



GREEN SKILL DEVELOPMENT PROGRAMME (GSDP)

Report on Course :

Laboratory Technicians /Technical Assistants for
Electrical Testing for Environmental Criteria
May- July 2022

GOVERNMENT OF INDIA

**MINISTRY OF ENVIRONMENT,
FOREST AND CLIMATE CHANGE (MoEF&CC),
NEW DELHI**



Laboratory Technicians /Technical Assistants for Energy Efficiency, Star Labeling and Other Electrical Testing for Environmental Criteria

Shweta Mahajan

Training In Charge and General Manager - Electrical
Consumer Education and Research Centre, Ahmedabad

CERC has developed holistic customized training programme of 264 hours for developing green skills of technically qualified youth in the country. This covers knowledge on green and renewable energy, application of renewable energy technologies, skills supporting low carbon industry, climate resilience and resource efficiency, skills to manage natural assets, analytical skills, communication, team work, entrepreneurship and innovation.

Job opportunities in growing renewable energy sector are open for those having a good engineering skills and environmental sustainability skills. With combination of technical and green skills engineers can play a very important role in improving quality of environmental and sustainability concept that exists on green skills and it can also be a significant factor for innovation. We, at CERC strive to build up the confidence of trainees for starting their career.

Selection of Candidates:

An advertisement for the training course was given in the newspaper, on website and all other social media platforms. A total of about 209 applications were received for this course. Candidates with relevant qualifications were shortlisted and final interviews were conducted by selection committee (offline on 25/03/2022 and also through e-platforms). The candidates were selected based on their technical & core capabilities.

The image shows two side-by-side advertisements for a training course. The left advertisement is a green flyer with logos at the top, including the Ministry of Environment, Forest & Climate Change (MoEF&CC) and CERC-ENVIS Resource Partner, Ahmedabad. It details the course as a two-month certificate course (Max 264 hrs) with FREE Training, Boarding and Lodging. The right advertisement is a blue flyer with a white border, also from the Ministry of Environment, Forest & Climate Change. It highlights the course as a certified free course and lists the qualifications as ITI (Electrician/ Turner/ Machinist) and Diploma / Degree - Electrical, Mechanical. Both flyers provide contact information for CERC, Ahmedabad, including a website and phone number.

Inauguration of the Training Programme:

Inauguration ceremony was held on 17th of May 2022 at the hotel Page One. The ceremony was started with a welcoming address by Shri Uday Mawani, CEO & Board Secretary, CERC. Presidential address was given by CERC's Chairman, Shri Prafulbhai Amin. The Chief Guest of the programme, Dr. Sunil Kale, Dean school of Engineering & Applied science Ahmedabad University addressed the participants on climate change and encouraged them to contribute to the sustainable future. The Guest of honor, Shri Chetan Bundela, Vice President Torrent Power Limited addressed on green practices adopted by power distribution companies and motivated youth to learn green skill. The Guest of honor, Shri Pranav Ghosh, Vice President Adani total Gas Ltd encouraged youth with his inspirational speech. Ms. Anindita Mehta, CGM & ENVIS

coordinator gave introduction of ENVIS project & Green Skill Development Programme and Ms. Shweta Mahajan, GM, Electrical & Course-In charge briefed on syllabus, topics of training and addressed students on the importance and advantages of acquiring green skills along with technical skills. Vote of thanks was delivered by Ms. Divya Namboothiri, Programme Officer CERC ENVIS. The entire event was anchored by Ms. Apeksha Sharma, Information Officer CERC ENVIS.



Training:

Duration of the training programme was from 17/05/2022 to 15/07/2022. All Trainees were given bags with course material containing training manual, screw driver set, stationary items, mask and a sanitizer. The training manual covers topics on concepts of star labeling criteria and eco-friendly practices adopted by the industry for sustainable future, details on electrical products covered under energy star labeling criteria by Bureau of Energy efficiency, testing techniques for environmental criteria, green skills for sustainable development with tips & habits to be cultivated to save energy to contribute towards global challenges of climate change. Another Manual on cleaner production and waste minimization was provided to the trainees by Gujarat Cleaner Production Centre, fellow ENVIS, and Resource Partner Gandhinagar.

Major topics covered:

The Curriculum is designed taking into account the expectations industry has from job seekers. Suggestions were taken from industry experts & subject experts to make it comprehensive. This covers a broad category of competence levels in terms of professional knowledge, professional skills, core skills, responsibility and process.

Latest trends in Electrical Machines.

1. Varieties of labels used on appliances as energy saving guides.
2. Methods of identifying eco-friendly star labeled electrical products.
3. Relevant test methods in details for conformity assessment.
4. Quality system and Technical requirements.
5. Mandatory Safety requirements for electrical products testing laboratory.
6. Basics of electric vehicles and type of electric batteries.
7. Green practices observed by manufacturers.
8. Renewable energy products for green future (Types & basics).
9. Sustainable consumption of electrical products.
10. Process of manufacturing of energy efficient motors for submersible pumps sets, calculation of losses and finding efficiency.
11. Basics of startups & state policies.
12. Carbon foot prints & Green skill in electrical engineering.

Hands on training on Electrical products and Home appliances:

Ms. Shweta Mahajan

Practical training was systematically carried out according to the topics lined out in the course module. Candidates were given exposure to the tests for LED lamps, LED fluorescent tubes, LED night lamps; star rated fans, and mixers/grinders. Candidates gained clear knowledge on how reduction in power consumption causes reduction in demand of power and automatically reduces demand for fossil fuels (coal) which helps in reduction in carbon foot prints. Thus, clear understanding was given on natural philosophy of engineering including mathematical and scientific knowledge constituting the pure theory of engineering operations and philosophy of maintenance & attitude.

Demonstration and Practical:**Submersible Pumpsets and Home Appliances.**

Candidates were explained about the methodology of interpretation of Indian standards on submersible pump sets with other relevant references of main specification and amendments. They were introduced to test systems, equipments, instruments & test setup required for performing the tests. They were made well versed with instrumental analysis to obtain quantitative scientific data, spread sheets and graphs. They were given exposure to sequential type tests & D-section of products. Candidates were given exposure on demonstration of instruments used for testing of solar panels and solar products as well as tests for solar panels.

Internal and external faculty members:

Following Internal & External faculty members/experts have made the training programme interesting and successful with their presentations.

Internal Faculty:

Ms. Shweta Mahajan, Training In Charge and General Manager - Electrical
Mr. Jigar Dodiya, Assistant Engineer (Electrical)

External Faculty:

1. Mr. Mihir Vasavada (Subject expert)
Topic: Energy Efficient Machines (Latest trends)
2. Mr. Govind Zala (Industry Expert-for demonstrations)
Topic: Demonstration on tests as per IS 8034, IS9283.
3. Dr. Bharat Jain, Member Secretary GCPC and Project coordinator, GCPC ENVIS RP
Topic Cleaner Production, Waste minimization & Greener Production
4. Mr. Hiren Seth (Startup)
Topic: start up on Product sustainability
5. Mr. Atul Shah (Subject expert)
Topic: Renewable energy - practical approach
6. Mr. Prof Piyush Miyani (Subject expert)
Topic: Solar System (off grid)
7. Mr. Nirav Mehta (Industry Expert)
Topic: Solar System on Grid & Solar Based Products
8. Mr. Utkarsh Chhaya (Industry Expert)
Topic: Lean manufacturing & ZED Certification

Faculty members invited to give exposure to entrepreneurship:

1. Mr. Kashyap Vaccharajani,
Topic: Finance and banking for entrepreneurs.
2. Mr. Dharmendra Joshi
Topic: Entrepreneurship and small business startups.

Lecture Sessions:



Practical Session:



Field Visits/Industrial Exposure:

- Visit to GPERI (Gujarat Power Engineering Research Institute), Mehsana.
- Visit to MBH Pumps (Gujarat) Pvt.ltd.
- Visit to Indo-German Tool Room.
- Visit to BIS, Ahmedabad.
- Visit to EQDC, Gandhinagar.
- Visit to Innovation Hub, LD Engineering College, Ahmedabad.
- Visit to Innovation; start up and incubation centre of Gujarat Technological University, GISC centre, Ahmedabad.
- Visit to Sabar Engineering Pvt. Ltd
- Visit to Waterman Industries Pvt. Ltd.





Career counseling and placement of candidates:

Career counseling sessions were held on professionalism and ethics, interpersonal interactions, quality consciousness, accountability and needs of industry for competence levels with professional skills and leadership qualities.

Candidates were interviewed at following companies

1. SFC Solutions.
2. SAR instruments Pvt. Ltd.
3. EIE instruments Pvt. Ltd.
4. MBH Pumps Pvt. Ltd.
5. Ahmedabad Metro station, Amraiwadi.
6. Job Fairs attended at Makarba, Chandkheda, and Asarva.
7. Monark Euro Systems.
8. Kirloskar Brothers Limited.

With our placement efforts, we were successful in giving job opportunities to the following candidates during the last week of training:

- Anik Patel, Service Engineer at SAR Instruments Pvt. Ltd., Vadodara
- Chintan Nandania, FC Automation Engineer in Senior Executive - A3 grade at Reliance Retail, Ahmedabad
- Alfaiz Sheikh, Technician at Human Resources Private Limited, Ahmedabad
- Prashant Shahu, Entrepreneur, Infinity Electrical Services, Ahmedabad

Final evaluation of trained candidates:

Final evaluation of Trainees was made on the basis of assessment criteria for level 6 NSQF qualifications. Candidates were evaluated for competency on the basis of everyday interactions with them on learning capabilities, ability for working in groups, capacity of performing the tests independently and presentation of conclusion of test results with remarks. Successful Trainees were awarded with certificates during the valedictory function held at Hotel Page One.

Valedictory Function:

The ceremony started with a welcoming address by Shri UdayMawani, CEO & Board Secretary, CERC. Valedictory speech was given by Shri Praful Amin, Chairmen CERC. The Chief Guest of the day Shri Dipak Prajapati, Director, Monark Euro System highlighted the current need of skills & competency required in various industries. The Guest of honor Shri Sumesh Shah, IT profession & Environment Enthusiast encouraged youth to work for the country & use renewable

energy products. Ms. Shweta Mahajan, General Manager Electrical & Course In charge gave details on holistic knowledge imparted during training and startup & placement details of candidates. Ms. Anindita Mehta, ENVIS coordinator and CGM CERC gave highlights on ENVIS scheme and way forward. Vote of thanks was delivered by Ms. Divya Namboothiri, Programme Officer CERC ENVIS. The programme was anchored by Ms. Apeksha Sharma, Information Officer CERC ENVIS.



Feedback:



The course is a combination of classroom lectures, industrial visits & hands-on training. This course helped me to develop entrepreneurship skill, laboratory testing skill & advanced electrical knowledge. Industrial experts boosted my knowledge as well as my confidence. Thanks to CERC and associated members for such a nice exposure.

-Amarjeet Kumar

I got to know about the course from my college professor. Here, I have learnt lot of things such as e-waste management, various start-up policies, EV etc. During this course, I visited to different Pump, Motoe and Solar industries. After getting green skills, I am encouraged to do startup in installation & maintenance of solar panels & solar pumps, solar operated street lights & solar blinkers on highway. At last, I want to thank CERC team to offer me such a great opportunity.

-Prashant Shahu



I wanted to learn more about energy efficiency & energy conservation and when I got to know about this course via newspaper, I applied online. After written exams and interview I got selected for this course. I have learnt so many new things which were not part of my academic years and upgraded my skills. I also learnt about the harmful effects of gases used in electrical appliances. During the course many industrial visits were arranged like Indo German Tool Room, Watermann Industries etc. I want to thank CERC for giving me this opportunity.

-Pathan Shahrukhkhan Imtiazkhan



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