1.3.3 Percentage of students undertaking field projects/ internships (current year data)

INDEX

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TulsiramjiGaikwad-Patil College of Engineering& Technology

Wardha Road, Nagpur-441 108

Department of Electrical Engineering

Report of Field Visit at 500KV Chandrapur back- to-back HVDC Converter Station

Date:-19.01.2019

Aim: To conduct a mapping test on Field Visit of 500KV Chandrapur back- to-back HVDC converter station on "19th January 2019".

Objective:

1. To give the students basic concepts of HVDC Converter design.
2. To impart students about specifications and construction of HVDC Converter.

Methodology:

1. The students are given induction about the visit. They were briefed about the objective of organizing such type of visits.
2. Students from third & final year of the Electrical Engineering Branch were selected for the field visit.
3. Students were asked knowledge based questions on to know about the field visit by searching it in the media. They were also asked to search the answer why such events are arranged by the organizing body.
4. Multiple Choice Questions based on the field visit is prepared to check whether the visit was fruitful or not.

Outcome:

1. It is observed by the faculty coordinator that the students utilized the travel time to reach the destination in searching the details of the event and know about the history of the place.
2. Students curiously went to every project, learnt the concept of the project and also asked few questions to the projectees present with their projects.
3. The students were proud to know that our country is in the forefront to use the technology.
4. The students were proud to know that the It connects the coal-fired Chandrapur Super Thermal Power Station to the major load centre of Mumbai. The project has a 752 kilometres (467 mi) long bipolar overhead line. The transmission voltage is ±500 kV and the maximum transmission power is 1,500 megawatts. The scheme uses thyristor valves, arranged in a single twelve pulse bridge per pole. The project was built by ABB and BHEL, and is owned by Maharashtra State Electricity Board (MSEB).

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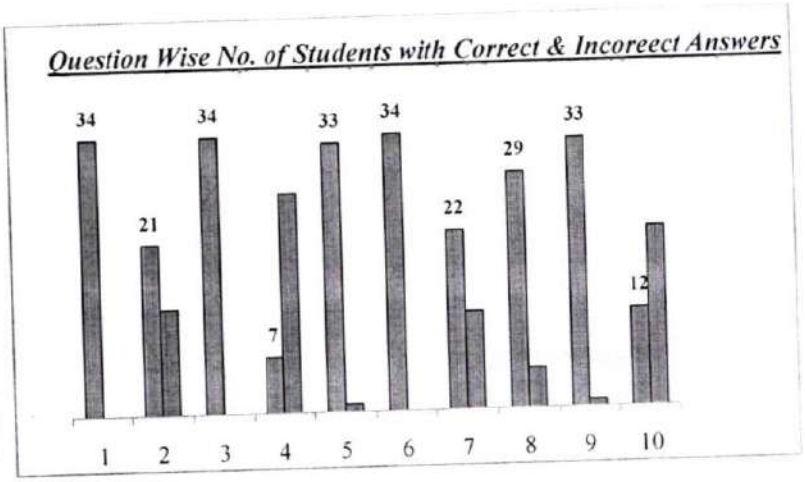
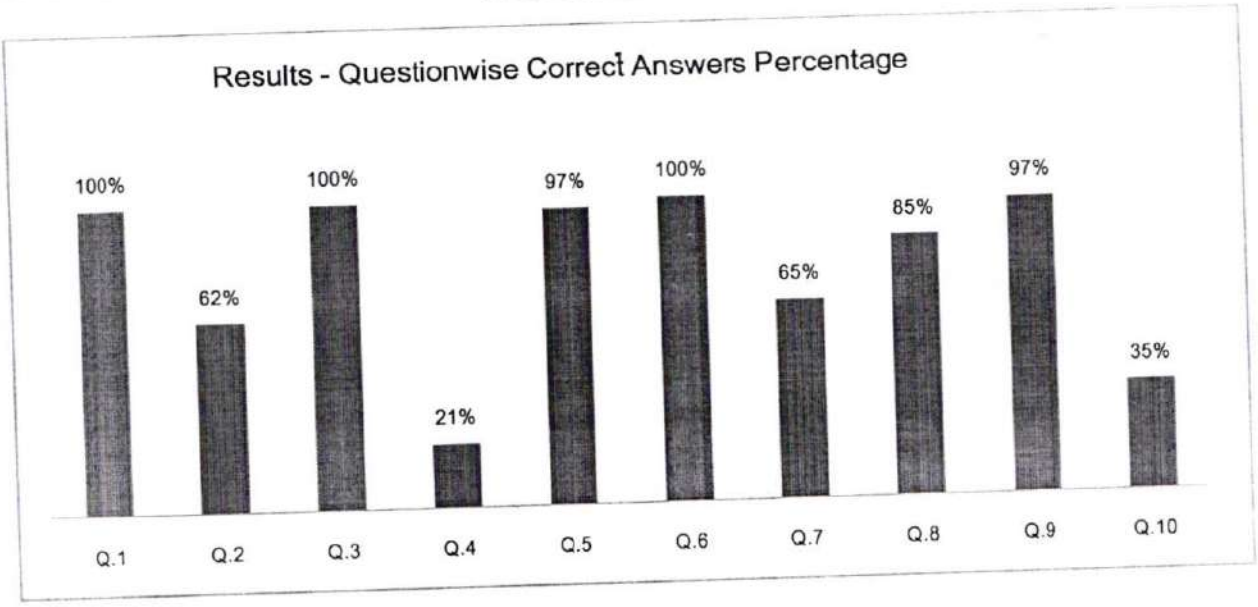
Department of Electrical Engineering

The Analysis of the Correct and Incorrect Answers attempted by the students is as shown below;

No. of. Students Present = 34		
Que. No	**Correct Answers**	**Incorrect Answers**
1.	34	0
2.	21	13
3.	34	0
4.	7	27
5.	33	1
6.	34	0
7.	22	12
8.	29	5
9.	33	1
10.	12	22





Actions to be taken:

1. Students who attempted Question No. 4 and 10 incorrect are to be sorted and found out the reason of not attempting in correct way.
2. Such visits should be arranged in some intervals as it provides Project Based Learning to the student which is the need of the hour.

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Department of Electrical Engineering

Mapping of Field Visit with PO:

This Field Visit helped students to learn about

1) Engineering Knowledge
2) Design/ development of solutions.
3) Conduct investigation of complex problems
4) Modern tool usage
5) The engineer and society
6) Individual and team work
7) Lifelong learning

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
3		2	3	3	3			3			3

Conclusion:

The field visit concluded with Valedictory session wherein the feedback forms were distributed to all the participants. Mementos were also given to the Session Chairs. Prof. Ashwini Admane proposed a vote of thanks to all delegates, Organizing and Technical Committees for smooth conduct and huge success of one day field visit at 500KV Chandrapur back- to-back HVDC converter station. The one day field visit was nicely and successfully managed by an faculty member of the department Prof. Ganesh Wakte.

Visit at 500KV Chandrapur back- to-back HVDC Converter Station

HOD
Department of Electrical Engineering
Tulsiramji Gaikwad Patil College of Engineering & Technology, Nagpur

Tulsiramji Gaikwad-Patil College of Engineering & Technology
Wardha Road, Nagpur-441 108
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Department of Electrical Engineering

NOTESHEET

Date: 04.01.2019

Approval for the Field Visit at 500 MW HVDC Chandrapur Substation:

This is to bring to your kind concern that the department has organised a field visit at 500 MW HVDC Substation of MSETCL, Chandrapur. The students of final and pre-final year are eligible for the visit. The site is approx. 165 kms from Nagpur.

Kindly grant a permission for the visit as it would enhance the technical capability of the students.

H.O.D – Electrical Engineering

HOD
Department of Electrical Engineering
Tulsiramji Gaikwad Patil College of
Engineering & Technology, Nagpur

To
H.O.D. Elect. Deptt
Permitted to field visit.
at HVDC Substation
04/01
2019

Gmail se4300@mahatransco.in

Compose

Inbox 4,417

Starred

Snoozed

Important

Radharaman +

TGPCET- MSETCL I.

Holiram Sangode <ee4330@mahatransco.in>
to me

Dear Sir/Madam,

As per your mail on dtd. 11.01.2019 this is to inform you that, permission to visit at 500 KV HVDC Tern 19.01.2019 at 11:00 am, subject to site conditions. As per our corporate office circular, you have to pay Rs. 100- favor of "Superintending Engineer, HVDC RS O&M Circle Office Chandrapur". The candidates shall take their ov account details of "Superintending Engineer, HVDC RS O&M Circle Office Chandrapur" is attached herewith. Al further communication.

Please note & confirm by return mail.

Thanking you.

HOD
Department of Electrical Engineering
Tulsiramji Gaikwad Patil College of Engineering & Technology, Nagpur

No Hangouts contacts
Find someone

Tulsiramji Gaikwad-Patil College of Engineering & Technology
Wardha Road, Nagpur-441 108
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Department of Electrical Engineering

Attendance Sheet
Field Visit: 500 MW HVDC Plant, MSETCL, Chandrapur
Date : 19.01.2019

Sr. No.	Name of Student	Signature
1)	Dhanshri R. Hirulkar.	D R Hirulkar
2)	Sakshi D. Paraskar	
3)	Akshata Jalmali	
4)	Ekta Pantawane	
5)	Tulsi Giri	
6)	Snehal Kachare	
7)	Diksha Dorlikar	
8)	Prachi Tunghare	
9)	Shrutika Kagde.	
10)	Mokesh Bawankar	
11)	Shubhangi Katgube.	
12)	Payal Dhote	
13)	Geeta Mehkar	
14)	Jamini Kamble	
15)	Utkarsha Narnaje	
16)	Diksha Kamble	
17)	Shweta Sawarkar	
18)	Nikhil Gawkar	
19)	Nikhil Ade,	
20)	Renuka Wanjari	
21)	Monali Bagde	
22)	Pratiksha Kamble	

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Department of Electrical Engineering
Tulsiramji Gaikwad Patil College of Engineering & Technology, Nagpur

23)	Sneha Barsagade	S.V. Barsagade
24)	Swapnali Barkar	Barkar
25)	Ujjwala paunikar	Paunikar
26)	Deepal Parile	Parile
27)	Naina Gaisumdse	
28)	Suchal Gondane	Gondane
29)	Akansha wasnik	Wasnik
30)	~~Ashko~~ Akshay Jathe	Jathe
31)	Gaurav Regulwar	Regulwar
32)	Dinesh chautale.	Chautale
33)	Krishna Suryavanshi	Surya
34)	Rakesh Yede	Yede
35)	Jayshree Malik	Malik
36)	Sushma Pande	Pande
37)	Shushma Kaware	Kaware
38)	Pooja Kolhe	Kolhe
39)	Priti Hatmare	Hatmare
40)	Gaurav Deshkar.	Deshkar
41)	Rupam Lilhale	Lilhale
42)	Pratik Singh Raghav	Raghav
43)	Shanmadeep Shelke	Shelke
44)	Vinit Tongadge	Tongadge
45)	omprakash rahangdale	Rahangdale
46)	Sameer P. Meshram	Meshram

Visit carried out by

1. Mr. Sagar S. Bobade (AE)
2. Mr. T. Chandrashekhar (AE)

Assistant Engineer
HVDC Outdoor Unit
HVDC Indoor Division
MSETCL, Chandrapur

HOD
Department of Electrical Engineering
Tulsiramji Gaikwad Patil College of
Engineering & Technology, Nagpur

Field Visit to 500 MW HVDC Plant (Date: 19-01-2019)

FIELD VISIT REPORT

HVDC TRANSMISSION FROM CHANDRAPUR TO PADGHE

BIPOLE

GUIDED BY:-SAGAR BOBADE SIR

PRESENTED BY:-

1. Shubhangi katgube
2. Payal Dhote
3. Damini Kamble
4. Shifali Agdari
5. Rohini Bopche

TULSIRAMJI GAIKWAD –PATIL COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRICAL ENGINEERING

HVDC TRANSMISSION SYSTEM (CHANDRAPUR)

CONTENT:-

INTRODUCTION:-

The chandrapur –padghe 500KV, 1500MW HVDC bipolar transmission link of 752km length interconnected the eastern and western part of Maharashtra state, this bipolar link evacuates power from chandrapur super thermal power station.

The system consist of 2 pole of 750MW each connected bipolar configuration .The project is in commercial operation since 1999 till date in parallel with MSETCL, Exitsting 400KV Transmission system.

Commissioning year:	1999
Power rating :	1500MW
No .of .pole :	2
Dc voltage :	500kv
Length overhead Dc Line:	752KM
Main reasons for choosing HVDC:	Long distance ,network stability, environmental concerns.

The transmission network carries electricity to the substation .The transmission is place where electricity is stepped down from a transmission level voltage to a distribution level voltage. From the substation low voltage electricity can be distributed to the customer using distribution lines.

TRANSMISSION SYSTEAM OF HVDC IN INDIA

The power of electricity grid is an interconnected network electricity from electricity generators to consumers .A power grid system includes a number of electricity generated from the power station such as thermal power plant, hydro power plant, etc .

INTERFACING GRID SUBSTATION	INJECTION VOLTAGE LEVEL	INJECTION CAPACITY AT SUBSTATION
33/11KV	33KV	2 to 8
132/33KV	33KV	6 to 15
0132/33KV	132KV	11 to 50
220/132KV	132KV	11 to 50
220/132KV	220KV	41 to 100
400/220KV	220KV	51 to 150

ABSTRACT:-

High voltage direct current is well proven technology employed for transmission all over the world .It has many application such as long distance bulk power transmission , interconnection between the asynchronous system and the high power undersea or underground cable transmission .In addition ,it provides features such as lower losses and additional controllability when compared to AC system.Bharat Heavy Electrical Limited (BHEL) had already executed India first 500KV NTPC Rihand HVDC 1500MW bipolar project also being executed by them . The development of transmission system closely follows the demand on electrical energy. With the increasing size and complexity of transmission networks , the performance of power system decreases due to problems related to load ,power oscillations ac transmission system (FACTS) and and HVDC technologies technologies offer some effective schemes to meet these demands .

VOLTAGES LEVELS IN INDIA

RANGE	VOLTAGE TERM	VALUE	DESCRIPTION
Low	Safely extra low voltage	42.4 v peak or 60 v DC	Safe user touchable secondary circuit designed and protected to remain under safe voltage level in normal operation and under single , fault double insulation
Low	Extra low voltage	42.4v peak or 60v DC	Secondary non touchable secondary circuit separated from hazardous voltage by basic insulation ; not safely extra low voltage
Low	Low voltage	1kv AC	Hazardous voltage circuit such as primary circuit connected to low voltage main supply such as 120 /230 v AC
High	Medium voltage	1kv AC to 100 kV AC	Distribution grid long distance transmission line
High	High voltage	100 kv AC to 230 kv	Transmission grid

6.POTENTIAL TRANSFORMER

The potential transformers are similar in characteristics as current transformers but are utilized for converting high voltages to lower voltages for protection of relay system and for lower rating metering of voltage measurements.

CONCLUSION:-

Thus we visited in padghe hvdc transmission line, chandrapur, on 19/01/2019 and studied about various devices used in substation such as circuit breaker, lightning arrester, insulator, isolator, potential transformer and current transformer etc. and studied about hvdc transmission.

We are thankful to whole team of HVDC system chandrapur.

PHOTO OF ALL STUDENTS WITH STAFF VISITED TO HVDC TRANSMISSION SYSTEM, CHANDRAPUR

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Vidarbhabahu-uddeshiyashikshansanstha

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TULSIRAMJI GAIKWAD-PATIL

College of Engineering & Technology, Nagpur

DEPARTMENT OF ELECTRICAL ENGINEERING

Field Visit Report

16th February,2019At

HVDC TRANSMISSION SYSTEM (CHANDRAPUR)

Vidarbhabahu-uddeshiyashikshansanstha

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TULSIRAMJI GAIKWAD-PATIL

College of Engineering & Technology, Nagpur

DEPARTMENT OF ELECTRICAL ENGINEERING

Field Visit Report

16th February,2019At

HVDC TRANSMISSION SYSTEM (CHANDRAPUR)

Students group name;

1] sudip sana

2] virendra ingle

3] ganesh magade

4] kishor karmakar

CONTENT:-

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High	Medium voltage	1kv AC to 100 kv AC	Distribution grid long distance transmission line
High	High voltage	100 kv AC to 230 kv AC	Transmission grid long distance TL with typical maximum distances or approximity 300 miles (483)
High	Extra high voltage	230 KVAC to 800 KVAC	Transmission grid long distance transmission line voltage with typical maximum distance ransmission grid long distance transmission line voltage with typical maximum distance
High	DC voltage	500 kv	-

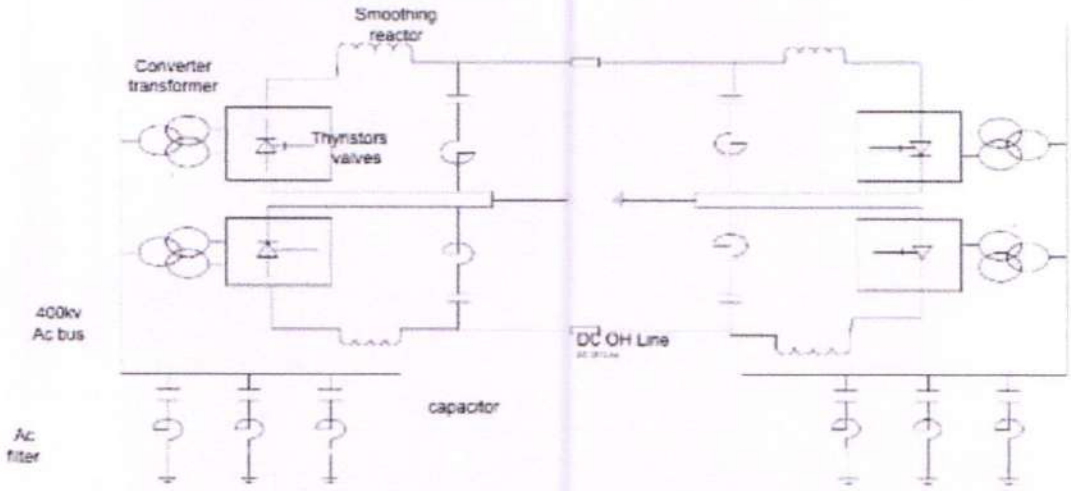


Fig. Single line diagram of HVDC Transmission System

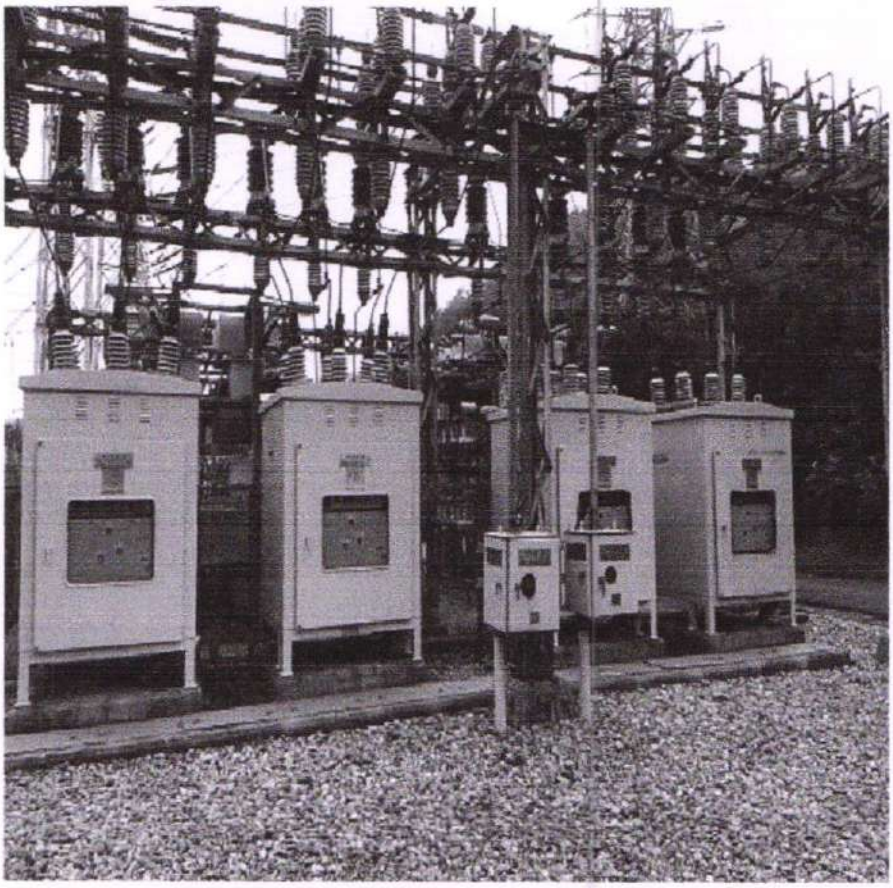
FEATURES OF HVDC TRANSMISSION SYSTEM

1. REACTIVE POWER CONTROL
2. DAMPING CONTROL
3. RUN UP FUNCTION
4. REDUCED VOLTAGE OPERATION
5. SUB SYNCHRONOUS REACTANCE DAMPING CONTROL
6. DUPLICATED CONTROL SYSTEM
7. OPTICAL FIBRE COMMUNICATION
8. ADVANCED FIRE PROTECTION SYSTEM
9. PROVISION OF INSPECTION GALLERY IN VALUE HALLS

The various substation equipments are as follows:-

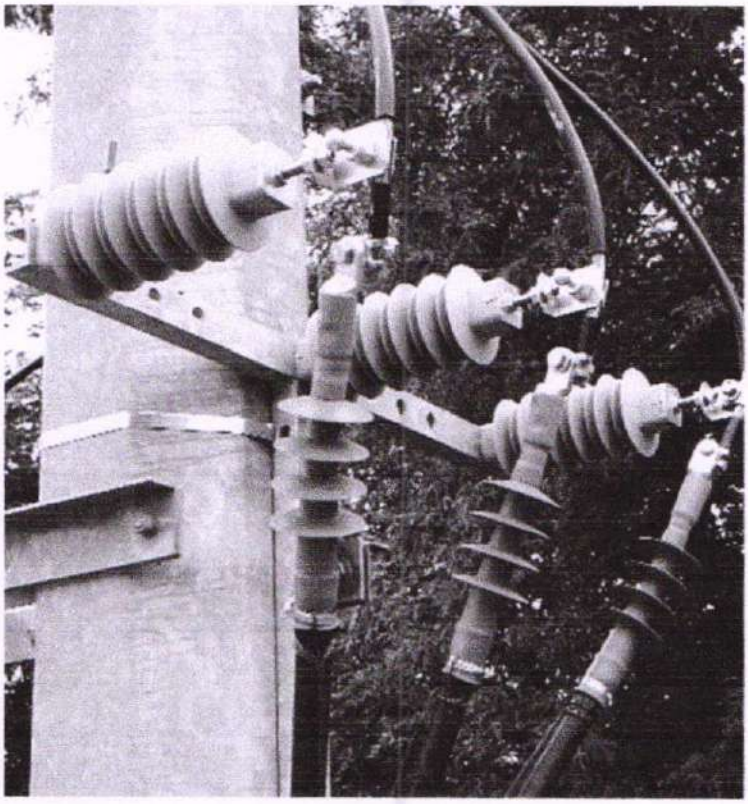
1. CIRCUIT BREAKER

The circuit breaker is an equipment which automatically cut off power supply of the system when any faullt or short circuit occurs in the system. It detects and isolates faults within a fraction of a second thereby minimizing the danage at the point where the fault has occcured.



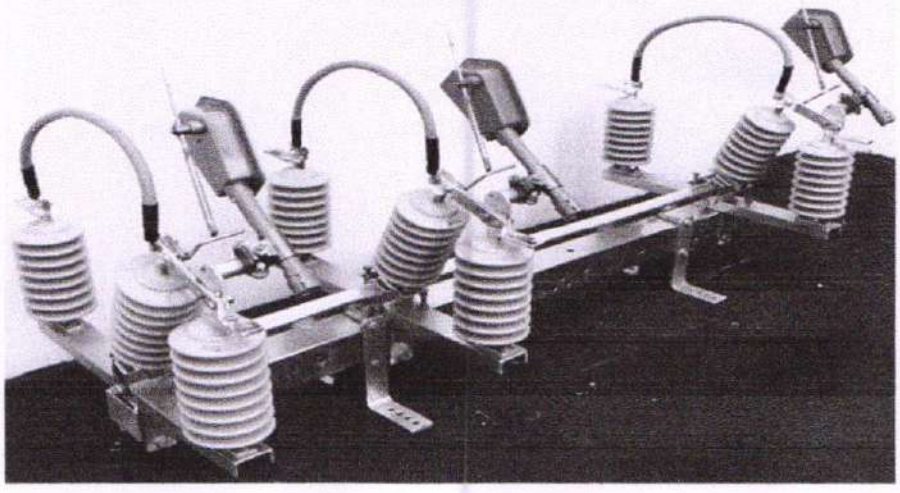
2.LIGHTNING ARRESTERS

Lightening arresters is the most important protective device of distribution substation to protect valuable equipment as well as working personnel . It arrests and discharges over voltage to earth during lightning stroke.



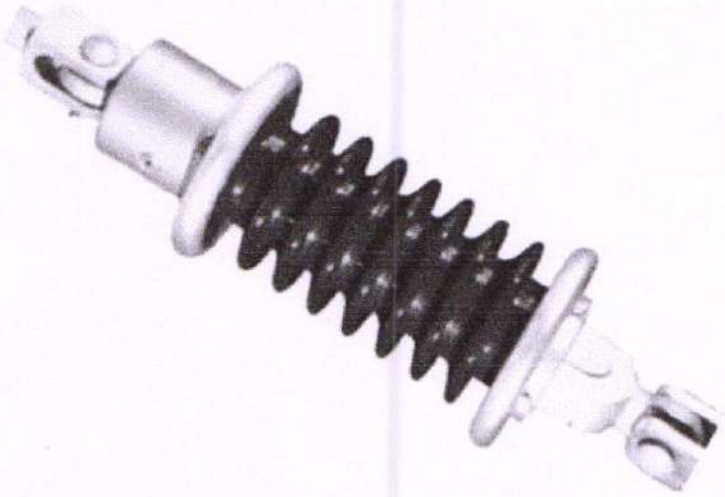
3.ISOLATOR/AIR BREAK (AB) SWITCH

Air break switches are used to isolate equipments for maintanence and also for transfer of load from one bus to another bus .



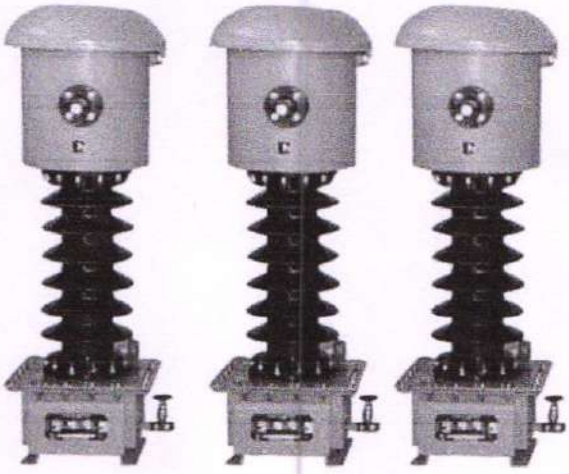
4. INSULATOR

The main function of an insulator is to insulate live conductor or equipment at different voltage levels . There are numerous types of insulators such as shackle , strain type , suspension type , and stray type etc. insulators are used in substations for avoiding contact with humans or short circuit.



5. CURRENT TRANSFORMER

A current transformer is a gadget utilised for the transformation of higher value of currents into lower values. It is utilized as an analogous manner tp thst of AC instruments , control , apparatus , and meters .



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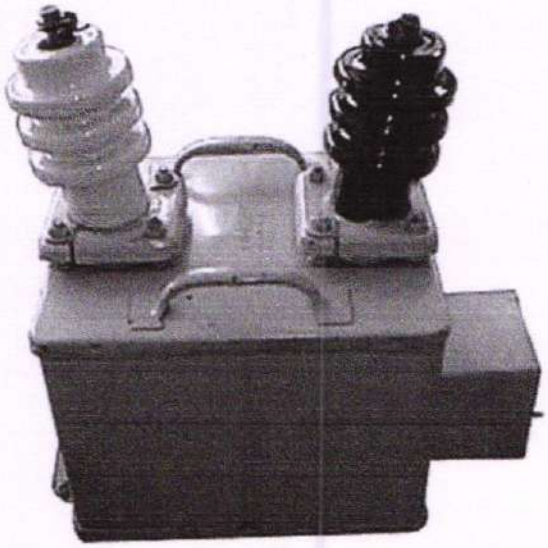

CONCLUSION:-

Thus we visited in padghe hvdc transmission line , chandrapur, on 19/01/2019 and studied about various devices used in substation such as circuit breaker , lightning arrester , insulator , isolator , potential transformer and current transformer etc. and studied about hvdc transmission .

We are thankful to whole team of HVDC sytem chandrapur.

PHOTO OF ALL STUDENTS WITH STAFF VISITED TO HVDC TRANSMISSION SYSTEM,CHANDRAPUR

REPORT BY:-

1. Sudip Sana
2. Virendra ingle

3.Ganesh Maghade

4.Kishor karmakar

Tulsiramji Gaikwad-Patil College of Engineering & Technology
Wardha Road, Nagpur-441 108
NAAC Accredited
Department of Electrical Engineering

NOTESHEET

Date: 24.01.2019

Approval for the Field Visit at Power Grid, Deoli, Wardha:

This is to bring to your kind concern that the department has organised a field visit at 765/400/200 kV Substation of PGCIL, Deoli in Wardha. The students of final and pre-final year are eligible for the visit. The site is approx. 110 kms from Nagpur.

Kindly grant a permission for the visit as it would enhance the technical capability of the students.

H.O.D – Electrical Engineering

HOD
Department of Electrical Engineering
Tulsiramji Gaikwad Patil College of
Engineering & Technology, Nagpur

To.
HOD-EE-Deptt
Permitted to visit
at power grid
wardha
24/09/19

Tulsiramji Gaikwad-Patil College of Engineering & Technology
Wardha Road, Nagpur-441 108
NAAC Accredited

Department of Electrical Engineering

NOTICE

Date: 03.02.2019

This is to inform all the students of the final and pre-final year students that Industrial Visit is organized at "765/400/220 kV PGCIL Substation, Wardha" on 16.02.2019. All the students should attend the Visit.

Reporting Time: 8.30 am in the college premises.

H.O.D – Electrical Engineering

HOD
Department of Electrical Engineering
T... Gaikwad Patil Colle...
E... ...ng & Technolo...

पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)
पावरग्रिड
आई.एस.ओ. 9001:2000 प्रमाणित • ISO 9001:2000 Certified
संप्रीति नगर, नारी रिंग रोड, डाकघर–उप्पलवाडी, नागपुर–440 026.
Sampriti Nagar, Nari Ring Road, P.O. Uppalwadi, NAGPUR-440 026.
दुरभाष / Phone : 0712-2641478-79, फैक्स / Fax : 0712-2641366
E-mail : pgcil@nagpur.dotnet.in
पश्चिम क्षेत्र पारेषण प्रणाली-I क्षेत्रीय मुख्यालय / Western Region Transmission System - I, Regional Hqrs.

Ref.: WRTS-I: RHQ: HR: HRD: 2019:

Date: 18.01.2019

To

Shri Radharaman Shaha,
HoD (Electrical Engg. Dept.)
Tulsiramji Gaikwad Patil College of Engineering and Technology
Mohagaon, Wardha Rd, Nagpur, Maharashtra 441108

Sub. : Permission for visit of Students of your esteemed institute.

Dear Sir,

Kindly refer to your communication dated 29.11.2018, seeking permission for undertaking visit for the following student of your esteemed institute in POWERGRID.

Name of the Student	Branch/Year
45 Students & 02 Staff Members	B.E. Electrical Engineering (Final Year)

In this regard, we are pleased to inform that permission has been granted to the above student to undertake Field visit in the said discipline from **16.02.2019** in **POWERGRID – Wardha Ss** at following location

POWER GRID CORPORATION OF INDIA LIMITED
765/400/220 kV Sub Station, Wardha
Plot No. D-1, MIDC Area, Deoli,
Deoli- 442101, (Ph. No. 07158-217958)

It may be noted that POWERGRID will not bear any financial burden in course of such training at any point of time nor shall we have any commitment towards the students in future. Further, the student will be required to take specific safety precautions during the training period. It is further stated that the training is being undertaken on the request of the above mentioned institute and the institute shall be solely responsible for any unforeseen event leading to injury/loss of life etc. and keep POWERGRID indemnified from all claims/risks whatsoever.

You are requested to contact Shri Anilbabu G. Naik, (GM), Wardha-Ss (9422811664) in this matter at the above mentioned address.

Thanking You,

Yours faithfully

(K.G. Kulkarni)
Sr. DGM (HR)

HOD
Department of Electrical Engineering
Tulsiramji Gaikwad Patil College of Engineering & Technology

CC: Shri Anilbabu G. Naik, (GM), Wardha-Ss

Tulsiramji Gaikwad-Patil College of Engineering & Technology

Wardha Road, Nagpur-441 108

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Department of Electrical Engineering

Attendance Sheet

Field Visit: 765/400200 kV PGCIL, Deoli Wardha

Date: 16.02.2019

Sr. No.	Name of Students	Sign
1.	Sunil A. Patel	
2.	Ritesh Gaikwad	
3.	Satish G. Patle	
4.	Shubham V. Gaikwad	
5.	Kamlesh Bhasipale.	
6.	Shweta Kagde	
7.	Prachi Junghare	
8.	Rakesh Yede	
9.	Mukesh Bawankar	
10.	Nikhil Gaurkar	
11.	Krunal Thakre	
12.	Bhushan Bodke	
13.	Raj Saldane	
14.	Varghese Khadgi	
15.	Pushpak pawnikar	
16.	Rupam Lilhare	
17.	Jaya Shree	
18.	Dhammadip Dethe	
19.	Pratik Singh Rajav	
20.	Sushma Pandey	
21.	Pooja Kolhe	
22.	Diksha Dorlikar	

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Tulsiramji Gaikwad Patil College of
Engineering & Technology, Nagpur

23.	Megha Ramteke	
24.	Dimpey Chopde	
25.	Amita Ukande	
26.	Dilesha Kotangle	
27.	Ekta Pantawane	
28.	Sushma Kawre	
29.	Sneha Tighare	
30.	Tulsi Giri	
31.	Sakshee Paruskar	
32.	Dhanshree R. Nirwan	
33.	Akshata R. Fulmali	
34.	Sushma S. Pandey	
35.	Snehal B. Kachare	
36.	Umesh R. Shelke	
37.	Gunwant S. Deshkar	
38.	Komal Bilpalliwar	
39.	Shweta Sontakke	
40.	Geeta Metkar	
41.	Utkarsha Naranje	
42.	Naitiksha Waghmare	
43.	Chanchal Asole	
44.	Diksha M. kamble	
45.	Jitendra S. Ingle	

Visit In-Charge

धर्मेन्द्र मीणा
Dharmendra Meena
सहा प्रबंधक / Asst. Manager
पावरग्रिड,वर्धा / POWERGRID Wardha

HOD
Electrical Engineering
Tulsiramji Gaikwad-Patil College of Engineering and Technology, Nagpur

HOD
Department of Electrical Engineering
Tulsiramji Gaikwad Patil College of Engineering & Technology, Nagpur

Field Visit-Power Grid Corporation India ltd., Deoli (Date: 16-02-2019)

NAAC Accredited
TULSIRAMJI GAIKWAD-PATIL
College of Engineering & Technology, Nagpur
NH-7, Mohgaon, Wardha Road, Nagpur - 441 108
Approved by AICTE, New Delhi & Govt. of Maharashtra, Affiliated to RTM Nagpur University

Field Visit Report

पावरग्रिड

Power Grid Corporation of India Limited
(A Govt. of India Enterprise)
765/400/220 kV Sub-Station
Plot No.D-1, MIDC, Deoli, Dist. Wardha.

Submitted in Partial Fulfilment of the Requirement for the Award of the Degree in

Electrical Engineering

Submitted by

Mr. Pushpak Y. Paunikar

Mr. Vargesh Y. Khadgi

Mr. Raj C. Salame

(Session 2018-2019)

1. Introduction

This report is regarding the industrial visit to "Power Grid Corporation of India Limited 765/400/220 kV Substation MIDC, Deoli, Dist. Wardha" on 16-02-2019.

The Power Grid Corporation of India Limited (POWERGRID), is an Indian state-owned electric utilities company headquartered in Gurugram, India. Power grid transmits about 50% of the total power generated in India on its transmission network. Its former subsidiary company, Power System Operation Corporation Limited (POSOCO) handles power management for National Grid and all state transmission utilities. Power grid also operates a telecom business under the name POWERTEL. Shri Ravi p. Singh serves as the Chairman and Managing Director of the company.

Hon'ble Union Minister of Power Shri Sushilkumar Shinde dedicated the 400/220 kV Wardha sub-station of power grid to the Nation on 9th January, 2011 at Wardha, Maharashtra in the presence of Shri Ranjit Kamble, Hon'ble Minister of State for Water Supply & Sanitation, Maharashtra, Dr. M. Ravi Kanth, Joint Secretary (Transmission), Ministry of Power, Shri S. K. Chaturvedi, CMD, power grid and other dignitaries. Hon'ble Minister of Power also laid the foundation stone of 765 kV Wardha Substation and 1200 kV Wardha-Aurangabad Transmission Line. Power grid has commissioned the 765 kV Wardha – Nizamabad D/C line along with the 765 / 400 kV Nizamabad GIS Substation well ahead of scheduled completion time of May, 2018 this system will facilitate import of power from Western Region mainly Chattisgarh for which Long Term Access has been granted to Telangana.

2. Substation

A substation is an electrical system with high-voltage capacity and can be used to control the apparatus, generators, electrical circuits, etc. The Substations are mainly used to convert AC (alternating current) to DC (direct current). Some types of substations are tiny in size with an inbuilt transformer as well as related switches. Other types of substations are very huge with different types of transformers, equipment, circuit breakers, and switches.

A substation is a part of an electrical generation, transmission, and distribution system. Substations transform voltage from high to low, or the reverse, or perform any of several other important functions. Between the generating station and consumer, electric power may flow through several substations at different voltage levels. A substation may include transformers to change voltage levels between high transmission voltages and lower distribution voltages, or at the interconnection of two different transmission voltages.

Substations may be owned and operated by an electrical utility, or may be owned by a large industrial or commercial customer. Generally substations are unattended, relying on SCADA for remote supervision and control.

The word *substation* comes from the days before the distribution system became a grid. As central generation stations became larger, smaller generating plants were converted to distribution stations, receiving their energy supply from a larger plant instead of using their own generators. The first substations were connected to only one power station, where the generators were housed, and were subsidiaries of that power station.

2.1 Equipments used in Substation

- Power Transformer
- Capacitor Bank
- SF6 Circuit Breaker
- Isolators
- Lightning Arrestor
- Current Transformer
- Potential Transformer
- Relay

2.1.1 Power Transformer

The Power transformer is a one kind of transformer, that is used to transfer electrical energy in any part of the electrical or electronic circuit between the generator and the distribution primary circuits. These transformers are used in distribution systems to interface step up and step down voltages. The common type of power transformer is liquid immersed and the life span of these transformers is around 30 years. Power transformers can be classified into three types based on the ranges. They are small power transformers, medium power transformers and large power transformers.

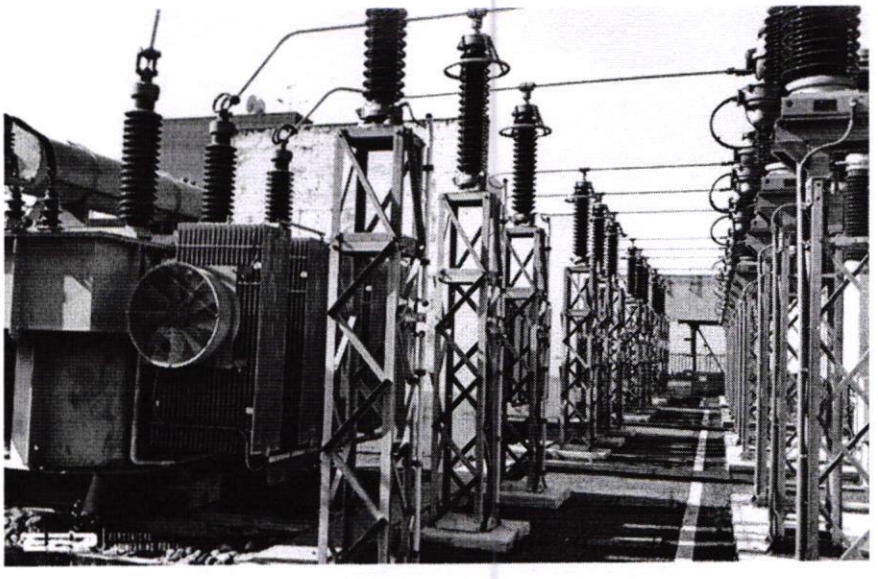


fig. (2.1.1)

These transformers transform the voltage. It holds a low voltage, high current circuit at one side of the transformer and on the other side of the transformer it holds high voltage low current circuit. Power transformer depends on the principle of Faradays induction. They describe the power system into zones where every gear connected to the system is sized per the ratings set by the power transformer.

2.1.2 Capacitor Bank

The demand of active power is expressed in Kilo Watts (kW) or Mega Watts (MW). This power should be supplied from electrical generating station. All the arrangements in electrical pomes system are done to meet up this basic requirement. Although in alternating power system, reactive power always comes in to picture. This reactive power is expressed in Kilo VAR or Mega VAR.

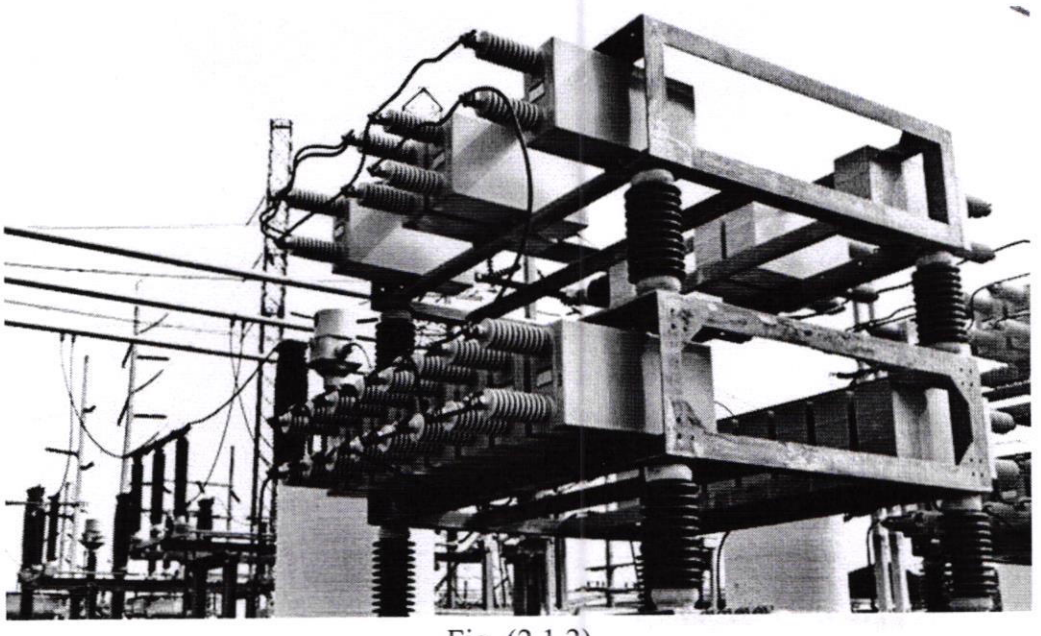


Fig. (2.1.2)

The demand of this reactive power is mainly originated from inductive load connected to the system. These inductive loads are generally electromagnetic circuit of electric motors, electrical transformers, inductance of transmission and distribution networks, induction furnaces, fluorescent lightings etc. This reactive power should be properly compensated otherwise, the ratio of actual power consumed by the load, to the total power i.e. vector sum of active and reactive power, of the system becomes quite less.

This ratio is alternatively known as electrical power factor, and fewer ratios indicates poor power factor of the system. If the power factor of the system is poor, the ampere burden of the transmission, distribution network, transformers, alternators and other equipments connected to the system, becomes high for required active power. And hence reactive power compensation becomes so important.

2.1.3 SF6 Circuit Breaker

The sulphur hexafluoride gas (SF6) is an **electronegative gas** and has a strong tendency to absorb free electrons. The contacts of the breaker are opened in a high-pressure flow sulphur hexafluoride (SF6) gas and an arc is struck between them. The gas captures the conducting free electrons in the arc to form relatively immobile negative ions. This loss of conducting electrons in the arc quickly builds up enough insulation strength to extinguish the arc.

Comparing to other circuit breaker types, the SF6 circuit breakers have been found to be very effective for high power and high voltage service.

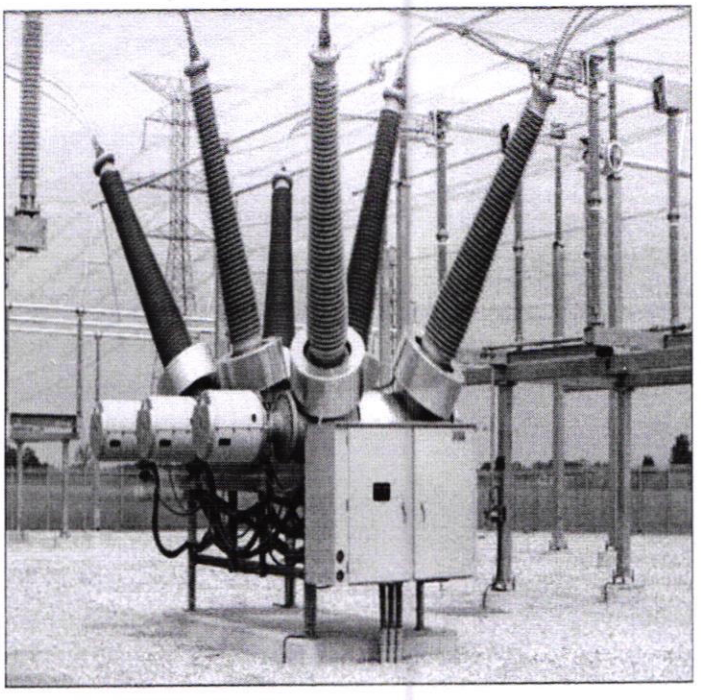


fig. (2.1.3)

SF6 CBs are available for all voltages ranging from 144 to 765 kV or even above. Continuous currents up to 8000 A, and symmetrical interrupting ratings up to 63 kA at 765 kV and 80 kA at 230 kV.

2.1.4 Isolators

The isolator is one type of switching device, and the main function of this is to make sure that a circuit is totally not triggered in order to perform the preservation. These are also recognizable like isolation switches to isolate the circuits. These switches are applicable in industrial, distribution of electrical power, etc. High voltage type isolation switches are utilized in substations for permitting isolation of equipment like transformers, circuit breakers. Usually, the disconnector switch is not proposed for circuit control but it is for isolation. Isolators are activated either automatically or manually. This article discusses an overview of electrical isolator, types and its applications.

The **isolator can be defined** as; it is one type of mechanical switch used to isolate a fraction of the electrical circuit when it is required. Isolator switches are used for opening an electrical circuit in the no-load condition. It is not proposed to be opened while current flows through the line. Generally, these are employed on circuit breaker both the ends thus the circuit breaker repair can be done easily without any risk.

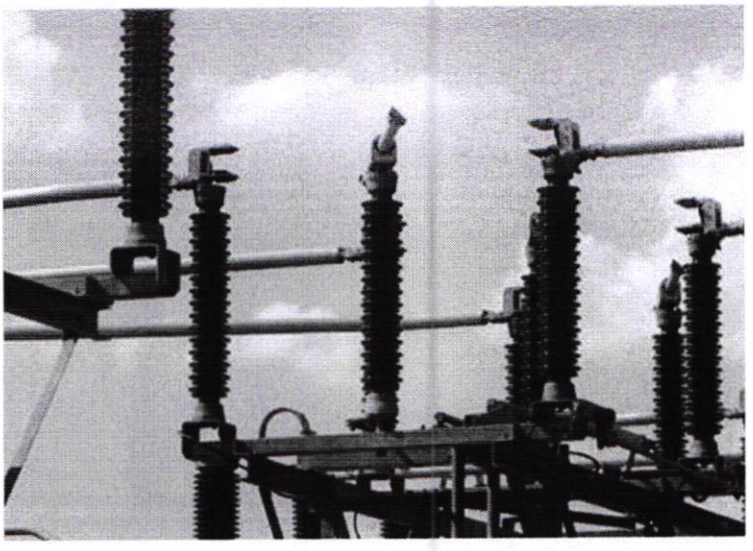


Fig. (2.1.4)

2.1.5 Lightning Arrestor

A lightning arrester (alternative spelling lightning arrestor) (also called lightning diverter) is a device used on electric power systems and telecommunication systems to protect the insulation and conductors of the system from the damaging effects of lightning. The typical lightning arrester has a high-voltage terminal and a ground terminal. When a lightning surge (or switching surge, which is very similar) travels along the power line to the arrester, the current from the surge is diverted through the arrester, in most cases to earth.

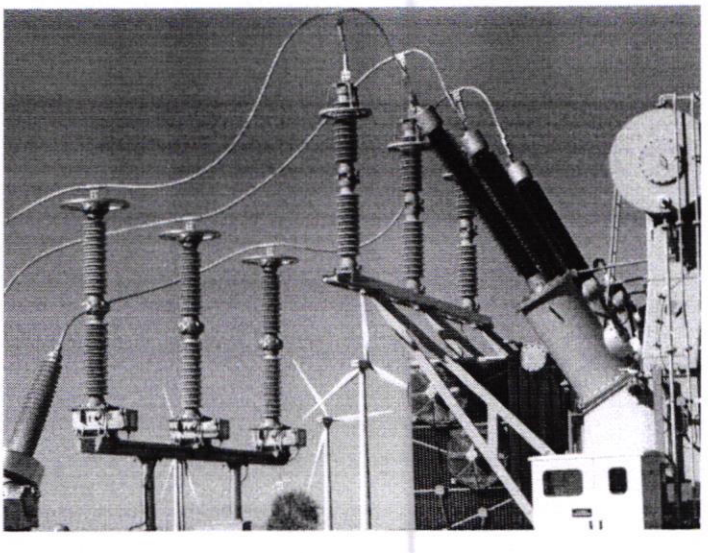


Fig. (2.15)

In telegraphy and telephony, a lightning arrester is placed where wires enter a structure, preventing damage to electronic instruments within and ensuring the safety of individuals near them. Smaller versions of lightning arresters, also called surge protectors, are devices that are connected between each electrical conductor in power and communications systems and the Earth. These prevent the flow of the normal power or signal currents to ground, but provide a path over which high-voltage lightning current flows, bypassing the connected equipment. Their purpose is to limit the rise in voltage when a communications or power line is struck by lightning or is near to a lightning strike.

2.1.6 Current Transformer

A current transformer (CT) is a type of transformer that is used to measure alternating current (AC). It produces a current in its secondary which is proportional to the current in its primary.

Current transformers, along with voltage or potential transformers, are instrument transformers. Instrument transformers scale the large values of voltage or current to small, standardized values that are easy to handle for measuring instruments and protective relays. The instrument transformers isolate measurement or protection circuits from the high voltage of the primary system. A current transformer provides a secondary current that is accurately proportional to the current flowing in its primary. The current transformer presents a negligible load to the primary circuit.

Current transformers are the current-sensing units of the power system and are used at generating stations, electrical substations, and in industrial and commercial electric power distribution.

2.1.7 Potential Transformer

Instrument transformers are high accuracy class electrical devices used to isolate or transform voltage or current levels. The most common usage of instrument transformers is to operate instruments or metering from high voltage or high current circuits, safely isolating secondary control circuitry from the high voltages or currents. The primary winding of the transformer is connected to the high voltage or high current circuit, and the meter or relay is connected to the secondary circuit.

Instrument transformers may also be used as an isolation transformer so that secondary quantities may be used in phase shifting without affecting other primary connected devices.

2.1.8 Relay

A relay is an electrically operated switch. Many relays use an electromagnet to mechanically operate a switch, but other operating principles are also used, such as solid-state relays. Relays are used where it is necessary to control a circuit by a separate low-power signal, or where several circuits must be controlled by one signal. The first relays were used in long distance telegraph circuits as amplifiers: they repeated the signal coming in from one circuit and re-transmitted it on another circuit. Relays were used extensively in telephone exchanges and early computers to perform logical operations.

A type of relay that can handle the high power required to directly control an electric motor or other loads is called a contactor. Solid-state relays control power circuits with no moving parts, instead using a semiconductor device to perform switching. Relays with calibrated operating characteristics and sometimes multiple operating coils are used to protect electrical circuits from overload or faults; in modern electric power systems these functions are performed by digital instruments still called "protective relays". A relay is used to switch on a high powered circuit with a small current

Magnetic latching relays require one pulse of coil power to move their contacts in one direction, and another, redirected pulse to move them back. Repeated pulses from the same input have no effect. Magnetic latching relays are useful in applications where interrupted power should not be able to transition the contacts.

4. Conclusion

From this visit, we got the information and practical knowledge about Power Distribution and Transmission. Student got the knowledge about different protection devices used in substation. They got the idea how to read the one line diagram of power substation using different symbols used in diagram. Student cleared out practical knowledge of transformer as how it step down voltage 400 KV to 220 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. We learned different facets of working within a well established industry. Related to our study we learned more about the transformer, circuit breaker, relay, lightning arrester, etc.

Vidarbha bahu-uddeshiya shikshan sanstha

NAAC Accredited

TULSIRAMJI GAIKWAD-PATIL

College of Engineering & Technology, Nagpur

DEPARTMENT OF ELECTRICAL ENGINEERING

Field Visit Report

16th February, 2019 At

765KV SUBSTATION,WARDHA

Student:

1. Virendra ingale
2. Sudip Sana
3. kishor karmakar
4. Ganesh Maghade
5. Saurabh Rathode

ACKNOWLEDGEMENT

We are gladly & thankful to Director as well as Principal, Dr. Sandeep Gaikwad Sir and Head of the Departments Prof. Radharaman Shaha Sir and our faculties who give us a great guidance regarding training and instruct us the importance of training in electrical field. So we decided to take visit in 765 KV Substation, Wrdha

GENERAL INFORMATION

POWER GRID CORPORATION OF INDIA LTD.

Power Grid Corporation of India Ltd. (POWERGRID) is

involved in a long-term plan for the development of an Indian National Transmission

Network to make efficient usage of generating capacity. As a part of strengthening of

national grid, POWERGRID has developed series of High Voltage Direct Current

(HVDC) inter-regional links between North, East, South and Western Regions of India's Power system.An electrical substation is a subsidiary station of an electricity generation, transmission and distribution system where voltage is transformed from high to low or the reverse using transformers. Electric power may flow through **several** substations between generating plant and consumer, and may be changed in voltage in several steps.

Sub-stations

1 Connect of765/400KV Sub-station at Seoni

2 Connect 400/220KV Sub-station at Akola and Aurangabad

3 Construction of New 400/220 KV at Sub-station at Wardha with 765KV

Transmission Line

1 Seoni - Wardha 765KV S/C Transmission Line (275 kilometres)

2 Wardha - Akola 400KV D/C Transmission Line (184 kilometres)

3 Akola - Aurangabad 400KV D/C Transmission Line (265 kilometres)

WHAT WE LEARN?

Students of 6th semester Electrical Engineering will get the idea of electrical power transmission and distribution. Students will also get familiar with circuit breaker,isolator, bus bar, Protective relays, Lightening arresters, Load break switches,reactor.

. In addition they explained about and various protection equipmentOn16 th feb. ,2019(Saturday) at 12:30 pm we reached at Wrdha Sub Station.

Introduction About Single Line Diagram, Different Protection Equipment,

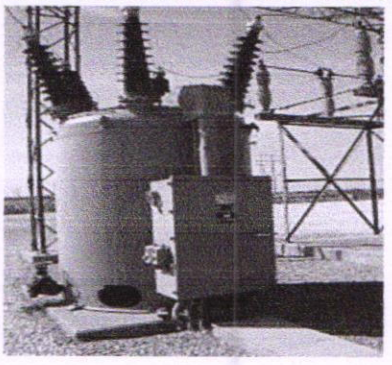
At the beginning, one of the assistant engineer explained all the essential component of the 440/220KV substation and explained one line diagram of wardha substation

1)Different Protection Equipment:

Circuit breakers, Transformers, Protective relays, Lightening arresters, Load break switches,

2)Reactor:It is absorbing reactor power from system.When the system voltage is high.It has air core,oil filled ONAN type.

4) Sulfur hexafluoride circuit breakers protect electrical power stations and distribution systems by interrupting electric currents, when tripped by a protective relay. Instead of oil, air, or a vacuum, a sulfur hexafluoride circuit breaker uses sulfur hexafluoride (SF_6) gas to cool and quench the arc on opening a circuit. Advantages over other media include lower operating noise and no emission of hot gases, and relatively low maintenance. Developed in the 1950s and onward, SF_6 circuit breakers are

widely used in electrical grids at transmission voltages up to 800 kV, as generator circuit breakers. 

5.**Lightening arresters:**A **lightning arrester** (alternative spelling **lightning arrestor**) (also called **lightning diverter**) is a device used on electric power systems and telecommunication systems to protect the insulation and conductors of the system from the damaging effects of lightning. The typical lightning arrester has a high-voltage terminal and a ground terminal. When a lightning surge (or switching surge, which is very similar) travels along the power line to the arrester, the current from the surge is diverted through the arrester, in most cases to earth.

In telegraphy and telephony, a lightning arrester is placed where wires enter a structure, preventing damage to electronic instruments within and ensuring the safety of individuals near them. Smaller versions of lightning arresters, also called surge protectors, are devices that are connected between each electrical conductor in power and communications systems and the Earth. These prevent the flow of the normal power or signal currents to ground, but provide a path over which high-voltage lightning current flows, bypassing the connected equipment. Their purpose is to limit the rise in voltage when a communications or power line is struck by lightning or is near to a lightning strike.

6) **Suspension insulators**

of the unit is unchanged, so the insulator string stays together. Higher voltage transmission lines usually use modular suspension insulator designs. The wires are suspended from a 'string' of identical disc-shaped insulators that attach to each other with metal clevis pin or ball and socket links. The advantage of this design is that insulator strings with different breakdown voltages, for use with different line voltages, can be constructed by using different numbers of the basic units. Also, if one of the

insulator units in the string breaks, it can be replaced without discarding the entire string.

Each unit is constructed of a ceramic or glass disc with a metal cap and pin cemented to opposite sides. To make defective units obvious, glass units are designed so that an overvoltage causes a puncture arc through the glass instead of a flashoverh

7) **circuit breaker** is an automatically operated electrical switch designed to protect an electrical circuit from damage caused by excess current from an overload or short circuit. Its basic function is to interrupt current flow after a fault is detected. Unlike a fuse, which operates once and then must be replaced, a circuit breaker can be reset (either manually or automatically) to resume normal operation.

Circuit breakers are made in varying sizes, from small devices that protect low-current circuits or individual household appliance, up to large switchgear designed to protect high voltage circuits feeding

CONCLUSION

From this visit, we got the information and practical knowledge about Power Transmission. Student got the knowledge about different protection devices used in substation. They got the idea how to read the one line diagram of power substation using different symbols used in diagram. Student cleared out practical knowledge of transformer .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. Students were benefited from this visit as they got chance to discussion with assistant engineers working at Substation

Thank You

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Wardha Road, Nagpur-441 108
NAAC Accredited
Session 2018-19

Department of Civil Engineering

Date: 4th August 2018

Report

Field Visit "Full Climatic Station, Nayakund, Kamthikhairi, Nagpur"

Introduction:
Department of Civil Engineering under ISTE Student Chapter have organized an Industry Visit to Full Climatic Station, Nayakund, Kamthikhairi, Nagpur.

Aim:
To understand the monitoring of weather condition .

Objective:
1. To make the students aware of concept of weather data of metrological stations.
2. To know about the recent trends in civil engineering, this will be helpful for future.
3. To provide information for weather forecast and to study the weather and climate.

Visit Details:
The students of 5th sem Civil Engineering Department of Tulsiramji Gaikwad–Patil college of Engineering & Technology, visited Full Climatic Station, Nayakund, Kamthikhairi under ISTE student chapter and ICI..Students were amazed to observe the working system of the full climatic station. Their inquisitive behaviour on the same made them co-relate their theoretical knowledge with practical experience.

Field Visit Details:

The students of civil engineering department recently visited to Full Climatic Station . The total 45 students and 02 faculty members were accompany them. Mr. V. Jangade (Laboratory Incharge) explained the students about the different units and functions. He also guided them with the various techniques to deal with construction methods and problems, so as to make them industry ready professionals.

Mapping with PO:
This industry visit helps students to leans about
1. Engineering knowledge.
2. Problem Analysis.
3. Design/ Development of Solutions.
4. The Engineer and society.

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Department of Civil Engineering

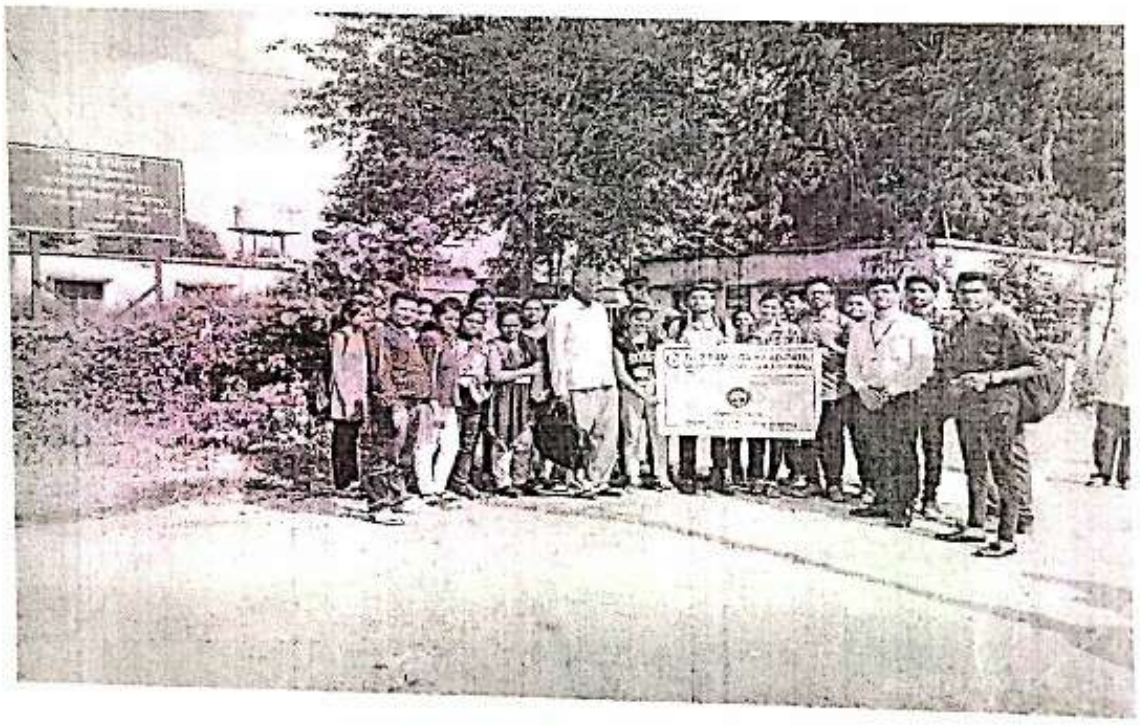
5. Individual and team work.
6. Project Management and Finance.

Conclusion:

The Students are able to understand various concepts of remote sensing and its mechanism.

Acknowledgement:

On the behalf of Civil Engineering department we sincerely thanks . Mr. V. Jangade for allowing us and delivering an informative lecture about plant.



Field Visit at "Full Climatic Station, Navakund, Kamthikhairi, Nagpur" dated on 4th August 2018

(Co-ordinator)
Assistant Professor
Department of Civil Engineering
T.G.P.C.E.T.Nagpur.

H.O.D.
Department of Civil Engineering
T.G.P.C.E.T.Nagpur.

Vidarbha Bahuuddeshiya Shikshan Samstha's NAAC Accredited with 'B' grade
TULSIRAMJI GAIKWAD-PATIL
College of Engineering & Technology
Mohgaon, Wardha Road, Nagpur - 441 105 Tel: 07103-645410 Mob: 09922966173
Approved by AICTE, New Delhi, Govt. of Maharshtra & Affiliated to RTM Nagpur University
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An ISO 9001:2008 Certified Institution

GAIKWAD-PATIL
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E-mail: vidarbhabuss@yahoo.co.in

Ref. No. TGPCET/CIVIL/IIPC/2018-19/ C-393

Dt. 30/07/2018

To
The Executive Engineer,
Hydrological Department,
Water Recourses Department
Nagpur

Subject–Students' Industrial Visit to your organization Full Climatic Station, Nayakund, Kamthikhairi

Respected Sir/Madam,

Warm Regards from Tulsiramji-Gaikwad Patil College of Engineering and Technology (TGPCET).

TGPCET is one of the most promising and upcoming Engineering Institutions in Vidarbha region. The college is a part of Gaikwad-Patil Group of Institutions which caters to cultivating students in various fields such as Engineering, Architecture, Pharmacy, Education, etc. It comes under the umbrella of Gaikwad-Patil Group of Institutions affiliated by Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur and approved by AICTE, New Delhi.

As a professional education institute involved in producing engineers, it is imperative for us that our students are industry relevant and ready. As such we feel the urge for student's interaction with the industrial setup. Hence, we encourage our students to maximize their industry interaction in ways such as industrial visits and projects. This helps them to get practical experience of theoretical knowledge that they acquired in their curriculum.

45 nos. of our students from the Department of Civil Engineering are eager to visit your esteemed organization Full Climatic Station, Nayakund, Kamthikhairi, as a part of their industrial visit on Dt. 04/08/18. The students will be accompanied along with 02 no of Professors from the same department. We ensure you a disciplined behavior of our students during the visit.

We request you to grant the permission for the visit on Dt. 04/08/18 at a suitable time as convenient to you. We also hope that this can be a beginning of a long lasting, professionally satisfying and mutually beneficial relationship between our organizations.

Regards and Best wishes,

permitted

Principal
TGPCET, Nagpur

Principal
TULSIRAMJI GAIKWAD-PATIL
COLLEGE OF ENGINEERING &
TECHNOLOGY, NAGPUR

Incharge.iipc@tgpcet.com Contact Prof. Sanjay Bhadke (8805001735)

Tulsiramji Gaikwad-Patil College of Engineering and Technology
Wardha Road, Nagpur-441 108
NAAC Accredited
Session 2018-19

Department of Civil Engineering

10/08/2018

To,
The Principal,
TGPCET,
Nagpur.

Subject: Permission for Student's Field Visit- **reg.**

Respected Sir,

As a part of academics prescribed by R. T. M. Nagpur University in association with ARTEX Forum along with IEI (I) Activity, Department of Civil Engineering is organising Industrial Visit at **Full Climatic Station** for our **5th sem** students. The total number of students attending the visit will be **45.** The visit is scheduled on **14/08/2018.** This Field Visit helps students to get practical experience of theoretical knowledge that they acquired in their curriculum.

I humbly request you to kindly give us the permission for the same.

Thanking You.

H.O.D.
Department of Civil Engineering
T.G.P.C.E.T.Nagpur.

TULSIRAMJI GAIKWAD-PATIL College of Engineering & Technology
Department of Civil Engineering
Session 2018-19

1/08/2018

CIRCULAR

All the students of 5th sem are hereby informed that, the Department of Civil Engineering is organising a site visit at Full Climatic Station on 4/08/2018. In due regard, report to college in time as the departure time from college to site is scheduled at 10:00 am. Take all the necessary stuff. You are supposed to submit a one page report after the visit.

01/08/18
Faculty Co-ordinator
Assistant Professor
Department of Civil Engineering
T.G.P.C.E.T.Nagpur.

01/8/18
HOD
Department of Civil Engineering
T.G.P.C.E.T.Nagpur.

Tulsiramji Gaikwad-Patil College of Engineering and Technology

Wardha Road, Nagpur-441 108
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Session 2018-19

Department of Civil Engineering

SIGNSHEET

Date :- 4/08/18

Name of Activity :- Full climatic station

Sr. No	Name of Student	Sem	Signature
1.	Sneha Dongre	5th sem	Sneha
2.	Gaurav Yerekar	5th sem	Gaur
3.	Ragini Kulsange	5th sem	Ragini Bhabade
4.	Akansha Tawade	5th sem	Shengare
5.	Sapna Thengare	5th sem	Chotghare
6.	Titisha Motghare	5th sem	Sahare
7.	Shradha Sahare	5th sem	Bhoyar
8.	Shweta Bhoyar	5th sem	Nitu
9.	Narendra Nirpase	5th sem	Bodkue
10.	Shreyas Bodkue	5th sem	Shyam
11.	Wadhe Gour	5th sem	Basik
12.	Radeshyam Basik	5th sem	Basudev
13.	Basudev Kundu	5th sem	Akash
14.	Akshay Meharkule	5th sem	Nilesh
15	Nilesh Gangale	5th sem	Lok
16.	Lokesh Sawarkar	5th sem	Devanshu
17.	Devanshu Ramekar	5th sem	Rocky
18.	Rocky Lokhande	5th sem	Prince
19.	Prince Bhanarkar	5th sem	Sabuj
20.	Sabuj Mandal	5th sem	Nitesh
21.	Nitesh Landge	5th sem	Navin
22.	Navin Rautdy	5th sem	Rajani
23.	Rajani Mandal	5th sem	Shailesh
24.	Shailesh Kandi	5th sem	Dungadas
25.	Dungadas Rude	5th sem	Chetan
26.	Chetan Kolawar	5th sem	Hrushikesh
27.	Hrushikesh Landage	5th sem	Pratiksha
28.	Pratiksha Tidke	5th sem	Komal
29.	Komal Chobragade	5th sem	Arati
30.	Arati Rathod	5th sem	Harshada
31.	Harshada Kale	5th sem	Nayana
32.	Nayana Sangole	6th sem	Kajal
33.	Kajal Meshram	5th sem	Pratik
34.	Pratik Wasekar		

Visit Co-ordinator
Assistant Professor
Department of Civil Engineering
T.G.P.C.E.T. Nagpur.

H.O.D.
Department of Civil Engineering
T.G.P.C.E.T.Nagpur.

Tulsiramji Gaikwad-Patil College of Engineering and Technology
Wardha Road, Nagpur-441 108
NAAC Accredited
Session 2018-19

Department of Civil Engineering

Name of Student :- Swadha Gour

Semester :- Fifth

Roll No. :- 35

A Report on

Field Visit at Full Climatic Station, Nayakund, Kamthikhairi, Nagpur

Introduction :-

Department of Civil Engineering from TGPCET, College arranged one day Field Visit for B.E. 5th semester students to Full Climatic Station, Nayakund, Kamthikhairi, Nagpur dated 12th January 2019 for better technical knowledge enhancement of students.

Visit is very important in the field of Civil Engineering as the practice of engineering has an inherent impact on society. After visit students can identify their own efficiency and performance which is important for our career.

Aim:

To understand the monitoring of weather condition .

Objective:

1. To make the students aware of concept of weather data of metrological stations.
2. To know about the recent trends in civil engineering, this will be helpful for future.
3. To provide information for weather forecast and to study the weather and climate.

Purpose:-

This field visit can help students to provide information regarding functioning of various industries and associated problems and limitations.

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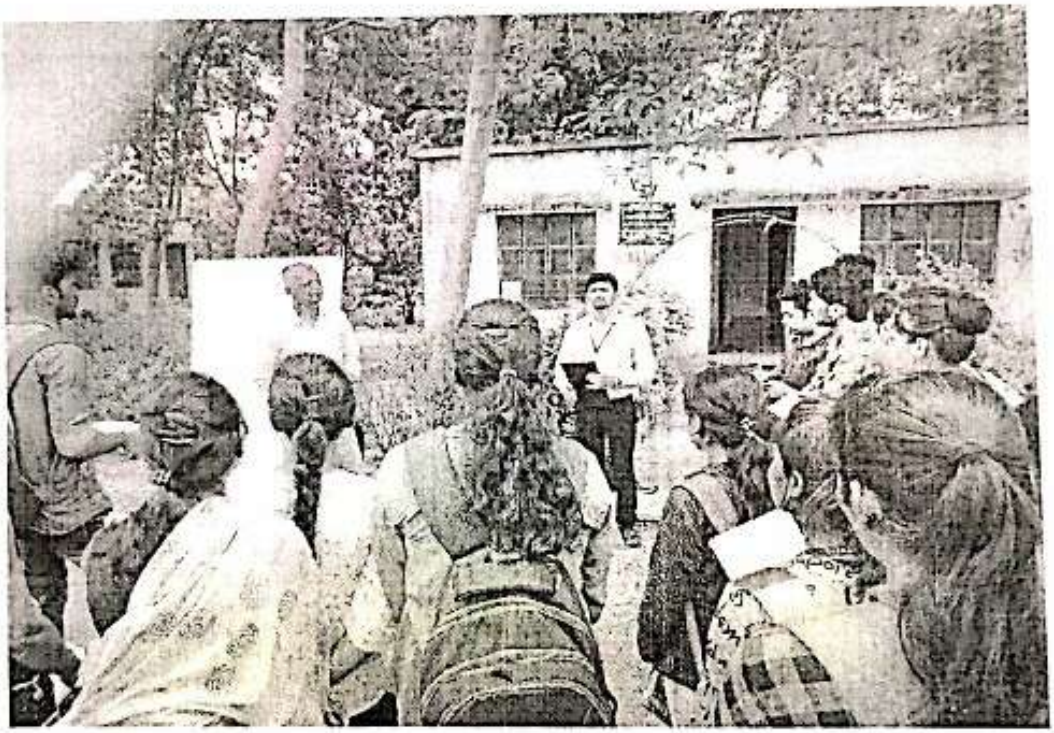
Department of Civil Engineering

What we Learn ?

On 4th August 2018 , We reached at Full Climatic station, Nagpur by 10.00 am. We got entry at Full Climatic station at 10.15 am. We were amazed to observe the working system of the full climatic station. Mr. V. Jangade (Laboratory Incharge) explained the students about the different units and functions. He also guided them with the various techniques to deal with construction methods and problems, so as to make them industry ready professionals.

Conclusion:

The Students are able to understand various concepts of remote sensing and its mechanism.



Field Visit at Full Climatic Station dated on 12/01/2019

Field Visit Co-ordinator
Assistant Professor
Department of Civil Engineering
T.G.P.C.E.T.,Nagpur.
Prof M. D. Nahenkar

Swadha Gour

Tulsiramji Gaikwad-Patil College of Engineering and Technology
Wardha Road, Nagpur-441 108
NAAC Accredited
Session 2018-19

Department of Civil Engineering

Date: 14th Aug. 2018

Report

Field Visit to "Ready Mix Concrete Plant"

Introduction:
Department of Civil Engineering under ISTE Student Chapter have organized an Industry Visit to Ready Mix Concrete Plant, Nagpur.

Aim:
To understand the concrete technology applications.

Objective:

1. To make the students aware of concrete technology.
2. To know about the recent trends in civil engineering, this will be helpful for future.
3. To motivate students to select and design projects on concrete technology.

Visit Details:
The students of 3rd semester Civil Engineering Department of Tulsiramji Gaikwad-Patil College of Engineering & Technology visited **RMC Batching Plant at Hingana, Nagpur** under their site training program recently. During the visit students explored the practical application of Ready Mix Concrete and different components of Batching Plant that which is a part of their syllabus. Students were amazed to observe the working system of the Plant. Their inquisitive behavior on the same made them co-relate their theoratical knowledge with practical experience

Field Visit Details:

The students of civil engineering department recently visited to Ready Mix Concrete plant. The total 68 students and 02 faculty members were accompany them. Er. Abhinay Raul, Executive - QC, RMC (India) explained the students about the different components of Batching Plant and the functions of various units. They also guided them with the various techniques to deal in the corporate world, enhancing their capabilities for their better future. They also guided them with the various techniques to deal in the corporate world, enhancing their capabilities for their better future.. The technical visit helps students to minimise the gap between practical and theoretical applications and the student gained the knowledge about civil engineering concepts.

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Department of Civil Engineering

Mapping with PO:

This industry visit helps students to leans about

1. Engineering knowledge.
2. Problem Analysis.
3. Design/ Development of Solutions.
4. The Engineer and society.
5. Individual and team work.
6. Project Management and Finance.

Conclusion:

The Students are able to understand various concepts of construction design and its mechanism.

Acknowledgement:

On the behalf of Civil Engineering department we sincerely thanks . Er. Abhinay Raut for allowing us and delivering an informative lecture about plant.

Field Visit at Ready Mix Concrete Plant, Nagpur Dated on 14th August 2018

Department of C.E.
(Co-ordinator)
Assistant Professor
Department of Civil Engineering
T.G.P.C.E.T.Nagpur.

H.O.D.
Department of Civil Engineering
T.G.P.C.E.T.Nagpur.

TULSIRAMJI GAIKWAD-PATIL
College of Engineering & Technology

GAIKWAD PATIL

Ref. No. TGPCET/CIVIL/IIPC/2018-19/ C - 402

Dt. 8/8/2018

To
The Manager,
R.M.C. Plant
(R.M.C. India),
Hingna, Nagpur

Subject – Students' Industrial Visit to your organization

Respected Sir/Madam,

Warm Regards from Tulsiramji-Gaikwad Patil College of Engineering and Technology (TGPCET)

TGPCET is one of the most promising and upcoming Engineering Institutions in Vidarbha region. The college is a part of Gaikwad-Patil Group of Institutions which caters to cultivating students in various fields such as Engineering, Architecture, Pharmacy, Education, etc. It comes under the umbrella of Gaikwad Patil Group of Institutions affiliated by Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur and approved by AICTE, New Delhi

As a professional education institute involved in producing engineers, it is imperative for us that our students are industry relevant and ready. As such we feel the urge for student's interaction with the industrial setup. Hence, we encourage our students to maximize their industry interaction in ways such as industrial visits and projects. This helps them to get practical experience of theoretical knowledge that they acquired in their curriculum.

45 nos. of our students from the Department of Civil Engineering are eager to visit your esteemed organization as a part of their industrial visit on Dt. 14/08/18. The students will be accompanied along with 02 no of Professors from the same department. We ensure you a disciplined behavior of our students during the visit.

We request you to grant the permission for the visit on Dt. 14/08/18 at a suitable time as convenient to you. We also hope that this can be a beginning of a long lasting, professionally satisfying and mutually beneficial relationship between our organizations.

Regards and Best wishes,

Permitted

8.8.2018

Principal
Tulsiramji Gaikwad-Patil College of Engineering & Technology, Nagpur

Incharge.iipc@tgpcet.com Contact Prof. Sanjay Bhadke (8805001735)

Tulsiramji Gaikwad-Patil College of Engineering and Technology
Wardha Road, Nagpur-441 108
NAAC Accredited
Session 2018-19
Department of Civil Engineering

10/08/2018

To,
The Principal,
TGPCET,
Nagpur.

Subject: Permission for Student's Field Visit- **reg.**

Respected Sir,

As a part of academics prescribed by R. T. M. Nagpur University in association with ARTEX Forum along with IEI (I) Activity, Department of Civil Engineering is organising Industrial Visit at **RMC Batching Plant** for our **III sem** students. The total number of students attending the visit will be **45.** The visit is scheduled on **14/08/2018.** This Field Visit helps students to get practical experience of theoretical knowledge that they acquired in their curriculam.

I humbly request you to kindly give us the permission for the same.

Thanking You.

H.O.D.
Department of Civil Engineering
T.G.P.C.E.T.Nagpur.

TULSIRAMJI GAIKWAD-PATIL College of Engineering & Technology

Department of Civil Engineering

Session 2018-19

CIRCULAR 10/08/2018

All the students of 3rd sem are hereby informed that, the Department of Civil Engineering is organising a site visit at Ready Mix Concrete Plant, Nagpur on 14/08/2018. In due regard, report to college in time as the departure time from college to site is scheduled at 10:00 am. Take all the necessary stuff. You are supposed to submit a one page report after the visit.

Faculty Co-ordinator

Assistant Professor
Department of Civil Engineering
T.G.P.C.E.T.Nagpur.

H.O.D.
Department of Civil Engineering
T.G.P.C.E.T.Nagpur.

Tulsiramji Gaikwad-Patil College of Engineering and Technology
Wardha Road, Nagpur-441 108
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Session 2018-19

Department of Civil Engineering

SIGNSHEET

Name of Activity :- Ready Mix concrete plant Date :- 14/8/18

Sr. No	Name of Student	Sem	Signature
1.	Pranali Sanlasare	3rd sem	Pranali
2.	Rutuja Nimbalkar	3rd sem	Rutuja
3.	Prathamesh Jangade	3rd sem	Prangade
4.	Aroma Khobragade	3rd sem	Aroma
5.	Sonal Kale	3rd sem	Sonalkale
6.	Supriya B. Nandeshwar	3rd sem	S.B.Nandeshwar
7.	Priyanka K. Paunikar	3rd sem	Paunikar
8.	Neha N. Pajankar	3rd sem	N.P
9.	Tipali R. Koze	3rd sem	TRK
10	Tejaswani W. Sidam.	3rd sem	Sidam
11	Agastha Gajbhiye.	3rd sem	Astha
12	Jasmini Sakharkar	3rd sem	Jas
13	Shweta Gajbhiye	3rd sem	Swe
14	Swati Dadhe.	3rd sem	Swati
15	Kirti Patil	3rd sem	KPS
16	Yogini Sawarde	3rd sem	Ysawarde
17	Aarti Mailchkhede	3rd sem	Aarti
18	Pranali Kotkalwar	3rd sem	Pranali
19	Yogiraj Jadhav	3rd sem	Yjadhav
20	manoj mukkir	3rd sem	Mukkir
21	Hrushikesh Rahud	3rd sem	Hrathod
22	Dhanraj Rathod	3rd sem	DRathod
23	Nitin Chavan	3rd sem	Nitin
24	Shashikant Chikhlode	3rd sem	Schikhlode
25	Ajinkya Pachore	3rd sem	APachore
26	Pranay Gaddey	3rd sem	Pgaddey
27	Ashish Gurse	3rd sem	Ashish
28	Vinod Lookote	3rd sem	Vinod
29	Akshay Bagdewad	3rd sem	Akshay
30	Sudhanshu Bajwad	3rd sem	Sudhanshu
31	Lokesh Khuse	3rd sem	Lokesh
32	Dhiraj Khorale	3rd sem	Dhiraj
33	Ankita Ganayspure	3rd sem	Ankita
34	Sohail Yousaf Wafi	3rd sem	Sohail

Visit Co-ordinator
Assistant Professor
Department of Civil Engineering
T.G.P.C.E.T.Nagpur.
(Prof. A. D. Nahatkar)

Civil Engg. Dept.
H.O.D.
Department of Civil Engineering
T.G.P.C.E.T.Nagpur.

Tulsiramji Gaikwad-Patil College of Engineering and Technology
Wardha Road, Nagpur-441 108
NAAC Accredited
Session 2018-19

Department of Civil Engineering

Name of Student :- Pranali Sonkusare

Semester :- Third

Roll No. :- 37

A Report on

Field Visit at Ready Mix Concrete Plant, Nagpur

Introduction :-

Department of Civil Engineering from TGPCET, College arranged one day Field Visit for B.E. 3rd sesmester students to Ready Mix Concrete Plant, Nagpur dated 14th August 2018 for better technical knowledge enhancement of students.

Visit is very important in the field of Civil Engineering as the practice of engineering has an inherent impact on society. After visit students can identify their own efficiency and performance which is important for our career.

Aim:

To understand the concrete technology applications.

Objective:

4. To make the students aware of concrete technology.
5. To know about the recent trends in civil engineering, this will be helpful for future.
1. To motivate students to select and design projects on concrete technology.

Purpose:-

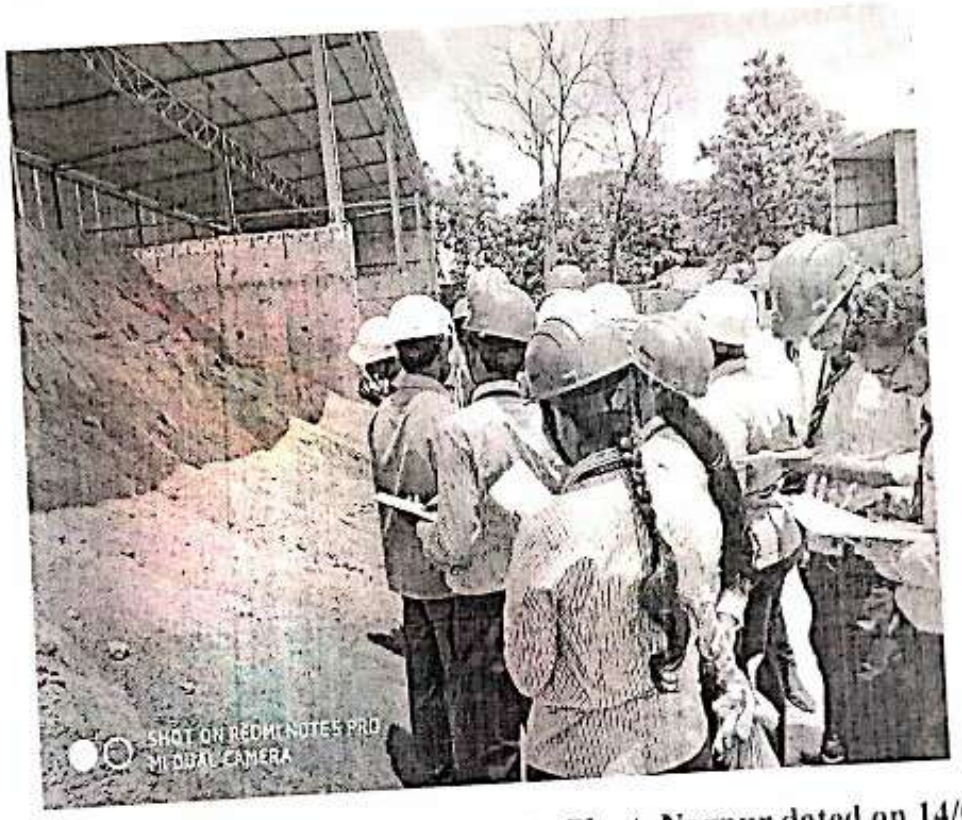
This field visit can help students to provide information regarding functioning of various industries and associated problems and limitations.

What we Learn ?

On 14th August 2018 , I reached at Ready Mix Concrete Plant, Nagpur by 10.00 am. I got entry at Ready Mix Concrete Plant, Nagpur at 10.15 am. Site Engineer explained about the different components of batching plant and its functions. He also guide with the various techniques to deal with construction methods and problems, so as to make them industry ready professionals.

Conclusion:

From this visit, I got the information and practical knowledge about components parts of batching plants. I able to understand various concepts of equipment working and its mechanism.



Field Visit at Ready Mix Concrete Plant, Nagpur dated on 14/08/2018

Pranali Sonkusare

Field Visit Co-ordinator
Prof. A. D. Mahenkar
Assistant Professor
Department of Civil Engineering
T.G.P.C.E.T.Nagpur.