

Faculty Development Program On Recent Advances in Power Electronics Applications with MATLAB Simulations

Under the edges of
Electronics and ICT academy at National
Institute of Technology Patna

25 May to 30 May, 2020



Patron

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Organized by

Electronics and ICT Academy, National Institute of
Technology Patna, Patna- 800005. India.

www.nitp.ac.in/ict/

Supported by

Ministry of Electronics and Information Technology,
MeitY, Govt. of India.

About NIT Patna

National Institute of Technology Patna is the 18th National Institute of Technology created by the Ministry of H.R.D. Government of India after rechristening the erstwhile Bihar College of Engineering Patna on 28.01.2004. NIT Patna marked its humble beginning in 1886 with the establishment of pleaders survey training school which was subsequently promoted to Bihar College of Engineering Patna in 1924. This made this institute the 6th oldest Engineering Institute of India. The Institute is situated on the south bank of holy river Ganges behind Gandhi Ghat (where the ash of father of the Nation, Mahatma Gandhi was offered in the river Ganges). The campus has a picturesque river view with historic building presenting a spectacle of architecture delight and natural beauty. The Institute imparts high level education training, research and development in science, engineering technology and humanities along with high quality education and values at UG, PG and Ph.D. level. At present the Institute offers courses in six major technical disciplines viz. Architecture, Civil Engineering, Computer Science & Engg., Electrical Engg., Electronics & Communication Engg. and Mechanical Engg. It also consists of well-established departments of Physics, Chemistry, Mathematics and Humanities and Social Sciences.

Electronics and ICT Academy

Ministry of Electronics and Information Technology, Government of India has instituted seven Electronics and Information & Communications Technology (ICT) Academies of which, the academy of NIT Patna is one. The Academy at NIT Patna aims to design and

organize basic as well as specialized training programmes in niche areas of electronics and ICT for the development of required knowledge base, skills and tools to equip the teaching community with better knowledge and understanding.

Objective and Scope

With the integration of Renewable energy sources in to power system the role of power electronics has become extremely important. Now a day's power electronics has tremendous application in modern domestic and industrial field. This program will focus on concept of power electronics, and its application in improving the performance/efficiency of electrical system. This FDP will focus on a large variety of applications including smart appliances, highly efficient power converter, smart grid, power quality improvement techniques, recent trends in electric vehicle technology, and efficient electric drives. The details of multi-level and multi-pulse converters, quality improvement of power supply will be elaborated in detail. The program will include expert lectures on relevant topics and hands on practice of simulations on MATLAB for all participants.

Overall, this FDP is serving to be a great platform to upgrade their knowledge in Power Electronics application in all relevant area.

Objectives of the Program

- To provide complete theory, design, simulation, and application of Power Electronics in modern time.
- Applications like Renewable energy utilization, distributed generation & micro-grid, electric vehicle, and electric drives.
- Focus will be on developing the design, simulation, control of different type of general purpose & multi-level converters.
- Use of MATLAB for development of Power Electronics based system.

Topics to be covered

- ❖ Introduction to Power Electronics & its Application in modern society
- ❖ Review of Various Converters/Inverters with MATLAB Simulation
- ❖ Multi-Level and Multi-Pulse Converters with MATLAB Simulation
- ❖ Role of Power Electronics in Renewable Energy based Power Generation
- ❖ Application of Power Electronics in AC & DC Drives
- ❖ Micro Grid and Distributed Generation
- ❖ Electric Vehicle, Challenges and Future Scope
- ❖ Hands-on based training on different Power Electronics Converters on MATLAB

Resource Persons

- Dr. Madhukar Waware, Dy Director AICTE New Delhi
- Dr. Jignesh Makwana, Founder & MD RhyMak Electronics
- Dr. Sanjiv Kumar, HBTU, Kanpur
- Dr Rakesh Maurya, SVNIT Surat
- Dr. Subhash Chander, GCET, Jammu
- Dr. Pradyumn Chaturvedi, VNIT Nagpur
- Dr. Vimlesh Verma, NIT Patna
- Dr. D.K. Dheer NIT Patna
- Dr. A. Mishra, NIT Patna

One-week FDP Includes

Six Days Training will be taken by group of Experts in different area of Power Electronics with the experience of years to decades in the industry and academics. The training hour is 6-7 hours/ each day. Mode of training is Instructor-led live online

- ✚ 40 Hours Instructor-led live online Hands-on based learning & Interactive Query Session.
- ✚ Soft copy of study material will be provided.

✚ Certificate from E & ICT Academy NIT Patna

Who Can Participate

Faculty members of AICTE recognized Universities and Engineering colleges all over India, Research scholars, students and Industry personals, however priority will be given to the faculty members.

Registration Fee

- ✚ Faculty/ Research Scholar (PhD): Rs. 500/-
- ✚ Students: Rs. 500/-,
- ✚ Industry and others: Rs. 1000/-

Registration Process

1. Registration fee will be paid though online mode, the account details for this purpose is

Account Name: NIT Patna
Account No.: 50380476798
IFSC Code: ALLA0212286
Allahabad Bank

2. Link for registration:

<https://forms.gle/zz7325BGoPS9Qj8DA>

3. The brochure of the program may be downloaded from the Institute website www.nitp.ac.in.

4. Last date of registration: 24.05.2020

Total -100 seats and the selection will be done on first-cum-first-serve basis. The registration fee to paid online and form given in link. PDF file of online filled registration form with proof of registration fee paid will be sending though email to **Dr. A. Mishra. (Email: ambrish.mishra@nitp.ac.in)**

Faculty Development Program
on

Recent Advances in Power Electronics Applications with MATLAB Simulations

(25 to 30 May, 2020)

REGISTRATION FORM

1. Name (block letter):
2. Gender:
3. Caste:.....
4. DOB:.....
5. Designation
6. Organization:
7. Address for communication:
-
-
- Pin code: Ph. No.:
- E-mail:
8. Highest Academic Qualification:
9. Specialization:
10. Experience (in years):
(a) Teaching: (b) Industrial:
11. Aadhar No:.....

DECLARATION

I do hereby agree to abide by the rules and regulations of the FDP.

Place:

Date:.....

.....
Signature of the Applicant