NEWS LETTER : 2024-25

E Spark

ACET

Department of Electrical Engineering

ANJUMAN COLLEGE OF ENGINEERING & TECHNOLOGY

DR. RUHI UZMA SHEIKH

HEAD EXPO DEPARTMENT

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."

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 FIRST ISSUE OF NEWSLETTER "E-SPARK-14" SHOULD INSPIRE ALL OF US FOR A NEW BEGINNING ENLIGHTEN WITH HOPE, CONFIDENCE AND FAITH IN EACH OTHER IN THE ROAD AHEAD.....

HAPPY READING!

TEACHING STAFF MEMBERS

INTERNSHIP 2024-25

Sr. No.	Name of the collaborating agency	Number of students during internship	duration
1	MAA SARASWATLELECTRICAL INDUSTRIES, Katol Road, Nagpur	4	30 days
2	STAR INDUSTRIES, Kamptee road. Nagpur - 441 001	22	30 days
3	Professional Development Hours (PDH): 2.0	2	15 days
4	EDU Skill AICTE Virtual Internship	19	10 weeks

TEACHERS DAY CELEBRATION

PARENTS TEACHER MEET

SEMINAR AND GUEST LECTURE

Nutri-Talk On the occasion of Nutrition Week Topic: Reset Relationship with Food

Guest Lecture on Study in Abroad

NU Intelligence Exam Related to Automation

Guest Lecture on Ragging & Its Consequences

"SEMINAR on Introduction to Computer in –Aided Design(CAD) and its Impact on Electrical Engineering Design Process"

One day workshop under the banner IEI IPCS Global, Nagpur

One day workshop on PLC Automation, SCADA by IPCS Global Technology, Nagpur

Expert Lecture on "Opportunities for Electrical Engineers" by Er. Narendra Satfale, DGM Mahindra Plant

Guest Lecture on Importance and role of Electrical engineers in todays era by Er Tanveer Mirza Chairman CDC ACET

DEPARTMENTAL ACTIVITY

BGMI Tournament during E-Con 2024

"Workshop on Industrial – BIM Technology"

MOU Exchange with IPCS Global LLP (PLC And SCADA Automation Solutions)

Technical Activity Anjuman Youth Parliament

Workshop on Energy Conservation (Project and Poster competition)

Innovations & Opportunities in Solar Energy under NDLI Club on dated

15DAYS WORKSHOP UNDER STUDENT CHAPTER IEI THE INSTITUTE OF ENGINEERS(INDIA) ON "INDUSTRIAL AUTOMATION IN PLC,SCADA,HMI

CLASS TOPPERS

RESULT ANALYSIS B.TECH 3RD SEMESTER (WINTER 24)

MOHAMMAD ADNAN ANSARI

CLASS RANK: - 1ST

(SGPA:- 7.46

ZUHA IMRAN ANSARI

CLASS RANK: - 2ND

(SGPA:- 7.46)

PRATHAMA P. DEBNATH

CLASS RANK: - 3RD

(SGPA:- 7.46)

RESULT ANALYSIS B.TECH 5TH SEMESTER (WINTER 24)

CLASS TOPPERS

FATEMA RIZWAN

CLASS RANK: - 1ST

SGPA:- 7.7

PAYAL N. SONWANE

CLASS RANK: - 2ND

SGPA:- 7.2

ADITI M.JAMBULKAR

CLASS RANK: - 3RD

SGPA:- 6.85

RESULT ANALYSIS B.TECH 7TH SEMESTER (WINTER 24)

CLASS TOPPERS

RITIK SHARBHANG SATPUTE

CLASS RANK: - 1ST

SGPA:- 7.71

MANASVI RAVISHANKAR PARTEKI

CLASS RANK: - 2ND

SGPA:- 7.29

DIPALI SUBHASH WANKHEDE

CLASS RANK: - 3RD

SGPA:- 7.18

STUDENTS FORUM

INSTALLATION OF FORUM ENERGY CONSERVATION CELL

INSTALLATION OF FORUM PHOENIX

THE INSTITUTION OF ENGINEERS STUDENT CHAPTER INSTALLATION 2024-25

TECH SAGA 2K25

INAUGURATION CEREMONY OF TECH SAGA 2025

INDUSTRIAL VISIT 2025

Educational Visit to CSIR-NEERI on date: - 08/01/2025

Industrial Visit to Koradi Thermal power Station, Koradi Nagpur

Industrial visit to Haldirams Foods International Pvt. Ltd., Mouda Nagpur

Industrial visit to Dinshaws ice Cream , Butibori, Nagpur

Industrial visit to IPCS Global Technology, Nagpur

Industrial visit to Shreya Plasto Bathware Pvt.Ltd., MIDC Hingna, Nagpur

NEWS ARTICLES

1) Ritik Satpute(Final Year Student)

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."

2) Ninad Shambharkar (Final year Student)

"Extraordinary Potential" – The New Dawn of Low-Cost, High-Efficiency Solar Cells

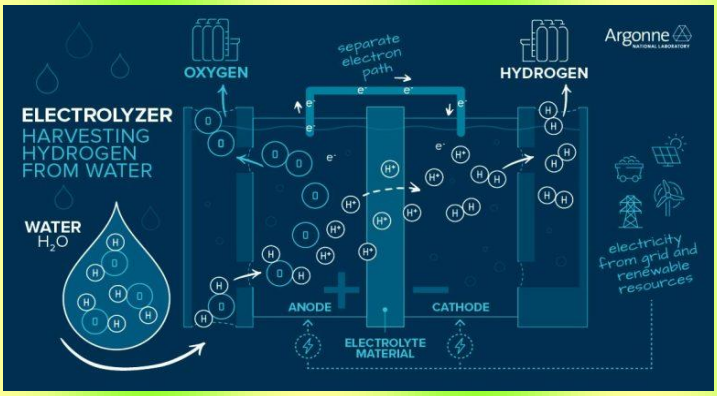
Solar cells, also known as photovoltaic (PV) cells, are devices that convert sunlight directly into electricity through the photovoltaic effect. They are made primarily from semiconductor materials like silicon. When sunlight hits the solar cell, it excites electrons in the semiconductor material, causing 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.

3) IRSHAD ALAM (FINAL YEAR STUDENT)

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

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 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 DOWNTIMES FOR RECHARGING. THEY ARE REFUELED LIKE GASOLINE-FUELED ENGINES, BUT WITH HYDROGEN.