ASHOKRAO MANE POLYTECHNIC,VATHAR

Department of Electrical Engineering

NEWSLETTER: ELECTRICA

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Insights

THEME-E VEHICLES FUTURE OF INDIA

Vision

To be a prominent in Electrical Engineering education for students in technical, ethical & social aspects for betterment of society.

Mission

m1 To impart strong fundamenta & emerging technical knowlwdge in Electrical Engineering.

m2 To develop professionalism in the domain of Electrical Engineering.

m3 To create a conductive environment for ethics & lifelong learning.

m4 To produce skilled engineering manpower for contributing effectively towards societal development.

Chief Editor:
Mr.B.V.Kumbhar

Editor Committee:
1.Mrs.A.A.Pethkar
2.Mrs.R.A.Patil
3.Mr.O.S.Injal
4.Mr.P.T.Patil

About Institute

Shri Balasaheb Mane Shikshan Prasarak Mandal Ambap's, Ashokrao Mane Polytechnic, Vathar Tarf Vadgaon (AMPV) was established in 2008 and is located near Kolhapur. This Institute has AICTE approval for the seven Diploma Courses. Under the visionary leadership and administration, AMPV has emerged as a leading technological institute and is perfect destination for quality technical education. The institute has NBA accredited Programmes, 100% placements in MNC's, best academic results, well established labs. The institute was also honoured with notable awards.

About Department

The Department of Electrical Engineering was established in the year 2010 with a sanctioned intake capacity of 60 students. The Department has been accredited by National Board of Accreditation (NBA) and also consistently awarded with excellent remark by MSBTE, Mumbai. To cater to the ongoing industrial demand, the Department has well equipped laboratories with extra facilities and also having a smart classroom with e- learning facility. Department leads to implement energy conservation techniques in the institute and also as a part of green energy, promote the use of non – conventional energy sources. The department has an enthusiastic team of qualified and experienced teaching and non-teaching staff. One of the strengths of the Department is that it's faculty has published different technical papers in reputed national & international journals & contributed in Research & Technology.

Wish you Happy New Year 2025

Messages

Message from Principal's desk

Dr.Y.R.Gurav
Principal,
Ashokrao Mane Polytechnic,
Vathar

It's a very prestigious moment to interact with the readers. This Newsletter is an initiative taken by Electrical Department with a specific purpose. The contribution made so far by it's teachers, students, academicians and industrialists has compelled it to promote them in the area of Electrical Engineering. Newsletter is also acting as a medium to convey messages about its vision and values along with future strategies and plans.This Newsletter has a unique theme i.e. E-Vehicles future of India. I appreciate the editing team, for their efforts in compiling various news about Diploma Education System in Electrical Department along with the views and information about theme and distribute it to a cohesive community of stakeholders - students, faculty,parents, administrators, institutes, industry and community at large.

Message from Chief Editor's desk

Mr.B.V.Kumbhar
Head, Department of Electrical Engineering
Ashokrao Mane Polytechnic,Vathar

Dear all..

It gives me immense pleasure to publish this edition of our half yearly newsletter 'Electrica'.First of all I would like to greet all the readers and well-wishers for their ongoing support and kind cooperation to our newsletter. Now I am very happy to announce that, we have successfully completed the first term of academic year 2024-25 with various academic, curricular and extracurricular activities.

We make every semester more informative by imbibing the skills of teamwork, leadership, and applying root level learning to solve real-world problems. Our newsletter plays a vital role in the progress of our department. It is most powerful platform of the students and faculty members, where they can focus their talents as well as their creativity in their respective field which may be beneficial to all.

I would like to appreciate and congratulate the editorial team for their untiring efforts and wish best luck in all their future endeavors. It is my sincere appeal to all readers to read & enjoy this edition.

I hope all our readers will always be with us and we look forward to a successful second term of academic year 2024-25 ahead.

Departmental Activity

Teacher's Day Celebration

Lightening lamp & photo pujan

Student delivering lecture

We celebrate Teachers day on 5th September every year to mark the birthday of Dr.Sarvepalli Radhakrishnan. This year also we celebrated Teachers Day on 5th September 2024 with great enthusiasm along with all the teachers and students.

At the beginning of the day,pratima poojan of goddess sarswati and Dr.Sarvapalli Radhakrishnan were worshiped by the auspicious hands of the respected principal sir and then the students who became teachers had taken an unforgettable experience of being a teacher on that day.

Engineer's Day Celebration

Students performing the event "Circuit Master"

Valedictory fuction & prize distribution

Engineer's day is celebrated on September 15th to honour the birth anniversary of sir Mokshagundam visvesvaraya, who made significant contributions to the field of engineering in India.

Like every year, this year we celebrated Engineers Day in our department. With the aim of inculcating interest in technology in the minds of students, we organized a technical competition for student. A large number of students participated in this competition and successfully completed the competition with great enthusiasm.

At the end of the day, the students who performed best in the competition were felicitated with attractive prizes and the program was concluded with best wishes for their future endeavours.

Success Story

Mr.Ajay Dhondiram Jadhav
Deputy Engineer(Group-A)

I had taken admission in academic year 2012-13 in Electrical Department.I completed my Diploma in May 2015. After completing my education, I decided to become class one officer. According to that I started preparation & finally I got success in securing a post of Deputy Engineer. The credit goes to AMPV.

Industrial Visits

Industry expert explaining Automation system

An industrial visit to "Shree Krupa Automation PVT.LTD,Gokul Shirgaon" was organised by the Electrical Engineering Department on Saturday, 21th Sept, 2024 for final year electrical engineering students. This industry is well known in the field of electrical automation solutions. Industry utilizes advanced technology to automate and optimize industrial processes, improving productivity and reducing operational costs.

An industrial visit to "Kasturi Foundry Pvt Ltd,Kagal" was organised by the Electrical Engineering Department on Thursday, 21st Sept,2024 for final year electrical engineering students.In the afternoon at 2:00 pm Department visited to industry. The visit started with an introduction to the different types of raw materials used in the foundry, their storage and handling. Students observed melting process, demonstration of moulding to form desired shape of the component, cooling and solidification, fettling process.

Expert giving practical knowledge of foundry to students

Discussion between students & assistant engineer on working of substation

An industrial visit to "33/11 KV Vadgaon Substation,Vadgaon" was organised by the Electrical Engineering Department on Tuesday, 24 Sept, 2024. This visit organized for Second year electrical engineering students.All students were benefited from this visit as they got chance to discuss with assistant engineers working at substation. At the end faculty members along with students thanked them for all the knowledge that they had shared with students.

An industrial visit to "MSEDCL Regional Training Center,Sangli." was organised by the Electrical Engineering Department on Monday, 30th Sept, 2024 for final year electrical engineering students. This Training Center is well known in conducting various training programs for employees to enhancing their operational efficiency.

Expert giving a live demonstration of Buchholz Relay

Expert Lectures

Felicitation of the expert

Expert delivering lecture to students

A guest lecture was organized by on 27th September, 2024 which was delivered by Mr.A.A.Suryavanshi on topic "Electrical Vehicles" The lecture was arranged to enhance the academic knowledge of our students by providing them with insights from experienced professionals in the field of electrical engineering.

The session conducted with an interactive Q&A, where participants asked questions related to specific scenarios they encountered in their daily work. At the end of the session Mr.S.B.Gore thanked him for helping us to enhance our student's knowledge level.

A guest lecture was organized on 8th August, 2024 which was delivered by Mr.Sandeep Ashok Mahulkar on topic "Electrical Safety and Protection" The lecture was arranged to enhance awareness and understanding of safety measures necessary when working with or around energy system.

Guest outlined essential safety precautions including proper grounding, use of PPE kit, regular inspection. Guidance was provided on how to respond to energy related emergencies like electric shock basic first aid measures for treating injuries related to energy accidents.

The expert sharing his knowledge with students

Question answer session between student & the expert

School Connecting Program

A prototype model of "Burj Khalifa" & "Palm City" was made by students in college campus

School visit to a prototype model of "Radhanagari Dam" in campus of AMPV

School connecting program is undertaken by Maharashtra State Board of Technical Education for 10th standerd students. The staff members visited to the near by schools & create awareness about technical education.

Other Activity

TREE PLANTATION (VRUKSHOTSAV)

Tree plantation in presence of Dr.Y.R.Gurav (Principal AMPV)

Every man needs the oxygen for his life and Trees are the foremost source of oxygen as well trees help to reduce the level of carbon dioxide. As we all know that the whole world is facing the problem of global warming and to recover from such problem planting the trees has become one of the most important aspects today.

NSS committee of Ashokrao Mane Polytechnic, Vathar was arranged the "Tree Plantation (Vrukshotsav)" under the National Service scheme (NSS) on Wednesday, 19 June 2024 as per the guidelines in circular of Maharashtra State Board of Technical Education(MSBTE), Mumbai.

HAR GHAR TIRANGA ABHIYAN

"Har Ghar Tiranga Abhiyan" (Campaign) is an initiative under the larger Azadi Ka Amrit Mahotsav, launched by the Government of India to commemorate 75 years of India's independence. The campaign encourages citizens to display the national flag (Tiranga) at their homes to celebrate the spirit of patriotism and unity.

The Har Ghar Tiranga Abhiyan was widely successful in its launch and has become a significant part of Independence Day celebrations in India.

Team AMP doing Har Ghar Tiranga Campaign

ECO-FRIENDLY GANESH VISARJAN

NSS co-ordinator doing Eco-friendly Ganesh visarjan

The National Service Scheme (NSS) of Ashokrao Mane Polytechnic, organized an initiative titled "Eco-Friendly Ganesh Visarjan and Nirmalya Collection Campaign" aimed at promoting environmental awareness and sustainability during the Ganesh Chaturthi festival. This activity was led by NSS coordinators and volunteers across various locations, emphasizing the importance of eco-friendly practices.

Other Activity

FIRE SAFETY TRAINING

Trainer at the time of training

Training demonstration

NSS committee of Ashokrao Mane Polytechnic, Vathar arranged the "Fire Safety Training (Demo on awareness and handling of fire extinguisher)" under the NSS. The event done by co-operation of the entire NSS committee member, staff and students on 14 November 2024 as per the guidelines in Maharashtra state board of technical education.

The "Fire Safety Training (Demo on awareness and handling of fire extinguisher)" event was inaugurated by Hon. Dr. Y. R. Gurav sir, all HOD's and NSS in charge Mr. V.S. Surve and departmental coordinator.

DISTRIBUTION OF DIWALI FARAL

Diwali faral were distributed to nomadic communities, sugarcane workers

Diwali faral were distributed to truck drivers in the states of Karnataka, Gujarat, Kerala, Madhya Pradesh, Uttar Pradesh

Distribution of Diwali Faral to the needy in Ambap, Top, Bhadole area on behalf of Ashokrao Mane Polytechnic vathar.

We are very happy that this activity has been implemented and through this we have been able to distribute Diwali faral to 60 families and make them participate in the Diwali festival.

Faculty Views...

Mrs.A.A.Pethkar
Lecturer,Electrical
Engineering Department

Electric vehicles (EVs) offer a compelling array of advantages over traditional gasoline-powered vehicles.

- EVs produce no tailpipe emissions, meaning they don't directly release harmful pollutants into the air we breathe. This helps improve air quality, especially in urban areas, and reduces the incidence of respiratory problems and other health issues.
- While the electricity used to power EVs may be generated from sources that produce emissions, studies have shown that EVs generally have a smaller carbon footprint than gasoline cars over their lifecycle, especially when powered by renewable energy sources.
- By shifting away from gasoline, EVs help reduce our dependence on fossil fuels, which are a finite resource and contribute to geopolitical instability.
- EVs have fewer moving parts than gasoline cars, which means less maintenance is required. There are no oil changes, spark plug replacements, or exhaust system repairs to worry about.
- Electricity is typically cheaper than gasoline, so "fueling" an EV is generally less expensive than filling up a gasoline car.
- EVs are much quieter than gasoline cars, reducing noise pollution in urban areas and providing a more peaceful driving experience.
- EVs can be charged at home overnight, which is convenient and can save time compared to going to a gas station.
- Electric motors are more efficient than internal combustion engines, converting a higher percentage of energy into motion.

Overall, EVs offer a wide range of advantages that make them an attractive alternative to gasoline-powered vehicles. As technology continues to improve and charging infrastructure expands, EVs are poised to play an increasingly important role in the future of transportation.

Mrs.R.A.Patil
Lecturer,Electrical
Engineering Department

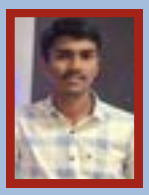
EV batteries are typically made of lithium-ion cells, similar to those in laptops and smartphones, but much larger and more powerful. The battery's capacity (measured in kilowatt-hours or kWh) determines how far the vehicle can travel on a single charge (its range). When electricity flows from the battery to the motor, it creates a magnetic field that causes the motor to spin. This rotational motion is transferred to the wheels, propelling the vehicle forward. The inverter also controls the amount of power sent to the motor, regulating the vehicle's speed and acceleration. The controller acts as the "brain" of the EV, managing the flow of energy between the battery, motor, and other components. It receives input from the driver (through the accelerator and brake pedals) and adjusts the motor's output accordingly. EV batteries are recharged by plugging the vehicle into an external power source. This can be a standard household outlet (Level 1 charging), a dedicated home charging station (Level 2 charging), or a public fast-charging station (DC fast charging).The charging system includes an onboard charger that converts AC power from the grid to DC power for the battery. In essence, EVs use electricity stored in batteries to power an electric motor, which then drives the wheels. This process is much more efficient than burning gasoline in an internal combustion engine, resulting in lower running costs and zero tailpipe emissions.

Student Views...

Mr.O.S.Injal
Third Year Electrical Engineering Student

As the world continues to face climate change challenges, it is becoming increasingly critical that we transition to more sustainable energy sources. Renewable energy, such as solar and wind power, is a more environmentally friendly and cleaner alternative to traditional fossil fuels. Renewable energy sources like solar and wind power have several significant advantages over traditional fossil fuels. To begin with, they are much cleaner and more environmentally friendly, emitting far fewer harmful emissions that contribute to air and water pollution, as well as climate change. Solar and wind power are also renewable and sustainable, which means they will not deplete as quickly as fossil fuels. Furthermore, they are frequently less expensive and more dependable in the long run because they are not subject to price fluctuations caused by geopolitical events or market changes.

Smart EV charging technology provides several important benefits over traditional charging techniques. EV adoption is dependent on the availability of a dependable and convenient charging infrastructure, including smart EV charging. Charging stations must be widely available, accessible, and reliable in order for drivers to feel confident that they can charge their vehicles when and where they need to. Furthermore, charging stations must be compatible with a wide range of vehicles in order to reduce the burden on drivers and make it easier for them to use EVs as their primary mode of transportation.



Mr.P.T.Patil
Second Year Electrical Engineering Student

We live in a world where environmental challenges like pollution and climate change threaten the planet we call home.Traditional vehicles,powered by fossil fuels,are one of the biggest contributors to these problems.But here's the good news: electric vehicles,powered by green energy,offer a sustainable solution. Ev's don't emit harmful gases like petrol or diesel cars. They are clean,efficient ,and quieter,reducing both air and noise pollution. Imagine cities with fresh air,free from smog-this can be our reality with EVs.Let's step forward to embrace electric vehicles and green energy,not just as technologies but as tools to protect our future.Because the journey to a greener tomorrow starts today,with bus.

Charging Evs with green energy sources like solar,wind and hydropower ensures we're not just reducing pollution on the road but also where the energy comes from. Green energy is renewable, abundant, and eco-friendly.As students,we are the future innovators,consumers,and decision-makers.We can advocate for the use of Evs and renewable energy. Simple actions like spreading awareness can make a big difference. Imagine a world where every car is electric,powered by the sun or the wind. A world where energy is clean,and the planet is healthy.This isn't just a dream –it's a goal we can achieve with commitment and action.To support the growth of renewable energy and smart EV charging infrastructure, governments and private organizations must collaborate to invest in research and development and provide incentives for the deployment of clean energy and charging systems.

Industry Expert Views...

Mr.S.B.Kumbhar
Assistant Manager ,
Dana-Grazino Transmission
India Pvt.Ltd. Shinoli,Kolhapur

The electric vehicle (EV) industry is rapidly evolving, with increasing demand and technological advancements. This growth brings specific requirements across various aspects. Here's a breakdown of key industry needs:

- Raw Materials: Securing a stable and sustainable supply of raw materials like lithium, cobalt, nickel, and rare earth elements is essential for battery production. Diversifying sourcing and exploring recycling options are important to mitigate supply chain risks.
- Component Manufacturing: Establishing robust manufacturing capabilities for key components like batteries, motors, power electronics, and charging infrastructure is crucial for scaling up EV production.
- Skilled Workforce: Developing a skilled workforce with expertise in areas like battery technology, electric motor design, power electronics, software engineering, and EV maintenance is essential to support industry growth.
- Government Support: Supportive government policies, including incentives for EV adoption, subsidies for charging infrastructure development, and regulations promoting zero-emission vehicles, are crucial for driving market growth.
- Standards and Regulations: Establishing clear standards and regulations for EV safety, charging infrastructure, and battery disposal is important to ensure consumer confidence and environmental protection.

Mr.A.D.Koli
Dy.Executive Engineer
MSEDCL, Kolhapur

Electric cars have innumerable benefits for the environment. Several types of research indicate that EVs are better for the environment as they improve air quality by lowering emissions, unlike conventional fossil fuel vehicles. Electric vehicles emit fewer greenhouse gases and air pollutants than petrol or diesel cars. EVs also contribute less noise pollution as they are much quieter than petrol/diesel cars. As they do not have any tailpipe, EVs produce zero carbon dioxide emissions while driving. Hence, electric vehicles offer cleaner streets by making the towns and cities a much better place for pedestrians and cyclists.

The electricity costs required to charge electric vehicles are 40 per cent less than the costs needed in fossil fuel vehicles to drive the same distance. The charging procedure requires minimal expenses if riders charge their cars from affordable charging stations. Moreover, the advent of destination charging has made it easy, ubiquitous, and reliable, allowing individuals to charge their EVs anytime from shopping centres, metro stations, workplaces, etc. Owing to these reasons, EVs have become genuinely viable, everyday modes of transport that offer unparalleled convenience to riders and businesses

The increased use of solar and other renewable energy sources can be one of the probable solutions that would help power the electric grids used for charging EVs. Most governments have started taking steps to transform their power grids into more environment-friendly ones. Electric vehicles play an integral role in the overall supply chain of owning and driving cars by lowering carbon emissions.

Academics Achievements...

Third Year

Ghatge Mahesh Manik
89.44%

Kudalkar Disha Sandip
88.11%

Dhokale Mayuri Bajirao
87.11%

Second Year

Jadhav Pranav Prakash
86.76%

Chavan Aviraj Mohan
84.40%

Dongale Tanuja Dilip
83.10%

Injal Omkar Subhash
83.10%

First Year

Patil Sanket Sadashiv
81.65%

Patil Prathmesh Tukaram
79.77%

Kharat Sanika Mohan
75.88%

The student Aviraj Mohan Chavan got 70 out of 70 marks in Digital Electronics & Microcontroller subject.

Non-Academics

Patil Nandkumar Subhash
Circuit Master Runner up

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