

About Electronics & ICT Academy at PDPM IITDM Jabalpur

Department of Electronics and Information Technology, Government of India has instituted four Electronics and ICT Academies with one academy at PDPM IITDM Jabalpur with the primary objective preparing manpower for two important missions - 'Digital India' and 'Make in India'. The Academy aims at the design and implementation of scalable training programmes in niche areas of electronics and ICT for the development of required knowledge base, skills and tools to unleash the talent of Indian population. The Academy at PDPM IITDMJ will partner with IITM Gwalior, MANIT Bhopal, and IIT Indore run high quality specialized courses for faculty, students and unemployed graduates. In addition, the Academy will conduct customized training programmes and research promotion workshops for corporate sector and educational institutions. The Academy is envisioned to become a central hub of activities on training, consultancy work and entrepreneurship programmes.

About at PDPM IITDM Jabalpur

IITDM Jabalpur was established in 2005 with a focus on education and research in IT enabled Design and Manufacturing. Since its inception, PDPM IITDM Jabalpur has been playing a vital role in producing quality human resources for contribution in India's mission of inclusive and sustainable growth. The Institute offers undergraduate, post graduate and PhD programmes in Computer Science and Engineering, Electronics and Communication Engineering, Mechanical Engineering, Design and PhD programmes in Mathematics and Physics. Under IIT act, the Institute has been declared an Institute of National Importance in January 2015. The Institute campus is being developed on 250 acres of land close to Dumna Airport, Jabalpur. The Institute is 10 kms from the main railway station and 5.5 kms from Dumna airport, Jabalpur

Faculty Development Programme on Digital Signal Processing

Who can attend? The programme is open to faculty, research scholars and master students from all the colleges of MP, CG and Maharashtra. Industry personnel working in the concerned/allied discipline may also apply.

How to apply?

The participants may apply online for the registration in the course clearly mentioning name of the course and its number. In case of any difficulty in filling up the application form online, the same may be downloaded and a scanned copy of the filled application form may be sent to the mail id: academyiitdmj@gmail.com. Selection will be on first-come first-served basis. List of selected participants will be floated on the website of the Academy a month before the commencement of the course. A crossed demand draft in favour of 'Electronics and ICT Academy, IITDMJ' payable at Jabalpur may be sent along with the filled in application form duly forwarded by the head of the institutions/ department once the participant is shortlisted for the course.

Important Dates:

Last Date of Online Registration: October 10, 2015

Spot Registration also available if seats are available.

Course Dates: October 20-27, 2015

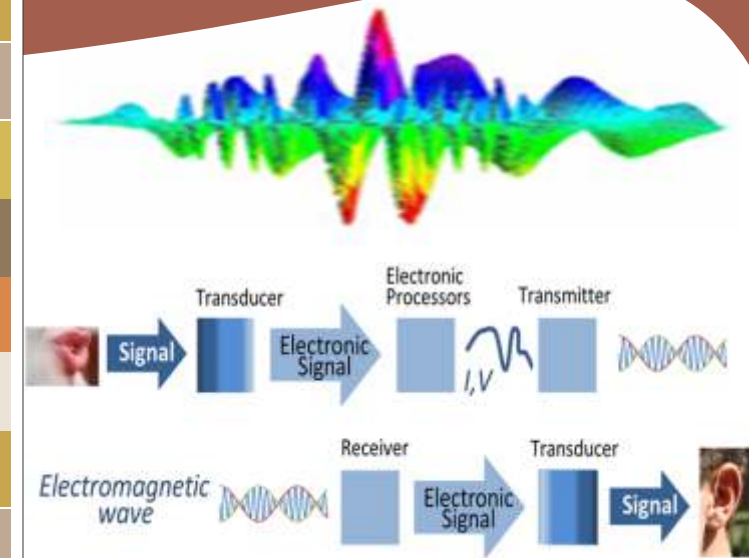
Accommodation:

All the selected participants will be provided boarding & lodging in the institute premise on nominal charges. No Travelling allowance will be paid by the Academy.

Course Coordinators
Dr. Anil Kumar and Dr. Varun Bajaj

Faculty Development Programme on Digital Signal Processing

October 20-27, 2015



Under Electronics and ICT Academy
At PDPM IITDM Jabalpur

An Initiative of
Department of Electronics and Information
Technology, Government of India

Electronics and ICT Academy
PDPM Indian Institute of Information
Technology, Design and Manufacturing,
Jabalpur, Dumna Airport Road, Jabalpur
482005

Building
Human
Resource
For
Digital India
EI&ICT Academy
IITDMJ

Faculty Development Programme on Digital Signal Processing

Introduction and objectives of the course:

This course introduces the fundamentals, implementation and applications of DSP techniques as applied to practical, real world problems. The course addresses the theory and application of filtering, coding, transmitting, estimating, detecting, analysing, recognising, synthesising, recording, and reproducing signals by means of digital devices or techniques. On successful completion of this course, one will be able to:

- formulate engineering problems in terms of DSP tasks;
- apply engineering problem solving strategies to DSP problems;
- design and test DSP algorithms;
- analyse digital and analog signals and systems;
- recover information from signals;
- encode information into signals;
- design digital signal processing algorithms;
- design and simulate digital filters;

Tentative List of Resource Persons:

- Dr. V. M. Gadre, Professor, Department of Electrical Engineering, Indian Institute of Technology Bombay.
- Dr. Haranath Kar, Professor, Department of Electronics & Communication Engineering, Motilal Nehru National Institute of Technology Allahabad.
- Dr. Anil Kumar, Assistant Professor, Discipline of Electronics and Communication Engineering, PDPM IITDM Jabalpur.
- Dr. Varun Bajaj, Assistant Professor, Discipline of Electronics and Communication Engineering, PDPM IITDM Jabalpur.

Course Content

Module1: Introduction: Classification of systems: Continuous, discrete, linear, causal, stable, dynamic, recursive, time variance; classification of signals: continuous and discrete, energy and power; mathematical representation of signals; spectral density; sampling techniques, Nyquist rate, aliasing effect.

Module2: Discrete Time System Analysis: Z-transform and its properties, inverse z-transforms; difference equation - Solution by z transform, application to discrete systems - Stability analysis, frequency response convolution - Fourier transform of discrete sequence - Discrete Fourier series.

Module3: Discrete Fourier Transform and Computation DFT properties, magnitude and phase representation - Computation of DFT using FFT algorithm DIT & DIF - FFT using radix 2-Butterfly structure.

Module 4: Realization of Digital Filters FIR & IIR filter realization: Direct form-I, direct form-II, and Parallel & cascade forms, polyphase realization.

Module 5: Design of Digital Filters FIR design: Windowing Techniques - Need and choice of windows - Linear phase characteristics. IIR design: Analog filter design - Butterworth and Chebyshev approximations; digital design using impulse invariant and bilinear transformation Warping, prewarping - Frequency transformation.

Module 6: Finite word length effects in FIR and IIR digital filters: Quantization, round off errors and overflow errors. Overview of DSP processors.

Contact Us

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Course Coordinators

**Data Structures and Algorithms using C
Electronics and ICT Academy**

PDPM Indian Institute of Information Technology, Design
and Manufacturing, Jabalpur
Dumna Airport Road, Jabalpur 482005

Application Form

Name of the Course / Programme:

Name of the Applicant (first, last):

Gender:

Designation:

Name and Postal Address of the Organization/Institute/college:

City/town:

Email:

Alternate email (if any)

Phone Number:

Mobile Number:

Do you need accommodation? Yes/No. If Yes

Date and time of arrival

Date and time of departure

Note: Accommodation and meal facility will be available only from the evening of October 19 to the morning of October 28, 2015.

Name and designation of the authority who forwarded the application /gave approval for attending the course)

Details of the Demand Draft: Number, Date, Issuing Bank, payable at

Signature of the Applicant

I hereby agree to relieve Mr./ Ms./ Dr.
In case she/he is selected to attend the programme.

Signature and Seal of the Forwarding Authority