

Eligibility

College/University teachers in Physics, Chemistry, Materials Science and other related areas who are in continuous service.

Registration Fee

Nil

Boarding and Lodging

Free food and accommodation on shared basis for outstation participant only on first come first serve basis.

How to Apply

The application form along with terms and conditions are attached with this brochure. The hard copy of the duly filled application form is to be sent to the course coordinator (s) by E mail **on or before 15.03. 2018.**

Resource Persons

Guest speakers from IITs/NITs

FDC Coordinators

1. Prof. A. K. Nirala, Coordinator, FDC
2. Dr. M. Yadav, Coordinator, FDC
3. Dr. P. K. Sharma, Deputy Coordinator, FDC
4. Dr. U. Tripathy, Deputy Coordinator, FDC
5. Dr. H. P. Nayak, Deputy Coordinator, FDC
6. Dr. P. K. Kewat, Deputy Coordinator, FDC
7. Dr. S. A. Sahu, Deputy Coordinator, FDC

Importance and Scope of the Course

Materials development and characterization are important tools to identify the application of a particular material for specific purpose as well as for device fabrication. The proposed training programme will provide an overview of major analytical techniques for materials characterization with emphasis on practical applications. Presentations will cover basic and advanced topics by both young and experienced scientists/professors. Hands on to the participants will be given for some analytical equipment available in the department.



Course Contents

The course includes the following topics:

X-ray Diffraction
UV-VIS-NIR Spectroscopy
Scanning Probe Microscopy
Field Emission Scanning Electron Microscopy
X-ray Photoelectron Spectroscopy
Fluorescence Spectroscopy
Laser based Spectroscopic Techniques
Fourier Transform Infrared Spectroscopy
LCR and I-V measuring Techniques

Programme Coordinators

Dr. S. K. Sharma

Associate Professor & Coordinator
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Indian Institute of Technology (ISM), Dhanbad
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Dr. Kaushal Kumar

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One Week National Training Programme on Advanced Materials Characterization Techniques

(19–24 March, 2018)

Under

FACULTY DEVELOPMENT CENTRE

[A MHRD, GOI funded centre sanctioned under Pandit Madan Mohan Malviya National Mission on Teachers and Teaching]

Venue: IIT (ISM) Dhanbad



Organized by

DEPARTMENT OF APPLIED PHYSICS



Indian Institute of Technology
(Indian School of Mines)

Dhanbad-826004, Jharkhand, India

www.iitism.ac.in

Email: fdc@iitism.ac.in

IIT (ISM), Dhanbad

Indian Institute of Technology (Indian School of Mines) Dhanbad is a fully residential technical institute having all modern facilities located in the mineral-rich belt of India in the major coal city of Dhanbad, Jharkhand, India. It was established as ISM in 1926 on the lines of the Royal School of Mines, London.

IIT (ISM) Dhanbad, an Institute of National importance, has been rendering invaluable service to the cause of global education and societal development in its nine long decades of existence. Keeping in tune with the changing times a need has been realized for further expansion and diversification. IIT (ISM) has grown into a full-fledged technical institution with 18 departments offering a wide range of courses in Engineering, Science, Management, Humanities and Social Sciences at UG, PG and Ph.D. levels. IIT (ISM) admits students through IIT-JEE and GATE Entrance Exam in various courses of the respective departments.

Venue

The course will be conducted at FDC/EDC, IIT(ISM) Dhanbad. The Dhanbad city is well connected through railway from various parts of the country. The nearby airports are Kolkata and Ranchi which are nearly 250 km and 180 km, respectively, from Dhanbad.

Faculty Development Centre (FDC)

The Faculty Development Center at Indian Institute of Technology (Indian School of Mines) Dhanbad, has been sanctioned by the Ministry of Human Resources Development Government of India, under the scheme of Pandit Madan Mohan Malaviya National Mission on Teachers and Training (PMMMNMTT). Faculty development has a critical role to play in promoting academic excellence and innovation. FDC will incubate and nurture, on a continuous basis the professional development of teachers and will create opportunities for professional growth. Research Cell located within FDC will help to undertake research on different aspects for professional development of teachers. Faculty development is an essential element of institutional effectiveness. The extent to

which the institution supports faculty development will be strongly reflected in levels of the engagement in learning activities, conduct of research and ultimately fulfilling the objectives and goals of the colleges/universities/institutes.

Faculty development program includes the four possible types of development: personal (interpersonal skills, career development, and life planning issues); instructional (course design and development, instructional technology); organizational (ways to improve the institutional environment to better support teaching); and professional (ways to support faculty members so that they fulfill their multiple roles of teaching, research and service).

Vision and Mission of FDC Programme

- To inculcate and promote institutional effectiveness through the development of personal, instructional, organizational, and professional growth of faculty.
- To promote organizational strategies for faculty development so as to incentivize teachers to grow professionally and enable the institutions to grow.
- Faculty development is expected to result in improved teaching performance and better learning outcomes for students and teachers.
- To promote new ways of thinking about the student-teacher relationship, and increased commitment to educational scholarship.
- To develop all round skills are a prominent aspect for faculty development.

Objectives of FDC Programme

- Training program for the entry level teachers or faculties on probation is planned so that the person who enters the college/university/institute is sensitized of his/her roles and responsibilities in their respective organizations.
- Raising the quality of teaching in colleges/universities/institutes.
- The faculty development center will also offer a wide variety of services, as outlined below.
 - Teaching & Learning
 - Research & Creative Activity
 - Career Planning

- Collegial Conversations
- Communication Technologies
- Resources & Support

To know more about the Centre, please visit at www.iitism.ac.in/pdfs/FDC/FDC-Details.pdf

Department of Applied Physics



The Department of Applied Physics is as old as the IIT (ISM) itself, founded in 1926 with the name Department of Physics and Mathematics. Subsequently in 1984 it was converted into the Department of Applied Sciences and then in 1989 it came into existence as a separate department with the present name. Presently, department offers 4-year B. Tech. in Engineering Physics, 2-year M.Sc. in Physics and Ph.D. programmes. Department has a team of 19 Faculty members having collaborations with many of the leading academic & research institutes of India and abroad. Many faculty members of the department received, INSA, BOYSCAST, DAAD, Commonwealth and various other visiting fellowships. The thrust areas of department are Luminescence, Bio-medical, LEDs, Solar cells, Bio- physics and Liquid crystals. Department has a good number of research labs particularly in the area of Materials Science and Optics hosting various equipment like X-ray powder diffractometer, Time resolved spectrophotometer, FTIR spectrometer, UV-Vis spectrometer, LCR meter, Cyclic voltammeter and many more. The department is supported by UGC (SAP) and DST (FIST). The department has produced 64 M. Phil. and about 90 Ph.D. students so far and has published about 1200 research papers in reputed national and international journals.

To know more about the department, please visit at www.iitism.ac.in/index.php/physics



FACULTY DEVELOPMENT CENTRE

(A MHRD, GOI FUNDED CENTRE SANCTIONED UNDER PMMMNMTT)

INDIAN INSTITUTE OF TECHNOLOGY

(INDIAN SCHOOL OF MINES)

DHANBAD 826004, JHARKHAND, INDIA

APPLICATION FOR ADMISSION TO THE

NATIONAL TRAINING PROGRAMME IN SUBJECT:

PHOTO

FOR THE COLLEGE/UNIVERSITY/INSTITUTE TEACHERS (YEAR 2017-2018)

(Part A: To be filled by the candidate)

1. Name (block letters):
2. Designation:
3. Office Address:
4. Phone No.: Mobile No.: Email:
5. Pay Scale: Current Basic Pay: Grade Pay:
6. Date of Birth: ... DD/MM/YYYY ... Male / Female / Trans Gender (Please tick appropriate box)
7. Category: SC /ST /OBC /GENERAL (Please tick appropriate box)
8. Teaching Experience: (Years)..... (Months) in(Subject)
(Please submit xerox copy of **appointment letter**)
If confirmed, date of confirmation as permanent Lecturer/Sr. Lecturer/ Asst. Prof.....
9. **For outstation participants only:** Whether accommodation is required: YES/NO. If **NO** please give your local address:
.....
.....
10. Any other relevant details:
11. **Declaration:** I certify that I fulfil the eligibility criteria and details given above are true to the best of my knowledge and I accept to follow the terms and conditions (enclosed overleaf) of the Faculty Development centre, Indian Institute of Technology (ISM), Dhanbad.

Date:

Place:

Full Signature of the Applicant

(Part B: To be filled by Employer)

The application of Dr./Mr./Mrs./Ms Lecturer/Sr. Lecturer/ Asst. Prof. in this College/Universities/Institute, w.e.f. is being recommended and forwarded to the Co-Ordinator(s), Faculty Development Centre, IIT(ISM) Dhanbad for attending National Training Programme. If selected, he/she will be fully relieved for the entire period of the programme.

Place:

Date:

Phone No.:

**Signature of the Registrar/Principal/Director
(with seal)**



FACULTY DEVELOPMENT CENTRE

(A MHRD, GOI FUNDED CENTRE SANCTIONED UNDER PMMMNMTT)

INDIAN INSTITUTE OF TECHNOLOGY

(INDIAN SCHOOL OF MINES)

DHANBAD 826004, JHARKHAND, INDIA

TERMS AND CONDITION FOR TRAINING PROGRAMME UNDER FDC-IIT(ISM) DHANBAD

1. **Eligibility:** College/Institute/University teachers in **Physics, Chemistry, Materials Science** and other related areas who are in continuous service.

2. **Nature of Support:**

a. **Registration Fee:** NIL.

b. **Boarding & Lodging:** **FREE**, This will cover food, and accommodation on shared basis of outstation participants.

c. **TA/DA:** **The participants will be paid TA/DA as per MHRD, GOI norms.** All outstation participants shall be paid one time to and fro IIIrd AC railway fare from their place of posting to Dhanbad and back through shortest route only on successful completion of the programme. The participants are required to submit the original railway tickets for the to and fro journey.

NOTE: DA will be paid only to those participants who will not avail the facilities of boarding/lodging.

3. All the participants are required to bring **two passport-size photographs**.

4. The programme will be full time through six days a week and classes will be conducted even on holidays except Sundays. The detailed programme shall be provided during registration.

5. Each participant has to deliver a seminar of 15 minutes duration followed by 5 minutes of discussion on any topic related to the theme of the programme. Multimedia LCD projector and overhead projector are available for use. The participants have to bring their own materials (slides in CDs/Pen drive) ready for projection. The time and date of seminar shall be notified during the programme.

6. All participants must register themselves positively on the Inaugural Day at the EDC; IIT (ISM) Dhanbad failing which the selection to participate shall stand cancelled.

7. The participants will also be requested to submit their opinion and suggestions (feedback) on the various components of the programme as well as seminars on the fellow participants.

8. The participants are required to attend all the sessions of the programme sincerely. **No leave shall be granted during the programme.**

9. Only those participants who will complete the programme in all respects shall be eligible to receive the certificate of participation. In case of any default on the part of the applicant, the Co-Ordinator(s), FDC, IIT(ISM) Dhanbad, has all the rights to cancel the admission or withhold payment of TA/DA and the certificate. In such a case no queries will be entertained.

10. Hard copy of complete application in all aspects along with all the documents should reach to any of the Programme Co-Ordinators at following address:

a) **Dr. S. K. Sharma**, Programme Coordinator & Associate Professor, Department of Applied Physics, Indian Institute of Technology (ISM), Dhanbad, Ph: 0326-223-5412 (O); +91-9431121600

Email: sksharma_ism@yahoo.co.in

b) **Dr. Kaushal Kumar**, Programme Co-Coordinator & Assistant Professor Department of Applied Physics, Indian Institute of Technology (ISM), Dhanbad, Ph: 0326-223-5754 (O); +91-9471191739

Email: kumar.bhu@gmail.com

c) **Prof. A. K. Nirala**, Programme Co-Coordinator & Professor Department of Applied Physics, Indian Institute of Technology (ISM), Dhanbad, Ph: 0326-223-5483 (O); +91-9431125123

Email: aknirala@gmail.com