

BOARDING AND LODGING:

Accommodation will be provided in our Visitor's guest house and student's hostels, on payment basis at the following tariffs.

Type of Accommodation	Charge/Day/ One person
Visitors block - Single occupancy	Rs. 1500/-
Visitors block - Twin sharing	Rs. 1000/-
Students hostel - Single occupancy	Rs. 100/-

Refreshments will be served by us during the sessions. Breakfast/ Lunch/Dinner are available on payment in the institute guest house/hostels. Also there are several restaurants and cafeteria on campus. Accommodation will be provided on first-come-first-serve basis and will be finalized by the organizers.



HOW TO REACH IIT TIRUPATI?

IIT Tirupati is located in Merlapaka Village on Yerpedu-Venkatagiri Highway. Distance from various landmarks:

- 22 km from Tirupati Railway station
- 16 km from Renigunta Junction
- 13 km from Srikalahasti Railway Station
- 14 km from the Tirupati International Airport.

The campus is very well connected to the other parts of the country by road, rail, and air.

ELIGIBILITY

All practicing Engineers & Technicians working in private, public, government organizations/ industries; Scientists/Engineers from R&D establishments, College Teachers and Technical Staff are eligible to apply for participation.

REGISTRATION FEE/ COURSE MATERIALS/ CERTIFICATE:

Participants are required to pay Rs. 18,000/- (excluding 18% G.S.T.) per participant as the registration fee for this one-week course. The fee is to be paid in advance by online to IIT, Tirupati at the following account.

Account Name	Indian Institute of Technology Tirupati
Account Number	42225683319
Bank	State Bank of India
IFS Code	SBIN0061587
Branch Name	Yerped - 61587

Each registered participant will be provided with a detailed lecture notes on "Vacuum Technology and Process Applications" & registration materials.

At the end of the course, the institute will issue a certificate.

ADDRESS FOR CORRESPONDENCE

Prof. V. Vasudeva Rao
Co-Ordinator

Department of Physics
I.I.T, Tirupati - 517 619
Andhra Pradesh
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Mobile: 09933078577

Last date for registration
17 - 05 - 2024

**Indian Institute of Technology
Tirupati**
Presents

A one week short term course on

"Vacuum Technology and Process Applications"

20-05-2024

to

25-05-2024



**Department of Physics
IIT Tirupati**

Co-Ordinators

**Prof. V. Vasudeva Rao
Dr. B. Koteswara Rao**

ABOUT IIT TIRUPATI

The Indian Institute of Technology Tirupati (IIT Tirupati), established in 2015, is an autonomous Institute under Ministry of Education, Government of India. It is declared as an Institute of National Importance under the Act of Parliament of India (Institutes of Technology Act, 1961). The institute offers B.Tech., M.Tech., M.S., M.Sc., and PhD programs in various disciplines. The curriculum for various programmes have an emphasis on theoretical knowledge and practice-oriented laboratories.

PROGRAMME OBJECTIVES

Vacuum Technology has diversified applications in different areas of science and Engineering. These include the major fields like Electronics, Semiconductor manufacturing, Metallurgical/Chemical Processing, Food Processing, Space-Simulation, Nuclear Engineering, Electrical Engineering and Bio-technology. This has resulted in rapid development of many sophisticated vacuum instruments. To keep pace with this advancement in vacuum technology, it is absolutely necessary for the engineers/scientists/teachers of our country to get a first hand exposure to these modern vacuum equipment and their applications. Keeping this objective in mind, present course on **Vacuum Technology and Process Applications** is undertaken. The uniqueness of this course is that, in addition to classroom lectures, emphasis is given to the practical training in designing, handling and trouble shooting of variety of modern vacuum pumps, components, measuring systems, residual gas analyzers, leak detectors, vacuum furnaces, coating units, vacuum dryers and freeze dryers.

COURSE OUTLINE

- (1)Introduction to basic concepts of vacuum.
- (2)Application of vacuum in different processes. (Metallurgical, space, electronic, semiconductor, chemical, electrical, cryogenics, nuclear, pharmaceutical, and food)
- (3)Production of medium and high vacuum by Rotary, Piston, Roots, Diffusion, steam jet ejectors, Water-ring, Dry membrane and Sorption pumps, their assembling and maintenance, pump-down characteristics.
- (4)Ultra-high vacuum pumps and their pumping characteristics, Handling and maintenance of Turbo-molecular, Ion and Cryo-pumps.
- (5)Pressure measurement in vacuum systems using different primary and secondary gauges. Calibration/ maintenance of vacuum gauges.
- (6)Residual gas analysis in high vacuum systems.
- (7)Design and Fabrication of vacuum chambers, flanges, couplings, and components for different applications.
- (8)Gas flow in vacuum systems, conductance calculations and measurements on vacuum piping networks. Design of vacuum piping in process industries.
- (9)Leak detection/trouble shooting/ maintenance of vacuum systems, mass spectrometric leak detectors, degassing procedures, for UHV systems.
- (10)Vacuum based furnaces/coating units/ freeze dryer/analytical equipment and other process-systems and residual gas analyzers.

Participants will also receive extensive practical training on above topics in the laboratories.

FACULTY

Professors and experts working in the field of vacuum technology and its related areas from different departments of the Institute and industries will deliver the lectures and help in practical sessions.

APPLICATION FORM

Please click on the below hyperlink or copy and paste it in the address bar then enter. Fill all the boxes in the form

<https://forms.gle/rKqAa1PrW97sMrLE6>



You can also register by writing an email to the coordinator with the following information.

Name:

Date of Birth (DD/MM/YYYY):

Designation:

Qualification:

Nature of Work R&D, Sales, Manager, Executive, Engineer etc:

Address:

E-mail-ID:

Phone Number:

Emergency Contact Number:

Details of Payment:

NEFT number and date:

Accommodation request:

Room Type: