor Based Safety Mechanism For Industrial Cutting Power Press Machine	Dr. PRAMOD GADGE	Industrial Engineering Journal	2024	ISSN NO. 0970-2555
IOT- Based Solar Grass Cutter & Smart Agriculture Fertilizer Spraying Robot	Dr. ARCHANA SHIRBHATE	International Journal of Research and Analytical Review (IJRAR) / IJRAR.ORG	2024	E-ISSN:2348-1269, P-ISSN:2349-5138
Design And Implementation of Smart Trolley System	Dr. SAYYED NAIMUDDIN	International Journal of Advance Research in Science and Technology	2024	ISSN NO 2319-1783 ISSN NO 2320-1126
Implementation of Regenerative Braking and Fast Charging In Electric Vehical	Dr. RUHI UZMA SHEIKH	International Journal of Analytical and Experimental Model Analysis	2024	ISSN-0886-9367
Solar Power Floor Cleaning Robot	Prof. NAJMA SIDDIQUI	Journal of Engineering Science	2024	VOL 15 ISSUE 05 2024
Mitigation of Power Quality Issue in Hybrid Renewal Energy Source by UPQC with Optimization Technique	Prof. AKIL AHEMAD	International Journal of Advance Research in Science and Technology	2024	ISSN NO 2319-1783 ISSN NO 2320-1126
Solar Based Water Body Cleaner	Prof. NAWAZ SHEIKH	International Journal of Innovative Sceince and Research Technology IJSRT24FEB831	2024	ISSN No.2456-2165
Generation of Electricity from Agricultures Waste Material Using Solar Thermal Panels	Prof. SHAHID ARAFAT	International Journal of Advance Research in Science And Technology	2024	ISSN NO 2319-1783 ISSN NO 2320-1126



Felicitaton of Dr. Pramod Gadge on Award of Doctrate (Sandip Univeristy Nashik)



Felicitaton of Dr. Ruhi Uzma Sheikh at IEI ny the hands of Dr. Ganapati Yadav



NAARI-SHAKTI Award to Dr. Archana Shirbhat

Faculty Achievements (AWARDS)



IEI Prayavaran Saathi Award by the Hands of RTM Nagpur University Vice-Chancellor Dr. Subhash Chaudhari

Dr Ruhi Uzma

DR RUHI Uzma Sheikh, Assistant Professor and Head of Department, Electrical Engineering of Anjuman College of Engineering and Technology, Sadar, also, MIE (IEI) Corporate member, has been selected as Council member of All India Student Committee (AISC) from The Institution of Engineers Kolkata. All-over India 12 members are selected for 71st AISC committee council for third conclaves. The committee is formed for various Students' Regional Conclave and National Conference for financial year 2023-24.



PASS OUT BATCH 2023-2024



Details of Placement 2023-2024

ON CAMPUS Placement

Sr. No.	No. of Students	Name of the Employer	Name of the Students Placed	Package (Lacs/annum)
1	1	QSpider	Kiran Dambhare	3.80
2	2	Pentagon Space	Khushboo Nandeshwar	3.50
3			Ritik Ramteke	
4	1	Intellipaath	Sanika Dhume	7.25
5	2	KodNest	Pratham Godselwar	3.5
6			Anuja Pakidde	
7	14	Talencorp Solution	Akash Raut	2.2
8			Chetan Nagpure	
9			Prachita Modekar	
10			Priyanshi Sahu	
11			Gayatri Bonsule	
12			Yogini Kumbhalkar	
13			Aditya Balki	
14			Chetna Patil	
15			Swikrati shrivastava	
16			Kanchan Khobragade	
17			Mohammad Qureshi	
18			Harsh Somkuwar	
19			Ritik Ramteke	
20			Pratham Godselwar	

INTERNSHIP 2023-2024

Sr. No.	Name of the Collaborating Agency with Contact Details	Name of the Participant
1	Alpha Industries	Sarim Khan
2	B.G. Shirke Construction	Ruchita Barsagade
3	B.G. Shirke Construction Technology Pvt. Ltd.	Samiksha kuthe
4		Payal Sonwane
5		Roji Alam
6		Ramiz Ahmed
7	Janta Winders & Electric Work	Afnan Ali
8		Hasnain sadakat Ali
9	K Son's	Prerna Sakhale
10	Krishna Electrical & Air Coolers	Sahil Ukey
11		Gauri Burde
12		Vallabh Gajbhiye
13		Takshil Gajbhiye
14		Priyanshu Shastri
15		Antara Vilas Pund
16		Aditi jambhulkar
17		Jiya Ali sayyad
18		Tuba Naaz
19		Shraddha Gondane
20		Fatima Rizwan
21	MD Powertic Engineering Pvt.Ltd.	Atharva Ittadwar
22		Nikhil Yekhande
23		Amit waghmare
24		Ishaque Sheikh
25	The website Maker	Pranjal Kamble
26		Pranjal Kamble
27		Drushti Meshram
28		Bhumika Umesh Dhole
29		Hammad Khan
30		Drosvi nandeshwar
31		Madhulika Wakodikar
32		Amreen Naaz Munir
33		Uzair Iqbal
34	V.S. Informatics Pvt. Ltd.	Gayatri thakre
35		Amreen Naaz Munir
36		Anuradha Kshirsagar
37		Radhika band
38	Weld-Metal Engineering	Prajwal Dehankar
39		Arpit Dewase
40		Lokesh Sormare
41		Kabir Arvind Tekam
42		Siddhesh Ukey
43		Om Sunil shelke
44		Mayur Shahare

Teachers Day CELEBRATION



Parent Teachers Meet



Seminars & Guest Lecturers

Exposure to Industrial Automation

Date of Event : 06-02-2024, Coordinator : Prof. Nahid Khan, Prof. Ishraque Ahmed



Career Guidance on Industrial Automation



First Year Induction Programme



Departmental visit and Faculty Interacting with the new admitted student

Automation in RTMNU



International Conference on Green Hydrogen & Clean Energy



Industrial Visits



Visit to Highrise Transformer



one day industrial visit for the students of 7th semester at Area Load Dispatch Centre, Ambhazari.



Visit to Robotics Lab, RTMNU, Nagpur

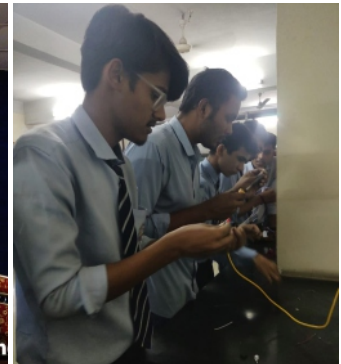
Departmental Activities



GPS Map Camera



GPS Map Cam



One Week Model Designing based Workshop under Student chapter IEI The Institution of Engineers (India)''



GPS Map Camera



SEMINAR ON ENTREPRENEURSHIP



Workshop under MODROB on "IMPULSE GENERATORS IN HIGH VOLTAGE TESTING"



VIDHNYAN BHARATI

Science Model Competition



NFE VNIT

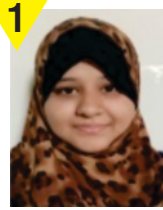


IEI POSTER COMPETITION

Students' ACHIEVEMENTS

Congratulations

3rd Semester
Winter 2023
RTMNU Exam.



80% SGPA 8
Fatima Rizwan

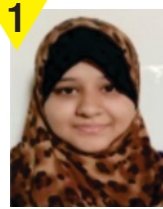


72.9% SGPA 7.33
Payal Sonwane



60% SGPA 6.75
Aditi Jambhulkar

4th Semester
Summer 2024
RTMNU Exam.



74.37% SGPA 7.33
Fatima Rizwan

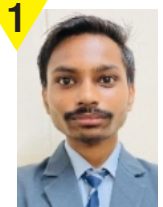


63.7% SGPA 6.96
Payal Sonwane



64.75% SGPA 6.33
Aditi Jambhulkar

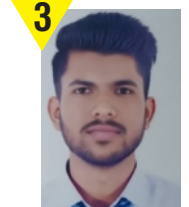
5th Semester
Winter 2023
RTMNU Exam.



77.05% SGPA 7.70
Ritik Satpute

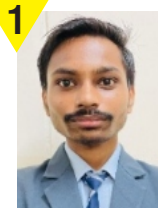


64% SGPA 6.40
Dipali Wankhede



54.5% SGPA 6.20
Vipin Suryavanshi

6th Semester
Summer 2024
RTMNU Exam.



70.30% SGPA 7
Ritik Satpute



66.61% SGPA 6.52
Vipin Suryavanshi



64.30% SGPA 6.33
Manasvi

7th Semester
Winter 2023
RTMNU Exam.



71% SGPA 7.94
Shruti Sakhare



66.6% SGPA 7.41
Rewa Madke

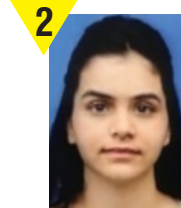


63.1% SGPA 7.06
Shalini Dhawale

8th Semester
Summer 2024
RTMNU Exam.



82.10% SGPA 8.5
Shruti Sakhare



72.20% SGPA 8.21
Sanika Dhume



70.70% SGPA 8.18
Kiran Dambhare

Students Forum

Forum Installation 2023-24



Student Chapter IEI

Alumni Interaction



Alumni Shanawaz Malik 2016 batch

Alumni Nilesh Kolhe 2018 batch



Winning Third Position
KHASDAR KRIDA MOHOTSAV 2024



Workshop on Energy Conservation
(Project and Poster competition)

ISRO Space on Wheels at Anjuman



Celestial 2024 Inter branch Championship
Won by Electrical Engineering Department

Articles Science Simplified : What is Hydrogen Energy ?

As the effects of climate change take hold, our planet faces record heat waves, unprecedented storms, historic droughts, and wildfires. Scientists have linked these events to greenhouse gases like carbon dioxide in the atmosphere, much of which is produced by human activity. Hydrogen is the simplest chemical element, or type of atom, and an abundance of hydrogen exists within the water on our planet. It is naturally renewed by the water cycle, and when used as fuel, it releases no harmful emissions. For these reasons, hydrogen could play a major role in fostering a cleaner environment and reducing greenhouse gas emissions in sectors ranging from transportation to the grid. Scientific Laboratory are leveraging world-class facilities and expertise to lower the cost of hydrogen production and develop affordable fuel cells for hydrogen-powered vehicles. They're also assessing methods of hydrogen production, transport, storage and use to minimize greenhouse gas emissions. Scientists are working to make this vision a reality using the energy within hydrogen, which promises to play a major role in fostering a cleaner environment and achieving the U.S. goal to attain net-zero carbon emissions by 2050 — in other words, removing carbon from the atmosphere at the same rate it is emitted.

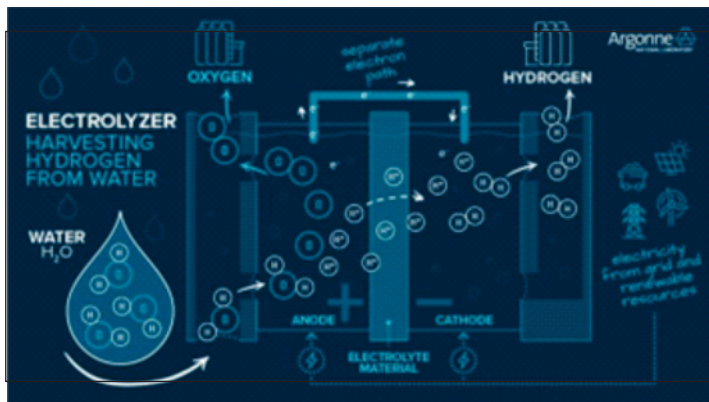
Hydrogen is the simplest chemical element, or type of atom. It consists of just one proton and one electron. It is also the most abundant element, making up around 75% of the known matter in the universe. Vast amounts of hydrogen exist in water and living things.

The hydrogen molecule, consisting of two hydrogen atoms, can be used to produce carbon-free energy. Hydrogen molecules carry a lot of energy; a pound of hydrogen contains almost three times the energy of a pound of gasoline or diesel.

However, hydrogen molecules are not abundant on Earth, making up less than 0.0001% of our atmosphere. Because of this, hydrogen must be produced from other substances that contain it. The most common way to produce hydrogen that doesn't use fossil fuels is to split water (H_2O) into hydrogen (H_2) and oxygen (O_2) using electricity. This process, called water electrolysis, is a promising option for carbon-free hydrogen production since the electricity can be sourced from nuclear or renewable energy, such as wind and solar. Scientists and engineers are working to improve and lower the cost of hydrogen produced by water electrolysis.

The deployed methods that convert solar energy and water directly to hydrogen by harnessing and mimicking biological processes like photosynthesis. There are several ways to use hydrogen for energy once it is produced. The most prominent is in fuel cells, which convert the chemical energy stored in hydrogen and oxygen into electricity. Unlike with gasoline-fueled engines, there are no harmful emissions like carbon dioxide. And unlike with batteries, fuel cell systems don't require lengthy down times for recharging. They are refuelled like gasoline-fueled engines, but with hydrogen.

■ Irshad Alam, (Final Year)



“Extraordinary Potential” The New Dawn of Low-Cost, High-Efficiency Solar Cells

Solar cells, also known as photovoltaic (PV) cells, are devices that convert sunlight directly into electricity through the photovoltaic effect. They are made primarily from semiconductor materials like silicon. When sunlight hits the solar cell, it excites electrons in the semiconductor material, causing them to flow and generate electric current. Solar cells are the building blocks of solar panels, which are assembled into larger arrays to produce power for residential, commercial, and industrial applications. Over the years, the efficiency of solar cells has significantly improved, making solar power a more viable and increasingly cost-effective alternative to traditional fossil fuels. Research continues into developing new materials and technologies, such as perovskite solar cells and multi-junction solar cells, to enhance performance and reduce production costs, further driving the adoption of solar energy globally.

■ Ninad Shambharkar, (Final Year)

Cheaper, Faster, Cleaner : Scientists Have Developed the World's First Anode-Free Sodium Battery

Advancements in Sustainable Energy : Recently published in Nature Energy, the paper reveals a new sodium battery architecture with stable cycling for several hundred cycles. By removing the anode and using inexpensive, abundant sodium instead of lithium, this new form of battery will be more affordable and environmentally friendly to produce. Through its innovative solid-state design, the battery also will be safe and powerful.

This work is both an advance in science and a necessary step to fill the battery scaling gap needed to transition the world economy off of fossil fuels. To accomplish our mission of decarbonizing our economy, we need several hundred terawatt hours of batteries. We need more batteries, and we need them fast.”

New Architectural Innovations: To create a sodium battery with the energy density of a lithium battery, the team needed to invent a new sodium battery architecture. Traditional batteries have an anode to store the ions while a battery is charging. While the battery is in use, the ions flow from the anode through an electrolyte to a current collector (cathode), powering devices and cars along the way.

Anode-free batteries remove the anode and store the ions on an electrochemical deposition of alkali metal directly on the current collector. This approach enables higher cell voltage, lower cell cost, and increased energy density, but brings its own challenges.

“In any anode-free battery there needs to be good contact between the electrolyte and the current collector,” Deysher said. “This is typically very easy when using a liquid electrolyte, as the liquid can flow everywhere and wet every surface. A solid electrolyte cannot do this.”

However, those liquid electrolytes create a buildup called solid electrolyte interphase while steadily consuming the active materials, reducing the battery's usefulness over time.



■ Ritik Satpute, (Final Year)