COURSES FOR POLYTECHNICS:

1. **Name of the course**: OFC Networks & Trouble Shooting  
   OPLAN No.: 1.2.2  
   Dates and Venue of the Course: 16-20 April, 2012, TTC, Jodhpur (Raj.)  
   Course Coordinator with E-mail: Dr. BC Choudhary (bakhshish@yahoo.com)  
   Ph.No. 0172-2759556

**OBJECTIVES**

Communication networks based on optical fiber technology have become major information transmission system, with high-capacity optical fiber links encircling the globe in both terrestrial and undersea installations. There are numerous passive and active optical devices with the light-wave system that perform complex networking function in the optical domain. Along with the need to understand the functions of these devices comes the necessity to measure both component and network performance and to model and simulate the complex behaviour of reliable high capacity networks. The course endeavors to provide an opportunity to the participants to learn and appreciate the technology options in the filed of optical fiber communication.

**COURSE CONTENTS**

Optical transmission- Needs & Merits; Optical fiber system Designs; Optical fiber: structure and wave guiding fundamental; Optical sources and optical receivers; Optical fiber cabling and connections; Optical fiber characteristics measurements; Fiber optic networks, system performance and evaluation, fault finding and trouble shooting.

2. **Name of the course**: Nanotechnology: Opportunity & Challenges  
   OPLAN No.: 1.2.16  
   Dates and Venue of the Course: 07-11 May, 2012, NITTTR, Chandigarh  
   Course Coordinator with E-mail: Dr. BC Choudhary (bakhshish@yahoo.com)  
   Ph.No. 0172-2759556

**OBJECTIVES**

The objective of the course is to provide an overview, understanding and progress made in development of nanotechnology for future nano-scale applications.

**COURSE CONTENTS**

Nanoscience and nanotechnology, nanomaterials and nanostructures; Physical and Chemical properties of nanomaterials; Synthesis and Characterization of nanomaterials; Nano electronics devices; QDs and NEDs; Modeling & Simulations of nanostructures; and Nanomaterials and nanodevices in healthcare. Field visits/video presentations to supplement the factual knowledge disseminated during the expert lectures.
3. **Name of the course**: Physics Laboratory Organization & Updating  
**OPLAN**: 1.2.26  
**Dates and Venue of the Course**: 21-25 May, 2012, NITTTR, Chandigarh  
**Course Coordinator with E-mail**: Dr. BC Choudhary (bakhshish@yahoo.com)  
Ph.No.0172-2759556  

**OBJECTIVES**  
The objective of the course is to train polytechnic teachers to improve physics laboratories in their respective polytechnics. The emphasis, therefore, is to enable the participants to study in detail and discuss with NITTTR faculty and among themselves for the improvement and addition of new experiments included in the polytechnic’s syllabi.

**COURSE CONTENTS**  
Role of laboratory in physics teaching; Physical world and measurements; Error estimation in measurements; Graphical representation of results; Performance of physics experiments; Use of computers in physics experiments; and Design of working models in applied physics for teaching difficult physical concepts.

4. **Name of the course**: Optical Fibers: Communication & Sensing Applications (National Level).  
**OPLAN**: 1.2.52  
**Dates and Venue of the Course**: 16-27 July, 2012, NITTTR, Chandigarh  
**Course Coordinator with E-mail**: Dr. BC Choudhary (bakhshish@yahoo.com)  
Ph.No.0172-2759556  

**OBJECTIVES**  
Optical transmission has acquired a special place in communication technology over past thirty years. A fiber acts as a waveguide to transmit information from one place to another and the information carrier is an optical wave. Since an optical wave can accommodate large amount of information the system has a great potential. Further, any change in the waveguide structure alters the properties of the light propagating through it and this can be used for sensing even micro changes. The course endeavors to provide an opportunity to the participants to learn and appreciate the technology options in the field of optical fiber communication and sensing.

**COURSE CONTENTS**: The course shall cover the topics: needs and potential of optical transmission, fundamentals of optical fiber waveguides, system design concepts, efficient communication mechanisms, various sensing configurations both extrinsic and intrinsic such as EFPI, FBG, Raman OTDR, latest products and research in the emerging field of fiber optics technology.

5. **Name of the course**: Nuclear Radiations & Their Applications (National Level).  
**OPLAN No.**: 1.2.72  
**Dates and Venue of the Course**: 27-31 August, 2012, NITTTR, Chandigarh  
**Course Coordinator with E-mail**: Dr. BC Choudhary (bakhshish@yahoo.com)  
Ph.No. 0172-2759556  

**OBJECTIVES**  
The course aims to introduce the field of nuclear science and technology, strength of nuclear forces and potential of nuclear energy. It will also explore how the discovery of radioactivity and nuclear fission has considerably altered the prospects of mankind. The main emphasis of the course will be on the use of nuclear radiation in medicines, agriculture, industries and for basic scientific studies.
COURSE CONTENTS
Nuclear constituents and nuclear forces; Nuclear binding energies and stability of nuclei Radioactivity and related process; Radiation detection and measurements; Nuclear fission, fusion and nuclear power generation; Uses of nuclear radiations in medicines, agriculture, industries and basic scientific research.

6. Name of the course : Lasers & Their Applications
OPLAN No. : 1.2.93
Dates and Venue of the Course : 17-21 September, 2012, NITTTR, Chandigarh
Course Coordinator with E-mail : Dr. BC Choudhary (bakhshish@yahoo.com)
Ph.No. 0172-2759556

OBJECTIVES
The objective of the course is to update the knowledge of participants in the field of laser technology. The basic properties of the laser beams, their handling and performing some of the classical optics experiments in simplified way. Also, the working of different lasers and their applications in material processing, consumer electronics, communications and medicines will be taught in the course.

COURSE CONTENTS
Introduction to Lasers; Lasers principles, design and characteristics; Various kinds of lasers; Applications of laser in materials processing, communications, medicines and holography; and Experiments with Lasers.

7. Name of the course : Fiber Optic Tests & Measurements
OPLAN No. : 1.2.119
Dates and Venue of the Course : 15-19 October, 2012, NITTTR, Chandigarh
Course Coordinator with E-mail : Dr. BC Choudhary (bakhshish@yahoo.com)
Ph.No. 0172-2759556

OBJECTIVES:
Optical transmission has acquired a special place in communication technology over past forty years. A fiber acts as a waveguide to transmit information from one place to another and the information carrier is an optical wave. Since an optical wave can accommodate large amount of information, the system has a great potential. The course endeavors to provide an opportunity to the participants to learn and appreciate the technology options in the field of fiber optic testing and measurements.

COURSE CONTENTS:
The course shall cover the topics: needs and potential of optical transmission, fundamentals of optical fiber wave guiding; optical sources and detectors, system design concepts, efficient communication mechanisms, optical amplification, Fiber optic measurements and testing and latest developments in the field of fiber optic communication technology.

8. Name of the course : Nuclear Energy & Power Options
OBJECTIVES
The objective of the course is to provide knowledge to participants in the field of nuclear energy and power options. The phenomenon of nuclear fission and fusion, which form the basis for nuclear power generation, fission reactors and power plants, radiation detections and safety measures as well as development options for reactors based on nuclear fusion will be covered in the course.

COURSE CONTENTS
Nuclear Composition and Binding Energy; Nuclear Fission and Fusion; Fission Reactors and Power Generation; Radiation Detection and Measurements; Radioactive Waste and Safety Measures; Fusion Reactors Technologies; and Experiments with Radiations. Field visits/video presentations to supplement the factual knowledge disseminated during the lectures.

9. Name of the course: Laser Science & Technology
OPLAN: 1.2.153
Dates and Venue of the Course: 11-15 February, 2013, NITTTR, Chandigarh
Course Coordinator with E-mail: Dr. BC Choudhary (bakhshish@yahoo.com)
Ph.No.0172-2759556

OBJECTIVES
The advent of Laser as a primary optical source is one of the most significant events of the 20th century. Since the announcement of first laser, the subject of laser physics has developed at a rapid pace and lasers of wide variety have been developed. Applying this new tool in physical and chemical processing materials, consumer electronics, optical communication, medicines and many other areas has made amazing advances.

The objective of the course is to update the knowledge of participants in the field of laser technology. The emphasis of the course is on laser applications in different areas, laser handling and the demonstration of the wave optics experiments using different lasers. Field visits will be arranged to supplement the factual knowledge with the applications of the device in different areas.

COURSE CONTENTS
LASERS: an overview; Lasing principles, design and characteristics; Laser Types: Solid, Gas and Liquid; Applications in material processing, holography, optical communications and Medicines; Latest developments, Experiments with Lasers and Field visit.

10. Name of the course: Optical Fibers & Their Applications
OPLAN: 1.2.164
Dates and Venue of the Course: 04-08 March, 2013, NITTTR, Chandigarh
Course Coordinator with E-mail: Dr. BC Choudhary (bakhshish@yahoo.com)
Ph.No.0172-2759556

OBJECTIVES
Optical transmission has acquired a special place in communication technology over past forty years. A fiber acts as a waveguide to transmit information from one place to another and the information
carrier is an optical wave. Since an optical wave can accommodate large amount of information the system has a great potential. Further, any change in the waveguide structure alters the properties of the light propagating through it and this can be used for sensing even micro changes. The course endeavors to provide an opportunity to the participants to learn and appreciate the technology options in the field of optical fiber communication, sensing and medicines.

**COURSE CONTENTS**

Needs and potential of optical transmission, fundamentals of optical fiber wave guiding, optical sources and detectors, system design concepts, fiber optic sensing, sensor configurations- extrinsic and intrinsic, Medical use of optical fibers, latest developments in the field of fiber optics technology.

1. Name of the course : Nuclear Techniques & Instrumentation  
   OPLAN : 1.2.172  
   Dates and Venue of the Course : 18-22 March, 2013, NITTTR, Chandigarh  
   Course Coordinator with E-mail : Dr. BC Choudhary (bakhshish@yahoo.com)  
   Ph.No.0172-2759556

**OBJECTIVES**

Nuclear methods of analysis are among the best available and attractive options for material studies and contribute significant proportion of any nuclear programme. Applications of radio isotopes and ionizing radiation in many spheres of science and technology are contributing significantly towards sustainable development and improving the quality of life. The objective of the programme is to pass on the knowledge related to various nuclear technique and related instrumentation for physical and chemical applications of nuclear radiations.

**COURSE CONTENTS**

Nuclear radiations and their interactions with matter; Nuclear detectors and nuclear electronics; Nuclear methods for physical and chemical analysis of materials; Radiation instruments and gauges in quality control and trouble shooting in many industrial systems; Applications and safety measures related to agriculture, human health and environment.

**COURSES FOR ENGINEERING COLLEGES:**

1. Name of the course : Nanotechnology- Opportunity & Challenges  
   OPLAN : EC-7
Course Coordinator with E-mail : Dr. BC Choudhary (bakhshish@yahoo.com)  
Ph.No.0172-2759556

OBJECTIVES
The objective of the course is to provide an overview, understanding and progress made in development of nanotechnology for future nano-scale applications.

COURSE CONTENTS
Nanoscience and nanotechnology, nanomaterials and nanostructures; Physical and Chemical properties of nanomaterials; Synthesis and Characterization of nanomaterials; Nano electronics devices; QDs and NEDs; Modeling & Simulations of nanostructures; and Nanomaterials and nanodevices in healthcare. Field visits/video presentations to supplement the factual knowledge disseminated during the expert lectures.

2. Name of the course: Physics Laboratory Organization & Updating  
OPLAN : EC-13  
Dates and Venue of the Course : 21-25 May, 2012 NITTTR, Chandigarh  
Course Coordinator with E-mail : Dr. BC Choudhary (bakhshish@yahoo.com)  
Ph.No.0172-2759556

OBJECTIVES
The objective of the course is to train polytechnic teachers to improve physics laboratories in their respective polytechnics. The emphasis, therefore, is to enable the participants to study in detail and discuss with NITTTR faculty and among themselves for the improvement and addition of new experiments included in the polytechnic’s syllabi.

COURSE CONTENTS
Role of laboratory in physics teaching; Physical world and measurements; Error estimation in measurements; Graphical representation of results; Performance of physics experiments; Use of computers in physics experiments; and Design of working models in applied physics for teaching difficult physical concepts.

3. Name of the course: OFC System Design & Simulations  
OPLAN : EC-21  
Dates and Venue of the Course : June/December, 2012, Delhi/Punjab  
Course Coordinator with E-mail : Dr. BC Choudhary (bakhshish@yahoo.com)  
Ph.No.0172-2759556

OBJECTIVES
Communication networks based on optical fiber technology have become major information – transmission system, with high-capacity optical fiber links encircling the globe in both terrestrial and undersea installations. There are numerous passive and active optical devices with the light-wave system that perform complex networking function in the optical domain. Along with the need to understand the functions of these devices comes the necessity to measure both component and network performance and to model and simulate the complex behaviour of reliable high capacity networks. The course endeavors to provide an opportunity to the participants to learn and appreciate the technology options in the field of optical fiber communication.

COURSE CONTENTS
Optical Transmission: Need and developments; Optical fiber: Structure and wave guiding fundamental; Optical sources and Detectors: Operation and coupling; Optical fiber joints: splicing and
connectorization; Optical fiber systems: Design and Evaluation; WDM/DWDM: Techniques and components; and Laboratory Experiments and filed visit.

4. **Name of the course**: Optical Fibers: Communication & Sensing Applications (National Level)
   
   OPLAN: EC-28
   
   Dates and Venue of the Course: 16-27 July, 2012 NITTTR, Chandigarh
   
   Course Coordinator with E-mail: Dr. BC Choudhary (bakhshish@yahoo.com)
   
   Ph.No. 0172-2759556

**OBJECTIVES**

Optical transmission has acquired a special place in communication technology over past thirty years. A fiber acts as a waveguide to transmit information from one place to another and the information carrier is an optical wave. Since an optical wave can accommodate large amount of information the system has a great potential. Further, any change in the waveguide structure alters the properties of the light propagating through it and this can be used for sensing even micro changes. The course endeavors to provide an opportunity to the participants to learn and appreciate the technology options in the field of optical fiber communication and sensing.

**COURSE CONTENTS**

The course shall cover the topics: needs and potential of optical transmission, fundamentals of optical fiber waveguides, system design concepts, efficient communication mechanisms, various sensing configurations both extrinsic and intrinsic such as EFPI, FBG, Raman OTDR, latest products and research in the emerging field of fiber optics technology.

5. **Name of the course**: Nuclear Radiations & Their Applications
   
   OPLAN No.: EC-38
   
   Dates and Venue of the Course: 27-31 August, 2012, NITTTR, Chandigarh
   
   Course Coordinator with E-mail: Dr. BC Choudhary (bakhshish@yahoo.com)
   
   Ph.No. 0172-2759556

**OBJECTIVES**

The course aims to introduce the field of nuclear science and technology, strength of nuclear forces and potential of nuclear energy. It will also explore how the discovery of radioactivity and nuclear fission has considerably altered the prospects of mankind. The main emphasis of the course will be on the use of nuclear radiation in medicines, agriculture, industries and for basic scientific studies.

**COURSE CONTENTS**

Nuclear constituents and nuclear forces; Nuclear binding energies and stability of nuclei Radioactivity and related process; Radiation detection and measurements; Nuclear fission, fusion and nuclear power generation; Uses of nuclear radiations in medicines, agriculture, industries and basic scientific research.

6. **Name of the course**: Nanomaterials: Characterization & Applications
   
   OPLAN No.: EC-65
   
   Dates and Venue of the Course: 19-23 November, 2012, NITTTR, Chandigarh
OBJECTIVES

The objective of the course is to provide an overview, understanding and progress made in development of nano-materials for future nano-scale applications. Field visits/video presentations will be arranged to supplement the factual knowledge disseminated during the expert lectures.

COURSE CONTENTS

Nanotechnology, nanomaterials and nanostructures; Properties of nanomaterials; Synthesis and Characterization techniques; Nano electronics devices; QDs and NEMs; Modeling & Simulations of nanostructures; Biotechnology and Nanobiotechnology; and Nanomaterials and nanodevices in healthcare.

7. **Name of the course**: Nuclear Energy & Power Options  
   **OPLAN**: EC-76  
   **Dates and Venue of the Course**: 21-25 January, 2013, NITTTR, Chandigarh  
   **Course Coordinator with E-mail**: Dr. BC Choudhary (bakhshish@yahoo.com)  
   **Ph.No.**: 0172-2759556

OBJECTIVES

The objective of the course is to provide knowledge to participants in the field of nuclear energy and power options. The phenomenon of nuclear fission and fusion, which form the basis for nuclear power generation, fission reactors and power plants, radiation detections and safety measures as well as development options for reactors based on nuclear fusion will be covered in the course.

COURSE CONTENTS

Nuclear Composition and Binding Energy; Nuclear Fission and Fusion; Fission Reactors and Power Generation; Radiation Detection and Measurements; Radioactive Waste and Safety Measures; Fusion Reactors Technologies; and Experiments with Radiations. Field visits/video presentations to supplement the factual knowledge disseminated during the lectures.

8. **Name of the course**: Laser Science & Technology  
   **OPLAN**: EC-86  
   **Dates and Venue of the Course**: 11-15 February, 2013, NITTTR, Chandigarh  
   **Course Coordinator with E-mail**: Dr. BC Choudhary (bakhshish@yahoo.com)  
   **Ph.No.**: 0172-2759556

OBJECTIVES

The advent of Laser as a primary optical source is one of the most significant events of the 20th century. Since the announcement of first laser, the subject of laser physics has developed at a rapid pace and lasers of wide variety have been developed. Applying this new tool in physical and chemical processing materials, consumer electronics, optical communication, medicines and many other areas has made amazing advances.

The objective of the course is to update the knowledge of participants in the field of laser technology. The emphasis of the course is on laser applications in different areas, laser handling and the demonstration of the wave optics experiments using different lasers. Field visits will be arranged to supplement the factual knowledge with the applications of the device in different areas.
COURSE CONTENTS

LASERS: an overview; Lasing principles, design and characteristics; Laser Types: Solid, Gas and Liquid; Applications in material processing, holography, optical communications and Medicines; Latest developments, Experiments with Lasers and Field visit.

******
CURRICULUM DEVELOPMENT CENTRE

Name of the Course : Developing Healthy Work Culture in Technical Institutions

Oplan no. : 1.2.53

Dates and Venue : 23-26 July, 2012 at Govt. Polytechnic, Khunimajra, Punjab

Objectives : To generate awareness amongst the polytechnic faculty regarding various key components of Healthy Work Culture like Stress Management, Team Building, Leadership Style etc.

Course Contents :

- Healthy Work Culture an Overview
- Stress Management
- Effective Communication Skills
- Professional Ethics
- Time Management
- Conflict Management
- Team Building
- Leadership Styles
- Total Quality Management

Coordinator : SK Gupta
E-mail Address : skgupta38@yahoo.com
Mobile No. : 9815941962

Name of STC : Effective Curriculum Implementation
OPlan No. : 1.2.66
Date and Venue : 6-9 August, 2012 at KL Polytechnic, Roorkee, Uttarakhand

Objectives :

(i) To acquaint the participants about strategies for effective curriculum implementation

(ii) To make the participants conversant with various instructional strategies

(iii) To apprise about techniques of networking with industry

(iv) To acquaint about methodology for planning and execution of project work

Course Contents :

(i) Aspects of Curriculum Implementation
(ii) Indicators of Effective Implementation
(iii) Instructional Strategies
(iv) Industry Institute Interaction
(v) Planning and Execution of Project Work
(vi) Networking with industry
Coordinator : SK Gupta
E-mail Address : skgupta38@yahoo.com
Mobile No. : 9815941962

Name of STC : Curriculum Development Process
OPlan No. : 1.2.71
Date and Venue : 27-30 August, 2012 at Govt. Polytechnic, Sundernagar, HP

Objectives : To acquaint the participants about:

(i) Stages of curriculum implementation
(ii) Employment opportunities in different types of industry and expected competency profile of diploma holders
(iii) Curriculum design process
(iv) Curriculum evaluation process
(v) Academic Planning

Course Contents : (i) Stages of Curriculum Development
(ii) Competency profile of diploma holders.
(iii) Employment opportunities and Need Analysis
(iv) Curriculum Design- consideration
(v) Effective Curriculum Implementation- various strategies
(vi) Curriculum Evaluation
(vii) Academic Planning
(viii) Motivation
(ix) Industrial Visit

: TN Thukral
: thukraltn@yahoo.com
Mobile No. : 9888072999

Name of the Course : Communication Skills for Effecting Curriculum Implementation
Plan No. : 1.2.84
Date and Venue : 10-13 September, 2012 at Govt. Polytechnic for Women, Jammu, J&K

Objectives:

- Orientation of participants towards development of effective communication skills
- To apprise the participants about techniques of motivation, leadership, positive attitude, stress management, personality development and generic skills development.
- To create awareness among the participants about various aspects of professional ethics, networking and employability of students.

Brief Course Contents
• Importance of Communication Skills
• Essentials for Effective Communication
• Barriers to Communication
• Effective Listening
• Facing an Interview
• Presentation Skills
• Report Writing
• Group Discussion

Course Coordinator : AB Gupta
E-Mail Address : arvindbalgupta@yahoo.com
Telephone No. : 0172-2759541

Name of the Course : Developing Practical Skills Amongst Students
Oplan Nos. : 1.2.102
Date and Venue : 24-27 September, 2012 at Govt. Polytechnic, Dehradun, Uttarakhand

(i) To orient the participants towards the concept and importance of practical skills and project oriented skills to develop relevant competencies.

(ii) To make the participants aware about organizing effective workshop, lab session and project work.

Coordinator : PK Singla
E-mail Address : pksingla@gmail.com
Mobile No. : 9872023302
Name of the Course : Project Planning, Execution and Evaluation
Oplan no. : 1.2.114
Date and Venue : 8-11 October 2012, at Govt. Polytechnic for Women at Jammu, J&K
Objectives : To apprise the participants about various aspects related to project planning identification, implementation and evaluation

To create awareness among the participants about various aspects of networking and employability of students

- Significance of Project Work
- Planning and identification of Project Work
- Execution of Project Work
- Evaluation of Project Work
- Group Task on identification of Project Work in the respective discipline/ subjects
- Report Writing and Evaluation

Coordinator : PK Singla
E-mail Address : pksingla@gmail.com
Mobile No. : 9872023302

Name of STC : Norms and Standards for Technical Institutions
OPlan No. : 1.2.140
Date and Venue : 10-13 December, 2012 at Govt. Girls Polytechnic, Ludhiana, Punjab
Objectives : To generate awareness amongst the faculty of polytechnics regarding various norms and standards of AICTE for polytechnic.

Course Contents :
(i) Norms and standards for various components of curriculum
(ii) Norms and standards for procuring equipment
(iii) Norms and standards for faculty
(iv) Norms and standards for information resources
(v) Aspects of effective curriculum implementation
(vi) Concept of Accreditation

Coordinator : SK Gupta
E-mail Address : skgupta38@yahoo.com
Mobile No. : 9815941962
Name of STC : Norms, Standards and Accreditation of Technical Institutions

OPlan No. : 1.2.152
Date and Venue : 5-8 February, 2013 at Govt. Polytechnic, Bikaner, Rajasthan

Objectives : To make the participants aware about Norms, Standards and Accreditation of technical institutions for quality improvement.

Course Contents :
(i) Norms for Polytechnics
(ii) Norms for infrastructure
(iii) Nomenclature of programme
(iv) Norms for Curriculum
(v) Accreditation of programme and institution.

Coordinator : PK Singla
E-mail Address : pksingla@gmail.com
Mobile No. : 9872023302
### CIVIL ENGINEERING DEPARTMENT

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Water Analysis and Water Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.4</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>23-27 April, 2012 (NITTTR, Chandigarh) Postponed</td>
</tr>
<tr>
<td>Objectives</td>
<td>The course aims at exposing the participants to latest method for water analysis and to suggest measuring for efficient water management practices</td>
</tr>
</tbody>
</table>
| Course Contents             | • Analytic techniques in water analysis  
                             • Water pollution, sources and causes and measurement of pollutions  
                             • Artificial Recharge methods  
                             • Water Recycling, treatment and management |
| Course Coordinator, email address and phone number | Dr. Sanjay K Sharma  
                                              sanjaysharmachd@yahoo.com, 0172-2759514 |

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Latest Design Techniques in Design of Steel Structures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.14</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>30 April to 04 May, 2012 (TTC, Jodhpur)</td>
</tr>
<tr>
<td>Objectives</td>
<td>The course aim at exposing the participants to the latest provisions of Indian Standard Code IS 800:2007 for design of steel structures and the necessary knowledge for design of such structures.</td>
</tr>
</tbody>
</table>
                             • Limit State Method  
                             • Design to Tension Members  
                             • Design of Compresssion Members  
                             • Design of Members subjected to Bending and Combined Forces  
                             • Design of Plate Girders  
                             • Design of Connections  
                             • Design and Detailing for Earthquake Loads  
                             • Design for Fatigue |
| Course Coordinator, email address and phone number | Himmi Gupta  
                                              himmigupta.nitttr@gmail.com, 0172-2759743 |
<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Training Programme for Lab Technicians</th>
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<tbody>
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<td>Operational Plan No.</td>
<td>1.2.21</td>
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<tr>
<td>Dates and Venue of Course</td>
<td>07-18 May, 2012 (NITTTR, Chandigarh)</td>
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<tr>
<td>Objectives</td>
<td>To expose participants of various civil engineering labs conduct of experiments.</td>
</tr>
<tr>
<td>Course Contents</td>
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<tr>
<td>- Introduction and testing in Highway Engineering Laboratory</td>
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<tr>
<td>- Testing in Concrete Laboratory</td>
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<tr>
<td>- Testing in water Hydraulics Laboratory</td>
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<td>- Material testing</td>
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<td>- Water and Waste Water analysis</td>
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<tr>
<td>- Soil and Geotechnical Lab.</td>
<td></td>
</tr>
<tr>
<td>Course Coordinator, email address and phone number</td>
<td>Himmi Gupta, <a href="mailto:himmigupta.nitttr@gmail.com">himmigupta.nitttr@gmail.com</a>, 0172-2759743</td>
</tr>
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<table>
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<tr>
<th>Name of the Course</th>
<th>AutoCAD</th>
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<tbody>
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<td>Operational Plan No.</td>
<td>1.2.25</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>14-25 May, 2012 (NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td>The purpose of conducting this programme is to acquaint the participants with AutoCAD Software and its various applications in the field of engineering.</td>
</tr>
<tr>
<td>Course Contents</td>
<td>AutoCAD Software</td>
</tr>
<tr>
<td>Course Coordinator, email address and phone number</td>
<td>Prof. Vinod K Sonthwal, <a href="mailto:sonthwal@rediffmail.com">sonthwal@rediffmail.com</a>, 0172-2759646</td>
</tr>
<tr>
<td>Name of the Course</td>
<td>Modern Building Materials and and sustainability in construction</td>
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<tr>
<td>Operational Plan No.</td>
<td>1.2.27</td>
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<tr>
<td>Dates and Venue of Course</td>
<td>21-25 May, 2012 (NITTTR, Chandigarh)</td>
</tr>
</tbody>
</table>
| Objectives | • The course is aimed to develop the relevant knowledge and skill to list down the new materials and their applications in construction,  
• Describe the new construction techniques being used in civil engineering,  
• Carryout the construction with the new materials. |
| Course Contents | Modern Construction Materials, Finishing Materials, Geo-synthetics and their application, Modern decorative coatings and their application, Crack free construction Material, Polymer Rubber for road construction, Admixtures in Concrete, Repair Materials, Modern fire fighting systems etc. |
| Course Coordinator, email address and phone number | Dr. Sanjay K Sharma
sanjaysharmachd@yahoo.com,0172-2759514 |

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Quality and Technical Management of Labs</th>
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</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.34</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>23-25 May, 2012 (NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td>The course aim at exposing the participants to the importance of Accreditation, Quality Management System and Internal Auditing for laboratories and imparting the necessary knowledge to implement such systems.</td>
</tr>
</tbody>
</table>
| Course Contents | • Accredutatuib fir kabiratirunes  
• Quality Management Systems for Laboratories  
• Internal Auditing  
• Accreditation programs in India |
| Course Coordinator, email address and phone number | Himmi Gupta
himmigupta.nitttr@gmail.com,0172-2759743 |
<table>
<thead>
<tr>
<th>Name of the Course</th>
<th><strong>Green Buildings-Concept and Practices</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.40</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>June-July, 2012 (G.P. Leh.)</td>
</tr>
<tr>
<td>Objectives</td>
<td>To develop the competencies of the participant to design and construct green structures so as to reduce the overall impact of built environment on human health and to improve the energy, material and water efficiency.</td>
</tr>
<tr>
<td>Course Contents</td>
<td>The broad contents of the programme are: Structure design efficiency, energy efficiency, water efficiency, materials efficiency, indoor environmental quality enchancement and waste reduction etc.</td>
</tr>
<tr>
<td>Course Coordinator, email address and phone number</td>
<td>Dr. Sanjay K Sharma <a href="mailto:sanjaysharmachd@yahoo.com">sanjaysharmachd@yahoo.com</a>,0172-2759514</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th><strong>Structural Auditing and Rehabilitation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.41</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>09-13 July, 2012 (NITTTR, Chandigarh)</td>
</tr>
</tbody>
</table>
| Objectives                 | The course aims at exposing the participants to the techniques for investigations, repair and rehabilitation of structures and will enable them to:  
  - Carryout monitoring of structures  
  - Diagnose the causes of various types of defects.  
  - Select appropriate non-destructive and other techniques for investigation.  
  - Suggest techniques for repair, rehabilitation and strengthening of structures. |
| Course Contents            | The course will cover topics like -  
  - Causes of deterioration of structures.  
  - Design and economic considerations in repairs and rehabilitation  
  - Diagnosis of defects by NDT methods.  
  - Remedial measures for defects due to dampness, corrosion etc. in foundation, finishes and building services and RCC elements and repair overhead tanks etc.  
  - Repair materials and their evaluation for repairs  
  - Strengthening techniques of RCC structures.  
  - Anchoring Technology for Strengthening. |
| Course Coordinator, email address and phone number | Dr. Sanjay K Sharma sanjaysharmachd@yahoo.com,0172-2759514 |
### Geotechnical Investigations

**Operational Plan No.** 1.2.42  
**Dates and Venue of Course** 16-20 July, 2012 (G.P. Jammu)

**Objectives**
- To provide the knowledge and skill for carrying out the laboratory and field tests related to soil engineering.
- To provide the skill for determination of bearing capacity of soil.

**Course Contents**
- Particle size analysis, consistency limits, soil classification, permeability of soil, shear strength, compaction of soil, relative density of soil, and site investigations etc.

**Course Coordinator, email address and phone number**
Prof. Vinod K Sonthwal  
sonthwal@rediffmail.com, 0172-2759646

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### Transportation, Planning design and Management in urban area

**Operational Plan No.** 1.2.54  
**Dates and Venue of Course** 23-27 July, 2012 (NITTTR, Chandigarh)

**Objectives**
To appraise the participants of problems isolated to transportation and traffic their causes and remedial measures.

**Course Contents**
- Transportation – various modes in urban areas
- Transportation planning viz-a-vis land use characteristic
- Trip generation and route selection.
- Traffic flow parameters in urban areas, various theories, level of service, problems and remedies
- Introduction to transportation management system

**Course Coordinator, email address and phone number**
Prof. Ajay K Duggal  
duggal_ajay@rediffmail.com, 0172-2759564
### Name of the Course: Training Workshop on Software Application in Structural Design

<table>
<thead>
<tr>
<th>Operational Plan No.</th>
<th>1.3.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dates and Venue of Course</td>
<td>22-23, August 2012 (Delhi/NITTTR, Chandigarh)</td>
</tr>
</tbody>
</table>

**Objectives**

The workshop aims at exposing the participants to application of design software ETAAB for Design of RCC structures.

**Course Contents**

- Introduction to tools
- Advantage of using ETAAB in RCC design
- Design of framed structure using ETAAB
- Practice session

| Course Coordinator, email address and phone number | Himmi Gupta himmigupta.nitttr@gmail.com, 0172-2759743 |

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### Name of the Course: Building Maintenance, Water Proofing and General Repairs

<table>
<thead>
<tr>
<th>Operational Plan No.</th>
<th>1.2.62</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dates and Venue of Course</td>
<td>23 July – 03 August, 2012 (Delhi/NITTTR, Chandigarh)</td>
</tr>
</tbody>
</table>

**Objectives**

The course aims at equipping the participants with required know how on building repair and retrofitting techniques for civil engineering structures.

**Course Contents**

- Manifestation of Deterioration of Concrete Structures
- Non Destructive Diagnosis and Condition Survey
- Repair of RC and Masonry Buildings
- Infrastructure Construction Repair Methodologies
- Repair to Seismic affected Structures
- Retrofitting of Concrete Structures
- Polymeric Materials for Concrete Repair
- Water proofing of Basements, Roofs surface areas and PPC repair
- Repair of finishers of roofs, joints are external surface
- Modern Repair and water proofing Materials and their applications

<p>| Course Coordinator, email address and phone number | Dr. Sanjay K Sharma <a href="mailto:sanjaysharmachd@yahoo.com">sanjaysharmachd@yahoo.com</a>, 0172-2759514 |</p>
<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Advances in Quantity Surveying</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.73</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>27-31 August, 2012 (NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td>The course is designed to equip the participants with the knowledge of various fields of quantity surveying and its execution.</td>
</tr>
<tr>
<td>Course Contents</td>
<td>• Cost planning and</td>
</tr>
<tr>
<td></td>
<td>• Value engineering &amp; management</td>
</tr>
<tr>
<td></td>
<td>• Feasibility studies – tendering</td>
</tr>
<tr>
<td></td>
<td>• Project management</td>
</tr>
<tr>
<td></td>
<td>• Cost benefit – analysis</td>
</tr>
<tr>
<td></td>
<td>• Risk analysis</td>
</tr>
<tr>
<td>Course Coordinator, email address and phone number</td>
<td>Dr. Hemant Sood/Himmi Gupta <a href="mailto:sood_hemant@yahoo.co.in">sood_hemant@yahoo.co.in</a>, 0172-2759565</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Concrete Mix Design – New Directions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.81</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>03-07 September, 2012 (NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td>The programme is aimed at enabling participants to understand the basic principles of Advances in cement and concrete including mix design.</td>
</tr>
<tr>
<td>Course Contents</td>
<td>Properties of concrete in fresh &amp; hardened state, Mix Design and NDT testing techniques.</td>
</tr>
<tr>
<td>Course Coordinator, email address and phone number</td>
<td>Dr. Hemant Sood <a href="mailto:sood_hemant@yahoo.co.in">sood_hemant@yahoo.co.in</a>, 0172-2759565</td>
</tr>
<tr>
<td>Name of the Course</td>
<td>Low Cost Housing Techniques and Practices</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>Operational Plan No.</td>
<td>1.2.94</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>17-21 September, 2012 (NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td>Majority of Indian population lives in rural areas and most of them are engaged in Agriculture sector. The housing facilities in rural areas are highly inadequate and existing housing structures have various problems like lack of ventilation and light, weak walls and roofs, drainage and toilets, wrong use of locally available materials etc. These structures are highly vulnerable to bear the impact of natural calamities and disaster. So, there is a great need of low cost but quality housing for rural masses.</td>
</tr>
<tr>
<td>Course Contents</td>
<td>- Low cost construction techniques by using locally available materials</td>
</tr>
<tr>
<td></td>
<td>- Government policies and guidelines for Rural housing</td>
</tr>
<tr>
<td></td>
<td>- Earthquake resistant construction in Rural housing</td>
</tr>
<tr>
<td></td>
<td>- Architectural planning in Rural housing</td>
</tr>
<tr>
<td></td>
<td>- Cost reduction techniques in Rural housing</td>
</tr>
<tr>
<td></td>
<td>- Low cost sanitation for individual housing.</td>
</tr>
<tr>
<td>Course Coordinator, email address and phone number</td>
<td>Dr. Sanjay K Sharma <a href="mailto:sanjaysharmachd@yahoo.com">sanjaysharmachd@yahoo.com</a>,0172-2759514</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>STAAD Pro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.103</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>24-28 September, 2012 (NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td>Steps to generate model for various structures including their Analysis &amp; Design.</td>
</tr>
<tr>
<td>Course Contents</td>
<td>Application of STAAD Software in Design of RCC Structures.</td>
</tr>
<tr>
<td>Course Coordinator, email address and phone number</td>
<td>Dr. Hemant Sood <a href="mailto:sood_hemant@yahoo.co.in">sood_hemant@yahoo.co.in</a>,0172-2759565</td>
</tr>
<tr>
<td>Name of the Course</td>
<td>NATIONAL WORKSHOP FOR “WATER PROOFING APPLICATIONS IN CIVIL ENGINEERING”</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Operational Plan No.</td>
<td>1.3.7</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>27-28 September, 2012 (NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td>The workshop aims at equipping the participants with required know how on water-proofing materials and techniques in civil engineering structures</td>
</tr>
<tr>
<td>Course Contents</td>
<td>The workshop will cover topics like: Sources leakage and dampness in structures, Water proofing materials and their evaluation, Water proofing techniques, Sealing of building joints, Remedial Measures for dampness in roofs/wet area.</td>
</tr>
<tr>
<td>Course Coordinator, email address and phone number</td>
<td>Dr. Sanjay K Sharma <a href="mailto:sanjaysharmachd@yahoo.com">sanjaysharmachd@yahoo.com</a>,0172-2759514</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Engineering preparedness and mitigation for disasters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.109</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>September, 2012 (NITTTR, Chandigarh)</td>
</tr>
</tbody>
</table>
| Objectives | - To appraise on the losses incurred due to disasters and build up importance of disaster preparedness  
- Various engineering measures in disaster preparedness measures and role of engineering architecture  
- Design and construction aspects in building and other structures to make smaller than EQ Resistant |
| Course Contents | - Need for disaster preparedness, engineering and general aspects. Role of engineers and architectures  
- Bye laws and other government regulations. Role of various govt./pvt. Bodies and NGOs. Technical guidelines and their incorporation in design and construction stages. Disaster Relief – Govt.responsibility, whom to approach, psychological aspects  
- Disaster preparedness plan for a building  
- Emergency plans and relief measures |
<p>| Course Coordinator, email address and phone number | Prof. Ajay K Duggal <a href="mailto:duggal_ajay@rediffmail.com">duggal_ajay@rediffmail.com</a>,0172-2759564 |</p>
<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Mapping by Total Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.111</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>03-05 October, 2012 (NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td>The participants shall be acquainted with the principles involved in carrying out surveying using total station. To demonstrate the use and application of total station in the field of surveying.</td>
</tr>
<tr>
<td>Course Contents</td>
<td>Basic principles of surveying, Introduction to total station Instrument), practical application of total station over a defined area.</td>
</tr>
<tr>
<td>Course Coordinator, email address and phone number</td>
<td>Dr. Hemant Sood <a href="mailto:sood_hemant@yahoo.co.in">sood_hemant@yahoo.co.in</a>, 0172-2759565</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Earth Quake Resistant Building Construction and Retrofitting of Structures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.103</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>08-10 October, 2012 (NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td>To create awareness of retrofitting buildings against earthquake forces.</td>
</tr>
<tr>
<td>Course Contents</td>
<td>Types of damages, Health Monitoring of Structures IS code provisions for Earthquake Retrofitting of Local bearing Structures, Retrofitting of RCC Structures, Strengthening techniques for existed Structures; cases studies.</td>
</tr>
<tr>
<td>Course Coordinator, email address and phone number</td>
<td>Dr. Sanjay K Sharma <a href="mailto:sanjaysharmachd@yahoo.com">sanjaysharmachd@yahoo.com</a>, 0172-2759514</td>
</tr>
<tr>
<td>Name of the Course</td>
<td>Quality control in Road Construction</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>-----------------------------------------------------------</td>
</tr>
<tr>
<td>Operational Plan No.</td>
<td>1.2.125</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>17-19 October, 2012 (NITTTR, Chandigarh)</td>
</tr>
</tbody>
</table>
| Objectives                             | • To underline importance of quality control in road construction  
• To know various quality control parameters, various levels and responsibilities  
• To impart knowledge of various tests at site, plant and lab and their frequency  
• To know acceptance criteria                                           |
| Course Contents                        | • Quality control – In general and specific relation for road construction; losses due to improper quality control.  
• Q.C. parameters for pavement structure i.e. sub base, base and surface course.  
• Q.C at site, Q.C at manufacturing unit and types of tests  
• Frequency of tests, statistical guidelines in Q.C  
• Acceptance criteria – rejection or acceptance of works  
• MORT and H Guidelines                                                |
| Course Coordinator, email address and phone number | Prof. Ajay K Duggal  
duggal_ajay@rediffmail.com, 0172-2759564 |

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Road construction methods and energy efficiency in roads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.132</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>19-23 November, 2012 (NITTTR, Chandigarh)</td>
</tr>
</tbody>
</table>
| Objectives                             | • To impart knowledge on  
• methods of construction of flexible pavement  
• various techniques of production of mixes  
• Energy efficient materials                                     |
| Course Contents                        | • Construction of flexible pavements  
• Hot mix plant operations, transportation operations, loss of energy during these operations  
• Site works and losses in energy  
• Use of emulsion and other materials  
• Optimization of various operations e.g. laying, compaction etc. to reduce losses, environmental factors.  
• Reducing machinery losses                                      |
| Course Coordinator, email address and phone number | Prof. Ajay K Duggal  
duggal_ajay@rediffmail.com, 0172-2759564 |
<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Advances in Bricks Technologies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.137</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>19-23 November, 2012 (NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td></td>
</tr>
<tr>
<td>Course Contents</td>
<td></td>
</tr>
<tr>
<td>Course Coordinator, email address and phone number</td>
<td>Dr. Sanjay K Sharma <a href="mailto:sanjaysharmachd@yahoo.com">sanjaysharmachd@yahoo.com</a>,0172-2759514</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>National Conference on Latest Development in Pollution Control and Prevention Techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.4.3</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>21-22 November, 2012</td>
</tr>
</tbody>
</table>
| Objectives | - Understand the importance of environment/effect of pollution  
- Identify the dangers of pollution of water, air, land and noise etc.  
- Plan and carry out remedial measures to control pollution  
- Describe the various legal provisions for protection of environment under the law.  
- Describe the application of cleaner production Technique for environment management. |
<p>| Course Contents | Ecology and environment, causes of water, air and Noise pollution Global warning and its effect, Strategies for pollution control, cleaner production techniques. |
| Course Coordinator, email address and phone number | Dr. Sanjay K Sharma <a href="mailto:sanjaysharmachd@yahoo.com">sanjaysharmachd@yahoo.com</a>,0172-2759514 |</p>
<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Structural Design using ETABS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.145</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>21-25 January, 2013</td>
</tr>
<tr>
<td>Objectives</td>
<td>The course aim at exposing the participants to use of software ETABS for structural design of multi-strayred building design of multi-strayred building and its various components.</td>
</tr>
</tbody>
</table>
| Course Contents | - Features and capabilities of ETABS  
- Modeling features of the software  
- Analysis and design using ETABS software  
- Practice sessions |
| Course Coordinator, email address and phone number | Himmi Gupta  
himmigupta.nitttr@gmail.com, 0172-2759743 |

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Laboratory application in Quality control of concrete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.146</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>21-25 January, 2013 (NITTTR, Chandigarh)</td>
</tr>
</tbody>
</table>
| Objectives | Objectives  
The course aim at exposing the participants to the latest provisions of Indian Standard Code IS 800:2007 for design of steel structures and the necessary knowledge for design of such structures. |
| Course Contents | Course Contents  
- Changes in codal provisions: IS 800:2007  
- Limit State Method  
- Design to Tension Members  
- Design of Compression Members  
- Design of Members subjected to Bending and Combined Forces  
- Design of Plate Girders  
- Design of Connections  
- Design and Detailing for Earthquake Loads  
- Design for Fatigue |
| Course Coordinator, email address and phone number | Dr. Hemant Sood  
sood_hemant@yahoo.co.in, 0172-2759565 |
<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>GIS applications in Engineering &amp; Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.150</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>04-08 February, 2013 (NITTTR, Chandigarh)</td>
</tr>
</tbody>
</table>
| Objectives                         | - To enable teachers to understand the basic principles of Remote Sensing and GIS  
- To acquaint the participants with India’s space programme  
- To highlight the application of GIS application in natural resource management and other engineering disciplines  
- To demonstrate the use of GIS applications software |
| Course Contents                    | - Basics and principles of GIS  
- Software used for GIS  
- Indian space programme  
- Remote Sensing platforms  
- GIS in transportation engineering  
- Remote Sensing and its applications in cities  
- Fundamental of GIS and its applications  
- GIS in Urban and Rural Development  
- GIS application in utility Management  
- Application of GPS in engineering |
| Course Coordinator, email address  | Dr. Hemant Sood  
sood_hemant@yahoo.co.in,0172-2759565 |
| address and phone number           |                                           |

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Soil Investigation Techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.154</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>11-15 February, 2013 (NITTTR, Chandigarh)</td>
</tr>
</tbody>
</table>
| Objectives                         | - To provide the knowledge and skill for carrying out the laboratory and field tests related to soil engineering.  
- To provide the skill for determination of bearing capacity of soil. |
| Course Contents                    | Particle size analysis, consistency limits, soil classification, permeability of soil, shear strength, compaction of soil, relative density of soil, and site investigations etc. |
| Course Coordinator, email address  | Prof. Vinod K Sonthwal  
sonthwal@rediffmail.com,0172-2759646 |
<p>| address and phone number           |                                           |</p>
<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Water Analysis and Water Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.4</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>23-27 April, 2012 (NITTTR, Chandigarh) Postponed</td>
</tr>
<tr>
<td>Objectives</td>
<td>The course aims at exposing the participants to latest method for water analysis and to suggest measuring for efficient water management practices</td>
</tr>
</tbody>
</table>
| Course Contents                        | - Analytic techniques in water analysis  
- Water pollution, sources and causes and measurement of pollutions
- Artificial Recharge methods
- Water Recycling, treatment and management |
| Course Coordinator, email address and phone number | Dr. Sanjay K Sharma  
sanjaysharmachd@yahoo.com,0172-2759514 |

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Latest Design Techniques in Design of Steel Structures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.14</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>30 April to 04 May, 2012 (TTC, Jodhpur)</td>
</tr>
<tr>
<td>Objectives</td>
<td>The course aim at exposing the participants to the latest provisions of Indian Standard Code IS 800:2007 for design of steel structures and the necessary knowledge for design of such structures.</td>
</tr>
</tbody>
</table>
- Limit State Method  
- Design to Tension Members  
- Design of Compresssion Members  
- Design of Members subjected to Bending and Combined Forces  
- Design of Plate Girders  
- Design of Connections  
- Design and Detailing for Earthquake Loads  
- Design for Fatigue |
| Course Coordinator, email address and phone number | Himmi Gupta  
himmigupta.nitttr@gmail.com,0172-2759743 |
<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Training Programme for Lab Technicians</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.21</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>07-18 May, 2012 (NITTTR, Chandigarh)</td>
</tr>
</tbody>
</table>

**Objectives**

To expose participants of various civil engineering labs conduct of experiments.

**Course Contents**

- Introduction and testing in Highway Engineering Laboratory
- Testing in Concrete Laboratory
- Testing in Water Hydraulics Laboratory
- Material testing
- Water and Waste Water analysis
- Soil and Geotechnical Lab.

**Course Coordinator, email address and phone number**

Himmi Gupta
himmigupta.nitttr@gmail.com, 0172-2759743

---

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>AutoCAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.25</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>14-25 May, 2012 (NITTTR, Chandigarh)</td>
</tr>
</tbody>
</table>

**Objectives**

The purpose of conducting this programme is to acquaint the participants with AutoCAD Software and its various applications in the field of engineering.

**Course Contents**

AutoCAD Software

**Course Coordinator, email address and phone number**

Prof. Vinod K Sonthwal
sonthwal@rediffmail.com, 0172-2759646
<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Modern Building Materials and sustainability in construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.27</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>21-25 May, 2012 (NITTTR, Chandigarh)</td>
</tr>
</tbody>
</table>
| Objectives | - The course is aimed to develop the relevant knowledge and skill to list down the new materials and their applications in construction,  
- Describe the new construction techniques being used in civil engineering,  
- Carryout the construction with the new materials. |
| Course Contents | Modern Construction Materials, Finishing Materials, Geo-synthetics and their application, Modern decorative coatings and their application, Crack free construction Material, Polymer Rubber for road construction, Admixtures in Concrete, Repair Materials, Modern fire fighting systems etc. |
| Course Coordinator, email address and phone number | Dr. Sanjay K Sharma  
sanjaysharmachd@yahoo.com, 0172-2759514 |

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Quality and Technical Management of Labs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.34</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>23-25 May, 2012 (NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td>The course aim at exposing the participants to the importance of Accreditation, Quality Management System and Internal Auditing for laboratories and imparting the necessary knowledge to implement such systems.</td>
</tr>
</tbody>
</table>
| Course Contents | - Accredutauib fir kabiratirues  
- Quality Management Systems for Laboratories  
- Internal Auditing  
- Accreditation programs in India |
| Course Coordinator, email address and phone number | Himmi Gupta  
himmigupta.nitttr@gmail.com, 0172-2759743 |
<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Green Buildings-Concept and Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.40</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>June-July, 2012 (G.P. Leh.)</td>
</tr>
<tr>
<td>Objectives</td>
<td>To develop the competencies of the participant to design and construct green structures so as to reduce the overall impact of built environment on human health and to improve the energy, material and water efficiency.</td>
</tr>
<tr>
<td>Course Contents</td>
<td>The broad contents of the programme are: Structure design efficiency, energy efficiency, water efficiency, materials efficiency, indoor environmental quality enhancement and waste reduction etc.</td>
</tr>
<tr>
<td>Course Coordinator, email address and phone number</td>
<td>Dr. Sanjay K Sharma <a href="mailto:sanjaysharmachd@yahoo.com">sanjaysharmachd@yahoo.com</a>,0172-2759514</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Structural Auditing and Rehabilitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.41</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>09-13 July, 2012 (NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td>The course aims at exposing the participants to the techniques for investigations, repair and rehabilitation of structures and will enable them to: Carryout monitoring of structures Diagnostic the causes of various types of defects. Select appropriate non-destructive and other techniques for investigation. Suggest techniques for repair, rehabilitation and strengthening of structures.</td>
</tr>
<tr>
<td>Course Contents</td>
<td>The course will cover topics like - Causes of deterioration of structures. Design and economic considerations in repairs and rehabilitation Diagnosis of defects by NDT methods. Remedial measures for defects due to dampness, corrosion etc. in foundation, finishes and building services and RCC elements and repair overhead tanks etc. Repair materials and their evaluation for repairs Strengthening techniques of RCC structures. Anchoring Technology for Strengthening.</td>
</tr>
<tr>
<td>Course Coordinator, email address and phone number</td>
<td>Dr. Sanjay K Sharma <a href="mailto:sanjaysharmachd@yahoo.com">sanjaysharmachd@yahoo.com</a>,0172-2759514</td>
</tr>
<tr>
<td>Name of the Course</td>
<td>Geotechnical Investigations</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Operational Plan No.</td>
<td>1.2.42</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>16-20 July, 2012 (G.P. Jammu)</td>
</tr>
</tbody>
</table>
| Objectives                                    | • To provide the knowledge and skill for carrying out the laboratory and field tests related to soil engineering.  
  • To provide the skill for determination of bearing capacity of soil. |
| Course Contents                               | Particle size analysis, consistency limits, soil classification, permeability of soil, shear strength, compaction of soil, relative density of soil, and site investigations etc. |
| Course Coordinator, email address and phone number | Prof. Vinod K Sonthwal  
  sonthwal@rediffmail.com, 0172-2759646                                                    |

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Transportation, Planning design and Management in urban area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.54</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>23-27 July, 2012 (NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td>To appraise the participants of problems isolated to transportation and traffic their causes and remedial measures.</td>
</tr>
</tbody>
</table>
| Course Contents                               | • Transportation – various modes in urban areas  
  • Transportation planning viz-a-vis land use characteristic  
  • Trip generation and route selection.  
  • Traffic flow parameters in urban areas, various theories, level of service, problems and remedies  
  • Introduction to transportation management system |
| Course Coordinator, email address and phone number | Prof. Ajay K Duggal  
  duggal_ajay@rediffmail.com, 0172-2759564                                                  |
<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Training Workshop on Software Application in Structural Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.3.2</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>22-23, August 2012 (Delhi/NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td>The workshop aims at exposing the participants to application of design software ETAAB for Design of RCC structures.</td>
</tr>
<tr>
<td>Course Contents</td>
<td>• Introduction to tools&lt;br&gt;• Advantage of using ETAAB in RCC design&lt;br&gt;• Design of framed structure using ETAAB&lt;br&gt;• Practice session</td>
</tr>
<tr>
<td>Course Coordinator, email address and phone number</td>
<td>Himmi Gupta&lt;br&gt;<a href="mailto:himmigupta.nitttr@gmail.com">himmigupta.nitttr@gmail.com</a>,0172-2759743</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Building Maintenance, Water Proofing and General Repairs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.62</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>23 July – 03 August, 2012 (Delhi/NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td>The course aims at equipping the participants with required know how on building repair and retrofitting techniques for civil engineering structures.</td>
</tr>
<tr>
<td>Course Contents</td>
<td>• Manifestation of Deterioration of Concrete Structures&lt;br&gt;• Non Destructive Diagnosis and Condition Survey&lt;br&gt;• Repair of RC and Masonry Buildings&lt;br&gt;• Infrastructure Construction Repair Methodologies&lt;br&gt;• Repair to Seismic affected Structures&lt;br&gt;• Retrofitting of Concrete Structures&lt;br&gt;• Polymeric Materials for Concrete Repair&lt;br&gt;• Water proofing of Basements, Roofs surface areas and PPC repair&lt;br&gt;• Repair of finishers of roofs, joints are external surface&lt;br&gt;• Modern Repair and water proofing Materials and their applications</td>
</tr>
<tr>
<td>Course Coordinator, email address and phone number</td>
<td>Dr. Sanjay K Sharma&lt;br&gt;<a href="mailto:sanjaysharmachd@yahoo.com">sanjaysharmachd@yahoo.com</a>,0172-2759514</td>
</tr>
<tr>
<td>Name of the Course</td>
<td>Advances in Quantity Surveying</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>Operational Plan No.</td>
<td>1.2.73</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>27-31 August, 2012 (NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td>The course is designed to equip the participants with the knowledge of various fields of quantity surveying and its execution.</td>
</tr>
</tbody>
</table>
| Course Contents                  | - Cost planning and  
- Value engineering & management  
- Feasibility studies – tendering  
- Project management  
- Cost benefit – analysis  
- Risk analysis |
| Course Coordinator, email address and phone number | Dr. Hemant Sood/Himmi Gupta  
sood_hemant@yahoo.co.in, 0172-2759565 |

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Concrete Mix Design – New Directions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.81</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>03-07 September, 2012 (NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td>The programme is aimed at enabling participants to understand the basic principles of Advances in cement and concrete including mix design.</td>
</tr>
<tr>
<td>Course Contents</td>
<td>Properties of concrete in fresh &amp; hardened state, Mix Design and NDT testing techniques.</td>
</tr>
</tbody>
</table>
| Course Coordinator, email address and phone number | Dr. Hemant Sood  
sood_hemant@yahoo.co.in, 0172-2759565 |
<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Low Cost Housing Techniques and Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.94</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>17-21 September, 2012 (NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td>Majority of Indian population lives in rural areas and most of them are engaged in Agriculture sector. The housing facilities in rural areas are highly inadequate and existing housing structures have various problems like lack of ventilation and light, weak walls and roofs, drainage and toilets, wrong use of locally available materials etc. These structures are highly vulnerable to bear the impact of natural calamities and disaster. So, there is a great need of low cost but quality housing for rural masses.</td>
</tr>
</tbody>
</table>
| Course Contents                     | ▪ Low cost construction techniques by using locally available materials  
▪ Government policies and guidelines for Rural housing  
▪ Earthquake resistant construction in Rural housing  
▪ Architectural planning in Rural housing  
▪ Cost reduction techniques in Rural housing  
▪ Low cost sanitation for individual housing. |
| Course Coordinator, email address and phone number | Dr. Sanjay K Sharma  
sanjaysharmachd@yahoo.com, 0172-2759514 |

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>STAAD Pro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.103</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>24-28 September, 2012 (NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td>Steps to generate model for various structures including their Analysis &amp; Design.</td>
</tr>
<tr>
<td>Course Contents</td>
<td>Application of STAAD Software in Design of RCC Structures.</td>
</tr>
</tbody>
</table>
| Course Coordinator, email address and phone number | Dr. Hemant Sood  
sood_hemant@yahoo.co.in, 0172-2759565 |
<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>NATIONAL WORKSHOP FOR “WATER PROOFING APPLICATIONS IN CIVIL ENGINEERING”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.3.7</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>27-28 September, 2012 (NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td>The workshop aims at equipping the participants with required know how on water-proofing materials and techniques in civil engineering structures</td>
</tr>
<tr>
<td>Course Contents</td>
<td>The workshop will cover topics like: Sources leakage and dampness in structures, Water proofing materials and their evaluation, Water proofing techniques, Sealing of building joints, Remedial Measures for dampness in roofs/wet area.</td>
</tr>
<tr>
<td>Course Coordinator, email address and phone number</td>
<td>Dr. Sanjay K Sharma <a href="mailto:sanjaysharmachd@yahoo.com">sanjaysharmachd@yahoo.com</a>,0172-2759514</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Engineering preparedness and mitigation for disasters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.109</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>September, 2012 (NITTTR, Chandigarh)</td>
</tr>
</tbody>
</table>
| Objectives                             | • To appraise on the losses incurred due to disasters and build up importance of disaster preparedness  
• Various engineering measures in disaster preparedness measures and role of engineering architecture  
• Design and construction aspects in building and other structures to make smaller than EQ Resistant |
| Course Contents                        | • Need for disaster preparedness, engineering and general aspects. Role of engineers and architectures  
• Bye laws and other government regulations. Role of various govt./pvt. Bodies and NGOs. Technical guidelines and their incorporation in design and construction stages. Disaster Relief – Govt.responsibility, whom to approach, psychological aspects  
• Disaster preparedness plan for a building  
• Emergency plans and relief measures |
| Course Coordinator, email address and phone number | Prof. Ajay K Duggal duggal_ajay@rediffmail.com,0172-2759564 |
### Mapping by Total Station

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Mapping by Total Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.111</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>03-05 October, 2012 (NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td>The participants shall be acquainted with the principles involved in carrying out surveying using total station. To demonstrate the use and application of total station in the field of surveying.</td>
</tr>
<tr>
<td>Course Contents</td>
<td>Basic principles of surveying, Introduction to total station Instrument), practical application of total station over a defined area.</td>
</tr>
<tr>
<td>Course Coordinator, email address and phone number</td>
<td>Dr. Hemant Sood <a href="mailto:sood_hemant@yaoo.co.in">sood_hemant@yaoo.co.in</a>,0172-2759565</td>
</tr>
</tbody>
</table>

### Earth Quake Resistant Building Construction and Retrofitting of Structures

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Earth Quake Resistant Building Construction and Retrofitting of Structures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.103</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>08-10 October, 2012 (NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td>To create awareness of retrofitting buildings against earthquake forces.</td>
</tr>
<tr>
<td>Course Contents</td>
<td>Types of damages, Health Monitoring of Structures IS code provisions for Earthquake Retrofitting of Local bearing Structures, Retrofitting of RCC Structures, Strengthening techniques for existed Structures; cases studies.</td>
</tr>
<tr>
<td>Course Coordinator, email address and phone number</td>
<td>Dr. Sanjay K Sharma <a href="mailto:sanjaysharmachd@yahoo.com">sanjaysharmachd@yahoo.com</a>,0172-2759514</td>
</tr>
<tr>
<td>Name of the Course</td>
<td>Quality control in Road Construction</td>
</tr>
<tr>
<td>----------------------------------------</td>
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</tr>
<tr>
<td>Operational Plan No.</td>
<td>1.2.125</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>17-19 October, 2012 (NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td>To underline importance of quality control in road construction</td>
</tr>
<tr>
<td></td>
<td>To know various quality control parameters, various levels and responsibilities</td>
</tr>
<tr>
<td></td>
<td>To impart knowledge of various tests at site, plant and lab and their frequency</td>
</tr>
<tr>
<td></td>
<td>To know acceptance criteria</td>
</tr>
<tr>
<td>Course Contents</td>
<td>Quality control – In general and specific relation for road construction; losses due to improper quality control.</td>
</tr>
<tr>
<td></td>
<td>Q.C. parameters for pavement structure i.e. sub base, base and surface course.</td>
</tr>
<tr>
<td></td>
<td>Q.C at site, Q.C at manufacturing unit and types of tests</td>
</tr>
<tr>
<td></td>
<td>Frequency of tests, statistical guidelines in Q.C</td>
</tr>
<tr>
<td></td>
<td>Acceptance criteria – rejection or acceptance of works</td>
</tr>
<tr>
<td></td>
<td>MORT and H Guidelines</td>
</tr>
<tr>
<td>Course Coordinator, email address and phone number</td>
<td>Prof. Ajay K Duggal <a href="mailto:duggal_ajay@rediffmail.com">duggal_ajay@rediffmail.com</a>, 0172-2759564</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Road construction methods and energy efficiency in roads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.132</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>19-23 November, 2012 (NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td>To impart knowledge on</td>
</tr>
<tr>
<td></td>
<td>methods of construction of flexible pavement</td>
</tr>
<tr>
<td></td>
<td>various techniques of production of mixes</td>
</tr>
<tr>
<td></td>
<td>Energy efficient materials</td>
</tr>
<tr>
<td>Course Contents</td>
<td>Construction of flexible pavements</td>
</tr>
<tr>
<td></td>
<td>Hot mix plant operations, transportation operations, loss of energy during these operations</td>
</tr>
<tr>
<td></td>
<td>Site works and losses in energy</td>
</tr>
<tr>
<td></td>
<td>Use of emulsion and other materials</td>
</tr>
<tr>
<td></td>
<td>Optimization of various operations e.g. laying, compaction etc. to reduce losses, environmental factors.</td>
</tr>
<tr>
<td></td>
<td>Reducing machinery losses</td>
</tr>
<tr>
<td>Course Coordinator, email address and phone number</td>
<td>Prof. Ajay K Duggal <a href="mailto:duggal_ajay@rediffmail.com">duggal_ajay@rediffmail.com</a>, 0172-2759564</td>
</tr>
<tr>
<td>Name of the Course</td>
<td>Advances in Bricks Technologies</td>
</tr>
<tr>
<td>--------------------</td>
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</tr>
<tr>
<td>Operational Plan No.</td>
<td>1.2.137</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>19-23 November, 2012 (NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td></td>
</tr>
<tr>
<td>Course Contents</td>
<td></td>
</tr>
<tr>
<td>Course Coordinator, email address and phone number</td>
<td>Dr. Sanjay K Sharma <a href="mailto:sanjaysharmachd@yahoo.com">sanjaysharmachd@yahoo.com</a>, 0172-2759514</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>National Conference on Latest Development in Pollution Control and Prevention Techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.4.3</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>21-22 November, 2012</td>
</tr>
</tbody>
</table>
| Objectives | - Understand the importance of environment/effect of pollution  
- Identify the dangers of pollution of water, air, land and noise etc.  
- Plan and carry out remedial measures to control pollution  
- Describe the various legal provisions for protection of environment under the law.  
- Describe the application of cleaner production Technique for environment management. |
<p>| Course Contents | Ecology and environment, causes of water, air and Noise pollution Global warning and its effect, Strategies for pollution control, cleaner production techniques. |
| Course Coordinator, email address and phone number | Dr. Sanjay K Sharma <a href="mailto:sanjaysharmachd@yahoo.com">sanjaysharmachd@yahoo.com</a>, 0172-2759514 |</p>
<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Structural Design using ETABS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.145</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>21-25 January, 2013</td>
</tr>
<tr>
<td>Objectives</td>
<td>The course aim at exposing the participants to use of software ETABS for structural design of multi strayed building design of multi strayed building and its various components.</td>
</tr>
<tr>
<td>Course Contents</td>
<td>• Features and capabilities of ETABS</td>
</tr>
<tr>
<td></td>
<td>• Modeling features of the software</td>
</tr>
<tr>
<td></td>
<td>• Analysis and design using ETABS software</td>
</tr>
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<td>• Practice sessions</td>
</tr>
<tr>
<td>Course Coordinator, email</td>
<td>Himmi Gupta</td>
</tr>
<tr>
<td>address and phone number</td>
<td><a href="mailto:himmigupta.nitttr@gmail.com">himmigupta.nitttr@gmail.com</a>, 0172-2759743</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Laboratory application in Quality control of concrete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.146</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>21-25 January, 2013 (NITTTR, Chandigarh)</td>
</tr>
<tr>
<td>Objectives</td>
<td>The course aim at exposing the participants to the latest provisions of Indian Standard Code IS 800:2007 for design of steel structures and the necessary knowledge for design of such structures.</td>
</tr>
<tr>
<td></td>
<td>• Limit State Method</td>
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<td>• Design to Tension Members</td>
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<td>• Design of Compression Members</td>
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<td></td>
<td>• Design of Members subjected to Bending and Combined Forces</td>
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<td>• Design of Plate Girders</td>
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<td>• Design of Connections</td>
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<td></td>
<td>• Design and Detailing for Earthquake Loads</td>
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<td></td>
<td>• Design for Fatigue</td>
</tr>
<tr>
<td>Course Coordinator, email</td>
<td>Dr. Hemant Sood</td>
</tr>
<tr>
<td>address and phone number</td>
<td><a href="mailto:sood_hemant@yahoo.co.in">sood_hemant@yahoo.co.in</a>, 0172-2759565</td>
</tr>
<tr>
<td>Name of the Course</td>
<td>GIS applications in Engineering &amp; Sciences</td>
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<tr>
<td>Operational Plan No.</td>
<td>1.2.150</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>04-08 February, 2013 (NITTTR, Chandigarh)</td>
</tr>
</tbody>
</table>
| Objectives                        | - To enable teachers to understand the basic principles of Remote Sensing and GIS  
                                        - To acquaint the participants with India’s space programme  
                                        - To highlight the application of GIS application in natural resource management and other engineering disciplines  
                                        - To demonstrate the use of GIS applications software |
| Course Contents                   | - Basics and principles of GIS  
                                        - Software used for GIS  
                                        - Indian space programme  
                                        - Remote Sensing platforms  
                                        - GIS in transportation engineering  
                                        - Remote Sensing and its applications in cities  
                                        - Fundamental of GIS and its applications  
                                        - GIS in Urban and Rural Development  
                                        - GIS application in utility Management  
                                        - Application of GPS in engineering |
| Course Coordinator, email address and phone number | Dr. Hemant Sood  
                                                     sood_hemant@yahoo.co.in, 0172-2759565 |

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Soil Investigation Techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.154</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>11-15 February, 2013 (NITTTR, Chandigarh)</td>
</tr>
</tbody>
</table>
| Objectives                        | - To provide the knowledge and skill for carrying out the laboratory and field tests related to soil engineering.  
                                        - To provide the skill for determination of bearing capacity of soil. |
| Course Contents                   | Particle size analysis, consistency limits, soil classification, permeability of soil, shear strength, compaction of soil, relative density of soil, and site investigations etc. |
| Course Coordinator, email address and phone number | Prof. Vinod K Sonthwal  
                                                     sonthwal@rediffmail.com, 0172-2759646 |
COMPUTER SCIENCE DEPARTMENT

NAME OF THE COURSE : Wireless Communication & Mobile Computing
COURSE DURATION : 4.2.2013 TO 8.2.2013
VENUE : NITTTR, CHANDIGARH
OP PLAN NO. : EC-84
TARGET GROUP : ENGINEERING FACULTY

Objectives

- To learn wireless communication concepts
- To learn about various wireless networks technologies such as GSM, GPRS, EDGE, WPANs, WLANs, etc.
- To understand the concepts of mobile IP
- To understand the concept of ad hoc networking
- To understand security issues in wireless environments
- To understand simulation of ad hoc network protocols using GloMoSim
- To learn wireless communications concepts and mobile computing
- To learn about various wireless networks technologies such as GSM, GPRS, EDGE, WLAN, etc.
- To understand the concepts of mobile IP, wireless TCP, mobile agents
- Familiarize with network simulator and WML
- To understand OS for mobile devices
- To understand security issues in a wireless environment

Course Contents

- Introduction to Wireless Communications
- Overview of Cellular Technologies (GSM < GPRS, etc.)
- WLANs, WPANs
- Mobile Adhoc Networks
- Mobile IP
- Security
- Network Simulator (GloMoSim)
- Field visit to BSNL
- Introduction
- Overview of cellular technologies
- Wireless PANs & LANs
- Mobile Adhoc Networking
- Mobile IP, wireless TCP, mobile agents
- WAP and WML
- OS for mobile devices
- Security issues

Course Coordinator with e-mail : Shri C Rama Krishna; rkc@nitttrchd.ac.in
Mrs. Mala Kalra/ Pardeep Bansal
NAME OF THE COURSE : Matlab Programming
VENUE                : NITTTR, CHANDIGARH
OP PLAN NO.          : EC-55
TARGET GROUP         : ENGINEERING FACULTY

OBJECTIVES:

- To teach the introduction to Matlab Programming.
- To teach the Signal Processing tool box.
- To teach the Image Processing toolbox.
- To teach Simulink in MATLAB.
- Introduction to Neural Networks and Fuzzy Logic.
- To teach Mechanical Engineering tool box.

CONTENTS:

- Various commands like Inv, look for, help, if-then, for loop, white loop, Switch case etc.

- Introduction to Signal Processing commands like conv, filter, plot, stegn, dFT, FFT etc.

- Introduction to Image Processing command like, segmentation, shading, rendering etc.

- Introduction to Fuzzy logic and Simulink.
- Introduction to Neural Networks toolbox
- Introduction to Mechanical Engg. Tool box.

Course Coordinator with e-mail : Dr. Maitreyee Dutta; d_maitreyee@yahoo.co.in

COURSES FOR POLYTECHNIC COLLEGES
NAME OF THE COURSE : Multimedia Authoring
COURSE DURATION : 30.4.2012 TO 4.5.2012
VENUE : NITTTR, CHANDIGARH
OP PLAN NO. : 1.2.12
TARGET GROUP : POLYTECHNIC FACULTY

OBJECTIVES:

- To provide them skills and knowledge to do multimedia authoring.
- Will be able to create movie clips and animated picture files using Flash program.
- With the addition of scripting, will be able to create interactive animated files for the Internet.
- To create, edit and composite images using Photoshop.
- To give them an overview of Adobe After Effects.

COURSE CONTENTS

- Overview of Multimedia Authoring
- Introduction to Flash and its working Environment
- Flash drawing tools and transformations
- Tweening Effects
- Layers
- Masking Effects
- ActionScript
- Photoshop
- Adobe After Effects

Course Coordinator with e-mail : Mala Kalra: malakalra2004@yahoo.com
Mrs Poonam Saini nit.sainipoonam@gmail.com

NAME OF THE COURSE : PHP AND MySQL
VENUE : NITTTR, CHANDIGARH
OP PLAN NO. : 1.2.17
TARGET GROUP : POLYTECHNIC FACULTY

OBJECTIVES:

- To understand features of Open Source Technologies and PHP
- To understand web server installation, PHP and MySQL Connectivity
- To learn Data Transformation, Integration and Data Mining using MySQL
- To learn Security issues in PHP and MySQL

CONTENTS
Introduction to Open Source Technologies and PHP
Web server Installation, PHP and MySQL Connectivity
PHP Variables, Operators, Loops, Strings, Functions and Arrays
Data Transformation, Integration and Data Mining using MySQL
Object Oriented Programming using PHP, Exception Handling
File Handling and Jquery, Ajax and XML
MySQL Connectivity and Form Handling
ODBC Connectivity and MySQL Administration

Course Coordinator with e-mail : Amrendra Sharan
amrenderarun@gmail.com

NAME OF THE COURSE : Cloud Computing
COURSE DURATION : 14.05.2012 TO 18.05.2012
VENUE : NITTTR, CHANDIGARH
OP PLAN NO. : 1.2.23
TARGET GROUP : POLYTECHNIC FACULTY

Objectives

- To understand cloud computing concepts
- To understand cloud computing architecture, characteristics and models
- To learn about cloud computing applications.
- To learn basics of virtualization
- To understand cloud computing vs other distributed technologies
- To Understand Elasticity, Resiliency, On-Demand and Measured Usage
- To learn benefits, Challenges and Risks of Contemporary Cloud Computing Platforms and Cloud Services
- Security issues in cloud computing

Course Contents

- A Brief History of the Business and Technology Drivers that Led to Cloud Computing
- Fundamentals of Cloud Computing Terminology and Concepts
- Cloud Computing applications
- Basics of Virtualization
- Specific Characteristics that Define a Cloud
- Cloud computing vs other distributed technologies
- Benefits, Challenges and Risks of Contemporary Cloud Computing Platforms and Cloud Services
- Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS)
- Cloud Delivery Models Public Cloud, Private Cloud, Hybrid Cloud
- Security issues
NAME OF THE COURSE : Moodle LMS  
COURSE DURATION : 21.5.2012 TO 25.5.2012  
VENUE : NITTTR Chandigarh  
OP PLAN NO. : 1.2.23  
TARGET GROUP : POLYTECHNIC FACULTY

OBJECTIVES:

• To understand features of Open Source Technologies and Moodle  
• To understand basic Moodle LMS vocabulary  
• To understand the Navigation block to navigate the site or a course  
• To learn Creating and editing a user profile  
• To learn security issues in Moodle LMS

COURSE CONTENTS:

• Definition of basic Moodle LMS vocabulary  
• Utilization of the Navigation block to navigate the site or a course  
• Dock and un-dock blocks  
• Log into a course  
• Creating and editing a user profile  
• Using key blocks: such as People, Messaging and Calendar  
• Functionality of joule’s most popular activity modules  
• Enrollment  
• Authentication  
• Course templating  
• Language localization  
• Module configuration

Course Coordinator with e-mail : Mr. Amit Doegar amit@nitttrchd.ac.in  
Mrs. Shano Solanki s_solanki_2000@yahoo.com

NAME OF THE COURSE : Web Hacking and Security  
COURSE DURATION : 28.5.2012 TO 1.6.2012  
VENUE : NITTTR, CHANDIGARH
OP PLAN NO. : 1.2.35
TARGET GROUP : POLYTECHNIC FACULTY

OBJECTIVES:

- To provide knowledge about web hacking and security
- To learn the principles of cryptography
- To simulate various cryptographic algorithms
- To install and configure deployment of firewalls
- To learn various web hacking techniques
- To know about Cyber Crimes, Cyber Laws and Forensic tools
- To learn Email Security, Key loggers and Digital Signatures
- To learn ethical hacking
- To give demo on Cryptographic tools

COURSE CONTENTS

- Types of Cyber Attacks
- Overview of Cryptography
- Browser Forensics, IP Spoofing & Protection of portable drives
- Forensic tools
- IT Acts
- Symmetric and Asymmetric Algorithms
- Simulation of Cryptographic algorithms
- Deployment of Firewalls
- Demo on Cryptographic tools
- Email tracking and tracing
- Ethical Hacking
- Key loggers and Digital Signatures

Course Coordinator with e-mail : Mr. Pardeep bansal par04_bansal@gmail.com
Mrs. Shano Solanki s_solanki_2000@yahoo.com

NAME OF THE COURSE : VB.Net
VENUE : NITTTR, CHANDIGARH
OP PLAN NO. : 1.2.43
TARGET GROUP : POLYTECHNIC FACULTY

Objectives

- To understand features of Visual Studio.NET
- To provide basic understanding of .NET framework
- To understand programming constructs of VB.NET
- To learn console and windows application designing.
- To learn database programming using ADO.NET technology

Course Contents

- Introduction to Visual Studio.NET
Architecture of the .NET framework.
Introduction to VB.NET and Object-oriented programming features.
Basics of VB.NET programming constructs.
Console application building using VB.NET
Concept of Exception handling and multithreading
Windows application building using VB.NET
File processing
Introduction to database programming using ADO.NET
Introduction to Crystal Reports

Course Coordinator with e-mail: Mrs. Shano Solanki/s_solanki_2000@yahoo.com
Mrs. Sangeeta Gupta sangeetajindal2001@yahoo.com

NAME OF THE COURSE: CYBER CRIME AND FORENSIC TOOLS
VENUE: KGP, SRINAGAR
OP PLAN NO.: 1.2.44
TARGET GROUP: POLYTECHNIC FACULTY

OBJECTIVES:
1. Understand Cyber laws and related Technologies.
2. Learn the different security threats.
3. Learn SSL certificates and Implementation
4. Understand the Role of Addresses & Ports.

COURSE CONTENTS:
1. Overview of Cyber Laws and related technologies
2. Cyber Addressing, Ports and related Technologies
3. Cyber Security threats & counter measures
4. User Access Monitoring
5. Trojan, Worms & Viruses Detection
6. Mandatory Access control
7. Forensic Tools
8. IPR & copy rights
9. Data crash & Recovery

COURSE COORDINATOR: PARDEEP BANSAL/AMRENDER SHARAN
Email: par04_bansal@gmail.com, amrenderarun@gmail.com

NAME OF THE COURSE: Repair and Maintenance of Computer
COURSE DURATION : 23.7.2012 TO 27.7.2012
VENUE            : NITTTR, CHANDIGARH
OP PLAN NO.      : 1.2.55
TARGET GROUP     : POLYTECHNIC FACULTY

Objectives

- To understand the Internal components of computer & peripherals
- Run diagnostics and identify faults at card/subsystems level.
- Partitioning of HDD and loading of OS
- Identify the presence of virus and clean up the system and media.
- Modular approach to computer assembly.
- Installing drivers for, LAN card sound card/chipsets
- Repair of Monitor and Printer

Course Contents

- Internal Components of Computer
- Review of Processor and Bus Standard
- Support chips used in PC family of computers and their characteristics
- PC architecture and the physical layouts of the cards and chipsets.
- Review of DOS / Windows 98/ Window 2000/ Windows XP fundamentals,
- Viruses and vaccines
- Assembling and dis-assembling PC family of computers
- SMPS Repairing
- System crash & Recovery
- Monitor & Printer Repairing

Course Coordinator with e-mail: Pardeep Bansal/
Sidharatha Nanchahal;
sidhu@nitttrchd.ac.in

AME OF THE COURSE : ADVANCED JAVA PROGRAMMING
VENUE            : GPW, LUDHIANA
OP PLAN NO.      : 1.2.64
TARGET GROUP     : POLYTECHNIC FACULTY

OBJECTIVES:

- To understand the concept of platform independence as compared to other programming languages.
- Java as a front end designing tool.
- Streaming multiple executions to occur simultaneously within the same program through multithreaded programming.
- To make dynamic applications using mouse events & animation effects.
- To make then able to connect java with database using JDBC

COURSE CONTENTS:
- Basics of Java
- Object oriented concepts of Java
- Introducing classes
- Code Reusability using Packages & Interfaces
- Exception Handling.
- Multithreaded programming
- String handling
- Applets, Awt tool kit
- JDBC
- Swings etc.

**COURSE COORDINATOR**: Dr. Maitreyee Dutta / SANGEETA JINDAL

**Email**: sangeetajindal2001@yahoo.com

**NAME OF THE COURSE**: Internet Technologies

**COURSE DURATION**: 30.7.2012 TO 03.8.2012

**VENUE**: NITTTR, CHANDIGARH

**OP PLAN NO.**: 1.2.65

**TARGET GROUP**: POLYTECHNIC FACULTY

**Objectives**

- Understand how internet works.
- Learn the various areas where internet can be used.
- Learn the Internet protocols, IP addressing
- Learn HTML, Dreamweaver for creating a web page.

**Course Contents**

- Understand how internet operates.
- Learn the different Internet applications.
- Learn Web page designing using HTML.
- Firewalls & Security
- Understand the Role of Proxy Server, Web server.

Course Coordinator with e-mail : Mrs. Poonam Saini

Nit.sainipoonam@gmail.com

**NAME OF THE COURSE**: Mobile Computing

**COURSE DURATION**: 06.08.2012 TO 10.08.2012

**VENUE**: NITTTR, CHANDIGARH

**OP PLAN NO.**: 1.2.67

**TARGET GROUP**: POLYTECHNIC FACULTY
Objectives

- To learn wireless communications concepts and mobile computing
- To learn about various wireless networks technologies such as GSM, GPRS, EDGE, WLAN, etc.
- To understand the concepts of mobile IP, wireless TCP, mobile agents
- Familiarize with network simulator and WML
- To understand OS for mobile devices
- To understand security issues in a wireless environment

Course Contents

- Introduction
- Overview of cellular technologies
- Wireless PANs & LANs
- Mobile Adhoc Networking
- Mobile IP, wireless TCP, mobile agents
- WAP and WML
- OS for mobile devices
- Security issues

Course Coordinator with e-mail: Shri C Rama Krishna; rkc@nitttrchd.ac.in
Mala Kalra

NAME OF THE COURSE: Linux Administration
VENUE: NITTTR, CHANDIGARH
OP PLAN NO.: 1.2.69
TARGET GROUP: POLYTECHNIC FACULTY

Objectives

- Learning how to use basic file management commands
- Understanding basic administration concepts such as users and groups
- Changing file ownership and permission.
- Understanding the different protocols that are part of the TCP protocol suite such as TCP, IP, UDP, and ICMP
- Managing your user's & groups.

Course Contents

- Installation setting up, configuring, and connecting to Linux server through LAN.
- Administrating the X window system.
- Setting up a Apache server, Proxy server (DHCP), SAMBHA server.
- Understanding & use of popular FTP, Telnet services.
• Setting up a basic DNS server.

Course Coordinator with e-mail: Shri Amit Doegar; amit@nitttrchd.ac.in
: Dr. Maitreyee Dutta; d_maitreyee@yahoo.co.in

NAME OF THE COURSE : Web Based Designing
COURSE DURATION : 03.9.2012 TO 07.9.2012
VENUE : NITTTR, CHANDIGARH
OP PLAN NO. : 1.2.82
TARGET GROUP : POLYTECHNIC FACULTY

Objectives

• To provide the concepts of HTML and scripting language.
• To Design interactive web pages using Java Script & Macromedia Flash.
• To teach server side scripting using PHP.

Course Contents

• Hypertext Markup Language (HTML)
• Macromedia Flash
• Server Side Programming (PHP)
• Scripting language Java Script
• Web Editor-Dream Weaver
• Web Page Management, & Hosting

Course Coordinator with e-mail: Mrs. Shano Solanki s_solanki_2000@yahoo.com

NAME OF THE COURSE : Wireless Network
VENUE : NITTTR, CHANDIGARH
OP PLAN NO. : 1.2.85
TARGET GROUP : POLYTECHNIC FACULTY

Objectives

• To learn wireless Network concepts
• To learn about various wireless networks technologies such as GSM, GPRS, EDGE, WPANs, WLANs, etc.
• To understand the concepts of mobile IP
• To understand the concept of ad hoc networking
• To understand security issues in wireless environments
• To understand simulation of ad hoc network protocols using GloMoSim

Course Contents

• Introduction to Wireless Communications
• Overview of Cellular Technologies (GSM< GPRS, etc.)
• WLANs, WPANs
Mobile Adhoc Networks  
Mobile IP  
Security  
Network Simulator (GloMoSim)  
Field visit to BSNL

Course Coordinator with e-mail : Shri C. Rama Krishna ; rkc@nitttrchd.ac.in  
Amrendra/Poonam Saini

NAME OF THE COURSE : Network Security and Firewall  
VENUE : NITTTR, CHANDIGARH  
OP PLAN NO. : 1.2.95  
TARGET GROUP : POLYTECHNIC FACULTY

Objectives

- To teach introduction to Network and importance of Security.
- To teach NOS.
- Concept of Domain Networking & Security
- Concept of Group Policies & user Management
- Terminal Server & Security
- Security features in Linux O.S.
- Security features in Windows O.S.
- Implementation of Encryption and Decryption.

Course Contents

- Overview of Network Security
- Installation of NOS and Active Directory Services
- Domain Networking & Security
- Group Policies & user Management
- Terminal Server & Security
- Server Security and PAM
- TCP wrappers and Security
- Importance of Encryption and Decryption and their implementation.
- Implementation of Firewall using Open Source
- System Crash & Data Recovery

NAME OF THE COURSE : Animation for Web  
VENUE : NITTTR, CHANDIGARH  
OP PLAN NO. : 1.2.96  
TARGET GROUP : POLYTECHNIC FACULTY
OBJECTIVES:

- To provide them skills and knowledge to create 2D animations for web.
- To make them learn the principles of digital art, drawing, storyboarding and techniques in animation.
- Will be able to create movie clips and animated picture files using Flash program.
- With the addition of using sound and scripting, will be able to create interactive animated files for the Internet.

COURSE CONTENTS

- Overview of animation
- Introduction to Flash and its working Environment
- Flash drawing tools and transformations
- Tweening Effects
- Layers
- Masking Effects
- ActionScript
- Audio in animation

Course Coordinator with e-mail: Mrs. Shano Solanki/s_solanki_2000@yahoo.com

NAME OF THE COURSE: Oracle Administration
VENUE: NITTTR, CHANDIGARH
OP PLAN NO.: 1.2.97
TARGET GROUP: POLYTECHNIC FACULTY

Objectives

- To have knowledge of concepts of RDBMS & Oracle Architecture
- Familiarize & practice SQL & SQL*PLUS commands.
- Programming using PL/SQL
- Oracle Administration

Course Contents

- Concept of RDBMS & Oracle Architecture (in brief)
- SQL, SQL*PLUS commands
- PL/SQL programming
- Oracle Administration

Course Coordinator with e-mail: Mrs Poonam Saini nit.sainipoonam@gmail.com

NAME OF THE COURSE: ASP.Net (Script Language)
COURSE DURATION: 15.10.2012 TO 19.10.2012
VENUE: NITTTR, CHANDIGARH
OP PLAN NO. : 1.2.98
TARGET GROUP : POLYTECHNIC FACULTY

Objectives

- To understand what are Active Server Pages (ASP).
- When ASP pages are need to be used in place of static HTML files?
- How ASP differs from client-side scripting such as VBScript or JavaScript etc.?
- What software is required to serve ASP pages from a computer?
- How to install Microsoft Internet Information Server and Microsoft’s Personal Web Server?
- To enable you to make dynamic and interactive web pages.
- How to view the output of an ASP page.

Course Contents

- Introduction to static and dynamic Webpage designing.
- Hypertext Markup Language (HTML).
- Introduction to VB Script.
- Introduction to Server side Programming (ASP).
- Form handling.
- Using databases.
- Adrotator and mini project.

Course Coordinator with e-mail : Mr Amrendra Sharan
amrenderarun@gmail.com

NAME OF THE COURSE : Web Based Content Development
VENUE : NITTTR, CHANDIGARH
OP PLAN NO. : 1.2.104
TARGET GROUP : POLYTECHNIC FACULTY

Objectives

- To provide the concepts of HTML and scripting language.
- To Design interactive web pages using Java Script & Macromedia Flash.
- To teach server side scripting using PHP.

Course Contents

- Hypertext Markup Language (HTML)
- Macromedia Flash
- Server Side Programming (PHP)
- Scripting language Java Script
- Web Editor-Dream Weaver
- Web Page Management, & Hosting

Course Coordinator With E-Mail : Mrs. Sangeeta/Mrs. Shano Solanki
S-solanki_2000@yahoo.com
NAME OF THE COURSE : Cloud Computing
VENUE : GP, Jammu
OP PLAN NO. : 1.2.113
TARGET GROUP : POLYTECHNIC FACULTY

Objectives

- To understand cloud computing concepts
- To understand cloud computing architecture, characteristics and models
- To learn about cloud computing applications.
- To learn basics of virtualization
- To understand cloud computing vs other distributed technologies
- To Understand Elasticity, Resiliency, On-Demand and Measured Usage
- To learn benefits, Challenges and Risks of Contemporary Cloud Computing Platforms and Cloud Services
- Security issues in cloud computing

Course Contents

- Introduction to Cloud Computing
- A Brief History of the Business and Technology Drivers that Led to Cloud Computing
- Fundamental Cloud Computing Terminology and Concepts
- Cloud Computing applications
- Basics of Virtualization
- Specific Characteristics that Define a Cloud
- Cloud computing vs other distributed technologies
- Understanding Elasticity, Resiliency, On-Demand and Measured Usage
- Benefits, Challenges and Risks of Contemporary Cloud Computing Platforms and Cloud Services
- Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS)
- Cloud Delivery Models Public Cloud, Private Cloud, Hybrid Cloud
- Security issues

Course Coordinator with e-mail : Shri C Rama Krishna; rkc@nitttrchd.ac.in
Ms. Poonam Saini

NAME OF THE COURSE : Open Source Technologies
COURSE DURATION : 15.10.2012 TO 19.10.2012
VENUE : NITTTR, CHANDIGARH
OP PLAN NO. : 1.2.120
TARGET GROUP : POLYTECHNIC FACULTY
Objectives

- Overview of Open Source Technology
- Content Management Tools
- PHP Programming
- MySQL database
- Database Connectivity
- Open Source Applications
- Open Source Hacking Tools
- Open Source Multimedia Tools.

Course Contents

- Overview of Open Source Technology
- Content Management Tools
- PHP Programming
- MySQL database
- Database Connectivity
- Open Source Applications
- Open Source Hacking Tools
- Open Source Multimedia Tools.

Course Coordinator with e-mail: Shri Amit Doegar; amit@nitttrchd.ac.in
Dr. Maitreyee Dutta; d_maitreyee@yahoo.co.in

NAME OF THE COURSE: CYBER CRIME AND FORENSIC TOOLS

COURSE DURATION: 05.11.2012 TO 9.11.2012

VENUE: NITTTR, CHANDIGARH

OP PLAN NO.: 1.2.127

TARGET GROUP: POLYTECHNIC FACULTY

OBJECTIVES:

- Understand Cyber laws and related Technologies.
- Learn the different security threats.
- Learn SSL certificates and Implementation
- Understand the Role of Addresses & Ports.

COURSE CONTENTS:

- Overview of Cyber Laws and related technologies
- Cyber Addressing, Ports and related Technologies
- Cyber Security threats & counter measures
- User Access Monitoring
- Trojan, Worms & Viruses Detection
- Mandatory Access control
- Forensic Tools
- IPR & copy rights
• Data crash & Recovery
• Cyber laws & future technologies.

COURSE COORDINATOR: PARDEEP BANSAL / AMRENDER SHARAN
    Email: par04_bansal@gmail.com, amrenderarun@gmail.com

NAME OF THE COURSE: Database Technologies
VENUE: NITTTR, CHANDIGARH
OP PLAN NO.: 1.2.133
TARGET GROUP: POLYTECHNIC FACULTY

Objectives

• To learn database technologies concepts
• To learn about emerging database technologies such as Deductive Databases, Temporal Databases, Multimedia Databases, etc.
• To understand the concepts of Parallel Databases
• To understand the concept of Distributed Databases
• To understand the concepts of Object-Oriented and Object-Relational Databases
• To learn the Concurrency Control Techniques
• To learn the various Back and Recovery Techniques
• Familiarize with Data Warehouse and Data Mining

Course Contents

• Introduction to Database Technologies
• Overview of Distributed and Parallel Databases
• Fragmentation Techniques
• Replication Techniques
• Data Allocation Techniques
• Emerging Database Technologies
• Deductive Databases
• Temporal Databases
• Multimedia Databases
• Object-Oriented and Object-Relational Databases
• Concurrency Control Techniques
• Locking Methods
• Time-Stamping
• Optimistic Method
• Backup and Recovery Techniques
• Data Warehouse Concepts
• Data Mining Techniques
Course Coordinator with e-mail : Ms. Poonam Saini, nit.sainipoonam@gmail.com

NAME OF THE COURSE : Network Administration
COURSE DURATION : 21.01.2013 TO 25.01.2013
VENUE : NITTTR, CHANDIGARH
OP PLAN NO. : 1.2.147
TARGET GROUP : POLYTECHNIC FACULTY

Objectives

- To learn Network Administration concepts
- Overview of Network Operating System and IP Addressing
- NOS Installation (Windows Server 2003)
- NAT and VLAN Setup
- Bandwidth Management and Network Monitoring
- Implementation of Routing Protocols using Simulator
- Security and ACL
- To learn about the Windows Server
- To learn the Linux Operating System
- To learn Linux Administration and Web Services

Course Contents

- Introduction to Network Administration Concepts
- Overview of Network Operating Systems and Web Services
- Domain Networking and ADS
- Remote Access with VPN Setup
- Terminal Server and Remote Management
- Streaming Over Network
- Implementation of IP Version 6
- Group Policy and Roaming Profile
- Implementation of RIS
- Implementation of DFS Server

Course Coordinator with e-mail : Mr. Amit Doegar / Mr. Pardeep Bansal
amit@nitttrchd.ac.in / par04_bansal@yahoo.com

NAME OF THE COURSE : COMPUTER NETWORKING WITH CISCO TECHNOLOGY
COURSE DURATION : 04.2.2013 TO 08.2.2013
VENUE : NITTTR, Chandigarh
OP PLAN NO. : 1.2.151
TARGET GROUP : POLYTECHNIC FACULTY
OBJECTIVES:

- To study networking topologies, Network architecture, Network Operating system Like Linux and Windows 2000.
- To comprehend E-mail server, Proxy Server, Firewalls with respect to networking of computers.
- To know about CISCO equipments.

COURSE CONTENTS:

- Network Basics, Topologies, Network Architecture
- Windows 2000
- Linux
- Email Server
- Proxy Server
- Firewalls
- VOIP

COURSE COORDINATOR : Mrs Shano Solanki/Amremdra
S_solanki_2000@yahoo.com

NAME OF THE COURSE : Grid Computing
COURSE DURATION : 18.2.2013 TO 22.2.2013
VENUE : IRDT, KANPUR
OP PLAN NO. : 1.2.158
TARGET GROUP : POLYTECHNIC FACULTY

Objectives

- To understand the key concepts of Grid computing.
- To demonstrate basic operations in existing Grid environment.
- To identify the resource selection and job placement requirements for Grid environment
- To understand security issues in grid computing

Course Contents

- Introduction to Grid computing: History and evolution of Grid, key issues
- Grid architecture and distributed architecture technologies
- Grid security issues: Authentication and authorization issues in Grid environment
- Data management and transfer in Grid environments
- Resource management and Scheduling in Grid
- Grid information services
COURSES CONTENTS OF ENGINEERING COLLEGE

NAME OF THE COURSE : PHP AND MySQL
VENUE : NITTTR, CHANDIGARH
OP PLAN NO. : EC-08
TARGET GROUP : ENGINEERING FACULTY

OBJECTIVES:

- To understand features of Open Source Technologies and PHP
- To understand web server installation, PHP and MySQL Connectivity
- To learn Data Transformation, Integration and Data Mining using MySQL
- To learn Security issues in PHP and MySQL

CONTENTS

- Introduction to Open Source Technologies and PHP
- Web server Installation, PHP and MySQL Connectivity
- PHP Variables, Operators, Loops, Strings, Functions and Arrays
- Data Transformation, Integration and Data Mining using MySQL
- Object Oriented Programming using PHP, Exception Handling
- File Handling and Jquery, Ajax and XML
- MySQL Connectivity and Form Handling
- ODBC Connectivity and MySQL Administration

COURSE COORDINATOR : (Amrendra Sharan)
amrenderarun@gmail.com

NAME OF THE COURSE : Cloud Computing
COURSE DURATION : 14.05.2012 TO 18.05.2012
VENUE : NITTTR, CHANDIGARH
OPLAN NO. : EC-10
TARGET GROUP : ENGINEERING FACULTY
Objectives

- To understand cloud computing concepts
- To understand cloud computing architecture, characteristics and models
- To learn about cloud computing applications.
- To learn basics of virtualization
- To understand cloud computing vs other distributed technologies
- To understand Elasticity, Resiliency, On-Demand and Measured Usage
- To learn benefits, Challenges and Risks of Contemporary Cloud Computing Platforms and Cloud Services
- Security issues in cloud computing

Course Contents

- Introduction to Cloud Computing
- A Brief History of the Business and Technology Drivers that Led to Cloud Computing
- Fundamental Cloud Computing Terminology and Concepts
- Cloud Computing applications
- Basics of Virtualization
- Specific Characteristics that Define a Cloud
- Cloud computing vs other distributed technologies
- Understanding Elasticity, Resiliency, On-Demand and Measured Usage
- Benefits, Challenges and Risks of Contemporary Cloud Computing Platforms and Cloud Services
- Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS)
- Cloud Delivery Models Public Cloud, Private Cloud, Hybrid Cloud
- Security issues

Course Coordinator with e-mail: Shri C Rama Krishna; rkc@nitttrchd.ac.in

NAME OF THE COURSE: Moodle LMS
COURSE DURATION: 21.5.2012 TO 25.5.2012
VENUE: NITTTR Chandigarh
OP PLAN NO.: EC-15
TARGET GROUP: ENGINEERING FACULTY

OBJECTIVES:
To understand features of Open Source Technologies and Moodle
To understand basic Moodle LMS vocabulary
To understand the Navigation block to navigate the site or a course
To learn Creating and editing a user profile
To learn security issues in Moodle LMS

COURSE CONTENTS:

- Definition of basic Moodle LMS vocabulary
- Utilization of the Navigation block to navigate the site or a course
- Dock and un-dock blocks
- Log into a course
- Creating and editing a user profile
- Using key blocks: such as People, Messaging and Calendar
- Functionality of joule’s most popular activity modules
- Enrollment
- Authentication
- Course templating
- Language localization
- Module configuration

Course Coordinator with e-mail: Mr. Amit Doegar amit@nitttrchd.ac.in
Mrs. Shano Solanki s_solanki_2000@yahoo.com

NAME OF THE COURSE: VB.Net
VENUE: NITTTR, CHANDIGARH
OP PLAN NO.: EC-24
TARGET GROUP: ENGINEERING FACULTY

Objectives

- To understand features of Visual Studio.NET
- To provide basic understanding of .NET framework
- To understand programming constructs of VB.NET
- To learn console and windows application designing.
- To learn database programming using ADO.NET technology

Course Contents

- Introduction to Visual Studio.NET
- Architecture of the .NET framework.
- Introduction to VB.NET and Object-oriented programming features.
- Basics of VB.NET programming constructs.
- Console application building using VB.NET
- Concept of Exception handling and multithreading
- Windows application building using VB.NET
- File processing
• Introduction to database programming using ADO.NET
• Introduction to Crystal Reports

Course Coordinator with e-mail: Mrs. Shano Solanki; s_solanki_2000@yahoo.com
Mrs. Sangeeta Gupta; sangeetajindal2001@yahoo.com

NAME OF THE COURSE : Internet Technologies
COURSE DURATION : 30.07.2012 TO 03.08.2012
VENUE : NITTTR, CHANDIGARH
OP PLAN NO. : EC-32
TARGET GROUP : ENGINEERING FACULTY

Objectives

• Understand how internet works.
• Learn the various areas where internet can be used.
• Learn the Internet protocols, IP addressing.
• Learn HTML, Dreamweaver for creating a web page.

Course Contents

• Understand how internet operates.
• Learn the different Internet applications.
• Learn Web page designing using HTML.
• Firewalls & Security
• Understand the Role of Proxy Server, Web server.

Course Coordinator with e-mail: Mrs. Poonam Saini; nit.sainipoonam@gmail.com

NAME OF THE COURSE : Mobile Computing
COURSE DURATION : 06.08.2012 TO 10.08.2012
VENUE : NITTTR, CHANDIGARH
OP PLAN NO. : EC-34
TARGET GROUP : ENGINEERING FACULTY

Objectives

• To learn wireless communications concepts and mobile computing
• To learn about various wireless networks technologies such as GSM, GPRS, EDGE, WLAN, etc.
• To understand the concepts of mobile IP, wireless TCP, mobile agents
• Familiarize with network simulator and WML
• To understand OS for mobile devices
• To understand security issues in a wireless environment

Course Contents

• Introduction
• Overview of cellular technologies
• Wireless PANs & LANs
• Mobile Adhoc Networking
• Mobile IP, wireless TCP, mobile agents
• WAP and WML
• OS for mobile devices
• Security issues

Course Coordinator with e-mail : Shri C Rama Krishna; rkc@nitttrchd.ac.in
Mala Kalra

NAME OF THE COURSE : Linux Administration
COURSE DURATION : 20.08.2012 TO 24.08.2012
VENUE : NITTTR, CHANDIGARH
OP PLAN NO. : EC-35
TARGET GROUP : ENGINEERING FACULTY

Objectives

• Learning how to use basic file management commands
• Understanding basic administration concepts such as users and groups
• Changing file ownership and permission.
• Understanding the different protocols that are part of the TCP protocol suite such as TCP, IP, UDP, and ICMP
• Managing your user's & groups.

Course Contents

• Installation setting up, configuring, and connecting to Linux server through LAN.
• Administarting the X window system.
• Setting up a Apache server, Proxy server (DHCP), SAMBHA server.
• Understanding & use of popular FTP, Telnet services.
• Setting up a basic DNS server.

Course Coordinator with e-mail : Shri Amit Doegar ; amit@nitttrchd.ac.in
Dr. Maitreyee Dutta; d_maitreyee@yahoo.co.in
NAME OF THE COURSE : Web Hacking and Security  
COURSE DURATION : 28.5.2012 TO 1.6.2012  
VENUE : NITTTR, CHANDIGARH  
OP PLAN NO. : EC-39  
TARGET GROUP : ENGINEERING FACULTY

OBJECTIVES:

- To provide knowledge about web hacking and security
- To learn the principles of cryptography
- To simulate various cryptographic algorithms
- To install and configure deployment of firewalls
- To learn various web hacking techniques
- To know about Cyber Crimes, Cyber Laws and Forensic tools
- To learn Email Security, Key loggers and Digital Signatures
- To learn ethical hacking
- To give demo on Cryptographic tools

COURSE CONTENTS

- Types of Cyber Attacks
- Overview of Cryptography
- Browser Forensics, IP Spoofing & Protection of portable drives
- Forensic tools
- IT Acts
- Symmetric and Asymmetric Algorithms
- Simulation of Cryptographic algorithms
- Deployment of Firewalls
- Demo on Cryptographic tools
- Email tracking and tracing
- Ethical Hacking
- Key loggers and Digital Signatures

Course Coordinator with e-mail : Mala Kalra: malakalra2004@yahoo.com
Mrs Poonam Saini nit.sainipoonam@gmail.com

NAME OF THE COURSE : Web Based Designing 
COURSE DURATION : 03.09.2012 TO 07.09.2012  
VENUE : NITTTR, CHANDIGARH  
OP PLAN NO. : EC-45  
TARGET GROUP : ENGINEERING FACULTY

Objectives

- To provide the concepts of HTML and scripting language.
- To Design interactive web pages using Java Script & Macromedia Flash.

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To teach server side scripting using PHP.

Course Contents

- Hypertext Markup Language (HTML)
- Macromedia Flash
- Server Side Programming (PHP)
- Scripting language Java Script
- Web Editor-Dream Weaver
- Web Page Management, & Hosting

Course Coordinator with e-mail: Mrs. Shano Solanki
s-solanki_2000@yahoo.com

NAME OF THE COURSE: Wireless Network
VENUE: NITTTR, CHANDIGARH
OP PLAN NO.: EC-47
TARGET GROUP: ENGINEERING FACULTY

Objectives

- To learn wireless network concepts
- To learn about various wireless networks technologies such as GSM, GPRS, EDGE, WPANs, WLANs, etc.
- To understand the concepts of mobile IP
- To understand the concept of ad hoc networking
- To understand security issues in wireless environments
- To understand simulation of ad hoc network protocols using GloMoSim

Course Contents

- Introduction to Wireless networks
- Overview of Cellular Technologies (GSM< GPRS, etc.)
- WLANs, WPANs
- Mobile Adhoc Networks
- Mobile IP
- Security
- Network Simulator (GloMoSim)
- Field visit to BSNL

Course Coordinator with e-mail: Amrendra/Pardeep Bansal
amrenderarun@gmail.com

NAME OF THE COURSE: Network Security and Firewall
COURSE DURATION: 04.03.2013 TO 08.03.2013
VENUE: NITTTR, CHANDIGARH
OP PLAN NO. : EC-50
TARGET GROUP : ENGINEERING FACULTY

Objectives

- To teach introduction to Network and importance of Security.
- To teach NOS.
- Concept of Domain Networking & Security
- Concept of Group Policies & user Management
- Terminal Server & Security
- Security features in Linux O.S.
- Security features in Windows O.S.
- Implementation of Encryption and Decryption.

Course Contents

- Overview of Network Security
- Installation of NOS and Active Directory Services
- Domain Networking & Security
- Group Policies & user Management
- Terminal Server & Security
- Server Security and PAM
- TCP wrappers and Security
- Importance of Encryption and Decryption and their implementation.
- Implementation of Firewall using Open Source
- System Crash & Data Recovery.

Course Coordinator with e-mail :
Mr. Amit Doegar; amit@nitttrchd.ac.in
Mrs. Poonam Saini; nit.sainipoonam@gmail.com

NAME OF THE COURSE : Animation for Web
VENUE : NITTTR, CHANDIGARH
OP PLAN NO. : EC-51
TARGET GROUP : ENGINEERING FACULTY

OBJECTIVES :

- To provide them skills and knowledge to create 2D animations for web.
- To make them learn the principles of digital art, drawing, storyboarding and techniques in animation.
- Will be able to create movie clips and animated picture files using Flash program.
- With the addition of using sound and scripting, will be able to create interactive animated files for the Internet.

**COURSE CONTENTS**

- Overview of animation
- Introduction to Flash and its working Environment
- Flash drawing tools and transformations
- Tweening Effects
- Layers
- Masking Effects
- ActionScript
- Audio in animation

Course Coordinator with e-mail: Mrs. Shano Solanki/s_solanki_2000@yahoo.com

**NAME OF THE COURSE** : Web Based Content Development
**VENUE** : NITTTR, CHANDIGARH
**OP PLAN NO.** : EC-54
**TARGET GROUP** : ENGINEERING FACULTY

**Objectives**

- To provide the concepts of HTML and scripting language.
- To Design interactive web pages using Java Script & Macromedia Flash.
- To teach server side scripting using PHP.

**Course Contents**

- Hypertext Markup Language (HTML)
- Macromedia Flash
- Server Side Programming (PHP)
- Scripting language Java Script
- Web Editor-Dream Weaver
- Web Page Management, & Hosting

Course Coordinator With E-Mail : Mrs. Sangeeta/Mrs. Shano Solanki
S-solanki_2000@yahoo.com

**NAME OF THE COURSE** : Open Source Technologies
COURSE DURATION : 15.10.2012 TO 19.10.2012
VENUE : NITTTR, CHANDIGARH
OP PLAN NO. : 1.2.120
TARGET GROUP : POLYTECHNIC FACULTY

Objectives

- Overview of Open Source Technology
- Content Management Tools
- PHP Programming
- MySQL database
- Database Connectivity
- Open Source Applications
- Open Source Hacking Tools
- Open Source Multimedia Tools.

Course Contents

- Overview of Open Source Technology
- Content Management Tools
- PHP Programming
- MySQL database
- Database Connectivity
- Open Source Applications
- Open Source Hacking Tools
- Open Source Multimedia Tools.

Course Coordinator with e-mail : Shri Amit Doegar; amit@nitttrchd.ac.in
Dr. Maitreyee Dutta; d_maitreyee@yahoo.co.in

NAME OF THE COURSE : CYBER CRIME AND FORENSIC TOOLS
COURSE DURATION : 05.11.2012 TO 9.11.2012
VENUE : NITTTR, CHANDIGARH
OP PLAN NO. : EC-63
TARGET GROUP : ENGINEERING FACULTY

OBJECTIVES :

- Understand Cyber laws and related Technologies.
- Learn the different security threats.
- Learn SSL certificates and Implementation
- Understand the Role of Addresses & Ports.

COURSE CONTENTS:

- Overview of Cyber Laws and related technologies
- Cyber Addressing, Ports and related Technologies
- Cyber Security threats & counter measures
- User Access Monitoring
- Trojan, Worms & Viruses Detection
- Mandatory Access control
- Forensic Tools
- IPR & copy rights
- Data crash & Recovery
- Cyber laws & future technologies.

COURSE COORDINATOR: Mrs Shano Solanki / AMRENDER SHARAN
Email: s_solanki_2000@yahoo.com, amrenderarun@gmail.com

NAME OF THE COURSE : Database Technologies
VENUE : NITTTR, CHANDIGARH
OP PLAN NO. : EC-66
TARGET GROUP : ENGINEERING FACULTY

Objectives

- To learn database technologies concepts
- To learn about emerging database technologies such as Deductive Databases, Temporal Databases, Multimedia Databases, etc.
- To understand the concepts of Parallel Databases
- To understand the concept of Distributed Databases
- To understand the concepts of Object-Oriented and Object-Relational Databases
- To learn the Concurrency Control Techniques
- To learn the various Back and Recovery Techniques
- Familiarize with Data Warehouse and Data Mining

Course Contents

- Introduction to Database Technologies
- Overview of Distributed and Parallel Databases
  - Fragmentation Techniques
  - Replication Techniques
  - Data Allocation Techniques
- Emerging Database Technologies
  - Deductive Databases
  - Temporal Databases
  - Multimedia Databases
- Object-Oriented and Object-Relational Databases
• Concurrency Control Techniques
  • Locking Methods
  • Time-Stamping
  • Optimistic Method
• Backup and Recovery Techniques
• Data Warehouse Concepts
• Data Mining Techniques

Course Coordinator with e-mail : Ms. Poonam Saini, nit.sainipoonam@gmail.com

NAME OF THE COURSE : COMPUTER NETWORKING WITH CISCO TECHNOLOGY
COURSE DURATION : 04.2.2013 TO 08.2.2013
VENUE : NITTTR, Chandigarh
OP PLAN NO. : EC-83
TARGET GROUP : ENGINEERING FACULTY

OBJECTIVES:
• To study networking topologies, Network architecture, Network Operating system Like Linux and Windows 2000.
• To comprehend E-mail server, Proxy Server, Firewalls with respect to networking of computers.
• To know about CISCO equipments.

COURSE CONTENTS:
• Network Basics, Topologies, Network Architecture
• Windows 2000
• Linux
• Email Server
• Proxy Server
• Firewalls
• VOIP

COURSE COORDINATOR : Mrs Shano Solanki/Amremdra
S_solanki_2000@yahoo.com
ELECTRONICS AND COMMUNICATION ENGINEERING DEPARTMENT

Name of the Course : Introduction to Embedded Systems
Oplan No. : 1.2.18
Dates and Venue of the Course : 07 – 11 May, 2012 at
Govt. Poly. for Girls, Ludhiana
Polytechnic faculty of Pb. State

OBJECTIVES

The objective of the course is to focus on Embedded System Designs, the latest trend in system designing including micro-controllers, embedded systems and various applications.

CONTENTS

Introduction to Micro-controllers
Overview of Embedded processors
Reconfigurable devices like CPLD, FPGA
System on Chip, Applications specific Integrated Circuits
Applications of embedded systems

METHODOLOGY

The teaching-learning process of training program will include theory lectures, practicals, technical discussions and field visits (if required).

ELIGIBILITY

Teaching faculty from Electronics & Commn. Engg., Electrical Engg., Instrumentation, are eligible to apply.

COURSE COORDINATOR

Mrs. Kanika Sharma,
Asstt. Prof., E&CE
E-mail: kanikasharma80@yahoo.com
Phone : 0172-2759629
Name of the Course : Mobile Communication
Oplan No. : 1.2.24
Dates and Venue of the Course : 14 – 18 May, 2012 at
Govt. Polytechnic for Women, Kandaghat (HP)
Polytechnic faculty of HP State

OBJECTIVES:

Mobile technology has already creating hype throughout the world. Mobile or Cellular phone is a long range portable electronic device for communication over long distance. Mobile phones & their network vary very significantly from provider to provider and country to country. The basic communication method is through EM waves. Thus this course will cover the basics of Mobile Communication and different technology.

CONTENTS:

Cell design
Multiple access techniques
Generations of Mobile Communication
Frequency Reuse
GSM
CDMA
Working of MSC

METHODOLOGY

The teaching-learning process of training program will include theory lectures, practicals, technical discussions and Internet Usage.

ELIGIBILITY:

Teaching faculty from Electronics & Commn., Instrumentation, Electrical, Computer Science and Applied Science departments are eligible.

COURSE COORDINATOR:

Dr. SBL Sachan,
Prof. & Head, E&CE
E-mail: sblsachan@yahoo.co.in
Phone : 0172-2759638
Name of the Course : VLSI System Design
Oplan No. : 1.2.58
Dates and Venue of the Course : 23 – 27 July, 2012 at Delhi/Jaipur
Polytechnic faculty of Delhi/Rajasthan States

OBJECTIVES

The objective of the course is to train and upgrade the faculty in the field of VLSI Design. Most of the Electronic Industries are using various CAD tools for Front End and Back End VLSI Design. In this STC Xilinx ISE and Microwind Software will be used for front End and Back End VLSI Design respectively. This course will also include exposure to PCB design using Eagle Software.

CONTENTS

VLSI overview,
VLSI, CAD tools
PCB Design Rules,
PCB Designing using EAGLE Software
Design and Simulation using ISE Software
Lamda Rules for VLSI Design
Microwind S/w based CMOS Design & Simulation
Case Studies

METHODOLOGY

The teaching-learning process of training program will include theory lectures, practicals, and educational visits.

ELIGIBILITY

Teaching faculty from I.T., Electronics & Communication, Instrumentation, Electrical, Comp. Science and other related engineering departments are eligible to apply.

COURSE COORDINATOR

Prof. Rajesh Mehra,
Associate Prof., E&CE
E-mail : rajeshmehra@yahoo.com
Phone: 0172-2759534
Name of the Course : CDMA & GSM  
Oplan No. : 1.2.59  
Dates and Venue of the Course : 23 – 27 July, 2012 at  
NITTTR, Chandigarh  
Polytechnic faculty of Northern State

OBJECTIVES:

Mobile technology has already creating hype throughout the world. Mobile or Cellular phone is a long range portable electronic device for communication over long distance. Mobile phones & their network vary very significantly from provider to provider and country to country. The basic communication method is through EM waves. Thus this course will cover the basics of Mobile Communication and different technology such as CDMA and GSM.

CONTENTS:

Cell design  
Multiple access techniques  
Generations of Mobile Communication  
Frequency Reuse  
GSM  
CDMA  
Working of MSC

METHODOLOGY

The teaching-learning process of training program will include theory lectures, practicals, technical discussions and Internet Usage.

ELIGIBILITY:

Teaching faculty from Electronics & Commn., Instrumentation, Electrical, Computer Science and Applied Science departments are eligible.

COURSE COORDINATOR:

Mrs. Garima Saini,  
Asstt. Prof., E&CE  
E-mail: garimasaini_18@rediffmail.com  
Phone : 0172-2759665
Name of the Course : MATLAB Programming & ANN  
Oplan No. : 1.2.83  
Dates and Venue of the Course : 03 – 14 September, 2012 at NITTTR, Chandigarh  
Polytechnic faculty of Northern States  

OBJECTIVES

Artificial Neural Networks (ANN) are inspired by biological neurons of the brain. They are capable of learning patterns and relations from input data and predict the output for a given set of input data. ANN can be used to model any linear or non-linear system. Because of its tremendous success & applications, ANN has found its place as a subject in various disciplines of engineering & is also an important subject of research. Starting from prototype modeling, antenna design to medical detection of diseases, ANN has numerous applications.

CONTENTS:

In this course, main topics to be covered are :

Introduction to ANN, learning parameters, Feed Forward NN, Error Back Propagation Algorithm (EBPA), Radial Basis Function (RBF) Neural Network, Hammering Neural Network, Kohonen’s Self Organizing Map, Neural Network in medical applications. Latest trend in Neural Network and MATLAB implementation. The course will have Lab. sessions also.

METHODOLOGY

The teaching-learning process of training program will include theory lectures, practicals, technical discussions, Internet Usage and a field trip.

ELIGIBILITY

Teaching faculty from Electronics & Commn., Instrumentation, Electrical, Comp. Sc., Mathematics and other related departments are eligible to apply.

COURSE COORDINATOR:

Dr.(Mrs.) Swapna Devi,  
Associate Prof, E&CE  
E-mail: swapna_devi_p@yahoo.co.in  
Phone : 0172-2759559
Name of the Course : Computer Networks
Oplan No. : 1.2.87
Dates and Venue of the Course : 10 – 14 September, 2012
Outstation Program
Polytechnic faculty of Northern States

OBJECTIVES

This program is meant to familiarize the participants with important concepts of computer networks.

COURSE CONTENTS

Basic concepts of computer networks,
Medium Access and Routing concepts
Wireless LAN Principles
Configuration and testing of Wired and Wireless LANs

METHODOLOGY

The training program will include theory lectures, practicals, technical discussions and Internet Based learning.

ELIGIBILITY

Faculty from Electronics & Communication Engineering and Comp. Science and Engineering departments are eligible to apply.

COURSE COORDINATOR

Sh. O.S. Khanna,
Associate. Prof., E&CE
E-mail: os_khanna@yahoo.com
Phone : 0172-2759614
Name of the Course : GSM to 3G
Oplan No. : 1.2.106
Dates and Venue of the Course : 24 – 28 September, 2012 at
Govt. Poly. for Women, Kandaghat/GP Chamba
Polytechnic faculty of HP State

OBJECTIVES:

There are much technological advancements today but none has made as much impact to how Society Communicates as the development of mobile communications. 2G mobile technology heralded the appearance of GSM system for Mobile Communication which featured several advantages made through digital systems such as text messaging & net connectivity. 3G has made it easier for multimedia information to be dispatched through mobile & Internet networks. This course discuss about the GSM & 3G.

CONTENTS:

GSM, its Architecture & access technology
GSM Services
GPRS Architecture
GPRS Services
EDGE
Third generation Communication
UMTS, UTRAN

METHODOLOGY

The teaching-learning process of training program will include theory lectures, practicals using Qualnet Software, technical discussions and Internet Usage.

ELIGIBILITY:

Teaching faculty from Electronics & Commun., Instrumentation, Electrical, and Computer Science departments are eligible.

COURSE COORDINATOR:

Mrs. Garima Saini,
Asstt. Prof., E&CE
E-mail: garimasaini_18@rediffmail.com
Phone : 0172-2759665
Name of the Course : Digital Signal Processing
(National Level Program)
Oplan No. : 1.2.110
Dates and Venue of the Course : 01 – 12 October, 2012 at
NITTTR, Chandigarh
Polytechnic faculty of All Region States

OBJECTIVES:

The objective of this course is to train and upgrade the faculty in the area of Digital Signal Processing. Most of today’s DSP based systems perform transformation, correlation and convolution for efficient signal processing. Some advanced systems also perform multirate and adaptive signal processing. In this course MATLAB will be used for FIR and IIR filters designs. This will be supplement by design of multi-rate and adaptive filters. The course will also cover case studies based on signal processing applications like image processing, wireless communication, mobiles communication etc.

CONTENTS:

DSP Overview,
Transforms,
Filter Design,
Multi-rate Signal Processing,
Adaptive Signal Processing,
Case Studies on DSP

METHODOLOGY

The teaching-learning process of training program will include theory lectures, practicals, case studies and educational visits.

ELIGIBILITY:
Teaching faculty from Electronics & Commn., Instrumentation, Electrical, and Computer Science departments are eligible.

COURSE COORDINATOR:
Prof. Rajesh Mehra,
Associate Prof., E&CE
E-mail : rajeshmehra@yahoo.com
Phone : 0172-2759534
Name of the Course : Laser & its Applications in OFC
Oplan No. : 1.2.126
Dates and Venue of the Course : 30 October – 02 November, 2012 at
Govt. Polytechnic, Kanpur
Polytechnic faculty/Technical Staff of UP State

OBJECTIVES:

The advent of laser as a primary optical source is one of the most significant events of the 20th century. Since, the announcement of the first laser, the subject of laser physics has developed at a rapid pace and lasers of wide varieties have been developed. Applying this new tool in physical and chemical processing of materials, consumer electronics, optical communication, medicines and many other areas has made amazing advances. The objective of the course is to update the knowledge of participants in the field of laser based technologies. The emphasis of the course is on laser applications in different areas, laser handling and wave optics experiments using different lasers.

CONTENTS:
LASERS : An overview and Development.
Lasing Principles, Design and Characteristics
Laser Types : Solid, Gas and Liquid
Applications in Optical Communication,
Material processing Holography and Medicines
Experiments with lasers and Field visit.

METHODOLOGY
The teaching-learning process of training program will include theory lectures. Field visit to supplement the factual knowledge with the applications of the device in different areas.

ELIGIBILITY:
Teaching faculty/technical staff from Electronics & Commn., Electrical, Applied Science and Computer Science departments are eligible.

COURSE COORDINATOR:
Dr. SBL Sachan,
Prof. & Head, E&CE
E-mail: sblsachan@yahoo.co.in
Phone : 0172-2759638
Name of the Course : Optical Fiber Communication
Oplan No. : 1.2.128
Dates and Venue of the Course : 05 – 09 November, 2012 at NITTTR, Chandigarh
Polytechnic faculty/Technical Staff of Northern State

OBJECTIVES:

Optical transmission has acquired a special place in communication technical over the past forty years. A fiber acts as a waveguide to transmit information from one place to another and the information carrier is an optical wave. Since an optical wave can accommodate large amount of information, the system has a great potential. The course endeavors to provide an opportunity to the participants to learn and appreciate the technology options in the field of optical fiber communication.

CONTENTS:

The course shall cover the topics :
Needs and Potential of optical transmission,
Fundamentals of optical fiber wave guiding,
Optical sources and detector,
System Design concepts,
Efficient Communication Mechanisms,
Optical Amplification,
Latest developments in the field of Fiber Optic Communication Technology.

METHODOLOGY
The teaching-learning process of training program will include theory lectures. Field visit to supplement the factual knowledge with the applications of the device in different areas.

ELIGIBILITY:
Teaching faculty/technical staff from Electronics & Commn., Electrical, Applied Science and Computer Science departments are eligible.

COURSE COORDINATOR:
Dr. SBL Sachan,
Prof. & Head, E&CE
E-mail: sblsachan@yahoo.co.in
Phone : 0172-2759638
Name of the Course : Introduction to Wireless Sensor Networks  
Oplan No. : 1.2.168  
Dates and Venue of the Course : 11 – 15 March, 2013 at  
NITTTR, Chandigarh  
Polytechnic faculty of Northern States

OBJECTIVES

The objective of the course is to focus on the networking of wireless sensors, which are scattered for monitoring an environment.

CONTENTS

Characteristics and challenges of WSNs,  
Medium Access and Routing strategies in WSNs,  
Applications of Wireless Sensor Networks.

METHODOLOGY

The training program will include theory lectures, practicals, technical discussions and Internet Based learning.

ELIGIBILITY

Faculty from Electronics & Communication Engineering and Comp. Science and Engineering. departments are eligible to apply.

COURSE COORDINATOR

Sh. O.S. Khanna,  
Associate. Prof., E&CE  
E-mail: os_khanna@yahoo.com, nitttr@yahoo.co.in  
Phone : 0172-2759614
Name of the Course : Embedded System Applications  
Oplan No. : 1.2.173  
Dates and Venue of the Course : 18 – 22 March, 2013 at NITTTR, Chandigarh  
Polytechnic faculty of Northern. States

OBJECTIVES

The objective of the course is to focus on the applications of Embedded Systems, the latest trend in embedded system including micro-controllers, various applications, embedded networking like wireless sensor networking and ZIGBEE.

CONTENTS

Introduction to Micro-controllers like 8051, PIC  
Embedded processors  
Reconfigurable devices like CPLDs, FPGAs  
System on Chip, Applications specific Integrated Circuits  
Applications of embedded systems including Wireless Sensor network  
Industrial applications of Embedded Systems.

METHODOLOGY

The teaching-learning process of training program will include theory lectures, practicals, technical discussions and field visits (if required).

ELIGIBILITY

Teaching faculty from Electronics & Commn. Engg., Electrical Engg., Instrumentation, are eligible to apply.

COURSE COORDINATOR

Mrs. Kanika Sharma,  
Asstt. Prof., E&CE  
E-mail: kanikasharma80@yahoo.com  
Phone : 0172-2759629
Name of the Course : TCP/IP Based Computer Networks
Oplan No. : EC-01
Dates and Venue of the Course : 16 – 20 April, 2012 at NITTTR, Chandigarh
Engineering College faculty of Northern States

DESCRIPTION

Internet uses TCP/IP protocols for communication on the network. Also, more and more organizations base their private networks on TCP/IP technology. In view of this, it is desirable to have a good understanding of TCP/IP-Based Computer Networks.

OBJECTIVES


CONTENTS
TCP/IP reference model and protocols,
Addressing and naming,
Sub-netting, Super-netting,
LAN Installation.
TCP/IP utilities & Troubleshooting

METHODOLOGY

The training program will include theory lectures, practicals, technical discussions and Internet Based learning.

ELIGIBILITY

Faculty from Electronics & Communication Engineering and Comp. Science and Engineering. departments are eligible to apply.

COURSE COORDINATOR

Sh. O.S. Khanna,
Associate. Prof., E&CE
E-mail: os_khanna@yahoo.com, nitttr@yahoo.co.in
Phone : 0172-2759614
Name of the Course : Soft Computing Techniques  
Oplan No. : EC-11  
Dates and Venue of the Course : 14 – 18 May, 2012 at  
NITTTR, Chandigarh  
Engg. Colleges faculty of Northern States

OBJECTIVES:

Soft Computing techniques are being widely used these days both in curriculum and most importantly in research and degree projects. Nature inspired intelligent algorithms are found to give excellent solutions to different optimization problems. Starting from neuro-fuzzy tool to hybridization of swarm intelligent tools are giving promising solutions to various problems in a variety of fields of engineering. This course will expose the participants in the latest research of nature/bio-inspired computing.

COURSE CONTENTS:

Artificial neural network,  
Fuzzy Logic,  
Bacterial Foraging Optimization Technique,  
Particle Swarm Optimization Technique,  
Hybridization of different techniques,  
MATLAB programming,  
Applications

METHODOLOGY

The teaching-learning process of training program will include theory lectures, practicals, technical discussions and Internet Usage.

ELIGIBILITY :

Teaching faculty from Electronics & Commn., Instrumentation, Electrical, Comp. Science and other related engineering departments are eligible to apply.

Course Coordinator  
Dr.(Mrs.) Swapna Devi, Associate Prof, E&CE  
E-mail: swapna_devi_p@yahoo.co.in  
Phone : 0172-2759559
Name of the Course : Wireless LANs
Oplan No. : EC-33
Dates and Venue of the Course : 30 July – 03 August, 2012 at NITTTR, CHD.
Engineering College faculty of Northern States

OBJECTIVES

The objectives of the course are to provide basic concepts and skills in the area of Wireless LANs.

CONTENTS

Issues and working of Wireless LANs.
Architecture of IEEE802.11 WLAN.
Installation and configuration of infrastructure and Ad-hoc WLAN.
Introduction to Wireless PAN.

METHODOLOGY

The training program will include theory lectures, practicals, technical discussions and Internet Based learning.

ELIGIBILITY

Faculty from Electronics & Communication Engineering and Comp. Science and Engineering departments are eligible to apply.

COURSE COORDINATOR

Sh. O.S. Khanna,
Associate. Prof., E&CE
E-mail: os_khanna@yahoo.com, nitttr@yahoo.co.in
Phone : 0172-2759614
Name of the Course : Communication using MATLAB
Oplan No. : EC-46
Dates and Venue of the Course : 03 – 07 September, 2012 at NITTTR, Chandigarh
Engineering College faculty of Northern States

OBJECTIVES:

MATLAB is a language for numerical computing which integrates – Computation, Visualization & Programming. It is easy to use and the problems can be expressed in familiar mathematical notations.

MATLAB System consists of many parts – toolboxes & Block sets. Thus, this course is related to Communication System using MATLAB.

CONTENTS:

MATLAB Basic
Use of MATLAB in Communication
Simulink Basic
Model Development using Simulink
Error rate Plots

METHODOLOGY

The teaching-learning process of training program will include theory lectures, practicals, technical discussions and Internet usage.

ELIGIBILITY:

Teaching faculty from Electronics & Commn., Instrumentation, Electrical, and Computer Science departments are eligible.

COURSE COORDINATOR:

Mrs. Garima Saini,
Asstt. Prof., E&CE
E-mail: garimasaini_18@rediffmail.com
Phone : 0172-2759665
Name of the Course : FPGA Based Digital System Designing
Oplan No. : EC-60
Dates and Venue of the Course : 15 – 19 October, 2012 at NITTTR, Chandigarh
Engineering College faculty of Northern States

OBJECTIVES

After undergoing this program, the participant should be able to do the following:

Design combinational and sequential circuit with MSI & LSI chips.
Simulation, Synthesis & implementation using VHDL
Implementation of digital systems on CPLDs & FPGAs.

COURSE CONTENTS

Review of Digital Circuits.
CPLD and FPGA Chips
VHDL Programming
Combinational Logic Design Principles.
Combinational Logic Design Practices.
Combinational-Circuit Design Examples.
Sequential Logic Design Principles.
Sequential Logic Design Practices.
Sequential-Circuit Design Examples.
Combinational and Sequential Circuits designing using VHDL

METHODOLOGY

The teaching-learning process of training program will include theory lectures, practicals, technical discussions and will be supplemented by suitable field visits.

ELIGIBILITY

Teaching faculty from Electronics & Communication Engg., Electrical & Instrumentation Engineering, Computer Science Engineering are eligible to apply.

COURSE COORDINATOR
Mrs. Kanika Sharma,
Asstt. Prof., E&CE
E-mail: kanikasharma80@yahoo.com
Phone : 0172-2759629
Name of the Course : Introduction to Digital System Design
Oplan No. : EC-64
Dates and Venue of the Course : 05 – 09 November, 2012 at NITTTR, CHD.
Engineering College faculty of Northern States

OBJECTIVES

After undergoing this program, the participant should be able to do the following:

Design combinational and sequential circuit with MSI & LSI chips.
Simulation, Synthesis & implementation using VHDL
Implementation of digital systems on CPLDs & FPGAs.

COURSE CONTENTS

Review of Digital Circuits.
CPLD and FPGA Chips
VHDL Programming
Combinational Logic Design Principles.
Combinational Logic Design Practices.
Combinational-Circuit Design Examples.
Sequential Logic Design Principles.
Sequential Logic Design Practices.
Sequential-Circuit Design Examples.
Combinational and Sequential Circuits designing using VHDL

METHODOLOGY
The teaching-learning process of training program will include theory lectures, practicals, technical discussions and will be supplemented by suitable field visits.

ELIGIBILITY
Teaching faculty from Electronics & Communication Engg., Electrical & Instrumentation Engineering, Computer Science Engineering are eligible to apply.

COURSE COORDINATOR
Mrs. Kanika Sharma,
Asstt. Prof., E&CE
E-mail: kanikasharma80@yahoo.com
Phone : 0172-2759629
Name of the Course : 4G Technology
Oplan No. : EC-85
Dates and Venue of the Course : 04 – 08 February, 2013 at
NITTTR, Chandigarh
Engineering College faculty of Northern States

OBJECTIVES:

4G Technology – 4G technology is the fourth level of wireless technology available from
wireless Cellular carriers that uses ultra mobile broadband. Some possible standards for 4G
system are Wimax, HSDPA, UMTS etc. The transition from 3G to 4G should be seamless
because 4G is evolved from 3G. The 4G technology is the technology used for higher data
rates.

CONTENTS:

Previous technologies
(G, 2G, 3G)
CDMA,
GSM,
UMTS
Multiplexing
Access Technique in 4G
Working of 4G
Impact of 4G.

METHODOLOGY

The teaching-learning process of training program will include theory lectures, practicals,
technical discussions and Internet Usage.

ELIGIBILITY:

Teaching faculty from Electronics & Communication, Instrumentation, Electrical, and
Computer Science departments are eligible.

COURSE COORDINATOR:

Mrs. Garima Saini,
Asstt. Prof., E&CE
E-mail: garimasaini_18@rediffmail.com
Phone : 0172-2759665
Name of the Course : VLSI System Design Engineering
Oplan No. : EC-96
Dates and Venue of the Course : 04 – 08 March, 2013 at
NITTTR, CHD.
Engineering College faculty of Northern States

OBJECTIVES

The objective of the course is to train and upgrade the faculty in the field of VLSI Design. Most of the Electronic Industries are using various CAD tools for Front End and Back End VLSI Design. In this STC Xilinx ISE and Microwind Software will be used for front End and Back End VLSI Design respectively. This course will also include exposure to PCB design using Eagle Software.

CONTENTS

VLSI overview,
VLSI, CAD tools
PCB Design Rules,
PCB Designing using EAGLE Software
Design and Simulation using ISE Software
Lambda Rules for VLSI Design
Microwind S/w based CMOS Design & Simulation
Case Studies

METHODOLOGY

The teaching-learning process of training program will include theory lectures, practicals, and educational visits.

ELIGIBILITY

Teaching faculty from I.T., Electronics & Communication, Instrumentation, Electrical, Comp. Science and other related engineering departments are eligible to apply.

COURSE COORDINATOR

Prof. Rajesh Mehra,
Associate Prof., E&CE
E-mail: rajeshmehra@yahoo.com
Phone: 0172-2759534
Name of the Course : Digital Signal & Image Processing
Oplan No. : EC-98
Dates and Venue of the Course : 11 – 15 March, 2013
(Outstationed Program)
Engineering College faculty of Northern States

OBJECTIVES

This course will familiarize the participants with the fundamentals of real time signals, image and video processing and will provide mathematical foundations and practical techniques for signal and images enhancements. Their applications in Medicare & the recent trends in research will be discussed. The participants will get ample opportunity to learn signal and image processing codes in MATLAB.

COURSE CONTENTS

The short term course will contain topics like –


METHODOLOGY

The teaching-learning process of training program will include theory lectures, practicals, technical discussions, Internet Usage and a field trip.

ELIGIBILITY

Teaching faculty from Electronics & Commn., Instrumentation, Electrical, Comp. Science and other related engineering departments are eligible to apply.

Course Coordinator
Dr. (Mrs.) Swapna Devi,
Associate Prof., E&CE
E-mail : swapna_devi_p@yahoo.co.in
Phone : 0172-2759559
ENTREPRENEURSHIP DEVELOPMENT & INDUSTRIAL COORDINATION DEPTT.

Summary of Short Term Courses (2012-13)

1. **Name of the Course**: Strengthening Research Methodology  
   Oplan No.: 1.2.13  
   Dates and Venue of the course: 30 April to 4 May 2012 at GNDU Ludhiana.

   **Objectives**: To create an attitude of appreciation about the relevance and need for Research Methodology, and Report Writing, to facilitate preparation of institution level action plan for Research Methodology, Report Writing, Patenting and industry-institute interaction.

   **Course Contents**: The core inputs include: Identifying Research problem and Selecting Research Designs, Data collection analysis and sampling techniques, writing research reports, and preparation of action plan.

   Coordinator(s): Prof. (Dr.) D.D. Sharma, dd_sharma2009@rediffmail.com (2759579) /  
                   Prof. (Dr.) S.K. Dhameja skdhameja@yahoo.com (2759612)

   Oplan No.: 1.2.45  
   Dates and Venue of the Course: 16 – 20 July, 2012 at NITTTR, Chandigarh

   **Objectives**: The main objective of this training programme is to orient polytechnic teachers regarding intensification of entrepreneurship development and industry-institute interaction practices in technical institutions.

   **Course Contents**: Need and concept of Entrepreneurship Development and Improving industry-institute interaction in technical institutions; Management of MSMEs, interaction with entrepreneurs, industrial visits to SMEs, Industry-based project work, Consultancy in technical institutions; and Formulation of Action Plan etc.

   Coordinator(s): Prof. (Dr.) D.D. Sharma, dd_sharma2009@rediffmail.com (2759579)  
                   Prof. (Dr.) S.K. Dhameja skdhameja@yahoo.com (2759612)

3. **Name of the Course**: TQM & ISO 9000 and NBA/AICTE Accreditation in Technical Institutions  
   Oplan No.: 1.2.74  
   Dates and venue of course: 27 - 31 August, 2012, at NITTTR, Chandigarh
Objectives: In order to establish a brand equity and cast a better image of polytechnic education system in industries, employees and society as a whole, the quality of technical education provided by polytechnics to clientele has to be improved. For doing so, AICTE accreditation and ISO 9001:2008 Certification is needed in all polytechnics. Specifically, the STC is designed to orient teachers to get NBA accreditation in their institutions.


Coordinator(s): Prof. (Dr.) D.D. Sharma, dd_sharma2009@rediffmail.com (2759579)  
Prof. (Dr.) S.K. Dhameja skdhameja@yahoo.com (2759612)

4. Name of the Course: Industry-Institute Interaction (III) and Achievement Motivation Training

Oplan No.: 1.2.88

Dates and Venue of the Course: 10 - 14 September, 2012 at IRDT Kanpur

Objectives: The main objectives of this training programme is to create an attitude of appreciation among participants about the relevance and need for industry-institute interaction in Technical Institutions, to develop competencies for strengthening industrial linkages in teachers, to understand the importance of high need for achievement for entrepreneurial or wage career, and to bring an attitudinal change among participants to undertake consultancy projects assignments and learn to effectively handle these.

Course Contents: Role of Industry Institute Interaction in technical institutions, Preparing students for job interviews, Industrial visit and interaction with engineers and managers, Promoting consultancy in technical institutions, Industrial training of students and teachers, Expectations of industries from polytechnics, developing entrepreneurial personality and creativity, Achievement Motivation Training, Thematic Apperception Test (TAT) and Who am I, and other simulation & Business games.

Coordinator(s): Prof. (Dr.) S.K. Dhameja, skdhameja@yahoo.com (2759612) / Prof. (Dr.) D.D. Sharma; dd_sharma2009@rediffmail.com (2759579)

5. Name of the Course: Faculty Development Programme (FDP) in
Entrepreneurship Development

Oplan No. : 1.2.118
Dates and Venue of the course : 8 – 19 October, 2012 at NITTTR, Chandigarh

Objectives : The main objective of this two weeks sponsored programme is to train the teachers on the entire process of entrepreneurship and to accredit them as Entrepreneur-Trainer-Motivators so that they can spread the culture of entrepreneurship in their institutions.

Course Contents : Need and concept of Entrepreneurship Development, Assistance Schemes of Entrepreneurial Support Agencies, Opportunity Identification, Product Selection, Market Survey, Legal Aspects, Achievement Motivation Training, Business Plan Preparation, and Management of MSMEs, interaction with entrepreneurs, industrial visits to SMEs.

Coordinator(s) : Prof (Dr.) S.K. Dhameja, skdhameja@yahoo.com (2759612) / Prof. (Dr.) D.D. Sharma; dd_sharma2009@rediffmail.com (2759579)

6. Name of the Course : Strategic Planning & NBA/AICTE Accreditation in Technical Institutions
Oplan No. : 1.2.129
Dates and Venue of the Course : 5 – 9 November, 2012, at GPW, Jammu

Objectives : To train the polytechnic teachers in strategic planning process with the purpose of better management of technical institutions. To establish a brand equity and cast a better image of polytechnic education system in industries, employees and society as a whole AICTE accreditation and ISO 9001:2008 Certification is needed.


Coordinator(s) : Prof. (Dr.) D.D. Sharma; dd_sharma2009@rediffmail.com (2759579) / Prof (Dr.) S.K. Dhameja, skdhameja@yahoo.com (2759612)

7. Name of the Course : Entrepreneurship using Blue Ocean Strategies and starting Technology Business Incubator
Oplan No. : 1.2.159
Dates and Venue of the course : 18 – 22 February, 2013 at NITTTR, Chandigarh

Objectives : The main objectives of this programme is to apprise the participants about need and relevance of entrepreneurship, to share the experiences on entrepreneurship promotion, to acquaint participants about technology business incubation services available for entrepreneurs, and to make participants aware about a new strategy Blue Ocean Strategy and its application for entrepreneurship promotion.

Coordinator(s) : Prof (Dr.) S.K. Dhameja, skdhameja@yahoo.com (2759612) / Prof. (Dr.) D.D. Sharma; dd_sharma2009@rediffmail.com (2759579)

8. Name of the Course : Entrepreneurship, Management and Employability-oriented Skill Development Programmes

Oplan No. : 1.2.165

Dates and Venue of the course: 4 – 8 March, 2013 at NITTTR, Chandigarh

Objectives:

The main objectives of this programme is to apprise the participants about need and relevance of entrepreneurship & Management, and how to offer employability oriented skill development programmes for the students.

Course Contents: The core inputs include entrepreneurship in present times, latest concepts of management, blue ocean strategy in management, skill development mission of govt. of India and offering of skill development programmes.

Coordinator(s) : Prof (Dr.) S.K. Dhameja, skdhameja@yahoo.com (2759612) / Prof. (Dr.) D.D. Sharma; dd_sharma2009@rediffmail.com (2759579)

STCs for Engineering College Faculty

1. Name of the Course : Strengthening Research Methodology

Oplan No. : 5

Dates and Venue of the course : 30 April to 4 May 2012 at GNDU, Ludhiana.

Objectives: To create an attitude of appreciation about the relevance and need for Research Methodology, and Report Writing, to facilitate preparation of institution level action plan for Research Methodology, Report Writing, Patenting and industry-institute interaction.

Course Contents: The core inputs include : Identifying Research problem and Selecting Research Designs, Data collection analysis and sampling techniques, writing research reports, and preparation of action plan.

Coordinator(s) : Prof. (Dr.) D.D. Sharma, dd_sharma2009@rediffmail.com (2759579) / Prof. (Dr.) S.K. Dhameja skdhameja@yahoo.com (2759612)

2. Name of the Course : TQM and NBA Accreditation in Technical Institutions
Oplan No. : 19
Dates and Venue of the course: 28 May – 1 June, 2012 at GZSCET, Bathinda

Objectives: To orient engineering college teachers to various techniques of TQM implementation, quality assurance and NBA accreditation in their institutions, develop competencies and skills to improve quality in technology institutions by implementing TQM techniques.


Coordinator(s): Prof. D.D. Sharma, dd_sharma2009@rediffmail.com / Prof (Dr.) S.K. Dhameja, skdhameja@yahoo.com

3. Name of the Course: TQM & ISO 9000 and NBA/AICTE Accreditation in Technical Institutions
Oplan No. : 41
Dates and Venue of the course: 27 - 31 August, 2012, at NITTTR, Chandigarh

Objectives: In order to establish a brand equity and cast a better image of polytechnic education system in industries, employees and society as a whole, the quality of technical education provided by polytechnics to clientele has to be improved. For doing so, AICTE accreditation and ISO 9001:2008 Certification is needed in all polytechnics. Specifically, the STC is designed to orient teachers to get NBA accreditation in their institutions.


Coordinator(s): Prof. (Dr.) D.D. Sharma, dd_sharma2009@rediffmail.com (2759579) / Prof. (Dr.) S.K. Dhameja skdhameja@yahoo.com (2759612)

4. Name of the Course: Entrepreneurship using Blue Ocean Strategies and starting Technology Business Incubator
Oplan No. : 92
Dates and Venue of the course: 18 – 22 February, 2013 at NITTTR, Chandigarh

Objectives: The main objectives of this programme is to apprise the participants about need and relevance of entrepreneurship, to share the experiences on entrepreneurship promotion, to acquaint participants about technology business incubation services available for entrepreneurs, and to make participants aware about a new strategy Blue Ocean Strategy and its application for entrepreneurship promotion.

Coordinator(s): Prof (Dr.) S.K. Dhameja, skdhameja@yahoo.com (2759612) / Prof. (Dr.) D.D. Sharma; dd_sharma2009@rediffmail.com (2759579)

5. Name of the Course: Faculty Development Programme (FDP) in Entrepreneurship Development (subject to sponsorship of DST, Govt. of India)

Oplan No.: 101
Dates and Venue of the course: 18 – 29 March, 2013 at NITTTR, Chandigarh

Objectives: The main objective of this two weeks sponsored programme is to train the teachers on the entire process of entrepreneurship and to accredit them as Entrepreneur- Trainer-Motivators so that they can spread the culture of entrepreneurship in their institutions.

Course Contents: Need and concept of Entrepreneurship Development, Assistance Schemes of Entrepreneurial Support Agencies, Opportunity Identification, Product Selection, Market Survey, Legal Aspects, Achievement Motivation Training, Business Plan Preparation, and Management of MSMEs, interaction with entrepreneurs, industrial visits to SMEs.

Coordinator(s): Prof. (Dr.) D.D. Sharma; dd_sharma2009@rediffmail.com (2759579) / Prof (Dr.) S.K. Dhameja, skdhameja@yahoo.com (2759612)
ELECTRICAL ENGINEERING DEPARTMENT

(A) Courses for Engineering Colleges

1. Name of the Course: AUTOMATION IN INDUSTRIES
   O. Plan No.: EC-04
   Date & Venue: 23-27 April, 2012, NITTTR, Chandigarh

   Objectives
   This training programme will mainly deal with various types of modern techniques of
   process control and automation employed in industries. The course aims to:
   o Update the knowledge in the emerging and upcoming topics in this area.
   o Make the teachers equipped with the relevant practice being followed in the
     industries

   Course Contents
   The programme will be designed around the following major topics:
   o Modern process control techniques
   o Industrial applications of microcontrollers
   o Artificial Intelligence
   o DCS & SCADA
   o Intelligent Instrumentation

   Course Coordinator & E-mail: Mrs. Lini Mathew lenimathew@yahoo.com

2. Name of the Course: POWER ELECTRONICS
   O. Plan No.: EC-16
   Date & Venue: 21-25 May, 2012, NITTTR, Chandigarh

   Objectives
   The objective of this course is to train teachers for teaching of Power Electronics to
   students in an easy and effective way.

   Course Contents
   The programme will be designed around the following major topics:
   o Thyristor Technology,
   o Rectifiers, Inverters, Cycloconverters,
   o Industrial control circuits, Applications of Thyristors.
   o Testing of components and design of Power Electronic circuits

   Course Coordinator & E-mail: Dr. S. Chatterji chatterjis@yahoo.com
3. Name of the Course          : ENERGY MANAGEMENT
   O. Plan No.                  : EC-30
   Date & Venue                : 23-27 July, 2012, NITTTR, Chandigarh

Objectives
This training programme specially designed for Engineering College and Polytechnic Teachers will mainly deal with the various aspects of energy management & conservation of energy.

Course Contents
The course aims to achieve the following objectives:
- To update the knowledge in the emerging and upcoming topics in this area.
- To make the teachers conversant with the significance of energy management in general and energy conservation in particular.
- To make the teachers aware of the various techniques in conducting energy audit.

Course Coordinator & E-mail : Dr. S. Chatterji   chatterjis@yahoo.com

4. Name of the Course          : VIRTUAL INSTRUMENTATION
   O. Plan No.                  : EC-40
   Date & Venue                : 27-31 August 2012, NITTTR, Chandigarh

Objectives
This training programme will mainly deal with the various aspects of latest instrumentation systems such as virtual instrumentation. The course aims to achieve the following objectives:
- To update the knowledge in the emerging and upcoming topics in this area.
- To make the teachers conversant with the popular software package i.e. LABVIEW.

Course Contents
The programme will be designed around the following major topics:
- Graphical Programming using LABVIEW for creation of VIs, sub VIs, structures, array, clusters, charts and graphs, strings, File I/Os.
- Data Acquisition by building DAQ VIs.
- Experimentation using NI ELVIS.

Course Coordinator & E-mail : Mrs. Lini Mathew   lenimathew@yahoo.com

5. Name of the Course          : CONTROL OF ELECTRIC MOTORS
   O. Plan No.                  : EC-52
   Date & Venue                : 17-21 September, 2012, NITTTR, Chandigarh

Objectives
This training programme specially designed for engineering college and polytechnic teachers will mainly deal with magnetic and electronics control of electric motors. The course aims to:
- update the knowledge in the various emerging technologies in this area.
- make the teachers conversant with the industrial practice in electric drives and their control.

Course Contents
The programme will include the following major areas:
  o  Thyristor technology
  o  Solid state control of DC/AC drives
  o  Control of drives using microprocessors/microcontroller
  o  DC/AC Drives simulation using MATLAB/SIMULINK
  o  Intelligent control of electric drives

Course Coordinator(s) & E-mail : Mrs. Shimi.S.L  shimi.reji@gmail.com

6. Name of the Course : ELECTRICAL, ELECTRONICS AND COMPUTER BASED PROJECTS
   O. Plan No. : EC-56
   Date & Venue : 24-28 September, 2012, NITTTR, Chandigarh

Objectives
This training programme will mainly deal with various types of projects in Electrical and Electronic Engineering subjects, which the students can take up during their course of study. The course aims to:
  o  Update the knowledge in the emerging and upcoming topics in this area.
  o  Make the teachers equipped with the relevant practice based projects.

Course Contents
The programme will include familiarization of various new projects, in the topics of Electrical and Electronics Engineering such as Power Electronics, Microprocessors, Electrical Design etc.

Course Coordinator(s) & E-mail : Dr. S. Chatterji  chatterjis@yahoo.com

7. Name of the Course : COMPUTER AIDED POWER SYSTEM ANALYSIS
   O. Plan No. : EC-67
   Date & Venue : 19-23 November, 2012, NITTTR, Chandigarh

Objectives
This course deals with the different new techniques of computer aided power system analysis.
The course aims to achieve the following objectives:
  o  To update the knowledge in the emerging and upcoming topics in this area.
  o  To make the teachers conversant with the different software used for computer aided power system analysis

Course Contents
The programme will be designed around the following major topics.
  o  Power system stability
  o  Load flow studies
  o  Symmetrical/ Unsymmetrical fault analysis
o Computer aided load flow and stability studies
o Introduction to software like MATLAB, SIMULINK, PSCAD etc.
o FACTS Controllers

Course Coordinator & E-mail : Mrs. Ritula Thakur      ritula_21@yahoo.com

8. Name of the Course : MATLAB and its Application
O. Plan No. : EC-70
Date & Venue : 26-30 November, 2012, NITTTR, Chandigarh

Objectives
This training programme is specially designed for Engineering College Faculty and will mainly deal with Programming using MATLAB and its various toolboxes. The course aims to
o update the knowledge in the emerging and upcoming topics in the subject area.
o make the teachers conversant with the latest software MATLAB and its toolboxes

Course Contents
The programme will be designed around the following major topics.
o MATLAB Programming
o Signal processing and Image Processing Toolboxes
o Fuzzy Logic and Neural Network Toolboxes
o Control System Toolbox
o SIMULINK

Course Coordinator & E-mail : Mrs. Lini Mathew      lenimathew@yahoo.com

9. Name of the Course : COMPUTER AIDED CIRCUIT SIMULATION
O. Plan No. : EC-79
Date & Venue : 21-25 January, 2013, NITTTR, Chandigarh

Objectives
This training programme is specially designed for Engineering College Faculty and will mainly deal with Programming techniques using MATLAB and its various toolboxes, LABVIEW, Mipower, PSCAD and PSpice. The course aims to:
o update the knowledge in the emerging and upcoming software’s in the subject area.
o make the teachers conversant with the use of various software’s such as MATLAB and its toolboxes, LABVIEW, Mipower, PSCAD and PSpice.

Course Contents
The programme will be designed around the following major topics.
o MATLAB Programming
o Control System Toolbox
o SimPowerSystem Toolbox
o SIMULINK
o Graphical Programming using LABVIEW for creation of VIs, sub VIs, structures, array, clusters, charts and graphs, strings, File I/Os etc.
Course Coordinator & E-mail: Mrs. Shimi.S.L  shimi.reji@gmail.com

10. Name of the Course: MICROCONTROLLER APPLICATION
    O. Plan No.: EC-81
    Date & Venue: 28 January-01 February, 2013, NITTTR, Chandigarh

Objectives
This training programme will mainly deal with the various aspects of Microprocessors, Microcontrollers. The course aims to achieve the following objectives:
- To update the knowledge in the emerging and upcoming topics in the subject area.
- To make the teachers conversant with the Keil Compiler and Flash Magic.

Course Contents
The programme will be designed around the following major topics:
- Microprocessors and their Applications.
- Microcontroller 8051 and its Applications.
- Assembly Language and C programming of 8051
- Practical experiments on 8051 kits
- Real world Interfacing with 8051

Course Coordinator & E-mail: Mrs. Ritula Thakur  ritula_21@yahoo.com

11. Name of the course: ARTIFICIAL NEURAL NETWORKS AND FUZZY LOGIC USING MATLAB
    O. Plan No.: EC-93
    Date & Venue: 18 – 22 February 2013, NITTTR, Chandigarh

Objectives
This training programme will mainly deal with the various aspects of Artificial Neural Networks and Fuzzy Logic. The course aims to achieve the following objectives:
- To update the knowledge in the emerging and upcoming topics in the subject area.
- To make the teachers conversant with the significance of Neural Networks and Fuzzy Logic.

Course Contents
The programme will be designed around the following major topics:
- Various types of Artificial Neural Networks.
- Fuzzy Logic vs Classical Logic
- Fuzzy Logic based Controllers
- MATLAB Toolboxes such as Neural Network and Fuzzy Logic.
12. Name of the Course : FACTS Technology
   O. Plan : EC -102
   Date & Venue : Subject to permission obtained from GND, Delhi

Objectives

This training programme will mainly deal with FACTS technology. The course aims to
- update the knowledge in the emerging and upcoming topics in the subject area.
- make the teachers conversant with the latest developments in the area of flexible AC transmission systems

Course Contents

The programme will be designed around the following major topics.

- Basics of power system stability
- Concept of Flexible AC transmission system
- Various types of FACTS controllers
- Simulation of various FACTS controllers using MATLAB/LABVIEW

Course Coordinator(s) & E-mail : Mrs. Shimi.S.L  shimi.reji@gmail.com
(B) Courses for Polytechnic Colleges

1. **Name of the Course** : AUTOMATION IN INDUSTRIES  
   **O. Plan No.** : 1.2.5  
   **Date & Venue** : 23-27 April, 2012, NITTTR, Chandigarh

**Objectives**

This training programme will mainly deal with various types of modern techniques of process control and automation employed in industries. The course aims to:

- Update the knowledge in the emerging and upcoming topics in this area.
- Make the teachers equipped with the relevant practice being followed in the industries

**Course Contents**

The programme will be designed around the following major topics:

- Modern process control techniques
- Industrial applications of microcontrollers
- Artificial Intelligence
- DCS & SCADA
- Intelligent Instrumentation

**Course Coordinator & E-mail** : Mrs. Lini Mathew  lenimathew@yahoo.com

2. **Name of the Course** : POWER ELECTRONICS  
   **O. Plan No.** : 1.2.28  
   **Date & Venue** : 21-25 May, 2012, NITTTR, Chandigarh

**Objectives**

The objective of this course is to train teachers for teaching of Power Electronics to students in an easy and effective way.

**Course Contents**

The programme will be designed around the following major topics:

- Thyristor Technology,
- Rectifiers, Inverters, Cycloconverters,
- Industrial control circuits, Applications of Thyristors.
- Testing of components and design of Power Electronic circuits

**Course Coordinator & E-mail** : Dr. S. Chatterji  chatterjis@yahoo.com
3. Name of the Course     : ENERGY MANAGEMENT
O. Plan No.                   : 1.2.57
Date & Venue        : 23-27 July, 2012, NITTTR, Chandigarh

Objectives
This training programme specially designed for Engineering College and Polytechnic Teachers will mainly deal with the various aspects of energy management & conservation of energy.

Course Contents

The course aims to achieve the following objectives:

- To update the knowledge in the emerging and upcoming topics in this area.
- To make the teachers conversant with the significance of energy management in general and energy conservation in particular.
- To make the teachers aware of the various techniques in conducting energy audit.

Course Coordinator & E-mail : Dr. S. Chatterji chatterjis@yahoo.com

4. Name of the Course    : VIRTUAL INSTRUMENTATION
O. Plan No.                   : 1.2.75
Date & Venue      : 27-31 August 2012, NITTTR, Chandigarh

Objectives

This training programme will mainly deal with the various aspects of latest instrumentation systems such as virtual instrumentation. The course aims to achieve the following objectives:

- To update the knowledge in the emerging and upcoming topics in this area.
- To make the teachers conversant with the popular software package i.e. LABVIEW.

Course Contents

The programme will be designed around the following major topics:

- Graphical Programming using LABVIEW for creation of VIs, sub VIs, structures, array, clusters, charts and graphs, strings, File I/Os.
- Data Acquisition by building DAQ VIs.
- Experimentation using NI ELVIS.

Course Coordinator & E-mail : Mrs. Lini Mathew lenimathew@yahoo.com

5. Name of the Course       : CONTROL OF ELECTRIC MOTORS
O. Plan No.                     : 1.2.99
Date & Venue                   : 17-21 September, 2012, NITTTR, Chandigarh

Objectives
This training programme specially designed for engineering college and polytechnic teacher will mainly deal with magnetic and electronic control of electric motors. The course aims to:
- update the knowledge in the various emerging technologies in this area.
- make the teachers conversant with the industrial practice in electric drives and their control.

Course Contents
The programme will include the following major areas:
- Thyristor Technology
- Solid State Control of DC/AC Drives
- Control of drives using microprocessors/microcontroller
- DC/AC Drives simulation using MATLAB/SIMULINK
- Intelligent control of electric drives

Course Coordinator(s) & E-mail: Mrs. Shimi.S.L  Shimi.reji@gmail.com

6. Name of the Course            : ELECTRICAL, ELECTRONICS AND COMPUTER BASED PROJECTS
O. Plan No.                     : 1.2.105
Date & Venue                    : 24-28 September, 2012, NITTTR, Chandigarh

Objectives
This training programme will mainly deal with various types of projects in Electrical and Electronic Engineering subjects, which the students can take up during their course of study. The course aims to:
- Update the knowledge in the emerging and upcoming topics in this area.
- Make the teachers equipped with the relevant practice based projects.

Course Contents
The programme will include familiarization of various new projects, in the topics of Electrical and Electronics Engineering such as Power Electronics, Microprocessors, Electrical Design etc.

Course Coordinator(s) & E-mail: Dr. S. Chatterji chatterjis@yahoo.com

7. Name of the Course            : MICROCONTROLLER APPLICATIONS
O. Plan No.                     : 1.2.149
Date & Venue                    : 28 January-01 February, 2013, NITTTR, Chandigarh

Objectives
This training programme will mainly deal with the various aspects of Microprocessors and Microcontrollers. The course aims to achieve the following objectives:
- To update the knowledge in the emerging and upcoming topics in the subject area.
To make the teachers conversant with the Keil Compiler and Flash Magic.

**Course Contents**

The programme will be designed around the following major topics:

- Microprocessors and their Applications.
- Microcontroller 8051 and its Applications.
- Assembly Language and C programming of 8051
- Practical experiments on 8051 kits
- Real world Interfacing with 8051

**Course Coordinator & E-mail** : Mrs. Ritula Thakur  
[ritula_21@yahoo.com](mailto:ritula_21@yahoo.com)

**7. Name of the Course** : SMALL HYDRO POWER PLANTS  
**O. Plan No.** : 1.2.175  
**Date & Venue** : Subject to permission obtained from SHPP,Chamba/SHPP,Chamba

**Objectives:**

This training programme specially designed for engineering college and polytechnic teachers will mainly deal with small hydro power plants. The course aims to achieve the following objectives:

- To update the knowledge in the emerging and upcoming areas in this subject.
- To make the teachers conversant with the national and international scenario of small hydro power generation.

**Course Contents:**

The programme will be designed around the following major topics:

- Energy demand and availability, Energy crisis
- Conventional and Nonconventional energy
- Significance and types of small hydro power plants
- Resource assessment of micro and small hydro power
- Micro, mini and small hydro power systems
- Economics, pump and turbine
- Special engines for low heads, velocity head turbines, hydrams
- Design of small hydro power plant

**Course Coordinator & E-mail** : Dr. S. Chatterji  
[chatterjis@yahoo.com](mailto:chatterjis@yahoo.com)
Title of the Course: Preparing Students for Job Interviews/Development of Generic Skills/Soft Skills

Operational Plan No.: 1.2.1

Dates and Venue: 02-04 April, 2012; SJPP, Damla

Course Objectives: The course aims at enabling the participating faculty to appreciate the role of generic skills in today’s context; explain the techniques of writing job resumes; know the expectations of industry, organize mock group discussion sessions and mock interview sessions for students; understand techniques of developing generic skills such as communication skills, creativity, team building, managing time effectively among students.

Course content: Generic skills, writing job resumes; appearing in job interviews and participating in group discussions, developing communication skills (both verbal and non-verbal), team building, creativity, mock interviews and group discussion

Course Coordinator: Dr.(Mrs.) SP Bedi, Professor and Head, spbedi2002@yahoo.co.in
0172-2759576

Title of the Course: Student Evaluation and Setting Question Papers

Operational Plan No.: 1.2.6

Dates and Venue: 23-27 April, 2012; NITTTR, Chandigarh.

Course Objectives: The objectives of the course are to: appreciate the role of evaluation in teaching-learning, explain the concept of evaluation, select appropriate techniques of evaluation for assessing students performance in theory and practical work, write test items, set reliable and valid question papers, design performance test, appreciate the role of feedback in evaluation, Ethics in Evaluation

Course content: Evaluation-concept, types and purposes, evaluation techniques, writing test items, setting question papers, designing performance test, feedback and ethics in evaluation

Course Coordinators: Prof. PK Tulsi, pk_tulsi@yahoo.com, 2759577

Title of the Course: Induction Programme for Newly Recruited Teachers
Operational Plan No.: 1.2.22

Dates and Venue : 07-18 May, 2012; NITTTR, Chandigarh

Course Objectives: The objectives of the course are to: explain the role of teachers in technical education system, explain learning and principles of learning, explain the systematic process of instructional design, carry out task analysis, write instructional objectives, select appropriate instructional methods and media, evolve strategies for developing creativity, communicate effectively, motivate students, plan instruction, plan and organize practical work, explain the role of evaluation in teaching learning, set question papers, write test items, linking research and teaching, entrepreneurship development and industry institute interaction.

Course content: Technical Education system and role of teachers, learning and principles of learning, understanding learning styles, systematic approach to design of instruction, task analysis, writing instructional objectives, instructional methods, instructional media, motivating students, classroom communication, creativity, planning for instruction, planning and organizing practical work, evaluation and evaluation techniques, writing test items, setting question paper, professional ethics, linking research with teaching, entrepreneurship development, intellectual property rights and teach sessions.

Course Coordinators: Prof.(Ms) PK Tulsi, pk_tulsi@yahoo.com, 2759577 and Dr. Sunil Dutt Sunil_dutt2002@yahoo.co.in, 0172- 2759594

Title of the Course: Personality Development for Faculty

Operational Plan No.: 1.2.29

Dates and Venue : 21-25 May, 2012; NITTTR, Chandigarh

Course Objectives: The course aims at equipping the participants with knowledge and skills for personality development of students and their own.

Course content: Personality: concept and determinants, learning styles, communication skills, enhancing communication effectiveness, assertiveness, concept and techniques, creativity: concept and techniques, stress management, emotional intelligence, conflict management, yoga and meditation techniques, positive attitude.

Course Coordinator: Dr.(Mrs.) SP Bedi, Professor and Head, spbedi2002@yahoo.co.in 0172-2759576

Operational Title of the Course: Managerial Skills
Plan No. : 1.2.46
Dates and Venue : 16-20 July, 2012; NITTTR, Chandigarh
Course Objectives: The objectives of the course are to: explain the role of managerial skills in technical institution, explain the techniques of effective communication, team building, interpersonal skills, and conflict management, explain the systematic process of performance appraisal of employees, explain the process of coaching and mentoring, and employee empowerment.
Course content: Managerial skills in changing context, communication skills, team building skills, interpersonal skills, conflict management, performance appraisal, coaching and mentoring, and employee empowerment.
Course Coordinators: Prof.(Ms) PK Tulsi
pk_tulsi@yahoo.com, 2759577
Title of the Course: Induction Programme for Newly Recruited Teachers

Operational Plan No.: 1.2.63
Dates and Venue : 23 July to 03 August, 2012; Delhi
Course Objectives: The objectives of the course are to: explain the systematic process of instructional design, carry out task analysis, write instructional objectives, select appropriate instructional methods and media, evolve strategies for developing creativity, communicate effectively, motivate students, plan instruction, plan and organize practical work, explain the role of evaluation in teaching learning, set question papers, write test items, appreciate the role of professional ethics, entrepreneurship development and intellectual property rights.
Course content: Systematic approach to design of instruction, task analysis, writing instructional objectives, instructional methods, instructional media, motivating students, classroom communication, creativity, planning for instruction, planning and organizing practical work, evaluation and evaluation techniques, writing test items, setting question paper, professional ethics, entrepreneurship development, intellectual property rights and teach sessions.
Course Coordinators: Dr.(Mrs.) SP Bedi, Professor and Head, spbedi2002@yahoo.co.in 0172-2759576 and Dr Sunil Dutt, Associate Professor (sunildut2002@yahoo.co.in) 0172-2759594
Title of the Course: Communication and Presentation Skills
Operational Plan No.: 1.2.70

Dates and Venue: 21-25 August, 2012; NITTTR, Chandigarh

Course Objectives: The course aims at equipping the faculty of polytechnics with requisite communication skills for enhancing efficiency and effectiveness of teaching learning.

Course content: Communication – Importance, concept, process, types and barriers, overcoming barriers, empathetic listening, effective reading and writing skills, nonverbal communication, conflict management, role of media in communication, transactional analysis, presentation skills – planning, delivering and summarizing.

Course Coordinators: Dr. Sunil Dutt, Associate Professor (sunildutt2002@yahoo.co.in) and CDC

Title of the Course: Leading from within-Learning to manage ego and emotions

Operational Plan No.: 1.2.76

Dates and Venue: 27-31 August, 2012 at GPW, Ludhiana

Course Objectives: The objectives of the course are to: understand the role of leaders in 21st century, understand ego states and role of ego states in transactions, explain the concept of emotional intelligence, explain the techniques of enhancing self-awareness, building trust, improving adaptability, and enhancing interpersonal skills, and explain the role of training in enhancing emotional intelligence.

Course content: Leadership in 21st century, transactional analysis, dealing with superiors, subordinates and colleagues, emotional intelligence-concept, dimensions and techniques of enhancing self-awareness, building trust, improving adaptability, and enhancing interpersonal skills, role of training in enhancing emotional intelligence and case studies.

Course Coordinators: Prof.(Ms) PK Tulsi
pk_tulsi@yahoo.com, 2759577

Title of the Course: Modern Office Management for Non-teaching Staff
Operational Plan No.: 1.2.89

Dates and Venue: 10-14 September, 2012; NITTTR, Chandigarh

Course Objectives: The course aims at equipping office staff of polytechnics, DTEs and BTEs with requisite knowledge & skills pertaining to managing office works; and operation and functions of office equipment effectively.

Course content: Written communication- noting, drafting, memos/official letters, Oral Communication- speaking and listening, Inter-personal relations, Management of meetings, filing procedures, Introduction to Computer and its applications- MS-Word, Excel, Power point, Internet & its applications and Hands-on Experience on Computer; and Telephone etiquettes.

Course Coordinators: Prof.(Ms) PK Tulsi, Professor (pk_tulsi@yahoo.com), 2759577

Title of the Course: Induction Programme for Newly Recruited Teachers

Operational Plan No.: 1.2.100

Dates and Venue: 17-21 September, 2012; GPW, Srinagar.

Course Objectives: The objectives of the course are to: explain the systematic process of instructional design, carry out task analysis, write instructional objectives, select appropriate instructional methods and media, evolve strategies for developing creativity, communicate effectively, motivate students, plan instruction, plan and organize practical work, explain the role of evaluation in teaching learning, set question papers, write test items, appreciate the role of professional ethics, entrepreneurship development and intellectual property rights.

Course content: Systematic approach to design of instruction, task analysis, writing instructional objectives, instructional methods, instructional media, motivating students, classroom communication, creativity, planning for instruction, planning and organizing practical work, evaluation and evaluation techniques, writing test items, setting question paper, professional ethics, entrepreneurship development, intellectual property rights and teach sessions.

Course Coordinators: Dr.(Mrs.) SP Bedi, Professor and Head, spbedi2002@yahoo.co.in 0172-2759576 and Dr Sunil Dutt, Associate Professor (sunildut2002@yahoo.co.in) 0172-2759594

Title of the Course: Personality Development for Faculty
Operational Plan No.: 1.2.115

Dates and Venue: 08-12 October, 2012; GP, Dehradun

Course Objectives: The course aims at equipping the participants with knowledge and skills for personality development of students and their own.

Course content: Personality: concept, theories and determinants, intelligence, emotional intelligence, and spiritual intelligence, aptitude, creativity, self-awareness, self-esteem, motivation and need for achievement, stress and coping with stress, and attitudes and values.

Course Coordinator: Prof.(Ms) PK Tulsi , Professor (pk_tulsi@yahoo.com), 2759577

Title of the Course: Research Methodology(National Level)

Operational Plan No.: 1.2.121

Dates and Venue: 15-19 October, 2012; NITTTR, Chandigarh

Course Objectives: The course aims at equipping the teachers of Engineering Colleges with requisite knowledge and skills for carrying out research to improve the quality of technical education.

Course content: Research in Technical Education—kinds, and steps in experimental, survey and action research; identifying problems and stating objectives & formulating hypothesis(es); sampling techniques, development of tools; data collection, data analysis techniques; and writing research report etc.

Course Coordinator: Dr Sunil Dutt, Associate Professor (sunildut2002@yahoo.co.in) 0172-2759594, and Dr.(Mrs.) SP Bedi, Professor and Head, spbedi2002@yahoo.co.in 0172-2759576

Title of the Course: Preparing Students for Job Interviews/Development of Generic Skills/Soft Skills

Operational Plan No.: 1.2.134

Dates and Venue: 19-23 November, 2012; NITTTR, Chandigarh.

Course Objectives: The course aims at enabling the participating faculty to appreciate the role of generic skills in today’s context; explain the techniques of writing job resumes; know the expectations of industry, organize mock group discussion sessions and mock interview sessions for students; understand techniques of developing generic skills such as communication skills, emotional
intelligence, problem solving and decision making skills, creativity, team
building, managing time effectively among students.

Course content: Generic skills, writing job resumes; appearing in job interviews and
participating in group discussions, inculcating problem solving and
decision making skills, creativity, emotional intelligence and time
management skills.

developing communication skills (both verbal and non-verbal), team
building, creativity, mock interviews and group discussion

Course Coordinator: Dr.(Mrs.) SP Bedi, Professor and Head, spbedi2002@yahoo.co.in
0172-2759576

Title of the Course: Effective Teaching & Classroom Communication

Operational Plan No.: 1.2.143

Dates and Venue : 14-25 January, 2013; NITTTR, Chandigarh

Course Objectives: The course aims at equipping the faculty of polytechnics with requisite
pedagogy and communication skills for enhancing efficiency and
effectiveness of teaching learning.

Course content: Systematic approach to instructional design, understanding learners,
learning & principles of learning and instruction, task analysis,
instructional objectives, methods of instruction, instructional media,
principles of visual design and media preparation, motivating students,
classroom communication, developing creativity, planning and delivering
effective lectures, planning and organizing practical work, planning and
execution of project work, evaluation and evaluation techniques, setting
question paper, writing test items, assessment of practical work,
Communication – Importance, concept, process, types and barriers,
overcoming barriers, empathetic listening, effective reading and writing
skills, nonverbal communication, conflict management, role of media in
communication, transactional analysis, presentation skills – planning,
delivering and summarizing.

Course Coordinator: Dr. Sunil Dutt, Associate Professor (sunildutt2002@yahoo.co.in)

Title of the Course: Student Evaluation and Setting Question Papers

Operational Plan No.: 1.2.155
Dates and Venue : 11-15 February, 2013; TTC, Jodhpur

Course Objectives: The objectives of the course are to: appreciate the role of evaluation in teaching-learning, explain the concept of evaluation, select appropriate techniques of evaluation for assessing students performance in theory and practical work, write test items, set reliable and valid question papers, design performance test, role of feedback in evaluation

Course content: Evaluation-concept, types and purposes, evaluation techniques, writing test items, setting question papers, designing performance test, and feedback

Course Coordinators: Dr.(Mrs.) SP Bedi, Professor and Head, spbedi2002@yahoo.co.in 0172-2759576

Title of the Course: Personality Development for Staff

Operational Plan No.: 1.2.166

Dates and Venue : 04-08 March, 2013; NITTTR, Chandigarh

Course Objectives: The course aims at equipping the teachers of polytechnics with requisite knowledge & skills in developing personality attributes amongst staff

Course content: Personality – concept, types/dimensions, emotional intelligence, learning styles, interpersonal relationship skills, organizational communication, transactional analysis, time management, listening skills, conflict management, stress management, building positive attitudes etc.

Course Coordinator: Dr. Sunil Dutt , Associate Professor (sunildutt2002@yahoo.co.in)

Title of the Course : Building Positive Attitudes

Operational Plan No.: 1.2.174

Dates and Venue : 18-22 March, 2013; IRDT, Kanpur

Course Objectives: The course aims at equipping the teachers of polytechnics with requisite knowledge & skills in developing Positive Attitudes towards themselves, students, colleagues, other people, technology etc.

Course content: Attitudes – concept, levels, Formation; Building Positive Attitudes, Self Awareness, Goal setting, Communication Process, Interpersonal Relations, Motivation, Stress Management, Time Management, Enhancing self-esteem, Developing self-confidence, Power of positive thinking, Yoga & Meditation etc.

Course Coordinator: Dr. Sunil Dutt , Associate Professor (sunildutt2002@yahoo.co.in)

Title of the Course: Research Methodology

COURSES FOR ENGINEERING COLLEGES
Operational Plan No.: EC-02

Dates and Venue: 16-20 April, 2012; PTU, Giani Zail Singh Campus, Bathinda

Course Objectives: The course aims at equipping the teachers of Engineering Colleges with requisite knowledge and skills for carrying out research to improve the quality of technical education.

Course content: Research in Technical Education— kinds, and steps in experimental, survey and action research; identifying problems and stating objectives & hypothesis(es); sampling & instrumentation, development of tools; collecting data; data analysis techniques; and writing research report etc.

Course Coordinators: Dr. Sunil Dutt, Associate Professor (sunildut2002@yahoo.co.in) and Dr. PK Tulsi, Professor (pk_tulsi@yahoo.com)

Title of the Course: Induction Programme for Newly Recruited Teachers

Operational Plan No.: EC-09

Dates and Venue: 07-18 May, 2012; NITTTR, Chandigarh

Course Objectives: The objectives of the course are to: explain the role of teachers in technical education system, explain learning and principles of learning, explain the systematic process of instructional design, carry out task analysis, write instructional objectives, select appropriate instructional methods and media, evolve strategies for developing creativity, communicate effectively, motivate students, plan instruction, plan and organize practical work, explain the role of evaluation in teaching learning, set question papers, write test items, linking research and teaching, entrepreneurship development and industry institute interaction.

Course content: Technical Education system and role of teachers, learning and principles of learning, understanding learning styles, systematic approach to design of instruction, task analysis, writing instructional objectives, instructional methods, instructional media, motivating students, classroom communication, creativity, planning for instruction, planning and organizing practical work, evaluation and evaluation techniques, writing test items, setting question paper, professional ethics, linking research with teaching, entrepreneurship development, intellectual property rights and teach sessions.

Course Coordinators: Prof.(Ms) PK Tulsi, pk_tulsi@yahoo.com, 2759577 and Dr. Sunil Dutt Sunil_dutt2002@yahoo.co.in, 0172- 275959

Title of the Course: Research Methodology(National Level)

Operational Plan No.: EC-61
Dates and Venue : 15-19 October, 2012; NITTTR, Chandigarh

Course Objectives: The course aims at equipping the teachers of polytechnics with requisite knowledge and skills for carrying out research to improve the quality of technical education

Course content: Research in Technical Education – kinds, and steps in conducting experimental, survey and action research; identifying problems and stating objectives & formulating hypothesis(es); sampling techniques, development of research tools; data collection methods; data analysis techniques; and writing research report.

Course Coordinator: Dr.(Mrs.) SP Bedi, Professor and Head, spbedi2002@yahoo.co.in 0172-2759576, and Dr Sunil Dutt, Associate Professor (sunildut2002@yahoo.co.in) 0172-2759594

Title of the Course: Effective Teaching & Classroom Communication

Operational Plan No.: EC-75

Dates and Venue : 14-25 January, 2013; NITTTR, Chandigarh

Course Objectives: The course aims at equipping the faculty of polytechnics with requisite pedagogy and communication skills for enhancing efficiency and effectiveness of teaching learning.

Course content: Systematic approach to instructional design, understanding learners, learning & principles of learning and instruction, task analysis, instructional objectives, methods of instruction, instructional media, principles of visual design and media preparation, motivating students, classroom communication, developing creativity, planning and delivering effective lectures, planning and organizing practical work, planning and execution of project work, evaluation and evaluation techniques, setting question paper, writing test items, assessment of practical work, Communication – Importance, concept, process, types and barriers, overcoming barriers, empathetic listening, effective reading and writing skills, nonverbal communication, conflict management, role of media in communication, transactional analysis, presentation skills – planning, delivering and summarizing.

Course Coordinator: Dr.(Mrs.) SP Bedi, Professor and Head, spbedi2002@yahoo.co.in 0172-2759576

Title of the Course : Preparing Students for Job Interviews/Development of Generic Skills/Soft Skills
Operational Plan No.: EC-94


Course Objectives: The objectives of the course are to: appreciate the role of generic skills in today’s context; explain the technique of writing job resume, organize mock group discussion sessions for students, organize mock interview sessions for students; evolve strategies for developing creativity and emotional strategies among students.

Course content: Generic skills, writing job resume, group discussion, appearing in job interviews, communication skills-speaking and listening, creativity and emotional intelligence..

Course Coordinator: Prof.(Ms) PK Tulsi, pk_tulsi@yahoo.com, 2759577
### ELECTRONICS SERVICE CENTRE
#### COURSES FOR POLYTECHNICS

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Electronics Component, PCB Layout, Fabrication and Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.30</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>21-25 May, 2012 NITTTR CHD</td>
</tr>
</tbody>
</table>
| Objectives                                 | 1. To familiarize types of Power Supplies.  
2. Repair of different types Power Supplies and AC/DC Adaptors used in daily life.  
3. SMPS & UPS and their fault diagnosis and repair. |
| Course Contents                            | 1. A.C./D.C. adapters.  
2. Linear Power Supplies.  
3. SMPS, UPS and Inverter. |
| Course coordinator, email address and phone number | Er. Anil Kumar, eltxs@nitttrchd.ac.in,  
09814655426, 0172-2759648 |

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<thead>
<tr>
<th>Name of the Course</th>
<th>Fabrication of Experimental Kits and its Repair</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.38</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>11-15 Jun, 2012 KGP Srinagar</td>
</tr>
</tbody>
</table>
| Objectives                                 | 1. To familiarize Electronics Components  
2. Testing  
3. Fault diagnosis and repair. |
| Course Contents                            | 1. SMPS, UPS and Inverter.  
2. Experimental Kits. |
| Course coordinator, email address and phone number | Er. Anil Kumar, eltxs@nitttrchd.ac.in,  
09814655426, 0172-2759648 |
<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Repair and Maintenance of Power Supplies and Experimental Kits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.47</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>16-20 Jul, 2012 GP Kangra</td>
</tr>
</tbody>
</table>
| Objectives                 | 1. To familiarize types of Power Supplies.  
2. Repair of different types Power Supplies and AC/DC Adaptors used in daily life.  
3. SMPS & UPS and their fault diagnosis and repair. |
| Course Contents            | 1. A.C./D.C. adapters.  
2. Linear Power Supplies.  
3. SMPS, UPS and Inverter. |
| Course coordinator, email address and phone number | Er. Anil Kumar, eltxs@nitttrchd.ac.in, 09814655426, 0172-2759648 |

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Application of CRO in Fault Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.77</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>27-31 Aug, 2012 NITTTR CHD</td>
</tr>
</tbody>
</table>
| Objectives                 | 1. To familiarize about the function of different blocks of CRO.  
2. Fault diagnosis and repair. |
| Course Contents            | 1. CRO and its circuits.  
2. Types of CRO.  
3. CRO and its applications. |
<p>| Course coordinator, email address and phone number | Er. Anil Kumar, <a href="mailto:eltxs@nitttrchd.ac.in">eltxs@nitttrchd.ac.in</a>, 09814655426, 0172-2759648 |</p>
<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Fabrication of Experimental Kits and its Repair</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.90</td>
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<tr>
<td>Dates and Venue of Course</td>
<td>10-14 Sep, 2012</td>
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<tr>
<td></td>
<td>GP Jammu</td>
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<tr>
<td>Objectives</td>
<td>1. To familiarize Electronics Components</td>
</tr>
<tr>
<td></td>
<td>2. Testing</td>
</tr>
<tr>
<td></td>
<td>3. Fault diagnosis and repair.</td>
</tr>
<tr>
<td>Course Contents</td>
<td>1. SMPS, UPS and Inverter.</td>
</tr>
<tr>
<td></td>
<td>2. Experimental Kits.</td>
</tr>
<tr>
<td>Course coordinator, email address</td>
<td>Er. Anil Kumar, <a href="mailto:eltxs@nitttrchd.ac.in">eltxs@nitttrchd.ac.in</a>,</td>
</tr>
<tr>
<td>and phone number</td>
<td>09814655426, 0172-2759648</td>
</tr>
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<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Power Supply, Fabrication and Testing</th>
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<tbody>
<tr>
<td>Operational Plan No.</td>
<td>1.2.122</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>15-19 Oct, 2012</td>
</tr>
<tr>
<td></td>
<td>IRDT Kanpur</td>
</tr>
<tr>
<td>Objectives</td>
<td>1. To familiarize types of Power Supplies.</td>
</tr>
<tr>
<td></td>
<td>2. Repair of different types Power Supplies and AC/DC Adaptors used in daily life.</td>
</tr>
<tr>
<td></td>
<td>3. SMPS &amp; UPS and their fault diagnosis and repair.</td>
</tr>
<tr>
<td>Course Contents</td>
<td>1. A.C./D.C. adapters.</td>
</tr>
<tr>
<td></td>
<td>2. Linear Power Supplies.</td>
</tr>
<tr>
<td></td>
<td>3. SMPS, UPS and Inverter.</td>
</tr>
<tr>
<td>Course coordinator, email address</td>
<td>Er. Anil Kumar, <a href="mailto:eltxs@nitttrchd.ac.in">eltxs@nitttrchd.ac.in</a>,</td>
</tr>
<tr>
<td>and phone number</td>
<td>09814655426, 0172-2759648</td>
</tr>
<tr>
<td>Name of the Course</td>
<td>Operating Plan No.</td>
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<tr>
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<tr>
<td>PCB Layout, Fabrication and Testing</td>
<td>72</td>
</tr>
<tr>
<td>Operational Plan No.</td>
<td>1.2.135</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>19-23 Nov, 2012</td>
</tr>
<tr>
<td>NITTTR CHD</td>
<td></td>
</tr>
</tbody>
</table>
| Objectives                                             | 1. To familiarize Electronics Components  
2. Testing  
3. Fault diagnosis and repair. |
| Course Contents                                        | 1. SMPS, UPS and Inverter.  
2. Experimental Kits. |
| Course coordinator, email address and phone number     | Er. Anil Kumar, eltxs@nitttrchd.ac.in,  
09814655426, 0172-2759648 |

**COURSES FOR ENGINEERING COLLEGES**

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Operating Plan No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Supply Design, Fabrication and Testing</td>
<td></td>
</tr>
<tr>
<td>Operational Plan No.</td>
<td></td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td></td>
</tr>
<tr>
<td>NITTTR CHD</td>
<td></td>
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</tbody>
</table>
| Objectives                                             | 1. To familiarize types of Power Supplies.  
2. Repair of different types Power Supplies and AC/DC Adaptors used in daily life.  
3. SMPS & UPS and their fault diagnosis and repair. |
| Course Contents                                        | 1. A.C./D.C. adapters.  
2. Linear Power Supplies.  
3. SMPS, UPS and Inverter. |
| Course coordinator, email address and phone number     | Er. Anil Kumar, eltxs@nitttrchd.ac.in,  
09814655426, 0172-2759648 |
<table>
<thead>
<tr>
<th>Operational Plan No.</th>
<th>:</th>
<th>90</th>
</tr>
</thead>
</table>
| Dates and Venue of Course | : | 11-22 Feb, 2012  
| | | NITTTR Chd |
| Objectives | : | 1. To familiarize types of Power Supplies.  
| | | 2. Design of Circuit.  
| | | 5. SMPS & UPS and their fault diagnosis and repair. |
| Course Contents | : | 1. Power Supply  
| | | 2. Linear Power Supplies.  
| | | 3. SMPS, UPS and Inverter. |
| Course coordinator, email address and phone number | : | Prof (Dr) SBL Sachan and Er. Anil Kumar  
| | | eltxs@nitttrchd.ac.in,  
| | | 09814655426, 0172-2759638, 648 |
Educational Television Department  
(For Polytechnics)

1. **Name of Course** : Video and Audio Recording and Editing  
   **O. Plan No.** : 1.2.7  
   **Date & Venue** : 23-27 April ‘12, NITTTR, Chandigarh  

**Objectives**  
- Understand the principle of Video and Audio recording  
- Understand and develop skill in editing.

**Course Contents**  
- Capturing video & audio  
- Linear & Non-Linear editing.  
- Tools for video and audio recording.  
- Exercises on video recording and narration recording.

**Course Coordinator & e-mail** : Dr. SS Pattnaik, headetv@yahoo.co.in

2. **Name of Course** : Audio and Video Hardwares: Repairing and Maintenance  
   **O. Plan No.** : 1.2.44  
   **Date & Venue** : 16-20 July’12, NITTTR, Chandigarh/Out Station  

**Objectives**  
- Understand the principle of audio and video repairing & maintenance.  
- Learn the skill to repair and maintain audio & video equipments.

**Course Contents**  
- Exposure to various audio & video equipments.  
- Repairing of various video equipments.  
- Repairing of various audio equipments  
- Principle of maintenance.

**Course Coordinator & e-mail** : Dr. SS Pattnaik, headetv@yahoo.co.in
3. **Name of Course** : Animation Graphics and e-content Development  
**O.Plan No.** : 1.2.102  
**Date & Venue** : 08-12 Oct’12, NITTTR, Chandigarh/Outstation  

**Objectives**

- Generate e-content.  
- Develop skill for generating animation & graphics.  

**Course Contents**

- Procedure & various tools for e-content development.  
- Various tools for animation & graphics generation  
- Laboratory practice on e-content generation using animation & graphics  

Course Coordinator & e-mail : Dr. SS Pattnaik, headetv@yahoo.co.in  

4. **Name of Course** : Laboratory Experiments on Microwave and Antenna  
**O.Plan No.** : 1.2.139  
**Date & Venue** : 18-22 Feb’13, NITTTR, Chandigarh  

**Objectives**

- Hands on exposure on microwave equipments.  
- Measurements of various antennas.  

**Course Contents**

- Various microwave components  
- Measurements using microwave bench.  
- Measurements using spectrum analyzer  
- Measurements using site analyzer.  
- Measurements using power meter.  
- Exposure to IE3D, Fidelity & HFSS.  

Course Coordinator & e-mail : Dr. SS Pattnaik, headetv@yahoo.co.in  

5. **Name of Course** : Script Writing and Video Lectures  
**O.Plan No.** : 1.2.148  
**Date & Venue** : 11-15 Mar’13, NITTTR, Chandigarh  

**Objectives**

- Story board  
- Skill to write Script  
- Generate video lectures  

**Course Contents**
- Learn to write script for video lectures
- Video content generation
- Making Video lectures

Course Coordinator & e-mail: Dr. SS Pattnaik, headetv@yahoo.co.in

(for Engineering College only)

1. Name of Course: Neural Networks and Optimization Techniques and Applications
   O. Plan No.: 16
   Date & Venue: 28 May-01 June’12, NITTTR, Chandigarh/Outstation

Objectives
- Learn artificial neural networks
- Learn Optimization algorithms.

Course Contents
- Learn various artificial neural networks and write programmes
- Bio-inspired optimization techniques
- Application in video, image and antenna

Course Coordinator & e-mail: Dr. SS Pattnaik, headetv@yahoo.co.in

2. Name of Course: Antenna and Microwave: Learning through Experimentation
   O. Plan No.: 36
   Date & Venue: 27-31 Aug’12, NITTTR, Chandigarh

Objectives
- Hands on exposure on microwave equipments.
- Measurements of various antenna

Course Contents
- Various microwave components
- Measurements using microwave bench.
- Measurements using spectrum analyzer
- Measurements using site analyzer.
- Measurements using power meter.
- Exposure to IE3D, Fidelity & HFSS.
Course Coordinator & e-mail:  Dr. SS Pattnaik, headetv@yahoo.co.in

3. Name of Course :  Digital Signal Processing and Application to Video
O. Plan No. :  47
Date & Venue :  24-28 Sep’12, NITTTR, Chandigarh/Outstation

Objectives
- To impart training on important digital signal processing parameters and their use in video & image applications.

Course Contents
- Signal spectrum analysis, Z-transformation, Digital filters, Soft Computing filters, Video and Image application like noise removal etc.

Course Coordinator & e-mail:  Dr. SS Pattnaik, headetv@yahoo.co.in

4. Name of Course :  Soft Computing Techniques and Applications
O. Plan No. :  58
Date & Venue :  19-23 Nov’12, NITTTR, Chandigarh/Outstation

Objectives
- To learn about emerging soft computing techniques & their application.

Course Contents
- ANN
- Bacterial foraging, Optimization, Particle Swarm Optimization, BBO and application to Image Video & Meta material antenna.
- Hybridization of various soft computing techniques.

Course Coordinator & e-mail:  Dr. SS Pattnaik, headetv@yahoo.co.in

5. Name of Course :  Open Source and Multimedia
O. Plan No. :  61
Date & Venue :  14-18 Jan’13, NITTTR, Chandigarh/Outstation
Objectives

- To develop skill for multimedia applications.
- Multimedia tools, Open source multimedia tools
- Tends in multimedia technology and use.
- To develop skill in computational tools for instructional material development.

Course Contents

- Use of Computational tools.
- Instructional Material Development using film content.
- Down loading subject content from open source tools.
- Different types of open source tools
- Use of Computational tools

Course Coordinator & e-mail: Dr. SS Pattnaik, headtv@yahoo.co.in
LIBRARY

For Polytechnics

Name of the Course: Designing Current Awareness Services.

O Plan No: 1.2.15
Objectives: The learner will be able to design CAS bulletin
Contents: CAS; SDI; design of current contents; methods of providing CAS
Date & Venue: May 7-11, 2012, NITTTR, Chandigarh
Coordinator: Manmohan Singh  manmohans@yahoo.com

Name of the Course: Internet Collaborative tools for Librarians.

O Plan No: 1.2.91
Objectives: The learner will be able to use these tools to give information.
Contents: Internet collaborative tools like blogs, RSS, wikis, podcasts etc
Date & Venue: September 10-14, 2012, NITTTR, Chandigarh
Coordinator: Manmohan Singh  manmohans@yahoo.com

Name of the Course: Independent Study Techniques.

O Plan No: 1.2.148
Objectives: The learner will be able inculcate self study habit
Contents: Right reading; Creative thinking; Use of library; Organisation of personal files; Report writing
Date & Venue: January 21-25, 2013, NITTTR, Chandigarh
Coordinator: Manmohan Singh  manmohans@yahoo.com

Name of the Course: Digital library Management.

O Plan No: 1.2.171
Objectives: The learner will be able to understand DL
Contents: Digital Library; Web-based library management systems; Case studies of few DL
Date & Venue: March 18-20, 2013, NITTTR, Chandigarh
Coordinator: Manmohan Singh  manmohans@yahoo.com

For Engineering Colleges
Name of the Course: **Designing Current Awareness Services.**

**O Plan No:** 6  
**Objectives:** The learner will be able to design CAS bulletin  
**Contents:** CAS; SDI; design of current contents; methods of providing CAS  
**Date & Venue:** May 7-11, 2012, NITTTR, Chandigarh  
**Coordinator:** Manmohan Singh  manmohans@yahoo.com

Name of the Course: **Internet Collaborative tools for Librarians.**

**O Plan No:** 49  
**Objectives:** The learner will be able to use these tools to give information.  
**Contents:** Internet collaborative tools like blogs, RSS, wikis, podcasts etc  
**Date & Venue:** September 10-14, 2012, NITTTR, Chandigarh  
**Coordinator:** Manmohan Singh  manmohans@yahoo.com

Name of the Course: **Independent Study Techniques.**

**O Plan No:** 80  
**Objectives:** The learner will be able inculcate self study habit  
**Contents:** Right reading; Creative thinking; Use of library; Organisation of personal files; Report writing  
**Date & Venue:** January 21-25, 2013, NITTTR, CHD  
**Coordinator:** Manmohan Singh  manmohans@yahoo.com

Name of the Course: **Digital library Management.**

**O Plan No:** 100  
**Objectives:** The learner will be able to understand DL  
**Contents:** Digital Library; Web-based library management systems; Case studies of few DL  
**Date & Venue:** March 18-20, 2013, NITTTR, CHD  
**Coordinator:** Manmohan Singh  manmohans@yahoo.com
## COURSES FOR POLYTECHNICS

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Public Private Partnership for Technical Education</th>
</tr>
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<tbody>
<tr>
<td>Operational Plan Number</td>
<td>1.2.8</td>
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<tr>
<td>Dates and Venue of Course</td>
<td>23-27 April, 2012, NITTTR Chandigarh</td>
</tr>
</tbody>
</table>

### Objectives
- To understand Institute as a system and system’s approach to institute development
- To understand the concept of World Class Institute and its characteristics
- To appreciate the need for Strategic Planning for institute building
- To understand the Models of institute building
- To appreciate the need and concept of Public Private Partnership for institute building
- Parameters of Public Private Partnership and its implication in providing quality technical education
- Critical success factors in Public Private Partnership for technical education
- Institute as a system and system’s approach to institute building
- World class Institute – Concept and characteristics
- Strategic Planning for institute building
- Strategic Planning Process
- Institute Building –Concept and Parameters
- Models of Institute Building
- Public Private Partnership – Concept and Need
- Models of Public Private Partnership
- Public Private Partnership in Technical Education
- Critical success factors in Public Private Partnership in Technical Education
- Problems, Issues and Implications in Public Private Partnership for providing quality technical education

### Course Coordinator with e-mail address and Phone number
- Dr. Rakesh K Wats, rakeshwats@yahoo.com, 9815692200
Name of the Course | Strategic Management and SWOT Analysis for Excellence
---|---
Operational Plan Number | 1.2.32
Dates and Venue of Course | 21-25 May, 2012, NITTTR Chandigarh
Objectives | - To understand institution as a system and systems approach for institution development
- To understand the attributes of excellence of an institution
- To appreciate the need for strategic planning and management for the development of the Technical Education Institutions
- To develop understanding of strategic planning and management process
- To comprehend the steps involved and techniques used in strategic planning
- To clarify the Mandate and mission of the institution
- To draft a vision and mission statement for the institution
- To identify the information sources and specify the tools for SWOT analysis
- To develop a strategic plan for the institution
- To develop understanding of strategic leadership and its role in institution development for excellence
- Building excellence in technical institutions
- Strategic management: international experiences
- Strategic leadership in institution transformation
- Role efficacy
- World class institution: characteristics and their development
- Benchmarking processes in institutions
- Strategic plan for thrust areas
- Problems and issues and strategies for achieving excellence in technical institutions

Course Contents

Course Coordinator with e-mail address and Phone number | Dr. Rakesh K Wats, rakeshwats@yahoo.com, 9815692200
Name of the Course  
**Business and Soft Skills Development in Institutions**

Operational Plan Number  
1.2.36

Dates and Venue of Course  
04-08 June, 2012, NITTTR Chandigarh

Objectives

- Understand concept of aims of technical education and vocational education, curriculum and instruction
- Understand the structure of technical education system and aim of each programme and corresponding job position in industry/business/service sector
- Understand the impact of technological and social changes on employment (employment areas/jobs, job profile and critical competencies etc.) and requirements of engineers, supervisors/technicians and skilled workers
- Understand the concept of business of soft skills and its importance in today’s scenario
- Identify business and soft skills important for engineers and technicians
- Understand teaching-learning pedagogy and taxonomy for developing business and soft skills in students
- Understand strategies for the development of business and soft skills in engineers and technicians
- Understand the role of curriculum and instruction in developing business and soft skills
- Vision & Mission of Technical Institutes
- Curriculum, curriculum norms & standards as per ABTE
- Curriculum objectives based on competencies to be developed in engineers and technicians for employability
- Business & Soft Skills for the world of work
- Status of business & soft skills and their development – Historical perspective
- Education system of India – Philosophy of different levels of TVET
- Design of curriculum for humanities and social sciences
- Business, Management & Soft skills for engg. Degree programme-case study
- Designing content & instruction for business skills

Course Contents

- Vision & Mission of Technical Institutes
- Curriculum, curriculum norms & standards as per ABTE
- Curriculum objectives based on competencies to be developed in engineers and technicians for employability
- Business & Soft Skills for the world of work
- Status of business & soft skills and their development – Historical perspective
- Education system of India – Philosophy of different levels of TVET
- Design of curriculum for humanities and social sciences
- Business, Management & Soft skills for engg. Degree programme-case study
- Designing content & instruction for business skills

Course Coordinator  
Dr. Rakesh K Wats, rakeshwats@yahoo.com, 9815692200
<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Institutional Accreditation and Quality Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan Number</td>
<td>1.2.49</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>16-20 July, 2012, NITTTR Chandigarh</td>
</tr>
</tbody>
</table>
| Objectives | • understand institution as a system, world class institution and its characteristics, concept and process of NBA accreditation  
• understand parameters, criteria and proformas for institutional accreditation  
• understand accreditation of curriculum of engineering programmes  
• understand norms and standards for engineering programmes  
• understand process of ISO 9001 certification and its comparison with accreditation done by NBA  
• understand important considerations for institutional preparation for accreditation  
• managing institutional excellence  
• World class institution and its characteristics  
• Institution as a system  
• SWOT Analysis of an institution  
• NBA accreditation: concept and importance  
• Accreditation process of NBA  
• Norms and standards for degree programmes  
• A comparative analysis of ISO 9001 certification and NBA accreditation  
• Institutional preparation for accreditation and pitfalls  
• Accreditation visit and reporting  
• Managing institutional excellence |
| Course Coordinator with e-mail address and Phone number | Dr. Rakesh K Wats, rakeshwats@yahoo.com, 9815692200 |
Name of the Course: Innovation and Creativity Development in Teachers and Students

Operational Plan Number: 1.2.78

Dates and Venue of Course: 27-31 August, 2012, NITTTR Chandigarh

Objectives:
- Understand the concept, theory, process and method of creativity and development
- Analyze curriculum and instruction to find out the subject and topics in which creativity and innovation is being developed
- Understand characteristics of creative personality, barriers to creativity and techniques for stimulating creativity
- Develop competency of solving problems creatively
- Adopt strategy for developing creativity in students as well as environment
- Enhancing motivation
- Innovation & Creativity – Theme presentation
- Education as a system, curriculum & creativity
- Innovation & creativity process
- Barriers to creativity and techniques for stimulating creativity
- Creativity personality and its development
- Creative problem solving
- Idea generation and synthesis
- Inculcating creativity in students
- Teachers effectiveness and his role in developing creativity
- Building culture of creativity and innovation development in technical institutions

Course Coordinator with e-mail address and Phone number: Dr. Rakesh K Wats, rakeshwats@yahoo.com, 9815692200

Name of the Course: Technical Teachers Self Esteem, Motivation and Professionalism Development

Operational Plan Number: 1.2.101

Dates and Venue of Course: 17-21 September, 2012, NITTTR, Chandigarh

Objectives:
- Develop understanding of the role of the teachers and factors affecting his performance and effectiveness.
- Explore their role identity and self efficacy
- Adopt ways and means for enhancement of their self-efficacy and self-esteem
- Determining ways and means for enhancement of
their motivation, effectiveness, professionalism and role efficacy
• Develop emotional balance and spiritual coefficient in teachers
• Analyze personality and values of teachers and suggest ways of developing likeable personality.
• Vision and Mission of Polytechnic; Teachers’ Role in Polytechnic
• Role Efficacy of Polytechnic Teachers
• Polytechnic and Vocational need of polytechnic teacher
• Motivational of polytechnic teachers and its enhancement
• Concept of Self esteem and self efficacy of teachers
• Values in teachers and strategy for developing values in teachers
• Professional Standards and professionalism in polytechnic teachers
• Emotional balance and spiritual quotient in teachers
• Role stress in teachers and how to reduce it
• Faculty development in polytechnics and State policy of faculty development
• Knowledge management in polytechnics
• SWOT analysis of polytechnic teachers
• Action plan for motivation, self esteem and professionalism in polytechnic teachers

Course Contents

Course Coordinator
with e-mail address and Phone number
Dr. Rakesh K Wats, rakeshwats@yahoo.com, 9815692200

Name of the Course
Educational Auditing for Technical Institutions

Operational Plan Number
1.2.123

Dates and Venue of Course
15-19 October, 2012, NITTTR Chandigarh

Objectives
• understanding the meaning, needs, concept and purpose of performance assurance and educational audit of programme and institution.
• Understand principle of educational audit and its relationship with accreditation inventory proposed by AICTE.
• Understand parts of framework or model for educational audit for individual, programme and institution performance
• Understand parameters/problems/questions related to the parts of framework of educational audit of institute, programme and individual performance.
Course Contents

- Understand meaning of 360 feedback, self evaluation and regulating mechanism in institute.
- Development of criteria and tools for collection of information based on the design and evaluation methodology
- Planning method of collection of information from different stakeholders
- Understand method of reporting outcome of educational audit to different stakeholders and preparing institution for accreditation.
- Understand strategy for bringing change in culture of institute as a result of educational audit.
- Technical Institution as a System.
- Strategic Planning & Envisioning for Technical Institutions.
- Exercise-Mandate, Mission & SWOT analysis for institutional performance.
- Educational Audit-Need & Concept.
- Educational Audit-Issues, Scope & Roadmap for implementation.
- Educational Audit-Mechanism for data collection, analysis & Presentation. Exercise-Identifying issues and scope
- Curriculum Audit-Process & Implementation.
- Exercise-Developing tools for Educational Audit.
- Sample Audit Exercise.
- Data Analysis, Audit Conclusions & Recommendations.
- Strategy for Improvement in institutions.
- Presentation of Audit Exercise & Discussion.

Course Coordinator with e-mail address and Phone number

Dr. Rakesh K Wats, rakeshwats@yahoo.com, 9815692200

Name of the Course

Managing Yourself
Operational Plan Number 1.2.136

Dates and Venue of Course
19-23 November, 2012, NITTTR Chandigarh

Objectives
- Develop understanding of self and decide about vision and goal of life.
- Analyse individuals role to determine the extent of Role Efficacy present in one’s position and actions required to enhance role efficacy.
- Identify the competencies required for performing role effectively as a teacher in particular and citizen in general.
- Manage body, mind emotion, value and role effectively
- Make aware of the desirable behavioral parameters such as leadership, creativity, management of communication etc. for development.
- Aware of the causes of stress in role and method of coping it.
- Make understand importance of emotional balance in profession
- Develop a plan for managing self to achieve high in profession and lead a happy life.

Course Contents
- Philosophy of Managing Self
- Personality & Self Development
- Concept and Importance of Role in the Life of Individual & Role Efficacy.
- Stress-Concept, Causes & Copping
- Role Efficacy & Role Stress
- Emotion, Emotional Intelligence and Success in Life.
- Spiritual coefficient
- Teacher Effectiveness –Different Perspectives.
- Developing Business & Social Skills
- Communication Skills & its development.
- How to remain healthy physical body, mind & nervous system.
- Development of Leadership in Teachers
- Personal Development Plan for Managing Self.

Course Coordinator with e-mail address and Phone number
Dr. Rakesh K Wats, rakeshwats@yahoo.com, 9815692200

Name of the Course Achieving Managerial Excellence
Operational Plan Number 1.2.141

Dates and Venue of Course 14-18, 2013, NITTTR Chandigarh

Objectives

- Understand strategic planning and management concept, model and method for achieving excellence.
- Conduct SWOT Analysis
- Understand individual and group aspects affecting organizational behaviour.
- Understand organization system i.e. structure, work, technology and human resource polices and culture.
- Understand organizational dynamics in respect of change and development.
- Achieve excellence through interventions of leadership, accreditation, HRD, Networking with industry, Dynamic curriculum, feedback system etc.

Course Contents

- Institution as a system and system’s approach for Institution Development
- Leadership Role, style and effectiveness.
- Organisation and organizational Behaviour
- Individual a Behaviours – Motivation and values.
- Group Behaviour – Leadership, communication and team building.
- Organization System and Dynamics
- Managing change for excellence
- Strategic Planning and Management.

Course Coordinator with e-mail address and Phone number Dr. Rakesh K Wats, rakeshwats@yahoo.com, 9815692200

Name of the Course Faculty Development: Planning and Management

Operational Plan Number 1.2.156
Dates and Venue of Course

18-22 July 11-15 February, 2013, NITTTR Chandigarh

Objectives

- Develop understanding of the role of faculty and factors affecting his performance and effectiveness
- Understand faculty development concept, strategies and models
- Perform need analysis of training of faculty- approaches
- Planning of faculty development programmes
- Selection of method and media for faculty development programmes
- Develop policies of faculty development at state level and institutional level
- Use modern ICT technology for planning and management of faculty development

Course Contents

- Institution as a system
- Faculty’s Role, Role Efficacy & Effectiveness
- Faculty organization in institution & desired Competencies.
- Faculty Development Concept, Strategy & Models
- Planning Faculty Development
- Designing Faculty Development Programmes.
- Need Analysis of Faculty Development & Policies at State Level.
- Use of ICT in Faculty Development Management

Course Coordinator with e-mail address and Phone number

Dr. Rakesh K Wats, rakeshwats@yahoo.com, 9815692200
COURSES FOR ENGINEERING COLLEGES

Name of the Course: Strategic Management AND SWOT Analysis for Excellence

Operational Plan Number: 17

Dates and Venue of Course: 21-25 May, 2012, NITTTR Chandigarh

Objectives:
- To understand institution as a system and systems approach for institution development
- To understand the attributes of excellence of an institution
- To appreciate the need for strategic planning and management for the development of the Technical Education Institutions
- To develop understanding of strategic planning and management process
- To comprehend the steps involved and techniques used in strategic planning
- To clarify the Mandate and mission of the institution
- To draft a vision and mission statement for the institution
- To identify the information sources and specify the tools for SWOT analysis
- To develop a strategic plan for the institution
- To develop understanding of strategic leadership and its role in institution development for excellence

Course Contents:
- Building excellence in technical institutions
- Strategic management: international experiences
- Strategic leadership in institution transformation
- Role efficacy
- World class institution: characteristics and their development
- Benchmarking processes in institutions
- Strategic plan for thrust areas
- Problems and issues and strategies for achieving excellence in technical institutions

Course Coordinator with e-mail address and Phone number:
Dr. Rakesh K Wats, rakeshwats@yahoo.com, 9815692200
<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Business and Soft Skills Development in Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Plan Number</td>
<td>20</td>
</tr>
<tr>
<td>Dates and Venue of Course</td>
<td>04-08 June, 2012, NITTTR Chandigarh</td>
</tr>
</tbody>
</table>

**Objectives**
- Understand concept of aims of technical education and vocational education, curriculum and instruction
- Understand the structure of technical education system and aim of each programme and corresponding job position in industry/business/service sector
- Understand the impact of technological and social changes on employment (employment areas/jobs, job profile and critical competencies etc.) and requirements of engineers, supervisors/technicians and skilled workers
- Understand the concept of business of soft skills and its importance in today’s scenario
- Identify business and soft skills important for engineers and technicians
- Understand teaching-learning pedagogy and taxonomy for developing business and soft skills in students
- Understand strategies for the development of business and soft skills in engineers and technicians
- Understand the role of curriculum and instruction in developing business and soft skills
- Vision & Mission of Technical Institutes
- Curriculum, curriculum norms & standards as per ABTE
- Curriculum objectives based on competencies to be developed in engineers and technicians for employability
- Business & Soft Skills for the world of work
- Status of business & soft skills and their development – Historical perspective
- Education system of India – Philosophy of different levels of TVET
- Design of curriculum for humanities and social sciences
- Business, Management & Soft skills for engg. Degree programme-case study
- Designing content & instruction for business skills

| Course Coordinator with e-mail address and Phone number | Dr. Rakesh K Wats, rakeshwats@yahoo.com, 9815692200 |

| Name of the Course | Institutional Accreditation and Quality Management |

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<table>
<thead>
<tr>
<th>Operational Plan Number</th>
<th>26</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dates and Venue of Course</td>
<td>16-20 July, 2012, NITTTR Chandigarh</td>
</tr>
</tbody>
</table>
| Objectives | - understand institution as a system, world class institution and its characteristics, concept and process of NBA accreditation  
- understand parameters, criteria and proformas for institutional accreditation  
- understand accreditation of curriculum of engineering programmes  
- understand norms and standards for engineering programmes  
- understand process of ISO 9001 certification and its comparison with accreditation done by NBA  
- understand important considerations for institutional preparation for accreditation  
- managing institutional excellence  
- World class institution and its characteristics  
- Institution as a system  
- SWOT Analysis of an institution  
- NBA accreditation: concept and importance  
- Accreditation process of NBA  
- Norms and standards for degree programmes  
- A comparative analysis of ISO 9001 certification and NBA accreditation  
- Institutional preparation for accreditation and pitfalls  
- Accreditation visit and reporting  
- Managing institutional excellence |
<p>| Course Coordinator with e-mail address and Phone number | Dr. Rakesh K Wats, <a href="mailto:rakeshwats@yahoo.com">rakeshwats@yahoo.com</a>, 9815692200 |
| Name of the Course | Innovation and Creativity Development in Teachers and Students |
| Operational Plan Number | 36 |</p>
<table>
<thead>
<tr>
<th>Dates and Venue of Course</th>
<th>27-31 August, 2012, NITTTR Chandigarh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objectives</td>
<td>Understand the concept, theory, process and method of creativity and development</td>
</tr>
<tr>
<td></td>
<td>Analyze curriculum and instruction to find out the subject and topics in which creativity and innovation is being developed</td>
</tr>
<tr>
<td></td>
<td>Understand characteristics of creative personality, barriers to creativity and techniques for stimulating creativity</td>
</tr>
<tr>
<td></td>
<td>Develop competency of solving problems creatively</td>
</tr>
<tr>
<td></td>
<td>Adopt strategy for developing creativity in students as well as environment</td>
</tr>
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<td></td>
<td>Enhancing motivation</td>
</tr>
<tr>
<td></td>
<td>Innovation &amp; Creativity – Theme presentation</td>
</tr>
<tr>
<td></td>
<td>Education as a system, curriculum &amp; creativity</td>
</tr>
<tr>
<td></td>
<td>Innovation &amp; creativity process</td>
</tr>
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<td></td>
<td>Barriers to creativity and techniques for stimulating creativity</td>
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<tr>
<td></td>
<td>Creativity personality and its development</td>
</tr>
<tr>
<td></td>
<td>Creative problem solving</td>
</tr>
<tr>
<td></td>
<td>Idea generation and synthesis</td>
</tr>
<tr>
<td></td>
<td>Inculcating creativity in students</td>
</tr>
<tr>
<td></td>
<td>Teachers effectiveness and his role in developing creativity</td>
</tr>
<tr>
<td></td>
<td>Building culture of creativity and innovation development in technical institutions</td>
</tr>
<tr>
<td>Course Contents</td>
<td>Inovation &amp; Creativity – Theme presentation</td>
</tr>
<tr>
<td></td>
<td>Education as a system, curriculum &amp; creativity</td>
</tr>
<tr>
<td></td>
<td>Innovation &amp; creativity process</td>
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<td></td>
<td>Barriers to creativity and techniques for stimulating creativity</td>
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<td>Inculcating creativity in students</td>
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<td></td>
<td>Teachers effectiveness and his role in developing creativity</td>
</tr>
<tr>
<td></td>
<td>Building culture of creativity and innovation development in technical institutions</td>
</tr>
</tbody>
</table>

Course Coordinator with e-mail address and Phone number

Dr. Rakesh K Wats, rakeshwats@yahoo.com, 9815692200

Name of the Course

Educational Auditing for Technical Institutions

Operational Plan Number

62

Dates and Venue of Course

15-19 October, 2012, NITTTR Chandigarh

Objectives

- Understanding the meaning, needs, concept and purpose of performance assurance and educational audit of programme and institution.
- Understand principle of educational audit and its relationship with accreditation inventory proposed by AICTE.
- Understand parts of framework or model for educational audit for individual, programme and institution performance.
- Understand parameters/problems/questions related to the parts of framework of educational audit of institute, programme and individual performance.
Course Contents

- Understand meaning of 360 feedback, self evaluation and regulating mechanism in institute.
- Development of criteria and tools for collection of information based on the design and evaluation methodology.
- Planning method of collection of information from different stakeholders.
- Understand method of reporting outcome of educational audit to different stakeholders and preparing institution for accreditation.
- Understand strategy for bringing change in culture of institute as a result of educational audit.
- Technical Institution as a System.
- Strategic Planning & Envisioning for Technical Institutions.
- Exercise-Mandate, Mission & SWOT analysis for institutional performance.
- Educational Audit-Need & Concept.
- Educational Audit-Issues, Scope & Roadmap for implementation.
- Curriculum Audit-Process & Implementation.
- Exercise-Developing tools for Educational Audit.
- Sample Audit Exercise.
- Data Analysis, Audit Conclusions & Recommendations.
- Strategy for Improvement in institutions.
- Presentation of Audit Exercise & Discussion.

Course Coordinator

Dr. Rakesh K Wats, rakeshwats@yahoo.com, 9815692200
Dates and Venue of Course
19-23 November, 2012, NITTTR Chandigarh

Objectives
- Develop understanding of self and decide about vision and goal of life.
- Analyse individuals role to determine the extent of Role Efficacy present in one’s position and actions required to enhance role efficacy.
- Identify the competencies required for performing role effectively as a teacher in particular and citizen in general.
- Manage body, mind emotion, value and role effectively.
- Make aware of the desirable behavioral parameters such as leadership, creativity, management of communication etc. for development.
- Aware of the causes of stress in role and method of coping it.
- Make understand importance of emotional balance in profession.
- Develop a plan for managing self to achieve high in profession and lead a happy life.
- Philosophy of Managing Self
- Personality & Self Development
- Concept and Importance of Role in the Life of Individual & Role Efficacy.
- Stress-Concept, Causes & Copping
- Role Efficacy & Role Stress
- Emotion, Emotional Intelligence and Success in Life.
- Spiritual coefficient
- Teacher Effectiveness –Different Perspectives.
- Developing Business & Social Skills
- Communication Skills & its development.
- How to remain healthy physical body, mind & nervous system.
- Development of Leadership in Teachers
- Personal Development Plan for Managing Self.

Course Contents
- Philosophy of Managing Self
- Personality & Self Development
- Concept and Importance of Role in the Life of Individual & Role Efficacy.
- Stress-Concept, Causes & Copping
- Role Efficacy & Role Stress
- Emotion, Emotional Intelligence and Success in Life.
- Spiritual coefficient
- Teacher Effectiveness –Different Perspectives.
- Developing Business & Social Skills
- Communication Skills & its development.
- How to remain healthy physical body, mind & nervous system.
- Development of Leadership in Teachers
- Personal Development Plan for Managing Self.

Course Coordinator
Dr. Rakesh K Wats, rakeshwats@yahoo.com, 9815692200

Name of the Course
Achieving Managerial Excellence

Operational Plan Number
73

Dates and Venue of Course
14-18 January, 2013, NITTTR Chandigarh
Objectives

- Understand strategic planning and management concept, Model and method for achieving excellence.
- Conduct SWOT Analysis
- Understand individual and group aspects affecting organizational behaviour.
- Understand organization system i.e. structure, work, technology and human resource polices and culture.
- Understand organizational dynamics in respect of change and development.
- Achieve excellence through interventions of leadership, accreditation, HRD, Networking with industry, Dynamic curriculum, feedback system.

Course Contents

- Institution as a system and system approach for Institution Development
- Leadership Role, style and effectiveness.
- Organisation and organizational Behaviour
- Individual Behvarious – Motivation and values.
- Group Behaviour – Leadership, communication and team building.
- Organization System
- Organization Dynamics
- Managing change for excellence
- Strategic Planning and Management.

Course Coordinator

Dr. Rakesh K Wats, rakeshwats@yahoo.com, 9815692200
Dates and Venue of Course
11-15 February, 2013, NITTTR Chandigarh

Objectives
- Develop understanding of the role of faculty and factors affecting his performance and effectiveness
- Understand faculty development concept, strategies and models
- Perform need analysis of training of faculty- approaches
- Planning of faculty development programmes
- Selection of method and media for faculty development programmes
- Develop policies of faculty development at state level and institutional level
- Use modern ICT technology for planning and management of faculty development
- Institution as a system
- Faculty’s Role, Role Efficacy & Effectiveness
- Faculty organization in institution & desired Competencies.
- Faculty Development Concept, Strategy & Models
- Planning Faculty Development
- Designing Faculty Development Programmes.
- Need Analysis of Faculty Development & Policies at State Level.
- Use of ICT in Faculty Development Management

Course Contents
- Institution as a system
- Faculty’s Role, Role Efficacy & Effectiveness
- Faculty organization in institution & desired Competencies.
- Faculty Development Concept, Strategy & Models
- Planning Faculty Development
- Designing Faculty Development Programmes.
- Need Analysis of Faculty Development & Policies at State Level.
- Use of ICT in Faculty Development Management

Course Coordinator with e-mail address and Phone number
Dr. Rakesh K Wats, rakeshwats@yahoo.com, 9815692200
DEPARTMENT OF MECHANICAL ENGINEERING
Short Term Courses for Polytechnics

Name of Course: CAD/CAM
O. Plan No.: 1.2.3
Dates and Venue: 16-20 April, 2012, NITTTR, Chandigarh

Objectives:
CAD/CAM plays a very important role in design and manufacturing of engineering products. Realistic modeling and manufacturing in CAD/CAM not only helps in increasing the productivity but also improves the quality of products manufactured by the organization. It is therefore necessary for the technical teachers to know the recent hardware and software technologies involved in Computer Aided Design and Manufacturing.

Course Contents:
- Hardware and software in CAD/CAM
- Basic features of modeling in CAD
- Application of software in CAM
- Practice sessions

Course Coordinator, email address and phone number:
Dr. S. S. Banwait, +91-172-2759552, ssb@nitttrchd.ac.in
Dr. S. S. Dhami, +91-172-2759659, ssdhami@nitttrchd.ac.in

Name of Course: Auto CAD
O. Plan No.: 1.2.9
Dates and Venue: 23-27 April, 2012, NITTTR, Chandigarh

Objectives:
AutoCAD is needed in industry to increase the productivity of the designer and draftsman so that drawing and designing work is accomplished in less time and the drawings are more realistic. It is therefore necessary for the technical teachers to know the advanced features of AutoCAD very frequently used in industries.

Course Contents:
- Introduction to AutoCAD
- 2D drawing and editing tools
- Advanced features of AutoCAD software,
- Introduction to 3D drafting

Course Coordinator, email address and phone number:
Er. Sunil D. Jassal, +91-172-2759655, jassalsd@nitttrchd.ac.in
Name of Course: PLC Applications in Mechanical Engg.
O.Plan No.: 1.2.19
Dates and Venue: 7-11 May NITTTR, Chandigarh

Objectives:
PLCs are used in the industry to control machines, transfer lines and material handling equipments. They have replaced the relays, coils and similar components which were used to control machines and processes in industry. Thus the knowledge of PLC and their applications is vital for technical teachers.

Course Contents:
- Introduction to PLCs
- Basic Structure of PLC
- Timer, counter and relay functions
- Selection of PLC
- Applications in Mechanical Engineering.

Course Coordinator, email address and phone number:
Dr. S. S. Dhami
+91-172-2759659, ssdhami@nitttrchd.ac.in

Name of Course: Refresher Course in Mechanical Engineering
O.Plan No.: 1.2.33
Dates and Venue: 21 May-1 June, 2012, NITTTR, Chandigarh

Objectives:
Refresher course in mechanical engineering is designed for newly recruited as well as experienced teachers in polytechnic colleges. The course will cover the fundamentals of mechanical engineering and latest trends in the industry, thus enabling the teachers to impart quality education to the polytechnic students.

Course Contents:
- Engineering design and drawing
- Thermodynamics and heat transfer
- Engineering materials and their testing
- Production technology
- Advanced manufacturing methods
- CAD/CAM
- Mechatronics

Course Coordinator, email address and phone number:
Dr. S. S. Banwait
+91-172-2759552, ssb@nitttrchd.ac.in
Dr. S. S. Dhami
+91-172-2759659, ssdhami@nitttrchd.ac.in

Name of Course: Supervisory Development Skills for Workshop
<table>
<thead>
<tr>
<th>Instructors</th>
<th>1.2.50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dates and Venue</td>
<td></td>
</tr>
<tr>
<td>Objectives</td>
<td></td>
</tr>
<tr>
<td>Supervisors form an important link in the shop</td>
<td>16-20</td>
</tr>
<tr>
<td>floor activities of any workshop or industry.</td>
<td>July,</td>
</tr>
<tr>
<td>With the latest developments in cutting tools</td>
<td>2012,</td>
</tr>
<tr>
<td>and machine tools, the role of supervisor</td>
<td>NITTTR,</td>
</tr>
<tr>
<td>has undergone a drastic change. The programme</td>
<td>Chandigarh</td>
</tr>
<tr>
<td>has been planned to update the workshop staff</td>
<td></td>
</tr>
<tr>
<td>in technical skills and quality control.</td>
<td></td>
</tr>
</tbody>
</table>

| Course Contents                                 |        |
| Importance of supervisory development           |        |
| Role of supervisors in work shop / shop floor   |        |
| Waste reduction in industries                   |        |
| Safety norms & requirements                     |        |

| Course Coordinator, email address and phone     |        |
| Name of Course                                  |        |
| Teaching Practices in Engineering Drawing       |        |
| Dates and Venue                                 |        |
| Objectives                                      |        |
| Engineering drawing is the link between design  | 23-27  |
| and manufacturing. Ability to create and interpret engineering drawing is the key to quality manufacturing. The objective of the programme is to impart the basics of engineering drawing and techniques for effective teaching of the subject to engineering college teachers. |
| Course Contents                                 |        |
| Teaching of Engineering Drawing                 |        |
| Orthographic Projections                        |        |
| Sectioned Views                                 |        |
| Assembly Drawings                               |        |
| Isometric Projections                           |        |

| Course Coordinator, email address and phone     |        |
| Name of Course                                  |        |
| Metrology Laboratory Practices                  |        |
| Dates and Venue                                 |        |
| Objectives                                      |        |
| Metrology Laboratory Practices forms an important part of curriculum of mechanical engineering, automobile engineering and production engineering. To keep the faculty and technical staff of polytechnics updated regarding latest metrology techniques, the course of |
| Course Contents                                 |        |
| Basic principles of Metrology                   |        |
| Measuring devices and instruments               |        |
| Procedures of conducting                       |        |
### Course Coordinator, email address and phone number
Er. Sunil D. Jassal, +91-172-2759655, jassalsd@nitttrchd.ac.in

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Repair &amp; Maintenance of Machine Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>O. Plan No.</td>
<td>1.2.79</td>
</tr>
<tr>
<td>Dates and Venue</td>
<td>27-31 Aug., 2012, NITTTR, Chandigarh</td>
</tr>
</tbody>
</table>

**Objectives**

Though the modern operations / processes have been automated, maintenance still, to greater degree, depends on human input. Automated and technologically advanced equipments demand higher skills and competencies of maintenance worker or supervisor. It is, therefore, necessary for the technical teachers to know the latest maintenance strategies of machine tools.

**Course Contents**

- Maintenance strategies
- Total productive Maintenance
- Sensors and controls in machine tools
- Need for lubrications and their types

### Course Coordinator, email address and phone number
Dr. B. S. Pabla, +91-172-2759525, bsp@nitttrchd.ac.in

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>CNC Machines: Operation and Programming</th>
</tr>
</thead>
<tbody>
<tr>
<td>O. Plan No.</td>
<td>1.2.92</td>
</tr>
<tr>
<td>Dates and Venue</td>
<td>10-14 Sept., 2012, NITTTR, Chandigarh</td>
</tr>
</tbody>
</table>

**Objectives**

CNC Machines is taught under “CAD/CAM” subject in the Polytechnics. Polytechnics teachers need exposure to theoretical and practical aspects of CNC Machines. STC on CNC Machines has been designed to train the teachers in teaching of the subject so that they can train their students for industrial job.

**Course Contents**

- Introduction & Applications of CNC Machines
- Manual part programming for CNC Machines
- Computer aided part programming
- Tooling and maintenance for CNC Machines

### Course Coordinator, email address and phone number
Dr. B. S. Pabla, +91-172-2759525, bsp@nitttrchd.ac.in

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Welding Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>O. Plan No.</td>
<td>1.2.107</td>
</tr>
<tr>
<td>Dates and Venue</td>
<td>24-28 Sept., 2012</td>
</tr>
</tbody>
</table>

**Objectives**

Welding is one of the widely used process in
manufacturing and process industries. There has been continuous advancement in the welding processes for improved joining and performance of the welded joints. The cause has been designed is make teachers aware about the advances in welding processes.

Course Contents

- Electrode classification
- Specifications and selection of process parameters
- BIS codes on welding
- Modern welding practices like plasma arc welding, TIG/MIG, Ultrasonic welding, Explosive Welding etc.,

Course Coordinator, email address and phone number

Dr. B. S. Pabla  
+91-172-2759525  
bsp@nitttrchd.ac.in

Er. Sunil D. Jassal  
+91-172-2759655,  
jassalsd@nitttrchd.ac.in

Name of Course  
Material Testing and NDT

O. Plan No.  
1.2.116

Dates and Venue  
8-12 Oct., 2012, NITTTR, Chandigarh

Objectives

Non-destructive testing techniques are important part of engineering applications in industry whereby the material properties are checked without harming the materials. These material properties are to be checked with latest instruments and devices like ultrasonic testing, X-ray testing, spectro-photometer, micro hardness tester, Universal Hardness Tester, etc. It is, therefore, necessary for the engineering college teachers to know the recent advances in the non-destructive testing techniques and the latest practices being followed in the engineering industries.

Course Contents

- Engineering Materials and their properties
- Testing of mechanical properties
- Non-destructive testing techniques.

Course Coordinator, email address and phone number

Dr. S. S. Banwait, +91-172-2759552,  
ssb@nitttrchd.ac.in

Name of Course  
Computer Aided Design and Drafting

O. Plan No.  
1.2.124

Dates and Venue  
15-19 Oct., 2012

Objectives

Computer Aided Manufacturing plays a very important
role in industrial manufacturing and development of engineering products. Realistic machining through CAM not only helps in increasing the productivity but also makes the model more understandable even to layman. It is, therefore, necessary for the technical teachers to know the latest developments in CAD/CAM and CNC. The participants will be made aware of the latest technologies in CAM and CNC technology.

Course Contents

- Introduction to CAM and its application in industry
- Basic and advanced features in CAM software
- Modeling and Manufacturing of different components using CAD/CAM software

Course Coordinator, email address and phone number

Dr. S. S. Banwait, +91-172-2759552, ssb@nitttrchd.ac.in

Name of Course
Robotics and Industrial Automation
O. Plan No. 1.2.130
Dates and Venue
5-9 Nov., 2012, NITTTR, Chandigarh

Objectives
Industrial automation and robotics is widely employed in the industry for productivity enhancement, to meet stringent quality requirements and frequent design changes requirements. It is, therefore, necessary to introduce the concept and applications of industrial automation and robotics to Polytechnic College Teachers.

Course Contents

- Components and level of Automation
- Automation Hardware and Software
- Robot Configuration
- Robot Programming
- Applications of Robotics and Automation

Course Coordinator, email address and phone number

Dr. S. S. Dhami, +91-172-2759659, ssdhami@nitttrchd.ac.in

Name of Course
Modeling & Simulation Using MATLAB
O. Plan No. 1.2.142
Dates and Venue
14-18 Jan., 2013, NITTTR, Chandigarh

Objectives
MATLAB is one of the most widely used tool for a variety of tasks like modeling of mechanical systems, vibration analysis and control system design. The course is being organized to introduce the concept and applications of MATLAB to the Polytechnic college teachers.

Course Contents

- Introduction of MATLAB & its tool boxes
- Simulink basics
- Blocks and signals
- Modeling with simulink
### Auto CAD 3D

**Name of Course**
Auto CAD 3D

**O. Plan No.**
1.2.157

**Dates and Venue**
11-15 Feb., 2013, NITTTR, Chandigarh

**Objectives**
AutoCAD is needed in industry to increase the productivity of the designer and draftsman so that drawing and designing work is accomplished in less time and the drawings are more realistic. It is therefore necessary for the technical teachers to know the advanced features of AutoCAD very frequently used in industries.

**Course Contents**
- Introduction to AutoCAD
- 2 D drawing and editing tools
- Advanced features of AutoCAD software,
- Introduction to 3D drafting

**Course Coordinator, email address and phone number**
Dr. S. S. Dhami, +91-172-2759659, ssdhami@nitttrchd.ac.in

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### CAD using CATIA

**Name of Course**
CAD using CATIA

**O. Plan No.**
1.2.161

**Dates and Venue**
18-22 Feb., 2013, NITTTR, Chandigarh

**Objectives**
CATIA software is most widely used tool for the mechanical design and drafting in the industry. It is therefore required that the technical teachers to be made familiar with the features and applications of CATIA software.

**Course Contents**
- Basic modeling
- 3-D modeling
- Assembly
- Analysis
- Manufacturing

**Course Coordinator, email address and phone number**
Er. Sunil D. Jassal, +91-172-2759655, jassalsd@nitttrchd.ac.in

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### Mechatronics

**Name of Course**
Mechatronics

**O. Plan No.**
1.2.167

**Dates and Venue**
4-8 March., 2013

**Objectives**
Today’s need of increased productivity and high quality
of products is turning the industry more and more towards computer based automation. The infusion of electronics and software into the manufacturing field has generated worldwide interest in the field of Mechatronics. It is, therefore, necessary for the technical teachers to know the fundamentals and applications of Mechatronics.

Course Contents

- Introduction – Mechatronics basis, Components of Mechatronics system.
- Actuation system – Pneumatics, Hydraulic, Mechanical and Electrical.
- Controllers – closed loop controllers, Micro controllers, PLCs
- Application – Mechatronics applications through training kits and simulation

Course Coordinator, email address and phone number

Dr. S. S. Dhami, +91-172-2759659,
ssdhami@nitttrchd.ac.in

Name of Course

Recent Developments in Refrigeration & Air Conditioning

O. Plan No.
1.2.170

Dates and Venue
11-15 March, 2013, NITTTR, Chandigarh

Objectives
Refrigeration and Air Conditioning are the part of Curriculum of Mechanical Engineering. The course has been planned to give exposure to the participants in the newer developments in the field.

Course Contents

- Basics of Refrigeration and Air Conditioning
- Refrigerants and their properties
- Safe handling of Refrigerants
- Eco friendly refrigerants
- Refrigerants and Air Conditioning

Course Coordinator, email address and phone number

Er. Sunil D. Jassal, +91-172-2759655,
jassalsd@nitttrchd.ac.in
### Short Term Courses for Engineering Colleges during the year 2012-2013

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>CAD/CAM</th>
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</thead>
<tbody>
<tr>
<td>O. Plan No.</td>
<td>3</td>
</tr>
<tr>
<td>Dates and Venue</td>
<td>16-20 April, 2012, NITTTR, Chandigarh</td>
</tr>
<tr>
<td>Objectives</td>
<td>CAD/CAM plays a very important role in design and manufacturing of engineering products. Realistic modeling and manufacturing in CAD/CAM not only helps in increasing the productivity but also improves the quality of products manufactured by the organization. It is therefore necessary for the technical teachers to know the recent hardware and software technologies involved in Computer Aided Design and Manufacturing.</td>
</tr>
<tr>
<td>Course Contents</td>
<td>• Hardware and software in CAD/CAM</td>
</tr>
<tr>
<td></td>
<td>• Basic features of modeling in CAD</td>
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<td></td>
<td>• Application of software in CAM</td>
</tr>
<tr>
<td></td>
<td>• Practice Sessions</td>
</tr>
<tr>
<td>Course Coordinator, email address</td>
<td>Dr. S. S. Banwait, +91-172-2759552, <a href="mailto:ssb@nitttrchd.ac.in">ssb@nitttrchd.ac.in</a></td>
</tr>
<tr>
<td>and phone number</td>
<td>Dr. S. S. Dhami, +91-172-2759659, <a href="mailto:ssdhami@nitttrchd.ac.in">ssdhami@nitttrchd.ac.in</a></td>
</tr>
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<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Supervisory Development Skills for Workshop Instructors</th>
</tr>
</thead>
<tbody>
<tr>
<td>O. Plan No.</td>
<td>27</td>
</tr>
<tr>
<td>Dates and Venue</td>
<td>16-20 July, 2012, NITTTR, Chandigarh</td>
</tr>
<tr>
<td>Objectives</td>
<td>Supervisors form an important link in the shop floor activities of any workshop or industry. With the latest developments in cutting tools and machine tools, the role of supervisor has undergone a drastic change. The programme has been planned to update the workshop staff in technical skills and quality control.</td>
</tr>
<tr>
<td>Course Contents</td>
<td>• Importance of supervisory development</td>
</tr>
<tr>
<td></td>
<td>• Role of supervisors in work shop / shop floor</td>
</tr>
<tr>
<td></td>
<td>• Waste reduction in industries</td>
</tr>
<tr>
<td></td>
<td>• Quality circles</td>
</tr>
<tr>
<td>Course Coordinator, email</td>
<td>Dr. S. S. Banwait+91-172-2759552, <a href="mailto:ssb@nitttrchd.ac.in">ssb@nitttrchd.ac.in</a></td>
</tr>
<tr>
<td>address and phone number</td>
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<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Teaching Practices in Engineering Drawing</th>
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<table>
<thead>
<tr>
<th>O. Plan No.</th>
<th>31</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dates and Venue</td>
<td>23-27 July, 2012, NITTTR, Chandigarh</td>
</tr>
<tr>
<td>Objectives</td>
<td>Engineering drawing is the link between design and manufacturing. Ability to create and interpret engineering drawing is the key to quality manufacturing. The objective of the programme is to impart the basics of engineering drawing and techniques for effective teaching of the subject to engineering college teachers.</td>
</tr>
</tbody>
</table>
| Course Contents | • Teaching of Engineering Drawing  
• Orthographic Projections  
• Sectioned Views  
• Assembly Drawings  
• Isometric Projections |
| Course Coordinator, email address and phone number | Er. Sunil D. Jassal, +91-172-2759655, jassalsd@nitttrchd.ac.in |

<table>
<thead>
<tr>
<th>O. Plan No.</th>
<th>43</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dates and Venue</td>
<td>27-31 Aug., 2012, NITTTR, Chandigarh</td>
</tr>
<tr>
<td>Objectives</td>
<td>Though the modern operations / processes have been automated, maintenance still, to greater degree, depends on human input. Automated and technologically advanced equipments demand higher skills and competencies of maintenance worker or supervisor. It is, therefore, necessary for the technical teachers to know the latest maintenance strategies of machine tools.</td>
</tr>
</tbody>
</table>
| Course Contents | • Maintenance strategies  
• Total productive Maintenance  
• Sensors and controls in machine tools  
• Need for lubrications and their types |
| Course Coordinator, email address and phone number | Dr. B. S. Pabla, +91-172-2759525, bsp@nitttrchd.ac.in |

<table>
<thead>
<tr>
<th>O. Plan No.</th>
<th>74</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of Course</td>
<td>Repair &amp; Maintenance of Machine Tools</td>
</tr>
<tr>
<td>O. Plan No.</td>
<td>43</td>
</tr>
<tr>
<td>Dates and Venue</td>
<td>27-31 Aug., 2012, NITTTR, Chandigarh</td>
</tr>
<tr>
<td>Objectives</td>
<td>Though the modern operations / processes have been automated, maintenance still, to greater degree, depends on human input. Automated and technologically advanced equipments demand higher skills and competencies of maintenance worker or supervisor. It is, therefore, necessary for the technical teachers to know the latest maintenance strategies of machine tools.</td>
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</tbody>
</table>
| Course Contents | • Maintenance strategies  
• Total productive Maintenance  
• Sensors and controls in machine tools  
• Need for lubrications and their types |
| Course Coordinator, email address and phone number | Dr. B. S. Pabla, +91-172-2759525, bsp@nitttrchd.ac.in |

<p>| Name of Course | Modeling &amp; Simulation Using MATLAB |
| O. Plan No. | 74 |</p>
<table>
<thead>
<tr>
<th>Dates and Venue</th>
<th>14-18 Jan., 2013, NITTTR, Chandigarh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objectives</td>
<td>MATLAB is one of the most widely used tool for a variety of tasks like modeling of mechanical systems, vibration analysis and control system design. The course is being organized to introduce the concept and applications of MATLAB to the Polytechnic college teachers.</td>
</tr>
</tbody>
</table>
| Course Contents| • Introduction of MATLAB & its tool boxes  
   • Simulink basics  
   • Blocks and signals  
   • Modeling with simulink  
   • Analyzing simulation results |
| Course Coordinator, email address and phone number | Dr. S. S. Dhami  
+91-172-2759659, ssdhami@nitttrchd.ac.in |
| Name of Course | Auto CAD 3D |
| O. Plan No.    | 89 |
| Dates and Venue | 11-15 Feb., 2013, NITTTR, Chandigarh |
| Objectives     | AutoCAD is needed in industry to increase the productivity of the designer and draftsman so that drawing and designing work is accomplished in less time and the drawings are more realistic. It is therefore necessary for the technical teachers to know the advanced features of AutoCAD very frequently used in industries. |
| Course Contents| • Introduction to AutoCAD  
   • 2 D drawing and editing tools  
   • Advanced features of AutoCAD software,  
   Introduction to 3D drafting |
| Course Coordinator, email address and phone number | Er. Sunil D. Jassal, +91-172-2759655, jassalsd@nitttrchd.ac.in |
| Name of Course | CAD using CATIA |
| O. Plan No.    | 95 |
| Dates and Venue | 18-22 Feb., 2013, NITTTR, Chandigarh |
| Objectives     | CATIA software is most widely used tool for the mechanical design and drafting in the industry. It is therefore required that the technical teachers to be made familiar with the features and applications of CATIA software. |
| Course Contents| • Basic modeling  
   • 3-D modeling  
   • Assembly  
   • Analysis |
### Mechatronics

**Course Coordinator, email address and phone number**

Dr. B. S. Pabla, +91-172-2759525, bsp@nitttrchd.ac.in

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Mechatronics</th>
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</thead>
<tbody>
<tr>
<td>O. Plan No.</td>
<td>97</td>
</tr>
<tr>
<td>Dates and Venue</td>
<td>4-8 March., 2013, NITTTR, Chandigarh</td>
</tr>
<tr>
<td><strong>Objectives</strong></td>
<td>Today’s need of increased productivity and high quality of products is turning the industry more and more towards computer based automation. The infusion of electronics and software into the manufacturing field has generated worldwide interest in the field of Mechatronics. It is, therefore, necessary for the technical teachers to know the fundamentals and applications of Mechatronics.</td>
</tr>
</tbody>
</table>
| **Course Contents**  | • Introduction – Mechatronics basis, Components of Mechatronics system.  
  • Actuation system – Pneumatics, Hydraulic, Mechanical and Electrical.  
  • Controllers – closed loop controllers, Micro controllers, PLCs  
  • Application – Mechatronics applications through training kits and simulation |

**Course Coordinator, email address and phone number**

Dr. S. S. Dhami +91-172-2759659, ssdhami@nitttrchd.ac.in

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Recent Developments in Refrigeration &amp; Air Conditioning</th>
</tr>
</thead>
<tbody>
<tr>
<td>O. Plan No.</td>
<td>99</td>
</tr>
<tr>
<td>Dates and Venue</td>
<td>11-15 March, 2013, NITTTR, Chandigarh</td>
</tr>
<tr>
<td><strong>Objectives</strong></td>
<td>Refrigeration and Air Conditioning are the part of Curriculum of Mechanical Engineering. The course has been planned to give exposure to the participants in the newer developments in the field.</td>
</tr>
</tbody>
</table>
| **Course Contents**                          | • Basics of Refrigeration and Air Conditioning  
  • Refrigerants and their properties  
  • Safe handling of Refrigerants  
  • Eco friendly refrigerants  
  Refrigerants and Air Conditioning |
| Course Coordinator, email address and phone number | Er. Sunil D. Jassal, +91-172-2759655, jassalsd@nitttrchd.ac.in |
Title of the Short-Term Course: Micro-Enterprise Promotion in Manufacturing and Service Sector

Operational Plan Number: 1.2.10

Dates and Venue: 23-27 April 2012 at NITTTR, Chandigarh

Objectives: The programme is meant for the faculty involved in the implementation of the Scheme of Community Development through Polytechnics (CDTP) who have already received the financial and administrative approval from the MHRD, GOI. The programme aims at imparting inputs pertaining to micro enterprise preparation, establishment and management. The thrust of the programme is on promotion of micro enterprises as an alternative to wage employment.

Course Contents:
- Status of Micro-Enterprises in India
- Micro-Enterprise Opportunities
- NABARD’s Schemes for Non-Farm Sector
- Marketing and Sales Management Tips for Micro-Enterprises
- SIDBI’s role in Promotion of Micro-Enterprises
- Micro credit and Self Help Groups
- Rural Entrepreneurship
- Rural Women Entrepreneurship
- Technology Options for Rural Areas
- Livelihood Promotion and Poverty Alleviation
- Forms of Business Organisations
- Mobilizing financial Resourcing of Micro-Entrepreneur
- Management of Micro-Enterprises

Course Coordinator with e-mail: Dr. JS Saini, jssainittti@rediffmail.com

Phone No. 0172-2759578
1. **Title of the Short-Term Course:** Eco-Water Literacy

2. **Operational Plan Number:** 1.2.11

3. **Dates and Venue:** 25-28 April, 2012 at FG Poly., Rae Bareli

4. **Objectives:** Potable water and sanitation are the critical components of development as health of the people depends largely on them. About 15 lakhs children of 0-5 age group die every year all over the world due to diarrhea.

   The main aim of the training programme would be to give a practical exposure on water and sanitation technologies to CDTP project staff in a village set-up selected nearby DN polytechnic, Meerut in Uttar Pradesh

5. **Course Contents:**
   - Development of new innovative technologies
   - Improving the sanitation facilities in the selected village
   - Construction of soak pit
   - Village survey for the evaluation of drinking water quality and sanitation profile.

6. **Course Coordinator with e-mail:** Dr. UN Roy, unroy2000@yahoo.com
   Phone No. 0172- 2759539
1. **Title of the Short-Term Course:** Integrated Water Resource Management

2. **Operational Plan Number:** 1.2. 20

3. **Dates and Venue:** 07-11 May, 2012 at NITTTR, Chandigarh

4. **Objectives:** Water Resource Management has emerged as an important strategy of sustainable socio and economic development. Water resource is crucial requirement for growth and poverty reduction. Process of development and increase in population have resulted in stress on existing water resources. Water resource management aims at optimizing the surface and ground water sources. Rainwater harvesting and ground water recharge technology are significant technologies pertaining to water resource management. Some of the success stories like Alwar Experiment, Ralegaon Siddhi Experiment and Sukhomajri Experiment have shown the potential of such Water resource management projects. With the above background a STC is organized especially for CDTP functionaries and polytechnic teachers with following objectives:

   - To impart knowledge about the concept of water resource management
   - To make them aware about significance of water resources
   - To demonstrate them the successful water resource management projects
   - To apprise the participants about technologies related to water source optimization and appropriate utilization.

5. **Course Contents:** The sub-themes of the STC would be:

   - Dimensions of sustainable development
   - Integrated Water Resource management
   - Techniques of rainwater harvesting
   - Techniques of groundwater recharge
   - Water Quality

6. **Course Coordinator with e-mail:** Ms. Poonam Syal, syalpoonam@gmail.com, Phone No. 0172- 2759568
1. **Title of the Short-Term Course:** Energy Efficient Buildings for Rural Areas

2. **Operational Plan Number:** 1.2.37

3. **Dates and Venue:** 04-08 June, 2012 at Srinagar

4. **Objectives:** The importance of energy efficient buildings has assumed great urgency today. In light of fast depleting energy resources, energy scarcity and increasing environmental pollution, innovative ways to cut down energy consumption are necessary. The construction industry is one of the largest energy consuming sectors. In modern buildings significant amount of energy is consumed to keep the building environment comfortable. Estimates suggest that about 20 to 25 percent of the total energy demand is due to manufacturing materials required in the building sector, while another 15 percent goes into the running needs of the building like lighting, air-conditioning, room heating and ventilation etc. Increased development of housing and commercial buildings has imposed immense pressure on our dwindling energy sources. The availability of energy is limited and known resources of energy are exhausting fast. Therefore, energy efficiency is assuming importance in different sectors. In view of the global energy crisis energy efficiency and energy management are essentially required.

5. **Course Contents:**

   - Climate responsive building forms
   - Energy saving features
   - Energy efficient lighting
   - Rain water harvesting
   - Energy management in buildings
   - Integration of various mechanical systems.
   - Specific control strategies based upon building types, components, and cost-benefit aspects

6. **Course Coordinator with e-mail:** Amit Goyal, amitgoyalamit@rediffmail.com, Phone No. 0172- 2759656
1. **Title of the Short-Term Course:** Earthquake Risk Management

2. **Operational Plan Number:** 1.2.39

3. **Dates and Venue:** 25-29 June, 2012 at Roorkee

4. **Objectives:** Earthquake is one of the disastrous calamities in the world. As remembrance of recent Japan earthquake which came in March, 2011 and took thousands of lives is still churning our minds. Engineers and scientists are very much worried about what might happen if India will rocked by a powerful earthquake like Japan. Japan has lost so much of lives due to one of the most dangerous effect of the earthquake, Tsunami. Earthquakes don’t kill but it’s after effects do so. However, India’s high earthquake risk and vulnerability is evident from the fact that about 59 percent of India’s land area could face moderate to severe earthquakes. In the past thousands of lives were lost due to six major earthquakes in India, which also caused enormous damage to property and public infrastructure. The occurrence of several devastating earthquakes in areas indicates that the structural environment in the country is extremely fragile and our ability to respond effectively during and after the earthquakes is inadequate. As such, there is a great need to equip ourselves with the knowledge of earthquake and earthquake resistant designs.

5. **Course Contents:**
   - Basic knowledge of earthquake
   - Architectural planning for urban and rural areas
   - Effects of earthquake
   - Ground improvement techniques
   - Liquefaction of soil during earthquake
   - Mode of failure of buildings
   - Remedial measures
   - Investigation of RCC buildings
   - Special design consideration.

6. **Course Coordinator with e-mail:** Amit Goyal, amitgoyalamit@rediffmail.com, Phone No. 0172- 2759656
1. **Title of the Short-Term Course:** Renewable Energy Based Technologies

2. **Operational Plan Number:** 1.2.51

3. **Dates and Venue:** 16-20 July, 2012 at NITTTR, Chandigarh

4. **Objectives:** More than 70% of India’s primary energy needs are being met through imports, in the form of crude oil and natural gas. The growing consumption of energy has resulted in the country becoming increasingly dependent on fossil fuels. Increased use of fossil fuel causes environmental pollution. World Energy Forum has predicted that fossil based oil, coal and gas resources will last for less than ten decades. Therefore, there is a need to utilize sustainable and renewable energy sources like solar, hydro, biomass, wind etc. The main objective of this short-term course is to enhance awareness and knowledge regarding various renewable energy sources and related technologies for their effective utilization.

5. **Course Contents:**
   - Present status of energy consumption and demand and significance of renewable energy sources.
   - Various technology options available with respect to renewable energy sources like solar, bio-mass, small hydro, wind etc.
   - Design and working principles of different renewable energy technologies like solar thermal, solar photovoltaic, solar passive architecture, biomass gasifier, biogas, small hydro etc.
   - Energy audit and energy conservation.
   - Various organization working for promotion of renewable energy sources.

6. **Course Coordinator with e-mail:** Ms. Poonam Syal, syalpoonam@gmail.com
   Phone No. 0172- 2759568
1. **Title of the Short-Term Course:** Eco-Water Literacy

2. **Operational Plan Number:** 1.2.61

3. **Dates and Venue:** 24-27 July, 2012 at D N Polytechnic, Meerut

4. **Objectives:** Potable water and sanitation are the critical components of development as health of the people depends largely on them. About 15 lakhs children of 0-5 age group die every year all over the world due to diarrhea.

   The main aim of the training programme would be to give a practical exposure on water and sanitation technologies to CDTP project staff in a village set-up selected nearby DN polytechnic, Meerut in Uttar Pradesh.

5. **Course Contents:**
   - Development of new innovative technologies
   - Improving the sanitation facilities in the selected village
   - Construction of soak pit
   - Village survey for the evaluation of drinking water quality and sanitation profile.

6. **Course Coordinator with e-mail:** Dr. UN Roy, unroy2000@yahoo.com
   Phone No. 0172- 2759539
1. **Title of the Short-Term Course:** Waste Water Treatments and Pond Renovation Techniques

2. **Operational Plan Number:** 1.2.80

3. **Dates and Venue:** 27-31 August, 2012 at NITTTR, Chandigarh

4. **Objectives:**
   1. The ponds use to be traditional Rain water harvesting and ground water recharge structures.
   2. It uses to help the farmers in the day to day water uses.
   3. There was a time that the ponds used to be maintained by the villagers by its proper desiltation and time to time cleaning.
   4. Over the years the ponds, particularly in the Northern India have been neglected and now they have become dirty and polluted. So there is an urgent need to develop certain technologies for the cleaning of the pond by treating waste water.
   5. Keeping this thing in mind the present Short Term Course aims to discuss various appropriate techniques and measures for the renovation of the pond.

5. **Course Contents:**
   a. To study the various problems of waste water and polluted ponds.
   b. To provide various techniques and measures developed by modern R & D Institutions.
   c. To train the teachers through practical exposure and field visits

6. **Course Coordinator with e-mail:** Dr. UN Roy, unroy2000@yahoo.com
   Phone No. 0172-2759539
1. **Title of the Short-Term Course:** Integrated Village Development – A Practical Approach.

2. **Operational Plan Number:** 1.2. 108

3. **Dates and Venue:** 24-28 September, 2012 at NITTTR, Chandigarh

4. **Objectives:** Integrated Village Development has been the main objective of many rural development agencies working in the country may it be NGO or government agency. Integrated rural development includes various techniques of planning and research, innovation in technologies and enterprise development for the upliftment of rural poor. The major aim of development is to distribute the benefits of the development among different sections of society especially the rural poor. With the above background a training programme is organized for the functionaries of CDTP Scheme and polytechnic teachers with following objectives:

   - To train the participants about the concept of integrated village development
   - To make them aware about strategies for village development
   - To make them understand the rural realities and plan accordingly for their development through skills promotion and technological development.
   - To apprise the participants about various schemes for village development

5. **Course Contents:** The sub-themes of the STC would be:

   - Integrated Rural Development
   - Strategies for village development
   - Needs Identification through Socio-economic survey
   - PRA techniques of Micro planning
   - Transfer of skills
   - Transfer of technologies
   - Scheme and organizations working for village development

6. **Course Coordinator with e-mail:** Ms. Poonam Syal, syalpoonam@gmail.com, Phone No. 0172- 2759568
1. **Title of the Short-Term Course:** Advances in Brick Technologies

2. **Operational Plan Number:** 1.2.137

3. **Dates and Venue:** 19-23 November, 2012 at NITTTR, Chandigarh

4. **Objectives:** The Indian construction sector is an important part of the Indian economy with a contribution of 10% of GDP and registering an annual growth of 9%. The brick sector in India is the largest producer of bricks in the world after china, estimated to produce 140 billion bricks annually and consuming 24 million tons of coal as well as biomass. The estimated CO\(_2\) emission from the brick sector is 4.16 million tons. Bricks production in India takes place in small units using manual labour and traditional firing technologies, but with the increasing demand of market and environmental concern, manufacturing operations of bricks are far more sophisticated. Brick manufacturing now tends to focus more on principles of sustainability and development of more efficient processes. Now a day there are different type of energy efficient bricks and blocks which are coming in the market but architects, manufactures and builders are having many questions in their minds regarding new upcoming blocks. Some of the key questions are what type of practice will have the smallest possible carbon footprints and are least disruptive to the environment, what materials should be used to make bricks, what kind of additives are most effective and what type of fuel should be used to fire brick kiln etc. Also there are few misconceptions in the mind of engineers regarding new innovative brick technologies, so there is a great need to acquaint our engineers regarding the new brick technologies and there effective use.

5. **Course Contents:**

   - Basic knowledge of bricks
   - Knowledge of new innovative brick technologies
   - Tests involved in brick manufacturing
   - Knowledge of different type of blocks
   - Manufacturing process of energy efficient bricks
   - Environmental concerns if brick manufacturing
   - Knowledge of equipments used in brick manufacturing
   - Bylaws involved in brick manufacturing

6. **Course Coordinator with e-mail:** Amit Goyal, amitgoyalamit@rediffmail.com, Phone No. 0172-2759656
1. **Title of the Short-Term Course:** Technologies for Rural India

2. **Operational Plan Number:** 1.2.138

3. **Dates and Venue:** 19-23 November, 2012 at NITTTR, Chandigarh

4. **Objectives:** For multidimensional economic and social development as well as for poverty alleviation in rural India, there is need to disseminate suitable technologies pertaining to requirements of rural people with respect to agriculture, food, housing, sanitation, water and communication. The main objective of the training programme is to impart knowledge and skill to the participants to disseminate the technologies for improving the quality of rural life, reducing drudgery, increasing productivity and enhancing rural employment opportunities.

5. **Course Contents:**

   - Concept of appropriate technologies for rural development
   - Agriculture and allied technologies – Apiculture, Floriculture, Horticulture, Herbal and Medicinal Plantation, Vermi-culture, Wasteland development and Agro-forestry
   - Water Conservation Technologies, Rain Water Harvesting
   - Renewable Energy Based Technologies
   - Various technology options for rural India
   - Role of different agencies and organizations for technology propagation and dissemination in rural India

6. **Course Coordinator with e-mail:** Dr. UN Roy, unroy2000@yahoo.com
   Phone No. 0172- 2759539
1. **Title of the Short-Term Course:** A Practical Approach to Affordable Housing

2. **Operational Plan Number:** 1.2.139

3. **Dates and Venue:** 03-07 December, 2012 at NITTTR, Chandigarh

4. **Objectives:** India is having a large geographical area which includes deserts, mountains, coastal zone, oceans, rivers etc. and is exposed to highly vulnerable climate and extremes. Multiplier effects of impacts of climate change have been observed on the life and livelihoods of poor people especially in rural areas that further deteriorate the shelter options and making them more vulnerable to disaster. This warrants immediate actions on diverse aspects that help strengthen the shelter of poor people to make it more resilient and reduce the risks of disasters arising out of impacts of climate change. Majority of Indian population lives in rural areas and these areas are highly prone to disasters like cyclones, storms, erosion, flood, drought, frequent inundations by high tide are other common hazards causing severe loss of live, livelihoods and property which have adverse impacts over environment and infrastructures. The housing facilities in rural areas are highly vulnerable to natural disasters because of their limited resources (physical, financial, social and political assets) and fragile infrastructures which cause a larger, more prolonged and irreversible impact. So, there is a great need to develop simple, low cost and affordable disaster resistant housing with locally available resources and create small enterprise on housing/ shelter enterprise which ultimately will reduce vulnerability and strengthen their ability to use technology to cope with natural disasters, environmental degradation, income generation and social conflict.

**Course Contents**

5. **Course Contents:**
   - Basic knowledge of disasters
   - Planning and preparedness
   - Innovative and new technologies for different climatic conditions
   - Low cost and effective building materials
   - Energy efficient housing
   - Earthquake resistant housing
   - Flood protection techniques
   - Designing the housing/ Shelter/ Seed Bank/ Children’s reading room/ Community meeting place/ Livestock Shelter etc.

6. **Course Coordinator with e-mail:** Amit Goyal, amitgoyalamit@rediffmail.com, Phone No. 0172- 2759656
1. **Title of the Short-Term Course:** Skill Development and Employment Enhancement in Rural India

2. **Operational Plan Number:** 1.2.163

3. **Dates and Venue:** February, 2013 at NITTTR, Chandigarh

4. **Objectives:** The programme aims at imparting inputs pertaining to need and scope of skill development, strategies for planning and implementing manpower development and training programmes for employment and income generation in rural India. The focus of this training programme is to enhance knowledge regarding various avenues for skill development and technology options for income generation, different schemes for employment generation in rural areas, various organizations and their role for promoting income generation opportunities in rural India.

5. **Course Contents:**
   - An overview of need and scope of employment and income generation in rural India.
   - Strategies for planning and implementing skill development and training programmes.
   - Various schemes for enhancing self-employment in rural areas
   - Technology options for income generation
   - Avenues for micro-enterprises in rural areas
   - Role of different organizations for promoting employment and income generation opportunities in rural India

6. **Course Coordinator with e-mail:** Ms. Poonam Syal, syalpoonam@gmail.com, Phone No. 0172- 2759568
COURSES FOR ENGINEERING COLLEGES

1. **Title of the Short-Term Course:** Climate Change, Disaster and Sustainable Development.

2. **Operational Plan Number:** 23 (Engineering College)

3. **Dates and Venue:** 09-13 July 2012, Srinagar, Garhwal

4. **Objectives:** Climate change due to global warming is the most important and the hottest issue all over the globe. Climate change has adversely affected the people by increase in level of sea rise, droughts, cyclones, unprecedented rainfall and floods in recent past and its vigour is likely to increase in future with rise in temperature. The natural hazards or disasters have been found occurring quite frequently than past affecting and victimizing a large number of people every year. Due to various environmental problems emerging at global level the concept of ‘sustainable development’ has been evolved by the planners, scientists and development professionals. The concept of Sustainable Development was introduced in 1987 by Brudtland’s Commission Report on World Development. The concept of Sustainable Development indicates towards ‘a development process which (a) is just to the Nature (mother earth); (b) fulfills the demands of present generation and (c) conserves for the future generation’. Thus, apart from the economic growth, the ecological conservation has also been given high importance. With the above background a STC is organized especially for engineering college teachers with following objectives:

   - To map out reasons of climate change and its possible impact
   - To map out the important climate induced disasters and their remedies
   - To make the teachers aware about various environmental issues and concept of sustainable development
   - To provide them knowledge about technological measures of environmental protection and sustainable development.

5. **Course Contents:** The major themes of the STC would be:

   - Issues of Climate Change and Sustainable Development
   - Issues of Global Warming and Depletion of Himalayan Glaciers
   - Water and Sanitation
   - Watershed Management/rainwater harvesting
   - Disaster Management (Earthquake, flood, droughts)
   - Renewable Energy System (Solar, Biomass and Micro hydel energy)
   - Sustainable Agriculture (Organic Farming)
   - Green Technologies and Green Enterprises.

6. **Course Coordinator with e-mail:** Dr. UN Roy, unrroy2000@yahoo.com
   Phone No. 0172-2759539
1. **Title of the Short-Term Course:** Renewable Energy Based Technologies.

2. **Operational Plan Number:** 25 (Engineering College)

3. **Dates and Venue:** 16-20 July, 2012 at NITTTR, Chandigarh

4. **Objectives:** More than 70% of India’s primary energy needs are being met through imports, in the form of crude oil and natural gas. The growing consumption of energy has resulted in the country becoming increasingly dependent on fossil fuels. Increased use of fossil fuel causes environmental pollution. World Energy Forum has predicted that fossil based oil, coal and gas resources will last for less than ten decades. Therefore, there is a need to utilize sustainable and renewable energy sources like solar, hydro, biomass, wind etc. The main objective of this short-term course is to enhance awareness and knowledge regarding various renewable energy sources and related technologies for their effective utilization.

5. **Course Contents:**
   - Present status of energy consumption and demand and significance of renewable energy sources.
   - Various technology options available with respect to renewable energy sources like solar, bio-mass, small hydro, wind etc.
   - Design and working principles of different renewable energy technologies like solar thermal, solar photovoltaic, solar passive architecture, biomass gasifier, biogas, small hydro etc.
   - Energy audit and energy conservation.
   - Various organization working for promotion of renewable energy sources.

6. **Course Coordinator with e-mail:** Ms. Poonam Syal, syalpoonam@gmail.com, Phone No. 0172-2759568
1. **Title of the Short-Term Course:** Disaster Management and Sustainable Development

2. **Operational Plan Number:** 37 (Engineering College)

3. **Dates and Venue:** 21 August, to 05 September, 20102 at Udaipur, Rajasthan

4. **Objectives:** Various disasters like earthquake, landslides, volcanic eruptions, fires, flood and cyclones are natural hazards that kill thousands of people and destroy billions of dollars of habitat and property each year. The rapid growth of the world's population and its increased concentration often in hazardous environment has escalated both the frequency and severity of natural disasters. With the tropical climate and unstable land forms, coupled with deforestation, unplanned growth proliferation non-engineered constructions which make the disaster-prone areas mere vulnerable, tardy communication, poor or no budgetary allocation for disaster prevention, developing countries suffer more or less chronically by natural disasters. At present, engineers and builders are giving much emphasis on making the buildings but a few efforts have been made to them disaster safe. The only solution to minimize the risk from natural disaster is awareness. So there is a great need to acquaint the faculty of engineering college with the knowledge of natural and manmade disasters and their effects.

5. **Course Contents:**
   - Basic knowledge of disasters
   - Planning and preparedness
   - Effects of different disasters
   - Rapid construction practices in disaster prone areas
   - Mode of failure of buildings
   - Remedial measures
   - Investigation of buildings after disasters
   - Special design consideration

6. **Course Coordinator with e-mail:** Amit Goyal, amitgoyalamit@rediffmail.com, Phone No. 0172- 2759656
1. **Title of the Short-Term Course:** Barrier Free Environment, Education, Training and Career Opportunities of PWDs

2. **Operational Plan Number:** 1.2.56

3. **Dates and Venue:** 23-27 July 2012 at NITTTR, Chandigarh

4. **Objectives:** Barrier free environment, education and training of the differently abled persons are on the priority of the Government of India and various State/UT governments. A number of initiatives have been taken by the Central and State governments to ensure barrier free environment and education to the differently abled persons. During the past three decades, a good infrastructure has been created for the education and vocational training of the differently abled persons. Disability specific institutions have been set up in the country. Two dedicated polytechnics for the disabled and a Scheme for integrating Persons with Disabilities in the Mainstream of Technical and Vocational Education have also been launched. Unfortunately, many functionaries working in disability sector are not fully aware of the facilities available for rehabilitation, education and training of the differently abled persons. This programme is being organized so as to orient the project coordinators of the PWD Project to the provisions of barrier free environment, education and vocational training of the differently abled persons.

The programme also aims at apprises the programme participants about various career opportunities available for the PWDs.

5. **Course Contents:**

   - Concept of Barrier free environment for the PWDs
   - Extent and degree of disability in India.
   - Concept of Barrier free environment for the PWDs
   - Problems associated with the differently abled persons.
   - Need for imparting technical and vocational education to the disabled.
   - Facilities for education and vocational training of the differently abled persons.
   - Avenues for self/wage-employment of the differently abled persons.
   - Exclusive and inclusive models of education and training for the disabled
   - Need for inclusive educational and work environment
   - Gearing the education system for an inclusive education
   - Wage employment and self-employment for the disabled
   - Corporate social responsibility and the disability sector
   - Special campaigns/ Job fairs for the PWDs

6. **Course Coordinator with e-mail:** Dr. JS Saini, jssainittti@rediffmail.com
   Phone No. 0172- 2759578
1. **Title of the Short-Term Course:** Empowering the Disabled

2. **Operational Plan Number:** 1.2.131

3. **Dates and Venue:** 10-26 November, 2012 at NITTTR, Chandigarh

4. **Objectives:** The major objectives of the programme included the following:

   i) To apprise the participants of approaches to disability in past, present and future
   ii) To apprise the participants of the need for educating and training the differently abled persons for their empowerment
   iii) To apprise the participants about the past and present trends in education and training of the differently abled persons.
   iv) To highlight the role of ICT in education and training of the disabled
   v) To explain the successful Models of education, training and employment of the disabled
   vi) Corporate India and empowerment of the disabled

5. **Course Contents:**

   - Disability – Past, Present and future
   - Extent of disability in India
   - Empowering the disabled through education and training
   - Empowering the Disabled through employment and self employment
   - Avenues for vocational training of PWDs
   - Inclusive & exclusive education for the disabled
   - Successful models of education and training for different categories of the disabled.
   - Use of ICT in training of the PWDs
   - Study visits to leading institutes working in the disability sector
   - International experiences in education training and employment of the PWDs
   - Corporate initiatives towards empowerment of the differently abled.

6. **Course Coordinator with e-mail:** Dr. JS Saini, jssainitti@rediffmail.com
   Phone No. 0172- 2759578
1. **Title of the Short-Term Course:** Orientation Programme on PWD Act. 2011

2. **Operational Plan Number:** 1.2.162

3. **Dates and Venue:** February, 2013 at NITTTR, Chandigarh

4. **Objectives:** The major objectives of the programme are as under:

   1. Salient features of the PWD Act, 1995
      - Coverage under the proposed PWD Act, 2011
      - Disabilities covered under the Act
      - Judicial Mechanism under the Act
   2. Salient provisions for rehabilitation of PWDs
   3. Salient provisions for education of PWDs
   4. Salient provisions for employment of PWDs
   5. Reservation policy under the Act
   6. Provision for barrier free access
   7. Facilities and incentives for the differently abled persons
   8. Affirmative Act

5. **Course Contents:**

   - Transition from PWD Act, 1995 to new PWD Act, 2011
   - Coverage of disabilities under PWD Act, 2011
   - Authorities, duties and responsibilities under the PWD Act, 2011
   - Rehabilitation, education and vocational training of the disabled
   - Facilities and incentives
   - Reservation in different categories of jobs at all levels
   - Grievances redressal
   - Human rights

6. **Course Coordinator with e-mail:** Dr. JS Saini, jssainitti@rediffmail.com
   Phone No. 0172- 2759578