



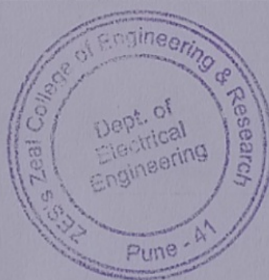
**ZEAL EDUCATION SOCIETY'S  
ZEAL COLLEGE OF ENGINEERING AND RESEARCH  
NARHE | PUNE -41 | INDIA  
DEPARTMENT OF ELECTRICAL ENGINEERING**

**INDEX**

**3.5.1. Number of MoUs, collaborations / linkages for Faculty exchange, Student exchange, internship, field trip, on-the-job training, research and other academic activities during the last five years 2017-18**

Sr. No.	Name of the MoU / Collaboration / linkage	Name of the collaborating agency / institution / industry / corporate house with whom the MoU / collaboration / linkage is made, with contact details	Year of signing MoU / collaboration / linkage	Duration of MoU / collaboration / linkage	List the actual activities under each MOU and web -links year-wise
1	MoU	White Phoenix Technologies, Pune	2017-2018	1 year	Arduino In-plant Training for ME Project Work (01 ME student)
2	MoU	Power Tech Stamping, Pune	2017-2018	1 year	Industrial Visit for 25 Second year students in AY 2017-18
3	MoU	MPTA Education, Erandawane, Pune	2017-2018	5 year	PLC-SCADA Workshop attended by 110 Final Year Students

*Kejari*

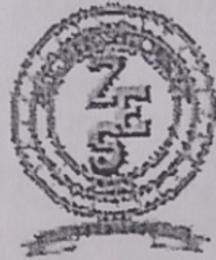


*Royed*

Head of the Department

# Memorandum of Understanding

*Between*



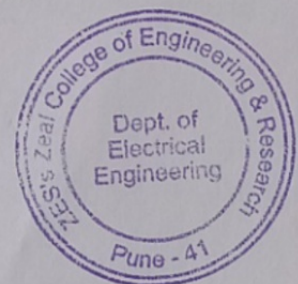
Department of Electrical Engineering

Zeal Education Society's

Zeal College of Engineering & Research, Pune



White Phoenix  
Technologies



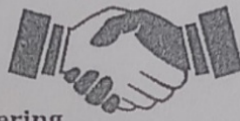


**ZEAL EDUCATION SOCIETY'S**  
**ZEAL COLLEGE OF ENGINEERING & RESEARCH**  
S.No.39, Katraj-Dhayari Road, Off Bangalore Bypass, Narhe, Pune 411 041  
Tel.: 020 67206100 Fax: 020 67206101  
E- mail: [contact@zealeducation.com](mailto:contact@zealeducation.com) Website: [www.zcoerpune.org](http://www.zcoerpune.org)

## Memorandum of Understanding



Department of Electrical Engineering  
Zeal Education Society's  
Zeal College of Engineering & Research, Pune

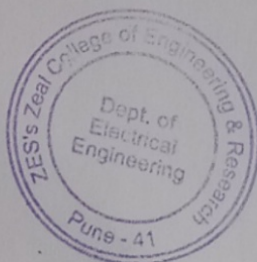


White Phoenix  
Technologies

Memorandum of Understanding (MOU) is made on 01-06-2017

Party 1	Party 2
Department of Electrical Engineering Zeal College of Engineering & Research, Narhe Campus, S.No.39, Katraj-Dhayari Road, Off Bangalore Bypass, Narhe, Pune 411 041, Tel.: 020 67206120 Website- <a href="http://www.zcoer.in">www.zcoer.in</a>	White Phoenix Technologies Office 2: Kalpataru Bunglow, Lane No- 6, Raje Chowk, Ambegaon Pathar, Pune -46. Mobile: 777504008 Website: <a href="http://www.whitephoenixtechnologies.com">www.whitephoenixtechnologies.com</a>
<b>Period: 01<sup>st</sup> June 2017 to 30<sup>th</sup> May 2022</b>	

The Party 1 and Party 2 are intended to facilitate the process of close Industry Institute Interaction (I-I-I) and actively promoting fresh avenues for the same. This MoU shall strive to enhance interaction with students, faculty and bridge the gap between Academia, Industry and Corporate World. This will have a positive impact on the engineering curriculum, exposure of industrial atmosphere to engineering students and subsequent placement in industries across the globe.



**ZEAL EDUCATION SOCIETY'S  
ZEAL COLLEGE OF ENGINEERING & RESEARCH**

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E-mail: [contact@zealeducation.com](mailto:contact@zealeducation.com) Website: [www.zcoerpune.org](http://www.zcoerpune.org)

**Party 1 will:**

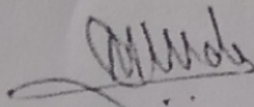
- Encourage, enhance, and create avenues and environment for greater involvement of faculty and staff with industry for R&D and consultancy.
- Arrange workshops and training programs for Industries to adopt latest technologies.
- Allow to use available sophisticated and costly equipment with terms & conditions.
- Arrange seminar / workshop/ hands on training / skill development program to students and faculty.
- Provide representation for or invite representatives from Industries on Board of Studies, Faculties, Academic Councils, and Governing Body etc.
- Provide testing and certification facilities.

**Party 2 will:**

- Extend help and give constructive suggestions while designing the curricula.
- Assist faculty while developing skills with specific technology to the students.
- Allow to use available sophisticated and costly equipment to the faculty and students with terms & conditions.
- Provide financial support / equipment / material / guidance for innovative projects of students.
- Give live projects to the students and guide them in professional way.
- Enrich teaching program/technical competitions by giving awards.
- Permit Industrial Visit of students and faculty.
- Provide implant training program to students for 1 week/ 2 weeks/ 4weeks.

During its tenancy, the MoU may be extended or terminated by a prior notice of not less than six months by either party. However, termination of the MoU will not in any manner affect the interests of the students / faculty / scientists who have been admitted to pursue a program under the MoU.

For Party 1

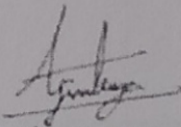


(Authorized signatory)

Name: Dr. Mahadev G. Unde  
Designation: Professor and HoD  
Place: Pune  
Date: 01-06-2017

HOD  
Dept. of Electrical Engineering  
ZES's Zeal College  
of Engineering & Research,  
Narhe, Pune - 411 041.

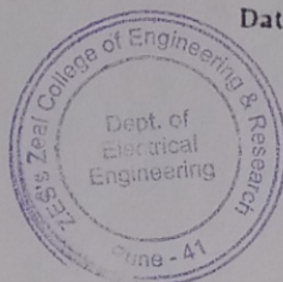
For Party 2



(Authorized signatory)

Name: Ajinkya S. Tawale  
Designation: Director  
Place: Pune  
Date: 01/06/2017


For Vite F... Technologies



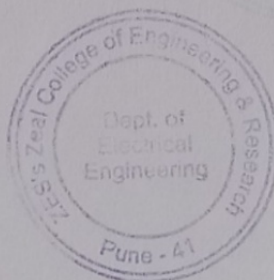
**CENTRAL PLACEMENT CELL**  
In association with

**ZEAL COLLEGE OF ENGINEERING & RESEARCH, PUNE**

**MoU Report**

Sr. No.	Activity Details	
1	Name of Company (MoU signed with)	White Phoenix Technologies
2	Company Logo	 <b>White Phoenix Technologies</b>
3	Name of Activity done under MoU	In-Plant training and Seminar regarding Advance Controllers for students of Department of Electrical Engineering
4	Date of Activity	Ongoing activity from AY 2017-18 for Electrical students
5	No. of Student Participated	01 ME student in AY 2017-18
6	Activity Description	<b>PROGRAM DETAILS:</b> In-Plant training and Seminar regarding Advance Controllers for students of Department of Electrical Engineering with application through HOD  <b>Duration:</b> From 2017 to 2022 <b>ELIGIBILITY:</b> All Electrical Engineering Students
7	Name of Personality involved (If Any)	Mr. Ajinkya Tawale
8	Outcomes of the activity	One ME Students submitted project in time.
9	Activity Photos	

K. K. Saha  
Department MoU Coordinator



[Signature]  
Department HOD

**HOD**  
Dept. of Electrical Engineering  
**ZES's Zeal College**  
of Engineering & Research,  
Narhe, Pune - 411 041.



ZEAL EDUCATION SOCIETY'S  
ZEAL COLLEGE OF ENGINEERING AND RESEARCH,  
NARHE | PUNE -41 | INDIA  
DEPARTMENT OF ELECTRICAL ENGINEERING

Proposal & Permission

Date: - 22 - 05 - 2017

To,  
The HOD,  
Department of Electrical Engineering,  
ZES'S ZCOER,  
Narhe, Pune

Subject: - Regarding proposal & permission to sign on MoU with White Phoenix Technologies, Pune

Respected Sir,

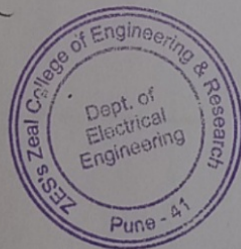
As a part of Industry Institute Interaction, we have approached White Phoenix Technologies, Pune & they are very much positive to sign on MoU with our Institute. We are going to send them a draft of on MoU which contains various objectives like Hands-on Training workshop, internship, industrial visits & sponsored projects to the students, etc. So, we need your permission for the same.

Submitted for your approval.

Yours Sincerely,

Prof. K. Kamal Sandeep  
Department T&P Coordinator

Approved, go ahead  
  
22/05/2017



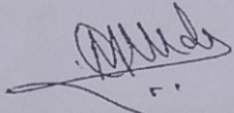
ZEAL EDUCATION SOCIETY'S  
ZEAL COLLEGE OF ENGINEERING AND RESEARCH,  
NARHE | PUNE -41 | INDIA  
DEPARTMENT OF ELECTRICAL ENGINEERING

## NOTICE

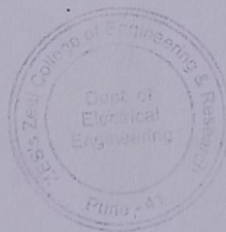
Date: - 12 - 06 - 2017

All the students are hereby informed that, we have successfully signed MoU with **White Phoenix Technologies, Pune** on **01<sup>st</sup> June 2017**. Under this MoU, students will get Hands-On Training Workshop, BE & ME projects & Internship etc. Students from the Departments should take the benefit it.

Dept. of Electrical Engineering  
ZES's Zeal College  
of Engineering & Research,  
Narhe, Pune - 411 041.

  
Dr. M. G. Unde

HOD





Zeal Education Society's  
**ZEAL COLLEGE OF ENGINEERING AND RESEARCH**  
(Formerly Dnyanganga College of Engineering and Research)  
(Approved by AICTE, New Delhi, Affiliated to Savitribai Phule Pune University)  
S. No. 39, Narhe, | PUNE -411 041 | MAHARASHTRA | INDIA  
Phone No. 020-6720 6000/104 Tele Fax. 020-6720 6101  
E-mail: [zcoer@zealeducation.com](mailto:zcoer@zealeducation.com), [principal.zcoer@zealeducation.com](mailto:principal.zcoer@zealeducation.com),  
Website: [www.zcoerpune.org](http://www.zcoerpune.org), [www.zealeducation.com](http://www.zealeducation.com)

Date: - 03-06-2017

To,  
The Director,  
White Phoenix Industries,  
Katraj.

Subject: - Permission for in plant training for ME project work

Respected Sir,

With reference to the above subject following is a bonafide student of ME Electrical Engineering of our institute.

Sr. No	Name of Student
1.	VISALATCHI SENTHLINATHAN

We request you to permit her for the In-plant training on interfacing Arduino with GSM for her ME project. Please consider and allow her.

Kindly permit the same.

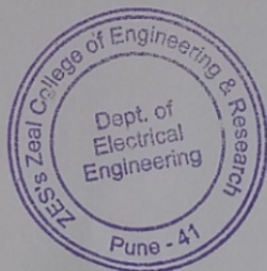
Thanking you.

Yours Faithfully,

*K.K. Soley*  
Prof. K. Karan Sandeep  
Project Guide  
9823583408

*M. M. M.*

HOD  
Dept. of Electrical Engineering  
ZES's Zeal College  
of Engineering & Research,  
Narhe, Pune - 411 041.



*Ajinkya*  
For White Phoenix Technologies

Partner



# Memorandum of Understanding

*Between*



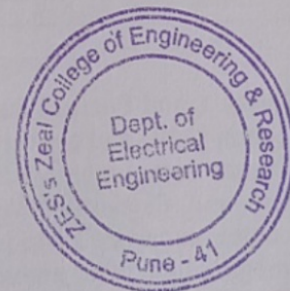
Department of Electrical Engineering

Zeal Education Society's

Zeal College of Engineering & Research, Pune



POWER TECH STAMPING





**ZEAL EDUCATION SOCIETY'S**  
**ZEAL COLLEGE OF ENGINEERING & RESEARCH**  
S.No.39, Katraj-Dhayari Road, Off Bangalore Bypass, Narhe, Pune 411 041  
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## Memorandum of Understanding



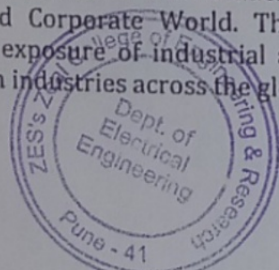
**POWER TECH  
STAMPING**

Department of Electrical Engineering  
Zeal Education Society's  
Zeal College of Engineering & Research, Pune

Memorandum of Understanding (MOU) is made on 01-06-2017

<b>Party 1</b> Department of Electrical Engineering Zeal College of Engineering & Research, Narhe Campus, S.No.39, Katraj-Dhayari Road, Off Bangalore Bypass, Narhe, Pune 411041, Tel.: 020 67206120 Website-www.zcoer.in	<b>Party 2</b> POWER TECH STAMPING, Dalavi Nagar, Nanded Phata, Nanded City Main Gate, Pune - 411041 Mobile : 8007086552 Email : powertechstampingsp@gmail.com
<b>Period: 01<sup>st</sup> June 2017 to 31<sup>st</sup> May 2022</b>	

The Party 1 and Party 2 are intended to facilitate the process of close Industry Institute Interaction (I-I) and actively promoting fresh avenues for the same. This MoU shall strive to enhance interaction with students, faculty and bridge the gap between Academia, Industry and Corporate World. This will have a positive impact on the engineering curriculum, exposure of industrial atmosphere to engineering students and subsequent placement in industries across the globe.





**ZEAL EDUCATION SOCIETY'S  
ZEAL COLLEGE OF ENGINEERING & RESEARCH**

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E-mail: [contact@zealeducation.com](mailto:contact@zealeducation.com) Website: [www.zcoerpune.org](http://www.zcoerpune.org)

**Party 1 will:**

- Encourage, enhance, and create avenues and environment for greater involvement of faculty and staff with industry for R&D and consultancy.
- Arrange workshops and training programs for Industries to adopt latest technologies.
- Allow to use available sophisticated and costly equipment with terms & conditions.
- Arrange seminar / workshop/ hands on training / skill development program to students and faculty.
- Provide representation for or invite representatives from Industries on Board of Studies, Faculties, Academic Councils, and Governing Body etc.
- Provide testing and certification facilities.

**Party 2 will:**

- Extend help and give constructive suggestions while designing the curricula.
- Assist faculty while developing skills with specific technology to the students.
- Allow to use available sophisticated and costly equipment to the faculty and students with terms & conditions.
- Provide financial support / equipment / material / guidance for innovative projects of students.
- Give live projects to the students and guide them in professional way.
- Enrich teaching program/technical competitions by giving awards.
- Permit Industrial Visit of students and faculty.
- Provide implant training program to students for 1 week/ 2 weeks/ 4weeks.

During its tenancy, the MoU may be extended or terminated by a prior notice of not less than six months by either party. However, termination of the MoU will not in any manner affect the interests of the students / faculty / scientists who have been admitted to pursue a program under the MoU.

For Party 1

(Authorized signatory)

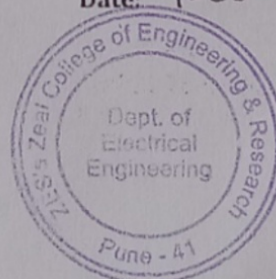
Name: Dr. Mahadev G. Unde  
Designation: Professor and HOD  
Place: Pune  
Date: 01-06-2017

HOD  
Dept. of Electrical Engineering  
ZES's Zeal College  
of Engineering & Research,  
Narhe, Pune - 411 041.

For Party 2

(Authorized signatory)

Name: Rahul Govindrao Suryawanshi  
Designation: Director  
Place: Pune  
Date: 1-06-2017





**CENTRAL PLACEMENT CELL**  
In association with



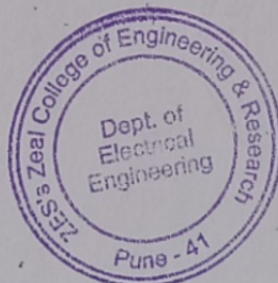
**ZEAL COLLEGE OF ENGINEERING & RESEARCH, PUNE**

**MoU Report**

Sr. No.	Activity Details	
1	Name of Company (MoU signed with)	Power Tech Stampings
2	Company Logo	<b>POWER TECH STAMPING</b>
3	Name of Activity done under MoU	Industrial Visit for students of Department of Electrical Engineering
4	Date of Activity	Ongoing activity from AY 2017-18 for Electrical students
5	No. of Student Participated	25 SE students in AY 2017-18
6	Activity Description	<p><b>PROGRAM DETAILS:</b> Industrial Visit for students of Department of Electrical Engineering regarding Transformer Design and Manufacturing with application through HOD</p> <p><b>Duration:</b> From 2017 to 2022</p> <p><b>ELIGIBILITY:</b> All Electrical Engineering Students</p>
7	Name of Personality involved (If Any)	Mr. Rahul G. Suryawanshi
8	Outcomes of the activity	Got good knowledge regarding Transformer.
9	Activity Photos	

K. K. S. S.  
Department MoU Coordinator

[Signature]  
Department HOD



HOD  
Dept. of Electrical Engineering  
ZES's Zeal College  
of Engineering & Research,  
Narhe, Pune - 411 041.



ZEAL EDUCATION SOCIETY'S  
ZEAL COLLEGE OF ENGINEERING AND RESEARCH,  
NARHE | PUNE -41 | INDIA

DEPARTMENT OF ELECTRICAL ENGINEERING

Proposal & Permission

Date: - 22 - 05- 2017

To,  
The HOD,  
Department of Electrical Engineering,  
ZES'S ZCOER,  
Narhe, Pune

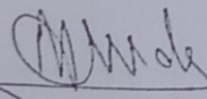
Subject: - Regarding proposal & permission to sign on MoU with Power Tech Stamping,  
Pune

Respected Sir,

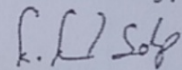
As a part of Industry Institute Interaction, we have approached Power Tech Stamping, Pune & they are very much positive to sign on MoU with our Institute. We are going to send them a draft of on MoU which contains various objectives like Hands-on Training workshop, internship, industrial visits & sponsored projects to the students, etc. So, we need your permission for the same.

Submitted for your approval.

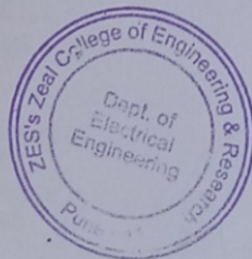
Approved. Proceed

  
22/05/2017

Yours Sincerely,



Prof. K. Kamal Sandeep  
Department T&P Coordinator





ZEAL EDUCATION SOCIETY'S  
ZEAL COLLEGE OF ENGINEERING AND RESEARCH,  
NARHE | PUNE -41 | INDIA  
DEPARTMENT OF ELECTRICAL ENGINEERING

## NOTICE

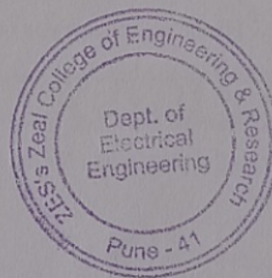
Date: - 11 - 07 - 2017

All the students are hereby informed that, we have successfully signed MoU with **Power Tech Stamping, Pune** on **01<sup>st</sup> June 2017**. Under this MoU, students will get Hands-On Training Workshop, BE & ME projects & Internship etc. Students from the Departments should take the benefit it.

Dept. of Electrical Engineering  
ZES's Zeal College  
of Engineering & Research,  
Narhe, Pune - 411 041.

Dr. M. G. Unde

HOD





ZEAL EDUCATION SOCIETY'S

# ZEAL COLLEGE OF ENGINEERING AND RESEARCH

(Formerly Dnyanganga College of Engineering and Research)

(Approved by AICTE, New Delhi and Affiliated to Savitribai Phule Pune University, Pune)

S. No. 39, Narhe, | PUNE - 411 041 | INDIA . Phone No. 020-6720 6000/104 Telo Fax. 020-6720 6101

E-mail: principal.zcoer@zealeducation.com, Website: www.zcoer.org

Hon. S. M. Katkar  
B.A. (Hons), L.L.B.  
FOUNDER DIRECTOR

Dr. A. M. Kate  
M.E. PH.D.  
PRINCIPAL

Date: 27 /07/2017

Ref.:ZCOER/Admin/Elect/17-18/ 7

To,  
The Managing Director  
M/s. Power Tech Stampings  
Dalavi Nagar, Nanded Phata,  
Nanded City Main Gate,  
Pune -411041

Sub.: Permission for Industrial visit.

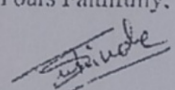
Respected Sir/ Madam,

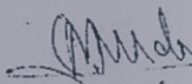
Ours is an institute affiliated to University of Pune, Approved by AICTE and Govt. of Maharashtra. As a part and parcel of the syllabus for the subject of Material Science of Second year Electrical Engineering students, a visit to manufacturing unit is compulsory. Hence we request you to kindly permit our 60 students along with four staff members to visit the Industry.

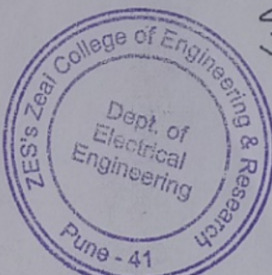
It would be convenient if the said visit is permitted in the month of August 2017. Kindly grant us the permission for the same.

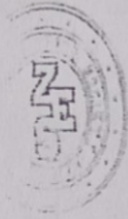
Thanking you.

Yours Faithfully,

  
Prof. S. U. Shinde.  
Industrial Visit In charge  
Dept of Electrical Engg.

  
Dr. M. G. Unde  
HOD  
Dept. of Electrical Engineering  
ZES's Zeal College  
of Engineering & Research,  
Narhe, Pune - 411 041.





ZEAL EDUCATION SOCIETY  
CELEBRATING  
20 YEARS OF EDUCATIONAL EXCELLENCE

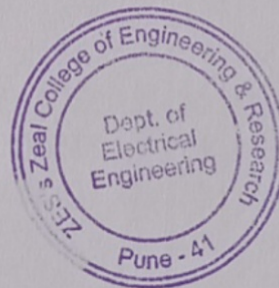
Founder: Hon. Mr. S. M. Katkar



Report on  
Industrial Visit at  
POWER TECH STAMPING  
NANDED CITY, PUNE.

PRODUCT OF COMPANY:-

***CORES OF TRANSFORMER***





## *Details of Visit:*

Date: 31/07/2017

Place: POWER TECH

POWER TECH v STAMPING,

Nanded City Pune.

Time: 10:30 to 12:30

● Faculty Coordinators: M.R.HANS, S.U.SHINDE

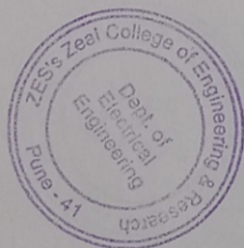
Visitors: Students of SE  
Branch

SUBJECT FOR VISIT: MATERIAL SCIENCE

MODE OF TRANSPORT: COLLEGE BUS

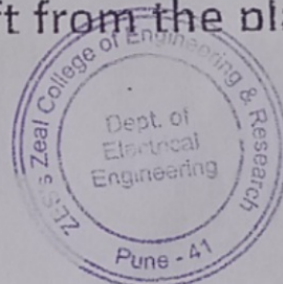
TYPE OF COMPANY: TRANSFORMER CORE  
MANUFACTURE

● PRODUCT OF COMPANY: CORES OF  
TRANSFORMER

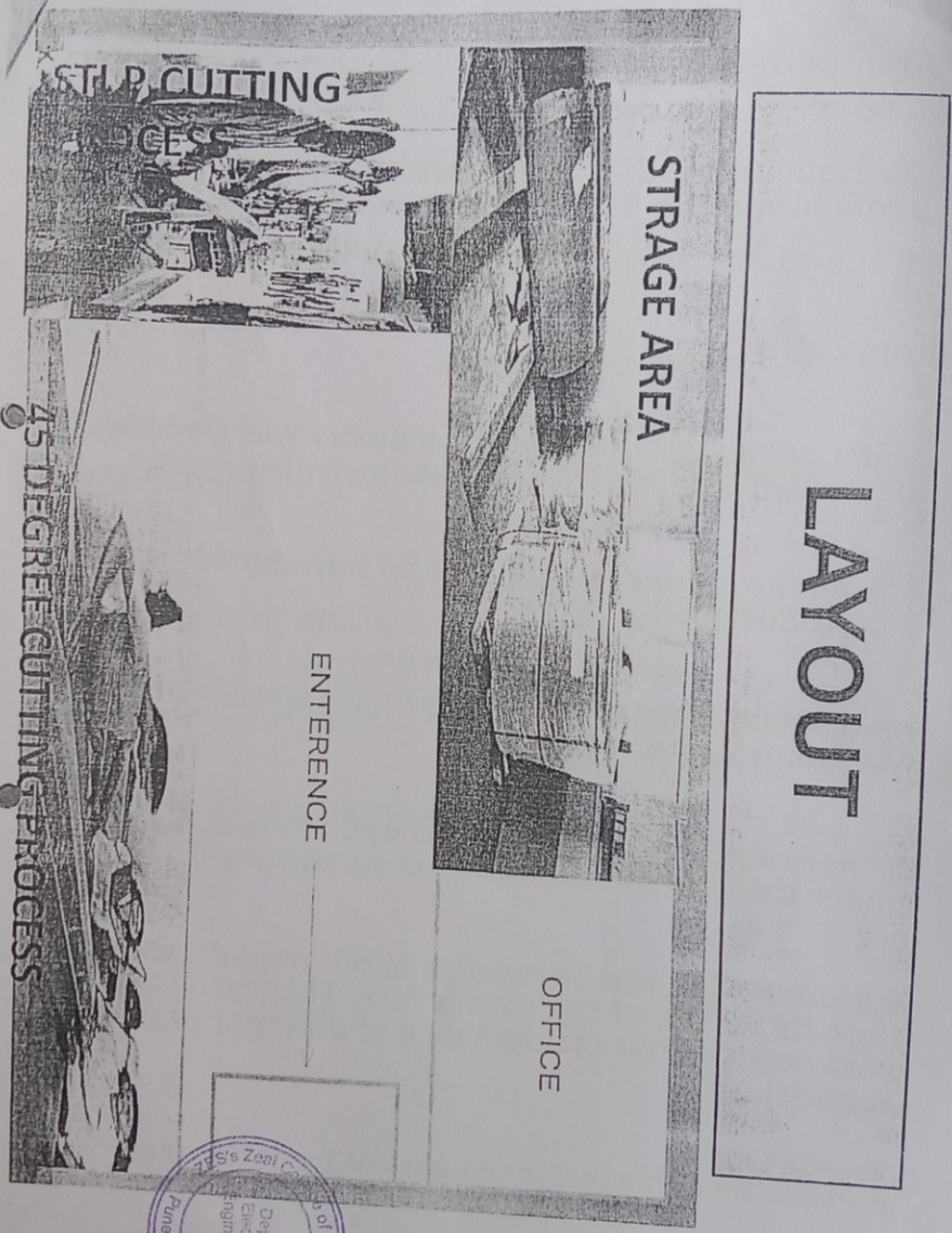


## Detailed Schedule:

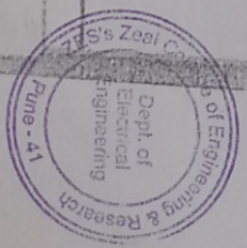
- ☐ Transportation facility was provided by the college.
- ☐ 26 Students of SE Electrical with a faculty coordinator left  
For the visit to POWER TECH STAMPING Centre at 10.30 AM  
from ZCOER
- ☐ First presentation about the Industry was given to the students by Mr. Manoj hans.,
- ☐ Then the second session was for introduction about the products  
manufactured by the company which was given by Mr. Rahul Suryawanshi.
- ☐ There students in all the sections of the company under the guidance of Mr. Rahul suryawanshi .
- ☐ Students got the knowledge about manufacturing process of core of transformer etc. They also gained knowledge about maintenance of different products & parts.
- ☐ After the rich experience we left from the place at



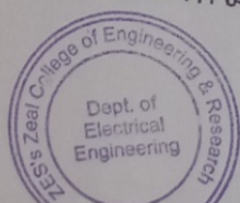
PP  
\*E



# LAYOUT



Dept. of Engineering & Research,  
Narha, Pune - 411 041.

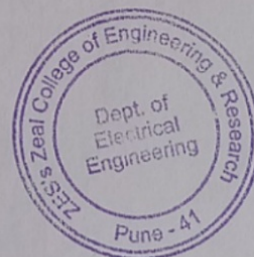


*Agintaya*  
For White Box Technologies

Partner

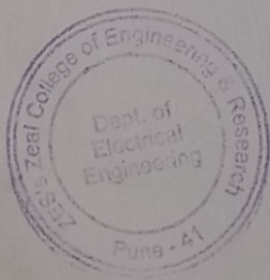
## PROCESS DETAILS

- \*FIRST OF ALL THE LONG SHEET OF SILICON STEEL HAS TO BE TAKEN AND AFTER THAT THIS SHEET IS THEN CUT AT AN ANGLE OF 45 DEGREE FOR MINIMIZING THE FLUX LINKAGES
- \*THE CUTTED SHEET IS THEN FURTHER GET CUTTED BY MEANS OF MACHINE AT STRAIGHT TO FORM CORE ASSEMBLY, AS WE KNOW THAT THE CORE ASSEMBLY CONSIST OF THREE LIMBS AND TWO YOKES AS SHOWN IN FIGURE BELOW
- \*THE CENTRAL LIMB IS OF DIAMOND SHAPE AND OF HIGHER WIDTH IS PROVIDED BY MEANS OF OBTAINING CIRCULAR SHAPE
- \*THE FORMED COIL ASSEMBLY IS THEN MOUNTED ON COPPER WINDING WHICH IS THEN IMMERSSED IN OIL ALSO BEFORE IMMERSING IN THE OIL TANKING IS THERE, ALSO THE STRIP OF THE CORES ARE ARRANGED IN STEPWISE MANNER IN ORDER TO AVOID COPPER LOSS, AND AIR GAP.
- \*THICKNESS OF THE CORE MAY VARY FROM 0.27 TO 0.23 WHICH RESULTS IN DECREASE IN COPPER LOSSES 1.2WT/KG TO 0.68WT/KG
- \*AND ALSO TO REDUCE HYSTERISIS LOSS THE COATING OF CRGO (COOLED ROOLED GRAIN ORIENTED) MATERIAL IS THERE ON THE SILICON STEEL SHEET.

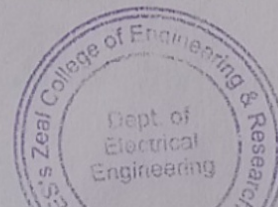
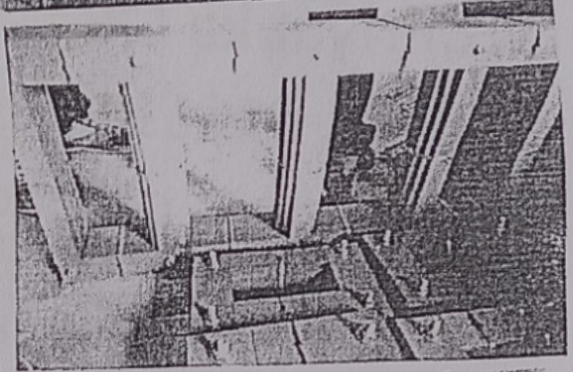
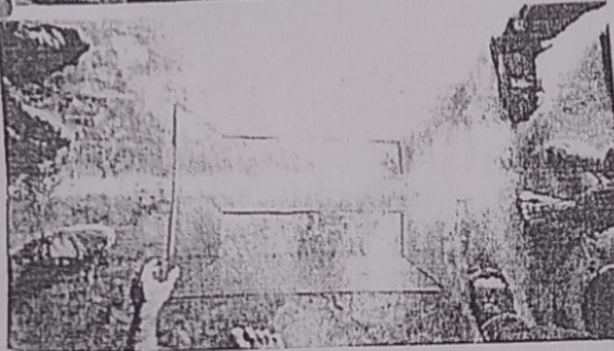
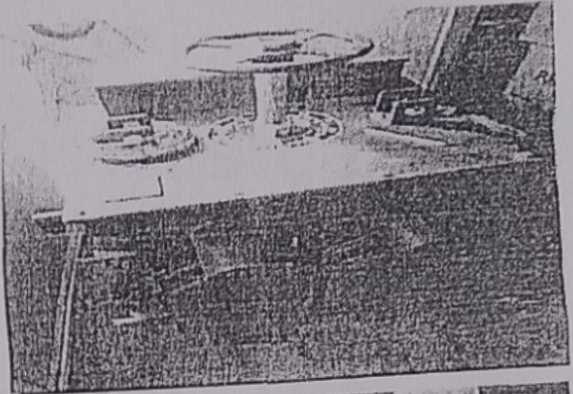
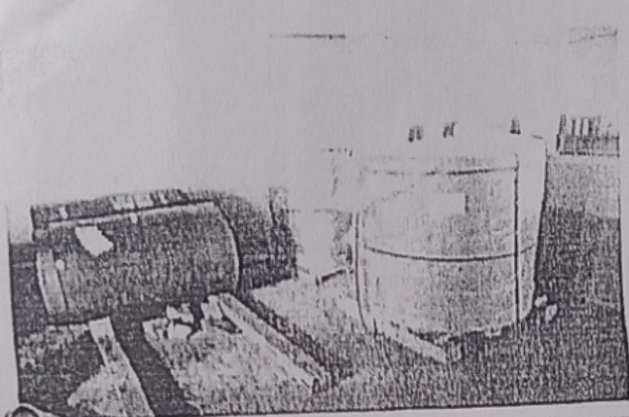


## WHAT KIND PROBLEM TRYING TO SOLVE

- 1) THEY ARE FOCUSING ON WIDTH OF THE CORE WHICH WILL HELP THEM TO REDUCE EDDY CURRENT LOSSES
- 2) AND ALSO UPTO WHICH EXTEND WILL THE EDDY CURRENT LOSSES CAN BE MINIMIZED, ON THE BASIS OF THAT, BY CONSIDERING MECHANICAL STRENGTH THEY ARE TRYING TO REDUCE THE WIDTH OF THE CORE
- \*TOTAL NUMBERS OF MACHINES THEY ARE USING FOR CUTTING PURPOSE:-
  - 1) THERE ARE 5 TO 6 MACHINES WHICH HAS COST NEAR ABOUT 15 AND 25 LAKHS AND 6 TO 8 WORKERS ARE THERE.
- \*FUTURE SCOPE:-
  - 1) FROM SCOPE POINT OF VIEW RIGHT AND IN FUTURE TOO THERE WILL BE LARGE DEMAND OF THOSE CORES WHICH HAS LESS EDDY CURRENT LOSSES, HYSTERESIS LOSSES AND MINIMUM FLUX LINKAGES AFTER FORMING THE CORE ASSEMBLY, AS SOON AS THE LIFE TIME OF THE TRANSFORMER IS CONCERNED.



# Photo Gallery:

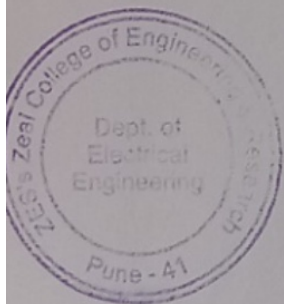


Report prepared by:

Ms. Priyanka Chavan

Roll no:-S16610025

- Department of Electrical Engineering, ZCOER Pune.



*Jans*

Sign of Prof. Mr. M. R. Hans Sir



ZEAL EDUCATION SOCIETY'S

# ZEAL COLLEGE OF ENGINEERING AND RESEARCH

(Formerly Dnyanganga College of Engineering and Research)

(Approved by AICTE, New Delhi and Affiliated to Savitribai Phule Pune University, Pune)

S. No. 39, Narhe, | PUNE - 411 041 | INDIA . Phone No. 020-6720 6000/104 Tele Fax. 020-6720 6101

E-mail: principal.zcoer@zealeducation.com, Website: www.zcoer.org

Hon. S. M. Katkar  
B.A. (Hons), L.L.B.  
FOUNDER DIRECTOR

Dr. A. M. Kate  
M. E., Ph. D. (Mech.)  
PRINCIPAL

Ref.:ZCOER/Admin/Elect/18-19/13

Date: 31/08/2018

To,  
The Managing Director  
M/s. Power Tech Stampings  
Dalavi Nagar, Nanded Phata,  
Nanded City Main Gate,  
Pune -411041

Sub.: Permission for Industrial visit.


Respected Sir/ Madam,

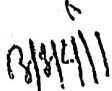
Ours is an institute affiliated to University of Pune, Approved by AICTE and Govt. of Maharashtra. As a part and parcel of the syllabus for the subject of Material Science of Second year Electrical Engineering students, a visit to manufacturing unit is compulsory. Hence we request you to kindly permit our 120 students (Two divisions) along with four staff members to visit your Industry.

It would be convenient if the said visit is permitted in the month of Third or last week of September 2018. Kindly grant us the permission for the same.

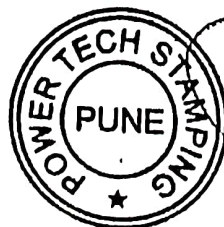
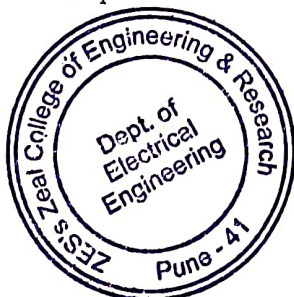
Thanking you,

Yours Faithfully,

  
Prof. S.G. Mane.  
Industrial Visit In charge  
Dept. of Electrical Engg.

  
Dr. A.A. Khandekar

HOD  
Dept. of Electrical Engineering  
ZES's Zeal College  
of Engineering & Research,  
Narhe, Pune - 411 041,





**ZES's Zeal College of Engineering & Research, Narhe, Pune**  
**Department of Electrical Engineering**

---

Date: 02/10/2018

To,  
The Principal,  
Z.C.O.E.R,  
Pune.

Sub.: Requirement of Transport facility for Industrial Visit.

Respected Sir,

With reference to the above subject, we have arranged Industrial visit of Second Year Electrical Students to M/s. Power Tech Stampings, Dalavi Nagar, Nanded Phāta, Nanded City Main Gate, Pune on 04<sup>th</sup> & 05<sup>th</sup> Oct. 2018.

Time is from 10:00 am to 14:00 pm.

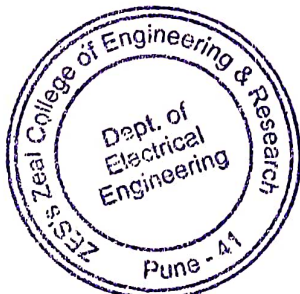
Total strength of student is 120. Thus we are planning to depart at 10:00 am from the college and will be back up to 2.00 pm.


We request you to provide bus facility for the same

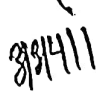
Thanking you,

Division	Date	Students	Staff	Departure time	Arrival time
SE-A	04/10/2018	65	02	10:00 am	02:00 pm
SE- B	05/10/2018	55	02	10:00 am	02:00 pm

  
Prof. S.G. Mane  
Industrial Visit In charge  
Dept of Electrical Engg.



  
ZC Transport  
Pl. arrange 02 buses  
Ardekar  
02/10/18

  
Dr. A. A. Khandekar  
HOD  
Dept. of Electrical Engineering  
ZES's Zeal College  
of Engineering & Research,  
Narhe, Pune - 411 041

# INDUSTRIAL VISIT REPORT

## LOCATION:

**Power Tech Stamping**

**CRGO Core Laminations**

[opposite nanded city,pune]

## M.D. of company:

Mr. Rahul Suryawanshi

B.E. Electrical

Contact no. 9503414175

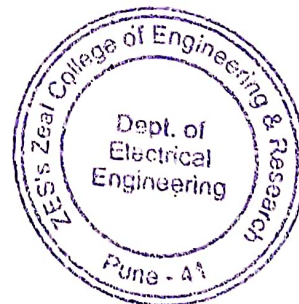
Email i.d. [powertechstamping@gmail.com](mailto:powertechstamping@gmail.com)

## Respective subject teacher:

Prof. R. M. Zende

## Visit Organized under the subject:

Material Science



## Introduction:

Under the subject Material Science we have studied various material and their properties which is mainly used in electrical field. Transformer core is most important part in material considerations.

There are various losses which take place in transformer core and tend to decrease the system efficiency. So, on the way to minimize these core losses, we have to study various materials & their properties.

The company "Power tech Stamping" manufactures a transformer core of distribution and power transformer & instrument transformer. For this purpose they use the CRGO material which has very less hysteresis & iron loss hence helps to improve efficiency of transformer.

## Specifications of CRGO material:

### CRGO: Cold Rolled Grain Oriented Steel

CRGO is usually supplied by the producing mills in coil form & has to be cut into "laminations" which are then used to form a transformer core, which is an integral part of any transformer.

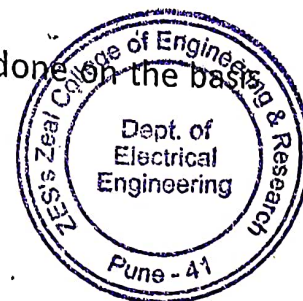
In CRGO material each type of steel has "grain" which consist of "domains". A Special Carlite insulation-coating on the steel being done so as to Reduce the eddy current loss.

CRGO comes in a thickness of 0.23mm,0.27mm,0.30,0.35[generally called M3,M4,M5,M5 & M6] lower the thickness of material better is the quality of the material.

Thickness (mm)	Grade	Core loss (W/kg)
0.23	M3	0.90
0.27	M4	1.12
0.30	M5	1.30
0.35	M6	1.45

The company power tech stamping usages the M3 grade (0.23mm thickness) CRGO material to manufacture the core.

Costing of material purchase for the manufacturing is done on the basis of weight in kg & also for the core.



Photo

Company imports the CRGO material from Germany & Korea.  
Thyssenkrupp Electrical Steel supplies from Germany.  
JFE SOZI company supplies CRGO material from Korea.

**Introduction & Info of company:**

“Power tech stamping” is small scale core manufacturing company.  
· Around 16-18 labors works in the company.  
The company supplies the core to 17-18 companies in Maharashtra state.  
Company has GST & shop Act certification from state government.

**Machinery used in company:**

1. Sharing Machine -> To cut the CRGO sheets.
2. Power press -> To make hole on sheet.
3. V notching M/C -> To make hole sheet in v shape.
4. Dimmers -> Check the loss in core.
5. Assembler Kit -> Assemble the core stamping.

Cutting of sheet is done at 45 degrees angle. Three type of cutting sheet plates are used to assemble the hole core.

1. Side plate:

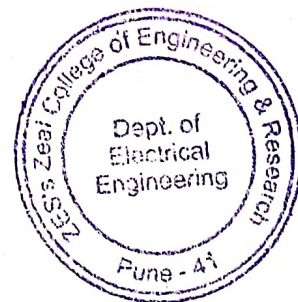


2. Diamond Plate:

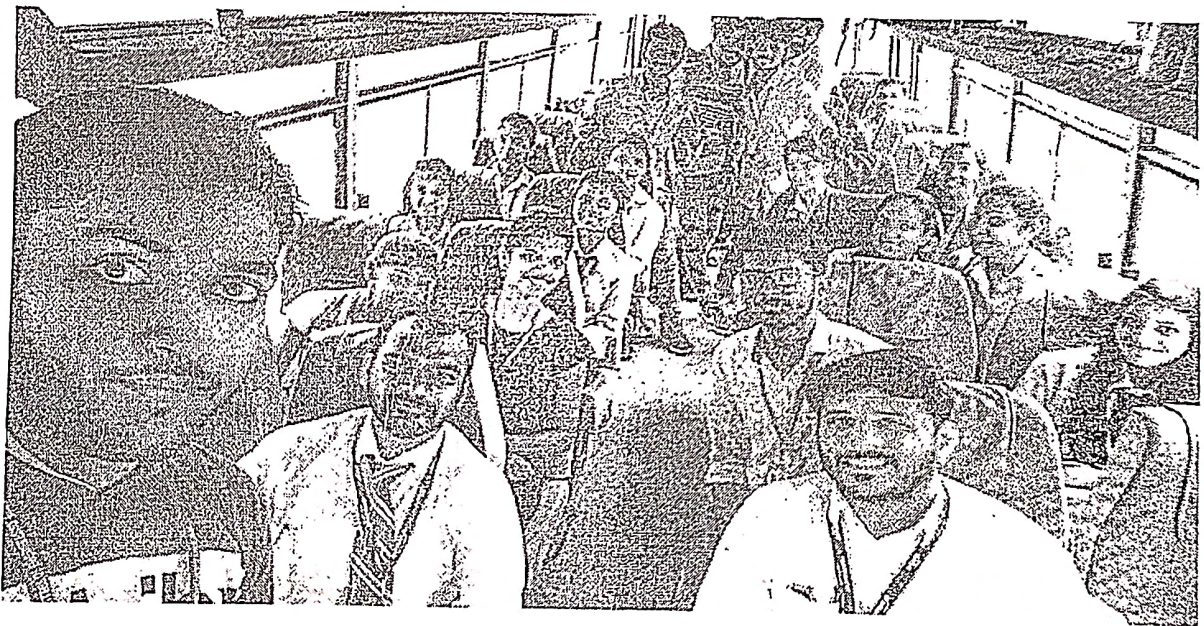
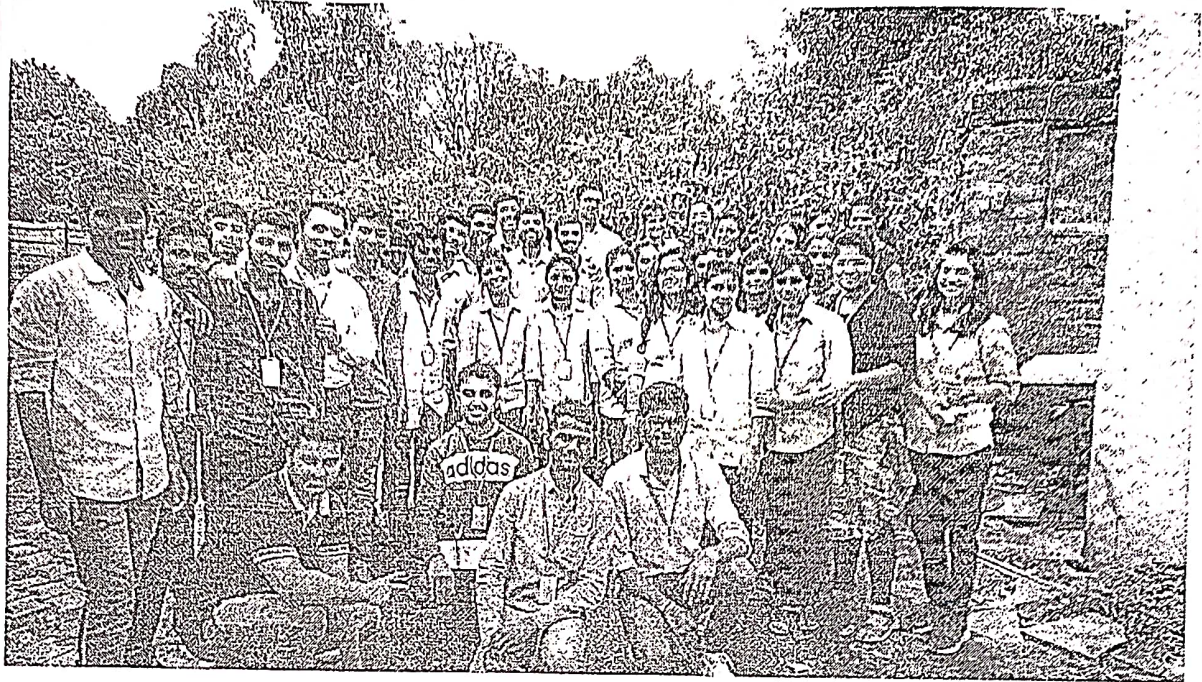


3. V notch plate:

The factory visit thus gave us opportunity to see the various proceeding  
In company and also gain knowledge regarding the various machines.



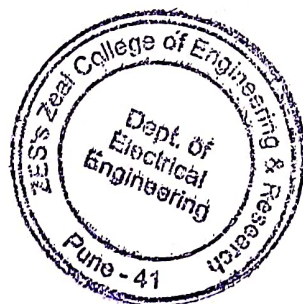
Photos Of visit



Prof. Zende R. M.  
Subject Teacher

Dr. Khandekar A. A.  
HOD

Dept. of Electrical Engineering  
ZES's Zeal College  
of Engineering & Research  
Narhe, Pune - 411 004





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E-mail: [zcoer@zealeducation.com](mailto:zcoer@zealeducation.com), [principal.zcoer@zealeducation.com](mailto:principal.zcoer@zealeducation.com),  
Website: [www.zcoerpune.org](http://www.zcoerpune.org), [www.zealeducation.com](http://www.zealeducation.com)

**DR. A.M. Kate**  
M.E., Ph.D.  
PRINCIPAL

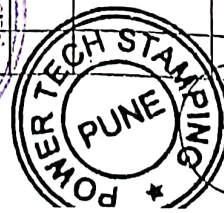
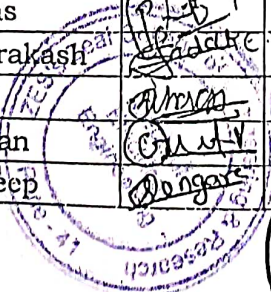
**Hon. S. M. KATKAR**  
B.A., (Hons.), L.L.B.  
FOUNDER DIRECTOR

**Industrial Visit to M/s. Power Tech Stampings, Nanded Phata, Pune on 04/10/2018**

I undersigned here to declare that any misbehavior or misconduct of mine shall not be related in any case. such thing happen I will be responsible for such conduct and I shall obey any punishment given to me in this regard. College will not hold any responsibility of my misbehavior.

**List of Students For Visit (SE Electrical - A Div)**

SN	R. N.	Name of Student	Signature	SN	R. N.	Name of Student	Signature
1.	S61001	Abhang Rohit Pundlik		36	S61038	Ghughe Ganesh M	
2.	S61002	Bhangre Atharva A		37	S61039	Ghutukade Mahadev G	
3.	S61003	Bhargude Digvijay C		38	S61040	Jadhav Sanket Sanjay	
4.	S61004	Bhosale Supriya Ashok		39	S61041	Jagdhane Bhagyashree	
5.	S61005	Chogale Kimaya Vijay		40	S61042	Kadulkar Ashish S	
6.	S61006	Chormale Shubham Mohan		41	S61043	Kamble Pritam Bhikaji	
7.	S61007	Deo Mayur Anil		42	S61044	Kamble Rugveda S	
8.	S61008	Desale Siddhant Manohar		43	S61045	Khot Trunali Sunil	
9.	S61009	Dongardive Pranali Dhanraj		44	S61046	Koregave Sudarshan B	
10.	S61010	Gadge Hrushikesh Vilasrao		45	S61047	Kotale Atul Ashok	
11.	S61011	Gore Ganesh Chandrakant		46	S61048	Kshirsagar Pratik P	
12.	S61012	Gosavi Aparna Sureshgir		47	S61049	More Yogita V	
13.	S61013	Hade Anushree Sunil		48	S61050	Papanwar Shweta G	
14.	S61014	Jadhav Vaibhav Sundar		49	S61051	Pardeshi Muskan M	
15.	S61015	Kamble Chitra Rajan		50	S61052	Patil Harshal Sunil	
16.	S61016	Khandekar Punam S		51	S61053	Patil Sangram Anant	
17.	S61018	Kudale Sushant Dnyadev		52	S61054	Patre Mahesh Arun	
18.	S61019	Manure Sahebalal B		53	S61055	Pawar Aniket Mahadev	
19.	S61020	Mohite Shweta Sanjay		54	S61056	Pawar Mayuri Vikas	
20.	S61021	More Vaishali Murlidhar		55	S61057	Pawar Shubhangi B	
21.	S61022	Pawar Abhijeet Sanjay		56	S61058	Shenavi Deepali B	
22.	S61023	Pokharkar Vaibhav H		57	S61059	Sodanavar Dipalee T	
23.	S61024	Sapate Vikas Balasaheb		58	S61060	Sutar Vaishnavi Vivek	
24.	S61025	Sawant Sumit Rajaram		59	S61061	Taru Prajakta B	
25.	S61026	Shinde Mayur Manohar		60	S61062	Veer Omkar Vishnu	
26.	S61027	Shirke Aadesh Shankar		61	S61063	Wavhal Parag Ganesh	
27.	S61029	Zagade Nikita Ramdas		62	S61064	Adwant Vishwanath D	
28.	S61030	Ambrale Jayant Dilip		63	S61065	Deokar Chaitanya S	
29.	S61031	Balgare Akash Maroti		64	S61066	Dhobale Aniket Ashok	
30.	S61032	Bardee Shivani Trimukh					
31.	S61033	Bhor Prashant Kailas					
32.	S61034	Bodake Shubham Prakash				Prof. R.M. Zende	
33.	S61035	Chavan Akanksha J				Prof. B.S.Kunure	
34.	S61036	Done Ganpati Laxman				Mrs. B.M. Hargude	
35.	S61037	Dongare Suraj Pradeep					





**Zeal Education Society's  
ZEAL COLLEGE OF ENGINEERING AND RESEARCH**

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Website: [www.zcoerpune.org](http://www.zcoerpune.org), [www.zealeducation.com](http://www.zealeducation.com)

**DR. A.M. Kate**  
M.E., Ph.D.  
PRINCIPAL

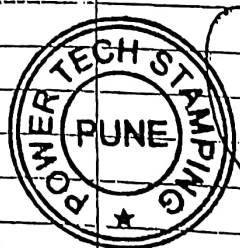
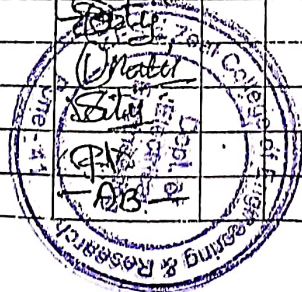
**Hon. S. M. KATKAR**  
B.A. (Hons.), L.L.B.  
FOUNDER DIRECTOR

**Industrial Visit to M/s. Power Tech Stampings, Nanded Phata, Pune on 05/10/2018**

I undersigned here to declare that any misbehavior or misconduct of mine shall not be related in any case. such thing happen I will be responsible for such conduct and I shall obey any punishment given to me in this regard. College will not hold any responsibility of my misbehavior.

**List of Students For Visit (SE Electrical - B Div)**

SN	R. N.	Name of Student	Signature	SN	R. N.	Name of Student	Signature
1.	S62001	Bansode Yogesh S		36	S62038	Salve Harshad C	
2.	S62002	Bhasme Harshada Rajendra		37	S62039	Surve Vaibhav Vikas	
3.	S62003	Bhosale Pravin Tanaji		38	S62040	Sutar Rohan Kundalik	
4.	S62004	Choudante Ashit Bapurao		39	S62041	Tilekar Vaishnavi Anil	
	S62005	Danke Aakanksha L		40	S62042	Vilegave Ajay Shivaji	
6.	S62006	Daware Akash Sunil		41	S62043	Wasate Komal Gautam	
7.	S62007	Dhane Kalyani Dilip		42	S62044	Yalgonde Shubham T	
8.	S62008	Gaikwad Gajanan Satish		43	S62045	Zambre Swapnali S	
9.	S62009	Gavali Mukesh Dilip		44	S62046	Balode Ashutosh A	
10.	S62011	Gunda Vinit Vithal		45	S62047	Gaikwad Smita Sanjay	
11.	S62012	Hadge Bhakti Santosh		46	S62048	Hosale Nikhil N	
12.	S62013	Honmane Aishwarya A		47	S62049	Kale Pranita Ramesh	
13.	S62014	Jadhav Prajakta Anil		48	S62050	Kanase Vivek Lahu	
14.	S62015	Jadhav Suraj Madhukar		49	S62051	Kankumbkar Karan M	
15.	S62016	Jawalkar Ritesh Shivaji		50	S62052	Kulkarni Shrilekha S	
16.	S62017	Junare Prathamesh Ashok		51	S62053	Patil Pratik Bhagwat	
17.	S62018	Kadam Vaibhavi Vijay		52	S62054	Patil Shweta Lalaso	
18.	S62019	Kendre Manisha Vyankat		53	S62055	Sathe Akash Sonba	
19.	S62020	Kulkarni Aditya Sanjay		54	S62056	Shaikh Sana Asif	
20.	S62021	Kute Shital Baliram		55	S62057	Surwase Ritika G	
21.	S62022	Magar Saurabh Dattatray		56	S62058	Kagadi Arbaz Raju	
22.	S62023	Mali Rushikesh Rajaram					
23.	S62024	Matte Chandragupta Ashok				Prof. R.J. Patil	
24.	S62025	More Atharv Rajendra				Prof. S.S. Yadav	
25.	S62026	Nalawade Ragini Balaso				Prof. J.A. Kshirsagar	
26.	S62027	Padalkar Girish Mahadeo					
27.	S62028	Pandey Pratik Ramsharan					
28.	S62029	Parab Pranav Upkar					
29.	S62031	Patil Abhishek Siddharaj					
30.	S62032	Patil Rupashree S					
31.	S62033	Patil Rutika Sunil					
32.	S62034	Patil Vaibhavi Vitthal					
33.	S62035	Patil Vishranti Shivajirao					
34.	S62036	Pawar Rupali Vijaysing					
35.	S62037	Salve Akash Ashok					

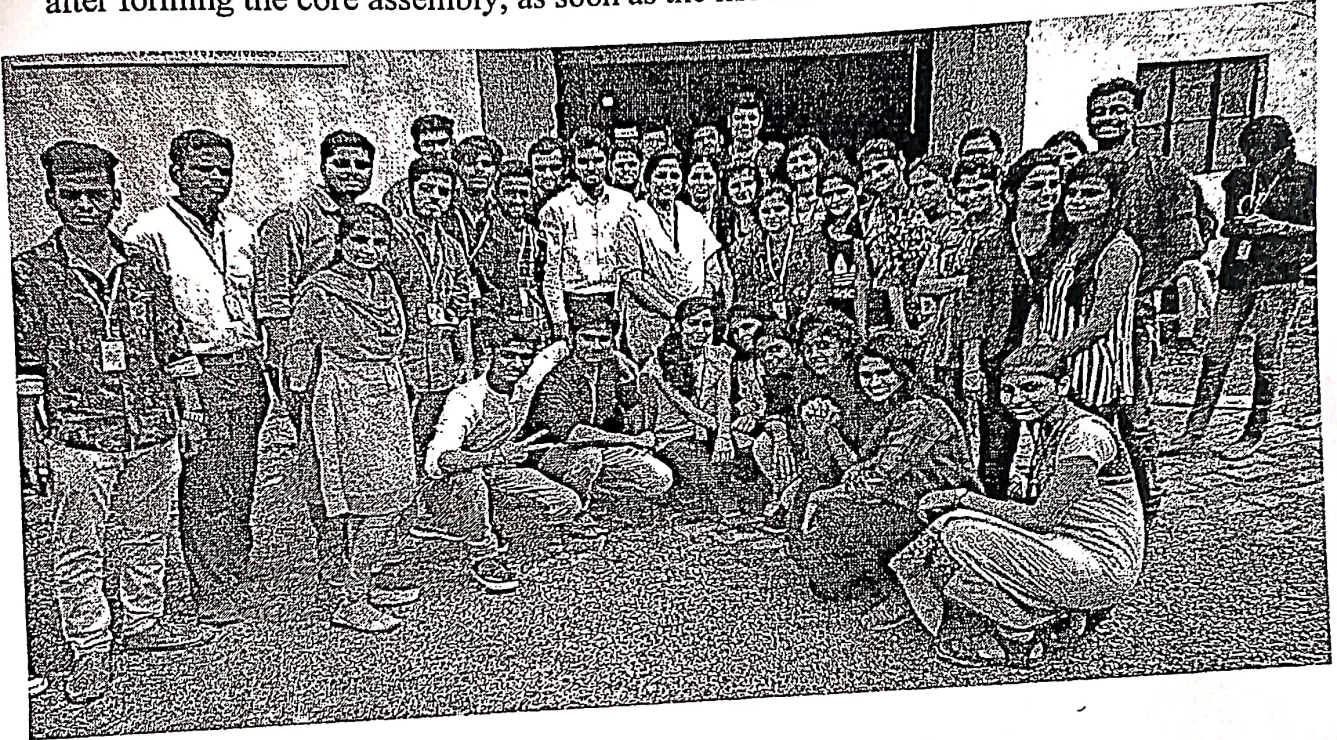


Total Present - 48  
Absent - 08

D. ...

## Future scope:-

From scope point of view right and in future to there will be large demand of those cores which has less eddy current losses, hysteresis losses and minimum flux linkages after forming the core assembly, as soon as the life time of the transformer is concerned.



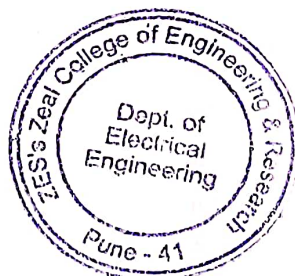
*Raj*

Mrs. R. J. Patil  
subject Incharge

*17/11/17*

HOD

Dept. of Electrical Engineering  
ZES's Zeal College  
of Engineering & Research  
Narhe, Pune - 411 041





**ZES's Zeal College of Engineering & Research, Narhe, Pune**  
**Department of Electrical Engineering**

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Date: 03/09/2019

To,  
The Principal,  
Z.C.O.E.R,  
Pune.

Sub.: Requirement of Transport facility for Industrial Visit.

Respected Sir,

With reference to the above subject, we have arranged Industrial visit of Second Year Electrical Students (SE A1 Div) to M/s. Power Tech Stampings, Dalavi Nagar, Nanded Phata, Nanded City Main Gate, Pune on 09th Sept. 2019.

Time is from 10:00 am to 14:00 pm.

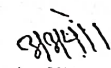
Total strength of student is 33. Thus we are planning to depart at 9:00 am from the college and will be come back up to 2.00 pm.

We request you to permit us bus facility for the same

Thanking you,

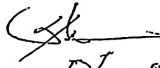
Division	Date	Students	Staff	Departure time	Arrival time
SE-A	09/09/2019	33	02	09:00 am	02:00 pm

  
Prof. S.G. Mane  
Industrial Visit In charge  
9511842971/9405285143

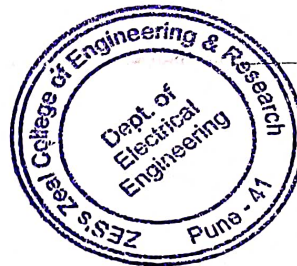
  
Dr. A. A. Khandekar  
HOD  
Dept. of Electrical Engineering  
ZES's Zeal College  
of Engineering & Research,  
Narhe, Pune - 411 041

To, IED

Forwarded  
for  
consideration

  
04.09.19

Rec.  
W/S  
4.9.19





ZES's Zeal College of Engineering & Research, Pune.  
Department of Electrical Engineering

Date: 07/09/2019

**Notice**

**Industrial visit - to "Power Tech Stampings"**

**Class SE-A1**

**Subject - Material Science**

All the students of Second year electrical SE A1 class are hereby informed that the industrial visit to "Power Tech Stampings" is arranged under the subject of Material Science on 09/09/2019 (Monday).

Reporting time at 08:45 a.m. sharp in class room.

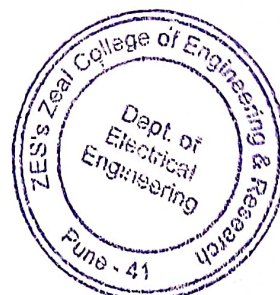
Note - Uniform and I-Card is compulsory.

  
Prof. S.G. Mane

Industrial visit Incharge

  
HOD

Dept. of Electrical Engineering  
ZES's Zeal College  
of Engineering & Research,  
Narhe, Pune - 411 041





ZES's Zeal College of Engineering & Research, Pune.  
Department of Electrical Engineering

Date: 07/09/2019

Notice

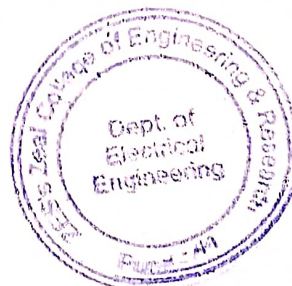
The educational visit for students of SE Electrical (SE A1) is arranged on 09.09.2019 under the subject of **Material Science**. The students of SE A1 will visit "Power Tech Stampings" Nanded City, Pune.

The following staff members will accompany the students –

1. Prof. Zende R M
2. Prof. Kunure B S
3. Mrs. Bhasni Haragude

Prof. S.G. Mané  
Industrial visit Incharge

HOD  
Dept. of Electrical Engineering  
ZES's Zeal College  
of Engineering & Research,  
Narhe, Pune - 411 041





ZES's Zeal College of Engineering & Research, Pune.  
Department of Electrical Engineering

Date: 07/09/2019

Notice

Industrial visit - to "Power Tech Stampings"

Class SE-A1

Subject - Material Science

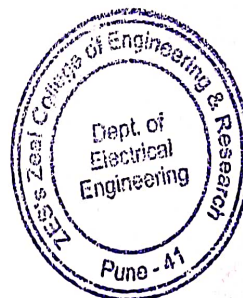
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Prof. S.G. Mane  
Industrial visit Incharge

HOD  
Dept. of Electrical Engineering  
ZES's Zeal College  
of Engineering & Research,  
Narha, Pune - 411 041





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Department of Electrical Engineering

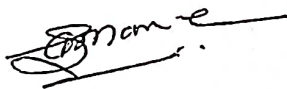
Date: 07/09/2019

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The following staff members will accompany the students –

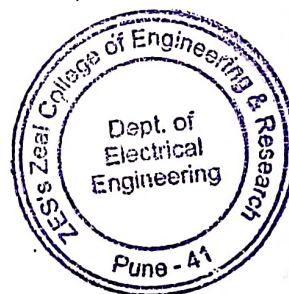
1. Prof. Zende R M
2. Prof. Kunure B S
3. Mys. Bharti Harogude



Prof. S.G. Mane  
Industrial visit Incharge



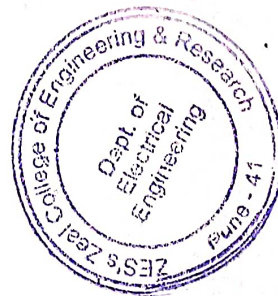
HOD  
Dept. of Electrical Engineering  
ZES's Zeal College  
of Engineering & Research,  
Narhe, Pune - 411 041



An  
INDUSTRIAL Visit  
To  
Power tech stampings  
Sub-Material Science

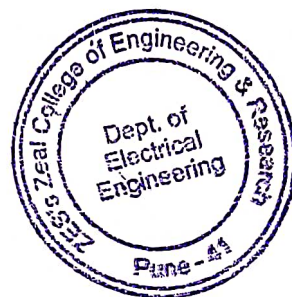
Zeal College of Engineering and  
Research, Nahre, Pune

In Partial fulfilment of  
S. E. Electrical, sem-3  
Savitribai Phule Pune University  
2019-2020



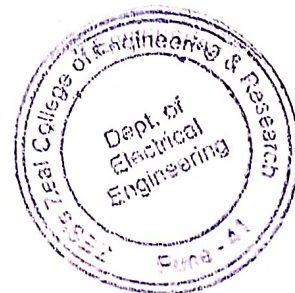
Introduction: An Educational visit to Power Stampings, Pune was organized by Department Electrical Engineering of Zeal College of Engineering and Research, Narhe, Pune on 9th Sept. 2019. As per Pune University guidelines and recommendations regarding syllabus of S. E. Electrical engineering the site visit was organize.

Under the subject of MATERIAL SCIENCE, we visited the Power Tech Stamping. The transformer is a electrostatic device which is used to transfer electrical energy (voltage or current) from one circuit to another by mutual induction of two electric circuits without change in frequency, which is working under the principle of electromagnetic induction.



## Iteration of Visit:

Date of visit	9 th September <del>2019</del> . 2019
Place of visit	POWER TECH STAMPINGS, Nanded city.
Mode of Transport	College bus.
Accompanying Staff	Mr.Zende R.M. Mr. Bhushan B.S.
Number of Students	30 students.
Time of Departure	10:30 am
Arrival At Venue	11:15am
Return departure	12:45pm
Arrival At Institute	1:20pm.

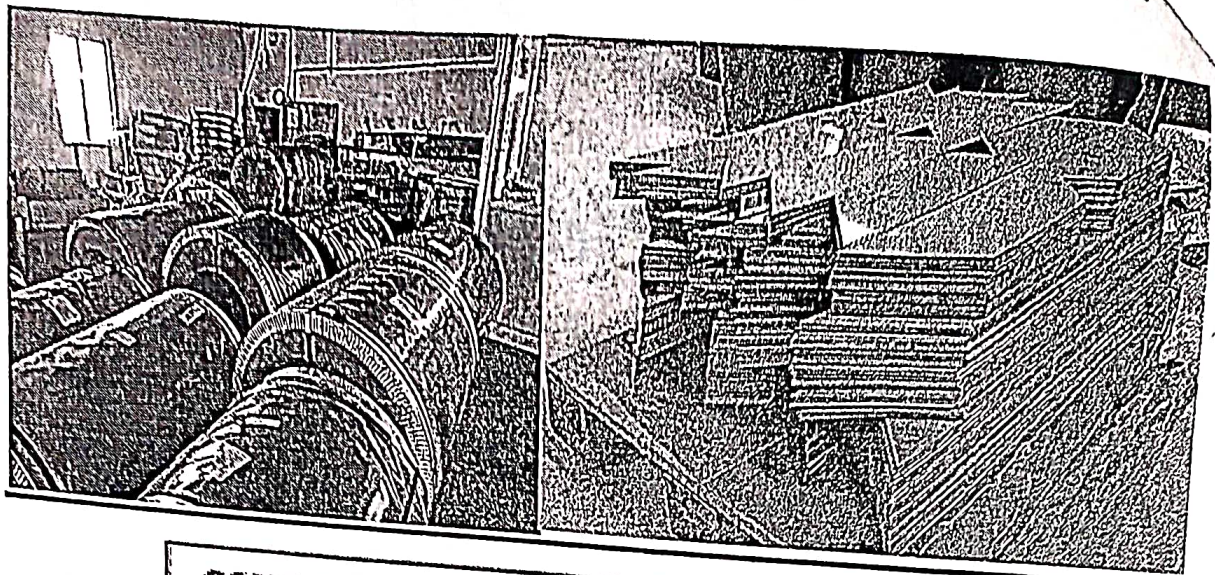




# DETAIL DESCRIPTION :

Crgo (Cold-rolled grain-oriented sheet)

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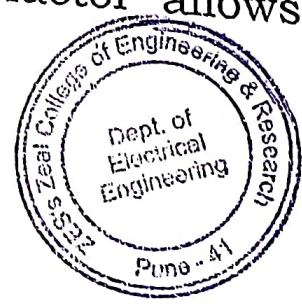


COMPARISON OF PROPERTIES		
PROPERTIES	AMORPHOUS METAL	CRGO STEEL
Density	7.15 (g/cm <sup>3</sup> )	7.65 (g/cm <sup>3</sup> )
Specific resistance	130.00	45.00
Saturation flux density	1.56 (Tesla)	2.03 (Tesla)
Typical core loss for 50 Hz, 1.4 Tesla	0.20 Watt/kg	0.90 Watt/kg
Thickness	0.025 mm	0.27 mm
Space factor	0.86	0.97
Brittleness	Higher	Lower
Available form	Ribbon/Foil*	Sheet/Roll
Annealing temperature	360°C	810°C
Annealing atmosphere	Inert gas	Inert gas
Special annealing requirement	Magnetic field annealing	

## Properties of CRGO Steel

It is a soft magnetic material and has the following properties:

- High magnetic permeability.
- Reduced magnetostriction.
- High resistivity.
- High stacking or laminating factor allows compact core designs.
- Low losses.



## Grades of CRGO Steel

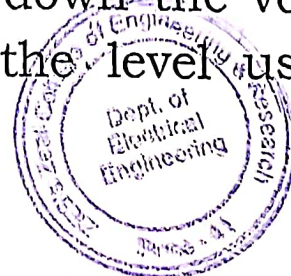
- The early grades of steel were known as M7 (0.7watts/lb at 1.5T/60Hz) and M6 (.6watts/lb at 1.5T/60Hz).
- Similarly, M5 M4 and M3 grades were developed in the late sixties.
- A new material called Hi-B has a remarkable degree of orientation and is 2 - 3 grade better than conventional CRGO steel products.

## Application of CRGO Silicon Steel as Transformer Core

- CRGO grade steel mainly finds applications as core material for power transformers and distribution transformers. This can be explained as below
- High magnetic permeability leads to low excitation currents and lower inductions.
- Low hysteresis and eddy current losses.
- Excellent lamination factor leads to better and compact designs and hence low material required.
- High knee saturation characteristics.
- Very low level of magnetostriction leads to noise reduction.
- Enhances ease of winding and improves productivity.

## Production of distribution transformer:

- A distribution transformer or service transformer is a transformer that provides the final voltage transformation in the electric power distribution system, stepping down the voltage used in the distribution lines to the level used by the

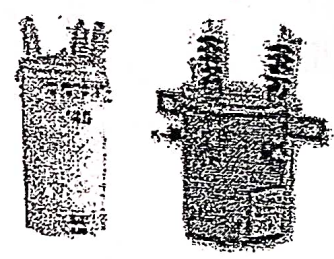


customer. Distribution transformers normally have ratings less than 200 kVA,<sup>[2]</sup> although some standards can allow for units up to 5000 kVA described as distribution transformers. Since distribution transformers are energized for 24 hours a day (even when they don't carry any load), reducing iron losses has an important role in their design. As they usually don't operate at full load, they are designed to have maximum efficiency at lower loads. To have a better efficiency, voltage regulation in these transformers should be kept to a minimum. Hence they are designed to have small leakage reactance.

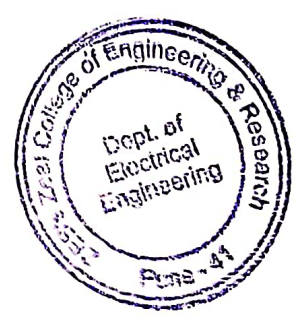
producti

### Distribution Transformers

Single phase pole mounted  
 Power range 5 - 100 kVA  
 Voltage Up to 36 kV  
 Applicable fluid Mineral oil



- > Transformers of this type are generally oil immersed and suitable for pole mounting. They represent an economical option for certain networks, particularly those with low population densities.
- > Depending on customer requirements, transformers may be connected between two phases of three phase system (two HV bushings) or from one phase to ground (single HV bushing).
- > They are suitable for residential overhead distribution loads, as well as light commercial or industrial loads.



## Production of current transformer:



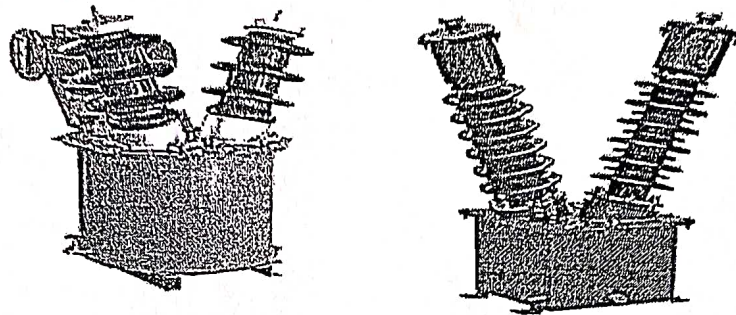
A current transformer (CT) is a type of transformer that is used to reduce or multiply an alternating current (AC). It produces a current in its secondary which is proportional to the current in its primary. Current transformers, along with voltage or potential transformers, are instrument transformers. 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 distribution.

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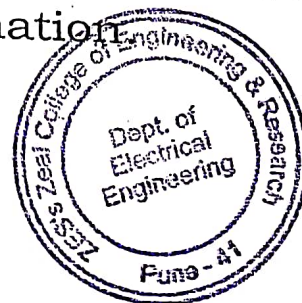
## Production of potential transformer:



Definition – The potential transformer may be defined as an instrument transformer used for the transformation of voltage from a higher value to the lower value. This transformer step down the voltage to a safe limit value which can be easily measured by the ordinary low voltage instrument like a voltmeter, wattmeter and watt-hour meters, etc.

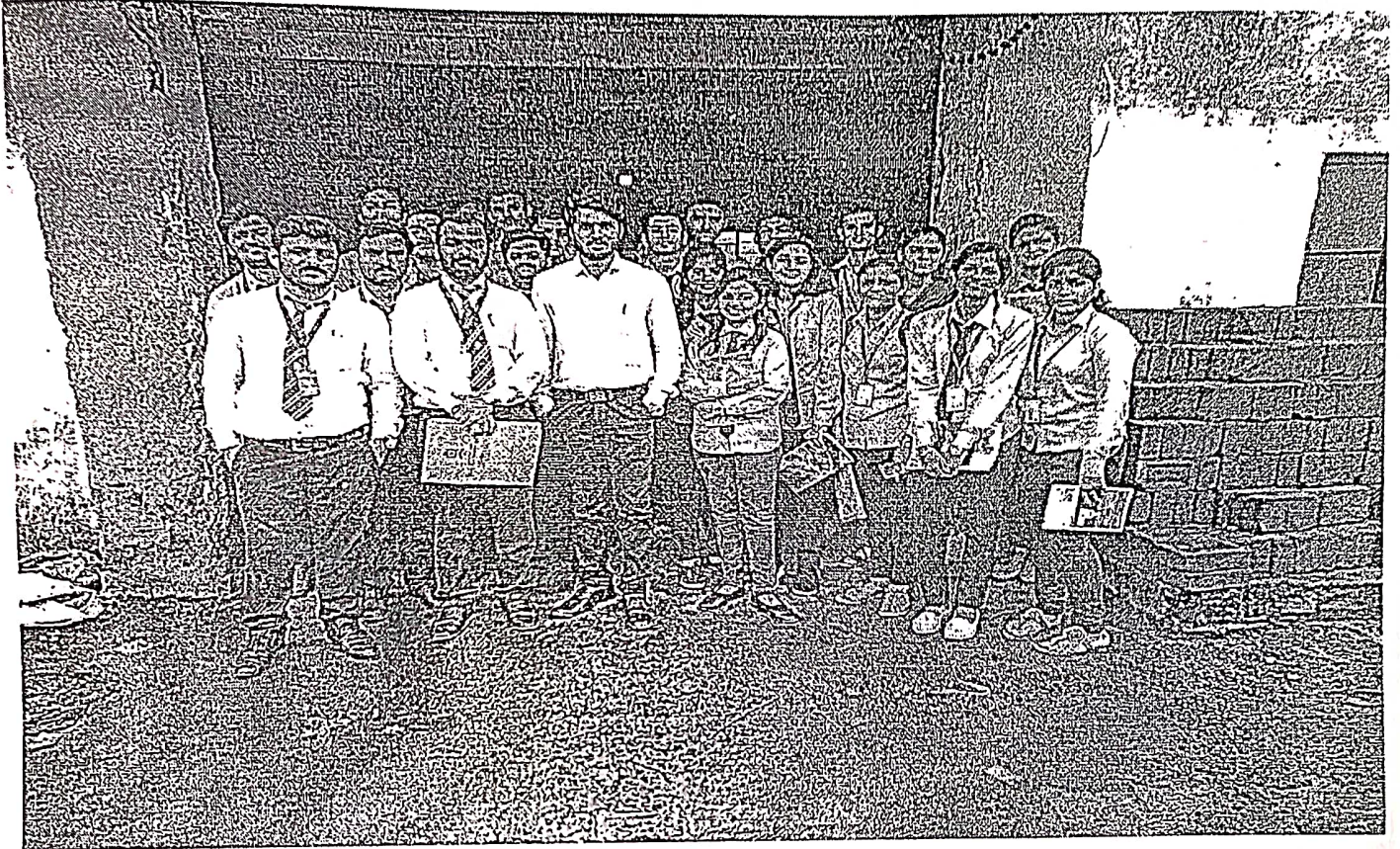
### Outcome of visit:

From this visit we studied the actual process of manufacturing of different types of transformers. As we knew the theory of transformer but while practically visiting we got to know more detailed information about material used for different parts of transformer and about CT, PT and distribution transformer. We studied the CRGO material used for core lamination.



Conclusion:

From this visit we studied detail manufacturing of Transformer.



Subject Teacher

Head of Department

KOD  
Dept. of Electrical Engineering  
ZES's Zeal College  
of Engineering & Research  
Narhe, Pune - 411 001



**ZEAL COLLEGE OF ENGINEERING AND RESEARCH**  
(Formerly Dnyanganga College of Engineering and Research)

(Approved by AICTE, New Delhi, Affiliated to Savitribai Phule Pune University)

S. No. 39, Narhe, PUNE -411 041 | MAHARASHTRA | INDIA

Phone No. 020-6720 6000/104 Tele Fax. 020-6720 6101

E-mail: [zcoer@zealeducation.com](mailto:zcoer@zealeducation.com), [principal.zcoer@zealeducation.com](mailto:principal.zcoer@zealeducation.com),

Website: [www.zcoerpune.org](http://www.zcoerpune.org), [www.zealeducation.com](http://www.zealeducation.com)

**DR. A.M. Kate**  
M.E., Ph.D.  
PRINCIPAL

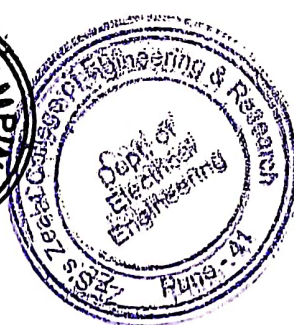
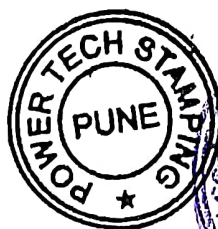
**Hon. S. M. KATKAR**  
B.A. (Hons.), L.L.B.  
FOUNDER DIRECTOR

**Industrial Visit to "Power Tech Stampings", Nanded City, Pune on 09/09/2019**



I undersigned here to declare that any misbehavior or misconduct of mine shall not be related in any case such thing happen I will be responsible for such conduct and I shall obey any punishment given to me in this regard. College will not hold any responsibility of my misbehavior.

**List of Students For Visit (SE Electrical - A Div)**

SN	R. N.	Name of Student	Signature	SN	R. N.	Name of Student	Signature
1	S411001	Bade Aniket Sanjay	AB	18	S411021	Ovhal Rama Dilip	[Signature]
2	S411002	Bhosale Vaibhav D	[Signature]	19	S411022	Patil Karishma Yuvraj	[Signature]
3	S411003	Burele Vrushali Sanjay	[Signature]	20	S411023	Pawar Ameya Arun	AB
4	S411004	Darade Govind Balaji	AB	21	S411026	Reelkar Abhishek S	AB
5	S411005	Disle Hanuman Laxman	AB	22	S411029	Salunkhe Shaileshkumar V	[Signature]
6	S411006	Gherpade Nikhil R	---	23	S411030	Shedage Shweta S	S.S. Shedage
7	S411008	Jadhav Gaurav Shivaji	[Signature]	24	S411031	Shedge Kedar Laxman	AB
8	S411009	Jagdale Prasad Rohidas	---	25	S411032	Shinde Omkar P	[Signature]
9	S411010	Kadam Sujit Hanumant	[Signature]	26	S411034	Shitole Shrutika N	[Signature]
10	S411011	Kadav Viraj Nandkumar	AB	27	S411035	Shivatare Rushikesh A	[Signature]
11	S411012	Kazi Mohoddin Sabab	[Signature]	28	S411036	Temgire Sagar Govind	AB
12	S411013	Khandelwal Karankumar K	[Signature]	29	S411037	Thomse Laxman P	AB
13	S411014	Kondekar Padmaj Nagendra	AB	30	S411038	Tonde Vaibhav S	[Signature]
14	S411016	Madle Supriya Madhav	[Signature]	31	S411039	Vare Sneha Dattatray	S.D. Vare
15	S411018	Mate Digvijay Tanaji	AB	32	S411040	Yadav Amit C	[Signature]
16	S411019	Mayur Nagesh Karale	[Signature]	33	S411041	Pawar Siddhesh P	[Signature]
17	S411020	Mishra Raghvendra A	[Signature]				
18.		Temghare Payal N.	[Signature]	1		Prof. Zende R M	[Signature]
				2		Prof. Kunure B S	[Signature]
						Mr. Keshu. V. T.	[Signature]



[Signature]  
**HOD**  
Dept. of Electrical Engineering  
**ZES's Zeal College**  
of Engineering & Research,  
Narhe, Pune - 411 041

	<b>ZEAL EDUCATION SOCIETY'S ZEAL COLLEGE OF ENGINEERING AND RESEARCH NARHE   PUNE -41   INDIA</b>	
Record No.: ZCOER-ACAD/R/	Revision: 00	Date: 01/04/2021

**Industrial Visit Report**

**Department: Electrical Engineering**

**Academic Year: 2021-22**

**Semester: I**

**Date: 30/08/2021**

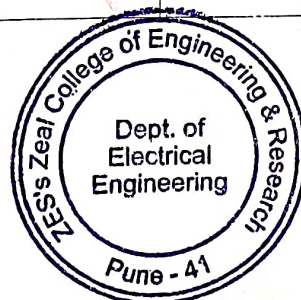
To,  
Principal,  
Zeal College of Engineering and Research, Pune.

**Subject:** Submission of Industrial Visit report for Sem I of Year 2021-22.

Respected Sir,

I am submitting the report of Industrial Visit report conducted on 28/08/2021. The details of visit are as given below.

<b>Name of Industry Visited:</b>	Power Tech Stamping CRGO Core Laminations
<b>Address of Industry Visited:</b>	Opposite to Nanded city, Pune
<b>Date of Industrial Visit:</b>	28-08-2021
<b>Target Participants:</b>	SE Electrical students
<b>Number of Participants:</b>	50 students of SE Electrical + 2 staff Members
<b>Name of Course for which Industrial Visit Organized:</b>	Material Science
<b>Name of Subject Teacher:</b>	Prof. R. M. Zende
<b>Outcome of Industrial Visit:</b>	Students will be able to elaborate various material and their properties which is mainly used in electrical field. Transformer core is most important part in material considerations.





## About Visited Industry:

"Power tech stamping" is small scale core manufacturing company.

Around 16-18 labors works in the company.

The company supplies the core to 17-18 companies in Maharashtra state.

Company has GST & shop Act certification from state government.

## Machinery used in company:

1. Sharing Machine -> To cut the CRGO sheets.
2. Power press -> To make hole on sheet.
3. V notching M/C -> To make hole sheet in v shape.
4. Dimmers -> Check the loss in core.
5. Assembler Kit -> Assemble the core stamping.

Cutting of sheet is done at 45 degrees angle. Three type of cutting sheet plates are used to assemble the hole core.

1. Side plate:



2. Diamond Plate:

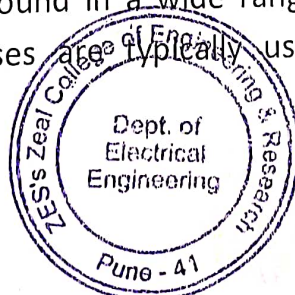


3. V notch plate:

The factory visit thus gave us opportunity to see the various proceeding In company and also gain knowledge regarding the various machines.

## Mechanical presses

Mechanical presses can deliver the highest production speeds, specifically for simple, shallow-formed parts from coils of sheet metal. Mechanical presses are fast and efficient and can be depended upon to produce high volume production runs with consistent results in repeated cycles. Mechanical presses use a motor connected to a flywheel mechanism to transfer and store energy. These presses can be found in a wide range of sizes varying from 20-6,000 tons. Mechanical presses are typically used for progressive and transfer



stamping. Many automotive, appliance and hardware components fall into this category.

### **Deep draw metal stamping presses**

Deep draw metal stamping presses are a type of mechanical press with the addition of a transfer mechanism, commonly referred to as transfer presses. Transfer press stamping is an efficient manufacturing process used to form medium to high volume complex components. Transfer presses shape flat blanks of metal by drawing them into dies under extreme pressure. The metal workpiece is transferred through a series of drawing, re-drawing and other shaping, cutting or embossing stations to arrive at its final shape. In stamping, a single press maneuvers a full setup of tools which typically consist of a series of dies arranged in a production line.

Under the subject Material Science we have studied various material and their properties which is mainly used in electrical field. Transformer core is most important part in material considerations.

There are various losses which take place in transformer core and tend to decrease the system efficiency. So, on the way to minimize these core losses, we have to study various materials & their properties.

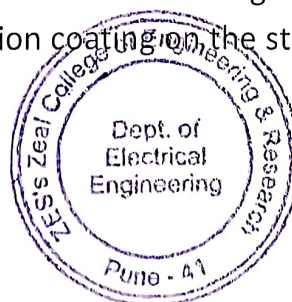
The company "Power tech Stamping" manufactures a transformer core of distribution and power transformer & instrument transformer. For this purpose they use the CRGO material which has very less hysteresis & iron loss hence helps to improve efficiency of transformer.

### **Specifications of CRGO material:**

#### **CRGO: Cold Rolled Grain Oriented Steel**

CRGO is usually supplied by the producing mills in coil form & has to be cut into "laminations" which are then used to form a transformer core, which is an integral part of any transformer.

In CRGO material each type of steel has "grain" which consists of "domains". A Special Carlite insulation coating on the steel being done so as to Reduce the eddy current loss.



CRGO comes in a thickness of 0.23mm,0.27mm,0.30,0.35[generally called M3,M4,M5,M5 & M6] lower the thickness of material better is the quality of the material.

Thickness (mm)	Grade	Core loss (W/kg)
0.23	M3	0.90
0.27	M4	1.12
0.30	M5	1.30
0.35	M6	1.45

The company power tech stamping usages the M3 grade (0.23mm thickness) CRGO material to manufacture the core.

Costing of material purchase for the manufacturing is done on the basis of weight in kg & also for the core.

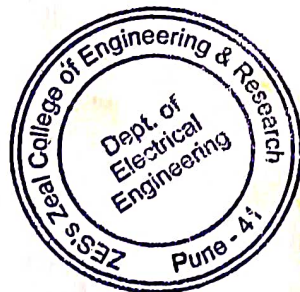
Company imports the CRGO material from Germany & Korea.

Thyssenkrupp Electrical Steel supplies from Germany.

JFE SOZI company supplies CRGO material from Korea.



Mr. Ranjit Zende  
Subject Teacher

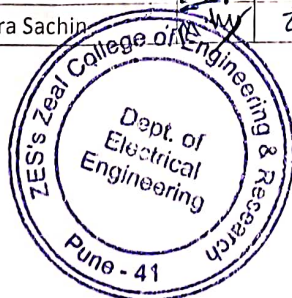


Mr. S. G. Mane  
Head of the Department  
Head of Department  
Department of Electrical Engineering  
Zeal College of Engineering & Research  
Narhe Pune - 41104

## Industrial Visit to Power Tech Stamping, Nanded Phata, Pune on 28/08/2021

I undersigned here to declare that any misbehavior or misconduct of mine shall not be related in any case. such thing happen I will be responsible for such conduct and I shall obey any punishment given to me in this regard. College will not hold any responsibility of my misbehavior.

Sr. No	Roll No.	Name of Student	Sign	Sr. No	Roll No.	Name of Student	Sign
1	S411001	Adap Aditya Anant	<i>Adap</i>	40	S411040	Kulkarni Makarand Pradip	<i>Kulk</i>
2	S411002	Anerao Vaibhav Dnyaneshwar	<i>Dnyaneshwar</i>	41	S411041	Kulkarni Tanaya Nilesh	<i>T. Kulk</i>
3	S411003	Bhandwalkar Vaishnavi Sanjay	<i>Vaish</i>	42	S411042	Kumbhar Tejal Sanjay	<i>Kumb</i>
4	S411004	Bhujbal Shubham Vishnu	<i>Shubh</i>	43	S411043	Lokhande Navtej Sudam	<i>AB</i>
5	S411005	Birajdar Vishnu Maruti	<i>Birajdar</i>	44	S411044	Mahajan Dnyanesh Durgesh	<i>AB</i>
6	S411006	Bodare Suyogh Santosh	<i>Santosh</i>	45	S411045	Mali Suyash Ashok	<i>Suyash</i>
7	S411007	Chavan Ganesh Kailash	<i>Kailash</i>	46	S411046	Manekar Saurav Sahebrao	<i>Saurav</i>
8	S411008	Chavan Rohit Bhimashankar	<i>Bhimashankar</i>	47	S411047	Mendhe Spandan Rajkumar	<i>Spandan</i>
9	S411009	Chitale Rahul Siddharam	<i>Rahul</i>	48	S411048	Muchwad Pramod Vitthalrao	<i>AB</i>
10	S411010	Daund Kiran Sharad	<i>Kiran</i>	49	S411049	Nagargoje Aniket Asaram	<i>Aniket</i>
11	S411011	Dhamane Shubham Bhausaheb	<i>AB</i>	50	S411050	Pardeshi Jatin Jagdish	<i>AB</i>
12	S411012	Dhokte Rohit Ram	<i>Rohit</i>	51	S411051	Patil Shivani Vinod	<i>Shivani</i>
13	S411013	Dhumal Atharv Sanjay	<i>AB</i>	52	S411052	Pawale Vikas Narayan	<i>Vikas</i>
14	S411014	Dighe Aditya Bhimrao	<i>AB</i>	53	S411053	Pawar Rushikesh Rahul	<i>Rushikesh</i>
15	S411015	Doifode Manoj Dilip	<i>AB</i>	54	S411054	Pratiksha	<i>Pratiksha</i>
16	S411016	Dongare Vaibhav Ramchandra	<i>Dongare</i>	55	S411055	Rane Gokul Hemaraj	<i>AB</i>
17	S411017	Dukale Roshan Dynaneshwar	<i>AB</i>	56	S411056	Ranjane Atharva Subhash	<i>Atharva</i>
18	S411018	Farke Rahul Mohan	<i>Rahul</i>	57	S411057	Raut Krushnakant Mahendra	<i>K. Raut</i>
19	S411019	Fugate Sakshi Bhagwat	<i>Sakshi</i>	58	S411058	Sapkal Bhushan Duryodhan	<i>Bhushan</i>
20	S411020	Gadave Yash Pandurang	<i>Yash</i>	59	S411059	Sapre Atharva Moreshwar	<i>AB</i>
21	S411021	Gavhane Suraj Sanjay	<i>AB</i>	60	S411060	Sarve Rishab Gunvanta	<i>AB</i>
22	S411022	Giri Maroti Suresh	<i>AB</i>	61	S411061	Sawant Abhishek Sunil	<i>Abhishek</i>
23	S411023	Indore Rahul Bhaskar	<i>Rahul</i>	62	S411062	Sawant Sakshi Shankar	<i>S. Sawant</i>
24	S411024	Jadhav Nilesh Arun	<i>Nilesh</i>	63	S411063	Shah Faisal	<i>AB</i>
25	S411025	Jetithor Pratik Amol	<i>Pratik</i>	64	S411064	Shinde Akshay Mahadev	<i>Akshay</i>
26	S411026	Kachare Sakshi Hanumant	<i>AB</i>	65	S411065	Shinde Rutuja Santosh	<i>Rutuja</i>
27	S411027	Kadam Akshay Vilas	<i>AB</i>	66	S411066	Shinde Sejal Subhash	<i>AB</i>
28	S411028	Kalingan Nitesh Babu	<i>Nitesh</i>	67	S411067	Suryawanshi Suraj Machindra	<i>Suraj</i>
29	S411029	Kamble Rutuja Sampat	<i>Rutuja</i>	68	S411068	Sutar Akshay Arvind	<i>Akshay</i>
30	S411030	Kamble Vishal Babu	<i>AB</i>	69	S411069	Sutar Prathamesh Avinash	<i>AB</i>
31	S411031	Katkar Aditya Suhas	<i>AB</i>	70	S411070	Tembare Shubham Ankush	<i>Shubham</i>
32	S411032	Kharat Ajay Madhukar	<i>Ajay</i>	71	S411071	Thakare Chandrakant Ravindra	<i>Chandrakant</i>
33	S411033	Kharmale Siddhesh Kundlik	<i>Siddhesh</i>	72	S411072	Thakare Rudrank Sudhir	<i>AB</i>
34	S411034	Kharmale Swaraj Bajrang	<i>AB</i>	73	S411073	Uphade Vikas Rajabhau	<i>Vikas</i>
35	S411035	Khobragade Krutika Manohar	<i>Krutika</i>	74	S411074	Vyavahare Vishal Dattatray	<i>Vishal</i>
36	S411036	Korade Utkarsh Santosh	<i>Utkarsh</i>	75	S411075	Yewle Rohini Navnath	<i>AB</i>
37	S411037	Korde Unmesh Rhishikesh	<i>AB</i>				
38	S411038	Kudale Prathmesh Yuvraj	<i>Prathmesh</i>			Zande R.m	<i>R. Zande</i>
39	S411039	Kulkarni Madhura Sachin	<i>Madhura</i>			Kshirsagar J.A	<i>J. A. Kshirsagar</i>



# Memorandum of Understanding

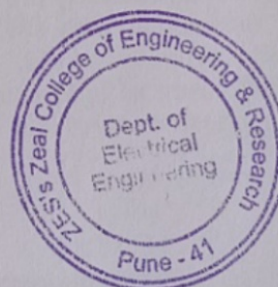
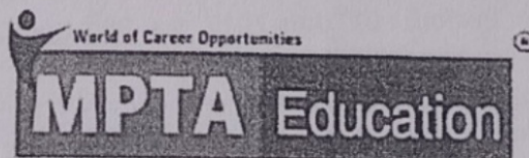
*Between*



**Department of Electrical Engineering**

**Zeal Education Society's**

**Zeal College of Engineering & Research, Pune**

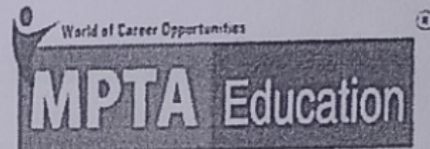




**ZEAL EDUCATION SOCIETY'S  
ZEAL COLLEGE OF ENGINEERING & RESEARCH**

S.No.39, Katraj-Dhayari Road, Off Bangalore Bypass, Narhe, Pune 411 041  
Tel.: 020 67206100 Fax: 020 67206101  
E-mail: [contact@zealeducation.com](mailto:contact@zealeducation.com) Website: [www.zcoerpune.org](http://www.zcoerpune.org)

## Memorandum of Understanding

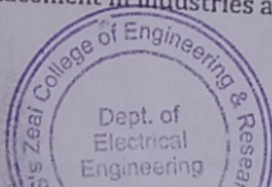


Department of Electrical Engineering  
Zeal Education Society's  
Zeal College of Engineering & Research, Pune

Memorandum of Understanding (MOU) is made on 01-07-2017

Party 1	Party 2
Department of Electrical Engineering Zeal College of Engineering & Research, Narhe Campus, S.No.39, Katraj-Dhayari Road, Off Bangalore Bypass, Narhe, Pune 411 041, Tel.: 020 67206120 Website- <a href="http://www.zcoer.in">www.zcoer.in</a>	MPTA Education Ltd. – Pune 3 <sup>rd</sup> floor, MTE Society's Dhondumama Sathe Homeopathy College, Off Karve Road, Erandwane, Pune 411004, Mobile – 7028071551 Website- <a href="http://www.mpta.in">www.mpta.in</a>
Period: 01 <sup>st</sup> July 2017 to 30 <sup>th</sup> June 2018	

The Party 1 and Party 2 are intended to facilitate the process of close Industry Institute Interaction (I-I-I) and actively promoting fresh avenues for the same. This MoU shall strive to enhance interaction with students, faculty and bridge the gap between Academia, Industry and Corporate World. This will have a positive impact on the engineering curriculum, exposure of industrial atmosphere to engineering students and subsequent placement in industries across the globe.





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E-mail: [contact@zealeducation.com](mailto:contact@zealeducation.com) Website: [www.zcoerpune.org](http://www.zcoerpune.org)

**Party 1 will:**

- Encourage, enhance, and create avenues and environment for greater involvement of faculty and staff with industry for R&D and consultancy.
- Arrange workshops and training programs for Industries to adopt latest technologies.
- Allow to use available sophisticated and costly equipment with terms & conditions.
- Arrange seminar / workshop/ hands on training / skill development program to students and faculty.
- Provide representation for or invite representatives from Industries on Board of Studies, Faculties, Academic Councils, and Governing Body etc.
- Provide testing and certification facilities.

**Party 2 will:**

- Extend help and give constructive suggestions while designing the curriculum.
- Assist faculty while developing skills with specific technology to the students.
- Allow to use available sophisticated and costly equipment to faculty and students with terms & conditions.
- Provide guidance for innovative projects of students.
- Give live projects to students and guide them in professional way.
- Enrich teaching program/technical competitions by giving awards.
- Permit Industrial Visit of students and faculty.
- Provide implant training program to students for 1 week/ 2 weeks/ 4weeks.

During its tenancy, the MoU may be extended or terminated by a prior notice of not less than six months by either party. However, termination of the MoU will not in any manner affect the interests of the students / faculty / scientists who have been admitted to pursue a program under the MoU.

For Party 1

(Authorized signatory)

Name: Dr. Mahadev G. Unde

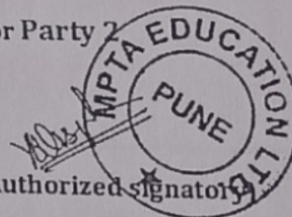
Designation: Professor and HOD

Place: Pune

Date: 01-07-2017

HOD  
Dept. of Electrical Engineering  
ZES's Zeal College  
of Engineering & Research,  
Narhe, Pune - 411 041.

For Party 2



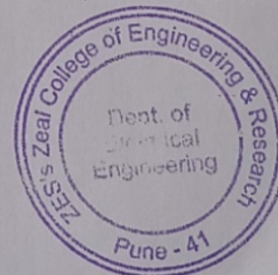
(Authorized signatory)

Name: YOGITA DESHPANDE

Designation: DIRECTOR

Place: Pune

Date: 01-07-2017





# CENTRAL PLACEMENT CELL

In association with



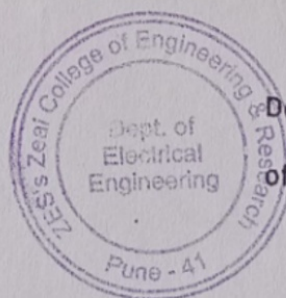
## ZEAL COLLEGE OF ENGINEERING & RESEARCH, PUNE

### MoU Report

Sr. No.	Activity Details	
1	Name of Company (MoU signed with)	MPTA Education Ltd.
2	Company Logo	
3	Name of Activity done under MoU	Workshops on PLC and SCADA for Department of Electrical Engineering
4	Date of Activity	One Year activity in AY 2017-18 for BE and ME Electrical students
5	No. of Student Participated	BE student in AY 2017-18
6	Activity Description	<p><b>PROGRAM DETAILS:</b> Company will conduct Hands-on Training on PLC and SCADA with invitation from the Department of Electrical Engineering with application through HOD</p> <p><b>Duration:</b> From 2017 to 2018</p> <p><b>ELIGIBILITY:</b> All Electrical Engineering Students</p>
7	Name of Personality involved (If Any)	Mr. Jyotindra Nath Choudhary
8	Outcomes of the activity	Benefit for the students as per the university syllabus and use full for students to opt project related to PLC and SCADA
9	Activity Photos	

FLK SLP  
Department MoU Coordinator

[Signature]  
Department HOD



HOD  
Dept. of Electrical Engineering  
ZES's Zeal College  
of Engineering & Research,  
Narhe, Pune - 411 041.





ZEAL EDUCATION SOCIETY'S  
ZEAL COLLEGE OF ENGINEERING AND RESEARCH,  
NARHE | PUNE -41 | INDIA  
DEPARTMENT OF ELECTRICAL ENGINEERING

Proposal & Permission

Date: - 19 - 07 - 2017

To,  
The HOD,  
Department of Electrical Engineering,  
ZES'S ZCOER,  
Narhe, Pune

Subject: - Regarding proposal & permission to sign on MoU with MPTA Education, Pune

Respected Sir,

As a part of Industry Institute Interaction, we have approached MPTA Education, Pune & they are very much positive to sign on MoU with our Institute. We are going to send them a draft of on MoU which contains various objectives like Hands-on Training workshop, internship, industrial visits & sponsored projects to the students, etc. So, we need your permission for the same.

Submitted for your approval.

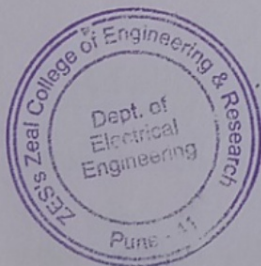
Yours Sincerely,

*K. K. Sandeep*

Prof. K. Kamal Sandeep  
Department T&P Coordinator

*Approved, Proceed*

*[Signature]*  
19/07/2017





ZEAL EDUCATION SOCIETY'S  
ZEAL COLLEGE OF ENGINEERING AND RESEARCH,  
NARHE | PUNE -41 | INDIA  
DEPARTMENT OF ELECTRICAL ENGINEERING

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## NOTICE

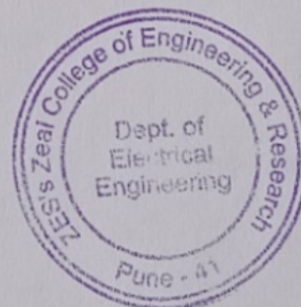
Date: - 11 - 07 - 2017

All the students are hereby informed that, we have successfully signed MoU with MPTA Education, Pune on 01<sup>st</sup> June 2017. Under this MoU, students will get Hands-On Training Workshop, BE & ME projects & Internship etc. Students from the Departments should take the benefit it.

Dept. of Electrical Engineering  
ZES's Zeal College  
of Engineering & Research,  
Narhe, Pune - 411 041.

Dr. M. G. Unde

HOD





ZEAL EDUCATION SOCIETY'S

## ZEAL COLLEGE OF ENGINEERING AND RESEARCH

(Formerly Dnyanganga College of Engineering and Research)

(Approved by AICTE, New Delhi and Affiliated to Savitribai Phule Pune University, Pune)

S. No. 39, Narhe, | PUNE - 411 041 | INDIA . Phone No. 020-6720 6000/104 Tele Fax. 020-6720 6101

E-mail: principal.zcoer@zealeducation.com, Website: www.zcoer.org

Hon. S. M. Katkar  
B.A (Hons), L.L.B.  
FOUNDER DIRECTOR

Dr. A. M. Kate  
M. E., Ph. D (Mech)  
PRINCIPAL

Ref: ZCOER/Admin/Elect/2017-18/10

Date: 31/07/2017

To,  
Mr. Jyotindra Nath Choudhary  
Senior Industrial Automation Faculty,  
MPTA Education LTD.  
Pune

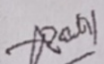
Sub: Invitation for an expert trainer for Hands – on workshop on “Industrial Automation using PLC & SCADA.”

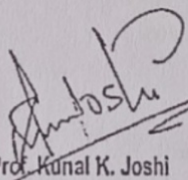
Dear Sir,  
Zeal Education Society's Zeal College of Engineering and Research, Pune (ZCOER) is established in June 2007 which symbolized the beginning of a new era in technical education. The college has been approved by AICTE, New Delhi, and DTE, Mumbai and affiliated to the University of Pune.

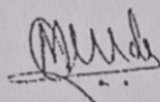
Department of Electrical Engineering is arranging Hands – on workshop on “Industrial Automation using PLC & SCADA” for Final Year students of A Division during 16<sup>th</sup> Aug. – 21<sup>st</sup> Aug. 2017, (Time 09.00am - 04.00pm).

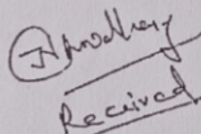
We cordially invite you to share your knowledge with students. Looking forward your acceptance and interaction

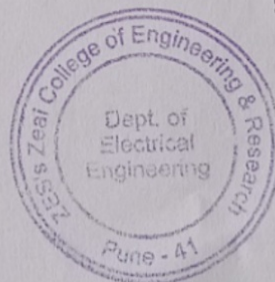
Thanking you,  
With best regards

  
Prof. Anupama S. Patil  
Workshop Coordinator

  
Prof. Kunal K. Joshi  
Workshop Coordinator

  
Dr. M.G. Unde  
HOD  
Dept. of Electrical Engineering  
ZES's Zeal College  
of Engineering & Research,  
Narhe, Pune - 411 041.





ZES's Zeal College of Engineering & Research, Pune-41

Department of Electrical Engineering

Date: 16/08/2017

To  
The Principal,  
ZES ZCOER,  
Pune-41

**Subject: Sanction of budget for PLC-SCADA training program**

Respected Sir,

Electrical Engineering Department has organized Training Program on Industrial Automation Product PLC, SCADA for final year students. This will be 6 days training program conducted by MPTA EDUCATION LTD., Pune. The program is NSDC (Government of India) approved & student will get certificate for participation.

The training will be for first shift during 16/08/2017 to 21/08/2017 & for second shift during 28/08/2017 to 02/09/2017. This training is under MOU signed with MPTA. The lunch, breakfast & tea expenditure of trainers will be borne by the institute.

The tentative budget for 12 days for four trainers will be Rs 4800 ( $100 \times 12 \times 4$ ). Requesting you to sanction the same.

Thanking you,

*[Signature]*  
Prof. Anupama S. Patil/ Kunal K. Joshi

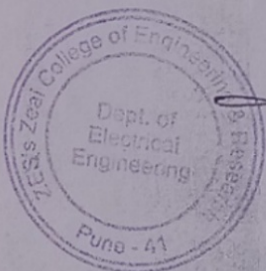
Assistant Professor

Electrical Engineering Department

*Invd to Principal for sanction.*

*[Signature]*

16/08/2017



*Forwarded for approval*  
*Allow 40000/-*  
*[Signature]*  
*16/08/2017.*  
*PLC Training.*  
*4 trainer.*  
*Forwarded to AP Prof.*



ZEAL EDUCATION SOCIETY'S

## ZEAL COLLEGE OF ENGINEERING AND RESEARCH

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S. No. 39, Narhe, | PUNE - 411 041 | INDIA . Phone No. 020-6720 6000/104 Tele Fax. 020-6720 6101

E-mail: principal.zcoer@zealeducation.com, Website: www.zcoer.org

Hon. S. M. Katkar  
B.A. (Hons), L.L.D.  
FOUNDER DIRECTOR

Dr. A. M. Kato  
M.E., Ph. D (Mech.)  
PRINCIPAL

Ref: ZCOER/Admin/Elect/2017-18/10

Date: 31/07/2017

To,  
Mr. Jyotindra Nath Choudhary  
Senior Industrial Automation Faculty,  
MPTA Education LTD.  
Pune

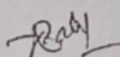
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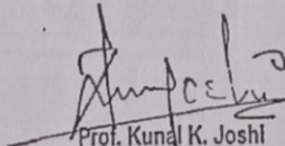
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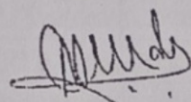
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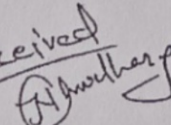
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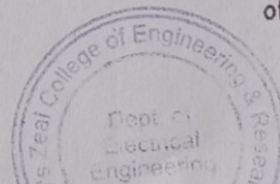
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HOD  
Dept. of Electrical Engineering  
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Narhe, Pune - 411 041.

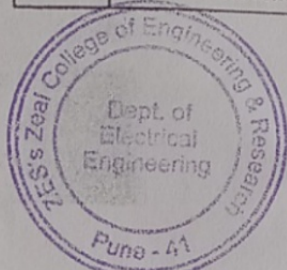
Received  




ZES's Zeal College of Engineering, Narhe, Pune  
 Department of Electrical Engineering  
 B. E. Electrical - A DIV ( SEM-I A.Y. 17-18)

PLC SCADA TRAINING BY MPTA, Pune ( From 16/8/2017 to 21/08/2017 )

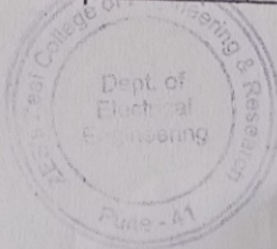
Roll No.	Name of Student	16-8-17		17/8/17		18-8-17	
		Session 1	Session 2	Session 1	Session 2	Session 1	Session 2
B61001	Adsul Kshitij Sopan	Ktj	Ktj	Ktj	Ktj	Ktj	Ktj
B61003	Bharane Nanaso Kalyan	Bharane	Bharane	Bharane	Bharane	Bharane	Bharane
B61004	Bhoskar Mayur	Mayur	Mayur	Mayur	Mayur	Mayur	Mayur
B61005	Birajdar Bhimnna Hulappa	Birajdar	Birajdar	Birajdar	Birajdar	Birajdar	Birajdar
B61006	Chaudhari Swapnil M	Swapnil	Swapnil	Swapnil	Swapnil	Swapnil	Swapnil
B61007	Dalvi Kuluja Vilas	Dalvi	Dalvi	Dalvi	Dalvi	Dalvi	Dalvi
B61008	Dapase Anvesh Nana	Anvesh	Anvesh	Anvesh	Anvesh	Anvesh	Anvesh
B61009	Deokar Sayali Satish	Satish	Satish	Satish	Satish	Satish	Satish
B61010	Dumne Aishwarya Giriram	Aishwarya	Aishwarya	Aishwarya	Aishwarya	Aishwarya	Aishwarya
B61011	Gayakwad Prashik Anil	Prashik	Prashik	Prashik	Prashik	Prashik	Prashik
B61012	Ghadage Prashant	Prashant	Prashant	Prashant	Prashant	Prashant	Prashant
B61013	Glugare Onkar Bajarang	Onkar	Onkar	Onkar	Onkar	Onkar	Onkar
B61014	Gote Sindhaganesh Manmath	Sinhaganesh	Sinhaganesh	Sinhaganesh	Sinhaganesh	Sinhaganesh	Sinhaganesh
B61015	Gund Dhanashree Balasaheb	Dhanashree	Dhanashree	Dhanashree	Dhanashree	Dhanashree	Dhanashree
B61016	Henreo Shubham Avinash	Shubham	Shubham	Shubham	Shubham	Shubham	Shubham
B61017	Hajband Mayur Jagdish	Mayur	Mayur	Mayur	Mayur	Mayur	Mayur
B61018	Jadhav Datt stray Mansing.	Datt	Datt	Datt	Datt	Datt	Datt
B61019	Jadhav Gorakshnath	Gorakshnath	Gorakshnath	Gorakshnath	Gorakshnath	Gorakshnath	Gorakshnath
B61020	Jain Shubham Parasmalji	Shubham	Shubham	Shubham	Shubham	Shubham	Shubham
B61021	Kadam Pratik Dilip	Pratik	Pratik	Pratik	Pratik	Pratik	Pratik
B61022	Kaldante Sumeet P	Sumeet	Sumeet	Sumeet	Sumeet	Sumeet	Sumeet
B61023	Kale Prasad Pamesh	Prasad	Prasad	Prasad	Prasad	Prasad	Prasad
B61024	Kanaskar Mayur H	Mayur	Mayur	Mayur	Mayur	Mayur	Mayur
B61025	Khade Sharad Sampat	Sharad	Sharad	Sharad	Sharad	Sharad	Sharad
B61026	Kumbhar Kiran Shivaji	Kiran	Kiran	Kiran	Kiran	Kiran	Kiran
B61027	Kumthekar Shweta Surendra	Shweta	Shweta	Shweta	Shweta	Shweta	Shweta
B61028	Lad Rohan Dilip	Rohan	Rohan	Rohan	Rohan	Rohan	Rohan
B61030	Mudgade Pavan Sudhir	Pavan	Pavan	Pavan	Pavan	Pavan	Pavan
B61031	Nanaware Monika Balasaheb	Monika	Monika	Monika	Monika	Monika	Monika
B61032	Narkhede Moresh S	Moresh	Moresh	Moresh	Moresh	Moresh	Moresh
B61033	Nawale Pratidnya Kailas	Pratidnya	Pratidnya	Pratidnya	Pratidnya	Pratidnya	Pratidnya
B61034	Panpatte Neha Diliprao	Neha	Neha	Neha	Neha	Neha	Neha
B61037	Patole Kshitija Sunil	Kshitija	Kshitija	Kshitija	Kshitija	Kshitija	Kshitija
B61038	Pawar Sheetal Shivaji	Sheetal	Sheetal	Sheetal	Sheetal	Sheetal	Sheetal



ZES's Zeal College of Engineering, Narhe, Pune  
 Department of Electrical Engineering  
 B. E. Electrical - B DIV ( SEM-I A.Y. 17-18)

PLC SCADA TRAINING BY MPTA, Pune ( From 28/8/2017 to 02/09/2017 )

Roll No.	Name of Student	28/08/17		29/08/17		31/08/17	
		Session 1	Session 2	Session 1	Session 2	Session 1	Session 2
B62001	Balkhande Ajay Vijay	Balkhande	Balkhande	Balkhande	Balkhande	Balkhande	Balkhande
B62002	Bansode Kishori Mukund	Bansode	Bansode	Bansode	Bansode	Bansode	Bansode
B62003	Barkale Sagar Dilip 70			YD			
B62004	Baviskar Dipak Pramod	Baviskar	Baviskar	Baviskar	Baviskar	Baviskar	Baviskar
B62005	Bhalerao Pallavi	Pallavi	Pallavi	Pallavi	Pallavi	Pallavi	Pallavi
B62006	Bhilare Saurabh Dattatray	Bhilare	Bhilare	Bhilare	Bhilare	Bhilare	Bhilare
B62007	Bhoite Sudarshan Sanjay	Bhoite	Bhoite	Bhoite	Bhoite	Bhoite	Bhoite
B62008	Chavan Ajay Sanjay	Chavan	Chavan	Chavan	Chavan	Chavan	Chavan
B62009	Chinke Shubham	Chinke	Chinke	Chinke	Chinke	Chinke	Chinke
B62010	Darekar Prashant Navnath	Darekar	Darekar	Darekar	Darekar	Darekar	Darekar
B62011	Deshmane Ketki Suryakant	Deshmane	Deshmane	Deshmane	Deshmane	Deshmane	Deshmane
B62012	Dombale Pratik Ashok	Dombale	Dombale	Dombale	Dombale	Dombale	Dombale
B62013	Dongare Amol Eknathrao	Dongare	Dongare	Dongare	Dongare	Dongare	Dongare
B62014	Ekal Roshan Krishnat	Ekal	Ekal	Ekal	Ekal	Ekal	Ekal
B62015	Gangnar Govind Vajinath	Gangnar	Gangnar	Gangnar	Gangnar	Gangnar	Gangnar
B62016	Gawande Swati Pralhad	Gawande	Gawande	Gawande	Gawande	Gawande	Gawande
B62017	Goregaonkar Sanket Manoj	Goregaonkar	Goregaonkar	Goregaonkar	Goregaonkar	Goregaonkar	Goregaonkar
B62018	Hattirage Mahesh M 1st Batch						
B62019	Hukkire Prasanna Tatyaso	Hukkire	Hukkire	Hukkire	Hukkire	Hukkire	Hukkire
B62020	Inamdar Imran Gulab	Inamdar	Inamdar	Inamdar	Inamdar	Inamdar	Inamdar
B62021	Ingale Kanchan Ramesh	Ingale	Ingale	Ingale	Ingale	Ingale	Ingale
B62022	Joshi Shirrang Rajendra	Joshi	Joshi	Joshi	Joshi	Joshi	Joshi
B62023	Kadam Prashant Sarjerao	Kadam	Kadam	Kadam	Kadam	Kadam	Kadam
B62024	Kamble Balaji Kundlik	Kamble	Kamble	Kamble	Kamble	Kamble	Kamble
B62025	Kande Prashant Bhagwat	Kande	Kande	Kande	Kande	Kande	Kande
B62026	Kharade Sonali Vitthal	Kharade	Kharade	Kharade	Kharade	Kharade	Kharade
B62027	Khomane Dipak Krushna	Khomane	Khomane	Khomane	Khomane	Khomane	Khomane
B62028	Kolpe Supriya Dinkar	Kolpe	Kolpe	Kolpe	Kolpe	Kolpe	Kolpe
B62029	Kumbhar Sonal Ramdas	Kumbhar	Kumbhar	Kumbhar	Kumbhar	Kumbhar	Kumbhar
B62030	Lokare Sushant Shankar	Lokare	Lokare	Lokare	Lokare	Lokare	Lokare
B62031	Mathe Sanket Ashok 70			YD			
B62032	Mugale Saraswati Jagdish	Mugale	Mugale	Mugale	Mugale	Mugale	Mugale
B62033	Munghate Abhishek Shaurao	Munghate	Munghate	Munghate	Munghate	Munghate	Munghate
B62034	Nangare Aishwarya Arun	Nangare	Nangare	Nangare	Nangare	Nangare	Nangare





ZEAL EDUCATION SOCIETY'S

# ZEAL COLLEGE OF ENGINEERING AND RESEARCH

(Formerly Dnyanganga College of Engineering and Research)

(Approved by AICTE, New Delhi and Affiliated to Savitribai Phule Pune University, Pune)

S. No. 39, Narhe, | PUNE - 411 041 | INDIA . Phone No. 020-6720 6000/104 Tele Fax. 020-6720 6101

E-mail: principal.zcoer@zealeducation.com, Website: www.zcoer.org

Hon. S. M. Katkar  
B.A. (Hons), L.L.B  
FOUNDER DIRECTOR

Dr. A. M. Kate  
M E., Ph D ( Moch )  
PRINCIPAL

Ref: ZCOER/Elect/ 2017-18/18

Date: 02/09/2017

To  
Mr. Jyotindra Nath Choudhary,  
Senior Industrial Automation Faculty,  
MPTA Education LTD.  
Pune

Subject: Letter of Appreciation for an Expert Trainer.

Dear Sir,

On behalf of Department of Electrical Engineering of *ZES's Zeal College of Engineering & Research Narhe, Pune* we would like to extend our heartfelt thanks for accepting our invitation as an expert trainer & conduction of Hands – on workshop on “Industrial Automation using PLC & SCADA” during 16<sup>th</sup> Aug. 17 to 21<sup>st</sup> Aug.17 and 28<sup>th</sup> Aug. 17 to 02<sup>nd</sup> Sept.17. For Final Year Students, we are grateful for sparing your valuable time and experience with our students.

Hope you will continue your excellence & support in future too.

Thank you once again.

Dr. M.G. Unde

HOD

Dept. of Electrical Engineering  
ZES's Zeal College  
of Engineering & Research,  
Narhe, Pune - 411 041.