

Program

<u>Day-1</u>	
09:00 AM-10:00 AM	Registration
10:00 AM-12:00 PM	Inauguration , Introduction and Course overview
12:00 PM-01:00 PM	Lunch
01:00 PM-02:00 PM	Chemistry lab, Chemical Engineering, Environmental Engineering lab visit
02:00 PM-03:00 PM	Introduction and application of Infrared Spectroscopy by Dr. Manoj Pandey
03:00 PM-6:00 PM	Practicle session on FT-IR Instrument (Perkin-Elmer, Spectrum-II) and analysis of samples
<u>Day-2</u>	
10:00 AM-12:00 AM	Introduction and application of High performance liquid chromatography (HPLC) by Dr. Manoj Pandey/ Industry Expert
12:00 AM-01:00 PM	Lunch
01:00 PM-06:00 PM	Practical session on HPLC (Shimadzu) Instrument and analysis of samples
<u>Day-3</u>	
10:00 AM-11:00 AM	Fundamental Principles of Measurements, tolerance and significant figures by Prof. Nirendra Misra
11:00 AM-12:00 PM	Introduction to Various Chromatography Techniques by Dr. Manoj Pandey
12:00 PM-01:00 PM	Lunch
02:00 PM-06:00 PM	Purification and analysis of samples by using Flash- Chromatography (Yamazen) and Potentiostat Galvanostate for material characterization
<u>Day-4</u>	
10:00 AM-11:00 AM	Fundamental Principles of Gas chromatography by Prof. Rajib Bandyopadhyay
11:00 AM-12:00 PM	Electrochemical Characterization of Optoelectronic Devices by Dr. Pankaj Yadav

12:00 PM-01:00 PM

Lunch

01:00 PM-06:00 PM

Purification and analysis of samples by using Gas chromatography and GC-MS.

Day-5

10:00 AM-11:00 AM

Fundamental Principles of UV-Vis. Spectroscopy by Dr. Anirban Das

11:00 AM-12:00 PM

Introduction and application of AAS & Total organic carbon analyzer by Dr. Anurag Kandya

12:00 AM – 1:00 PM

Lunch

01:00 PM-06:00 PM

Analysis of samples by using UV-Vis Spectrophotometer (Labindia) , Atomic Absorption Spectrophotometer (Graphite Furnace) (PekinElmer - Pinnacle 900T) & Total Organic Carbon Analyzer (PC control mode) (Shimadzu)

05:00 PM - 06:00 PM

Validatory

Organising Committee:

Patron:

- Prof. T. P. Singh (Director, SoT, PDPU)

Coordinator:

- Prof. Rajib Bandyopadhyay (Chemistry)
- Dr. Manoj Pandey (Chemistry)

Supporting members:

- Prof. Nirendra Misra (Chemistry)
- Dr. Anirban Das (Chemistry)
- Dr. Swapnil Dharaskar (Chemical Engineering)
- Dr. Manish Kumar Sinha (Chemical Engineering)
- Dr Surendra Sasi kumar Jampa (Chemical Engineering)
- Dr. Anurag Kandya (Environmental Engineering)
- Dr . Anantha Singh T S (Environmental Engineering)
- Dr. Pankaj Yadav (Solar Energy)



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SHORT TERM TRAINING PROGRAMME

INSTRUMENTAL METHODS OF CHEMICAL ANALYSIS

*Skill Development Initiative for
Chemical & Pharmaceutical Industries*

25th June-29th June, 2018



Organized by

Department of Science
School of Technology
Pandit Deendayal Petroleum University
Raisan, Gandhinagar, Gujarat-382007

Sponsored by

Thermo Fisher Scientific

About the University

Pandit Deendayal Petroleum University has been established by GERMI as a Private University through the State Act enacted on 4th April 2007, with a vision 'To be an internationally renowned & respected Institution imparting excellent education & training based upon the foundation of futuristic research & innovations'. This objective is being addressed through a number of specialized and well-planned undergraduate and post-graduate energy education programs and intense research initiatives. Pandit Deendayal Petroleum University has been promoted by Government, Industry & Energy to create a world class University in energy education and research with special focus on the oil and gas sector. The University addresses the need for trained and specialized human resource in the domains of engineering, management and humanities. PDPU is ranked 55th in India and 1st in Gujarat state as declared by NIRF, MHRD, Government of India. Recently PDPU got NAAC accreditation with "A" grade and CGPA of 3.39 of 4 point scale

About the Science Department

Department of Science as a part of School of Technology since 2011, is actively engaged in research and teaching in the frontier areas of Chemistry and Physics. The department offers Ph.D. & B.Sc. (Hons.) program in Chemistry & Physics. The Department of Science has well equipped laboratories with advanced analytical and computational facilities. Department has taken an initiative for setting up 'State of Art Analytical laboratory'. The department has talented faculties with Ph.D. and Post Doctoral experience with strong commitment to teaching and research.

Objective of the workshop

Most of the science graduate students do not get exposure to instruments during their study. Instruments have taken credence over classical methods of chemical analysis due to their speed, sensitivity, detection limit, reproducibility and several other factors. In order to have proper operation and utilisation of instrument, basic understanding of the instrument is required. This course would give them an opportunity to get familiarize with the instruments and their analytical skills. Course benefits can be reaped in getting better job opportunities in Chemicals and Pharmaceutical industry.

With this objective, a course on **Instrumental methods of Chemical Analysis** has been designed to be held at PDPU from **25th June-29th June 2018**. The course is for **Under-Graduates / PG students/ Research scholars/ Working personnel** who would like to hone their fundamental skills, learn more of modern trends in analytical chemistry and about contemporary techniques. The course would have theory, practical and interactive sessions. Blend of acquired knowledge and hands-on experience of relevant equipment would surely keep one ahead in career path.

Topic to be covered, include:

- Analytical techniques; methods, procedures & protocols
- Fundamental principles of measurements, tolerance & significant figures
- Classification of instrumental techniques & instruments used for analysis
- Theory and practice: HPLC, FT-IR, Chromatography (Flash chromatography, TLC, Column chromatography, Chromatotron, GC, GC-MS), UV-Visible spectrometer, Potentiostat Galvanostate, AAS, TOC & Data refinements and statistical analysis

Who can participate?

B.Sc., M.Sc., & Ph.D. students, professionals working in industry and any other interested individual can apply

Duration : 5 day (Accommodation available on payment basis in PDPU Boys & Girls hostel on request)

Course fee : Rs. 3000/- for working personnel
Rs. 2000/- for students

Venue : School of Technology, PDPU
Raisan, Gandhinagar, Gujarat.

Contact: Dr. Manoj Pandey, Associate Professor
(STTP Program, Co-ordinator)

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Pandit Deendayal Petroleum University
Gandhinagar, Gujarat-382007

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Registration form

1. Name: _____
2. Gender: Male/ Female
3. Qualification: _____
4. Designation & Affiliation: _____
5. Address: _____
6. Email: _____
7. Mobile: _____

Last date of Registration: 10th June, 2018

Register online:

<https://goo.gl/forms/rKAigPbiLm4x9TDh1>

I enclose a demand draft of _____ Rs. Drawn in favour of " Pandit Deendayal Petroleum University", Payable at Gandhinagar, Gujarat- 382 007 or deposited Rs. _____ through NEFT (State Bank of India, IFSC: SBIN0014937, A/C Name: Pandit Deendayal Petroleum University, A/C No.: 31803338764).

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