

ABOUT MANIT BHOPAL

Maulana Azad National Institute of Technology (MANIT), Bhopal is an Institute of National Importance, formerly known as Maulana Azad College of Technology (MACT). The Department of Electrical Engineering offers two M.Tech. courses, one in Electrical Drives and other in Power System. It also offers Doctoral programs leading to PhD degree. The Department has well developed laboratories and state of art CAD lab.

Bhopal, the capital of Madhya Pradesh, is also known as city of lakes. It is well connected to all parts of the country by rail and air. The institute is about 9 km from Bhopal railway station, and 07 km from Habibganj station.

About Electronics & ICT Academy, IIITDM Jabalpur

Department of Electronics and Information Technology, Government of India has instituted seven Electronics and ICT Academies with one academy at PDPM, IIITDM Jabalpur with the primary objective of preparing manpower for two important missions - 'Digital India' and 'Make in India'. The academy aims at 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. In addition to the faculty development programmes on fundamental and advanced topics, the Academy conducts customized training programmes for corporate sector and research promotion workshops in emerging areas. The Academy is envisioned to become a central hub of activities on training, research, consultancy work and entrepreneurship programmes.

ELIGIBILITY

Faculty from degree level academic institutions, in *Electrical, Electronics & Communication, Electrical & Electronics Engg.* are eligible to attend. Research Scholars/M.Tech students may also be considered subjected to seats availability. Participants from Govt. organizations Industry, and PSU may also apply.

PATRON

**Dr. Vinod K. Singh, Director MANIT,
Bhopal**

**Dr. Pramod Kumar Jain, Director,
IIITDM, Jabalpur**

COURSE COORDINATORS

MANIT, BHOPAL

Dr. R.K. Nema, Professor
rk_nema@yahoo.com, (M): 9425376497

Dr. Shailendra Jain, Professor
sjain68@gmail.com, (M): 94065 40720

Dr. Savita Nema, Professor & Head
s_nema@yahoo.com, (M): 9425607497

Dr. Pankaj Swarnkar, Assistant Professor
p_swarnkar@yahoo.co.in (M): 9754129339

IIITDM, JABALPUR

Dr. P. N. Kondekar, Professor
pnkondekar@gmail.com, (M): 09425805445

ADDRESS FOR CORRESPONDENCE

Dr. R. K. Nema,
Professor
Department of Electrical Engineering,
MANIT Bhopal – 462 003 (M.P.)
Ph: 0755 4051400, 4051406
0755 4051410, 4051417.

Note : All post/email correspondence must be addressed with the **subject "APEDEC 2017"**

Advances in Power Electronics Devices, Converters and Digital Controllers

APEDEC-2017

July 03-07, 2017

FACULTY DEVELOPMENT PROGRAM
Under Electronics and ICT Academy

An Initiative of
Ministry of Electronics and Information Technology
Government of India



Organised By

DEPARTMENT OF ELECTRICAL ENGINEERING
Maulana Azad National Institute of
Technology Bhopal – 462 003

Ph. : 0755-2671416, 2670417
Fax: 0755-2671428, 2670562

www.manit.ac.in

&

**Indian Institute of Information
Technology, Design and Manufacturing**

Dumna Airport Road, Jabalpur
Tel: +91-761-2632 044, 2632696
Email: academyjbp@gmail.com

INTRODUCTION

Development of Power Semiconductor Devices and Microelectronic Technology has revolutionized the applications in Electrical and Electronics Engineering with the focus on Smooth Control & Improved Efficiency. In recent years, Power Electronic converters are widely employed to control flow of power to almost all types of electrical and electronics appliances ranging from few watts to MWs. With this widespread use of power electronics a one week short term training program is proposed with following objectives :

- To apprise participants with conventional and advanced power semiconductor devices and converters.
- To develop knowledge, and skill for simulation and design of Power Electronics Converter and Controller by selecting suitable power devices and driver and ancillary circuits for a given application.
- To develop modeling and simulation skill for power electronics design.

ACCOMMODATION AND TA/DA

Limited accommodation for participants shall be arranged in Institute's Guest house/ hostels on advance request on chargeable basis.

HOW TO APPLY

Apply online through link <http://bit.ly/2oXFP7Q>
After receiving provisional confirmation, send duly **completed registration form** along with DD for *registration fee* drawn in favor of "Director MANIT, Bhopal" to the Course Coordinators. Participation will be confirmed only after receipt of *registration form along with DD* of applicable Fees. **The last date of submitting the Registration form is 28 June 2017.**

CONTENT

The major topics covered in the FDP are :

- Power Devices Basics: VDMOS and Silicon Limit, Bipolar vs MOS power devices.
- Breaking Si limit using Super Junction, R_{on} and Voltage breakdown relationship.
- SJ Mosfet and its Application, SiC switches and its applications.
- Converter Basics & Ancillary Issues: Driver Circuit and Snubber Circuit Design.
- PWM Converters: Principle, Design and applications.
- High Power Factor Converters and Multilevel Inverters.
- Switched Mode DC-DC Converters.
- Controller Design of DC-DC Converters.
- Modeling & Simulation of Power Electronics Converters.
- Power Converters in Electrical Drives and Consumer electronics Applications.
- Microcontroller and DSPs Application in Power Electronics Converters.
- Laboratory Exercise and Practice.

ABOUT THE FACULTY

Experts are mainly drawn from organising Institution MANIT and IIITDM. In addition, expert shall also be invited from IITs / NITs / IIITs / IIITDMs and other reputed institutions / industries.

COURSE FEES

Participants Category	Registration Fees
Faculty of Academic institutes	Rs. 1500/-
Research Scholar	Rs. 1000/-
Industries/PSU and other organizations	Rs. 5000/-

The Course fees include course material working lunch and snacks.

REGISTRATION FORM FACULTY DEVELOPMENT PROGRAM

Advances in Power Electronics Devices, Converters and Digital Controllers

July 03-07, 2017

APEDEC-2017

Name: _____

Designation: _____

Qualification: _____

Organization: _____

Teaching Experience: _____

Mailing Address: _____

Phone : _____

Email: _____

Payment Details

Bank	DD No.& Date	Amount

Signature of Applicant

Date:

Signature of Sponsoring

Authority with seal