9. Probability of your (a)    (b) 100%    90-100%
    Attending the course,
    If admitted.
    Please tick (✓) the
    Appropriate box
    (c)     (d) 80-90%  70-80%

10. TA required
    (Please tick (✓) the
    Appropriate box)

    Yes            No

The participant will be paid TA up to 3rd A.C. by
train through the shortest route subjected to
production of travel documents.

Date        Signature of applicant

Note :
1. This application form should reach QIP Office
   latest by 14.06.2010.
2. Please do not come to Roorkee to attend the
course unless you have received admission letter
or intimation from us for the same. No applicant will
be admitted to the course on the spot.
3. Please note that in the course 100% attendance is
   compulsory.

SPONSORSHIP CERTIFICATE

The applicant will be permitted to participate in the
above programme, if selected. Further, I have
personally talked to the applicant and he/she seemed to
be sure to attend the course, in case the admission is
offered to him/her.

This is to certify that this institute is recognized as
degree level engineering colleges / institutes by AICTE
or MHRD.

Date        Signature
Sponsoring Authority
(Principal / Director)

Objectives of the Course

In all power applications such as speed control of motors,
reactive power control, active filters etc, and power electronics
modulators are used for an efficient control. These power
controllers are being controlled by advanced control techniques.
Earlier conventional analog and digital controllers were used in
such applications but it was not possible or difficult to implement
advance control techniques. With the development in electronics
these controllers were gradually replaced by microprocessor
based system in which all the control functions required in digital
control system can be implemented. Any microprocessor based
system will usually have one or more of the following devices in
some form; i.e., ROM, RAM, I/O ports, Clock Generator, Timer
and Interrupts The spectacular advances in digital electronics
have made possible to integrate all components of
microprocessors system on a signal chip and reduces the chip
count, cost and size of controllers.

The aim of proposed course is to discuss requirement of power
electronic controllers, the architecture, programming and
operation of microcontrollers, embedded system architecture, its
basic hardware and software elements and their applications.

Course Contents

- An Overview of Power Electronic Controllers
- An Overview of Microprocessor Based System
- Introduction of Embedded System
- Phase Controlled Converters Choppers, Inverters
- Architecture of 8051 microcontrollers
- Memory organization, I/O Ports
- Timers
- Interrupt structure and serial port
- Instruction Set and Programming
- Embedded System Design & Development
- Case Studies

Course Coordinators:

Dr. Pramod Agarwal
Professor
Department of Electrical Engineering
Indian Institute of Technology Roorkee
Roorkee – 247667 (U.K), India

Dr. Vishal Kumar
Assistant Professor

Email- pramgfee@iitr.ernet.in
Email- vksaxfee@iitr.ernet.in
Ph.: 01332 - 285069          01332 - 285897

AICTE SPONSORED
SHORT TERM COURSE
Embedded Systems and its
Applications to Power Electronics
Organizing Department
Electrical Engineering
Indian Institute of Technology Roorkee
5.07.2010 to 9.07.2010

QUALITY IMPROVEMENT PROGRAMME CENTRE
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE
ROORKEE - 247 667  (Uttarakhand)
Phone :   (01332) 285241 & 284341
Fax   :   01332 - 273560
Email  :   qip@iitr.ernet.in

AICTE SPONSORED
SHORT TERM COURSE
Objectives of the Course

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Dr. Vishal Kumar
Assistant Professor

Email- pramgfee@iitr.ernet.in
Email- vksaxfee@iitr.ernet.in
Ph.: 01332 - 285069          01332 - 285897
Indian Institute of Technology, Roorkee is organizing a course on “Embedded Systems and its Applications to Power Electronics” from 5.07.2010 to 9.07.2010. The course is open to teachers from AICTE recognized engineering and management colleges approved by AICTE. Only limited seats are available in this course. Merit and availability of funds will be taken into consideration while selecting candidates. The application on the enclosed form duly signed by the sponsoring authority, while selecting candidates. The application on the enclosed form duly signed by the sponsoring authority, should reach QIP Office latest by 14.06.2010. The candidate will be informed of his selection in advance.

Candidates admitted will be provided free lodging and boarding. The boarding and lodging arrangement for all the participants is made in Trainee Officer’s Hostel / IIT Guest House on twin sharing basis. Those participants not availing this facility will not be entitled to any rebate. Family accommodation is not available on campus. However, one may make his/her own arrangement in city hotels at his/her own expense.

While boarding and lodging is given free, admission is also given to participants who will bear TA on their own or charge the same to their respective institutes. If so, please mention the same in the application form.

Applications on attached form with due sponsorship should be sent at the address given. In case, sponsorship is likely to take time, one can send an advance photo copy so as to reach before the due date by fax or speed post. However, no candidate will be admitted without due sponsorship.

About Roorkee
Roorkee is located at the foothills of Himalayas in the Uttarakhand State. The Railway Station is on the main line of Northern Railways having direct links to Delhi, Mumbai, Calcutta, Amritsar, Jodhpur and Ganganagar. The place 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 places like Dehradun (70 km), Mussoorie (100 km), Hardwar (32 km) and Rishikesh (52 km).

Note: Please submit your application form for any of the course listed above in the format as attached at least 20 days in advance from the date of starting of the course.

List of Short Term Courses during 2010-2011

<table>
<thead>
<tr>
<th>Name of Course Coordinator</th>
<th>Department</th>
<th>Course Title</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. D.K. Nauniyal</td>
<td>Humanities &amp; Social Sciences</td>
<td>Research Methodology and Quantitative Techniques with Software Applications</td>
<td>May 31 – June 04, 2010</td>
</tr>
<tr>
<td>Dr. S.P. Singh</td>
<td>Humanities &amp; Social Sciences</td>
<td>Macro Human Culture &amp; Social Environment</td>
<td>June 7-11, 2010</td>
</tr>
<tr>
<td>Dr. Smita Jha</td>
<td>Humanities &amp; Social Sciences</td>
<td>Advanced Materials and Manufacturing</td>
<td>June 14-18, 2010</td>
</tr>
<tr>
<td>Dr. A.K. Sharma</td>
<td>Mechanical &amp; Industrial Engineering</td>
<td>Design Issues for VLSI and Nanoscale Circuits and Systems</td>
<td>June 14-18, 2010</td>
</tr>
<tr>
<td>Dr. Inderdeep Singh</td>
<td>Mechanical &amp; Industrial Engineering</td>
<td>Biosignal and Medical Image Processing</td>
<td>June 21-25, 2010</td>
</tr>
<tr>
<td>Dr. Vinod Kumar</td>
<td>Electrical Engineering</td>
<td>Culture and Communication</td>
<td>June 21-25, 2010</td>
</tr>
<tr>
<td>Dr. Nagendra Kumar</td>
<td>Humanities &amp; Social Sciences</td>
<td>Advances in Petroleum Refining and Petrochemical Industry</td>
<td>July 5-9, 2010</td>
</tr>
<tr>
<td>Dr. Rajat Rastogi</td>
<td>Civil Engineering</td>
<td>Urban Transportation Systems Planning (UTSP)</td>
<td>June 28 – July 02, 2010</td>
</tr>
<tr>
<td>Dr. B.K. Gandhi</td>
<td>Mech. &amp; Ind. Engineering</td>
<td>Tools and Techniques of Computational Fluid Dynamics</td>
<td>June 28 – July 02, 2010</td>
</tr>
<tr>
<td>Dr. K.M. Singh</td>
<td>Mech. &amp; Ind. Engineering</td>
<td>Advances in Petroleum Refining and Petrochemical Industry</td>
<td>July 5-9, 2010</td>
</tr>
<tr>
<td>Dr. I.D. Mall</td>
<td>Chemical Engineering</td>
<td>Embedded Systems and its Applications to Power Electronics</td>
<td>July 12-16, 2010</td>
</tr>
<tr>
<td>Dr. Pramod Agarwal</td>
<td>Electrical Engineering</td>
<td>Corrosion &amp; Protection</td>
<td>July 12-16, 2010</td>
</tr>
<tr>
<td>Dr. V.K. Tewari</td>
<td>Met. &amp; Mat. Engineering</td>
<td>Using FEM, X-FEM and Meshfree Methods</td>
<td>July 12-16, 2010</td>
</tr>
<tr>
<td>Dr. R. Jayaganthan</td>
<td>Mech. &amp; Ind. Engineering</td>
<td>The essentials of Nanophase and Nanostructured Materials</td>
<td>Oct./Dec., 2010 (Announced Later)</td>
</tr>
<tr>
<td>Dr. N. Sukavanam Balasubramanian</td>
<td>Mathematics</td>
<td>Robotic Vision and Image Processing</td>
<td>Oct./Dec., 2010 (Announced Later)</td>
</tr>
</tbody>
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