ENGINEERING STAFF COLLEGE OF INDIA

Autonomous Organ of The Institution of Engineers (India)
(IMS [ISO 9001:2015, ISO 14001:2015, ISO 50001:2018, ISO 45001:2018],
ISO/IEC 17025:2017 Certified, AICTE & CEA Recognized Institution)
Old Bombay Road, Gachibowli, Hyderabad – 500 032. Telangana, India

Management and Technology Division

Hybrid (Offline & Online) Continuing Professional Development Programme on

Heating, Ventilation and Air Conditioning (HVAC) Systems in Different Industries

Dates: 03 – 07 August 2026

at ESCI Campus, Hyderabad

INTRODUCTION

Heating, Ventilation, and Air Conditioning (HVAC) systems play a critical role in ensuring comfort, air quality, and energy efficiency across a wide range of industries. From manufacturing plants and pharmaceutical facilities to commercial buildings and data centers, HVAC systems are integral to maintaining safe, controlled environments that meet operational and regulatory requirements.

This 5-day training Programme offers a foundational understanding of HVAC systems, making it ideal for beginners, aspiring HVAC technicians, and industry professionals seeking to broaden their technical skills. The course covers essential topics including basic thermodynamics, key HVAC components, system design principles, safety standards, and practical troubleshooting techniques.

Participants will gain hands-on insights into the working and maintenance of HVAC systems, along with a solid grounding in safety protocols and environmental considerations. A key focus of this training is to prepare attendees for industry-recognized certifications, such as the EPA 608 Certification, which is mandatory for professionals handling refrigerants in HVAC systems.

Whether you're just starting out or aiming to strengthen your knowledge of HVAC operations across different industrial applications, this programme is a valuable step toward building a successful career in the field.

OBJECTIVES

The main objectives of the Programme are:

- Develop a strong foundation in the principles of HVAC systems, including basic thermodynamics and key system components.

- Understand the application and operation of HVAC systems across various industries such as power generation, oil & gas, pharmaceuticals, and public infrastructure.
- Learn relevant safety practices, industry standards, and environmental regulations applicable to HVAC operations in PSU settings.
- Gain practical skills in routine maintenance, fault detection, and troubleshooting of HVAC equipment.
- Explore strategies for improving energy efficiency and optimizing HVAC system performance in large-scale industrial facilities.
- Analyze real-world case studies and participate in interactive discussions to connect theoretical knowledge with on-ground PSU requirements.

COURSE COVERAGE

- Fundamentals of HVAC systems, including basic thermodynamics and key components such as compressors, condensers, and air handling units
- Types of HVAC systems (centralized, split, packaged, VRF) and their suitability for different industrial and public sector applications
- HVAC system design principles, including heat load calculations, equipment selection, and ductwork planning
- Airflow management and ventilation techniques for ensuring indoor air quality and thermal comfort
- Applications of HVAC systems in sectors such as power plants, oil & gas, pharmaceuticals, and government buildings
- Operation, control strategies, and use of Building Management Systems (BMS) for efficient system performance
- Preventive maintenance, fault diagnosis, and troubleshooting of HVAC equipment
- Energy efficiency measures, environmental compliance, and safety standards aligned with ISHRAE, ASHRAE, and ECBC guidelines

METHODOLOGY

Methodology of the programme includes class room Sessions with Lecture/discussion with audio visual aid, benched marked practices if any, video shows, Chalk & Talk sessions, group discussions, case studies, debates, sharing of experiences, etc. All the sessions will be interactive demanding active participation from all the members. Case Method of Instructions will be the main method of knowledge facilitation. Technical Field and Social visits are integral part of the training methodology.

TARGET PARTICIPANTS

Engineers and Professionals from Manufacturing Industry, Fertilizers, Power Sector, Refineries, Petrochemicals, Agricultural Equipment, Medical Equipment, Lifts, Jacks, Jigs & Fixtures manufactures, Hydro power, Irrigation Department, Cement Industries, Scientists working in Research Laboratories, Controls & Instruments/Operations & Maintenance teams / fresh GET's & DET's / Foremen / Supervisors etc. Fresh GET's & DET's can get well-groomed from this module.

EXPERT FACULTY

The faculty consists of experts from industry, research establishments and academia besides that from ESCI.

PROGRAMME DIRECTOR

PROGRAMME COORDINATOR

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PROGRAMME DATES & TIMINGS

Dates: 03 – 07 August 2026

Timings: On the first day Registration will commence at **09:00 Hrs**. On all other days the programme timings will be from **09:45-17:15 Hrs** with breaks in between for tea and lunch.

COURSE FEE:

Rs.27,500/- (Rupees Twenty Seven Thousand and Five Hundred only) per Participant + GST@18% Extra. Fee includes, course material, course kit, twin-sharing/single AC accommodation as per availability, breakfast, lunch, dinner, tea / coffee and snacks during the actual days of training programme.

Online: WebEx platform

Rs. 17,500 /- (Rupees Seventeen Thousand and Five Hundred only) per participant + GST@18% Extra. Fee includes, course material, course kit & Institute overheads.

DISCOUNTS

- **Non-Residential Fee:** 10% discount on course fee is allowed for non-residential participants.
- **Group Discount:** Additional 10% discount for three or more participants if sponsored by the same organization.

Note: GST Nil for Central Govt. Departments (like DRDO, DGQA & Govt. Departments).

Programme fee is to be paid in in favor of **"THE INSTITUTION OF ENGINEERS (INDIA) – ENGINEERING STAFF COLLEGE OF INDIA"** in the form of demand draft payable at Hyderabad. Alternatively, the payment may be made by Electronic Fund Transfer (EFT) to ESCI - **SB A/c No.0432104000039631 with The IDBI Bank Ltd., Gachibowli Branch, Plot No. 2-53/2, JNIBF, IIIT Junction, Gachibowli, Hyderabad-500032 by RTG's/ NIFT / IFSC Code No: IBKL0000432.** While using EFT method of payment, please ensure to communicate us your company name, our Invoice reference and programme title.

CERTIFICATION

A Certificate of participation will be awarded to each participant on conclusion of the programme.

GENERAL INSTRUCTIONS:

- ESCI encourages participants to present case studies from their respective organizations.
- ESCI provides complimentary accommodation and boarding to the participants one day before commencement (Check-in 1200 h) and one day after conclusion (Check-out 1200 h) of the Programme duration. Overstay charges will be applicable as per ESCI rules (subject to availability of accommodation).
- Well-developed Information Centre and Internet facilities are available to the participants free of cost.