

2023-24



E - P O W E R

Experience the Power of Professionalism

MESSAGES



PRINCIPAL
DR. S. A. DHALE

I'm delighted to write for E-POWER, our esteemed magazine from the Department of Electrical Engineering. This publication showcases the exceptional talent and dedication of our students and has gained popularity within our institute. I congratulate the contributors and editorial board on curating an engaging magazine that both students and faculty will enjoy. I also express my gratitude to our college management for fostering a supportive environment that encourages freedom of expression. Let's approach the upcoming session with enthusiasm and determination. Wishing everyone the best for the exciting times ahead!



VICE-PRINCIPAL
DR. G.M. ASUTKAR

I'm delighted to connect with you through E-POWER, our college magazine. Creating this annual publication requires meticulous effort, and I commend the editorial board for their diligence and systematic approach. My congratulations to the dedicated team and the talented contributors who have enriched this magazine with their writing. Your hard work and creativity have made this publication possible!



HEAD OF DEPARTMENT
DR. R. A. KESWANI

Become the person you decide to be. Confidently pursue your dreams by setting clear goals, acquiring necessary resources, and aligning your efforts. The will to win and desire to succeed are keys to personal excellence. As Shakespeare said, 'We know what we are, but know not what we may be.' I also commend the 'E-POWER' 2023-2024 team for their remarkable efforts and dedication. May their passion drive them toward a bright future.



CHIEF EDITOR
DR. S. N. DHURVEY

This year, our students excelled in academics, co-curricular activities, and extracurricular pursuits. Our Electrical Engineering department proudly presents "E-POWER," a magazine showcasing their dedication, creativity, and originality. We thank Dr. S. A. Dhale, Principal (PCE), for his guidance and support. We also appreciate the authors who contributed to this captivating magazine. As we celebrate this milestone, we look forward to future editions of "E-POWER," where student voices will continue to shine.



CHIEF EDITOR
MR.A. DEOSANT

This year, our students have excelled in academics, co-curricular, and extracurricular activities, forming a vibrant tapestry of achievement. The Department of Electrical Engineering proudly presents "E-POWER", a magazine showcasing their original ideas, creativity, and innovative thinking. This platform nurtures students' imagination, ignites their curiosity, and empowers them to shine. Through "E-POWER", we celebrate their achievements, reflecting their passion for learning and growth, and leaving a lasting impact.

DEPARTMENT OF ELECTRICAL ENGINEERING

VISION, MISSION, PEO, PSO

Vision:

To become a centre of excellence and to develop technically competent and socially responsible technocrats with high moral values in the field of electrical engineering.

Mission:

- **To impart state-of-the-art technology in the field of electrical engineering.**
- **To create quality human resource for industry or to be self-employed.**
- **To develop competent technocrats with high moral and ethical values to fulfill the expectations of society.**

Program Educational Objectives (PEOs):

PEO-1: Our graduates will work on operations and practice in Electrical Engineering and Technology applications

PEO-2: Our graduates will practice profession with an understanding of ethical, moral and social Responsibilities

PEO-3: Our graduates will cope up with constantly evolving technologies through lifelong learning

Program Specific Outcomes (PSOs):

PSO 1: To provide technical solution for the problems faced in electrical and allied engineering industries.

PSO 2: To develop electrical system keeping in view energy efficiency practices.

FORUM INSTALLATION



THE FORUM INSTALLATION OF VIDYUT.THE SPARK WAS CELEBRATED WITH GREAT ENTHUSIASM AT PCE. DURING THIS OFFICIAL INAUGURATION, THE ORGANIZERS EMPHASIZED THE CRITICAL ROLE OF ELECTRICAL ENGINEERING IN TODAY'S INDUSTRY LANDSCAPE. AS TECHNOLOGY CONTINUES TO EVOLVE, STUDENTS MUST STAY ABREAST OF THE LATEST INDUSTRY TECHNOLOGIES. THESE SKILLS ARE INDISPENSABLE FOR THEIR SUCCESS IN DYNAMIC JOB ROLES, WHERE ADAPTABILITY AND INNOVATION ARE KEY.



FORUM BODY



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Kunal Kawale



Vice president
Jayesh Binzade



Secretary
Samruddhi Balpande



Joint secretary
Janhvi Shukla



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Executive Member
Vivek Samrutwar



Executive Member
Parth Wankar

CHARITY EVENT



**ELECTRICAL DEPARTMENT DISTRIBUTED
STATIONARY POUCHES TO STUDENTS OF ZILA
PARISHAD SCHOOL ON THE OCCASSION OF
FOUNDERS DAY**

NSS-NATIONAL SERVICE SCHEME



NATIONAL SERVICE SCHEME (NSS) WAS LAUNCHED DURING 1969, THE BIRTH CENTENARY YEAR OF MAHATMA GANDHI, IN 37 UNIVERSITIES INVOLVING 40000 STUDENTS. NSS IS AN EXTENSION DIMENSION TO THE HIGHER EDUCATION SYSTEM TO ORIENT THE STUDENT YOUTH TO COMMUNITY SERVICE WHILE THEY ARE STUDYING IN EDUCATIONAL INSTITUTIONS.

ROBOTICS AND AUTOMATION SEMINAR



SEMINAR ON:

**"INDUSTRIAL ROBOTICS & AUTOMATION AND
IT'S FUTURE OPPORTUNITIES"**

**BY - MR ANIL TATODE
TRAINING OFFICER,
RTMNU ROBOTIC CENTER, NAGPUR**

AWARENESS PROGRAM



STUDENTS FROM ELECTRICAL DEPARTMENT VISITED TO VILLAGES FOR SPREADING AWARENESS REGARDING PRODUCTS USED IN OUR DAY TO DAY LIFE.



FAIZAN KHAN AWARDED WITH UNIVERSITY COLOR HOLDER IN SINGING 2023-24, FELICITATION AT THE HANDS OF CHAIRMAN DR. SATISH CHATURVEDI, SECRETARY SMT. ABHA CHATURVEDI, DIRECTOR DR. VIVEK NANOTI, PRINCIPAL DR. SHRIKRISHNA DHALE

TEACHERS DAY



TEACHERS' DAY IS CELEBRATED TO MARK THE BIRTH ANNIVERSARY OF DR. SARVEPALLI RADHAKRISHNAN. IT AIMS TO RAISE AWARENESS ABOUT THE ROLE OF TEACHERS IN PROVIDING QUALITY EDUCATION AT ALL LEVELS AND EXPRESS THEIR GRATITUDE TOWARDS TEACHERS

"A GOOD TEACHER CAN INSPIRE HOPE, IGNITE THE IMAGINATION, AND INSTILL A LOVE OF LEARNING"

JANUARY 2024

અશ્વમેધ.

beauty in
every move.

*let the music into your
veins and allow your
body to flow like fluid.
dance is not just
movement but an art
of the body.*

SPORTS DAY

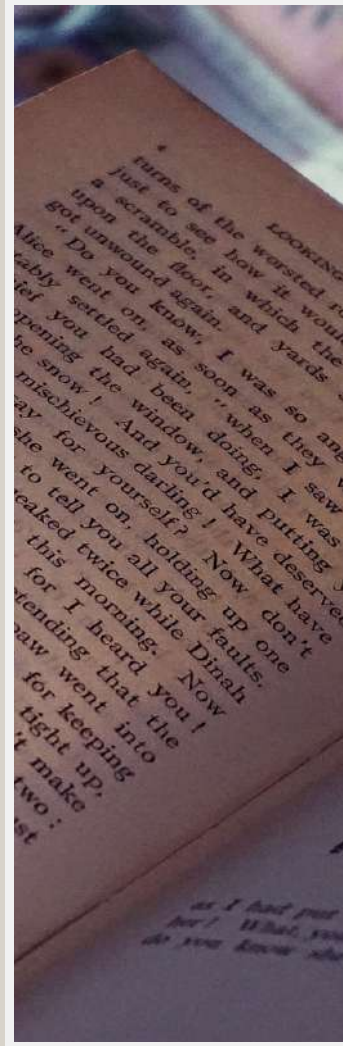


SPORTS ACHIEVEMENT



FASHION AND DANCE





STUDENT ACTIVITIES

"LET YOUR CREATIVITY FLOW"

POETRY

तेरे संग एक कहानी बुनना चाहता हूँ

तेरे संग एक कहानी बुनना चाहता हूँ,
जिसमें तेरे साथ कॉलेज जाना चाहता हूँ
कलाश की पीछे वाली सीट पर बैठ कर
तेरे लिए कुछ गाना चाहता हूँ।

तेरे हाथों में हाथ,
तेरी वाक पर जाना चाहता हूँ,
मैं यह हर रोज़ करना चाहता हूँ।

तेरे संग एक कहानी बुनना चाहता हूँ
जिसमें तेरे प्लेक्स का,
रिपिट पर वह सॉन्ग बनना चाहता हूँ।

तेरे बालों से खेलता,
ठंढा का सोंका बनना चाहता हूँ।

तेरा वह रंगीन,
तेल छर्टि बनना चाहता हूँ।
मैं यह हर रोज़ करना चाहता हूँ।
तेरे संग एक कहानी बुनना चाहता हूँ।

Nature

I am a human,
I'm tired from cities,
I am going to nature,
to find peace.

Long and Shady trees,
and that cool Breeze,
made me relax and calm,
and found tree of palm.

The plain ground,
with flora and fauna,
and silence all over the area,
made me feel peace.

The clouds were as light as air,
and blew with the wind,
And the sun set,
Was the day's end
By-Manvi Rawat

Time

I looked at the clock
And a fear set in me
A fear of running out of time
And never being free
I hate thinking that
One day I will leave
And all I left behind
Are broken dreams I didn't achieve

I want to leave
A footprint in the sand
So that people know
I did all that I planned
I know my greatest fear
Is running out of time
But I want to live
Is that really such a crime

"Protection Theme" ♥

There Occurs A Fault,
Then the Current should Halt
Otherwise The fault current
would Increase,
And Service Continuity Decrease.
But The Relay Acts Quick,
And The circuit Breaker Trips.
The Faulty part is disconnected,
And The power system is protected.
Thank You , Mr. Switch Gear,
Because of You There is Little Fear!

SKETCHES

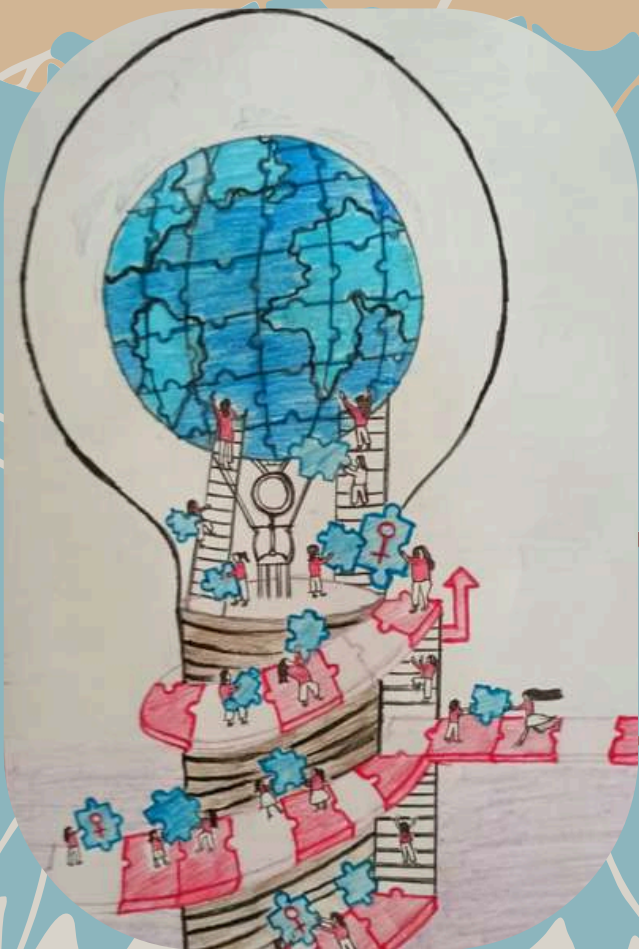
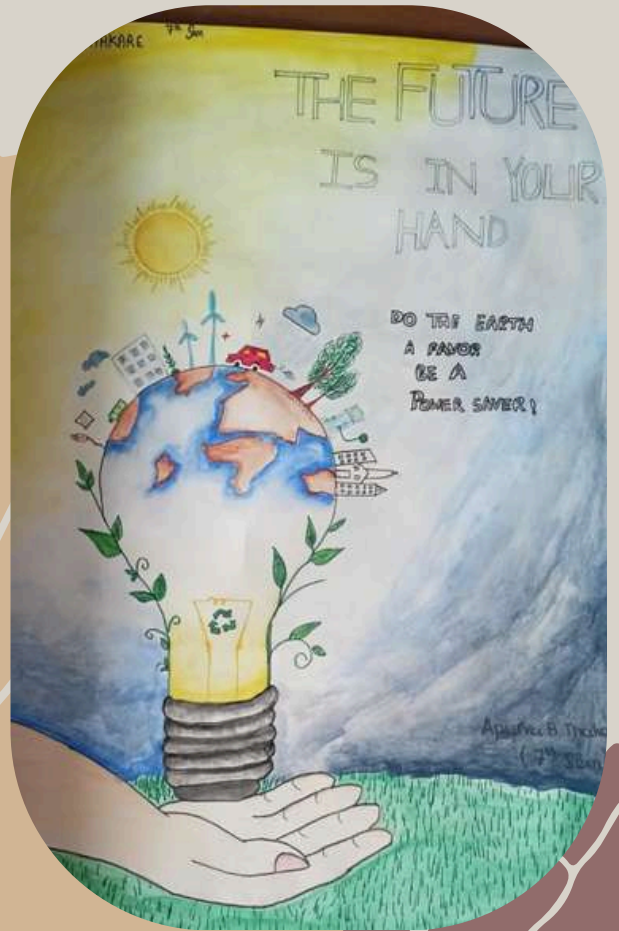


BY - PARNAVI RODE
7TH SEM



BY - VAISHNAVI NIMJE
7TH SEM







ARTICLE

01

POWER OF LIGHT

"Nothing in the universe can travel faster than light."

There has been light from the beginning. There will be light at the end. In all its forms - visible and invisible - it saturates the universe.

Modern Physics has sliced off the stuff of nature into ever smaller and more exotic constituents, but light won't reduce. No one is exactly sure how to describe it. Is it a wave or a particle? Yes, the scientists say, both. It exhibits particle nature as well as wave nature.

Usually, though we don't see light we merely see with it. The main source of light on the earth is the sun.

Historically, another important source of light for the humans has been fire, from ancient campfires to modern kerosene lamps. With the development of electric lights and power systems, electric lighting has effectively replaced firelight.

03

Light is a marvel and its qualities are a true testimony of its Divine nature and origin. After all when we activate the light in our lives, problems are solved, arguments are diffused, solutions instantly arrives and whatever we need fall into our hands. This is the 'POWER OF LIGHT'.

— Vaidehi Khadse

02

Light carries both energy and information. The term light refers to the electromagnetic radiation of any wavelength. The smallest energy of the EM waves is called a photon, & represents the quantum of light. When a wave of light is transformed & absorbed as a photon, the energy of wave instantly collapses to a single location and this location is where the photon arrives. This is what is called the wave function collapse. This dual wave-like & particle-like nature of light is called as wave-particle duality. It plays a crucial role in power satellites and space stations.

Light, whether artificial or natural, affects all life on planet. It plays a vital role in regulating our circadian rhythm. It also provides vision. It is involved in various life processes. It is an essential factor in plants for photosynthesis and growth.

May 16 is the 'INTERNATIONAL DAY OF LIGHT' a worldwide initiative sponsored by UNESCO. This day

BY - VAIDEHI KHADSE
7TH SEM

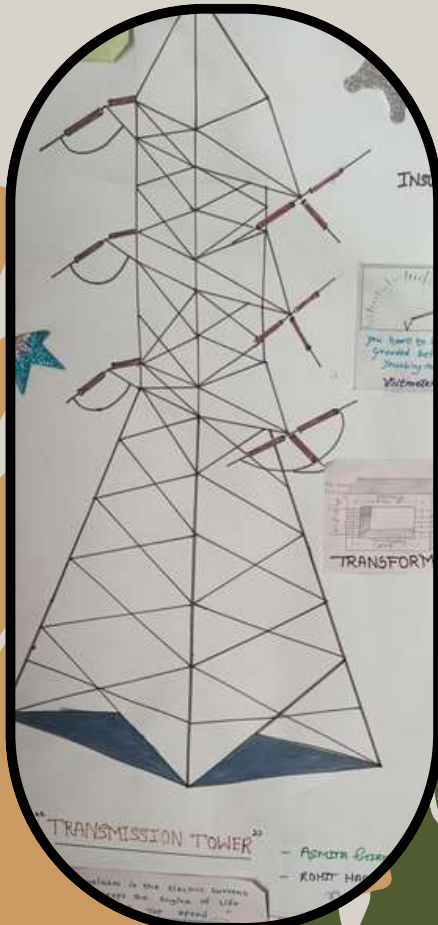
Batteryless Technology

Battery less technology (Battery less IoT) Ben Calhoun. Along with Dave, they're co-founders of Everactive and co-CTOs also a professor of Electrical and computer Engineering at the University of Virginia. Doing an Research at UVA in a low-power circuit design. Basic idea with a battery less device is that you don't need energy, so you harvest that energy from the environment. so you have some sort of a transducer that converts energy in the environment into Electrical energy.

Socs that were ultra low power and targeting application that were Battery-less. And initially, those application were mostly in the wearable device space, so they come up with idea to Build a chip that could operate entirely from body heat with no battery in the system and measure signals like for electrical diagram in electroencephalogram and then do processing on the chip and a lot of sophisticated signal extraction and then use radios that they've Built to communicate back that data.

Pooja R. 1801
7th Sem

Tushar G.
7th Sem



ARC LAMP

British Chemist Lamp
- Henry Davy is credited with inventing the arc lamp. In 1806, he connected two wires to a battery, and used carbon strips as electrodes. This created a sufficiently intense light for illumination. In 1809, and Davy's arc lamp became a popular component of his public lectures. The overall luminous efficiency of a typical arc carbon arc lamp is very low, about 12 lumens/watt.



HALOGEN LAMP

The early history of the halogen lamp parallels that of the incandescent. The usage of halogens to prevent blackening of a lamp was patented in 1882. In 1953, General Electric patented a commercially viable halogen lamp using iodine as the halogen gas. If 150 watts rated halogen lamp is used it draws about 12.5 Amps per light.



INCANDESCENT LAMP

Thomas Edison patented and began commercializing the incandescent light bulb. Edison's invention was demonstrating that electric light was possible with the arc lamp. An incandescent bulb works on the principle of incandescence, a general term meaning light produced by heat. In an incandescent type of bulb, an electric current is passed through a thin metal filament, heating the filament until it glows and produces light.

A 60 W incandescent bulb burning for 4 hours a day will consume 287.6 kWh/yr.



CFL LAMP

A Compact Fluorescent Lamp (CFL) is designed to replace an incandescent light bulb; some types fit into light fixtures designed for incandescent bulbs. The first fluorescent light bulb and fixture were displayed to the general public at 1939. CFLs radiate a spectral power distribution that is different from that of incandescent lamps. CFL bulb wattage ranges from 11 to 41 W.



LED BULB

A light-emitting diode (LED) is a semiconductor device that emits light when current flows through it. Appearing as practical electronic components in 1962, the earliest LEDs emitted low-intensity infrared light. Though it has a long life span it is used everywhere today. Each segment of 3 LEDs draws approximately 20 milliamperes from a 12V supply, per string of LEDs.

Krutuja Kapse
7th Sem

Electrical Engineers
fall in Love,
find the

EDITORIAL TEAM

CHIEF EDITOR
DR.S.A.DHURVEY

CHIEF EDITOR
MR.A.DEOSANT



MEMBERS

GUNJAN MANGAR | KRISH ABADIYA | PRAJWAL CHUTE

EDITOR



PARNAVI RODE

I AM PLEASED TO PRESENT THE EDITION OF E-POWER, THE FLAGSHIP MAGAZINE OF THE DEPARTMENT OF ELECTRICAL ENGINEERING. AS EDITOR, I AM THRILLED TO BRING FORTH THIS PUBLICATION, WHICH SHOWCASES THE CREATIVITY, INNOVATION, AND PASSION OF OUR STUDENTS. THE ACADEMIC YEAR 2023-24 HAS BEEN A REMARKABLE JOURNEY, AND E-POWER HIGHLIGHTS THE ACHIEVEMENTS AND EXPERIENCES OF OUR DEPARTMENT. THIS MAGAZINE IS A TESTAMENT TO OUR STUDENTS' HARD WORK AND DEDICATION. I HOPE YOU ENJOY READING E-POWER, AND I LOOK FORWARD TO CONTINUING TO SHARE OUR STORIES AND SUCCESSES IN THE FUTURE.



E-POWER

यदा यदा हि धर्मस्य ग्लानिर्भवति भारत ।
अभ्युत्थानमधर्मस्य तदात्मानं सृजाम्यहम् ॥
परित्राणाय साधूनां विनाशाय च दुष्कृताम् ।
धर्मसंस्थापनार्थाय सम्भवामि युगे युगे
~श्री कृष्ण



PRIYADARSHINI COLLEGE OF ENGINEERING



2023-24

Let's welcome the new
memories with new year

**HOD ELECTRICAL
DEPARTMENT**

DR.R.A.KESWANI

WHERE TO GO

HINGNA RD,DIGDOH
HILLS, NAGPUR,440019