

**Two Day Workshop**  
on  
**Energy Efficiency and Demand Response  
Implementation in Built Infrastructure**  
**26<sup>th</sup> – 27<sup>th</sup> March 2022**  
**Sponsored By**  
**SCIENCE AND ENGINEERING RESEARCH  
BOARD (SERB), DST, Govt. of India**

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Prof. Uma Nangia, Head, EED, DTU

**Course Coordinator**

Prof. M. Rizwan



**Organized by**

**DEPARTMENT OF ELECTRICAL ENGINEERING**  
**Delhi Technological University**  
(Formerly Delhi College of Engineering)  
Bawana Road, Delhi-110042, **Website: www.dce.edu**

**Registration Link:**

<https://forms.gle/XXTW1JaaZ3zUNMKa9>

**Participation**

Two-day workshop on **Energy Efficiency and Demand Response Implementation in Built Infrastructure from 26.03.2022 to 27.03.2022** is open to faculties of nearby AICTE/UGC recognized colleges/institutions and technical universities/deemed universities. The interested candidates are required to register using the link provided at the earliest but not later than 21<sup>st</sup> March 2022. There are limited seats for the workshop and there are no registration charges for selected participants. The selected candidates will be communicated the workshop schedule in due course of time. The participants will not be paid TA/DA for attending the course. The workshop will be held at Department of Electrical Engineering, Delhi Technological University, Delhi, India.

**Objective of the Course**

This workshop aims to impart fundamental concepts of Building Energy Management System (BEMS) for built infrastructure. The course focusses on framework of demand response integrated with Internet of Things (IoT) and low carbon emitting energy sources with the grid. The different concerns and challenges associated while designing control strategies for optimizing energy for the built environment will be discussed. Existing energy appliances must be coupled with smart grid applications in order to produce viable smart energy infrastructure. The issues in IoT devices installation, utilization and their technical specifications based on recent technologies/methodologies are key areas of concern. The goal of this course is to go through some of the most recent developments in the field of load optimization in existing urban buildings to reduce the energy consumption. Renowned academic and industrial specialists will share their knowledge with the participants.

**Course Contents**

Renowned experts from academia and industry will be deliver expert talk on the following topics:-

- Building energy management system
- Internet of Things (IoT)
- Artificial intelligence and soft computing techniques
- Load analysis and resource allocation
- Demand response
- Sensors and its integration in demand response
- Smart grid

- Renewable energy systems including solar photovoltaic, wind, small hydro, bio gas etc.
- Converter topologies
- MPPT
- Control algorithms for light and fan control
- Power quality
- Environmental impact assessment
- CO<sub>2</sub> emissions from air conditioning loads
- Simulation tools used in grid integration of solar PV systems
- Some laboratory sessions and field visit will also be organized to explore scope for hands on experience and practical exposure to the participants.

**Resource Persons**

The various sessions of the workshop will be preceded by faculty members of reputed academic institutions and expert from industries.

**About DTU**

Delhi Technological University (formerly Delhi College of Engineering) is a leading world class Technological University. DTU is a key node in national and global knowledge network, thus empowering India with the wings of knowledge and power of innovations. Established in 1941 by Government of India, erstwhile DCE now DTU is one of the premier Institutions of engineering and technology education in India.

**About SERB-SSR**

In the knowledge- and technology-driven economy, the demand for human resources in science and technology is increasing to a great extent. Therefore, it is imperative to build the basis for continuous supply of human resources in science and technology. The concept of Scientific Social Responsibility (SSR) needs to be inculcated to connect our leading institutions to all stakeholders, including schools and colleges. SERB SSR policy intends to effectively utilize the R&D infrastructure and expertise of SERB grantee to benefit other S&T stakeholders and the society. This scheme also embeds a participatory, inclusive and sustainable culture of social responsibility among scientific research committee.

**Important Dates**

Last date for registration: 21.03.2022