Shri Vishweshwar Shikshan Prasarak Mandal's
Vishweshwarayya Abhiyantriki Padvika Mahavidyalaya

Department Of Mechanical Engineering

E- News Letter

2024-25

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Vision & Mission

VISION

"To provide quality technical education in Rural Area"

OUR MISSION

- To impart eco-friendly advanced engineering knowledge.
- To inculcate ethical and moral values among budding engineers.
- Establishment of mentoring system for all-round personal and Professional enhancement.
- To make students aware social and national responsibilities.
- To encourage students to pursue higher education and take Competitive and career enhancement courses.
- To create technology based society which is the need of modern era.

Mechanical Department Vision & Mission

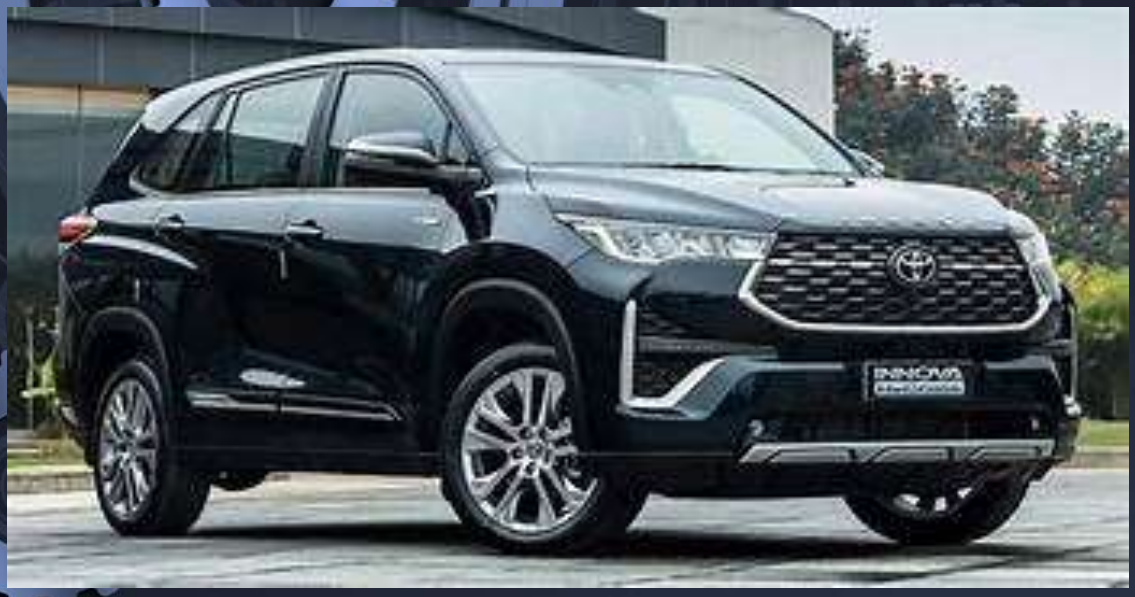
VISION

To provide technical education for students with advance technology in mechanical engineering

MISSION

- **M1:** To impart highest quality education to students by collaborative environment and knowledge to make them globally competitive engineers.
- **M2:** To develop alliances with educational institutions, industries and alumni to promotetraining, innovative ideas.
- **M3:** To encourage students to adopt leadership skills in career by lifelong learning with ethics and values.

Hybrid Vehicle



A hybrid vehicle uses both an internal combustion engine (like gasoline) and an electric motor for propulsion, offering improved fuel economy and reduced emissions compared to traditional gasoline-powered cars.

Here's a more detailed explanation:

•**What it is:**

Hybrid vehicles combine a gasoline engine with an electric motor and battery pack, allowing them to run on either or both power sources.

•**How it works:**

- •**Electric Motor:** The electric motor provides instant torque and can power the vehicle at low speeds or during acceleration, reducing reliance on the gasoline engine.
- •**Gasoline Engine:** The gasoline engine handles higher speeds and longer distances, while also recharging the battery pack.
- •**Battery Pack:** The battery pack stores electricity generated by the electric motor and can be recharged during braking or from an external power source (in plug-in hybrids).

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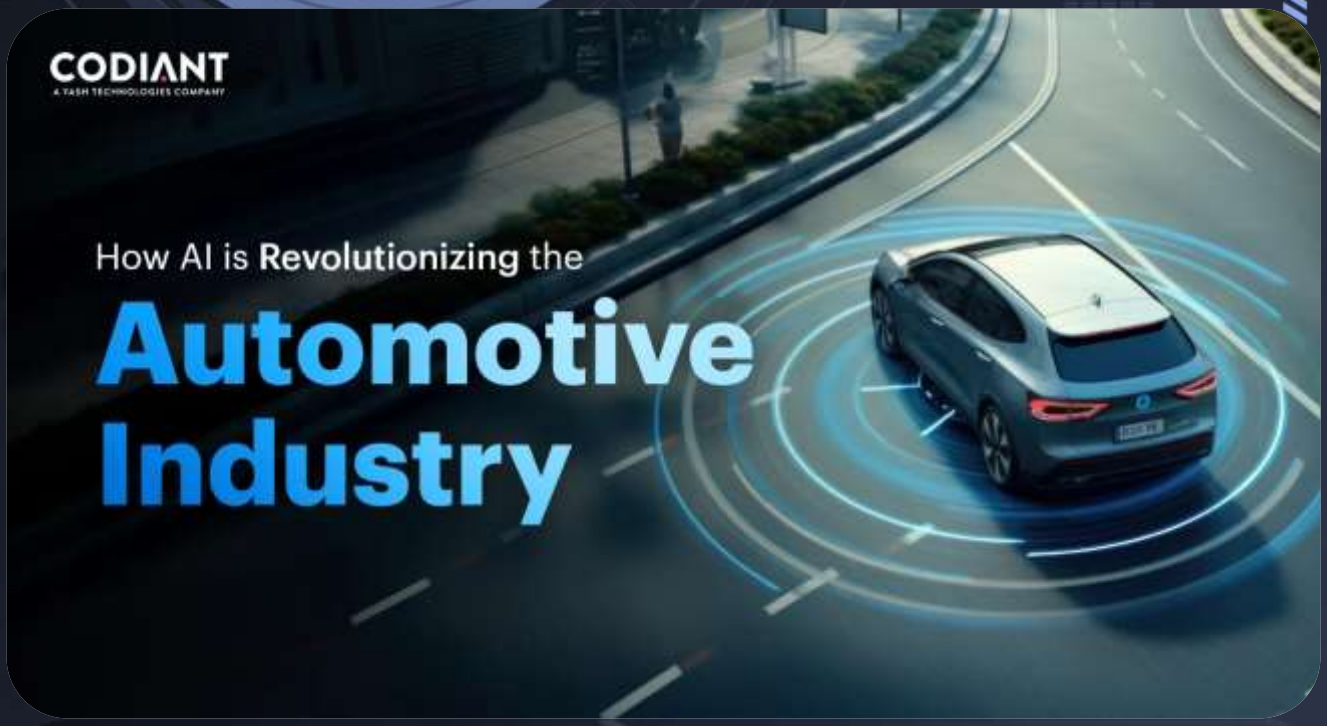
  - Gasoline Engine: The gasoline engine handles higher speeds and longer distances, while also recharging the battery pack.
  - Battery Pack: The battery pack stores electricity generated by the electric motor and can be recharged during braking or from an external power source (in plug-in hybrids).
- Types of Hybrid Vehicles:
  - Mild Hybrid: Uses a small battery and electric motor to assist the gasoline engine, primarily for regenerative braking and improved fuel efficiency.
  - Full Hybrid: Can run on electric power alone for short distances and combines the gasoline engine and electric motor for optimal efficiency.
  - Plug-in Hybrid: Has a larger battery pack that can be recharged from an external power source, allowing for a significant amount of all-electric driving.
- Benefits:
  - Improved Fuel Economy: Hybrid vehicles generally offer better fuel efficiency than traditional gasoline cars.
  - Reduced Emissions: By using electricity and a smaller gasoline engine, hybrid vehicles produce lower emissions.
  - Quieter Operation: Electric motors are quieter than gasoline engines, leading to a more peaceful driving experience.
- Examples of Hybrid Vehicles:

Toyota Camry, Honda Civic, BMW XM, Lexus RX, Audi.

Artificial Intelligence [AI]



AI is transforming the automotive industry, impacting everything from vehicle design and manufacturing to driving experience and safety, with applications ranging from advanced driver assistance systems (ADAS) to autonomous driving and personalized in-car experiences.

Here's a more detailed look at AI's role in the automotive industry:

1. Enhancing Safety and Driving Experience:

•**Advanced Driver Assistance Systems (ADAS):**

•AI powers systems like adaptive cruise control, lane-keeping assist, automatic emergency braking, and blind-spot detection, improving safety and reducing accidents.

•**Autonomous Driving:**

•AI is crucial for developing self-driving cars, enabling them to navigate roads, make decisions, and react to traffic conditions.

•**Personalized In-Car Experiences:**

•AI-powered voice assistants (like Siri and Google Assistant) and infotainment systems offer personalized recommendations, route optimization, and other features based on driver preferences.

•**Predictive Maintenance:**

•AI can analyze vehicle data to predict potential maintenance needs, reducing downtime and repair costs.

•**Real-time Data Analysis:**

•AI can analyze data from sensors and cameras in real-time to alert drivers to potential hazards or optimize driving performance.

2. Improving Vehicle Design and Manufacturing:

•**Optimized Vehicle Design:**

•AI algorithms can analyze vast amounts of data to identify consumer preferences and optimize vehicle design for factors like aerodynamics, fuel efficiency, and safety.

•**Efficient Manufacturing Processes:**

•AI can optimize assembly lines, improve supply chain management, and predict equipment failures, leading to increased efficiency and reduced costs.

Industrial Visit

Radhanagari Dam, is a gravity dam on Bhogawati river near Radhanagari in the state of Maharashtra in India. Construction was initiated by visionary Rajarshi Shahu on 18 February 1907. The dam is being used for irrigation as well as hydro-electricity. The dam is located amidst scenic surrounding in the backdrop of thick forest cover.

Construction

- Construction of the dam began on February 18, 1907
- The dam is located on the Bhogawati River in the Radhanagari Wildlife Sanctuary in Kolhapur, Maharashtra
- The dam is 1,143 meters long and 42.68 meters high

Purpose

- The dam stores water for irrigation and hydroelectric power generation
- It also supplies drinking water to nearby towns

Significance

- The dam is an important part of the Maharashtra Irrigation System
- The dam's reservoir, known as Radhanagari Lake, is one of the largest in Maharashtra
- The dam is surrounded by a dense forest that's home to many birds and other wildlife

Tourism

- The dam is a popular tourist attraction
- Visitors come to see the many bird species that live in the area
- The dam is located in the Radhanagari
- Wildlife Sanctuary, which is known for its rich biodiversity

Beacon Gear Transmissions pvt ltd

What We Learn From Industry:-

Different Gear Manufacturing Process

•Understanding the different types of gears (spur, helical, bevel, worm gears, etc.).

•Learning about gear design, material selection, and heat treatment processes.

•Studying precision machining techniques used in gear production.

Beacon Gear Transmissions is an ISO 9001-2015 certified company based at Satara, India. Our company was founded by the collective efforts of our mentors namely Mr. Rajendra Mohite, Mr. Santosh Mahamullkar, Mr. Anil Salunkhe and Mr. Sanjay Ghadge.

Incepted in the year 2005, Beacon Gear Transmissions has emerged as an eminent manufacturer and suppliers of Foot Mounted Planetary Reduction Gear Boxes, Mini Planetary Gear Boxes, Flange Mounted Planetary Gear Boxes, Planetary Creep Drive, Sugar Crystallizer Drive and Planetary Geared Motor.

Our dedicated engineers with their expertise in latest Power Transmission Technologies have helped us emerge as one of the leading manufacturer of Planetary Gearboxes. Innovation through extensive research and development work has been the guiding force behind producing wide range of efficient and high performance Gear Boxes. We are also well supported by a team of quality inspectors who make sure that we deliver flawless product at par with International Standards.

We are the leading manufacturers and suppliers of High Quality, Cost Effective, Energy Efficient Gear Boxes with wide range of power transmissions The experience of our engineers helps us in meeting the requisite industry standards. The diligent efforts of our researchers help us in introducing new features in our products that makes them prominent in market. Our products undergoes ISO, DIN, BS, IS Standards.

Asian Compressor

Asian Compressor, based in Satara, Maharashtra, is a prominent manufacturer and supplier of high-quality air compressors. Operating under the name Asian Equipments, the company offers a diverse range of products, including screw air compressors, tank-mounted screw air compressors, screw compressors, and two-stage air compressors.

Product Range:

- **Screw Air Compressors:** Designed for efficiency and reliability, these compressors cater to various industrial applications.
- **Tank-Mounted Screw Air Compressors:** Compact solutions that combine the compressor and storage tank, optimizing space and performance.
- **Two-Stage Air Compressors:** Ideal for industries requiring higher pressure, these compressors ensure consistent performance.

Mission and Vision:

The company aims to create affordable and energy-efficient screw air compressors, striving to become the largest manufacturer in the country.

Visit To Panhala Fort

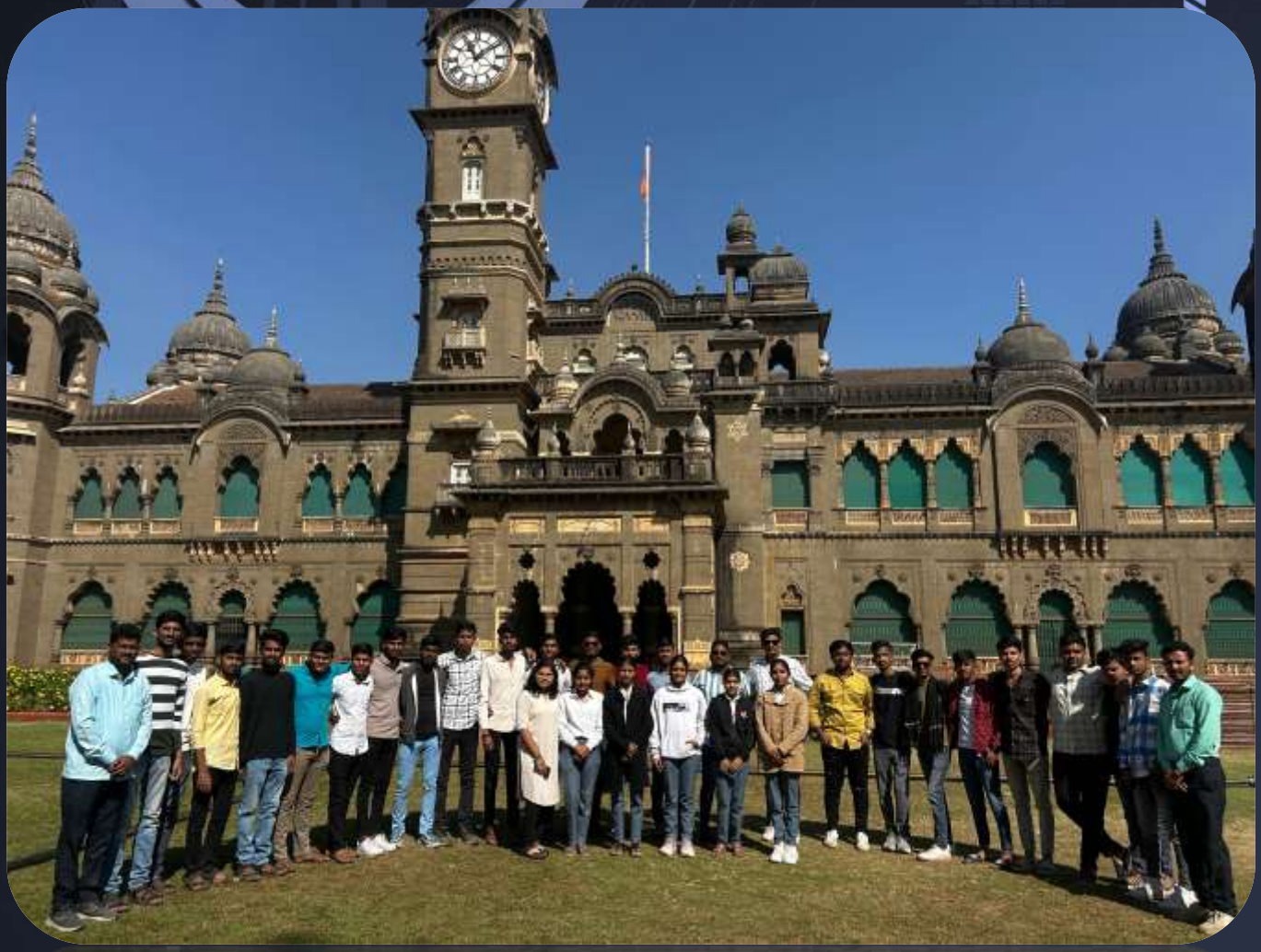
Panhala fort (also known as Panhalgad and Panhalla (literally "the home of serpents")), is located in Panhala, 20 kilometres northwest of Kolhapur in Maharashtra, India. It is strategically located looking over a pass in the Sahyadri mountain range which was a major trade route from Bijapur in the interior of Maharashtra to the coastal areas.

Historical Significance:*- *Founded*: Panhala Fort was initially built in the 12th century by the Shilahara dynasty and later expanded and strengthened by the Bijapur Sultanate.- *Maratha Influence*: The fort is most famous for its association with the Maratha Empire. It was captured by Chhatrapati Shivaji Maharaj in 1659 and became one of the strategic strongholds of the Marathas.- *Important Event*: In 1660, Shivaji Maharaj used Panhala Fort as a place of refuge when he was pursued by the Bijapur forces. It is also the place where the famous escape from the siege by the Mughal army took place in 1660.

Key Features of the Fort: -Location: Panhala Fort is located on the Panhala Plateau, offering a panoramic view of the surrounding region. It is one of the few hill forts that can be easily accessed by road.- *Defensive Architecture: The fort has a strong defensive structure* with thick walls, gates, and watchtowers. It is also known for its strategic positioning* with natural defenses like steep slopes and deep valleys.- *Walls and Gates: The fort has a large entrance gate* called the 'Andheri Darwaza', along with other gates like **‘Saddles Gate’ and ‘Sun Gate’ Defensive Features: The fort’s walls stretch over several kilometers and were designed to defend against attackers. It has many secret passages, **water tanks, and storage rooms.

Major Structures Within the Fort:*- *Someshwar Temple*: A historic temple dedicated to Lord Shiva.- *The Tavadi (Secret Passages): Used by Shivaji Maharaj to escape from the siege. The escape route through these passages led to the **Bajipur* area.- *Kacha Darwaza*: A significant gate that was heavily fortified to prevent any attacks from the entrance.- *Ambarkhana (Granary)*: This area was used for storing food grains and other essentials for the fort's inhabitants.

Visit To Shahu Palace



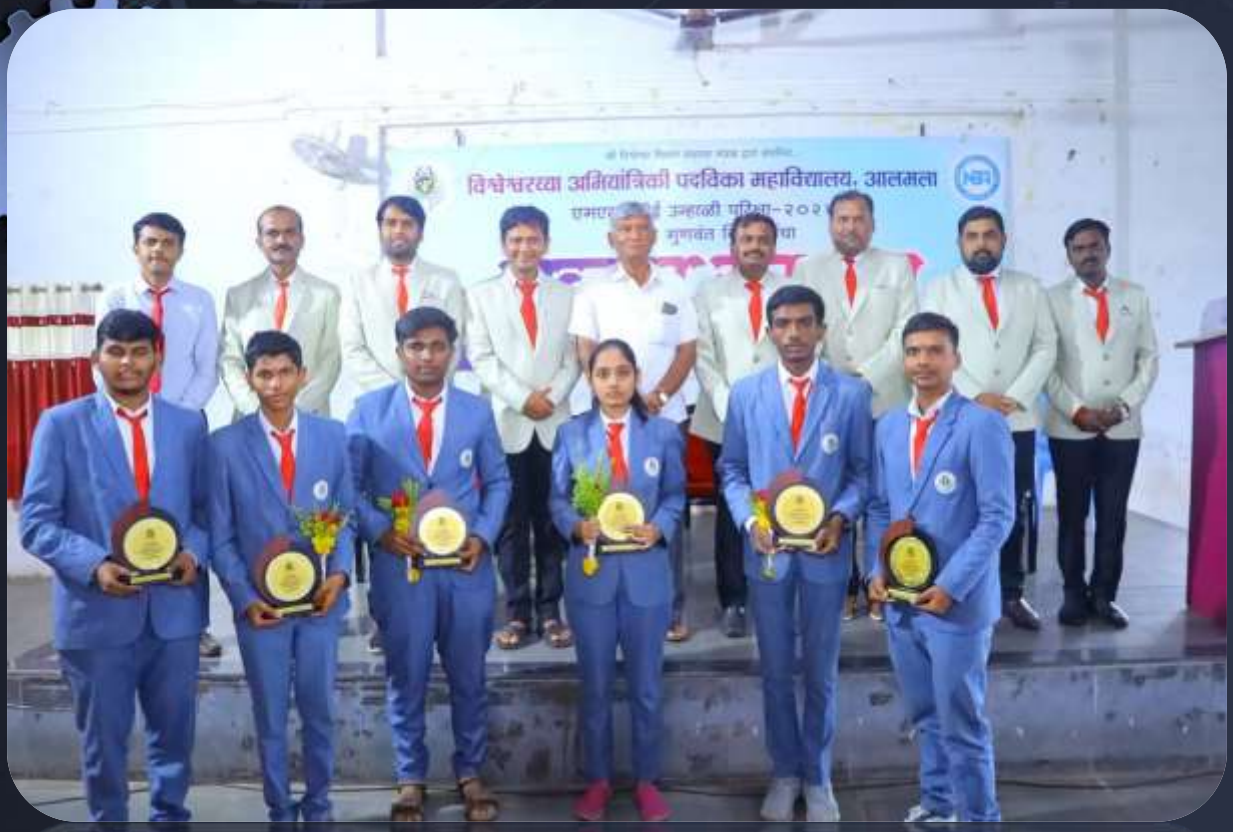
Shahu Palace, Kolhapur is a palace situated in Kolhapur, in the Indian state of Maharashtra. The Palace took 7 years to complete, from 1877 to 1884,[1] costing about seven lakhs of rupees.

History:- *Built by*: The palace was constructed in the 19th century by Shahu Maharaj, the ruler of Kolhapur, who was a descendant of the Maratha Chhatrapati Shivaji Maharaj.- *Significance*: Shahu Maharaj was known for his progressive approach to governance, social reforms, and promoting education and welfare for the people of Kolhapur. The palace is a symbol of his legacy.

Architecture:- The Shahu Palace is known for its beautiful blend of traditional Maratha and colonial architecture. The design features intricate carvings, large arches, and an expansive courtyard.- The *interiors* are decorated with antique furniture, royal paintings, and ornate ceilings, reflecting the grandeur of the time.

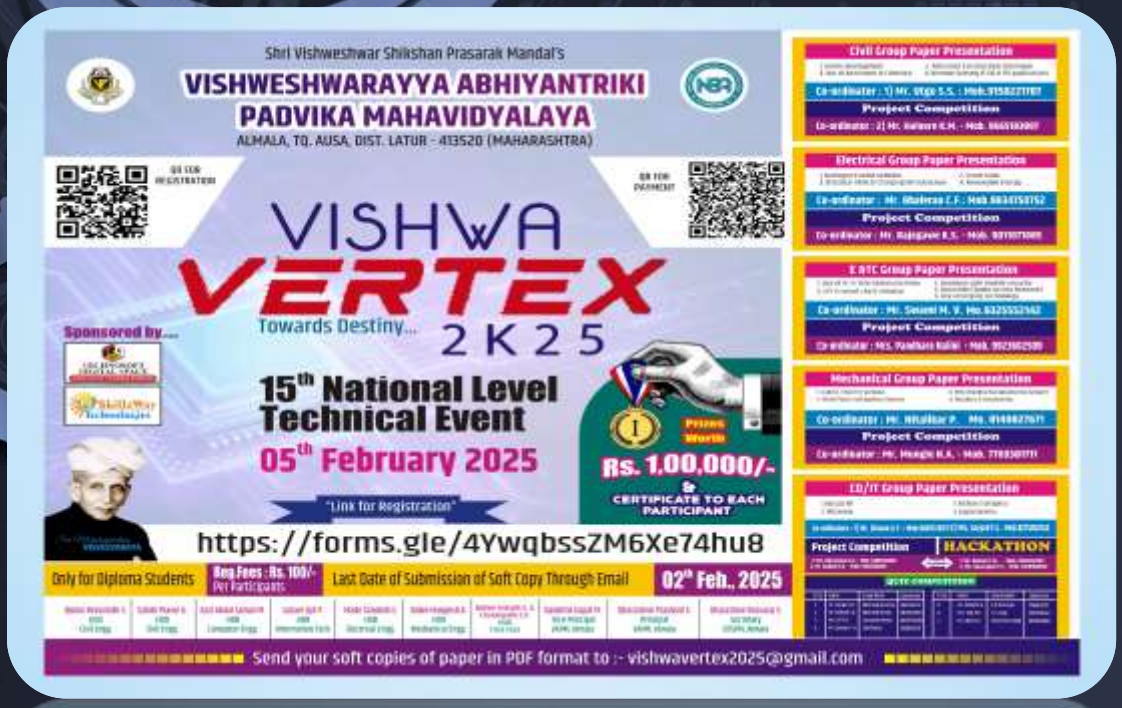
Features:- The palace is set within a large lush garden and includes several structures like the *Mahal (main palace), *temples, and parks
The palace is surrounded by *beautiful gardens*, which are open to the public.

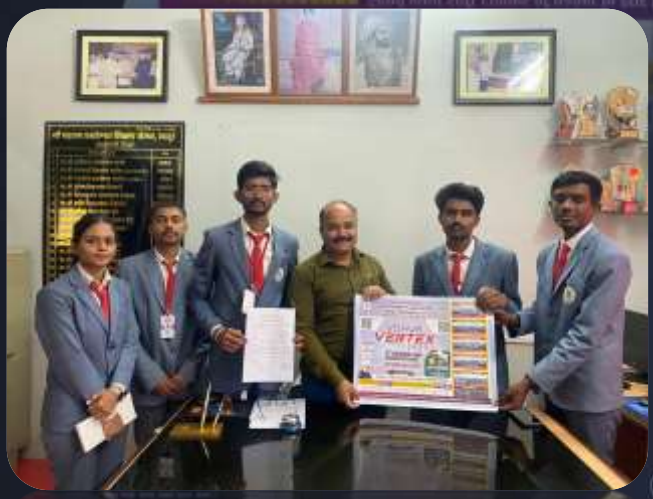
S-24 Exam Topper Student Felicitation

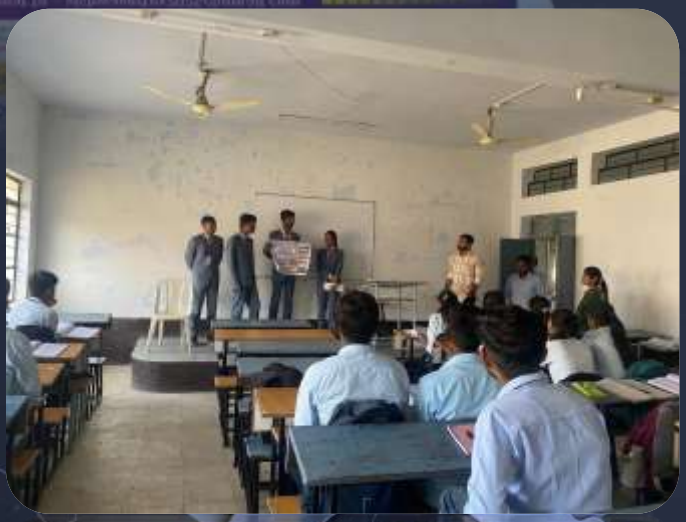


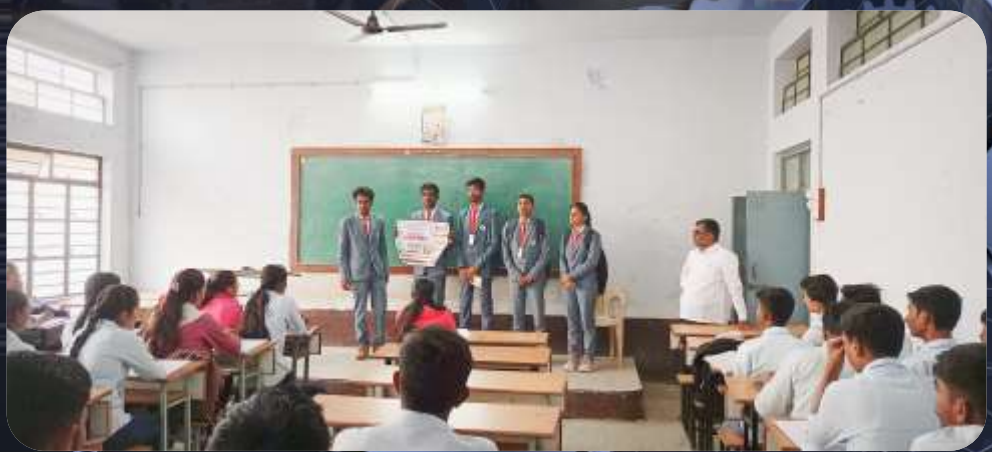
Mechanical Students

Vishwa Vertex 2K25 Campaining

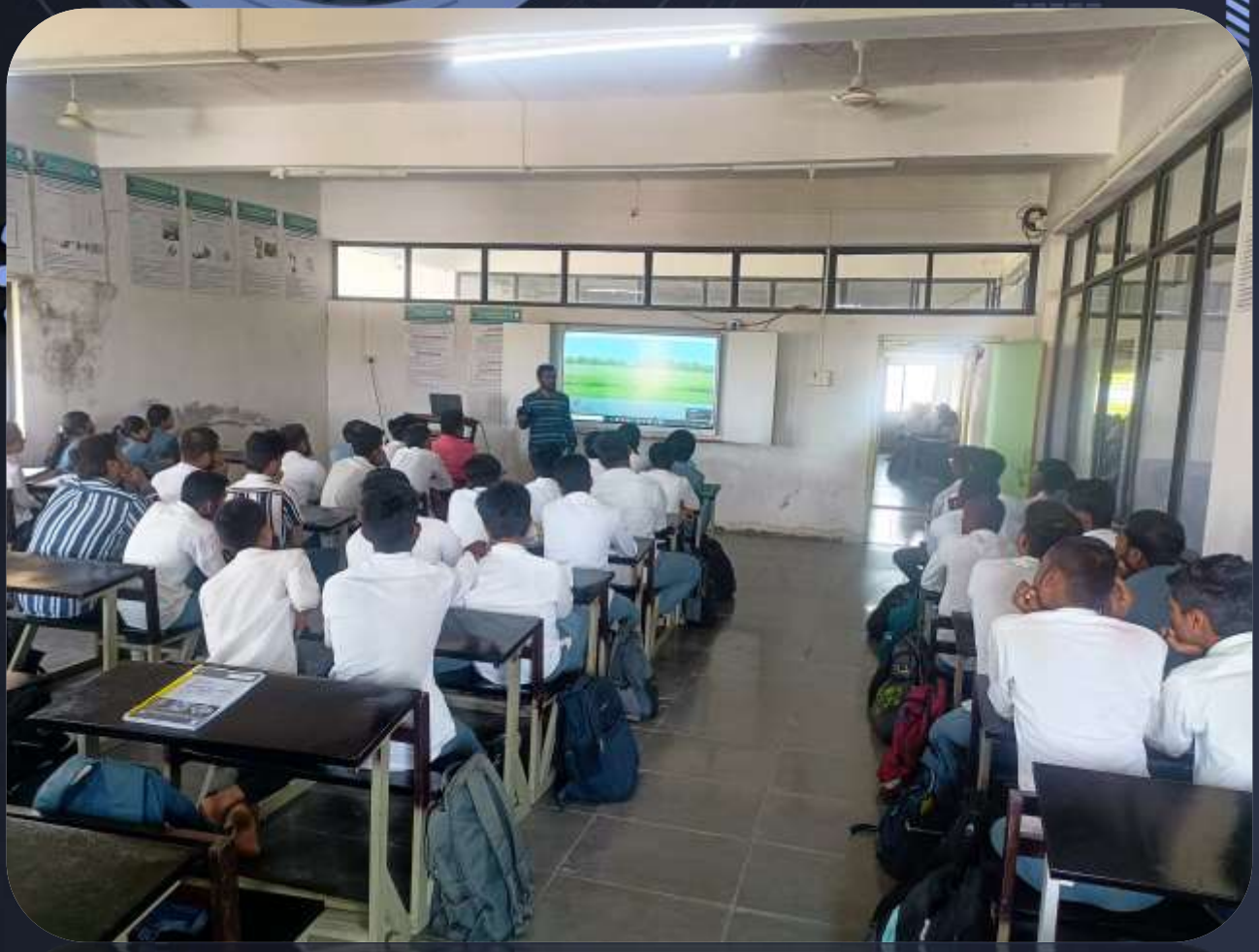








Guest Lecture on Drone Technology conducted by Assistant Professor:- Jadhao U.J. Terna College of Engineering Dharashiv



What We Gain Knowledge:-

If you're looking for guest lecturers or experts in drone technology, you might want to consider the following types of individuals or organizations:

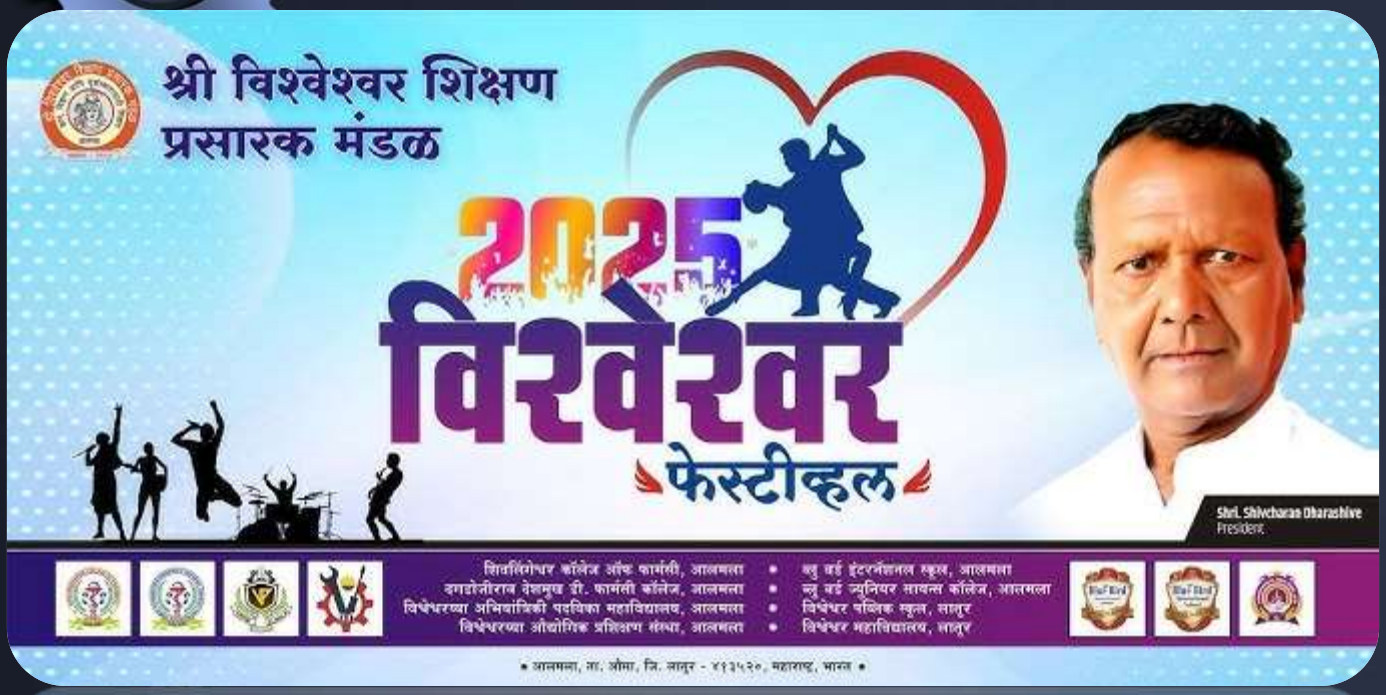
Real-World Applications:Guest lecturers, often industry professionals, can share their experiences and demonstrate how drones are used in diverse sectors like agriculture, construction, environmental monitoring, and search and rescue.

Practical Knowledge:Lectures can cover the technical aspects of drone technology, including drone components, flight dynamics, mission planning, and regulations, equipping students with valuable skills. Hands-on Experience:Some guest lectures may include demonstrations, simulations, or even hands-on activities, allowing students to experience drone technology firsthand.

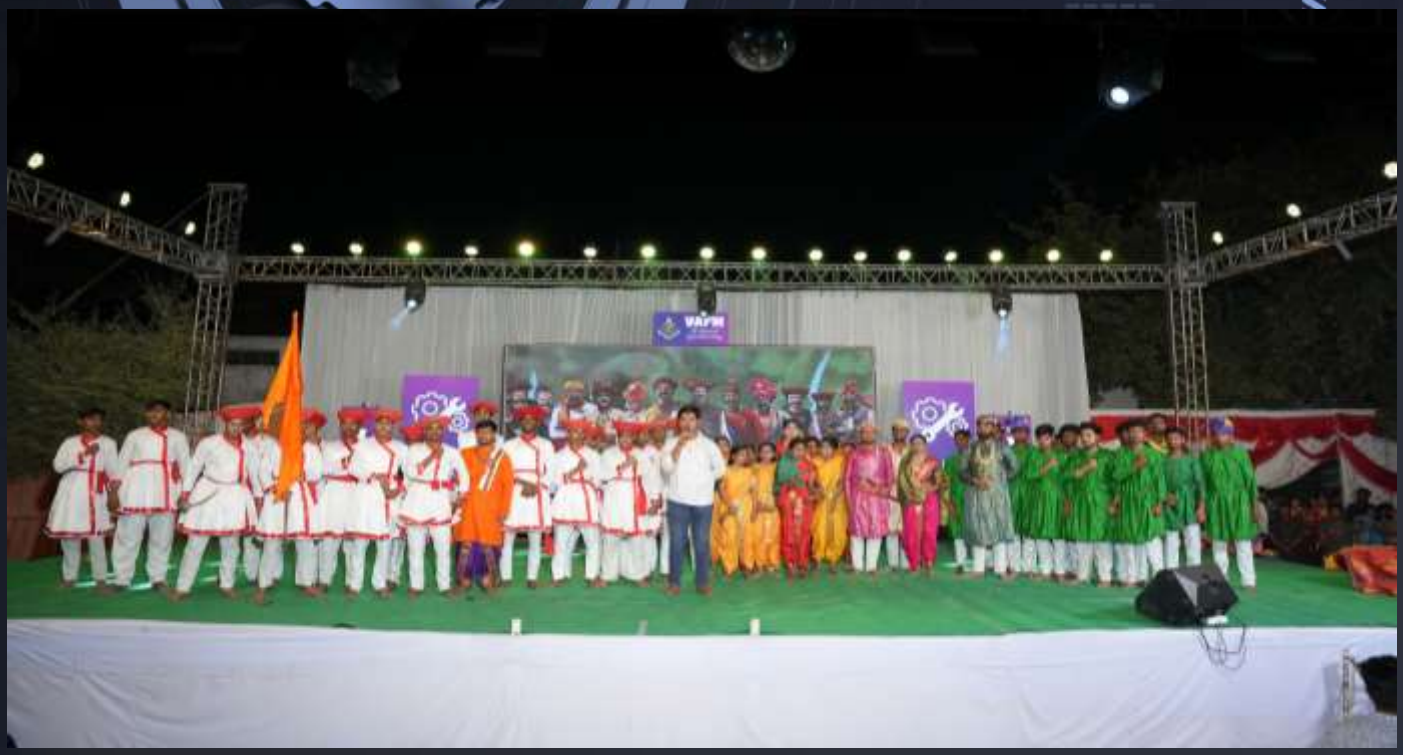
Career Exploration:By learning about the various applications of drones, students can gain a better understanding of potential career paths in drone piloting, data analysis, robotics, and other STEM fields.

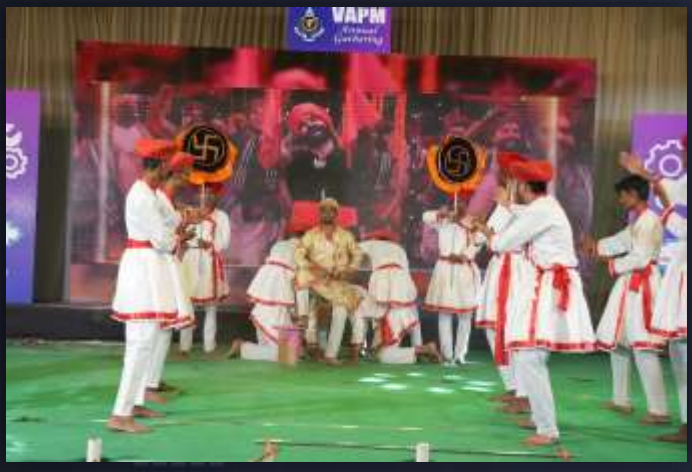
Networking Opportunities:Guest lectures can provide students with opportunities to network with industry professionals and learn about potential internships or job opportunities.

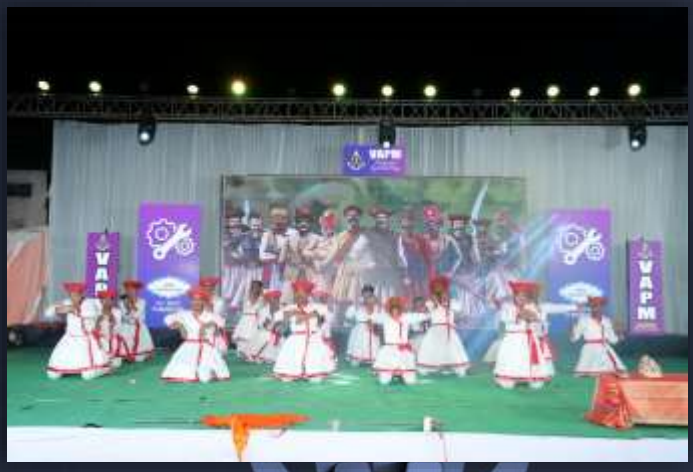
VISHWESHWAR FESTIVAL 2K25

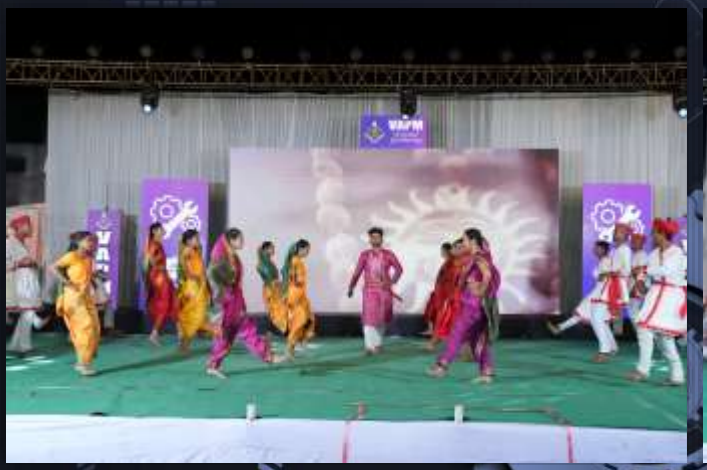


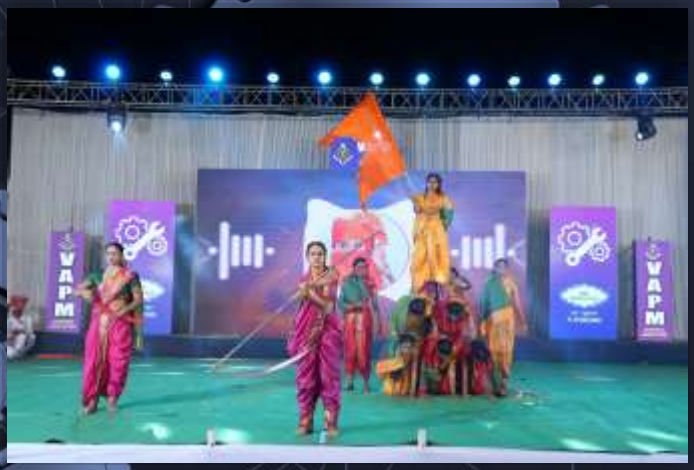
SAMBHAJI MAHARAJ ACT











COMEDY ACT