



# ELECTRICAL ENGINEERING DEPARTMENT

Dr. S. & S. S. Ghandhy College of Engg.& Tech.

Majura gate, Surat-395001

ADMITTANCE TERM-231

FROM THE DESK OF HEAD  
OF DEPARTMENT



Dear All,

It gives me immense pride and pleasure to lead the Electrical Engineering Department of this esteemed & prestigious institution. Electrical engineering is the front runner because of its recent recognition and adoption by all industries and academia, there by gaining self-confidence of our students to complete successfully with all competitive disciplines.

Apart from the regular curriculum the department strives to develop the student into intellectual prodigy. The department conduct various program under the department association such as workshop, technical visit, guest lectures and seminar by experts from industry and academic background for constant knowledge up-gradation of staff and students. These activities help to know the latest technologies in the field of electrical Engineering.

J.S.DOSHI

**Be a front runner in  
Electrical Engineering  
field by shaping young  
minds into technically  
sound diploma  
engineers through  
sustainable  
development, who will  
foster the society and  
industry**



**To achieve the vision, department will**

M1: To educate young brain & transform it into professionally competent diploma engineer.

M2: To facilitate proper environment and infrastructure to develop abilities to enhance employability.

M3: To impart exposure to industry through industrial visits, workshops and expert lectures to bridge the gap between industry and institute.

M4: To cater proper human resource for society by educational and interaction-based programs.

**The Program Educational Objectives (PEOs) of the Electrical Engineering Department are given below:**

**PEO 1**

Manage own electrical engineering enterprise.

**PEO 2**

Develop proficiency in maintaining various electrical equipment.

**PEO 3**

Adapt the changing technologies to solve the electrical engineering problem for societal needs.



MR. JAYESH DOSHI (H.O.D)



MR.C. D. SHUKLA



MISS.K. N. PATEL



MR.J.M. PATEL



MR.S.U. DALWANI



MR.B.R. TANDEL



MR.G.D. GABANI



MISS.V.V. RUPAWALA



MR.V.S.CHELUMALLA



MISS.K.H.PATEL



MISS.P.R. GOSWAMI



MISS.R.R.PATEL



MISS.V.R.PATEL



MRS.T.H. PATEL



MISS.U.M. PATEL



MR.D.J. PRASAD



MR.N.S. SINHA



Dr.S.K.PATEL



MR.P,V,MISTRY



MR.J.R.CHAVDA



# Know our Department



Electrical Engineering Department established in 1958, is one of the pioneering departments of Dr. S. & S. S. Ghandhy College of Engineering and Technology, Surat. Institute is running under Department of Technical Education, Government of Gujarat. Diploma Electrical engineering program is approved by All India council for technical education (AICTE), New Delhi and is affiliated to Gujarat Technological University, Ahmadabad.

Electrical Engineering is a branch of engineering which deals with Generation, Transmission Distribution and Utilization of Electrical Energy. The students of Electrical Engineering department are imparted knowledge of operation, repairing and maintenance of various Electrical equipments and machinery, various Electrical and Electronics control systems, Electrification of buildings and complexes, Electrical Energy conservation and Electrical safety. The department has well established laboratories with basic as well as modern electrical machinery and experimental setups which enable with students to gain knowledge and develop technical skills. The department has well qualified faculty members engaged in teaching learning process with the aim of achieving excellence in the field of Electrical engineering.

## EXPERT LECTURE DELIVERED

SR. NO.	EXPERT NAME	DATE	TOPIC	VENUE
1	Mr.Chirag Patel (AHA Solar Technologies Ltd)	01/09/2023	Future scope of solar energy	SSGP,Campus/ Seminar Room
2	Mr.Hemant Kansara	05/09/2023	Know yourself	Seminar Room
3	Mr.Darshan Marjadi	14/09/2023	Positive Attitude	Seminar Room
4	Mr. Gaurav akhecha	16/09/2023	Goal Setting	Seminar Room
5	Mr.Hemant Kansara	01/09/2023	Team Building	IT-111
6	Dr. Piyesh J Chauhan	16/09/2023	Four Quadrant Operation of DC-AC Converter	IT-111
7	Mr.Hemant Kansara	26/09/2023	Assertive Communication	Seminar Room
8	Mr.Shabbir Ghadiali	06/12/2023	Opportunities In Electrical Engineering	Seminar Room

Industrial expert session was taken by Mr. Chirag T Patel from AHA solar technologies ltd. on “Future Scope of Solar Energy “ in which 74 students of 3rdsemhad participate. He shared his expertise on “Future Scope of Solar Energy” and student visit solar rath in college campus.



Expert session was taken by Mr. Hemant Kansara on “Know yourself “in which 44 students of 5<sup>th</sup> sem had participate. He shared his expertise on “Know yourself” with students.



Expert session was taken by Dr. Darshan Marjadi Associate Professor, SCET on "Positive Attitude " in which 72 students of 5<sup>th</sup> sem and 3<sup>rd</sup> sem had participate. He shared his expertise on "Positive Attitude" with students and guide them about their attitude regarding situation.



Expert session was taken by Mr. Gaurav Rakhecha on "Goal Setting "in which 63 students of 5<sup>th</sup> sem had participate. He shared his expertise on "Goal Setting" with students.



Expert session was taken by Mr. Hemant Kansara on "Team Building " in which 55 students of 5<sup>th</sup> sem had participate. He shared his expertise on "Team Building" with students.



Expert session was taken by Dr. Priyesh J Chauhan on "Four Quadrant Operation of DC-AC Converter " in which 55 students of 5<sup>th</sup> sem had participate. He shared his expertise on "Operation of DC-AC Converter" with students.



Expert session was taken by Mr. Hemant Kansara on "Assertive Communication " in which 26 students of 5<sup>th</sup> sem had participate. He shared his expertise on "Assertive Communication" with students.



# INDUSTRIAL VISIT

## KAKRAPAR ATOMIC POWER STATION

Industrial visit was organized on 09/12/2023 for the 49 students of 3<sup>th</sup> semester of Electrical Engineering Department at KAKRAPAR ATOMIC POWER STATION, where electricity is generated. Our main purpose for this visit is to make the students familiar with industrial environment and to get practical knowledge of electric power generation and aware about the atomic energy and learn how the atomic reactor is work and power plant is work.





# 07 | STUDENTS PARTICIPATION DETAILS



## STUDENT ACHIEVEMENT

Student photo during receiving award/certificate	Student photo during receiving award/certificate
Student name	Student name

## PARTICIPATION DETAILS

SR. NO.	STUDENT NAME	DATE	TYPE OF ACTIVITY	REMARKS
<b>DEPARTMENT NAME</b>				
1.	Mihir Parekh	14,15,16/09/2023	Gyan Gumbaj national technical fest	Won 1 <sup>st</sup> rank Project competition
2.	Vatsal Virani	14,15,16/09/2023	Gyan Gumbaj national technical fest	Won 1 <sup>st</sup> rank Project competition
3.	BHAVYA JOSHI	28-Jun-23	Winner at GSTA State Ranking Tennis Tournament	Won 1 <sup>st</sup> rank
4.	BHAVYA JOSHI	15-Aug-23	Winner at GSTA State Ranking Tennis Tournament	Won 1 <sup>st</sup> rank
5.	BHAVYA JOSHI	12-Sep-23	Winner at GSTA State Ranking Tennis Tournament	Won 1 <sup>st</sup> rank
6.	BHAVYA JOSHI	28-Nov-23	Winner at GSTA State Ranking Tennis Tournament	Won 1 <sup>st</sup> rank





## 06 | FACULTY PARTICIPATION DETAILS

### TRAINING DETAILS

SR. NO.	FACULTY NAME	DATE	TRAINING NAME	ORGANIZER
1.	Mr. J.S.Doshi	18-Dec-2023 To 23-Dec-2023	Need of Industry 4.0: Upskilling And Reskilling for Enhancing Employability and Enterpreneursip	GEC, Surat
2.	Mr. J.M.Patel	24-Jul-23	Green Technologies for Sustainable Development	NITTTR, Bhopal
3.	Mr. B.R.Tandel	24-Jul-23	NABL Standred Process and Practice	NITTTR, Bhopal
4.	Mr. B.R.Tandel	24-Jul-23	Power System Protection (MOOC)	NPTEL
5.	Ms.V.V.Rupawala	17-Jul-23	Developing Entreprenurship & Vocational skill	NITTTR, Bhopal
6.	Ms. P. R. Goswami	24-Jul-23	Power System Protection (MOOC)	NPTEL
7.	Ms. U.M.Patel	24-Jul-23	Power System Protection (MOOC)	NPTEL
8.	Mr. D.J.Prasad	24-Jul-23	Power System Protection (MOOC)	NPTEL
9.	Mr. N.S.Sinha	24-Jul-23	curriculum design for holistic and multidisciplinary education	NITTTR, Bhopal
10.	Mr. N.S.Sinha	24-Jul-23	Power System Protection (MOOC)	NPTEL
11.	Mr. V.S.Chelumalla	10-Jul-23	Management of change and innovation	NPTEL
12.	Mr. V.S.Chelumalla	24-Jul-23	Power System Protection (MOOC)	NPTEL
13.	Mrs. K.H.Patel	24-Jul-23	Power System Protection (MOOC)	NPTEL
14.	Dr. S.K.Patel	24-Jul-23	Power System Protection (MOOC)	NPTEL
15.	Mr. P.V.Mistry	24-Jul-23	Power System Protection (MOOC)	NPTEL



# TRAINING & PLACEMENT CELL

## COMPANIES VISITED FOR PLACEMENT

COMPANY NAME	DATE OF INTERVIEW (DD/MM/YY)	NO. OF STUDENTS PARTICIPANTS
Birla Copper, Dahej	6-4-2023	45
AM/NS	20-1-2023	40
SRF, DAHEJ	15-2-2023	39
MEINHARDT	21-3-2023	20
RELIANCE INDUSTRIES LTD, JAMNAGAR	25-1-2023	40
L & T ENERGY,	21-9-2023	40
CEAT TYRE	24-05-2023	30
ERDA	29-05-2023	30





# Extra-Curricular Activity Of Students

## MERI MATI MERA DESH

"Meri Maati Mera Desh" envisions a unified celebration of India's soil and valour, commemorating the nation's journey of freedom and progress. By connecting with the land and honoring our heroes, this program will instill a sense of national pride and inspire future generations to protect India's cherished heritage. There are 25 students participate in this celebration.



## CYBER SECURITY AWARENESS

Internet security awareness or Cyber security awareness refers to how much end-users know about the cyber security threats their networks face, the risks they introduce and mitigating security best practices to guide their behaviour, there are 200 students participate in this celebration.





## SAVE WILDLIFE

Wildlife conservation refers to the practice of protecting wild species and their habitats in order to maintain healthy wildlife species or populations and to restore, protect or enhance natural ecosystems. Major threats to wildlife include habitat destruction, degradation, fragmentation, overexploitation, poaching, pollution, climate change, and the illegal wildlife trade, there are 260 students participate in this



## SWACHHTA ABHIYAN





# Tech वधनम 23

## CIRCUIT DEBUGGING

### Introduction of the Event

Circuit marks the prior category in the entire electrical world. So the knowledge in designing the circuit is necessary. While designing the circuit, there may be presence of error. So every electrical engineer must have a skill to debug the error in the circuit and also to design circuit. Here is a chance to prove your skills.

Name	Designation	Event Designation
U.M.PATEL	LECTURER	Faculty Coordinator
DR.S.K.PATEL	LECTURER	Faculty Coordinator
V.R.PATEL	LECTURER	Team Member
P.V.MISTRY	LECTURER	Team Member
RAHUL BAMROTIYA		Student Coordinator

**DR. S. & S. S. GHANDHY COLLEGE OF ENGINEERING & TECHNOLOGY, SURAT**

**DEPARTMENT OF ELECTRICAL ENGINEERING**

### CIRCUIT DEBUGGING

**Rules:**

- ❖ Solo or Team of two member
- ❖ There will be total three rounds.
- ❖ Diagram will be given.
- ❖ Completion of task within time limit.
- ❖ Components and materials will be provided.
- ❖ Limited entries are allowed.

**Win Prices**

For registration

Faculty Co-ordinator: U. M. Patel and S. K. Patel  
Student Co-ordinator: Rahul Bamrotiya (9724218803)  
Preet Chaudhari (9265249727)

**Date: 20<sup>th</sup> October, 2023**

**Venue: I.T. Department (Room No. 106&110)**

**Registration Fees: Rs. 50**

For more information





# EVENT DESCRIPTION



## EVENT STRUCTURE

1ST ROUND –Elimination Round (20th OCT-2023)

20 QUESTIONS will be given.

Event duration: 20 minutes

Multiple choice questions (only technical based)

2nd ROUND- Circuit Design

Event duration: 30 minutes

Design circuit as per the given circuit diagram

If any damage to the given equipment has been made, then that team will be disqualified at a time.

Time taken to completion of circuit will be note down

3rd ROUND- Circuit Debugging

Event duration: 45 minutes

The circuit debug should be debugged and details are given.

Selected students find fault & write in the answer sheet

Round will be time based

Winner will be declared on 21st Oct-2023

## GENERAL RULES:

1. It is both solo event & team event (team -02 group member allowed)
2. Participate must bring their college identity card.
3. All the participate are required to be present at the venue. Before starting of event
4. Mobile will not be allowed.
5. Components and materials will be provided.
6. At the begging of event MCQ test covering basic of electronics circuit, digital circuit, analog circuits.
7. Based on marks score in elimination round, selected teams will move toward the next round is circuit design & circuit debugging.





# Tech વધનમ 23

## INNOTECH PROJECT EXPO

1. Introduction of the Event: Innotech project Expo is the event in which students demonstrates their working project developed by them which will be used for prototyping of product, modification in existing products or general awareness of technical principles.

2. Jury Guests Associated with the Event:

- 1) Dr. Dilip R. Patel ,President, ICA- surat
- 2) Dr. Puranand V. Bhale, Asso. Proffessor, Department of mechanical engg. ,SVNIT surat
- 3) Mr. Janak J. Patel , Partner , National Infotech , Surat

3. Coordinated by/Organized by: Electrical department

**DR. S. & S. S. GHANDHY COLLEGE OF ENGINEERING & TECHNOLOGY, SURAT**

**tech વધનમ 23**

**INNOTECH PROJECTS EXPO**

**DT. 20-21 OCTOBER 2023**

**INSTRUCTIONS**

1. Open to all branches.
2. It should be in working condition.
3. Does not represent any model.
4. Maximum members in group is restricted to 5.
5. Students should carry valid Id Card duly signed with them.
6. Every participant should follow Tech Vardhanam Rules.
7. Jury's decision would be considered as final.
8. Any damage or transportation cost not to be borne by Tech Vardhanam Committee.

**VENUE**

1. Electrical Machine laboratory (Room No. E-05)
2. Electronics Laboratory (Room No. E-06)
3. Mechanical Bariya Hall

**SCAN ME!**  
Scan this code to get yourself registered

**LAST DATE** 10/10/2023

**Event coordinator**  
Mr. J.M. Patel (Lecturer in electrical engineering)

**Student coordinators**  
Mihir Parekh - 8735070973 | Chauhan Shiv -7962880262



Name	Designation	Event Designation
Mr. Jasmin M. Patel	LEE	Faculty Coordinator
Ku. Priyanka R. Goswami	LEE	Team Member
Mrs. Vrutika R. Patel	LEE	Team Member
Mrs. Tejal H. Patel	LEE	Team Member
Mr. Pratik V. Mistry	LEE	Team Member
Mr. Mandar Joshi	LMET	Team Member
Mr. Vishal Miyani	LME	Team Member
Mr. D. P. Navadiya	LCE	Team Member
Mr. J. G. Kedariya	LAE	Team Member
Mr. Mihir parekh		Student coordinator



# EVENT DESCRIPTION

Sr. No.	Name of the Winner	College Name, Place	Branch Name	Rank (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> )
1	Christie Faith Denish Shah Tirth Nirav Bhai	Dr. S. & S. S. Ghandhy College of Engineering & Technology, Surat	Automation & robotics	1
2	Savaliya Relish Dinesh Ghelani Anshu .Patel Vedant	University Of New Haven	Automobile	2
3	Patel Pragat M	Dr. S. & S. S. Ghandhy College of Engineering & Technology, Surat	IT	3



## Challenges Faced

Our major challenge for this event was to prepare infrastructure for demonstration of different project whose requirement varies from different types of supply to the high end majoring equipment



# ENERGY CONSERVATION PROGRAM

Students of electrical engineering department of our institute has organized two days energy conservation program in four different school in Surats.

Our department students had conveyed message to all students who are studying in primary & higher secondary school how to conservation of energy by using different types of technology in different way.

They convey their ideas in following ways:

➤ **INTRODUCED MEANING OF ENERGY CONSERVATION.**

Energy conservation is the practice of using energy resources more efficiently to reduce waste and lower energy consumption. It involves taking steps to minimize energy use while achieving the same or better results, leading to reduced environmental impact and cost savings.

➤ **WHY CONSERVE ENERGY?**

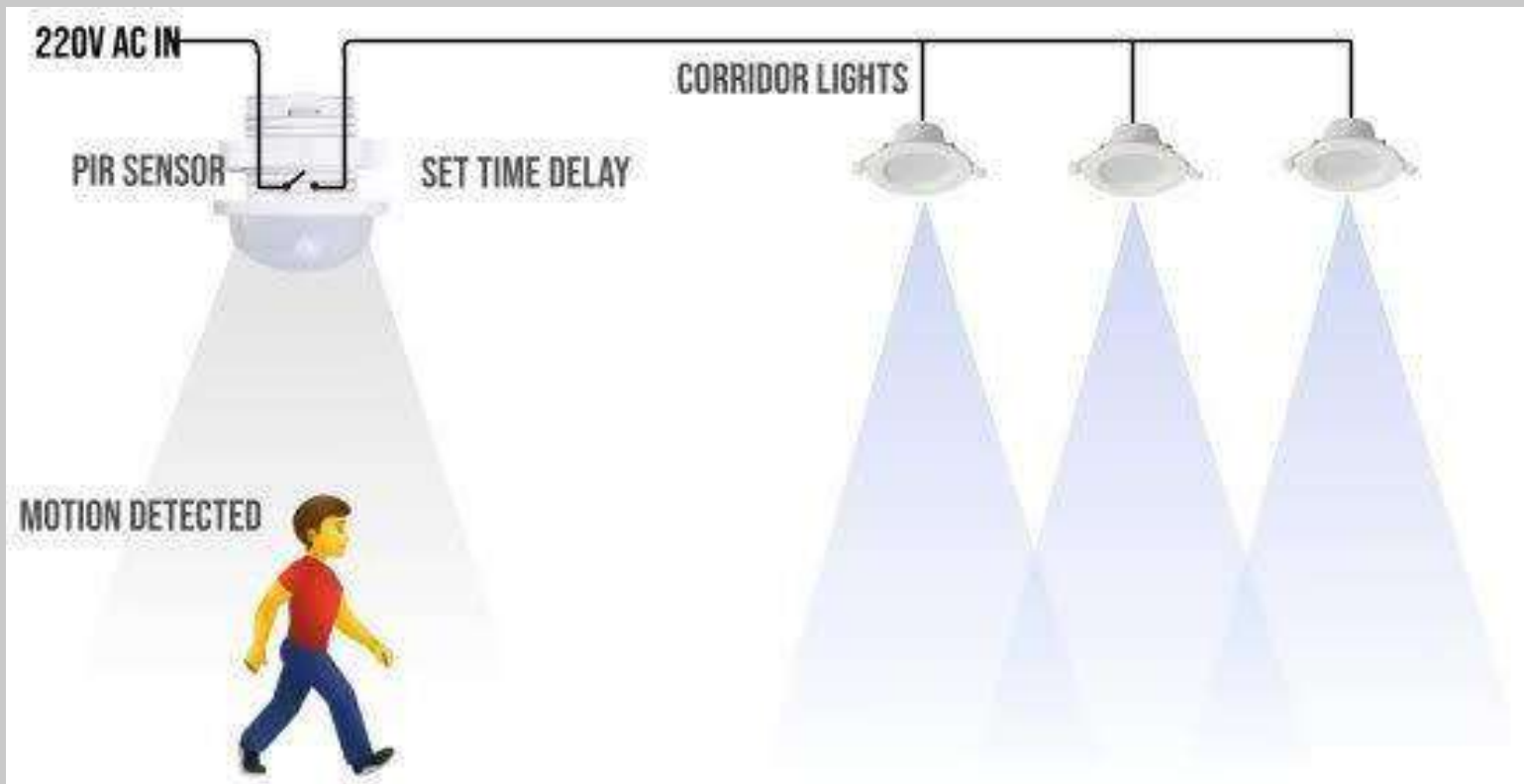
Conserving energy is essential to save money, reduce environmental impact, and ensure a sustainable energy future. It involves using less energy while maintaining the same level of comfort and productivity

➤ **HOW TO CONSERVATION OF ENERGY IN DAILY LIFE**

Use energy efficient light bulbs. Turn off switches when it is not in use.

➤ **ALSO INTRODUCE MOTION SENSOR DEVICE?**

A motion sensor is a device that can detect physical movement or motion in its surroundings. It is commonly used in various applications, such as security systems, lighting control, and automation, to trigger actions or responses when motion is detected within its range. motion sensors work through various technologies, including infrared, ultrasonic, and microwave, to detect changes in the environment and provide input for automated systems





➤ **GUIDE 5-STAR RATING HOME APPLIANCES**



➤ **DIFFERENTIATE NONINVERTING AND INVERTING AC –**

Non-inverter AC and inverter AC are two different types of air conditioning systems, and they differ in how they regulate the compressor and manage cooling.

➤ **INTRODUCED SUSTAINABLE BUILDING, SOLAR ENERGY DATA IN DETAIL.**

Sustainable buildings prioritize energy conservation by using design and materials that reduce energy consumption, enhance efficiency, and minimize environmental impact.

**STUDENT DETAIL WHO ARE REPRESENTED OUR DEPARTMENT:**

SEMESTER	ENROLLMENT NUMBER	STUDENT NAME
3 <sup>RD</sup>	226120309115	Prasad Abhishek
3 <sup>RD</sup>	226120309114	Patil Vaibhav
3 <sup>RD</sup>	226120309125	Salvi Ugamichandra
3 <sup>RD</sup>	226120309120	Rana Karan
3 <sup>RD</sup>	226120309144	Tiwari Tejaswi
3 <sup>RD</sup>	226120309124	Sahani Sundar
3 <sup>RD</sup>	226120309106	Patil Tirth



**SCHOOL DETAIL**

No	DATE	SCHOOL NAME	NO OF STUDENT
01	06-11-2023	Gyandeep Vidhayalaya Amroli	84
02	07-11-2023	Sunflower English Medium School	64
03	07-11-2023	Gyanodaya Vidhya Mandir	39
04	07-11-2023	Sarswati Hindi U.M.Shala	60



# ELECTRICAL BRIGHT STARS

## 5th Semester Top 10 Student Term-231

Sr. No.	Enrolment No.	Student Name	SPI
1	216120309023	KHALASI PIYUSH UTTAMBHAI	9.58
2	216120309045	MEHTA KHUSHI RINAV	9.58
3	216120309036	PATEL HIMAYU ASHOKBHAI	9.53
4	216120309011	KATHAKIYA PALAK VASHRAMBHAI	9.42
5	216120309018	MALI PARTH SHATRUGHNA	9.42
6	216120309026	BOKDE UDAY MOTIRAM	9.42
7	216120309076	MALEK JUNED SHABBIR	9.26
8	216120309085	SRIRAM VIVEK VENKATESHWARLU	9.26
9	216120309054	BHANDARI KUSHALKUMAR MEHULBHAI	9.21
10	216120309093	CHAUDHARI PRIT RAHUL	9.21
11	216120309039	PATEL RISHI HITESHBHAI	9.11



# Induction Program 2023

## Introduction:

The goal of engineering education is to train engineering graduates well in branch of admission, have a holistic personality and must have desire to serve society and nation.

Considering the various social backgrounds and whether a student comes from the urban or rural areas they differ in many of the life skills and their abilities and thinking. Their branch of admission may be due to rush; their interest in subject is question. They are facing the issues like hostel and settlements, pressures from Parents and many related issues. To overcome such issues, it is necessary to create an environment for students so that they feel comfortable, find their interest and explore their inner beings, create bonding with other students, establish relation with teachers, work for excellence, get a broader view of life and practice human values to build characters. The Induction Program covers the various activities which enables them to overcome all such issues and motivates them to perform well in their chosen branch of admission.

## **1. Initial Phase (First Day)**

As per GTU guidelines, Induction Program was conducted on 18<sup>th</sup> July 2023. All the new entrants were guided by the faculty members at different entry points, to find their respective departments and classrooms.

The class coordinator of department escorted the students to seminar halls on 18 July 2023, for orientation program. Miss Vrutika Patel and Jatin chavda sir welcome the newly admitted students, give overview of the Institute, and introduce all the faculty members of Electrical department and General department faculties. She invited our head of the department to address new students



Sr No	Phase and Activities Heads	Weightage	Hours
1.	<b>Initial Phase</b>	<b>1 day (6 Hrs.)</b>	<b>6</b>
2	<b>Regular Phase</b>	<b>10 Days</b>	<b>60</b>
a)	Physical activity	14 Hours	14
b)	Creative Arts & Culture	10 Hours	10
c)	Mentoring & Universal Human Values	8 Hours	8
d)	Literary Activity	6 Hours	6
e)	Proficiency Modules	6 Hours	6
f)	Lectures & Workshop by Eminent People	3 Hours: 3 Expert Lectures, One per Week	3
g)	Visits to local Areas or Industry	1 Day	10
h)	Co & Extra-curricular Activities in the institute	3 Hours	3
3	<b>Closing Phase (Feedback &amp; Report)</b>	<b>1 Day (6 Hrs)</b>	<b>6</b>
<b>Total</b>		<b>72 Hours/ 12 Days</b>	<b>72</b>

### **1. Regular phase**

The Regular Phase consists of 10 days and all the 8 different activity modules were covered. The objectives, proposed activities and guidelines for each module are provided here with. Additional relevant activities may be used by the Institute in addition to the proposed activities for each phase.

According to syllabus described following topics were include Physical activity Creative Arts & Culture Mentoring & Universal Human Values, Literary Activity Proficiency Modules Lectures & Workshop by Eminent People Visits to local Areas or Industry Visits to local Areas or Industry. All these topic were cover by our faculties respectively according to time table.

They became aware about the science and techniques of Yoga, Pranayama and Meditation. They also learnt importance of teamwork, critical thinking, warm-up exercises, improving focus and sports. They got inspired with the Fitness mantras of eminent personalities of the society and shared their own experiences about healthy routine and physical activity. Further all the faculties of Creative arts conducted different activities like painting, crafting, singing, dancing, acting, etc. to provide a chance to the students to showcase their inner talent. So all the session were very impactful.

Faculty Members explained Justice – Preservation leads to Fearlessness and Co-existence Ensuring justice in relationship, or mutual fulfilment in relationship on the basis of values like Trust, Respect, etc leads to fearlessness in society, while Suraksha of nature – via enrichment, protection and right utilization leads to co-existence in nature.



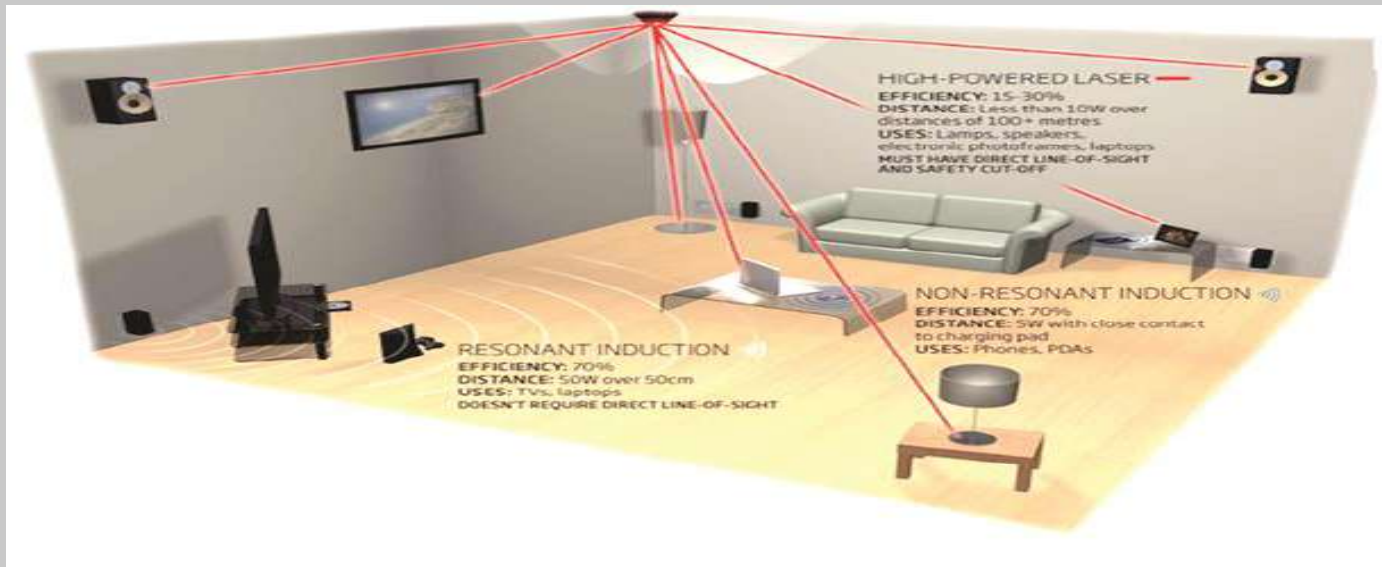
The Faculties further helped them to get more knowledge about the importance of English in engineering. They even understood the meaning of LSRW Skills and knew about the importance of English Language at the time of placements. The students gave very interesting insights about the topic.

Mrs. Sweet Madam explained the eighteen important lessons from Bhagavad Gita, which has philosophies that can help students fight issues like anxiety and self-doubt in student life. While Bhagavad Gita is more inclined towards the debate between free-will and predestination, some of the teachings in the book can be expounded as very useful for student life. She explained the importance of Bhagavad Gita and Gayatri Mantra with practical examples to the students. He interacted with the students extensively with discussions on goal and vision of their carrier, how to excel in carrier, and what attitude one should develop to get success etc. These are some glimpses of madam's lecture, which was a gem of a lecture of our induction program as she was 75 years old as she explained all the real life stories and importance of Gayatri Mantra in life.



# Innovation in Electrical

## WIRELESS POWER TRANSFER



Did you ever worry about forgetting to pack your charger when getting ready to leave on a trip? Or maybe you did forget it. This trend in electrical engineering eliminates any need for concern or inconvenience. Though still in its early stages of development and production, wireless power transfer is a promising innovation for the future of electronics.

In short, wireless power transfer (WPT), also known as wireless energy transfer, is the transmission of electrical energy from a power source to a receiver without the use of interconnecting wires. WPT systems use time-varying electromagnetic fields for energy transmission. These systems ride along the same fields and waves as wireless communication devices. Essentially, a receiver in a device picks up the power, which allows for contactless charging, powering, and data communication. Electric vehicle charging docks, security software, and heart pumps have all been discussed as potential use cases for wireless power transfer. In short, wireless power transfer has transformed or will transform several aspects of our lives.

- **Smart Homes:** Wireless power transfer can be used to power a range of smart home devices such as lighting, climate control, security systems, and more.
- **Automotive:** WPT can enable contactless charging of electric vehicles, providing a more efficient and convenient way of powering them up.
- **Industrial:** WPT can be used to power industrial machinery and equipment, reducing the need for wires and cables and increasing safety.
- **Wearables:** WPT could be used to power and charge wearables such as fitness trackers, smartwatches, and medical devices.
- **Remote Areas:** WPT can be used to provide energy in remote areas where it is difficult to connect to the grid.

Electrical Engineering Department

Dr. S. & S.S Ghandhy College of Engineering and Technology, Majura Gate, Surat

Institute E mail: [ssgp-surat-dte@gujarat.gov.in](mailto:ssgp-surat-dte@gujarat.gov.in)

Contact No. 0261-2655799

Department E-mail: [electssg@gmail.com](mailto:electssg@gmail.com)