

About the Institute

Vishwakarma Government Engineering College (VGEC) Ahmedabad was established in August 1994, with an objective of imparting higher education in various fields of engineering and technology. This institute is recognized by AICTE, New Delhi and Institute of Engineers, India. The college is administrated by Directorate of Technical Education, Gujarat State, Gandhinagar and is affiliated with Gujarat Technological University.

About Department

The Electrical Engineering Department started in 1994 and offers Bachelor of Engineering in Electrical Engineering. The Program has intake of 150 students and is designed and updated keeping in view the constantly changing industrial needs, skills and challenges emerging out of new research.

The Department is very well equipped with laboratory facilities and constantly upgrading available hardware and software to create research / testing environment leading to a great opportunity to learn and progress in different technical domains. The department has well qualified faculties playing major roles in creation of competent & disciplined engineers to serve the nation. The department also works for the overall development of the students by regularly organizing workshops, expert lectures, industrial visits and other technical activities.

About GUJCOST

The Gujarat Council on Science and Technology (GUJCOST) was established in September, 1986, to play a catalytic role in promoting the use of Science and Technology in the development process of the State. The S&T Council was constituted with a view to develop technologies appropriate to and in harmony with present conditions. The Council has been catalyzing interaction between developers and users of technologies, by bringing on a common platform to training Scientists and Engineers on the one hand and policy makers as well as administrators on the other.

Objectives of STTP

- To make participants aware of real-time problems and its solution in Electrical power systems and Electrical machines. Conventional methods for solving such complex problems are not efficient and reliable as well. AI-based schemes are fast, adaptive, robust, reliable, and applicable without in-depth knowledge of the system parameters.
- To understand the application of various AI techniques in designing efficient electrical machines, detection of a fault in the distribution network, rescheduling power distribution in agriculture feeder, and small-scale industries, optimum operation of the power plant, load scheduling, load forecasting, unit commitment, and deciding economical tariff rate with available resources to serve society.
- To develop technical skills and competence in the application of auxiliary functions in conventional methods and the application of AI-based tools which offer new advantages to deal with uncertainties and solve complex and non-linear problems.
- To apply knowledge about the benefits of AI-based solutions techniques to make precise decisions while solving complex problems with the unavailability of isolated RMU data.

Patron

Prof. (Dr.) N N Bhuptani
Principal-VGEC, Chandkheda

Convener

Prof. (Dr.) H D Mehta (9879426925)
Professor-Electrical Engineering Department

Coordinators

Prof. A Y Solanki(9924209284)
Prof. A T Mistry (9099923979)
Prof. D R Dobariya (9998683070)
Assistant Professor, Electrical Engg. Department



GUJCOST-DST Sponsored

One week Short Term Training Program

on

**“Applications of AI Techniques
in Electrical Machines and
Power System”
(ONLINE)**

June 27 – July 1, 2022

Organized by



**Vishwakarma Government Engineering
College**

Electrical Engineering Department
Visat-Gandhinagar Highway
Ahmedabad- 382 424, Gujarat, India
Phone:(079)23293866
Website: www.vgecg.ac.in

Outline of the contents

- Optimization problems are related to minimizing or maximizing objective functions subject to various constraints. Several metaheuristic algorithms have been proposed and used by researchers in the last three decades to solve various engineering problems. An attempt has been made by organizing this training to give insight into different meta-heuristic algorithms employed for various functions in generation, transmission, and distribution systems, which can assist power engineers and researchers to establish the suitability of the method for their respective problems.
- AI techniques such as artificial neural network (ANN), fuzzy logic, genetic algorithm (GA), support vector machine, particle swarm optimization techniques, machine learning, and a combination of AI-based techniques with other transient tools like wavelet transformation to solve the various non-linear complex problem of the power system like unit commitment, load forecasting, distributed generation, grid integration, and tariff calculation. These techniques are also used to train neurons of an artificial intelligence system for fault detection, classification, and location.
- The aim of this training is to visualize the most recent developments of Artificial Intelligence for getting optimized solutions to real-time problems and fetching future demand of power to make the power system grid in the stable mode of operation using “AI tools”. AI represents an ideal alternative for performing those complex and unsolved problems that can not be processed using conventional tools. Traditional methodologies of conventional solution techniques are compared with AI-based techniques to obtain robustness of grid stability in critical operating conditions. This training also focuses on problems of microgrids during the integration of distributed generation (DG), and renewable energy sources. Participants get knowledge about the application of AI-based optimization algorithms to create (i) economical distribution of reliable energy to serve the nation and (ii) reliability in the power sector with minimization of transmission and distribution losses.

Sponsored and Approved by:

The STTP is sponsored by GUJCOST, DST Govt. of Gujarat, Gandhinagar.

Technical Experts:

Eminent speakers from reputed engineering institutes and Industrial experts in the Field of AI applications.

How to Apply

Interested candidates are requested to fill-up the details in the link of registration and mail the scanned application forms to the Coordinator (fdpelectrical2022@gmail.com), so as to reach on or before 15th June 2022.

Link for Registration

<https://forms.gle/AW7ZQGE5PE2Ssvui6>

Address for correspondence:

**Electrical Engineering Department
VGEC CHANDKHEDA**

EMAIL: fdpelectrical2022@gmail.com



Important Dates

Last date for receipt of application: **15/06/2022**

Confirmation of selection by email : **21/06/2022**

Note:

Registration fees of Rs.250/- (Subject to confirmation of participation). Payment Link will be provided in confirmation email.

APPLICATION FORM

Applications of AI Techniques in Electrical Machines and Power System

June 27 – July 1, 2022

1. Name:
2. Designation:.....
3. Qualification:.....
4. Name of Institution/Industry
:.....
5. Mailing Address:.....
.....
Phone:Fax:
E – mail:.....
6. Experience:
Teaching:Years Months
Industrial:.....Years Months
7. Payment Ref. No.:

Place : Date:

It is certified that above applicant is working/studying in our organization and the information stated by him/her is verified and found correct.

Signature of Applicant

Sign and Seal of Head of the Institution