

## Objective of the Summer Internship Program

This workshop is designed to keep in mind the need of Undergraduate and Post Graduate Students of Engineering who have enthusiasm to learn the Emerging trends of Electrical Engineering especially the field of Electrical Machines and Power Electronics with Simulation and Practical study. This program will enhance student's skill by exploring their domain knowledge of Power Electronics and others on Hardware platform by designing & fabricating small circuits in Laboratory. This training course shall cover both theoretical as well as the practical aspects for coming final year B.Tech projects and also it will help them in Campus Interview by describing these designing parts to Companies and they can show their ability to work on Software & Hardware platforms. The main theme of training program will oriented around Power Electronics as this subject is a back bone in Electrical & Electronics Engineering which covers all converters section, regulated and unregulated power supplies, gate driver circuits, and many more like role of controllers i.e. DSP, FPGA, ARM-Cortex, etc. in the designing of algorithms. Power electronics and motion control have emerged as very important technologies in the recent trend of industrial automation. This training program aims to cover those recent features of Power Electronics and their associated applications in form of Simulation and Hardware which is a small contribution to make India to become a Skill Capital of the World.

## Course Content

The major course contents of the program are:

- Introduction of MATLAB, Power Electronics and Electrical Machines.
- Introduction of Power Supplies.
- Analog and Digital Design of Electronic System.
- Hands-on practice of MATLAB Simulating Software.
- Power Electronic Converters- Design, Principle, Modelling and Simulation Techniques.
- Designing & Fabrication of Power Supply.
- Microcontroller based Power Electronics System Development
- Hands-on practice of designing & fabrication of power electronic converters including Gate & Power circuitry.
- Basic of Microcontroller and Pulse Generation

- Challenges and Opportunities in Power Electronic area and Renewable Energy Sources
- Control Circuit Implementation using Digital Controllers like DSP TMS320F28335, ARM-Cortex

## Resource Persons

The various sessions of this internship program will be precede by faculty members of MNIT Jaipur and faulty of other reputed institutions like IITs, NITs and experts from industries. During the programme, participants will have lectures from them and will have chance to interact local faculty working in power electronics and machines area.

## Eligibility / Target Audience

This summer internship program is targeted towards UG and PG students of Govt. / Govt. aided / Private/ Self-financed engineering colleges and others. All the undergraduate students who are appearing in the 4th and 6th semester examinations are eligible to apply.

## How to Apply / Registration

**UG Students (EE/ EEE/ EC) 9000 + GST @18%**  
**PG Students 9000 + GST @18%**  
(Note:- PG specialization should be in Power System/ Power Electronics/ Control System).

Fee shall be paid by Demand Draft in favour of "**Registrar, MNIT Jaipur**" payable at Jaipur. Duly filled application by student in the prescribed format and sponsored by the respective Head of Department, may be sent to the Coordinator so as to reach on or before **9<sup>th</sup> April 2020**. The applicant may also send an advance scanned copy of the application form and DD-copy through E-mail. The selection is on first come first served basis depending upon the availability of the seats. Registration charges are non-refundable for selected participants.

## Address for Communication

**Dr. Nitin Gupta**

Assistant Professor, Department of Electrical Engineering,  
Malaviya National Institute of Technology,  
J.L.N. Marg, Jaipur-302 017, Rajasthan  
Mobile:- +91-9549658136 E-mail- nitingupta.ee@mnit.ac.in

## Registration Form

### Summer Internship Program

on

### *"MATLAB Modelling with Designing & Fabrication of Power Electronic Converters"*

19<sup>th</sup> May – 3<sup>rd</sup> July, 2020

Department of Electrical Engineering  
MNIT Jaipur - 302 017 Rajasthan

Name : \_\_\_\_\_

Category (UG/PG): \_\_\_\_\_

Branch: \_\_\_\_\_

Year of Study: \_\_\_\_\_

Department: \_\_\_\_\_

Institute: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Phone (M1) \_\_\_\_\_ (M2) \_\_\_\_\_

E-mail: \_\_\_\_\_

Accommodation required? **Yes / No**

Registration fee details

Draft No. \_\_\_\_\_ Dt \_\_\_\_\_

For Rs \_\_\_\_\_ in favour of "**Registrar, MNIT Jaipur**" is enclosed.

The above information provided is true and to the best of my knowledge. If, selected, I agree to abide by the rules and regulations of the program and MNIT Jaipur.

**Date:** \_\_\_\_\_ **Signature of Candidate**

The applicant will be permitted to participate in the above program, if selected.

**Date:** \_\_\_\_\_ **Signature of HOD**  
**with Seal**

## About MNIT Jaipur

Malaviya National Institute of Technology Jaipur (Deemed University) is one of the premier NITs, designated with the status of “**Institute of National Importance**” by MHRD. The institute was established in 1963, and its campus spreads over 325 acres of lush green area in the central location of Jaipur city. The institute offers undergraduate and postgraduate courses (B.Tech., M.Tech. /MBA / M.Sc. & Ph.D.) to about 4500 students, in leading fields of engineering, technology, architecture, management & sciences. Through the internationally renowned faculty, laboratories with state of art equipments and excellent infrastructure, the institute is actively engaged in research, consultancy and developmental activities, besides imparting regular teaching.

## Electrical Engineering Department, MNIT Jaipur

The Department is one of the oldest departments of the institute, offering a fine blend of experience and innovation in teaching. Presently, offering under-graduate and post-graduate studies in Electrical Engineering and Power Systems & Power Electronics Engineering, respectively. The department is home to over 35 research scholars, pursuing Ph.D. in varied fields of Electrical Engineering. The department provides a life-long learning experience, through its state of art laboratories, vast pool of courses, and industry-orientation. A strong collaborative framework with reputed universities in India and abroad, the department offers ample opportunities for individual growth.

## About Jaipur, Rajasthan

The city of Jaipur also known as Pink City and is the capital and largest city of Rajasthan. Jaipur has the attractions like Hawa Mahal, Amber Fort, Jaigarh Fort, Nahargarh Fort, Jal Mahal, Kanak Vrindavan Valley, City Palace, Jantar Mantar, Albert Hall Museum, Sisodia Rani Garden, Govind Devji Temple, Birla Temple. It is a bustling trading centre with colourfully set bazaars, people sporting blood red turbans, puppet sellers, festivals and fairs. October to March is best time to visit Jaipur. Jaipur is well connected by road, rail and air services. It is about 250 kms from Delhi. MNIT Jaipur is

situated on JLN Marg and is about 9 kms each from main railway station of Jaipur and from Central Bus Stand (Sindhi Camp). Airport is about 3 kms away from the institute.

## Organizing Committee

### Patron

Prof. Udaykumar R Yaragatti, Director, MNIT-Jaipur

### Program Coordinators

Dr. Nitin Gupta, Dept. of Electrical Engg., MNIT-Jaipur

Dr. Satyanarayan Neeli, Dept. of Electrical Engg., MNIT-Jaipur

## Accommodation

**Limited accommodation** is available in the MNIT Hostels for outstation participants on nominal charge and first come first serve basis. The participant will not be paid any TA/DA. Charges of Institute Hostels are approximately Rs. 300/- per day including food charges.

## Dates to remember

Last date of receiving complete 9<sup>th</sup> April 2020 Registration form

Confirmation of Selection by E-mail 1<sup>st</sup> May 2020

Internship Duration 19<sup>th</sup> May to 3<sup>rd</sup> July 2020



# Self-financed Industry Oriented Summer Internship Program - 2020

With Aim

“Make India the Skill India”

on

*MATLAB Modelling with  
Designing & Fabrication of Power  
Electronic Converters*

May 19<sup>th</sup> – July 3<sup>rd</sup>, 2020



**Malaviya National Institute of  
Technology Jaipur**

Venue

**Department of Electrical Engineering  
Malaviya National Institute of Technology**

**Jaipur- 302 017**

**Rajasthan- India**

**(www.mnit.ac.in)**