

# EEE MAGAZINE

Power is Knowledge...Knowledge is Power.

## VISION

To be a best institution imparting quality engineering education to deal with community needs through learning and performance

## MISSION

- ❖ To implement path breaking students centric education methods
- ❖ To augment talent, nurture team work to transform to develop individual as responsible citizen
- ❖ To educate the students and faculties about entrepreneurship to meet vibrant requirements of the society
- ❖ To strengthen industry -institute interaction for knowledge sharing

## Statement Of PEO's

Graduate Engineers will be able to:

PEO 1:Apply scientific, Mathematics and Engineering fundamentals gained to comprehend,analyse,design and create products and solutions for real life problems

PEO2:Contribute to industrial services and government organisations by applying their skills gained through formal education.

PEO3:Work on emerging technologies with professional communities,higher education ever developing careers to strengthen human values and social responsibilities to contribute towards society.

PEO4:Adopt professional and ethical attitude for effectively resolving societal problems through multidisciplinary approach

## Contents

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## Editorial Team:

Associate Professor: Prof.Rekha SN

Assistant Professors:

Prof.Shivaraj A

Prof.Preetha NP

Student Coordinator:

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Anusha R:1SG19EE006

M V Harshitha:1SG20EE015

Vishwanath M V:1SG20EE037

## **Chairman: Sri G. Dayanand**

The "EEE MAGAZINE" is providing great space for the faculty and students to pen down their innovative ideas, imagination and perceptions to show case their creativity. So, I take the opportunity to congratulate the department of EEE and its editorial team to successful release of this issue. I am sure that students and faculty will find the content of this edition very interesting and educating.



## **Executive Director: Sri G. D Manoj**

I am indeed happy to know that the department of EEE has taken initiative in realizing its "EEE MAGAZINE" and urge faculties and students to make use of the platform to share and educate among themselves in publishing article pertaining to the emerging domain and articles of interesting. I congratulate the team of editorial community and department of EEE



## **Principal's Message- Dr. H Ramakrishna**

It gives me immense pleasure to note that, SCE has been publishing bi- annual newsletter and I am sure, this will provide an opportunity for the faculty and students to share their knowledge and beacon the information about various issues and activities that are being taking place in the department. I look forward for more activities and achievements for the department to march towards excellence in the future. I would like to thank all teaching, supporting staff and our beloved students for their active participation in publishing this magazine. My special compliments and congratulation to the editorial team of the department for their consistent effort in publishing this newsletter.





## HOD's MESSAGE: Dr. Narayanappa

It gives me great pleasure to congratulate students, teachers and staff of electrical and electronics department for the publication of newsletter. Newsletter is believed to be a focus of the inside activities i.e. academics, students and faculty achievement as well as innovation occurring in the department.



In the era of engineering and technology this newsletter will motivate the teachers and students of sharing their creativity and new ideas with the world and will help in their overall development. I wish best of luck for all the team members for publication of newsletter.

## PAPER PUBLICATION

Name of the Teacher (s)	Title of Paper	Publication citation	Month and year	Vol/Issue	Remarks
Mrs. Swetha G	“A Hybrid Anti-Islanding Protection Scheme for VSM Based DG Inverter”	International Journal of Research	7/1/2022	Volume XI, Issue VII	ISSN NO:2236-6124
Mrs. Swetha G	“Implementation of advanced 3 in 1 smart meter using GSM module”.	river publishers series International Congress on Renewable Energy	2/1/2022		
Mrs. Swetha G	“Power Quality Improvement of Distribution Network Reconfiguration Using Dynamic Rule Soft Switching Optimization Method”.		(11/03/2022)		:2022410112 42 A

***“If four things are followed – having a great aim, acquiring knowledge, hard work, and perseverance – then anything can be achieved.”***

***— Dr. A.P.J. Abdul Kalam***

Mrs. Ramya M	“Power Quality Improvement of Distribution Network Reconfiguration Using Dynamic Rule Soft Switching Optimization Method”.		(11/03/2022)		:202241011242A
Mrs. Swetha G	“An Integrated Adaptor Device With Selective Power Distribution And Charge Characteristics Information Retrieval System”.		(18/07/2022)		202241038249A

## FACULTY PARTICIPATION

1. **Dr. Narayanappa** Professor and Head from Dept. of EEE attended 3-days Faculty development program on “Innovative Tools / Techniques to Improve Quality of Teaching-Learning” organized by Sapthagiri College of Engineering, Institution’s Innovation Council (IIC) Bangalore from 7th April, 2022 to 9th April, 2022.
2. **Dr. Raghavendra G** Associate professor from Dept. Of EEE attended 3-days Faculty development program on “Innovative Tools / Techniques to Improve Quality of Teaching-Learning” organized by Sapthagiri College of Engineering, Institution’s Innovation Council (IIC) Bangalore from 7th April, 2022 to 9th April, 2022.
3. **Dr. Raghavendra G** Associate professor from Dept. of EEE attended 5-day Faculty development program on the theme " e-Governance Initiatives " from 18-04-2022 to 22-04-2022 at Bangalore Institute of Technology, Bangalore in association with e-Governance, Govt. of Karnataka & GTTC, Bangalore.
4. **Dr. Rekha S N** Associate professor from Dept.of EEE attended 3-days Faculty development program on “Innovative Tools / Techniques to Improve Quality of Teaching-Learning” organized by Sapthagiri College of Engineering, Institution’s Innovation Council (IIC) Bangalore from 7th April, 2022 to 9th April, 2022.
5. **Dr. Rekha S N** Associate professor from Dept.of EEE attended 5-days AICTE Training and Learning (ATAL) online Faculty development program on “Recent Trends of Control Systems in Power Electronics Converter” organized by National Institute of Technology Manipur from 3rd January, 2022 to 7th January, 2022.

6. **Dr. Rekha S N** Associate professor from Dept.of EEE attended 7-days program “Impact Lecture Sessions” organized by Sapthagiri College of Engineering, Institution’s Innovation Council (IIC) Bangalore from 22<sup>nd</sup> July, 2022 to 28th July, 2022.

7. **Mr. A Dhamodaran** Assistant professor from Dept.of EEE attended 5-days AICTE Training and Learning (ATAL) online Faculty development program “Electric Vehicles-The Future of Mobility” organized by Rajarambapu Institute of Technology, Sakharale from 3rd January, 2022 to 7th January, 2022.

8. **Mr. A Dhamodaran** Assistant professor from Dept.of EEE attended 3-days Faculty development program on “Innovative Tools / Techniques to Improve Quality of Teaching-Learning” organized by Sapthagiri College of Engineering, Institution’s Innovation Council (IIC) Bangalore from 7th April, 2022 to 9th April, 2022.

9. **Mr. A Dhamodaran** Assistant professor from Dept. of EEE attended 5-day Faculty development program on the theme " e-Governance Initiatives " from 18-04-2022 to 22-04-2022 at Bangalore Institute of Technology, Bangalore in association with e-Governance, Govt. of Karnataka & GTTC, Bangalore.

10. **Mr. A Dhamodaran** Assistant professor from Dept.of EEE attended 7-days program “Impact Lecture Sessions” organized by Sapthagiri College of Engineering, Institution’s Innovation Council (IIC) Bangalore from 22<sup>nd</sup> July, 2022 to 28th July, 2022.

11. **Mrs. Ramya M** Assistant professor from Dept.of EEE attended 5-days AICTE Training and Learning (ATAL) online Faculty development program on “Recent Trends of Control Systems in Power Electronics Converter” organized by National Institute of Technology Manipur from 3rd January, 2022 to 7th January, 2022.

12. **Mrs. Ramya M** Assistant professor from Dept.of EEE attended 3-days Faculty development program on “Innovative Tools / Techniques to Improve Quality of Teaching-Learning” organized by Sapthagiri College of Engineering, Institution’s Innovation Council (IIC) Bangalore from 7th April, 2022 to 9th April, 2022.

13. **Mrs. Swetha G** Assistant professor from Dept.of EEE attended 3-days Faculty development program on “Innovative Tools / Techniques to Improve Quality of Teaching-Learning” organized by Sapthagiri College of Engineering, Institution’s Innovation Council (IIC) Bangalore from 7th April, 2022 to 9th April, 2022.



14. **Mrs. Swetha G** Assistant professor from Dept.of EEE attended 7-days program “Impact Lecture Sessions” organized by Sapthagiri College of Engineering, Institution’s Innovation Council (IIC) Bangalore from 22<sup>nd</sup> July, 2022 to 28th July, 2022.

15. **Mrs. Swetha G** Assistant professor from Dept.of EEE attended 7-days Faculty development program on “Learning Basic Level of Arduino” organized by Yeshwantrao Chavan College of Engineering, Nagpur from 7th July, 2022 to 13<sup>th</sup> July, 2022.

16. **Mr. Muralikrishna K** Assistant professor from Dept.of EEE attended 5-days AICTE Training and Learning (ATAL) online Faculty development program on “Recent Trends of Control Systems in Power Electronics Converter” organized by National Institute of Technology Manipur from 3rd January, 2022 to 7th January, 2022.

17. **Mr. Muralikrishna K** Assistant professor from Dept.of EEE attended 3-days Faculty development program on “Innovative Tools / Techniques to Improve Quality of Teaching-Learning” organized by Sapthagiri College of Engineering, Institution’s Innovation Council (IIC) Bangalore from 7th April, 2022 to 9th April, 2022.

18. **Mrs. Preetha NP** Assistant professor from Dept.of EEE attended 7-days program “Impact Lecture Sessions” organized by Sapthagiri College of Engineering, Institution’s Innovation Council (IIC) Bangalore from 22<sup>nd</sup> July, 2022 to 28th July, 2022.

19. **Mrs. Preetha NP** Assistant professor from Dept.of EEE attended 3-days Faculty development program on “Innovative Tools / Techniques to Improve Quality of Teaching-Learning” organized by Sapthagiri College of Engineering, Institution’s Innovation Council (IIC) Bangalore from 7th April, 2022 to 9th April, 2022.

20. **Mr. Shivaraj A** Assistant professor from Dept.of EEE attended 3-days Faculty development program on “Innovative Tools / Techniques to Improve Quality of Teaching-Learning” organized by Sapthagiri College of Engineering, Institution’s Innovation Council (IIC) Bangalore from 7th April, 2022 to 9th April, 2022.

21. **Mr. Shivaraj A** Assistant professor from Dept.of EEE attended 8 weeks Faculty development program on “Digital Protection of Power Systems” organized by NPTEL-AICTE IIT Madras from January to March, 2022.

**“Never get discouraged if you fail. Learn from it. Keep trying. Learn with both your head and hands. Not everything of value in life comes from books- experience the world.”**

---- Thomas Alwa Edison

22. **Mr. Akshay Kumar D** Assistant professor from Dept.of EEE attended 3-days Faculty development program on “Innovative Tools / Techniques to Improve Quality of Teaching-Learning” organized by Sapthagiri College of Engineering, Institution’s Innovation Council (IIC) Bangalore from 7th April, 2022 to 9th April, 2022.
23. **Mr. Yousuf Madar** Assistant professor from Dept.of EEE attended 3-days Faculty development program on “Innovative Tools / Techniques to Improve Quality of Teaching-Learning” organized by Sapthagiri College of Engineering, Institution’s Innovation Council (IIC) Bangalore from 7th April, 2022 to 9th April, 2022.
24. **Mr. Yousuf Madar** Assistant professor from Dept.of EEE attended 7-days program “Impact Lecture Sessions” organized by Sapthagiri College of Engineering, Institution’s Innovation Council (IIC) Bangalore from 22<sup>nd</sup> July, 2022 to 28th July, 2022.
25. **Mr.Nagaraj BS** Assistant professor from Dept.of EEE attended 3-days Faculty development program on “Innovative Tools / Techniques to Improve Quality of Teaching-Learning” organized by Sapthagiri College of Engineering, Institution’s Innovation Council (IIC) Bangalore from 7th April, 2022 to 9th April, 2022.
26. **Mrs. Sumangala S Jambli** Assistant professor from Dept.of EEE attended 3-days Faculty development program on “Innovative Tools / Techniques to Improve Quality of Teaching-Learning” organized by Sapthagiri College of Engineering, Institution’s Innovation Council (IIC) Bangalore from 7th April, 2022 to 9th April, 2022.
27. **Mr. Bharath BN** Assistant professor from Dept.of EEE attended 3-days Faculty development program on “Innovative Tools / Techniques to Improve Quality of Teaching-Learning” organized by Sapthagiri College of Engineering, Institution’s Innovation Council (IIC) Bangalore from 7th April, 2022 to 9th April, 2022.
28. **Mr. Nagaraj B S** Assistant professor from Dept.of EEE attended 7-days program “Impact Lecture Sessions” organized by Sapthagiri College of Engineering, Institution’s Innovation Council (IIC) Bangalore from 22<sup>nd</sup> July, 2022 to 28th July, 2022.
29. **Mrs. Sumangala S Jambli** Assistant professor from Dept.of EEE attended 7-days program “Impact Lecture Sessions” organized by Sapthagiri College of Engineering, Institution’s Innovation Council (IIC) Bangalore from 22<sup>nd</sup> July, 2022 to 28th July, 2022.



# EVENTS CONDUCTED

## Technical Talk ON “Solar Electric Vehicles”

A technical talk on “Solar Electric Vehicles” was organized on 03/01/2022 for 5<sup>th</sup> semester students of EEE, ECE and ME in Seminar hall of SCE, Bengaluru. Mr. Bharath N B, Treasurer, Solar Electric Vehicle Championship and CEO, Incite Minds, Coimbatore was the speaker. He explained about the importance of Solar Electric Vehicle as future mobility and created awareness among the students about it. He also emphasized about various types of electric vehicles on road and their advantages and disadvantages. In addition, the design concepts of the solar electric vehicles and battery system, are also explained. Mr. Bharath, described about the Solar Electric Vehicle Championship-2022 (National level) to be held in Coimbatore and shown the glimpses of previous year competition.





## “ MINI PROJECTS EXHIBITION”

Students of 3<sup>rd</sup> and 5<sup>th</sup> semester students have carried out mini project as co-curriculum activity **VIDYUTH SPOORTHY** . Total no of projects by 3<sup>rd</sup> semester students are 12 and total no of projects by 5<sup>th</sup> semester students were 23. The Mini projects were exhibited on 12-03-2022. Dr A M NAGARAJ, Professor, Dept. of ECE, Sapthagiri college of engineering was the guest for mini project exhibition.



## Technical Talk ON “CAREER OPPORTUNITIES FOR ENGINEERS IN PUBLIC SECTOR UNDERTAKINGS WITH A SPECIAL FOCUS ON OIL & GAS INDUSTRY”

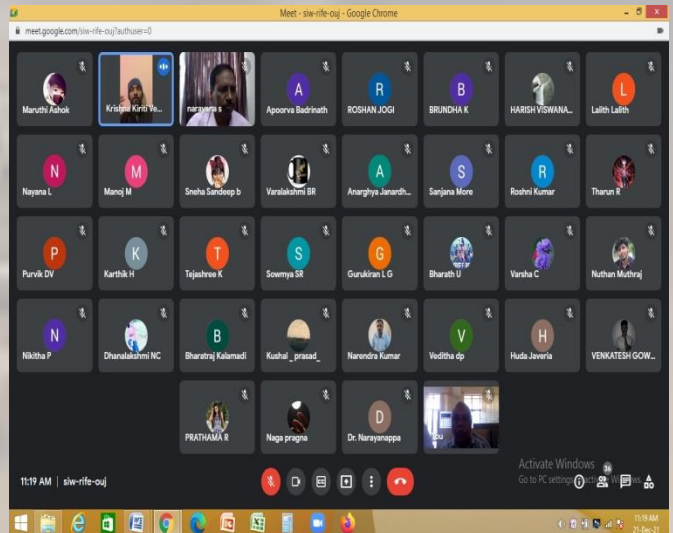
A technical talk on “Career Opportunities for Engineers in Public Sector Undertakings with a Special Focus on Oil & Gas Industry” was organized on 14/03/2022 for First and Third semester students of EEE in Room No. ALH 406, Dept. of EEE, SCE, Bengaluru. The talk was organized to create awareness among the students about various core career opportunities and to provide the basic information about PSU.





## CAREER GUIDANCE TALK ON “Successful Career Planning, Higher Education & Technical Profile Building”

Career Guidance talk “Successful Career Planning, Higher Education & Technical Profile Building” was organized on 01/06/2022 for 6<sup>th</sup> semester students of EEE, Room no.406, Academic block, Sapthagiri College of Engineering of SCE, Bengaluru. Ms. Anna Mary, CareerLabEdtech Bengaluru was the speaker. He explained about the importance of Successful Career Planning, Higher Education & Technical Profile Building as future mobility and created awareness among the students about it. He also emphasized about Higher Education and their advantages and disadvantages. In addition, Successful Career Planning are also explained.



## Mini Projects Exhibition

Students of 6<sup>th</sup> semester students have carried out mini project as a part of curriculum. Total no of projects of 6<sup>th</sup> semester students were 24. The Mini projects were exhibited on 12-07-2022 labeled as VidyuthSpoorthy. Dr.Ramakrishnappa, Principal Sapthagiri college of engineering was guest for mini project exhibition.





## WORKSHOP ON “Online workshop on IPR”

The program started by welcoming the guest. Principal addressed the students and explained regarding government schemes and IPR. The Session started at 10:00am by Dr. Piyush Kumar Pareek, Prof and Head IPR Cell, Nitte Meenaksi Institute of Technology, Bangalore. The session was very interactive and students asked many queries regarding IPR and other issues.



### Student Toppers: III Sem, Vth Sem, VIIth Sem

Sl.No.	Name	USN	SGPA
1.	CHETHANA N	1SG20EE005	79.3
2.	USHA R	1SG20EE033	77.7
3.	M V HARSHITHA	1SG20EE015	75.6

Sl.No.	Name	USN	PERCENTAGE
1.	BHOOMIKA N	1SG19EE001	86.89
2.	LIKHITHA H D	1SG19EE004	85.44
3.	ANUSHA R	1SG19EE010	85.22

Sl.No.	Name	USN	PERCENTAGE
1.	ANSHU	1SG18EE007	86.6
2.	SINDHU N	1SG18EE007	86.6
3.	UJJWAL PG	1SG18EE089	84.9

# Students' Participation:

Name Of Student	Events	Certified By	Year
PUNITH KUMAR MN	INTRODUCTION TO INDUSTRY 4.0	NPTEL	2021-22
BHOOMIKA	KARGIL VIJAY DIWAS	SAPTHAGIRI COLLEGE OF ENGINEERING	2021-22
CHETHANA N	SMART WRITE	SAPTHAGIRI COLLEGE OF ENGINEERING	2021-22
SIRALI SINGH	TECH TALK	SAPTHAGIRI COLLEGE OF ENGINEERING	2021-22
GANAVI L	SMART WRITE	SAPTHAGIRI COLLEGE OF ENGINEERING	2021-22
UMAR HUSSAIN	SMART WRITE	SAPTHAGIRI COLLEGE OF ENGINEERING	2021-22
PRAJWAL A	SMART WRITE	SAPTHAGIRI COLLEGE OF ENGINEERING	2021-22
RAJESHWARI C H	ENTERPRENEURS HP QUIZ	MY GOV	2021-22
PRAGATHI N R	C BASIC	LEARN TUBE	2021-22
M V HARSHITHA	C OPERATOR	LEARN TUBE	2021-22
VISHWANATH GOWDA M V	C BASIC	LEARN TUBE	2021-22
HARSHITH M K	SMART WRITE	SAPTHAGIRI COLLEGE OF ENGINEERING	2021-22
GAGAN M N	SMART WRITE	SAPTHAGIRI COLLEGE OF ENGINEERING	2021-22



## Students' Placement:

Name Of Student Placed	Enrolment Number	Name Of The Employer
PRANJAL LAHARI	1SG15EE063	Pigeon Education Technology
ABHIJEET PRASAD	1SG18EE001	TCS/HEXAWARE TECHNOLOGIES
AKSHATA G	1SG18EE002	PENTAGON SPACE
AKSHAY DEVADATT N C	1SG18EE003	QSG / CAPGEMINI
AMRUTHA	1SG18EE005	CAPGEMINI
ANSHU	1SG18EE007	WIPRO
ANUPRIYA S	1SG18EE008	MPHASIS
ANUSHA H	1SG18EE009	CAPGEMINI
ARJUN R	1SG18EE010	MPHASIS
ASHUTHOSH SINGH	1SG18EE011	TCS
BALASURYA S	1SG18EE013	HARMAN
BALAJI A	1SG18EE014	WIPRO
BHARATH J	1SG18EE016	WIPRO
BHUMIKA S KUMAR	1SG18EE017	TCS / CRMIT
CHAITRA	1SG18EE018	CAPGEMINI

# Students Art and Photography



Photography by BHAVANA C 1SG20EE401,Vth sem



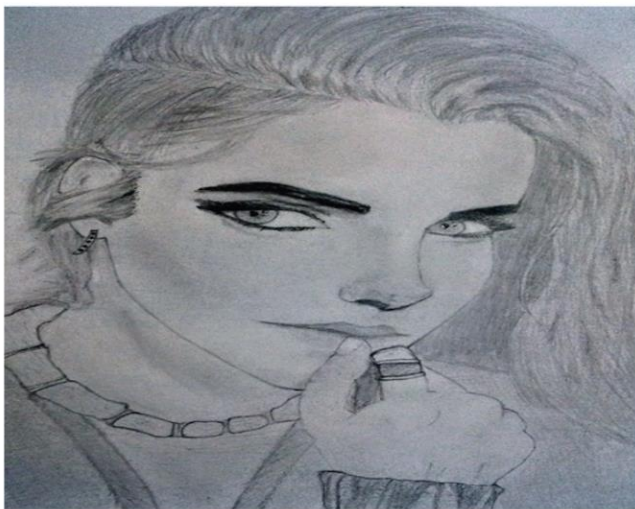
Painting by Usha R 1SG20EE033,IIIrd sem



Pencil sketch by Gagan S 1SG20EE009,IIIrd sem



Painting by Sindhu N 1SG18EE077,VIIth sem



Pencil sketch by Jayashree BG 1SG20EE013,IIIrd sem

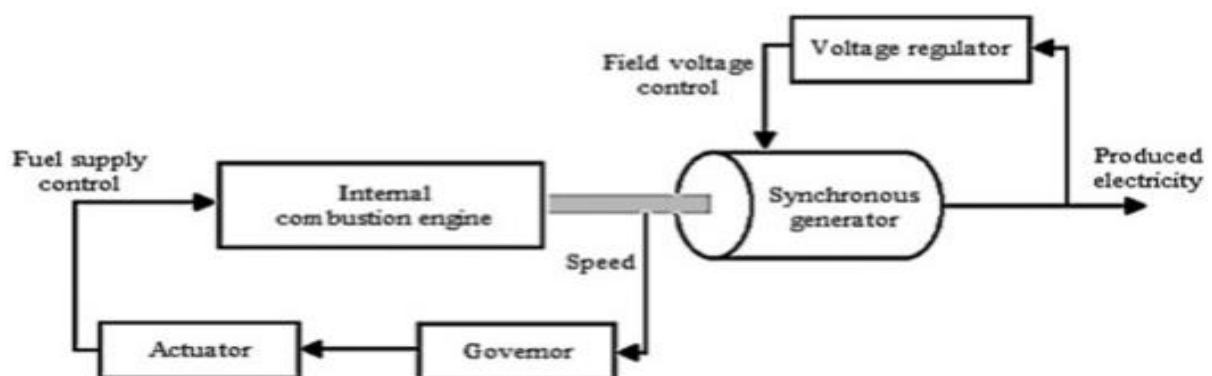


Painting by Anusha R 1SG19EE006,Vth sem



# TECHNICLE ARTICLE: Diesel generator





A diesel generator utilizes a [diesel engine](#) and electric generator to generate electrical energy. Liquid fuels or natural gas are usually used as the primary fuel of the diesel generator. Totally, a diesel generator works based on air compression and the fuel. First, the air is blown into the generator until it is compressed. Subsequently, the proper fuel of diesel generator is injected. The combination of air compression and subsequent injection of the fuel will contribute to generate the heat that triggers the inflammation of the fuel. In this way the diesel generator starts combustion and causes the generator to start up. Thus the generator starts to produce the necessary electrical energy to be distributed according to the needs of the MG (loads) connected to the diesel generator. The diesel generator can produce electrical energy according to the demand of the MG. The output power of a diesel generator can be changed based on the load variation of the MG. The diesel generator has the ability to simultaneously inject both active and reactive powers. Hence, in the mathematical equations of the system, the diesel generator is considered as a PQ bus that injects both active and reactive power into the system. Fig. 3.5 demonstrates the detail of the active and reactive power of a bus of the MG in the presence of a diesel generator. In this chapter the power factor of the diesel generator is considered equal to 0.85. DGs are commonly installed in rural areas for electricity supply. The broad availability of the components in the market and the simple installation are the main reasons for their wide application. However, there are several impediments to the further installation of DGs in rural areas. Dependency on diesel fuel is a significant challenge. Diesel is not available in all countries. Furthermore, the cost of fuel is not constant and changes in the market. The most significant barrier is environmental emissions resulting from fuel consumption. Therefore the installation of DGs for residential electrification of rural areas is decreasing rapidly. Diesel generators (DGs) can also be an option to supply power in the mini-grid approach to meet the demand of rural areas, especially because the capital investment of such generators is lower compared to other energy technologies. We have also explored the electrification option with a DG in the village for the purpose of cost comparison. A brushless, three-phase, 400 V DG with power factor of 0.8 with revolving field and directly coupled was used for the cost analysis. A generator of minimum 15 kW is needed to meet the local household lighting and other appliance demands, plus the other end uses in the village.



# TECHNICLE ARTICLE:Electric vehicle charging station

The transition to electric mobility is a promising global strategy for decarbonizing the transport sector. India is among a handful of countries that support the global EV30@30 campaign, which targets to have at least 30% new vehicle sales be electric by 2030. An accessible and robust network of electric vehicle (EV) charging infrastructure is an essential pre-requisite to achieving this ambitious transition. The Government of India has instituted various enabling policies to promote the development of the charging infrastructure network. However, given the novel characteristics of this new infrastructure type, there is a need to customize it to the unique Indian transport ecosystem and build capacity among stakeholders to support its on-ground expansion. A contextual approach is needed to ensure the efficient and timely implementation of EV charging infrastructure, such that it meets local requirements and is optimally integrated within the electricity supply and transportation networks.

The Handbook for Electric Vehicle Charging Infrastructure Implementation - Version 1 offers a systematic approach that guides implementing authorities and stakeholders on planning, authorization, and execution of EV charging infrastructure. It presents an overview of the technological and regulatory frameworks and governance structures needed to facilitate EV charging, along with a step-by-step approach to build out the implementation roadmap. While the handbook focuses on the present needs of charging infrastructure development, it also touches upon considerations for future planning. The primary audience for this handbook include public and private sector stakeholders that are responsible for charging infrastructure implementation, such as electricity distribution companies, municipal corporations, urban development authorities, and charge point solutions providers and operators. The secondary audience is the regulatory authorities in state and central government agencies responsible for creating an enabling governance framework to support implementation.

VEHICLE SEGMENT	BATTERY CAPACITY	BATTERY VOLTAGE
<b>E-2W</b> 	1.2-3.3 kWh	48-72V
<b>E-3W</b> (passenger/ goods) 	3.6-8 kWh	48-60V
<b>E-cars</b> (1st generation) 	21 kWh	72V
<b>E-cars</b> (2nd generation) 	30-80 kWh	350-500V