

## Course Overview

The training program deals with HVAC system fundamentals and components, system design, equipment erection, equipment maintenance and detail engineering of Central HVAC Systems including Duct Air Systems with dedicated training sessions covering detailed applications & usage of codes & standards like ASHRAE. Upon completion of this course the participant will be able to Learn to use codes & standards of HVAC industry, Design HVAC Systems - perform calculations, route, select equipments, estimate quantities, perform cooling / heating load calculations for buildings, design the ventilation, duct air & chilled water distribution systems for residential & commercial buildings, understand the complete design, selection & installation of different components and systems used in the HVAC Systems, refrigeration basics and design procedures. The design of the HVAC component is critical to achieve an efficient and effective environmental control system. The successful integration of building constraints, air movement conditions and equipment selection can positively impact system overall performance and decrease utility expenses and capital expenditures.

## Topic to be covered

- ↪ Introduction to HVAC
- ↪ Psychrometry
- ↪ Requirements of Comfort Air Conditioning
- ↪ Heating and Cooling Load Calculation Procedure
- ↪ HVAC Systems
- ↪ Duct design, Air Flow and its Distribution
- ↪ Refrigeration
- ↪ Controls and Instrumentation
- ↪ Installation, Operation, Testing and Maintenance

## Who is eligible?

- ↪ Any faculty member from technical Institutes and Colleges (preferably with ISTE membership).
- ↪ Faculty from Polytechnic Institutes.
- ↪ Teachers registered in a Masters or a Ph.D program, during their employment as a teacher in one of the above categories.

## Organizing Committee

### Patron

Prof. Amitava Ray  
Principal

### Advisory Committee

Prof. Sudip Mukherjee  
Head, Mechanical Engineering Department  
Prof. Goutam Kumar Panda  
Head, Electrical Engineering Department  
Prof. Subrata Bhattacharya  
Associate Professor, Mechanical Engineering Department

### Treasurer

Mr. Madhab Chandra Mandal  
Assistant Professor, Mechanical Engineering Department

### Members

Dr. Saipayan Mitra  
Mr. Subhranta Roy Choudhuri  
Md. Naim Hossain  
Mr. Madhab Chandra Mandal  
Mr. Suman Mondal

### Course Coordinator

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Two Weeks

ISTE-AICTE approved  
Short Term Training Programme (STTP)

on

Heating, Ventilation & Air-Conditioning  
(HVAC) and Refrigeration

December 18-29, 2017

Conducted by  
Department of Mechanical Engineering  
Jalpaiguri Government Engineering College



Course Coordinator

Dr. Arijit Kundu

Joint-coordinator

Dr. Nripen Mondal

Jalpaiguri  
West Bengal 735102



## Short Term Training Programme on HVAC&R: Objectives

This Short Term Training Program (STTP) on HVAC&R, is being conducted by the Department of Mechanical Engineering in Jalpaiguri Government Engineering College, West Bengal in collaboration with the Indian Society of Technical Education (ISTE), for enhancing teaching skills of faculty of Engineering Colleges. It is meant to train faculty from all departments of Science, Engineering and Technology. The trained faculty can potentially utilize subject matters from this course for (i) teaching Undergraduate/Postgraduate (UG/PG) courses in Technical or Scientific Communication and (ii) training project students to communicate their research or development work. On successful completion of this program they will be able to organize, comprehend, write, and present, short and long forms of any technical work in the framework of the Scientific Method.

### About JGEC

Jalpaiguri Government Engineering College (JGEC) established in 1961 is a premier engineering college in the State of West Bengal in a sprawling campus of 160 acres. It holds the distinction of being the second oldest Engineering College in West Bengal after IIT Kharagpur. JGEC has consistently been ranked as one of the top most educational institute in the country. The institute symbolizes the spirit of creation. Today JGEC is comparable to any other engineering college in India. The college is situated at the outskirts of the Jalpaiguri Town, the Divisional HQ of seven districts of West Bengal. The college offers Bachelor Degree (BTech) in six branches and Master Degree (MTech) in two branches of Engineering. JGEC is approved by AICTE and also accredited with NBA.

#### Facilities available:

1. A Central Library having 15,000 titles and 40,000 volumes with modern software for library management and documentation.
2. Central Computing facility that provides lab housing around 110 PCs and Central Servers. Wide Local Area Network (WLAN) in both wired optical fiber as well as wireless frame work.
3. Video Conferencing System for virtual interactive classroom facilities from the faculties of premier institutes in India and abroad.
4. Modern State-of-the-art Language cum Personality Development lab to enhance the communication and managerial skills of the students.
5. Five hostels separately for girls and boys those provide 75% students. Campus also has own Guest House facility.

## Venue

Language Laboratory and Seminar Room, Jalpaiguri Government Engineering College, Jalpaiguri, West Bengal.

## Key Note Speakers

Distinguished Professors from IIT Roorkee and other Universities including Jadavpur University will join the course as resource persons for delivering lectures on relevant topics of the course.

## Course Fee and Accommodation

This course is conducted in a self finance mode. Teachers, who wish to register, need to pay Rs. 2000/- through A/C payee demand draft in favour of Jalpaiguri Government Engineering College, payable at Jalpaiguri as participation fees. For accommodation and lunch, the participant will have to bear extra Rs. 1000/- charges (for two weeks) for 'first come first serve' basis of the first fifty participants to be arranged in hostels. No TA will be provided to the participants.

The participation fee of Rs. 2000/- is mandatory and non refundable.

## How to Apply?

Those wishing to attend this course should first register online at <http://www.jgec.ac.in/>

Enrollment will be strictly online, and no other mode of application will be entertained.

It is mandatory that while registering for the course, the participants should submit a scanned copy of a letter from the Principal/Head of the Institute. Format of this letter is available on the registration website. Registration without this letter will not be confirmed.

## Important Dates

- ☞ Last date for online registration: 05th Nov 2017
- ☞ Last date for payment of course fee: 05th Nov 2017
- ☞ Final approval of participation from JGEC: 06th Nov 2017

## Address for Communication

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ISTE-AICTE  
SHORT TERM TRAINING PROGRAMME

"  
Heating, Ventilation and Air-Conditioning (HVAC)  
and Refrigeration  
December 18-29, 2017

JALPAIGURI GOVERNMENT ENGINEERING COLLEGE

## APPLICATION FORM

Name.....  
(in block letters)

Age .....

Qualification.....

Designation.....

Organization.....

Experience .....

Address for communication .....

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PINCODE :

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ISTE Membership Details.....

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Phone no. Fax. No.

E-mail:

Accommodation required : Yes / No

Signature of Applicant