10. The reimbursement of travel expenses is limited to a maximum Rs. 3,000/- We request you to inform us if you require reimbursement of travel expenses.

Date: 

Signature of applicant

Note:

1. This application form should reach the QIP Office latest by 20.12.2018.
2. We will not entertain applications without sponsorship certificate.
3. Please note that 100% attendance is compulsory for the course.

SPONSORSHIP CERTIFICATE

This applicant is permitted to participate in the above programme if selected. Further, I have personally talked to the applicant and he/she is confident of attending the course in case admission is offered to him/her.

This is to certify that this institute is recognized by AICTE.

Date: 

Signature 
Sponsoring Authority 
(Principal / Director)

Objective of the Course

Power electronic converters are now employed in almost every industrial as well as domestic application ranging from few watts to several megawatts. Pulse width modulated PWM inverters are now becoming integral part of applications such as adjustable speed drive system, traction system, high voltage DC (HVDC) system, active power filters etc. Generally, two-level inverters are used in high power and high voltage applications suffer from the drawback of generating large common mode voltages, more switching losses etc. Multilevel inverters (MLI) are emerged as a viable alternative over the conventional two-level inverters in high voltage, high power applications due to reduced voltage stress across the power switches, low dv/dt stress, low EMI emissions and better harmonic spectrum of output voltage and current. During the last two decades, MLI has been researched, developed and implemented in high voltage and high power applications. With the development and advances in switching speed and capacity of the power semiconductor devices, various topologies of MLI are developed. The aim of the proposed course is to discuss the various topologies of Multilevel Inverters. Different control schemes such as Sinusoidal PWM and Space Vector PWM techniques will be dealt to improve performance of the MLI.

Course Contents

a) An overview of Multi Level Inverter - 1
b) Two Level Inverter and PWM Techniques - 2
c) Space Vector Modulation in Two-Level Inverter - 2
d) Multilevel Inverter Topologies - 3
e) PWM Techniques for Multilevel Inverter - 2
f) Multilevel Inverter based Active Power Filter - 2
g) Multilevel Inverter for AC Motor Drive - 2
h) Multi-level converters - 2
i) Multi-level Inverters for Renewable Energy - 2

Course Coordinator(s)

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Dr. Mukesh Kumar Pathak  
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Mob.: 9458314144  
Email: mukesfee@iitr.ac.in
**General Information**

The Indian Institute of Technology Roorkee is organizing a course on “Multi Level Inverter and Its Applications” from 04.02.2019 to 08.02.2019. The course is open to teachers from AICTE-recognized engineering colleges.

Limited seats are available in this course. Merit will be taken into consideration while selecting candidates. The application on the enclosed form, duly signed by the sponsoring authority, should reach the QIP Office latest by 20.12.2018. The candidate will be informed of his/her selection in advance.

Candidates admitted will be provided free hospitality. The boarding and lodging arrangements for all the participants will be made in the Institute Guest House on twin sharing basis. Participants who are not availing this facility will not be entitled to any rebate. Family accommodation is not available on campus. However, personal arrangements in city hotels can be made at own expense.

Applications on the attached form with due sponsorship should be sent to the address given below. In case sponsorship takes time, one can send an advance photo copy, so as to reach before the due date by email. However, no candidate will be admitted without due sponsorship.

Although, the course is for faculty members from AICTE approved engineering colleges, few seats are available for sponsored candidates from industries. The registration fee is ₹ 10,000/- which includes boarding, course material and other local hospitality. This does not include accommodation which can be booked separately on request with payment commitment.

**About Roorkee**

Roorkee is located at the foothills of the Himalayas in Uttarakhand State. The Railway Station is on the main line of Northern Railways with direct links to Delhi, Mumbai, Calcutta, Amritsar, Jodhpur and Ganganagar. It is also within easy reach from Delhi by road (180 km), and is located on Delhi - Haridwar and Delhi - Dehradun bus routes. Roorkee is ideally located near several tourist destinations, including Dehradun (70 km), Mussoorie (100 km), Haridwar (32 km), and Rishikesh (52 km).

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**List of Short Term Courses during 2018 – 2019**

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of Course Coordinator</th>
<th>Department</th>
<th>Course Title</th>
<th>Duration</th>
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<tbody>
<tr>
<td>1.</td>
<td>Prof. V.C. Srivastava Prof. P. Goipnath</td>
<td>Chemical Engg. and Biotechnology</td>
<td>Nanotechnology: Basics and Bio-Chemical Applications</td>
<td>May 21 – May 25, 2018</td>
</tr>
<tr>
<td>3.</td>
<td>Prof. Sandeep Kumar Prof. Manoj Misra</td>
<td>Computer Science and Engineering</td>
<td>Developments in software Development Practices and Technologies Needed for Digital India Programme</td>
<td>May 28 – June 1, 2018</td>
</tr>
<tr>
<td>4.</td>
<td>Prof. J.K. Nayak Prof. Ram Manohar Singh</td>
<td>Management Studies and Humanities &amp; Social Sciences</td>
<td>Multivariate Data Analysis</td>
<td>May 25 – June 01, 2018</td>
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<tr>
<td>6.</td>
<td>Prof. Sumana Ghosh Prof. Vimal Kumar</td>
<td>Chemical Engineering</td>
<td>Multiphase Flow in Miniature Systems: Flow Modelling &amp; Applications</td>
<td>June 04 – 08, 2018</td>
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<td>7.</td>
<td>Prof. P.N. Agrawal Prof. D.N. Pandey</td>
<td>Mathematics</td>
<td>Probability Theory and Its Applications to Problems in Engineering (Two Week)</td>
<td>June 04 – 15, 2018</td>
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<td>8.</td>
<td>Prof. Mukesh Kumar Baner Prof. Usha Lanka</td>
<td>Management Studies</td>
<td>Capacity Building Program on Entrepreneurship Education</td>
<td>June 11 – 15, 2018</td>
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<td>9.</td>
<td>Prof. N.P. Padiya Prof. Premalata Jena</td>
<td>Electrical Engineering</td>
<td>Innovative Techniques for Hybrid AC-DC Smart Grid Monitoring, Operation and Protection</td>
<td>June 18 – 22, 2018</td>
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<tr>
<td>11.</td>
<td>Prof. Apurba Kumar Sharma Prof. Inderdeep Singh</td>
<td>Mechanical &amp; Industrial Engineering</td>
<td>Innovative Products: Conceptualisation to Commercialisation</td>
<td>June 25 – 29, 2018</td>
</tr>
<tr>
<td>12.</td>
<td>Prof. Shahir Sinha Prof. Rama Bhardwaj</td>
<td>Chemical Engineering and Mathematics</td>
<td>Mathematical Modelling and Numerical Simulation of Various Engineering Problems in Transport Phenomena</td>
<td>July 02 – 06, 2018</td>
</tr>
<tr>
<td>13.</td>
<td>Prof. Vivek Kaushik Prof. Satyendra Garg</td>
<td>Metallurgical and Materials Engineering</td>
<td>Physical Simulation of Thermo-Mechanical Processes – Analysis and Integration</td>
<td>July 02 – 06, 2018</td>
</tr>
<tr>
<td>14.</td>
<td>Prof. Sonal Ahire Prof. Sudhakar Bhat</td>
<td>Architecture and Planning</td>
<td>Research Techniques in Art, Architecture &amp; Design</td>
<td>July 09 – 13, 2018</td>
</tr>
<tr>
<td>15.</td>
<td>Prof. Partha Pratim Roy Prof. R. Babarasa &amp; Babarasa</td>
<td>Computer Science and Engineering</td>
<td>Machine Learning and Its Applications</td>
<td>July 09 – 13, 2018</td>
</tr>
<tr>
<td>16.</td>
<td>Prof. B. Satyaprakash Prof. Y.K. Sharma</td>
<td>Physics</td>
<td>Emerging Trends in Energy Research: Conversion, Storage and Integration</td>
<td>July 16 – 20, 2018</td>
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<td>17.</td>
<td>Prof. Thang La Ly &amp; Chieh Professor Deepak Khare</td>
<td>WDR &amp; M</td>
<td>Applications and Challenges in Multi-Channel Megawatt Power Electronic Systems</td>
<td>July 16 – 20, 2018</td>
</tr>
<tr>
<td>19.</td>
<td>Prof. Pramod Agarwal Prof. Mukesh Kumar Pathak</td>
<td>Electrical Engineering</td>
<td>Multi Level Inverter and Its Applications</td>
<td>Feb. 4 – 8, 2019</td>
</tr>
</tbody>
</table>

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**Application Form for Short Term Course (STC)**

**Duration:** 04.02.2019 to 08.02.2019

(You may get the form enlarged by xeroxing on A4 Size paper or download Application Form from website: www.iitr.ac.in for submission of your application)

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1. Name: Ms./Mr./Dr. (In block letters)
2. Designation:
3. Age (years):
4a. Residential address with pin code, telephone no., mobile Tel:
4b. Complete official mailing address: (Including name of state and pin code number)
   Email: Phone (Off.): Fax:
4c. Name of the Institute where employed:
4d. Name of the Department:
5. Academic qualification (degree onwards) (Attach Brief CV):
6. Specialization:
7. Teaching experience in years:
8. Subjects taught related to this STC:
9. No. of STCs attended so far

At Roorkee ……… At other places ……… Total ………