Mahatma Education Society's
Pillai HOC College of Engineering and Technology, Rasayani

One-day workshop on " Opportunities in Electronics and Innovations in electronics engineering "

Objective:	To understand fundamental electronic principle	**Benefit in terms of learning/Skill/Knowledge obtained:**	Gained insight into how electronic circuits work, the roles of various components, and how these components are interconnected.
Month& Academic Year:	Month: October AY 2023-24	**Program driven by:**	Self Driven activity
TRL level	Level 2	**Program /Activity Name:**	One day workshop on "**Basics of Electronics**"
Program Type:	Workshop	**Other:**	
Program Theme:		**Other:**	
Date & Duration (Days):	4th November, 2023 1 day	**External Participants, If any:**	
Student Participants:	48	**Faculty Participants:**	8
Expenditure Amount, If any:	Nil	**Remark:**	

The Electrical Engineering Department , PHCET Rasayani organized a one-day workshop on the "**Opportunities in Electronics and Innovations in electronics engineering "**. This workshop was designed specifically for SE and TE Electrical engineering students.

The workshop provided participants with a deeper understanding of fundamental electronic principles. They gained insight into how electronic circuits work, the roles of various components, and how these components are interconnected.

Attendees became familiar with key electronic components such as resistors, capacitors, inductors, diodes, transistors, optoelectronics, and printed circuit boards (PCBs). Through hands-on practice, participants honed their practical skills in using electronic components effectively within circuits. This practical experience reinforced their theoretical knowledge and prepared them for real-world applications. At the end of the session, students were allowed to visit PCB lab to witness the practical aspects of electronic circuit design, fabrication, and testing.

Prof.Narendra Dhande's expert guidance bridged the gap between theory and practical. Participants benefited from his theoretical explanations and practical demonstrations, gaining a holistic view of electronics.

The positive feedback and satisfaction expressed by participants indicate that the workshop boosted their confidence in working with electronic components and circuits. They left the workshop feeling more capable and prepared for future electronic projects.

Industrial visit to HVDC Terminal Station, MSETCL,Padghe

Objective:	To know how to transmit power from Chandrapur to Padghe HVDC Terminal Station.	**Benefit in terms of learning/Skill/Knowledge obtained:**	Got the basic idea about Transmission Line Power Flow, Convert DC to AC, Thyristor Bank, DC and AC Switchyard Operation, Electrode Station, PLCC and SCADA System Operation, etc.
Month& Academic Year:	Month: September AY 2023-24	**Program driven by:**	Self Driven activity
TRL level	Level 2	**Program /Activity Name:**	Industrial visit to HVDC Terminal Station, MSETCL,Padghe
Program Type:	Exposure Visit	**Other:**	
Program Theme:		**Other:**	
Date & Duration (Days):	11th September, 2023 1 day	**External Participants, If any:**	
Student Participants:	52	**Faculty Participants:**	2
Expenditure Amount, If any:	Nil	**Remark:**	


PADGHE HVDC TERMINAL
ABB
MSEB

The Electrical Engineering Department organized an industrial visit for the BE Electrical students to HVDC Terminal Station, MSETCL,Padghe.

The Maharashtra State Electricity Board (MSEB) built a 1,500 MW HVDC link between the cities of Chandrapur and Padghe (near Mumbai) - the first HVDC transmission link to Mumbai. The converter terminals were constructed by ABB (Sweden and India) and Bharat Heavy Electricals Limited (BHEL) of India. The 500 kV Chandrapur - Padghe HVDC Bipole feeds Mumbai on the west coast with 1,500 MW from a thermal power generation plant located near Chandrapur in the eastern part of Maharashtra State 752 km away. The link helps to stabilize the Maharashtra grid, increasing power flow
on the existing 400 kV AC lines while minimizing total line losses.

±500 KV HVDC Padghe Plant Specification:

Commissioning year:	1999
Power rating:	1,500 MW
No. of poles:	2
AC voltage:	400 kV (Both Ends)
DC voltage:	±500 kV
Length of overhead DC line:	752 km
Main reason for choosing HVDC:	Long distance, network stability, environmental concerns
Application:	Connecting remote generation

This visit was fruitful for students to bridge the gap between the theoretical and practical knowledge.

Outcome of the visit

- Students got the basic idea about Transmission Line Power Flow, Convert DC to AC, Thyristor Bank, DC and AC Switchyard Operation, Electrode Station, PLCC and SCADA System Operation, etc.
- Students got information about how to transmit power from Chandrapur to Padghe HVDC Terminal Station.
- Students observed the whole working process of Conversion of DC to AC.
- Student got information of various section of Padghe HVDC Terminal Station.
  - AC Switchyard
  - DC Switchyard
  - Control Room
  - Safety Section

One of the Ex.Engineers elucidated the whole information about working of HVDC terminal Station, also explained HVDC Chandrapur to Padghe indication and control panel. After explanation students have visited to DC and AC Switchyard. Students were satisfied about the industrial visit at HVDC Terminal Station, MSETCL, Padghe, Mumbai 421101.

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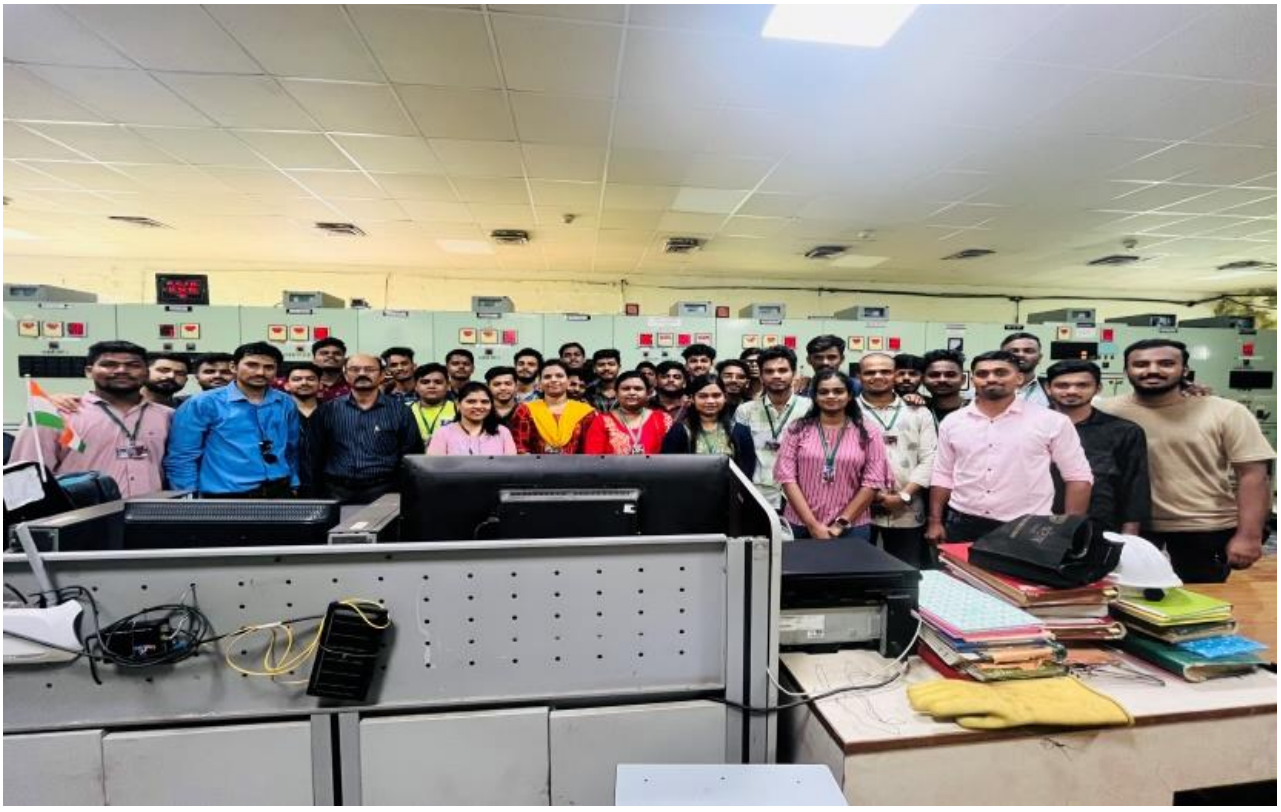
Industrial Visit to 220/100/22KV Substation APTE

Objective:	To be familiar with industrial environment and to get practical knowledge of electrical power transmission and distribution system	**Benefit in terms of learning/Skill/Knowledge obtained:**	Got knowledge about new SCADA based system as you can operate substation by manually or by command from computer using SCADA system and PLC programming.
Month& Academic Year:	Month: October AY 2023-24	**Program driven by:**	Self Driven activity
TRL level	Level 2	**Program /Activity Name:**	**Industrial Visit to** 220/100/22KV Substation APTE
Program Type:	Exposure Visit	**Other:**	
Program Theme:		**Other:**	
Date & Duration (Days):	17th October 2023 1 day	**External Participants, If any:**	
Student Participants:	30	**Faculty Participants:**	4
Expenditure Amount, If any:	Nil	**Remark:**	



The Electrical Engineering Department organized an industrial visit for the Third Year Electrical Engineering student on 17th October 2023 to Maharashtra State Electricity Transmission Company 220/100/22 KV APTE Substation. Students are divided in two batches. Our main purpose for this visit is to be familiar with industrial environment and to get practical knowledge of electrical power transmission and distribution system. 30 third year students along with faculty coordinators , Prof. R. D. More , Prof. Supriya Shigwan, Prof. Ronita Pawn and Prof. Deepak Pemare attended the visit.

From this visit, student got the detailed information and practical knowledge about single line diagram of substation and about different component of substation like feeder, circuit breaker, transformer ,isolator, bus bar, Protective relays, Lightening arresters, Wave Trap, Load break switches and their construction ,working principle .

They got the idea how to read the single line diagram of power substation using different symbols used in diagram. Student cleared out practical knowledge of transformer as how it step down voltage 220 KV to 100 KV. They also got knowledge about new SCADA based system as you can operate substation by manually or by command from computer using SCADA system and PLC programming. They were successfully able to understand the working of all the mentioned equipment, everything from how they are installed, how they are monitored and maintained. About 30 students were benefited from this visit as they got chance to discussion with assistant engineers working at Substation.