



# Luminous

*"Illuminate the World"*

A MAGAZINE PUBLISHED BY DEPARTMENT OF  
ELECTRICAL ENGINEERING

DR. BAPUJI SALUNKHE INSTITUTE OF ENGINEERING & TECHNOLOGY,  
KOLHAPUR.



Academic Year 2022-23

**1. Institute Vision**

**To develop competent technocrats by providing quality education for the betterment of society.**

**2. Institute Mission**

**M1 – To inculcate theoretical as well as practical knowledge in students.**

**M2 – Foster relationship between industry and institute for the benefit of all stakeholders..**

**M3 – Facilitating and encouraging students for continuous education and moulding them for lifelong learning.**

**3. Department Vision**

**To develop competent electrical tchnocrats by providing quality education for the betterment of society.**

**4. Department Mission**

**M1 – To provide a solid foundation to solve electrical engineering problems.**

**M2 – To create awareness about safety environment for working in electrical domain**

**M3 – To strengthen industry institute interaction for the benefit of all stake holds.**

**5. Program Educational Objectives (PEOs)**

**PEO-1** –Apply technical knowledge in industry and diverse fields of electrical engineering.

**PEO-2** –Be ethical and professional about environmental and social responsibilities.

**PEO-3** –Entrepreneur or self- employable along with life-long learning.

**6. Committee**

**a. Chief Editor (HoD) – Mr. Bhat P.P.**

**b. Executive Editor – Mr. Naik S.I.**

**c. Faculty Member – 1. Mrs. N.S. Konnur**

**2. Mr. P. P. Berlekar**

**d. Student Members- 1. Shravani Bhoi (TY Electrical)**

**2. Jaydeep Kupwade( SY Electrical)**

## Chief Editor's Desk:-

It gives me immense pleasure to present this edition of our department magazine. This publication is a reflection of the creativity, technical knowledge, and enthusiasm of our diploma students, guided by the dedicated efforts of our faculty members. At the diploma level, education is not only about acquiring technical skills but also about developing discipline, innovation, teamwork, and professional ethics.

I appreciate the sincere efforts of the editorial team, contributors, and faculty coordinators who have worked tirelessly to make this magazine a reality. Such initiatives encourage students to think creatively and stay motivated towards academic and professional excellence. I hope this magazine inspires our students to continuously learn, innovate, and contribute positively to society and the engineering profession. I wish the editorial team great success in their future endeavors.

Best Wishes,

Mr. P. P. Bhat

Head- Department of Electrical Engg.

## ○ Academic Achievements

# Winter 2022

| Class | Rank   | Name                           | Percentage |
|-------|--------|--------------------------------|------------|
| FY    | FIRST  | JADHAV SRUSHTI CHANDRAKANT     | 85.29      |
|       | SECOND | BIRAJDAR SIDDHARTH SANJAY      | 82.71      |
|       | THIRD  | DEWARDEKAR DEEYA NAGESH        | 82.71      |
| SY    | FIRST  | KOLAPATE NILESH DHONIBA        | 81.38      |
|       | SECOND | PATIL RANVIR BABAN             | 81.25      |
|       | THIRD  | KUPWADE JAYDEEP DIPAK          | 80.25      |
| TY    | FIRST  | BHOI SHRAVANISANTOSH           | 88.90      |
|       | SECOND | SURYAWANSHI MAYURESH LALASAHEB | 87.00      |
|       | THIRD  | MOHITE GAURAV PRASHANT         | 86.90      |

**HEARTFELT CONGRATULATION TO ALL THE STUDENT!!!!!!**

| Class | Rank   | Name                       | Percentage |
|-------|--------|----------------------------|------------|
| FY    | FIRST  | JADHAV SRUSHTI CHANDRAKANT | 84.25      |
|       | SECOND | PATIL DIKSHA SUDAM         | 80.25      |
|       | THIRD  | DEWARDEKAR DEEYA NAGESH    | 76.00      |
| SY    | FIRST  | KUPWADE JAYDEEP DIPAK      | 76.93      |
|       | SECOND | KOLAPATE NILESH DHONIBA    | 75.07      |
|       | THIRD  | RANAGE ANIKET SHIVAJI      | 75.07      |
| TY    | FIRST  | PATIL RANVIR BABAN         | 73.2       |
|       | SECOND | BHOI SHRAVANISANTOSH       | 84.88      |
|       | THIRD  | MOHITE GAURAV PRASHANT     | 82.50      |
|       |        | SHELAKA PRAJAKTA ANAND     | 82.50      |
|       |        | PAWAR DEVARAT BIPIN        | 80.63      |

# Industrial Visit

- 1) Industrial Visit is arranged for Third Year electrical engineering student at MSETCL 400kV Talandage Substation under switchgear & protection course with the under the guidance of Mr. S. I. Naik- Visit Coordinator, Mrs. N. S. Konnur- Course teacher, Mr. P.P. Bhat- Head Department of Electrical Engg. & we are thankful to our respected principal Mr. V. D. Bhandari sir for consistent support with us.
- 2) Industrial Visit is arranged for Second Year electrical engineering student at 12 MW Dudhganga Hydro project, MAHAGENCO under Electrical Power Generation course with the under the guidance of Mr. S. I. Naik- Visit Coordinator, Ms. N. N. Patil- Faculty Member, Mr. P.P. Bhat- Head Department of Electrical Engg. & we are thankful to our respected principal Mr. V. D. Bhandari sir for consistent support with us.
- 3) Industrial Visit is arranged for Third Year electrical engineering student at Suntake Solar system for awareness of Renewable Energy system with the under the guidance of Mr. S. I. Naik- Visit Coordinator, Mr. K. B. Narke- Course teacher, Mr. P.P. Bhat- Head Department of Electrical Engg. & we are thankful to our respected principal Mr. V. D. Bhandari sir for consistent support with us.
- 4) Industrial Visit is arranged for Second Year electrical engineering student at 33/11 KV Substation for awareness of Electrical power distribution system with the under the guidance of Mr. S. I. Naik- Visit Coordinator, Mr. P. P. Berlekar- Course teacher, Mr. P.P. Bhat- Head Department of Electrical Engg. & we are thankful to our respected principal Mr. V. D. Bhandari sir for consistent support with us.
- 5) Industrial Visit is arranged for Third Year electrical engineering student at Suzlon Energy, Satara for awareness of Renewable Energy system with the under the guidance of Mr. S. I. Naik- Visit Coordinator, Mrs. N. S. Konnur - Course teacher, Mr. P.P. Bhat- Head Department of Electrical Engg. & we are thankful to our respected principal Mr. V. D. Bhandari sir for consistent support with us.

# Expert Lecture

- 1) Expert lecture is arranged for Second- & Third-Year electrical engineering student under Energy Conservation course by Mr. M. S. Kulkarni sir. He had shared such a wonderful experience & knowledge with our students, this lecture is arranged with the under the guidance of Mrs. N. S. Konnur - Expert lecture Coordinator, Mr. P.P. Bhat- Head Department of Electrical Engg. & we are thankful to our respected principal Mr. V. D. Bhardi sir for consistent support with us.
- 2) Expert lecture is arranged for Third-Year electrical engineering student under Switchgear and Protection course by Mr. Sagar Kurade sir. He had shared such a wonderful experience & knowledge with our students, this lecture is arranged under the guidance of Mrs. N. S. Konnur - Expert lecture Coordinator, Mrs. N. N. Patil- Course teacher, Mr. P. P. Bhat- Head Department of Electrical Engg. & we are thankful to our respected principal Mr. V. D. Bhardi sir for consistent support with us.
- 3) Expert lecture is arranged for Second- & Third-Year electrical engineering student under Energy Conservation course by Mr. Pramod Gurav sir. He had shared such a wonderful experience & knowledge with our students regarding Power factor improvement, this lecture is arranged with the under the guidance of Mrs. N. S. Konnur - Expert lecture Coordinator, Mr. P.P. Bhat- Head Department of Electrical Engg. & we are thankful to our respected principal Mr. V. D. Bhardi sir for consistent support with us.
- 4) Expert lecture is arranged for Third-Year electrical engineering student under Switchgear and Protection course by Mr. Pramod Sangar sir- Assistant Engineer, MSETCL, Kolhapur. He had shared such a wonderful experience & knowledge with our students regarding Electrical Safety measures, this lecture is arranged under the guidance of Mrs. N. S. Konnur - Expert lecture Coordinator, Mrs. N. N. Patil- Course teacher, Mr. P. P. Bhat- Head Department of Electrical Engg. & we are thankful to our respected principal Mr. V. D. Bhardi sir for consistent support with us

# Highlights

- Flashnova 2k22 are arranged by our student association(ELSA) on Engineers Day on 15<sup>th</sup> September 2022"
- Alumni Guest Lecture on "Career opportunities after diploma" by Ms. Bhagyashri patil:  
**Purpose:** Guest Lecture on "Career opportunities after diploma" was arranged for second & third year electrical engineering student's. Objective of that lecture was known the future opportunities in software development as a electrical engineer.
- Our department faculty member Mr. S. I. Naik attended faculty training program at L&T company regarding topic of selection of LV Switchgear

## Co-Curricular Achievements

- 1) More than 10 students from SY and TY Electrical has participated in national level technicalevent " Technova 23" at **Government Polytechnic, Kolhapur** and won various prizes as well.
- 2) More than 8 students from SY and TY Electrical has participated in national level technical event "Reflex 2K23" Electrospark at **AMGOI, Vathar**.
- 3) More than 10 students from FY, SY and TY computer has participated in national level technicalevent "DIGIFEST 2K23" at **NPK, Kolhapur** and won various prizes as well.

- **Extra-Curricular Achievements**

- 1) Aaditya Chougule from TY Electrical had participated in Zonal Cricket tournament at Sanjay Ghodawat Institute, Atigre.
- 2) Sankalp Patil from TY Electrical had participated in Zonal Cricket tournament at Sanjay Ghodawat Institute, Atigre.
- 3) Aayush Udagatti from FY Electrical had participated in Zonal Wrestling tournament at Shree Warana Shikshan Mandal, Amrutnagar, Warana. and won First Prize
- 4) Harshad Jambhale from SY Electrical had participated in Zonal Volleyball tournament at Hollywood's academy, Sanjivan Polytechnic,Panhala
- 5) Gururaj Maskar from SY Electrical had participated in Zonal Volleyball tournament at Hollywood's academy, Sanjivan Polytechnic,Panhala
- 6) Team Electrical winner- Cricket tournament in Annual Sports 2023.

## **SOME GLIMPSES OF THE YEAR**



**Industrial Visit to “Suntake Solar System”**



**Industrial Visit to “33 KV MSEDC Substation,  
Shivaji University”**



### Industrial Visit to Suzlon Energy PVT. LTD. Satara

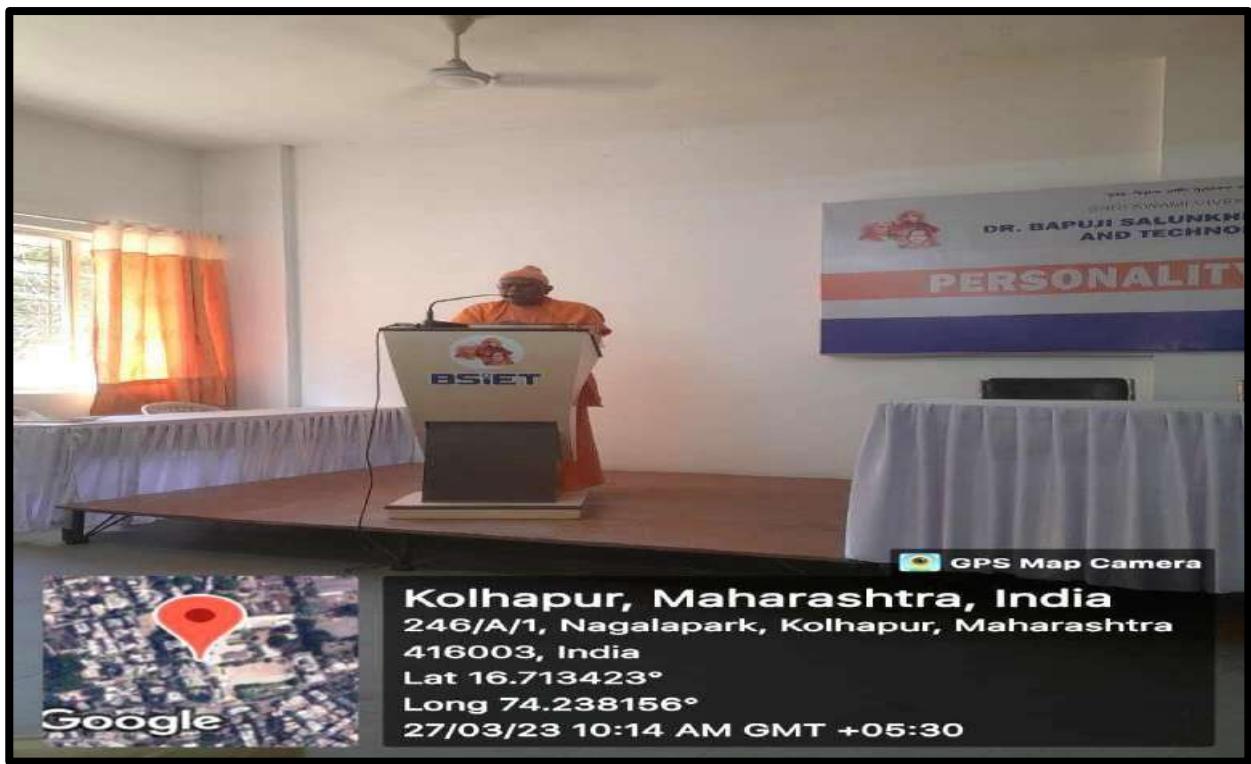


### WINNING MOMENT AT ANNUAL SPORTS - 2023



Alumina Guest Lecture By Miss. Bhagyashri Patil- Batch 2017

# Personality Development Lecture



## Women's Day Seminar



# Life Skills Development Program



## **FACULTY TRAINING PROGRAM**

| Sr. No | Resource Person/Institute    | Date              | Topic                                 | Attended BY        |
|--------|------------------------------|-------------------|---------------------------------------|--------------------|
| 1      | L&T, Pune                    | 3 to 4 April 2023 | LV Switchgear                         | Mr. S I Naik       |
| 2      | Vivekanand College, Kolhapur | 17 Feb. 2023      | Digital Creativity Skills for Faculty | Mr. P. P. Bhat     |
| 3      | Vivekanand College, Kolhapur | 17 Feb. 2023      | Digital Creativity Skills for Faculty | Mr. P. P. Berlekar |
| 4      | Vivekanand College, Kolhapur | 17 Feb. 2023      | Digital Creativity Skills for Faculty | Mrs. N. S. Konnur  |
| 5      | Vivekanand College, Kolhapur | 17 Feb. 2023      | Digital Creativity Skills for Faculty | Mr. S I Naik       |

# Faculty Article

## SOLAR ENERGY

By Mr. P. P. Berelkar

The Sun has been worshiped as a life-giver to our planet since ancient times. The industrial ages gave us the understanding of sunlight as an energy source. India is endowed with vast solar energy potential. About 5,000 trillion kWh per year energy is incident over India's land area with most parts receiving 4-7 kWh per sq. m per day. Solar photovoltaic power can effectively be harnessed providing huge scalability in India. Solar also provides the ability to generate power on a distributed basis and enables rapid capacity addition with short lead times. Off-grid decentralized and low-temperature applications will be advantageous from a rural application perspective and meeting other energy needs for power, heating and cooling in both rural and urban areas. From an energy security perspective, solar is the most secure of all sources, since it is abundantly available. Theoretically, a small fraction of the total incident solar energy (if captured effectively) can meet the entire country's power requirements.

There has been a visible impact of solar energy in the Indian energy scenario during the last few years. Solar energy based decentralized and distributed applications have benefited millions of people in Indian villages by meeting their cooking, lighting and other energy needs in an environment friendly manner. The social and economic benefits include reduction in drudgery among rural women and girls engaged in the collection of fuel wood from long distances and cooking in smoky kitchens, minimization of the risks of contracting lung and eye ailments, employment generation at village level, and ultimately, the improvement in the standard of living and creation of opportunity for economic activities at village level. Further, solar energy sector in India has emerged as a significant player in the grid connected power generation capacity over the years. It supports the government agenda of sustainable growth, while, emerging as an integral part of the solution to meet the nation's energy needs and an essential player for energy security.

National Institute of Solar Energy has assessed the Country's solar potential of about 748 GW assuming 3% of the waste land area to be covered by Solar PV modules. Solar energy has taken a central place in India's National Action Plan on Climate Change with National Solar Mission as one of the key Missions. National Solar Mission (NSM) was launched on 11<sup>th</sup> January, 2010. NSM is a major initiative of the Government of India with active participation from States to promote ecological sustainable growth while addressing India's energy security challenges. It will also constitute a major contribution by India to the global effort to meet the

Challenges of climate change. The Mission's objective is to establish India as a global leader in solar energy by creating the policy conditions for solar technology diffusion across the country as quickly as possible. The Mission targets installing 100 GW grid-connected solar power plants by the year 2022. This is in line with India's Intended Nationally Determined Contributions (INDCs) target to achieve about 40 percent cumulative electric power installed capacity from non-fossil fuel based energy resources and to reduce the emission intensity of its GDP by 33 to 35 percent from 2005 level by 2030.

In order to achieve the above target, Government of India have launched various schemes to encourage generation of solar power in the country like Solar Park Scheme, VGF Schemes, CPSU Scheme, Defence Scheme, Canal bank & Canal top Scheme, Bundling Scheme, Grid Connected Solar Rooftop Scheme etc.

Various policy measures undertaken included declaration of trajectory for Renewable Purchase

Obligation (RPO) including Solar, Waiver of Inter State Transmission System (ISTS) charges and losses for inter-state sale of solar and wind power for projects to be commissioned up to March 2022,

Must run status, Guidelines for procurement of solar power through tariff based competitive bidding process, Standards for deployment of Solar Photovoltaic systems and devices, Provision of roof top solar and Guidelines for development of smart cities, Amendments in building bye-laws for mandatory provision of roof top solar for new construction or higher Floor Area Ratio, Infrastructure status for solar projects, Raising tax free solar bonds, Providing long tenor loans from multi-lateral agencies, etc.

Recently, India stands 4<sup>th</sup> in solar PV deployment across the globe as on end of 2021. Solar power installed capacity has reached around 61.97 GW as on 30th November, 2022. Presently, solar tariff in India is very competitive and has achieved grid parity.

# Student Article

## Electric Vehicles: The Future of Sustainable Transportation

By Mr. Jaydeep Kupwade  
S. Y. Electrical

In recent years, the world has been moving rapidly toward sustainable and eco-friendly technologies. One of the most significant developments in the field of Electrical Engineering during the Academic Year 2022–23 is the growing adoption of **Electric Vehicles (EVs)**. Electric vehicles are transforming the transportation sector by reducing pollution, conserving fossil fuels, and promoting clean energy.

Electric vehicles operate using **electric motors powered by rechargeable batteries**, unlike conventional vehicles that rely on internal combustion engines. The key electrical components of an EV include the battery pack, power electronic converters, motor controllers, and electric drive motors. Advances in **lithium-ion battery technology** have greatly improved vehicle range, efficiency, and charging speed.

Another important aspect of EV technology is **charging infrastructure**. Fast charging stations, smart chargers, and wireless charging systems are being developed to make EV usage more convenient. Electrical engineers play a vital role in designing efficient charging systems, managing power quality, and integrating renewable energy sources such as solar and wind power with EV charging stations.

The adoption of electric vehicles also supports the concept of a **smart grid**. EVs can act as energy storage devices through Vehicle-to-Grid (V2G) technology, where stored energy can be supplied back to the grid during peak demand. This improves grid stability and energy management.

In conclusion, electric vehicles represent a major milestone in modern electrical engineering. With continuous innovation and strong support from engineers, EV technology will contribute significantly to a cleaner, greener, and more sustainable future.