

Whom the course will benefit

Power converter topologies, basic PWM schemes, and induction motor drives are parts of UG and PG level power electronics courses. The proposed STC will be useful to electrical engineering teachers handling power electronics and related subjects. Besides researchers and R&D engineers in the areas of PWM, motor control, UPS, power quality and renewable energy will also be benefited.

Course objectives:

To provide the participants with:

- In-depth understanding of basic power converters
- Knowledge of alternative methods to generate variable-frequency variable-voltage ac from fixed dc voltage using a voltage source inverter
- Ability to assess the performances of alternative schemes including definition of performance metrics

Course Contents and organization

The course will consist of lectures and tutorials organized into 10 sessions as follows:

- Power converter topologies: dc-dc, voltage-source and current-source converters.
- Review of Fourier series, waveform symmetries and their implications.
- Low switching frequency PWM, selective harmonic elimination PWM.
- Sine-triangle PWM, third harmonic injection PWM and bus-clamping PWM.
- Concept of space vector and SVPWM.
- Conventional SVPWM and its carrier based equivalent.
- Bus-clamping and advanced bus-clamping PWM.

- Analysis of current ripple and torque ripple.
- Inverter switching loss and PWM.
- Outcomes of recent research in the area of PWM.

Faculty:

IISc faculty will deliver the lectures.

Eligibility:

The course is meant for faculty of AICTE – recognized engineering colleges. Selected teachers will be paid TA at actual subject to the limit of Three tier AC train/bus fare by the shortest route from the place of work to Bengaluru and back. **However, the maximum TA payable is Rs.3000/-**. They will be provided with a daily allowance of Rs.500/- (for 5 days only) towards boarding and lodging as per QIP rules, and will be supplied with the course materials.

The lodging charges will be Rs.300/- per day.

Local participants will be paid DA @ Rs.150/- per day for 5 days.

A few seats are available for non-sponsored (self-support) teachers, scientists from R&D organizations, practicing engineers from industry and others interested in this course. **A course fee of Rs.10,000/- will be charged to these participants.** This will entitle them to participate in the course and receive the course material. Single room **accommodation** is available on the Institute campus at the **Hoysala House**. The participants have to request in advance along with the registration form for such accommodation. The lodging charges will be **Rs.1000/- per day**, for self –support college teachers and **Rs.1500/- per day** for industry participants, subject to availability of accommodation.

CENTRE FOR CONTINUING EDUCATION Indian Institute of Science Bengaluru – 560 012

QIP Short Term Course On

Pulse Width Modulation Techniques for Voltage Source Inverters

21 – 25 November, 2016

Registration Form

(Please mail to reach before 28th October, 2016)

1. Name.....
2. Age:..... Sex: Male/Female
3. Office address
.....
.....
.....
4. Landline No. with STD code:.....
5. Mobile No.
6. Email ID:.....
7. Academic Qualifications
Degree subject year University
Diploma/B.Sc./B.A.....
B.E/B.Tech/M.Sc.
M.E/M.Tech./M.Phil.....
Ph.D. Completed/Pursuing/Intend pursuing:.....
Thesis title/Proposed Research Area:.....
.....
.....

8. Teaching Experience.....(Years)
9. Industry Experience(Years)
10. Courses taught/professional responsibilities.....

11. Accommodation required Yes / No
12. Self-support candidate : Rs. 10,000/-
 Demand Draft No..... dated.....

I agree to abide by the rules of the QIP courses. If selected, I shall participate in the course for the entire duration.

Date:
Place:

Signature

The applicant Mr/Ms.....

from our institution will be permitted to attend the QIP Short Term Course on “Pulse Width Modulation Techniques for Voltage Source Inverters” to be held during 21st – 25th November, 2016, at the Indian Institute of Science, Bengaluru, if selected. He/she will be granted necessary leave of absence.

Place:

Date:

Signature of Head of the
Department

Signature and Seal of the
Principal of the Institution

(Xerox copy of this form may also be used)

Please mail this application to:

The Section Officer
Centre for Continuing Education
Indian Institute of Science
Bengaluru - 560 012

Telephone: 080-23600911, 22932055

Fax No: 080-23600911

Email: office@cce.iisc.ernet.in

To reach on or before 28th October, 2016

Intending participants may use the attached application form or a Xerox copy of the same. Applicants from AICTE recognized colleges are required to submit their applications sponsored by their colleges. Non-sponsored (self-support) teacher applicants should send their application along with a **DD for Rs.10,000/-** drawn in favour of “Registrar, Indian Institute of Science, Bengaluru-560012” payable at Bangalore.

Deadlines:

Receiving completed applications: **28th October, 2016**

Intimation of selection: **2nd November, 2016**

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21st – 25th November, 2016

Coordinator

Prof. G. Narayanan
Dept. of Electrical Engineering

Sponsored by
AICTE, NEW DELHI



Centre for Continuing Education
Indian Institute of Science
Bengaluru – 560 012
<http://www.cce.iisc.ernet.in>