

2015-16

ANNUAL REPORT



National Institute of Technical Teachers Training and Research
(An ISCO 9001 : 2008 Certified Institute)

ANNUAL REPORT

(including annual accounts)

2015-16



**NATIONAL INSTITUTE OF
TECHNICAL TEACHERS TRAINING AND RESEARCH
SECTOR – 26, CHANDIGARH –160 019 (INDIA)**

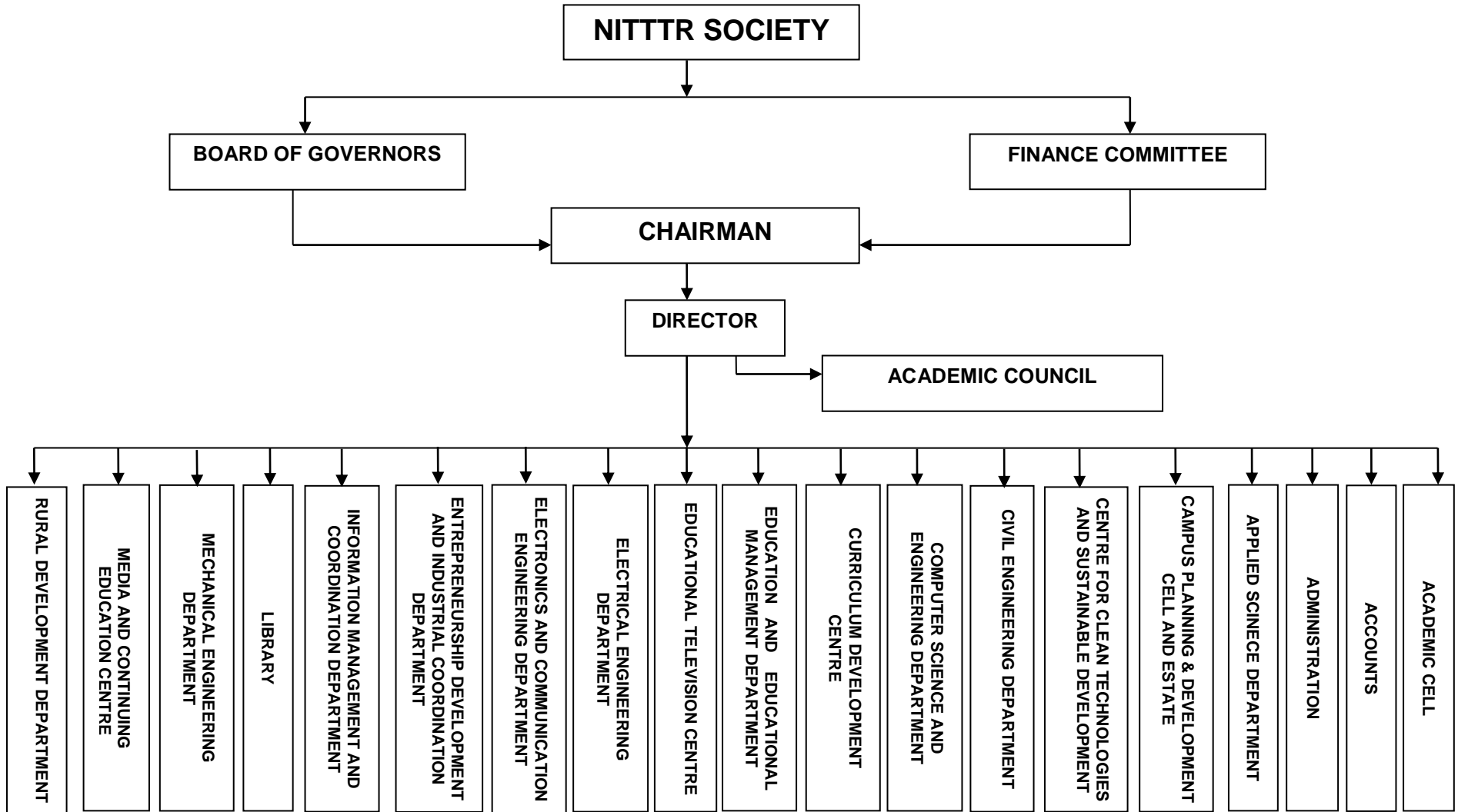
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ORGANISATIONAL STRUCTURE OF NITTTR CHANDIGARH



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**LIST OF MEMBERS OF THE NITTTR CHANDIGARH SOCIETY
AS ON 31.03.2016**

Sr. No.	Name and Designation with full address	Status
1.	Dr. K.K. Talwar Chairman, Board of Governors, NITTTR, Sector 26, CHANDIGARH - 160 019	Chairman
2.	Mrs. Darshana M Dabral Joint Secretary & Financial Adviser (IFD), Department of Higher Education, Ministry of Human Resource Development, Government of India, Shastri Bhawan, NEW DELHI – 110 115	Member
3.	Shri Shashi Prakash Goyal, IAS Joint Secretary (TEL), Department of Higher Education, Ministry of Human Resource Development, Government of India, Shastri Bhawan, NEW DELHI – 110 115	Member
4.	Shri S.K. Singh Director, Technical Education, Govt. of Rajasthan W-6 Residency Road, JODHPUR – 342 001	Member
5.	Shri O.P. Verma Director, Technical Education, Govt. of Uttar Pradesh Vikas Nagar, KANPUR – 208024	Member
6.	Shri Pankaj Pandey Director, Technical Education, Govt. of Uttarakhand N.C.C. Block, Polytechnic Campus, SRINAGAR (GARHWAL)	Member
7.	Dr. T. Padu Director Higher & Technical Education, Govt. of Arunachal Pradesh, ITANAGAR – 791111	Member
8.	Ms. S. Madhumathi, IAS Director, Technical Education, Govt. of Tamil Nadu, Sardar Patel Road, Guindy, CHENNAI – 600 025	Member

Sr. No.	Name and Designation with full address	Status
9.	Shri Rakesh Kumar Verma, IAS Vice Chancellor, IK Gujral Punjab Technical University Jalandhar – Kapurthala Highway, Near Pushpa Gujral Science City, KAPURTHALA (PUNJAB) – 144601	Member
10.	Advisor All India Council for Technical Education, 7 th Floor, Chander Lok Building, Janpath, NEW DELHI – 110 001	Member
11.	Dr. M.P. Poonia Director, National Institute of Technical Teachers Training and Research, Sector 26, CHANDIGARH – 160 019	Member Secretary

**LIST OF MEMBERS OF THE BOARD OF GOVERNORS
OF NITTR, CHANDIGARH
AS ON 31.03.2016**

Sr. No.	Name and Designation with full address	Status
1.	Dr. K.K. Talwar Chairman, Board of Governors, NITTR, Sector 26, CHANDIGARH - 160 019	Chairman
2.	Mrs. Darshana M Dabral Joint Secretary & Financial Adviser (IFD), Department of Higher Education, Ministry of Human Resource Development, Government of India, Shastri Bhawan, NEW DELHI – 110 115	Member
3.	Shri Shashi Prakash Goyal, IAS Joint Secretary (TEL), Department of Higher Education, Ministry of Human Resource Development, Government of India, Shastri Bhawan, NEW DELHI – 110 115	Member
4.	Shri S.K. Singh Director, Technical Education, Govt. of Rajasthan W-6 Residency Road, JODHPUR – 342 001	Member
5.	Shri O.P. Verma Director, Technical Education, Govt. of Uttar Pradesh Vikas Nagar, KANPUR – 208024	Member
6.	Shri Pankaj Pandey Director, Technical Education, Govt. of Uttarakhand N.C.C. Block, Polytechnic Campus, SRINAGAR (GARHWAL)	Member
7.	Dr. T. Padu Director, Higher & Technical Education, Govt. of Arunachal Pradesh, ITANAGAR – 791111	Member
8.	Ms. S. Madhumathi, IAS Director Technical Education, Govt. of Tamil Nadu, Sardar Patel Road, Guindy, CHENNAI – 600 025	Member

Sr. No.	Name and Designation with full address	Status
9.	Shri Rakesh Kumar Verma, IAS Vice Chancellor, Punjab Technical University Jalandhar – Kapurthala Highway, Near Pushpa Gujral Science City, KAPURTHALA (PUNJAB) – 144601	Member
10.	Prof. I.K. Bhat Director, Malaviya National Institute of Technology (MNIT), Administrative Block – I, MNIT Campus, JLN Marg, JAIPUR (RAJASTHAN) – 302017	Member
11.	Shri Sunil Kant Munjal Joint Managing Director, Hero Motocorp Ltd., and Chairman Hero Corporate Service Ltd., 34, Community Centre, Basant Lok, Vasant Vihar, NEW DELHI – 110057	Member
12.	Advisor All India Council for Technical Education, 7 th Floor, Chander Lok Building, Janpath, NEW DELHI – 110 001	Member
13.	Dr. SS Banwait Professor & Head, Mechanical Engineering Department National Institute of Technical Teachers Training and Research, Sector 26, CHANDIGARH – 160 019	Member
14.	Dr. M.P. Poonia Director, National Institute of Technical Teachers Training and Research, Sector 26, CHANDIGARH – 160 019	Member - Secretary

**LIST OF MEMBERS OF THE FINANCE COMMITTEE
OF NITTTR, CHANDIGARH
AS ON 31.03.2016**

Sr. No.	Name and Designation with full address	Status
1.	Dr. K.K. Talwar Chairman, Board of Governors, NITTTR, Sector 26, CHANDIGARH - 160 019	Chairman
2.	Mrs. Darshana M Dabral Joint Secretary & Financial Adviser (IFD), Department of Higher Education, Ministry of Human Resource Development, Government of India, Shastri Bhawan, NEW DELHI – 110 115	Member
3.	Shri Shashi Prakash Goyal, IAS Joint Secretary (TEL), Department of Higher Education, Ministry of Human Resource Development, Government of India, Shastri Bhawan, NEW DELHI – 110 115	Member
4.	Shri Rakesh Kumar Verma, IAS Vice Chancellor, IK Gujral Punjab Technical University Jalandhar – Kapurthala Highway, Near Pushpa Gujral Science City, KAPURTHALA (PUNJAB) – 144601	Member
5.	Dr. M.P. Poonia Director, National Institute of Technical Teachers Training and Research, Sector 26, CHANDIGARH – 160 019	Member Secretary

**LIST OF MEMBERS OF THE ACADEMIC COUNCIL
AS ON 31.03.2016**

Sr. No.	Name and Designation with full address	Status
1.	Dr. M P Poonia Director, NITTTTR, Sector - 26, CHANDIGARH - 160 019	Chairman
2.	Dr. N Sathyamurthy Director, IISER, Knowledge City, Sector – 81, P.O. Manauli, SAS Nagar, Mohali (Punjab) - 140 306	Eminent Member
3.	Dr. I K Bhat Director, Malaviya National Institute of Technology, JLN Marg, JAIPUR – 302 017	Eminent Member
4.	Dr. Ashok Chitkara Chancellor, Chitkara University, Saraswati Kendra, SCO 160-161, Sector - 9 C, CHANDIGARH - 160017	Special Invitee
5.	Dr. M M Malhotra, (former Principal, TTTI, Chandigarh) H.No. 647, Sector - 8, PANCHKULA (HARYANA)	Special Invitee
6.	Registrar Panjab University, Sector -14, CHANDIGARH - 160 014	Special Invitee
7.	Dr. (Ms.) P K Tulsi Dean, Research and Development and Professor & Head, Education & Educational Management, NITTTTR, Sector-26, CHANDIGARH 160 019	Member Secretary
8.	Dr. J S Saini Dean, Extension and Consultancy and Professor, Rural Development Department, NITTTTR, Sector-26, CHANDIGARH 160 019	Member
9.	Dr. (Mrs.) S P Bedi Professor, Education and Educational Management Department, NITTTTR, Sector-26, CHANDIGARH - 160 019	Member

Sr. No.	Name and Designation with full address	Status
10.	Dr. B S Pabla Professor and Head, Information Management and Co-ordination, NITTTR, Sector-26, CHANDIGARH - 160 019	Member
11.	Dr. Suresh Dhameja Professor and Head, Entrepreneurship Development and Industrial Co-ordination, NITTTR, Sector-26, CHANDIGARH - 160 019	Member
12.	Dr. S S Banwait Professor and Head, Mechanical Engineering Department, NITTTR, Sector-26, CHANDIGARH - 160 019	Member
13.	Dr. A B Gupta Professor and Head, Curriculum Development Centre, NITTTR, Sector-26, CHANDIGARH - 160 019	Member
14.	Dr. Sanjay Sharma Professor, Civil Engineering Department, NITTTR, Sector-26, CHANDIGARH - 160 019	Member
15.	Dr. Hemant Sood Professor and Head, Civil Engineering Department, NITTTR, Sector-26, CHANDIGARH - 160 019	Member
16.	Dr. Sunil Dutt Professor Education and Educational Management and Faculty Incharge, Academic Cell, NITTTR, Sector-26, CHANDIGARH - 160 019	Member
17.	Dr. B C Choudhary Professor and Head, Applied Science Department NITTTR, Sector -26, CHANDIGARH - 160 019	Member
18.	Dr. Rakesh Kumar Wats Professor and Head Media and Continuing Education Faculty Incharge, Administration, NITTTR, Sector -26, CHANDIGARH - 160 019	Member

Sr. No.	Name and Designation with full address	Status
19.	Dr. (Mrs.) Maitreyee Dutta Professor and Head, Electronics and Communication Engineering, NITTTR, Sector-26, CHANDIGARH - 160 019	Member
20.	Dr. Sukhdeep Singh Dhani Professor, Mechanical Engineering Department NITTTR, Sector 26, CHANDIGARH - 160 019	Member
21.	Dr. Upendra Nath Roy Professor and Head, Rural Development Department NITTTR, Sector 26, CHANDIGARH - 160 019	Member
22.	Dr. C Rama Krishna Professor and Head, Computer Science and Engineering Department NITTTR, Sector-26, CHANDIGARH - 160 019	Member
23.	Dr. (Mrs.) Lini Mathew Associate Professor, Faculty Incharge, Electrical Engineering Department, NITTTR, Sector-26, CHANDIGARH 160 019	Member
24.	Shri Manmohan Singh Senior Librarian and (Acting Chief Librarian) NITTTR, Sector-26, CHANDIGARH - 160 019	Member
25.	Er. Suresh Kumar Gupta Associate Professor, Curriculum Development Centre, NITTTR, Sector-26, CHANDIGARH - 160 019	Member
26.	Er. (Mrs.) Rama Chhabra Associate Professor, Information Management and Co-ordination NITTTR, Sector-26, CHANDIGARH - 160 019	Member
27.	Er. Patange Sudhakar Rao Assistant Professor, Mechanical Engineering Department, NITTTR, Sector-26, CHANDIGARH - 160 019	Member
28.	Er. (Mrs.) Kanika Sharma Assistant Professor, Electronics and Communication Engineering Department NITTTR, Sector-26, CHANDIGARH - 160 019	Member

1.0 THE INSTITUTE

National Institute of Technical Teachers Training and Research, Chandigarh, formerly known as Technical Teachers Training Institute (TTTI), was established in 1967 to meet the requirements of training polytechnic teachers for the growth and development of polytechnic education in the northern region of the country. It had the collaboration of Royal Netherlands Government upto 1974. The institute ushered a new era in November 2003, with its changed name and enhanced status as National Institute of Technical Teachers Training and Research (NITTTR). It is one of the four such national institutes in the country with focus on the northern region comprising the states of Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Uttar Pradesh, Uttarakhand, National Capital Territory of Delhi and Union Territory of Chandigarh. Presently, the outreach of the programmes and activities of the institute covers the entire gamut of technical education. It is now reckoned as a resource institute for the technical education system providing services to its clientele covering faculty/staff of technical institutions, officials of directorates/boards of technical education, central and state government departments, industry, students from technical institutes, community and trainees from overseas. NITTTR, Chandigarh is an ISO 9001-2008 certified organisation.

The institute is an autonomous organisation registered under the Societies Registration Act 1860. It is managed by a Board of Governors. Director is the executive head of the institute. The institute is situated in a well-developed campus in Sector 26, Chandigarh covering an area of over 6.85 hectares housing the academic buildings, hostels, guest house and residential accommodation for faculty and staff. The institute also has residential campus in sectors 29 and 42. The institute is about 10 kms from Inter State Bus Terminus in Sector 43 and 05 kms from Chandigarh Railway Station.

VISION

- To be a lead resource institute for promoting excellence in technical education system.

MISSION

- To offer continuing education and training programs for the faculty and staff of the technical education system.
- To develop need-based curricula for technical education programs.
- To develop instructional material to enhance effectiveness of teaching-learning process.
- To undertake research and development in engineering & technology and technical education.
- To provide extension and consultancy services to technical education system.

1.1 Broad Objectives of the Institute

- ◆ To provide professional education and training for teachers of engineering and technology disciplines in technical institutions for advancement of learning towards promoting excellence in technical education and industry.
- ◆ To strive for continuous improvement in instruction and research in engineering and technology disciplines and research in management of technical education.
- ◆ To actively support the growth and quality improvement of technical education in the country through involvement in activities at national and state levels.

1.2 Operational Objectives

- To act as a centre for offering quality training programmes for teachers as per need of the system, covering the entire gamut of technical education including polytechnics, engineering colleges, vocational and management education at national level
- To arrange for practical training of technical teachers in industries
- To undertake systemic research to provide research inputs for development of technical education, training systems and its management
- To undertake action research for development of innovative methods, processes and practices for improvement of teaching learning environment in technical and vocational education institutions
- To design new instructional system and strategies for production of multimedia learning materials
- To develop and disseminate learning resources like Text books, Laboratory Manuals, Video Programmes, Computer Assisted Instructional Multimedia Packages to technical and vocational institutions and other organisations
- To offer programmes for technical and vocational teachers through distance learning mode using state of the art technologies
- To offer courses / programmes for technical and vocational teachers to suit overseas demand especially SAARC and ASEAN countries
- To collaborate with community and industry in organising Continuing and Non-formal vocational education programmes
- To undertake consultancy and extension work for industry, technical institutions/ organizations
- To provide support services to Government of India schemes related to technical and vocational education system and as entrusted by MHRD, Government of India, from time to time
- To cooperate with educational or other institutions in any part of the world having objectives wholly or partly similar to those of the institute by exchange of teachers and scholars and generally in such manner as may be conducive to their common objectives

The institute is continually striving to be in the forefront in all the functional areas towards achievement of the stated objectives.

1.3 Programmes and Activities

To achieve its stated objectives, the institute undertakes the following spectrum of activities:

- Education and Training Programmes
- Curriculum Development
- Instructional Material Development
- Research and Development
- Extension Services
- Consultancy in Technical Education and Technology Areas

Keeping in tune with the various developing needs of the country, the institute presently extends its services in the following areas as well:

- Media Development including Information Resources, their acquisition, storage and retrieval
- Entrepreneurship Development
- Industry Institute Interaction
- Continuing Education for Working Engineers/Technicians/Managers
- Community Development Through Polytechnics
- Integrating Persons with Disabilities in the Mainstream of Technical and Vocational Education.

In addition to the above programmes and activities, the institute offers consultancy services to international, national and state level organisations in the above areas.

1.4 Management

The Institute is managed by a Board of Governors, which is responsible for its general direction and control, as laid down in the Memorandum of Association and Rules and Regulations of the National Institute of Technical Teachers Training and Research, Chandigarh Society. The Director is the Chief Academic and Executive Authority and also an ex-officio member secretary of the Board/Society. Under provisions of the Memorandum of Association (MoA), the Board of Governors is assisted by the following committees:

- ◇ Academic Council
- ◇ Finance Committee

Dr. M P Poonia continued to be the Director of the institute. In terms of the Memorandum of Association, he discharged the functions of the Academic Council, as its Chairman.

2.0 ACHIEVEMENT HIGHLIGHTS

Achievements of the institute's programmes and activities are reported under **05** major areas viz; Staff Development; Curriculum Development; Instructional Material Development; Research and Development; Extension Services and Consultancy.

Distinctive Programmes and Activities (2015-16)

- **244** Students admitted in Master's Degree Programmes (Regular and Modular) in **05** disciplines.
- **75** Students on roll for Ph.D. Programmes in different disciplines at the Institute.
- International Conference on “**Electronic Design Innovations and Technologies (EDIT-2015)**”, 27-28 April, 2015.
- “**राष्ट्रभाषा हिन्दी में तकनीकी तथा व्यावसायिक शिक्षा-चुनौतियों तथा समाधान**” विषय पर दिनांक 06-07 सितम्बर, 2015. दो दिवसीय हिन्दी राष्ट्रीय सम्मेलन
- International Conference on “**Sustainable Skill Development**”, 18-19 February 2016.
- National Seminar on “**Green Vehicle Technology for Cleaner Environment**”, 10-11 March, 2016.
- National Conference on “**Sustainable Civil Engineering Practices (NCSCEP)**”, 18-19 March, 2016.
- International Young Business Leaders Programme on ‘**Socially Responsible Business**’ in collaboration with CPSC Manila, 19-20 February, 2016.
- Special Course in English Language for 29 Mongolian Teachers
- Establishment of Cyber Security and Forensic Training Facility for Technical Teachers sponsored by Ministry of Information Technology, New Delhi.
- Smart Training Centre for Vocational Training of PWDs with collaboration of Sarthak Educational Trust, New Delhi and Tech Mahindra Foundation. Delhi has been made fully functional.
- Job Fair for Persons with Disabilities for the Qualified Differently Abled Persons.
- **07** MOUs signed with Technical Institutions and Industry for undertaking Collaborative Projects
- Design and Testing Services to Industry

2.1 Staff Development

The institute continued to grow in terms of academic activities, both qualitatively and quantitatively. The qualitative dimensions covered related to continued improvements by way of increased emphasis on applications, case studies and industrial exposure in training programmes besides more efficient and effective use of multi-media in teaching-learning process. During 2015-16, the details of the long term and short term training programmes conducted by the institute for faculty/staff of engineering colleges and polytechnics are given below:

2.1.1 Long Term Programmes

2.1.1 (a) Ph.D. Programmes

Institute is an approved Research Centre of Panjab University, Chandigarh and Punjab Technical University, Jalandhar for Ph.D. Programmes. As on March 2016, **75** students are undergoing Ph.D. programmes in different disciplines. The Institute is also a Ph.D. Centre under QIP (Poly) Scheme of AICTE. Out of these **75** students, **17** candidates joined Ph. D under QIP (Poly) Scheme of AICTE and **02** under INSPIRE Scheme of Department of Science and Technology.

2.1.1 (b) M.Tech. / M.E. Programmes

The Institute offers industry-oriented and practice-based Master's Degree Programmes of **02** years' duration affiliated to Panjab University, Chandigarh in the following disciplines:

- Mechanical Engineering (Manufacturing Technology)
- Civil Engineering (Construction Technology and Management)
- Computer Science and Engineering
- Electrical Engineering (Instrumentation and Control)
- Electronics and Communication Engineering

The institute is offering these Master's Degree Programmes on modular basis. The modular programme is of 3½ years duration. The ME programmes are duly approved by AICTE and affiliated to Panjab University.

Admissions made in these programmes during 2015-16 are given below:

Sr. No.	Name of the Programme	No. of Participants			Total	State-wise Break-up
		Polys	Engg. Colleges	Industry/ General		
MASTER'S DEGREE (REGULAR MODE)						
1.	Mechanical Engineering (Manufacturing Technology)	05	07	16	28	CH-06, HA-04, HP-10, PU-04, UP-04
2.	Civil Engineering (Construction Technology and Management)	01	08	19	28	CH-02, DE-01, HA-05, HP-11, PU-09
3.	Computer Science and Engineering	02	02	21	25	CH-04, HA-02, HP-06, PU-08, RA-02, UP-03
4.	Electrical Engineering (Instrumentation and Control)	01	03	17	21	CH-05, HA-04, HP-01, PU-02, J&K-01, RA-02, UP-06
5.	Electronics and Communication Engineering	01	03	15	19	AP-01, CH-04, HA-03, HP-05, J&K-01, PU-03, RA-01, UP-01
	Total	10	23	88	121	

Sr. No.	Name of the Programme	No. of Participants			Total	State-wise Break-up
		Polys	Engg. Colleges	Industry/General		
MASTER'S DEGREE (MODULAR MODE)						
1.	Mechanical Engineering (Manufacturing Technology)	06	16	05	27	HA-03, J&K-02, KA-01, PU-02, RA-04, UP-15
2.	Civil Engineering (Construction Technology and Management)	07	10	12	29	BH-01, CG-01, CH-01, DE-02, HA-02, HP-12, PU-05, RA-02, UP-03
3.	Computer Science and Engineering	08	09	07	24	CH-01, DE-01, HP-02, J&K-01, KE-01, NGL-01, PU-08, RA-02, UP-07
4.	Electrical Engineering (Instrumentation and Control)	04	17	03	24	CH-01, HP-02, J&K-02, PU-01, RA-04, UP-14,
5.	Electronics and Communication Engineering	07	08	04	19	CH-01, HA-02, HP-02, KE-03, PU-03, RA-01, UP-07
	Total	32	60	31	123	

Note: **116** (regular) and **211** (modular) students of previous batches are also on roll.

ABBREVIATIONS USED			
AP	Andhra Pradesh	KE	Kerala
BH	Bihar	KA	Karnataka
CG	Chhattisgarh	NGL	Nagaland
CH	Chandigarh	PU	Punjab
DE	Delhi	RA	Rajasthan
HA	Haryana	UTK	Uttarakhand
HP	Himachal Pradesh	UP	Uttar Pradesh
J&K	Jammu and Kashmir		

2.1.2 Short Term Programmes (STCs)

The institute offers need-based and customized short-term courses of one to two weeks duration for faculty/staff of engineering colleges, polytechnics and working professionals from industry. During the year 2015-16, **268** short term programmes were conducted through contact as well as ICT mode for faculty/staff of polytechnics and engineering colleges which were attended by **17019** teachers from various states of the country.

(i) Training Programmes/Workshops:

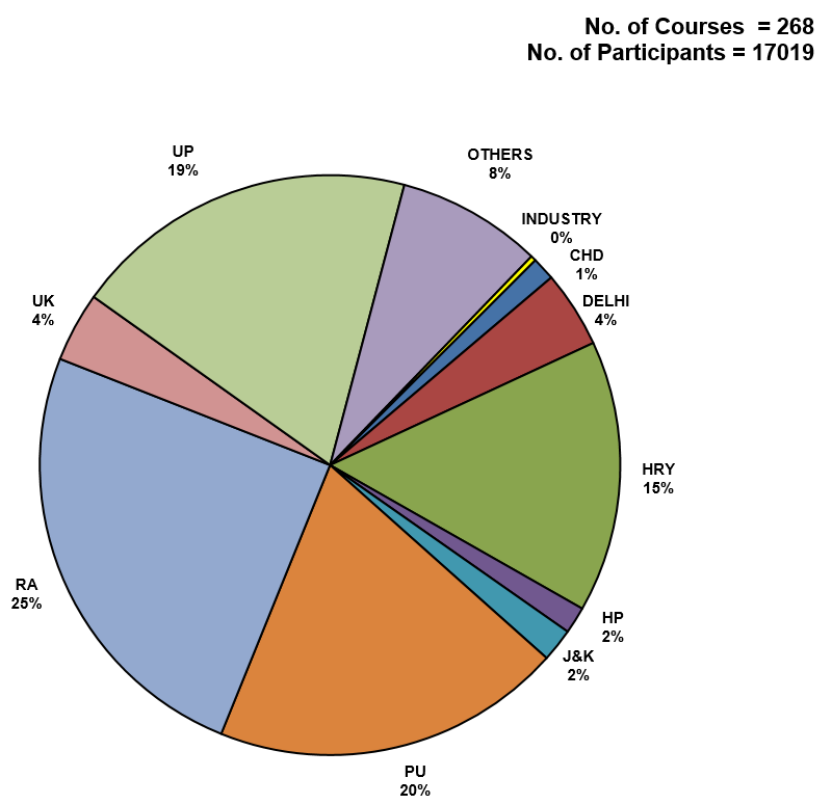
A) ME Students on roll

Regular	237
Modular	334

B)	Short Term Courses	No. of Courses	No. of Teachers Trained
	Contact Mode	200	3566
	ICT Mode		
	• Induction Training	11	1154
	• Content Based	57	12299
	Total	268	17019

Short Term Courses are attended by the participants from various States/UTs of the country. State/UT wise participation in these training programmes is shown below:

STATEWISE PERCENTAGE OF PARTICIPATION IN SHORT TERM COURSES FOR THE YEAR 2015-16



C)	Conferences/Seminars	06	909
D)	No. of Training Workshops	24	1127
E)	No. of Students Trained	23	4703
F)	Curriculum Development Workshops	15	119

CONFERENCES AND SEMINARS

International Conference on “Electronic Design Innovations and Technologies (EDIT-2015)” 27-28 April, 2015

First International Conference on ‘Electronic Design Innovations and Technologies (EDIT-2015) was organized by Electronics and Communication Engineering Department from 27-28 April, 2015. The conference was inaugurated by Chief Guest Ms. Poonam Sachdeva, Director Corporate, Skipper



Release of Conference Proceedings

Electricals (India) Ltd., Guest of Honour Dr. Meng Joo from Nanyang Technological University, Singapore and Patron Dr. M.P. Poonia, Director, NITTTR, Chandigarh. The main Objective of this conference was to provide a common platform for Researchers, Technocrats, Academicians and Engineers to present their research work. 104 papers were included in the conference proceedings related to the following themes:

a) Digital Signal Processing; b) Digital System Design; c) Digital Communication; d) Optical Fiber Communication; e) Computer Networks; f) VLSI Design; g) Wireless and Mobile Communication; h) Embedded System Design; i) Image Processing; j) ANN and Fuzzy Logic; k) Antenna System; l) Soft Computing; m) Wireless Sensor Networks; n) Simulation and Modeling.

“राष्ट्रभाषा हिन्दी में तकनीकी तथा व्यावसायिक शिक्षा-चुनौतियों तथा समाधान” विषय पर दो दिवसीय हिन्दी राष्ट्रीय सम्मेलन, दिनांक 06-07 सितम्बर, 2015

संस्थान दिवस के शुभ अवसर पर दिनांक 06-07 सितम्बर, 2015 को संस्थान में “राष्ट्रभाषा हिन्दी में तकनीकी तथा व्यावसायिक शिक्षा-चुनौतियों तथा समाधान” विषयक दो दिवसीय राष्ट्रीय सम्मेलन का आयोजन किया गया । डा0 एच. आर. सिंगला, महानिदेशक, लवली प्रोफेशनल यूनिवर्सिटी, जालन्धर मुख्य अतिथि थे तथा सम्मेलन की अध्यक्षता डा0 जसपाल सिंह संधू, सचिव यू.जी.सी ने की । दोनों ही अधिकारियों ने सम्मेलन के विषय को आज के परिप्रेक्ष्य में प्रासंगिक बताया । संस्थान के निदेशक डा0 एम.पी. पूनिया ने अपने उद्बोधन में बताया कि सभी भारतीय भाषाओं को साथ लेकर चलने वाली राष्ट्रभाषा हिन्दी वैज्ञानिक, समृद्ध और सरल भाषा है । हमें इसका प्रयोग करना चाहिए । डा0 राकेश वत्स ने देशभर के भिन्न-भिन्न प्रौद्योगिकी, तकनीकी, बहुतकनीकी तथा शिक्षा संस्थानों से पधारे 150 अधिकारियों/कर्मचारियों का स्वागत करते हुए सम्मेलन के निर्विघ्न समापन की मंगलकामना की ।



International Conference on “Sustainable Skill Development” 18-19 February 2016

The International Conference on Sustainable Skill Development was held on 18-19 February 2016 at NITTTR, Chandigarh with the active collaboration of All India Council for Technical Education New Delhi, CPSC Manila, IKG Punjab Technical University, Jalandhar, HP Technical University, Hamirpur, PEC University of Technology, Chandigarh, Biju Patnaik University of Technology Odisha, Malaviya National Institute of Technology, Jaipur, Dr. B.R. Ambedkar NIT, Jalandhar, Punjab, Chitkara University Baddi HP, Lovely Professional University, Phagwara (Punjab), Department of Technical Education, Haryana, Panchkula, Department of Technical Education & Industrial Training, Punjab, Chandigarh, Department of Technical Education, Vocational & Industrial Training, Sundernagar, Himachal Pradesh. ASSOCHAM, New Delhi volunteered to join as Industry Partner and Government of Australia through the Australian Trade Commission in India joined as the country partner.

The plenary sessions held during the conference were: Sustainable Skill Development, Skill Development Strategies for Banking and Financial Services, Agriculture and Non-Farm Sector, Skill Development Practices in Different Countries - 13 Colombo Plan Member Countries made Country Presentations, Skilling India: Infrastructure, Energy and Make in India, Skilling India: IT, Telecom and Education Sector. During the conference, 30 papers were presented.

The conference was attended by 300 delegates representing more than 20 Indian States/UT's and 16 Countries. The participants included Vice-Chancellors of Universities, Directors of various Institutes, Researchers, Policy Formulators, Senior Bureaucrats, Deputy High Commission/Consulate General of UK, Canada and Australia, Leading NGO's and Skill Development Companies from India and abroad.



**His Excellency: Balramji Dass Tandon
Hon'ble Governor of Chhattisgarh
State delivering the Inaugural Address**

**Dignitaries lighting the lamp
at the Inauguration of the
Conference**

**Dr. KK Talwar, Chairman BOG,
NITTTR - Chandigarh, and Patron
of the Conference delivering the
presidential address during the
Valedictory Session**

Dr. MP Poonia, Director, NITTTR, Chandigarh was the Organizing Chairman and Dr. JS Saini and Dr. Rakesh K. Wats were the Organizing Secretaries of the Conference.

International Young Business Leaders Programme on “Socially Responsible Business” in collaboration with CPSC Manila, 19-20 February, 2016

A two-day International Young Business Leaders Programme on ‘Socially Responsible Business’ was conducted at NITTTR Chandigarh in collaboration with CPSC Manila, Philippines and UNESCAP, Bangkok, Thailand. Dr. Sailendra Narain, Chair-



ESCAP, MSME Taskforce, acted as a resource faculty from UNESCAP side. 110 delegates including 46 International delegates participated in this two days programme. The programme resulted in signing of a Chandigarh Charter by all the international delegates and representatives of NITTTR Chandigarh, UNESCAP and CPSC.

National Seminar on “Green Vehicle Technology for Cleaner Environment” 10-11 March, 2016

National seminar on Green Vehicle Technology for Cleaner Environment was conducted on March 10-11, 2016 by Mechanical Engineering Department, NITTTR, Chandigarh. The theme of the seminar was automotive technologies, such as hybrid electric vehicles, compressed air vehicles, hydrogen and fuel



cell vehicles, neat ethanol vehicles, flexible fuel vehicles, natural gas vehicles, liquid petroleum gas vehicles, clean diesel vehicles, etc. which do not pose serious threats to environment as conventional combustion engine technology does. Eminent speakers were invited from the leading industries like CleanTech International Foundation, New Delhi, International Center for Automotive Technology, Gurgaon, Vembsys Technovation, Gurgaon, Alternative Innovations Pvt Ltd, Faridabad, Green Fuel Energy Solutions, Gurgaon and Continental Engines Ltd, Gurgaon and prestigious academic institutions like IIT, Delhi. They delivered their talk on the latest topics such as: the techniques to reduce the emissions and particulate matter from the vehicles along with the scenario of emission roadmap of India, the issues of clean fuel for a better environment, the developments in electric three wheeler technology, a case study on the implementation of multi-level parking in Delhi. 40 delegates

from industry and academic institutions attended the seminar. The seminar gave an enlightening view of the developments in the green fuel technologies and vehicles. Further, it served as a source of new ideas to work upon for the researchers.

National Conference on “Sustainable Civil Engineering Practices (NCSCEP)” 18-19 March, 2016

National Conference on Sustainable Civil Engineering Practices (NCSCEP) was organized by the Civil Engineering Department, NITTTR, Chandigarh; Civil Engineering Department, Chitkara University, Himachal Pradesh and Civil Engineering Department, PEC University of Technology, Chandigarh from 18-19 March, 2016. The conference was inaugurated by Dr. M.P. Poonia, Director, NITTTR, Chandigarh and Dr. Manoj Arora, Director, PEC University of Technology, Chandigarh. President, ACC Limited was the Guest of Honor for the session.

Dr. Madhu Chitkara, Vice Chancellor, Chitkara University presided over the valedictory session. Emphasis was made by the dignitaries on the need for the infrastructure development to take place in a sustainable manner so that the ability of the future generations to meet their needs is not compromised. More than 200 delegates from



academic institutions and industry from different parts of the country participated in the conference. Infrastructure Planning and management, sustainable building sector, sustainable water resources, sustainable materials and construction practices; sustainable transport infrastructure and sustainable infrastructure development in Chandigarh were the technical sessions in which 50 delegates presented their research work and key note addresses were given by eminent faculty, scientists and industry professionals. The event saw a huge response and support from industry with sponsorships from Innovative Systel; Bentley; Mankind; Ruchira Papers Limited, HP; KDDL Limited; ACC Cement; M/s Mahle Filter Systems India Limited, Parwanoo; M/s Federal-Mogul Bearings India Limited, Parwanoo; Gabriel India Limited, Parwanoo and Jaimurty Minerals & Chemicals (P) Ltd to name a few.

Job Fair for the Differently Abled Persons

NITTTR Chandigarh in collaboration with Sarthak Educational Trust, New Delhi, CII Chandigarh and Vocational Rehabilitation Centre, Ludhiana organised a Job Fair for the differently abled persons on 8 May, 2015. Approximately 200 persons with disabilities and 18 employers participated in this mega event. A stakeholder’s sensitization workshop was also held on 7 May, 2015, a day before the job fair. The sensitization workshop proved useful in attracting a good number of employers to the job fair. During the job fair 59 persons with disabilities were offered jobs in hospitality, retail, BPO, IT and manufacturing sectors. Most of

the job offers were in the range of Rs. 7000-10000 per month.



A view of the Inaugural Ceremony



Placement Interviews during the Job fair for the differently abled



Special Course in English Language for Mongolian Teachers 01 February – 22 April, 2016

A Special Course in English Language was organised by the institute from 01 February to 22 April, 2016 in which 29 Mongolian Teachers participated. The programme was sponsored by Ministry of External Affairs under its flagship programme ITEC i.e. Indian Technical and Economic Cooperation.



Participants of the Programme

2.2 Curriculum Development

The institute continued to undertake curriculum development activities including the design and review of curricula for courses in engineering and non-engineering areas through a scientific approach which has been considerably internalised by the polytechnic system enabling them to take up similar projects by themselves with some guidance from this institute. During the year **2015-16**, **01** curricula for the state of Haryana has been designed and **04** curricula for Delhi, **03** curricula for the state of Punjab, **02** Curricula for the state of Uttar Pradesh and **01** curriculum for Skipper Electrical India Limited have been revised by Curriculum Development Centre of the institute.

The details of curricula designed and revised are given below:

CURRICULA DESIGNED
01 Curriculum for the State of Haryana
1. Diploma Programme in Aircraft Maintenance Engineering
CURRICULA REVISED
04 Diploma Programmes for Delhi
1. Diploma Programme in Mechanical Engineering
2. Diploma Programme in Mechanical Engineering (Maintenance)
3. Diploma Programme in Automobile Engineering
4. Diploma Programme in Production Engineering
03 Curricula for the State of Punjab
1. Part Time Diploma in Automobile Engineering
2. Diploma Course in Aerospace Engineering
3. Certificate Course Auto Electrical and Electronics for MC Polytechnic Jalandhar
02 Curricula for the of Uttar Pradesh
1. Diploma Course in Information Technology
2. PG Diploma in Computer Hardware and Networking
01 Curricula for Skipper Electrical India Ltd., Gurgaon
1. Certificate Course in Electrical Installation and Maintenance Works

2.3 Instructional Material Development

During the year 2015-16, institute continued its efforts to promote development of instructional material, both print (text books, laboratory manuals, modules, readers etc.) and non-print (video programmes, etc.).

The following instructional material was produced during the year under report:

Print Material

• Text Books	:	02
• Laboratory Manuals	:	19
• Modules	:	05
• Booklets/Readers	:	03
• Course Material for Training Programmes	:	200

Non Print Material

• Educational Video Films	:	08
• Lecture based Video Films	:	21
• E-content in Hindi for Electronics Subjects for Diploma Students of UP State	:	275
• E-content in Hindi for Applied Mathematics for Diploma Students of UP State	:	96
• Video Lectures uploaded on You Tube	:	1038

The information regarding the instructional material developed has been disseminated to the

technical institutions of the region and outside to enable them to use the same. **The details are enclosed at Annexure- I.**

2.4 Research and Development

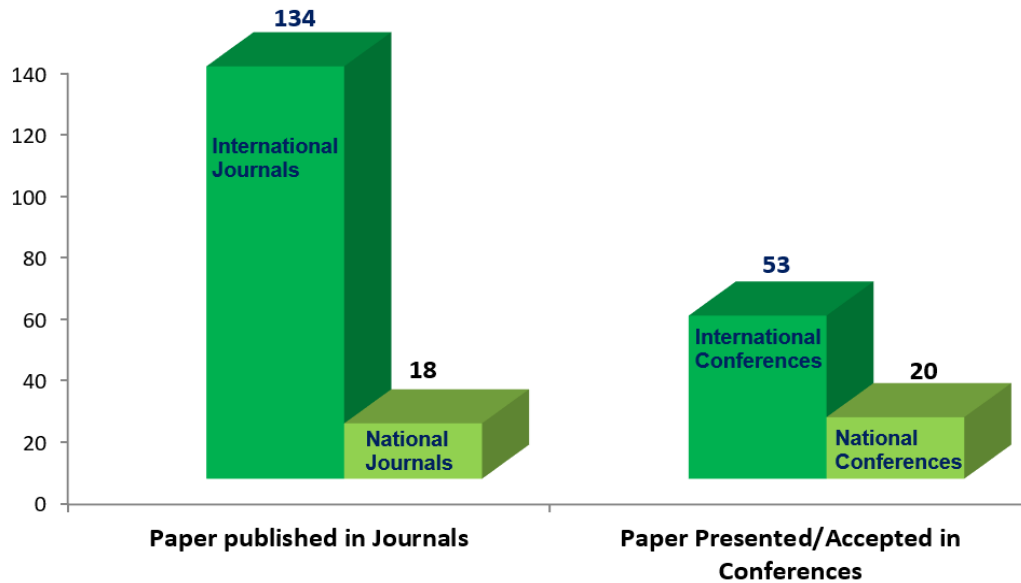
Research and development activities in technology and technical education form an important aspect of the institute's programmes. During the year under report, a Research Study on High Failure Rate in First Year in the Polytechnics of Punjab State was completed.

The following Ph.D thesis under the supervision of faculty were completed during 2015-16:

1. Seismic Efficiency of Interlinked Block Masonry System with Visco-Elastic Energy Dissipater Link.
2. Investigations of Parameters for Surface Modification of Dies Using Edm Process.
3. Studies on Metal Forming for Improved Surface Finish.
4. An Experimental Study of Non-Traditional Machining of Al/SiC MMC's.
5. Development of Optimal Controller for Maximum Power Point Tracking in Solar Photo - Voltaic System.
6. Modelling, Multi Objective Optimization and Analysis of a Virtual Power Plant.
7. Techno-Economic Analysis and Modelling of Stand-alone versus Grid connected Small Hydropower Systems for optimization of System performance and Cost Effectiveness.
8. Design and Development of a Microcontroller Based Moisture Content Measuring Device for Cereal Grains Using their Electrical Properties.

In addition to above, **189 ME** thesis were also completed under the guidance of faculty of this institute. The faculty of the institute have contributed research papers to the various journals, conventions, seminars and conferences. **152** papers of the institute faculty were published in the journals and **73 papers** were presented by the faculty in various conferences and seminars. **The details are enclosed at Annexure- II.**

Research Publications / Papers



The institute publishes a '**Journal of Engineering and Technology Education**' which is referred by teachers and students of technical education and research. This helps the faculty and students of technical institutions from across the country to publish their views and research work in Engineering and Technology and Technical Education. The journal (published twice in a year, i.e. January-June and July-December) provides an interdisciplinary forum to teachers, students, officials/administrators of technical education system and working professionals in industries to discuss and debate the theories and applications of technical educational technologies in all sectors and levels of technical education.

2.5 Extension Services and Consultancy

Policy Planning and Service to Industry and Community

The Institute has continued to play a proactive role to influence the planning and development of technical education and also collaborated with institutions and organisations at national and international levels having similar objectives. The institute also provided consultancy services to government, public sector and other national and state level organisations, technical education system and industry in the area of engineering and technology, educational management, curriculum development, entrepreneurship development and rural development.

Implementation of Government of India Schemes

- **Community Development through Polytechnics**
- **Integrating Persons with Disabilities (PWDs) in the Mainstream of Technical and Vocational Education**

The department of Rural Development of the institute provides academic support to MHRD,

Government of India and all DTEs in the region for effective implementation of two schemes of Government of India on (i) Community Development Through Polytechnics (CDTPs) in **155** polytechnics and (ii) Integrating Persons with Disabilities (PWDs) in the mainstream of Technical and Vocational Education in **15** polytechnics/institutions in Northern region. The department acts as an effective link between MHRD and polytechnics implementing these schemes.

The department has operationalized Disability Information Line (DIL) for Punjab Telecom Circle. The DIL is a sponsored project of Ali Yavar Jung National Institute for the Hearing Handicapped (AYJHNIHH), Mumbai. This project is expected to continue during entire period of 12th Five-Year Plan.

Signing of Memorandum of Understanding

The institute signed 07 MoUs with the following Institutions and Organisations:

- Desh Bhagat University, Mandi Gobindgarh (Punjab),
- Indian Institute of Technology, Bombay,
- BIJU Patnaik University of Technology, Odisha, Rourkela,
- Cleantech International Foundation, New Delhi – 110 019,
- Lovely Professional University, Phagwara, Distt. Kapurthala, (Punjab),
- Maharaja Ranjit Singh State Technical University, Bathinda, (Punjab),
- IBM India Private Limited Bangalore

The major objective of signing these MoUs is to: a) Support each other's' endeavour in delivery of academic programmes and research activities, b) Exchange of scientific and technical information, c) Joint supervision of Postgraduate and Ph.D. students, d) Undertaking collaborative research activities through participation in Nationally and Internationally funded projects, e) Jointly organize events such as seminars, workshops, conferences and training programs, f) Training of students

Consultancy Projects

During the year 2015-16, the following consultancy projects were undertaken:

⇒ **Design and Testing Services to Industry in the area of Civil Engineering:**

Bituminous Mix Design, Evaluation of Pavements and Overlay Design, Testing of Highway Materials, 3rd Party Quality control for Road works, Testing & Design of New Roads, Concrete Mix Design, Testing of Engineering Materials (Multiple Projects), Testing of Soil Samples, Design Repair and Rehabilitation of Buildings

⇒ **Testing Services to Industry in the area of Electrical Engineering:**

Street Lighting Inspection, Municipal corporation of Panchkula

⇒ **Training Programmes for Students**

The institute organised **10** training programmes of 4-6 weeks and **02** programme of 6 months duration, through which **208** students of technical institutions participated. In addition, **12** training programmes were conducted for faculty of technical institutions and working professional from industry in which **300** participants were trained in various areas of engineering and technology.

⇒ **Other Projects**

- Establishment of Cyber Security and Forensic Training Facility for Technical Teachers Training sponsored by Ministry of Information Technology, New Delhi.
- Smart Training Centre for Vocational Training of PWDs with collaboration of Sarthak Educational Trust, New Delhi and Tech Mahindra Foundation. Delhi has been made fully functional.
- Training the Trainers of Technical School in Nigeria in Electrical Installation and Maintenance Work.
- Development of Materials on Energy Conservation for its incorporation in the ITI and Diploma Engineering Curriculum for the State of Punjab (PEDA).
- Revising the Curriculum of Certificate Programme in Electrical Installation and Maintenance Works for Skipper Electrical India Ltd., Gurgaon (HRY).
- Training Programme on Developing Soft Skills for Effective Work Environment for the officials of Airport Authority of India (Chandigarh).
- Seven recruitment projects for the state of Haryana, Punjab and Chandigarh were undertaken.

2.6 Academic Achievements of the Departments

Applied Science Department

During the year 2015-16, the department has conducted **16** short term courses for polytechnic, engineering college teachers and industry, which were attended by **188** participants. These programmes were conducted in the areas of Optical Fiber Communication Technology, Nanotechnology: Developments and Applications, Applied Numerical Methods in Engineering, Lab Practices in Applied Physics, Differential Equations with their Engineering Applications, Nuclear Radiations: Detection and Applications, Advance in OFC Technology, Advanced Mathematical Programming Problems with use of Softwares, Fiber Optic Tests and Measurements, Optimization Techniques in Engineering Fields, OFC System Design and

Simulations, Operations Research: A Multi-disciplinary Area, Integral Transforms with Applications, Nuclear Power Generation, Role of Fuzzy Logic Mathematical Programming Problems, Newer Experiments in Physics, Advances in Laser Technology and OFC Networks and Trouble Shooting. Instructional material was also prepared on these topics and given to the participants. The department has conducted **06** training programme through ICT which was benefitted by **512** Participants. These programmes were conducted in the areas of Laser: Developments and Applications, Operations Research and Induction Training Programme.

Centre for Physically Challenged Persons

The Centre organized **02** training programmes for the polytechnics teachers which were attended by **45** participants. The Centre organized an Annual Review Workshop for polytechnics implementing the PWD Scheme wherein **19** participants participated. These training programmes aimed at making polytechnic faculty, staff and NGOs working in the area of disability aware about the PWD Project. The participants were also provided inputs pertaining to barrier free environment, education, training and career opportunities for the PWDs. These STCs were conducted in the areas of:

- Education, Training and Employment of PWDs
- Employment and self-employment Opportunities for the Persons with Disabilities

In addition to above one Workshop was conducted by the Centre for preparation of Operational Plan 2015-16 on 30 April – 01 May, 2015 which was attended by **19** participants. One Job Fair for the Differently Abled Persons was organised on 8th May, 2015 where in **59** persons with disabilities were shortlisted for jobs in hospitality, retail, BPO, IT and manufacturing sector. The Centre organized Conference on “Social Justice for the disabled Persons on 09 October, 2015 which was attended by **135** participants.

Civil Engineering Department

During the year 2015-16, the department conducted **28** Short Term Training programmes for **319** Polytechnic & Engineering College Teachers, **05** ICT Programmes in different areas of Civil Engineering were also conducted which were attended by **550** teachers apart from conducting **03** days Training programmes for **28** teachers and working professionals from the industry.

The major programmes conducted during the year included Sustainable Road Construction Practices, Geotechnical Investigations , Water Resource Management, Project Planning and Management, Application of Remote Sensing, GPS and GIS in Civil Engineering, Design and Analysis of Earthquake Resistant Structures, Mapping by Total Station, Earthquake Retrofitting and Rehabilitation of Structures, Low Cost Housing Techniques and Practices, Green, Building-Concept and Practices, New Materials and Techniques in Highway

Construction, Advances in RCC Structure Design and Analysis, Design using E-tab (Software), Interior and Housing Designs and Smart City. During the year under report, the department conducted **02** Workshops in the field of NDT Analysis and Repair of Concrete Structures and Software Application in Civil Engineering which was attended by 48 participants. The department also conducted one National Conference on Sustainable Civil Engineering Practices (NCSCEP) from 18-19 March, 2016 in which **200** delegates participated. Currently **111** students are pursuing Master's Degree in Construction Technology & Management.

The department faculty published/presented **42** Papers in National/International Seminar/Conferences. The department also provided design and testing services to industry as consultancy projects and generated revenue for the institute. The department faculty also attended training programmes in different disciplines in organizations outside the Institute.

Centre for Clean Technologies and Sustainable Development

The importance of Clean Technologies in recent years has become increasingly relevant to improve the overall environment and also to ensure sustainable development and prevent climate change. A Centre for Clean Technologies and Sustainable Development was established at NITTTR Chandigarh to meet the increasing need of pollution prevention. The proposed centre imparts training in addition to activities like R&D and consultancy etc. The centre was accredited as training institute for Laboratory Management Systems (SIO/IEC 17025) for conducting 4 Days Training Programmes for Training the Master Trainers by Quality Council of India / NABET.

During the current year, the centre conducted **05** training programmes and organized "Clean Technologies Expo" from 16-18 March, 2016 under the Aegis of Ministry of Science and Technology, Government of India, New Delhi. This Expo provided a forum to exchange knowledge and experiences of various agencies concerned with environmental protection and gave a picture of understanding, need, implementation, Government role in clean production and its link with sustainable development of environment. About Fifty industries participated in the exposition and showcased their clean technologies. This event opened new vistas of understanding and broadened horizons and thought process of the visitors which included students and faculty members of nearby colleges. Nearly 500-600 visitors visited the Expo. The exchange of ideas took place to further strengthen the Clean Technology products and R&D.

Computer Science Department

During the year 2015-16, the department conducted **39** training programmes through contact mode and **08** training programme through ICT mode, which were attended by **793** and **2300** participants respectively. Some of the significant programmes includes : Web Hacking and

Security, Linux Administration, Cloud computing, Network Security and Firewall, Web Based Content Development using Moodle, E-Commerce, Digital Image Processing using Scilab, Computer Networking with CCNA, PHP and My-SQL, Wireless Networking, ASP.Net, VB.Net, Mobile Computing, Android Application Development, Open Source Technologies, Latex Programming, Security Networks through Firewalls, VPN and IPS, Cyber Crime and Forensic Tools, Web Technology etc.

In-addition, the department imparted practical training on Core Java, .NET Technologies, Open Source Web Technologies, Android Programming and Networking to the students of engineering colleges & Polytechnics as a part of their curriculum requirement. The department developed instructional material on various topics related to short term courses conducted by the department and also prepared a Laboratory Manual on: Module on Understanding Various Information Gathering Tools, Module on Client Side Attacks, Module on Buffer Overflow Exploitation.

The department faculty also guided **79** ME thesis and guiding **12** Ph.D students. Department has published **15** papers in Internal/National Journals and presented **12** papers in International/National Seminars and Conferences. The department faculty & staff also attended training programmes at outside institutions on various topics. The department conducted in house training on IBM CE-Enablement Programme-Application Development for Cloud Deployment using IBM Bluemix, Applications Security Management and Foundation Course in Big Data using IBM Info-sphere Big Insights.

Curriculum Development Centre

During the year 2015-16, Curriculum Development Centre conducted **12** Short Term Training Programmes for the faculty of Engineering Colleges, Polytechnics and Universities and trained **382** teachers in these programmes. The centre also organised **08** ICT Based Training in which **2145** faculty members from various Technical Institutes participated. In addition, the centre organised **11** Training Programmes for students of Engineering Colleges and Polytechnics which were attended by **3400** students. The Centre contributed in Designing the Curricula of **01** Diploma Programme and Revising the Curricula of **10** Diploma Programmes. The Centre organised **15** Curriculum Development Workshops in which **119** participants from Industry and Academic Institutions participated. The department developed **14** Laboratory Manuals for the state of Haryana, **02** Laboratory Manuals and **02** Text Books for PEDDA, Punjab. The department developed study material on **07** subjects for Certificate Course in Electrical Installation and Maintenance Works for Skipper Electrical India Limited, Gurgaon, Haryana. The department faculty also attended training programmes at outside institutions.

Education and Educational Management Department

Education & Educational Management Department aims at building capabilities among the faculty to plan, organize, deliver and evaluate instruction effectively; Heads of the Departments and Principals to manage the departments and institutions effectively and staff to perform their duties efficiently and effectively. In this pursuit, the Department offers education and training programmes, undertake development of print and non-print material, undertake research study in the area of technical education and provide customised services to stakeholders. During **2015-16**, courses on Technical & Vocational Education System, Curriculum Development and Technology Management were offered to the students pursuing M.Tech. Engineering Education. In addition, faculty guided the students for their Project Based Thesis work. The department trained **1541** teachers through **29** programmes organized through face to face contact mode and through ICT. **18** Short Term Courses related to pedagogy and management were organized for the faculty working in technical institutions through contact mode in which **387** teachers participated. 11 programmes including Induction Training Programmes, Modules of Instructional Planning and Delivery, Research Methodology and Preparing Students for Job Interviews were conducted through Integration of Information and Communication Technology. **1154** teachers attended in these programmes. The department organised two one-day orientation programmes on Pedagogy for ME students of the institute. Two programmes on Preparing Students for Job Interviews were organized through ICT for students of technical institutions in which **320** students participated. Course material was prepared for all the programmes organized by the department.

The faculty of the department published six papers in National and International Journals and presented four papers in international conferences. The faculty of the department acted as resource persons in the programmes organized by various organisations. The department faculty attended faculty development programme at IIT, Kharagpur and participated in the study visit to technical institutions/organizations of Canada.

Educational Television Centre

During the year 2015-16, the Centre conducted **03** contact based short term training programmes for Polytechnics/Engineering Colleges and two programmes for Himachal Pradesh Krishi Vishvavidyalaya, College of Home Science at Palampur. The major programmes conducted during the year included Development of Latest Instructional Media using Page Maker, Adobe Photoshop, Adobe After Effects and Adobe Premier, Video film Production Techniques, Script Writing and Video Editing, Training on Audio Visual Operation and Training Programme on Adobe Photoshop & Adobe After Effects. The centre produced instructional material on the above mentioned areas. Centre has also provided practical training to the students of various engineering colleges in the area related to Antenna Design.

The department coordinated the recording of lectures of **11** Induction Training Programmes and **57** content based technical programmes offered through ICT mode by various departments of the institute. **1038** video packages developed were uploaded on NCTEL. ETV Centre produced **06** video films and coordinated the recording of **275** and **96** video packages in Hindi in the area of Electronics and Communication Engg. and Mathematics respectively for the state of UP.

Electrical Engineering Department

During the year 2015-16, the department conducted **21** short term programmes for polytechnic teachers / engineering colleges, out of which **13** were in contact mode and **08** through ICT mode. The number of teachers trained through these programmes were **180** and **2275** respectively. The programmes were conducted in the areas of MATLAB and its Applications, Automation in Industries, Energy Management, Virtual Instrumentation, Power Electronics, Control of Electrical Motors, Micro-controllers and its Applications, Programmable Logic Controllers and Computer Aided Circuit simulation etc. The department also developed 45 video films which have been uploaded through NCTEL and You Tube have good viewership.

Under the guidance of faculty, **37** final and **65** pre thesis have been completed by the M.E. students. The department faculty has published **39** papers in the National/International journals and presented **20** papers in National/International conferences. Dr. Lini Mathew, inspected Lagos Skipper Engineering Academy, Lagos, Nigeria and ITM, Ugep and submitted a report to the commissioner of Education, Governor Benedict Ayede. The department faculty also delivered key note addresses and expert talks in conferences and training programmes at various other institutions.

A programme on Training the Trainers' of Technical School in Nigeria on Electrical Installation and Maintenance work was conducted by the Department at NITTTR, Chandigarh from 14 April to 01 May, 2015.

Electronics and Communication Engineering Department

Electronics and Communication Engineering department conducted **14** Short term courses in contact mode and **04** Short term courses through ICT Mode. The department trained **1802** technical teachers in the year 2015-16. The department carried out **02** programmes for students through ICT and trained **135** students in the area of 2G & 3G and mobile communication. During the year under report, the department also organised an International conference on "Electronics Design Innovations Technologies" (EDIT 2015) from 27-28 April, 2016. **115** delegates attended the conference. Besides short term training programmes, the department is running Master's Degree Programme offered in both Regular and Modular mode. The faculty also organized one and half month and six months training programmes for

students in various areas of Electronics and Communication Engineering. The department has also established a Smart Class Room, Departmental Library and Research Laboratory, PCB Fabrication Laboratory and ICT infrastructure to conduct courses through ICT.

The ME students of Electronics and Communication Engineering participated in various competitions on Robotics at IIT Bombay, IIT Kharagpur, Baba Farid University, Chandigarh University, Gharuan and won many prizes. They also developed many projects related to Electronics design. The department initiated the setting up of Innovation Cell where the students of any branch can work in their respective area. The students are working on LED Display, Automatic Grass Cutter, e-bike, Solar Projects etc. in the Innovation Lab. The department has also initiated to set up NITTTR Start-up “ENOVATE SKILL” on Robotics. The faculty members of this department visited abroad such as Canada, Singapore and Dubai for study visit and presenting paper in the conferences. The departmental faculty has published **51** papers in the National/International Journals and presented **10** papers in National/International Conferences.

Electronics Service Centre of the department organizes skill development programmes. During the year under report, the Centre conducted **04** short term courses and trained **54** technical teachers. The centre also conducted **07** students training programmes in the area of Embedded System and PCB Design MATLAB etc. and trained **86** students.

Entrepreneurship Development and Industrial Coordination Department

During 2015-16, the department conducted **07** short term courses for polytechnics and engineering colleges which were attended by **251** teachers. The department also trained **238** teachers from polytechnics and **654** teachers from engineering colleges in **04** training programmes offered through ICT. A CPSC – NITTTR joint National Seminar on ‘Issues, Challenges and Future Directions in Technical and Vocational Education and Training (TVET) Sector’ was also organized in which **84** delegates from various states of the country participated.

The department prepared **01** Module on Case Studies of Rural and Social Entrepreneurs. In addition, **37** video programmes were made by the department for the benefit of faculty from engineering colleges and polytechnics. **15** training programme booklets were prepared for the participants of different training programmes. Faculty of the department published **02** research paper and presented **02** papers in national and international conferences.

Internal Audits and Recertification of ISO 9001:2008 Certificate got conducted for effective maintenance of established Quality Management System (QMS) in NITTTR Chandigarh. The faculty of the department assisted **06** engineering institutions in Andhra Pradesh, Kerala, Rajasthan and Madhya Pradesh in terms of mentoring as well as performance audit under

TEQIP-II programme of NPIU, Govt. of India. Need based assistance was also provided to different technical institutions in country for promotion of entrepreneurship and industry-institute interaction. Department of Science and Technology, Govt. of India sponsored **02** weeks' faculty development programme on Entrepreneurship Development and **04** number of **01** Day Entrepreneurship Awareness Camps were also organized in different engineering colleges different polytechnics by the department.

Library

The library catalogue can be accessed through WEB-OPAC from anywhere on the internet. For this a link has been provided in the Central Library tab on the NITTTR web page. It is likely to be accessed directly as and when the Library website is registered. The e-recourses subscribed by the library are being accessed by the students in the e-library. During the period more than 800 users have accessed and consulted the e-journals. A directory of open source journals in computer science, electronics and electrical engineering has been compiled. The directory is available on the institute website, which can be accessed through a link provided in the central library tab. The holding of the library can be accessed through IndCAT a Union Catalogue Project on the INFLIBNET.

Mechanical Engineering Department

The department conducted **22** short term courses for the faculty of polytechnics colleges and engineering colleges, in which more than **837** teachers were trained in various areas of mechanical engineering. Department also conducted a National Seminar on "Green Vehicle Technology for Cleaner Environment" on 10-11 March, 2016, **34** participants attended the seminar at NITTTR, Chandigarh. Department faculty and research scholars published a numbers of research paper in journals and conference proceedings. AICTE sponsored project "Cutting Tool Life Enhancement by Nano-Composite Coating" under Research Promotion Scheme is under progress. Two faculty members went on study tour of Canadian Universities. Two faculty member of the department presented research papers in International Conferences in USA and Croatia.

Media and Continuing Education Centre

Media Centre conducted **06** training programme for the faculty of Engineering Colleges and Polytechnics of northern region states. Out of these, **04** programmes were ICT based and **02** programmes were Interdisciplinary. The major areas of training programmes were Achieving Managerial Excellence, Leadership and Management Development, Innovation and Creativity Development in Teachers and Students, Technical Teachers' Role, Self Esteem, Motivation and Professionalism Development, NBA Accreditation and Quality Management and Faculty Development: Planning and Management. The department trained **65** participants from Polytechnics and **670** from Engineering Colleges. The department prepared three instructional booklets. The department provided guidance to the state of Haryana for

preparing **25** polytechnics for NBA Accreditation. The department faculty has presented three papers in International Conferences.

Rural Development Department

During the year 2015-16, The Department has conducted **07** training programmes for polytechnics and engineering colleges teachers. **214** polytechnic teachers and engineering college teachers participated in these Programmes. The department conducted **04** ICT based training programmes on the topics of NSQF, Community Colleges and Skill Development Schemes; Climate Change, Disaster Management and Sustainable Development; Instructional Delivery: Instructional Planning & Delivery; Swachh Bharat Abhiyan: Role of Technical Institutions; for Engineering Colleges and Polytechnics in which **626** teachers participated, **08** workshops with respect to implementation of the Scheme of Community Development through Polytechnics were organized for different states in the northern region in which **365** participants participated. In order to prepare e-Lectures for Diploma Education in UP State, **03** workshops were organized in which **71** persons participated. Major thrust of the department has been to provide practical knowledge on appropriate technologies like smokeless chullah, low-cost toilet, low-cost roof, waste water disposal, organic farming and agriculture wastes recycling. This year, the Department constructed two low-cost kitchens, 20 smokeless chullah and two ferro-cement rooftop in the states of Uttar Pradesh and Uttarakhand.

Information Management and Coordination Department

During the year under report, the department prepared annual report of the institute for the year 2014-15 and submitted to MHRD, Government of India for their perusal and placing in the Parliament. The other major activities of the department during 2015-16 was preparation of Operational Plan of the institute depicting the annual calendar of Training Programmes for Faculty and Technical Staff of Engineering Colleges and Polytechnics, Research and Development, Instructional Material Development, Curriculum Development, Extension Services and Consultancy activities for the year 2016-17 after consolidating the needs of various states of the Northern region through conduct of annual workshops held in each state. The department published **04** volumes of quarterly newsletter of the institute and is also in the process of developing Management Information System (MIS) of the institute in collaboration with Computer Science Department of the institute. The department conducted one training programme on Design Development – Textile Design at GWPC, Jaipur and also coordinated **03** training programmes in collaboration with MNIT, Jaipur in the areas of Effective Teaching, Performance Enhancement of Large Scale Social Welfare Schemes using Work Study and Ergonomics and Conducting and Publishing Quality Research, which were attended by **100** teachers.

Instructional Resources Marketing Unit

Over the years, the institute faculty has produced a good amount of print and non-print instructional resources like books, laboratory manuals, workbooks, data books, video films, slides, charts, trainer models, CAI packages, software etc. With a view to popularising the use of these instructional resources, IRMU was established in 1995 to promote and undertake dissemination and distribution (sale) of instruction resources developed by the institute to users viz. technical institutions in general and polytechnics in particular. During the year under report, IRMU has created awareness among teachers about the development and use of different learning resources and teaching aids for instruction.

3.0 INSTITUTIONAL INFRASTRUCTURE

3.1 Land and Constructed Space

The Institute's main campus is located in the educational complex in Sector 26 on a plot of about **16.94 acres (6.85 hectares)** of land. The buildings in the main campus include:

- **Homi Bhabha Academic Block** housing the departments of Applied Science, Civil Engineering, Electrical Engineering, Electronics Service Centre, Electronics and Communication Engineering, Mechanical Engineering and Rural Development.
- **Ramanujan Centre for Computer Science and Educational Television** housing the departments of Computer Science, Information Management and Coordination, Educational Television and Media Centre.
- **Sir J C Bose Academic and Administrative Block** housing the Director's Office, Administrative and Accounts Section, Institute's Library and the departments of Curriculum Development, Education and Educational Management and Entrepreneurship Development and Industrial Coordination.
- **Visvesvaraya Lecture Hall Complex** includes **08** numbers of Hi-tech Lecture Halls.
- **Chandrasekhar Hall, Amartya Hall and Tagore Hall** (hostel for men and women), **Raman Hall** (Post Graduate Students Hostel) and **Student Centre**.
- **Har Gobind Khorana Guest House**.
- **Faculty and Staff Residences**.

Besides the main campus in Sector 26, there are additional residential campuses in Sectors 29 and 42 with seventy-six houses for residential accommodation for staff and faculty. The total built up area is **39325 sqm**. The institute also has a children park in Sector-29 campus and a gym-cum-meditation centre in Sector – 42 campus.

During 2015-16, the following renovation work was completed:

- Renovation of bathrooms in the old building of the institute.
- Renovation of 31 of houses of Type III, IV & V in Sector 26 campus.
- Renovation of 14 houses of Type II in Sector 26 & 29 campus.
- Renovation of Civil Engineering Laboratories.
- Renovation of Mechanical Engineering Laboratories.
- Renovation of Hi-Tech Room.
- Installation of Solar Water Heating System in 31 houses of Type III, IV & V in Sector 26 campus.
- Provided the security grills on boundary wall of the institute & residential campus.
- Construction of 2 Nos. of RCC Lift Wells in the old building of the institute & new academic building.
- Installation of Bio-Metric Attendance System for institute employees.

3.2 Equipment

Equipment worth ₹ **452.73 lakh** was purchased during the year 2015-16. The total value of equipment increased to ₹ **3315.38 as on 31.03.2016**. After providing necessary depreciation on the assets, the net value of the equipment remained at ₹ **1373.65 lakh** as on **31.03.2016**.

3.3 Furniture

Furniture worth ₹ **16.76 lakh** was purchased during the year 2015-16. The total value of furniture increased to ₹ **349.15 lakh as on 31.03.2016**. After providing necessary depreciation under rules, the net value of furniture remained at ₹ **182.72 lakh** as on **31.3.2016**.

3.4 Expenditure

An expenditure amounting to ₹ **3540.48 lakh** has been incurred during the financial year **2015-16** under various schemes as indicated below:

Sr. No.	Name of the Scheme	(Rupees in Lakh)
		Expenditure incurred
1.	Plan (Non-recurring) - Capital Assets	940.33
2.	Plan-General (Recurring)	327.34
3.	Non-Plan-(Recurring)	
	a) Salary - Part - A : 1238.28	
	b) Salary - Part - B : 657.31	2272.81
	c) Non-Salary components : 377.22	
	Total Expenditure	3540.48

3.5 Library

Sr. No.	Particulars	No. available as on 31.03.2016
1.	Number of Books	38251
2.	Number of ISI and IRC	10017
3.	Bound Journals	4051
4.	Print Journals	77
5.	Newspapers	10
6.	Magazines	14
7.	e.journals <ul style="list-style-type: none">• IEL• ASME• ASCE• SPRINGER	04

4.0 INSTITUTE STAFF DEVELOPMENT

Staff Development is extremely important for bringing about any qualitative change in the system. It, therefore, needs to be planned in a manner so as to provide for the growth of the individual in accordance with one's innate capabilities and interests, bearing in mind one's job requirements as it is at present and likely to be in the foreseeable future.

In this direction, the institute continued to promote the development of its faculty and staff so as to provide opportunities to upgrade their professional capabilities in terms of knowledge and skills. The activities under this aspect ranged from deputing faculty and staff for short term programmes organised by institutes of higher learning of the country and abroad and participation in various conferences and seminars. The institute also organised in-house training programmes for its own faculty/staff.

The details of training programmes attended by institute faculty/staff are given in Annexure III.

5.0 VISIT OF IMPORTANT PERSONS TO THE INSTITUTE DURING 2015-16

S. No.	Name and Address
1.	His Excellency, Balramji Dass Tandon, Governor, Chhattisgarh
2.	Shri Vijay Kumar Dev, IAS, Advisor to Administrator, Chandigarh
3.	Shri RK Verma, Secretary, Technical Education, Punjab, Chandigarh
4.	Mrs. Vini Mahajan, IAS, Principal Secretary, Health and Family Welfare, Govt. of Punjab
5.	Shri S K Gulati, IAS, Additional Chief Secretary, Social Justice and Empowerment, Govt. of Haryana.

6.	Mr. Christopher Gibbins, Consulate General Canada at Chandigarh
7.	Mr. David Lelliott, Dy. High Commissioner U.K.at Chandigarh
8.	Mr. Tim Martin, Trade Commissioner-Australian Government, New Delhi
9.	Shri Basab Banerjee, Skill Dev. Advisor to Asian Development Bank, New Delhi
10.	Shri Ajay Mohan Goel, Advisor- Skill Development, New Delhi
11.	Shri Ashish Sharma, Business Development Managers-Australian Trade Commission, Chandigarh
12.	Dr. Sailendra Narain, UNESCAP-Bangkok
13.	Dr. RS Rathore Director, AICTE, New Delhi
14.	Dr. Nikhil Kumar UGC-New Delhi
15.	Dr. Ashwini Kumar Sharma, Director General, NIELIT, New Delhi
16.	Dr. SS Manna, Director, AICTE, New Delhi
17.	Mr. Sunil Shukla, Director, EDII, Ahmedabad
18.	Dr. IK Bhat, Director, MNIT, Jaipur
19.	Shri Kanwar Harbir Singh Dhindsa, Vice President, Mohali Industries Association, SAS Nagar Mohali, Punjab.
20.	Dr. Samuel N. Mathew, Executive Director, National Institute for Speech and Hearing, Trivandrum
21.	Shri B.D. Mundhra, Chairman & Managing Director-Simplex Infrastructure Ltd. Kolkata
22.	Dr. PM Ghole, CGM-NABARD (Punjab), Chandigarh
23.	Shri Deven Kumar, Regional Head-HDFC Bank, Chandigarh
24.	Shri Gaurav Mittal, VP-AAMC Training India, Noida
25.	Shri SK Jain, Embee Insurance Brokers Pvt. Ltd. Chandigarh
26.	Shri Abhishek Dave, NSE, New Delhi
27.	Dr. Ashok Sharma, MD-Cleantech Technologies, New Delhi
28.	Col. NB Saxena, Simplex Infrastructure Ltd., New Delhi
29.	Col. DS Dahiya, Indian Army, Guwahati
30.	Shri Pramod Misra, Simplex Infrastructure Ltd., New Delhi,
31.	Dr. Jatinder Aggarwal, CEO, Sarthak Educational Trust, New Delhi,
32.	Mr. Rajesh Singh, Centre Head, Tech Mahindra Foundation, New Delhi
33.	Shri Indresh Kumar, Social Reformer, Punjab

6.0 AUDITED ACCOUNTS

The Audited Accounts of the Institute for the year 2015-16 duly certified by Accountant General's office are enclosed at **Annexure IV**.

INSTRUCTIONAL MATERIAL DEVELOPMENT

The following instructional material has been developed by the institute faculty during the year 2015-16 :

Sr. No.	Instructional Material Developed	Author(s) Name
PRINT MATERIAL		
Text Books		
1.	Energy Conservation for Diploma Programmes	CDC Faculty
2.	Energy Conservation for ITI Programmes	CDC Faculty
Laboratory Manuals		
1.	Experiments with Lasers	BC Choudhary
2.	Practical Worksheets on Applied Physics 06 Nos.	BC Choudhary
3.	Instrumentation	CDC Faculty
4.	Refrigeration and Air Conditioning	CDC Faculty
5.	Electrical Machines-I	CDC Faculty
6.	Fluid Mechanics	CDC Faculty
7.	Water Supply and Waste Water Engineering	CDC Faculty
8.	Object Oriented Programming Using C++	CDC Faculty
9.	PLC and Micro Controller	CDC Faculty
10.	Electrical Power-II	CDC Faculty
11.	Electrical Machines-II	CDC Faculty
12.	CNC Machines and Automation	CDC Faculty
13.	Digital Electronics and Microprocessor	CDC Faculty
14.	Highway Engineering	CDC Faculty
15.	RDBMS	CDC Faculty
16.	Data Structure Using C	CDC Faculty
17.	Energy Conservation for Diploma Programmes	CDC Faculty
18.	Energy Conservation for ITI Programmes	CDC Faculty
19.	Power Electronics	Shimi SL
Modules		
1.	Case Studies of Rural and Social Entrepreneurs	SK Dhameja Amardev Singh
2.	Understanding Various Information Gathering Tools	CSE Department
3.	Client Side Attacks	CSE Department
4.	Buffer Overflow Exploitation	CSE Department
5.	Sim Power System	Shimi SL Lini Mathew

Booklets / Readers		
1.	Earthquake Resistant Interlinked Block Masonry System with Visco-Elastic Energy Dissipater Links	Amit Goyal
2.	Roads and Highways for M/s Simplex Infrastructure Ltd.	Hemant Sood/Team
3.	Study Material on 7 Subject of: Basic Electricity, General Metal Work, Solid State Devices and Circuits, Industrial Installation, Domestic Installation, Winding and Electrical Machines and Battery Charging and Repair for Skipper India Pvt. Ltd.	AB Gupta

In addition to above, instructional material for 200 short term training programmes were prepared by various departments and given to the participants in the form of CDs and booklets.

NON PRINT MATERIAL	
Video Films	
1.	Interlinked Block Masonry System with Visco-Elastic Energy Dissipator Links
2.	Eco-friendly Technology-The Way Ahead
3.	Engine Management System
4.	Different Cycle of the Engine
5.	Electronic Fuel Injection-Test Bench
6.	Engine Emission and its Control
7.	Emission Trend for Diesel Engine
8.	Art of Illusion
Lecture based Video Films	
1.	Overview of Wireless Communication
2.	IP Addressing
3.	Configuring Wi-Fi
4.	Cellular Technologies
5.	WSN 802.15.4 standard-Zigbee
6.	Live Demonstration of WSN Network
7.	Simulation using Omnet++
8.	Wireless Security
9.	Challenges in Routing protocols
10.	3G Technologies
11.	4G/LTE Network
12.	Overview of Open Source
13.	Virtualization Technology
14.	GIT Platform for Open Source Applications Development
15.	Open Source Cloud Deployment
16.	Big Data Analytics Using Open Source tools
17.	Data Mining and Machine Learning using Tanagra and Weka

18.	R Programming for Research and Development
19.	Statistical Analysis using R
20.	Open Source Hardwar and Py-Pi
21.	Citation Management using Mendeley and Zotero
e-Lectures in Electronics (in Hindi) for UP State	
1.	Basic I/O Interfacing, Lecture-9
2.	Cathode Ray Oscilloscope, Lecture-9
3.	Combinational Logic Circuits, Part –B
4.	CPU and Control, Lecture -4
5.	CRO ,Part 2
6.	CRO ,Part 3
7.	ED&C, Multistage Amplifier, Lesson-4
8.	ED&C-Feedback Amplifier
9.	ED&C-Operation Amplifier –(Part-1)
10.	ED&C-Operation Amplifier –(Part-4)
11.	Electronic Circuits & Devices –Differential Amplifier-4, Lecture-11 ,
12.	Electronic Devices & Circuits –Introduction to Microelectronics Part-1
13.	Electronic Devices & Circuits-Differential Amplifier, Lecture-8
14.	Electronic Devices & Circuits-Feedback Amplifier, Lecture-14, Part-3
15.	Electronic Devices & Circuits-Feedback Amplifier, Part-6
16.	Electronic Devices & Circuits-Feedback Amplifier, Part-7
17.	Electronic Devices & Circuits-Feedback Amplifier-2, Lecture-13
18.	Electronic Devices & Circuits-Feedback Amplifier-5, Lecture-16
19.	Electronic Devices & Circuits-Multivibrators, Part-3
20.	Electronic Devices & Circuits-Tune Voltage Amplifiers, Part-1
21.	Electronic Devices & Circuits-Operational Amplifier, Part-2
22.	Electronic Devices & Circuits-Operational Amplifier, Lecture-26,Part-3
23.	Electronic Devices & Circuits-Operational Amplifier Part-9
24.	Electronic Devices & Circuits-Operational Amplifier Part-10
25.	Electronic Devices & Circuits-Operational Amplifier Part-11
26.	Electronic Devices & Circuits-Operational Amplifier Part-12
27.	Electronic Devices & Circuits-Operational Amplifier Part-12
28.	Electronic Devices & Circuits-Operational Amplifier Part-13
29.	Electronic Devices & Circuits-Operational Amplifier Part-14
30.	Electronic Devices & Circuits-Operational Amplifier Part-16
31.	Electronic Devices & Circuits-Operational Amplifier Part-17
32.	Electronic Devices & Circuits-Oscillators, Part-4

33.	Electronic Devices & Circuits-Wave Shaping Circuits, Lecture-6
34.	Electronic Devices and circuits - Timer IC Part-3
35.	Electronic Devices and circuits – Transistor Audio Power Amplifiers Part-1
36.	Electronic Devices and Circuits – Transistor Audio Power Amplifiers, Part-2
37.	Electronic Devices and Circuits – Transistor Audio Power Amplifiers, Part-4
38.	Electronic Devices and Circuits –Differential Amplifier-Part 2 I
39.	Electronic Devices and Circuits –Feedback Amplifier, Part -8
40.	Electronic Devices and Circuits –Transistor Audio Power Amplifiers Part 3
41.	Electronic Devices and Circuits –Wave Shaping Circuits, Part -5
42.	Electronic Devices and Circuits –Wave Shaping Circuits, Part -7
43.	Electronic Devices and Circuits –Wave Shaping Circuits, Part -8
44.	Electronic Devices and Circuits-h-Parameters, Part-2
45.	Electronic Devices and Circuits-Load Line Analysis and H-Parameters
46.	Electronic Devices and Circuits-Multi stage Amplifier Part-2
47.	Electronic Devices and Circuits-Multi Vibrator Part -2
48.	Electronic Devices and Circuits-Multi Vibrator Part -5
49.	Electronic Devices and Circuits-Multistage Amplifier, Part-3
50.	Electronic Devices and Circuits-Operation Amplifier Part 7
51.	Electronic Devices and Circuits-Operation Amplifier Part-4
52.	Electronic Devices and Circuits-Operation Amplifier Part-5
53.	Electronic Devices and Circuits-Operation Amplifier Part-6
54.	Electronic Devices and Circuits-Operational Amplifier, Part-7
55.	Electronic Devices and Circuits-Operational Amplifier, Part-8
56.	Electronic Devices and Circuits-Oscillator, Part-2
57.	Electronic Devices and Circuits-Single Stage Amplifier
58.	Electronic Devices and Circuits-Timer IC Part-2
59.	Electronic Devices and Circuits-Tuned Voltage Amplifier, Part-3
60.	Electronic Devices and Circuits-Tuned Voltage Amplifier, Part-4
61.	Electronic Devices and Circuits-Wave Shaping Circuits, Part-1
62.	Electronic Devices and Circuits-Wave Shaping Circuits, Part-3
63.	Electronic Instrument & Measurement - Digital Instrument, Lecture-3
64.	Electronic instrument & Measurement- Regulated Power Supply, Lecture-4
65.	Electronic Instrument & Measurement- Regulated Power Supply, Lecture-7
66.	Electronic Instrument & Measurement -Cathode Ray Oscilloscope, Lecture-8
67.	Electronic Instrument & Measurement-Ac Millivoltmeter Lecture-4
68.	Electronic Instrument & Measurement-AC Millivoltmeter-1, Lecture-14

69.	Electronic Instrument & Measurement-Digital Instruments, Lecture-1
70.	Electronic Instrument & Measurement-Digital Instrument, Lecture-2
71.	Electronic instrument & Measurement-Digital Instruments, Lecture-6
72.	Electronic Instrument & Measurement-Electronic Multimeter, Lecture-9
73.	Electronic Instrument & Measurement-Electronic Multimeter-5, Lecture-13
74.	Electronic Instrument & Measurement-Regulated Power Supply, Part-1
75.	Electronic Instrument & Measurement-Regulated Power Supply, Part-2
76.	Electronic Instrument & Measurements-AC Millivoltmeter, Part-3
77.	Electronic Instrument & Measurements-AC Millivoltmeters, Lecture-2
78.	Electronic Instrument & Measurements-Cathode ray Oscilloscope, Lecture-1
79.	Electronic Instrument & Measurements-CRO-Part-6
80.	Electronic Instrument & Measurements-CRO-Part-7
81.	Electronic Instrument & Measurements-Electronic Multimeter, Part-4
82.	Electronic Instrument & Measurements-Regulated Power Supply, Lecture -2
83.	Electronic Instrument & Measurements-Regulated Power Supply, Lecture-3
84.	Electronic Instrument & measurements-Regulated Power Supply, Lecture-6
85.	Electronic Instrument and Measurements-Error & Noises in Measurement-Part-2
86.	Electronic Instrument and Measurements-Introduction, Lecture-1
87.	Electronic Instrument and Measurements-Regulated Power Supply
88.	Electronic Instrument and Measurements-Signal Generators, Part-6
89.	Electronic Instrument and Measurements-Concept of AC Measurement
90.	Electronic Instrument and Measurements-Digital Instruments, Lecture-4
91.	Electronic Instrument and Measurements-Digital Instruments, Lecture-5
92.	Electronic Instrument and Measurements-Digital instruments, Lecture-7
93.	Electronic Instrument and Measurements-Digital Instruments, Lecture-8
94.	Electronic Instrument and Measurements-Effect of Temperature on Ammeter, Voltmeter & Ohmmeter, Part-6
95.	Electronic Instrument and Measurements-Electronic Multimeter, Part-3
96.	Electronic Instrument and Measurements-Signal Generator, Part-1
97.	Electronic Instrument and Measurements-Signal Generator, Part-3
98.	Electronic Instrument and Measurements-Signal Generator, Part-4
99.	Electronic Instrument and Measurements-study of Multirange Voltmeters and Loading Effects, Lecture-5
100.	Electronics Devices & Circuits-Multivibrators
101.	Electronics Devices & Circuits-WaveShapping Circuits Lecture-2
102.	Electronics Instruments and Measurements CRO Lesson 4
103.	Electronics Instruments and Measurements –Impedance Bridges and Q Meters L-5
104.	Electronics Instruments and Measurements –Regulated Power Supply L-8

105.	Electronics Instruments and Measurements –Impedance Bridges and Q Meters L-9
106.	Electronics Instruments and Measurements –Impedance Bridges and Q Meters L-10
107.	Electronics instruments and Measurements -Signal Generators, Part-2
108.	Electronics instruments and Measurements Signal Generators, Part 5
109.	Electronics Instruments and Measurements –Specifications of Analog Multimeter, Lecture -8
110.	Electronics Instruments and Measurements –Study of Multi Range Ammeter and Voltmeter
111.	Electronics Instruments and Measurements, CRO Lesson 5
112.	Electronics Instruments and Measurements-Electronic Multi Meter Part-2
113.	Electronics instruments and Measurements-Impedance Bridges and Q Meters, Lecture-14
114.	Electronics Instruments and Measurements-Impedance Bridges and Q Meters, Lecture 15
115.	Feedback Amplifier, Part 4
116.	Impedance Bridges and Q Meters, Lecture -1
117.	Impedance Bridges & Q Meters, Lecture-2
118.	Impedance Bridges & Q Meters, Lecture-3
119.	Impedance Bridges and Q Meters Lecture -4
120.	Impedance Bridges & Q Meters, Lecture-6
121.	Impedance Bridges & Q Meters, Lecture-7
122.	Impedance Bridges & Q Meters, Lecture-8
123.	Impedance Bridges & Q Meters, Lecture-11
124.	Impedance Bridges & Q Meters, Lecture-12
125.	Impedance Bridges & Q Meters, Lecture-13
126.	Implementation of Digital Logic Circuits using Logic Gates
127.	Implementation of Digital Logic Circuits using Logic Gates, Lecture 1
128.	Implementation of Digital Logic Circuits Using Logic Gates Lecture-4
129.	Implementation of Digital Logic Circuits Using Logic Gates, Lecture -5
130.	K-Map, Part -5
131.	M&A, STACK
132.	Memories, Lecture -1,
133.	Memories, Lecture -2,
134.	Memories, Lecture -3
135.	Microprocessor & Control-Assembly Language Program, Part-7
136.	Microprocessor & Its Applications- Basic I/O Interfacing (I/o Operations), Part-7
137.	Microprocessor & Its Applications- Basic I/O Interfacing (I/o Operations), Part-8,
138.	Microprocessor & Its Applications- Basic I/o Interfacing, Part-12
139.	Microprocessor & its Applications-Assembly Language Programme, Part-8

140.	Microprocessor & Its Applications-Assembly Language, Part-1
141.	Microprocessor & Its Applications-Assembly Language, Part-2
142.	Microprocessor & Its Applications-Assembly Language Program-Part-3
143.	Microprocessor & Its Applications-Assembly language Programme, Part-4
144.	Microprocessor & its Applications-Basic I/O Interfacing, Part-10
145.	Microprocessor & Its Applications-Basic I/o Interfacing, Part-11
146.	Microprocessor & Its Applications-Basic I/O Interfacing (I/o Operations), Part-14
147.	Microprocessor and Applications Basic I/O Interfacing
148.	Microprocessor and Applications-I/O Operation Part 1
149.	Microprocessor and Applications- Input /Output Operation, Lecture -2
150.	Microprocessor & Its Applications-Input/Output Operations Lecture-3
151.	Microprocessor & Its Applications-Input/Output Operations Lecture-4
152.	Microprocessor and Applications- Input /Output Operation Lecture -5
153.	Microprocessor and Applications- Intro to 8085 Microprocessor Lecture -2
154.	Microprocessor & its Applications-Introduction of 8085 Microprocessor, Lecture-3
155.	Microprocessor & Its Applications –Introduction of 8085 Microprocessor, Lecture-4
156.	Microprocessor & Its Applications-Introduction of 8085 Microprocessor, Lecture-5
157.	Microprocessor & Its Applications-Introduction of 8085 Microprocessor, Lesson-6
158.	Microprocessor & Its Applications-Introduction of 8085 Microprocessor, Lesson-7
159.	Microprocessor & Its Applications-Introduction of 8085 Microprocessor, Lesson-8
160.	Microprocessor and Applications- Introduction to 8085 Microprocessor, Lecture-9
161.	Microprocessor and Applications -Intro to 8086 Microprocessor, Lecture-1
162.	Microprocessor and Application- Introduction to 8086 Microprocessor Lecture -4
163.	Microprocessor and application-Introduction to 8086 microprocessor Lecture-5
164.	Microprocessor & Its Applications-Introduction to 8086, Lecture-5
165.	Microprocessor & its Applications-Memory Chip,Part-2
166.	Microprocessor & Its Applications-Memory of Microcomputers, Lecture -1
167.	Microprocessor & Its Applications-Memory of Microcomputer, Part-5
168.	Microprocessor and Application Memory of Microcomputers Lecture -7
169.	Microprocessor & Its Applications-Memory of Microcomputers, Lecture -8
170.	Microprocessor & Its Applications-Memory of Microcomputers, Lecture-10
171.	Microprocessor & Its Applications-Memory of Microcomputers, Lecture-11
172.	Microprocessor & Its Applications-Overview Lecture-1
173.	Microprocessor & Its Applications-Overview of microcomputer, Lecture-2
174.	Microprocessor & Its Applications-Overviews of Microcomputer System, Lecture-4
175.	Microprocessor & Its Applications-Overview of Microcomputer, Lecture-5

176.	Microprocessor & Its Applications-Overview of Microcomputer, Lecture-6
177.	Microprocessor and Application-Overview of Microcomputer System, Lecture -6
178.	Microprocessor and Application –Analog to Digital Converter
179.	Microprocessor and Applications –Basic I/o Interfacing (I/O operations) Part- 13
180.	Microprocessor and Applications- CPU Control, Lecture -2
181.	Microprocessor and Applications- CPU Control, Lecture -6
182.	Microprocessor and Applications- CPU Control, Lecture -9
183.	Microprocessor and Applications- CPU Control, Lecture -10
184.	Microprocessor and Applications- CPU Control, Lecture -11
185.	Microprocessor and Applications –Memory of Microcomputers, Lecture -2
186.	Microprocessor and Applications Memory of Microcomputers Lecture -12
187.	Microprocessor and Applications-Assembly Language Program, Part-5
188.	Microprocessor and Applications-Assembly Language Program, Part-6
189.	Microprocessor and Applications-Basic I/O Interference (I/O operations), Part -5
190.	Microprocessor and Applications-CPU Control, Lecture -1
191.	Microprocessor and Applications-CPU and Control, Lecture -3
192.	Microprocessor and Applications-CPU and Control, Lecture -5
193.	Microprocessor and Applications-Input /Output Operation, Lecture -6
194.	Microprocessor and Applications-CPU and Control, Lecture -7
195.	Microprocessor and Applications-CPU and Control, Lecture -8
196.	Microprocessor and Applications-CPU and Control, Lecture-12
197.	Microprocessor and Applications-I/O Operation (ADC) Lecture-15
198.	Microprocessor and Applications-Instruction of 8085 Microprocessor, Lecture 1
199.	Microprocessor and Applications-Introduction of Microprocessor 8085, Lecture -2
200.	Microprocessor and Applications-Introduction of Microprocessor 8086, Lecture -3
201.	Microprocessor and Applications-Memory Chips, Part-1
202.	Microprocessor and Applications-Memory of Microcomputer, L-2
203.	Microprocessor and Applications-Memory of Microcomputers, Lecture-3
204.	Microprocessor and Applications-Memory of Microcomputers, Lecture-4
205.	Microprocessor and Applications-Memory of Microcomputer-6, Lecture-7
206.	Microprocessor and Applications-Overview of Microcomputer System Part -3
207.	Multivibrators, Part-1
208.	PDE, Binary Codes, Lecture-2
209.	PDE, Logic Gates, Lecture-1
210.	PDE-Boolean Algebra, Lecture-6
211.	Principle of Digital Electronic- K-Map, Part -1

212.	Principle of Digital Electronics – K-Map Part -2
213.	Principle of Digital Electronics – K-Map Part -3
214.	Principle of Digital Electronics K-Map, Part -4
215.	Principle of Digital Electronics –Sequential Logic Circuits Counters), Lecture 10
216.	Principle of Digital Electronics-Memories, Lecture-5
217.	Principle of Digital Electronics-Sequential Logic Circuits, Lecture 5
218.	Principle of Digital Electronics-Sequential Logic Circuits, Lecture 6
219.	Principles of Digital electronics - Analog to digital and digital to Analog converters, L-2
220.	Principles of Digital Electronics - Binary Codes L-3
221.	Principles of Digital Electronics - Boolean Algebra L-3
222.	Principles of Digital electronics - Combinational Logic Circuits, part 4 (DECODERS)
223.	Principles of Digital Electronics - Logic Families and Digital ICs L-4
224.	Principles of Digital Electronics - Logic Families and Digital ICs L-6
225.	Principles of Digital electronics - Sequential Logic circuits, Lesson- 9
226.	Principles of Digital Electronics (Analog to Digital & Digital to Analog Converter Part 1, Lecture -1
227.	Principles of Digital Electronics (Analog to Digital & Digital to Analog Converter, Lecture -3
228.	Principles of Digital Electronics- Arithmetic Operations, Lesson 1
229.	Principles of Digital Electronics- Arithmetic Operations, Lesson 3
230.	Principles of Digital Electronics- Boolean Algebra L-2
231.	Principles of Digital Electronics- Boolean Algebra L-4
232.	Principles of Digital Electronics- Boolean Algebra L-5
233.	Principles of Digital Electronics- Boolean Algebra-1, Lecture-14
234.	Principles of Digital Electronics- Combinational Logic Circuits Part 6 (Multiplexers)
235.	Principles of Digital electronics-- Combinational Logic Circuits, part 5 (DECODERS)
236.	Principles of Digital Electronics- K-Map, Part-6
237.	Principles of Digital Electronics- Sequential Logic Circuits Counter Part-7
238.	Principles of Digital Electronics- Sequential Logic Circuits, Part-8
239.	Principles of Digital Electronics-Arithmetic Circuits
240.	Principles of Digital electronics-Arithmetic Operations L-2
241.	Principles of Digital Electronics-Arithmetic Operations Lecture-5
242.	Principles of Digital Electronics-Arithmetic Operations Lecture-6
243.	Principles of Digital Electronics-Arithmetic Operations, Lecture-4
244.	Principles Of Digital Electronics-Binary Addition and Subtraction, Lecture-4
245.	Principles of Digital Electronics-Binary Subtraction using Compliment Methods, Lecture -5

246.	Principles of Digital electronics-Binary Multiplication Division & Binary Codes, Lecture-6
247.	Principles of Digital Electronics-Boolean Algebra, Lecture-1
248.	Principles of Digital Electronics-Boolean Algebra, Lecture-4
249.	Principles of Digital Electronics-Combinational Logic Circuits Lecture-1
250.	Principles of Digital Electronics-Combinational Logic Circuits, Lecture-2
251.	Principles of Digital Electronics-Combinational Logic Circuits Lecture-3
252.	Principles of Digital Electronics-Combinational Logic Circuits, Lecture-6
253.	Principles of Digital Electronics-Implementation of Digital Logic Circuits Using Logic Gates -lecture -1
254.	Principles of Digital Electronics-Implementation of Digital logic Circuits Using Logic Gates, Lecture -2
255.	Principles of Digital Electronics-Logic Families & Digital ICs Lecture-1
256.	Principles of Digital Electronics-Logic Families & Digital ICs Lecture-2
257.	Principles of Digital Electronics-Logic Families & Digital ICs Lecture-3
258.	Principles of Digital Electronics-Logic Families & Digital ICs Lecture-5
259.	Principles of Digital Electronics-Logic Gates, Part-3
260.	Principles of Digital Electronics-Memories Part-4
261.	Principles of Digital Electronics-Minimization of Boolean Expression Using K-Map, Lecture-6
262.	Principles of Digital Electronics-Multiplexer, Part-2
263.	Principles of Digital Electronics-Number System (Multiplication & Division), Lecture-5
264.	Principles of Digital Electronics-Number System, Lecture-1
265.	Principles of Digital Electronics-Number System, Lecture-4
266.	Principles Of Digital Electronics-Overview of Digital Electronics, Lecture-1
267.	Principles of Digital Electronics-Sequential Logic Circuits-Lecture-1
268.	Principles of Digital Electronics-Sequential logic Circuits, Lecture-2
269.	Principles of Digital Electronics-Sequential Logic Circuits, Lecture-3
270.	Principles of Digital Electronics-Signed and unsigned Binary Numbers, Lecture 3
271.	Principles of Digital Electronics-Universal Gates
272.	Sequential Logic Circuit, Lecture-4
273.	Study of Analog Multimeter
274.	Tuned Voltage Amplifier,Part-2
275.	Wave Shaping Circuits, Part -4

e-Lectures in Applied Mathematics (in Hindi) for UP State	
1.	Maths, Functions and Limits
2.	Limit of a Function
3.	Continuity
4.	Differentiability and Differentiation
5.	Demoivre's Theorem
6.	Complex Numbers
7.	Determinants
8.	Laplace Transform
9.	3D Geometry
10.	Mathematics Relations & Functions
11.	Chain Rule
12.	Differentiation
13.	Arithmetic Progression
14.	Differentiation of Implicit Function
15.	Direction Cosine and Direction Ratios
16.	Differentiation
17.	Matrices, Part-7
18.	Matrices, Part-5
19.	Vector Algebra, Part-5
20.	Vector Algebra, Part-7
21.	Vector Algebra, Part-6
22.	Properties of Determinants
23.	Algebra and Types of Functions
24.	Geometric Progressions,
25.	Leibnitz's Theorem
26.	Higher Order derivatives
27.	Cramer's Rule, Part A
28.	Projections of Line
29.	Matrices Part-1
30.	Vector Algebra,Part-1
31.	Vector Algebra,Part-2,
32.	Identification of Surfaces in Space
33.	The Plane
34.	Maxima & Minima
35.	The Plane, Part 1
36.	Cramer's Rule, Part-B
37.	Matrices-Part-6
38.	Matrices-Part-8
39.	Relations & Functions
40.	Matrices-Part-2
41.	Matrices-Part-3

42.	Vector Algebra, Part-3
43.	Vector Algebra, Part-4
44.	The Straight Lines - Part-B
45.	The Sphere
46.	Binomial Theorem,Part-4
47.	Conic Section, Parabola, Part-A
48.	Conic Section, Parabola, Part-B
49.	Probability,Part-2
50.	Fourier Series, Part-1
51.	Beta Function
52.	Differentiation of Vectors
53.	Integral Calculus
54.	Basic Concepts of Probability
55.	Matrices-Part-9
56.	Ellipse, Part-A
57.	Inverse Laplace Transform
58.	Method of Least Squares of Curve Fitting
59.	Probability Distribution
60.	Probability, Part-1
61.	Binomial Theorem, Part-3
62.	Binomial Theorem, Part-2
63.	Binomial Theorem, Part-2
64.	Jacobians, Part-2
65.	Hyperbola, Part-B
66.	Hyperbola, Part-A
67.	Gamma Function
68.	Inverse Laplace Transform and its Application
69.	Jacobians, Part-1
70.	Partial Differentiation
71.	Ellipse, Part-8
72.	Vector Algebra, Part-8
73.	Vector Algebra, Part-9
74.	Green's Theorem & Gauss's Theorem
75.	Relation Between Sides & Angles of a Triangle
76.	Linear Differential Equations, Part-3
77.	Linear Differential equations, Part-2
78.	Ordinary Differential Equation, Part-I
79.	Ordinary Differential Equation, Part-2
80.	Vector Integration
81.	Application of Definite Integral
82.	Integration by Partial Fraction
83.	Ordinary Differential Equation, Part-3
84.	Inverse Circular Functions

85.	Numerical Integration
86.	Integration by Substitution
87.	Integration by Parts
88.	Fourier Series, Part-2
89.	Ordinary Differential Equation, Part-4
90.	Ordinary Differential Equation, Part-5
91.	Application of Differential Equation, Part-1
92.	Integration of Some Special Function
93.	Linear Differential Equation, Part-1
94.	Definite Integral
95.	Application of Differential Equation, Part-2
96.	Application of Derivatives

No. of Lecture Based Video Films produced for the Training : 1038
Programmes offered through ICT and uploaded on You Tube

Annexure- II

A. RESEARCH PUBLICATIONS BY THE INSTITUTE FACULTY

Sr. No.	Title of the Paper Published	Author(s) Name
	APPLIED SCIENCE	
1.	“Modified FGP Approach for Multi-level Multi-objective Linear Fractional Programming Problems”, Journal of Applied Mathematics and Computation (Elsevier) in Vol. 266 (2015), 1038-1049.	KC Lachwani
2.	“Fuzzy Goal Programming Applied to Multi-objective programming Problem with FREa as Constraints”, Decision Science Letters, 4(4) (2015), 465-476.	KC Lachwani
3.	“Corrigendum/Addendum to “Multi-objective Stochastic Linear Programming Problems when bi’s follow Weibull distribution” [OPSEARCH 50(2) (2013): 250-259], International Journal of Pure and Applied Mathematical Sciences, 8(2)(2015), 151-153.	KC Lachwani
4.	“Uncertain Multi-objective Programming Models: A Genetic Algorithm Approach”, International Journal of Mathematics in Operational Research (Inderscience).	KC Lachwani
5.	“Modified Fuzzy Goal Programming Procedure for Multi-objective Linear Plus Linear Fractional Programming Problem”, International Journal of Pure and Applied Mathematical Sciences, 8(2) (2015), 163-176.	KC Lachwani
	CIVIL ENGINEERING	
6.	“Improving Structural Performance using Fibre in Concrete”, International Research Journal of Engineering & Technology (IRJET) – Vol-02, Issue-03/June 2015”.	Hemant Sood
7.	“A Comparative Study of Varying Dosage of Different Air Entraining Agents for M35 & M40 Concrete Grades”, Indian Journal of Research. P-ISSN-2250-1991-Vol4. Issue 8, August, 2015.	Hemant Sood
8.	“Analysis of M35 & M40 Grades of Concrete by DOE and BIS Methods of Mix Design on Replacing Fine Aggregates with Stone Dust”, Journal of Engineering Education by NITTTR, Publication, Chandigarh, (Aug-Dec, 2015).	Hemant Sood
9.	“Evaluation of Different Grades of Concrete Designed as per BIS and USBR Methods using Rounded Aggregates”, International Research Journal of Engineering & Technology (IRJET) – Vol-02, Issue-01/Jan 2015, e-ISSN-2395-0056, P-ISSN : 2395-0072.	Hemant Sood
10.	“Evaluation of M35 & M40 Grades of Concrete Designed as per ACI and DOE Methods using Rounded and Crushed Aggregates”, Journal of Engineering Education by NITTTR, Publication, Chandigarh, (Aug-Dec, 2015).	Hemant Sood

Sr. No.	Title of the Paper Published	Author(s) Name
11.	"Comparative Study of M ₃₅ & M ₄₀ Grades of Concrete by USBR and BIS Methods of Mix Design – Journal of Engineering Education by NITTTR, Publication, Chandigarh, (Aug-Dec, 2015).	Hemant Sood
12.	"Evaluating M35 & M40 Grades of Concrete by ACI, DOE, USBR and BIS methods of Mix Design" in IRJET-Vol. 02, August, 2015.	Hemant Sood
13.	"Analysis of M35 & M40 Grades of Concrete by ACI and USBR Methods of Mix Design on Replacing Fine Aggregates with Stone Dust"- International Research Journal of Engineering and Technology (IRJET) – Vol-02 : Issue 05/Aug, 2015.	Hemant Sood
14.	"Comparative Study of Varying Dosage of Different Plasticizers for Standard Concrete of Grades M35 & M40" – Journal of Engineering & Technology Education – Vol.9, No.2 (July-Dec, 2015).	Hemant Sood
15.	"Geopolymer Concrete – Eco Friendly" – International Journal of Innovation in Engineering and Technology (Vol. 6, Issue 2 , Dec, 2015).	Hemant Sood
16.	"Development of Timbercrete by Replacing Coarse Aggregate with Sand Dust" – International Journal of Civil Engineering (IJCE) – Vol. 2, Issue – 2 (Sep 2015).	Hemant Sood
17.	"Effect of Hydrochloric Acid in Mixing and Curing Water on Strength of Concrete" – International Journal of Civil Engineering (IJCE) – Vol. 2, Issue – 2 (Sept. 2015).	Hemant Sood
18.	"Effect of Concentration of Alkaline Water on Strength of Concrete" – International Journal of Civil Engineering (IJCE) – Vol. 2, Issue – 2 (Sept. 2015).	Hemant Sood
19.	"An Experimental Study on Correlation Between California Bearing Ratio (CBR) and Dynamic Cone Penetration Test (DCPT)", IJMTER PP 15-19 ISSN (Online) 2349-9745 ISSN (PRINT) 2393-8161.	AK Duggal Vinod Kumar
20.	"Soil Stabilization Using Shredded Rubber Tyre : A Review", International Journal of Civil and Structural Engineering Research ISSN 2348-7607 Vol. 3 issue1, PP 57-60, April 2015-Sept., 2015.	Vinod Kumar AK Duggal
21.	"Review on Stabilization of Soil Using Polypropylene as Waste Fibre Materials", IJRSET Vol.4, Issue11, Nov, 2015.	Vinod Kumar
22.	"Effect of Partial Replacement of Sand with Municipal Solid Waste Ash on the Strength of Concrete", The Indian Concrete Journal, October 2014, Vol. 88, Issue 10, pp. 65-73.	SK Sharma
23.	"Abrasion Resistance Strength Properties of Concrete Containing Municipal Solid Waste Ash", The Indian Concrete Journal, 2015, vol. 89, Issue 3, pp. 22-29.	SK Sharma

Sr. No.	Title of the Paper Published	Author(s) Name
24.	"Utilization of Waste Foundry Sand in Geopolymer Concrete", International Research Journal of Engineering and Technology, in IRJET Journal Vol. 2, Issue 2, May 2015.	SK Sharma
25.	"Site Safety and Planning for Building Construction", International Research Journal of Engineering and Technology, in IRJET Journal Vol. 2 Issue 2, May 2015.	SK Sharma
26.	"Evaluation of Stipulated Conditions Imposed at the Time of Grant of Environment Clearance from the Perspective of implementation of Compliance–A Case Study for Construction Projects in India", Chinese Journal of Urban and Environmental Studies Vol.3, No.1(2015) 1550006.	SK Sharma
27.	"Structural Characteristics of HPDSP Concrete on Beam Colum Joints", Journal International Science Index 17, 2015, eISSN : 1307-6892, September 28-29, 2015, Los Angeles, USA.	SK Sharma
28.	"Structural Characteristics of HPDSP Concrete : An overview, Proceeding of ICRTET 2015, 4th"" International Conference of Recent Trends in Engineering & Technology, July, 2015 McGraw Hill Publication, at Nashik Maharashtra.	SK Sharma
29.	"Effect of Partial Replacement of Sand with Foundry Slag on Strength of Concrete", The Indian Concrete Journal, July, 2015, Vol. 89, Issue 7, pp 64-73.	SK Sharma
30.	"Performance Characteristics of HPDSP Concrete : An overview HPFRCC-7", 7th RILEM Workshop on High Performance Fibre Reinforced, Cement Composites, Stuttgart, Germany June 1-3, 2015.	SK Sharma
31.	"Subgrade Soil Stabilization using Fines Obtained from Demolished Concrete Structures", International Research Journal of Engineering and Technology, Vol.2, Issue 1, 2015.	Vinod Kumar
32.	"An Experimental Study on Correlation between California Bearing Ratio (CBR) and Dynamic Cone Penetration Test (DCPT)", International Journal of Modern Trends in Engineering and Research (IJMTER), Vol. 02, Issue 08, August-2015.	AK Duggal Vinod Kumar
33.	"Soil Stabilisation using Shredded Rubber Tyre: A Review", Vol. 3, Issue 1, pp : (57-60), April, 2015 to Sept., 2015.	AK Duggal Vinod Kumar
34.	"Improvement of Subgrade by RBI Grade 81 and Pond ASH", International Research Journal of Engineering and Technology (IRJET), Vol. 02, Issue: 02, Aug, 2015.	AK Duggal
35.	"Condition Assessment of RCC Bridges", Journal of Engineering & Technology Education; Vol.9, No.1, January-June, 2015, ISSN, 2229-631 x, P 34-38.	Himmi Gupta

Sr. No.	Title of the Paper Published	Author(s) Name
	COMPUTER SCIENCE	
36.	"An Efficient Cluster-based Multi-Keyword Search on Encrypted Cloud Data", International Journal of CSI Communications, Vol.39 Issue 3, pp. 20-27, June 2015.	Rohit Handa C Ramakrishna
37.	"Compressing the Data Densely by New Geflochtener to Accelerate Web", International Journal of Computer Applications, Vol. 94, Issue10, pp. 12-17, May 2015.	HK Saini SS Kushwaha C Ramakrishna
38.	"Data Relationship Degree Based Clustering Data Aggregation for VANET", International Journal of Electronics, Taylor & Francis, Vol. 103, Issue 3, 2016, pp. 485-503.	Rakesh Kumar Mayank Dave
39.	A Novel Framework for Secure File Transmission using Modified AES and MD5 Algorithms", International Journal of Information and Computer Security, Vol-7, Issue-2/3/4, 2015, pp. 91-112.	Rakesh Kumar Geetu Mahajan
40.	"DDDR: Decentralized Data Dissemination in VANET Using Raptor Codes", International Journal of Electronics, Taylor & Francis, Volume-102, Issue-6, Jun 2015, pp. 946-966.	Rakesh Kumar Mayank Dave
41.	"Green Telecommunication: Life Cycle Assessment of Energy Efficient Wireless BTS", International Journal of Advanced Research in Computer Science and Software Engineering, Vol. 5, Issue 10, 2015, pp. 186-189.	Rakesh Mathur Rakesh Kumar
42.	"Secured Image Transmission Using A Novel Neural Network Approach And Secret Image Sharing Technique", International Journal of Signal Processing, Image Processing and Pattern Recognition (IJSIP), Vol. 8, Issue 1, 2015, pp. 161-192.	Rakesh Kumar Meenu Dhiman
43.	"A Survey of Mobile Cloudlets Based Computing System", Journal of Algorithms, Computer Network, and Security, Austria, Vol-1, Issue-2, pp. 1-7, Mar 2016.	Rakesh Kumar SK Yadav
44.	"Event-Triggered Localization Algorithm Based On RF with IR Fingerprint and RSSI with PSO Techniques", American International Journal of Research in Science, Technology, Engineering & Mathematics, Issue-13, Vol-1, pp. 66-72, Feb, 2016.	A A Saihood Rakesh Kumar A M Hamad
45.	"Recommender System using Collaborative Filtering and Demographic Characteristics of Users", International Journal of Recent and Innovative Trends in Computing and Communication (IJRITCC), Vol. 3, Issue 7, July 2015, pp. 4735-4741.	Shano Solanki Shalini Batra
46.	"Effective Review of Multiprocessor Scheduling in Cloud Infrastructure", International Journal of Enterprise computing and Business Systems (IJECS), Vol. 5, Issue 2, July 2015.	Marish Kumar Amit Doegar
47.	"Automatic Detection of Sick Cell in Red Blood Cell using Watershed Segmentation", International Journal of Advanced Research in Computer and Communication Engineering, Volume 4, Issue 6, June 2015.	Shashi Bala Amit Doegar

Sr. No.	Title of the Paper Published	Author(s) Name
48.	"An effective Approach for Face Recognition using PCA and LDA on visible and IR Images", International Journal of Computer Trends and Technology (IJCTT) Vol. 32, 01 February, 2016.	Rupish Arora Amit Doegar
49.	"A Review of Metaheuristic Scheduling Techniques in Cloud Computing", Egyptian Informatics Journal, Vol. 16, Issue 3, pp. 275-295, November 2015.	Mala Kalra Sarbjeeet Singh
50.	"Workflow Scheduling Using Hybrid Discrete Particle Swarm Optimization (HDPSO) in Cloud Computing Environment", International Journal of Innovative Research in Computer and Communication Engineering, 3(12):12301-12307, 2015. DOI: 10.15680/IJIRCCE. 2015.0312059	Purnima Devi Mala Kalra
ELECTRONICS AND COMMUNICATION ENGINEERING		
51.	"Lossless Image Compression of Medical Images Using Golomb Rice Coding Technique", International Journal of Advances in Computer Science and Information Technology, Vol.2 No.120, pp 30-34, April 2015.	Girish Gangwar Maitreyee Dutta Gaurav Gupta
52.	"Image Encryption and Compression using Prediction Error K-Mean Clustering and Cyclic Permutation", International journal of Advance Research in Computer Science and Management Studies, Vol 3, Issue 4, May 2015.	Parveen Kumar Maitreyee Dutta
53.	"An Improved Single Packet IP Traceback for D/DOS Attack", International Journal of Applied Engineering Research, ISSN 0973-4562, vol. 10, No 44, May, 2015,pp 30723-30728 (SCOPUS Indexed)	Kamaldeep Manisha Malik Maitreyee Dutta
54.	"Comparative Analysis of Blind and nonBlind Deconvolution techniques of various blurs", International Journal of Applied Engineering Research, ISSN 0973-4562, vol. 10, No 44, May, 2015, pp-30843-30850 (SCOPUS Indexed)	Ashish Kalia Maitreyee Dutta
55.	"Security Analysis of Web Log Files against IP Spoofing and Brute Force Attack using Genetic algorithm and Neural Network", International Journal of Advanced Information Science and Technology, vol. 39, no.39, July 2015, pp 116-111 IF: 3.564 (SCOPUS Indexed)	Neha Maitreyee Dutta
56.	"An Integrated Approach for Digital Image Inpainting", International Journal of Advanced Information Science and Technology, vol. 39, no.39, July 2015, pp 71-79 IF: 3.564, (SCOPUS Indexed)	Lavina Kalra Maitreyee Dutta
57.	"A Proposed Work on Segmentation Based Enhancement of Medical Images for Rapid Diagnosis in Telemedicine", International Journal of Engineering and Technology, vol. 7 No 4, ISSN: 0975-4024, September, 2015	Sanyam Anand Maitreyee Dutta

Sr. No.	Title of the Paper Published	Author(s) Name
58.	"Optimal Priority Based Service Broker Policy in Cloud Computing", International Journal of Advanced Information Science and Technology, vol. 40, No.40, August, 2015 (SCOPUS INDEXED)	Pawan Kumar Maitreyee Dutta
59.	"Performance Analysis of Hadoop Mapreduce on Amazon EC2 vs. Microsoft Azure Cloud Services, International Journal of Advance Information Science and Technology (IJAIST) (SCOPUS Indexed)	Aditya Bhardwaj Maitreyee Dutta
60.	"Sentiment Analysis for Indian Stock Market Prediction Using Sensex and Nifty" EISEVIER (SCI indexed), Proceedia Computer Science, 70 (2015) 85-91	Aditya Bhardwaj Maitreyee Dutta
61.	"Time and Accuracy Analysis of Skew Detection Methods for Document Images" International Journal of Information Technology and Computer Science, 2015, 11, 43-54	Sunita Mehta Ekta Walia Maitreyee Dutta
62.	"MetaHeuristics Based Approach for Workflow Scheduling in Cloud Computing: A Survey, Proceedings of Artificial Intelligence and Evolutionary Computations in Engineering Systems, Springer AISC (Advances in Intelligent Systems and Computing) Series Vol 394, pp 1331-1345	Poonam Maitreyee Dutta Naveen Aggarwal
63.	"Area and Power Efficient Hybrid Reversible Shift Register", International Journal of Advanced Information Science & Technology (IJAIST), Volume 39, No. 39, pp. 13-19, July 2015, I.F: 5.032.	Anju Devi Rajesh Mehra
64.	"Pulse Triggered Flip Flop Design Using Signal Feed Through Scheme for Area and Power Reduction", International Journal of Advanced Information Science & Technology (IJAIST), Volume 39, No. 39, pp. 7-12, July 2015, I.F: 5.032.	Neha Thapa Rajesh Mehra
65.	"Layout Design of CMOS Buffer to Reduce Area and Power", International Journal for Innovative Research in Science & Technology (IJIRST), Volume 2, No. 1, pp. 22-25, June 2015, I.F: 3.55.	M S Mahoob Rajesh Mehra
66.	"FPGA Based Design of Speed Efficient Vedic Multiplier", International Journal of Electronics, Electrical & Computational Systems, Volume 4, No. 1, pp. 94-98, March 2015. ISSN: 2348-117x, I.F: 2.52.	Arushi Garg Rajesh Mehra
67.	"Image Restoration and Comparative Analysis", International Journal of Engineering Trends & Technology (IJETT), Volume 27, No. 4, pp. 195-200, September 2015, I.F: 1.795	Parul Gupta Rajesh Mehra
68.	"Efficient Layout Design of 4-Bit Full Adder Using Transmission Gate", International Journal of Computer Trends & Technology (IJCTT), Volume 23, No. 3, pp. 116-119, May 2015, I.F: 1.51	Anurag Yadav Rajesh Mehra

Sr. No.	Title of the Paper Published	Author(s) Name
69.	"Power and Area Analysis of Flip Flop Using Different Techniques", International Journal of Computer Trends & Technology (IJCTT), Volume 24, No. 2, pp. 57-62, June 2015, I.F: 1.51.	Neha Thapa Rajesh Mehra
70.	"Enhancement of SR Flip Flop Layout Design in 45nm Technology", International Journal of Computer Trends & Technology (IJCTT), Volume 25, No. 3, pp. 118-121, July 2015, I.F: 1.51.	Avneet Kaur Rajesh Mehra
71.	"Design of Low Power High Performance JK Flip Flop", International Journal of Scientific Research Engineering & Technology (IJSRET), pp.1-4, March 2015. ISSN: 2278-0882, I.F: 1.24.	Pinki Rajesh Mehra
72.	"Design and Implementation of S R Flip Flop for Efficient Power Using CMOS 90 nm Technology", International Journal of Scientific Research Engineering & Technology (IJSRET), Volume 4, No. 5, pp. 480-483, May 2015, I.F: 1.24.	Anjana S Rajesh Mehra
73.	"Area Efficient Layout Design Analysis, "International Journal of Scientific Research Engineering & Technology (IJSRET), pp. 57-60, March 2015. ISSN: 2278-0882, I.F: 1.24.	Renuka Verma Rajesh Mehra
74.	"Area Efficient Layout Design & Analysis of Full Subtractor", International Journal of Scientific Research Engineering & Technology (IJSRET), pp.173-177, March 2015. ISSN: 2278-0882, I.F: 1.24.	Anamika Sharma Rajesh Mehra
75.	"Design and Performance Analysis of Area Efficient CMOS Decoder", International Journal of Scientific Research Engineering & Technology (IJSRET), pp.43-48, March 2015. ISSN: 2278-0882, I.F: 1.24.	Vanshika Singh Rajesh Mehra
76.	"Reduced Rate of Energy Consumption in WSN With Dual Cluster Heads", International Research Journal of Engineering and Technology (IRJET), Vol.2 Issue 4, pp. 1126- 1129, July 2015 , e-ISSN: 2395-0056 ,p-ISSN: 2395-0072.	Neelam Ojha Kanika Sharma
77.	"An Energy Efficient Unequal Clustered Based Multi-Hop Routing Protocol for WSN", International Research Journal of Engineering and Technology (IRJET), Vol.2 Issue 4, pp. 1130-1133, July 2015, e-ISSN: 2395-0056, p-ISSN: 2395-0072.	Neelam Ojha Kanika Sharma
78.	"Review Paper on Routing Protocol in WSN", International Journal of Exploring Emerging Trends in Engineering (IJEETE), Vol.2 Issue 3, pp. 94-99, May- June 2015, ISSN – 2394-0573	Neelam Ojha Kanika Sharma
79.	"Design Low Noise Digital decimation Filter for Sigma- Delta ADC", International Journal of Scientific Research and Management (IJSRM), Vol. 3, Issue 6, pp.519- 524, June 2015, Online ISSN : 2321-3418.	P K Singh Kanika Sharma

Sr. No.	Title of the Paper Published	Author(s) Name
80.	"A Survey: Design Low Noise Digital Decimation Filter for Sigma-Delta-ADC", International Journal of Engineering and Technology Research (IJETR), Vol. 3, Issue 4, pp. 154-156, April 2015, ISSN: 2321-0869.	P K Singh Kanika Sharma
81.	"Design and Implementation of High Speed Area Efficient Double Precision Floating Point Arithmetic Unit", IOSR Journal of Electronics and Communication Engineering (IOSR-JECE), Vol. 10, Issue 1, pp 49-54, Jan.- Feb. 2015, e-ISSN: 2278-2834, p-ISSN: 2278-8735.	Onkar Singh Kanika Sharma
82.	"A Hardware Efficient Robust Digital Image Watermarking Algorithm using Integer DCT", International Journal of Engineering Trends and Technology, Vol. 25, Issue 2, pp 89-95, July 2015.	Gaurav Gupta Kanika Sharma
83.	"Image Watermarking and its Hardware Realization: A survey", International Journal of Electrical and Electronics Engineering, Vol. 2, Issue 4, pp 20-21, August 2015, e-ISSN: 1694-2310, p-ISSN: 1694-2426.	Gaurav Gupta Kanika Sharma
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86.	"Op-amp Selection for Transimpedance Amplifier Design", IJEEE, Volume 2, Issue 4, pp. 8-12, August, 2015, e-ISSN: 1694-2310 , p-ISSN: 1694-2426.	Bhaskar Mishra Kanika Sharma Pawan Choudhary
87.	"Design of Planar Inverted F Antenna for Multiband Applications," International Journal of Electrical and Electronics Engineering, Vol. 2, Spl. Issue 1, pp. 181-183, May, 2015.	Praveen Kumar Garima Saini
88.	"Comparative Analysis of PIFA and PIFA with Metamaterial Lenses," International Journal of Electrical and Electronics Engineering, Vol. 2, No .2, pp.4-7, June, 2015.	Praveen Kumar Garima Saini
89.	"Nonlinear Interference Suppressor for LTE in Multimode Environment: A Survey", IOSR Journal of Electronics and Communication Engineering, e-ISSN:2278-2834, pp. 19-22, 2015.	Divya Garima Saini
90.	"A Hybrid Approach to Improve PAPR Analysis of MIMO-OFDM Systems," International Journal of Electrical and Electronics Engineering, Volume 2, Special Issue 1, pp.123-127, 2015.	R L Shukla Garima Saini
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92.	"A Review on Beamforming Techniques in Wireless Communication," International Research Journal of Engineering and Technology (IRJET) Volume: 02 Issue: 05, pp. 715-720, e-ISSN: 2395-0056, p-ISSN: 2395-0072, August, 2015.	Hemant Garima Saini
93.	"Co Channel Interference Rejection of OFDM Signals using Frost Beamforming Technique," International Journal of Research in Advent Technology, Vol.3, No.8, pp. 61-67, ISSSN No. -2321-9637. August, 2015.	Hemant Garima Saini
94.	"Strain Sensor for Strain Measurement: A Review," International Journal of Electrical and Electronics Engineering, Volume 1, Spl. Issue pp. 144-146, May 2015.	Shivendra Garima Saini
95.	"A Survey of Bio Inspired Algorithm Based Image Enhancement," International Journal of Innovation and Advancement in Computer Science, Vol. 4, No. 8, pp. 1-4, August, 2015.	Lalit Maurya Garima Saini
96.	"Techniques Based on Resource Allocation in Chunk Based OFDMA: A survey", International Journal of Advanced Engineering Research and science, Vol. 2, No.12, pp. 37-40, December, 2015.	M K Yadav Garima Saini
97.	"Different Propagation Modelling Tools used for Various Indoor and Outdoor Scenarios", International journal of Electrical, and Electronic Engineering & Telecommunications, Vol. 1, Spl. Issue No.2, pp. 40-55, July, 2015.	Ranjeeta Verma Garima Saini
98.	"Common Path Optical Coherence Tomography Using Optical Conventional Tiny Probe in Frequency Domain", International Journal of Engineering Research, Vol. 3, Issue. 5, September-October, 2015.	Shekhar Srivastava Garima Saini
99.	"ICI Reduction Technique for OFDM Systems Using Combining Weight Technique", International Journal of Emerging Technology and Advance Engineering, Vol. 6, Issue. 1, pp. 136-140, January, 2016.	Md. Jafir Alam Garima Saini
100.	"A Review on Future Planar Transmission Line", Cogent Engineering, Vol.3, Issue 1, pp. 1-12, January, 2016.	Ashok Kumar Garima Saini Shailendra Singh
101.	"Experimental Analysis of Cellular Outdoor Propagation at 1800MHz over Dense urban regions of Ghaziabad", International journal of Engineering & Technology, Vol. 8, No. 1, pp. 396-404, February-March, 2016.	Ranjeeta Verma Garima Saini Chhaya Dalela
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Sr. No.	Title of the Paper Published	Author(s) Name
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104.	"An Empirical Study of Leadership and Motivational factors for Successful Implementation of QM Practices in Small and Medium scale & Large scale Electronic Industry in Northern India" (Scopus Indexed Journal) International Journal of Advanced Information Science and Technology; Vol. 40, No. 40, August, 2015, 26-44p; ISSN 2319-2682.	S Dey S Sharma Sunil Dutt
105.	"A Comparative Study of Application of Quality Management Practices and their Benefits between Small and Medium Scale Versus Large Scale Electronic Industries in Northern", International Journal of Applied Engineering Research; Vol. 10, No. 44, 2015, 31856-31864p; ISSN 0973-4562.	S Dey S Sharma Sunil Dutt
106.	"Effect of Online Learning in Psychology Course on Undergraduate Students' Engagement in Learning", Published in Issues and Ideas in Education, Vol. 4; Number 1; March, 2016; Print ISSN No. 2320-7655; Online ISSN No. 2320-8805.	Ambalika Dogra Sunil Dutt
107.	Watershed Management Structures and Decision Making Framework", Water Resource Management Volume 29 No.12 (ISSN 0920-4741) published for the European Water Resource Association (EWRA) by Springer, 19 August, 2015.	A K Mishra Ankit Pachouri Amandeep Kaur
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108.	"Assessment of Fault Diagnosis Techniques of Induction Motors", International Journal of Advances in Electrical and Electronics Engineering (IJAEET), Vol.5, No. 1, pp.21-27, 2015, EISSN No. 2319-1112.	Amandeep Sharma S Chatterji Lini Mathew Niranjan Gupta
109.	"Controlling of Temperature & Humidity for an Infant Incubator using Microcontroller", International Journal of Advanced Research in Electrical, Electronics & Instrumentation Engineering IJAREEIE, Vol. 4, Issue-6, June 2015.	Hitu Bansal Ashish Gupta Lini Mathew
110.	"A review of Fault Diagnostic & Monitoring Schemes of Induction Motors", International Journal for Research in Applied Science & Engineering Technology (IJRASET), Vol.3, Issue-4, April 2015.	Amandeep Sharma Mohd. Junaid Khan S Chatterji Lini Mathew
111.	"Design and Implementation of Multi Agent System in IDAPS Micro Grid for Optimal Load Scheduling Network ", International Journal of Advance Technology in Engineering and Science, Vol 3, Issue 4, April 2015.	MK Bhardwaj Shimi SL S Chatterji
112.	"Harmonic Elimination in Cascade Multilevel Inverter with Non Equal Dc Sources Using Genetic and Differential Evolution Algorithm", IJISSET - International Journal of Innovative Science, Engineering & Technology, Vol. 2 Issue 5, May 2015.	Sudhakar V Pawar Shimi SL

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115.	"Robust Crone Control for Quadrotor type UAV's", International Journal of Innovative Research in Science , Engineering and Technology – ISSN (online 2319-8753), ISSN (Print 2347 - 6710) , Vol 4, Issue 8, August 2015.	Geetanjali Pal Shimi SL
116.	"Fractional Order Control for Quad Rotor Type UAV's", International Journal of Engineering and Innovative Technology , Vol 4, Issue 11, May 2015.	Geetanjali Pal Shimi SL
117.	"A Microcontroller Based Hygrometer for Moisture Level Measurement", International Journal of Advanced Research in Computer Science and Software Engineering, Volume 5, Issue 7, July 2015	Meraj Ahmad Shimi SL
118.	"Capacitive Humidity Sensor -Design and Its Application in Measurement Science", International Journal on Recent Technologies in Mechanical and Electrical Engineering (IJRMEE), ISSN: 2349-7947, Volume: 2, Issue: 10 pp. 039-041, October 2015.	Meraj Ahmad Shimi SL
119.	"Voice Recognition Based Home Automation System for Paralyzed People –A Review", International Journal of Engineering Research and General Science, Volume 3, Issue 5, September-ISSN 2091-2730, October 2015.	Mukesh Kumar Shimi SL
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121.	"Development of Multi-grain Capacitive Sensor for Determination of Moisture Content in Grains", Quality Assurance and Safety of Crops and Food, Vol. 7(2), pp 201-206, 2015.	Ritula Thakur S Chatterji Amod Kumar BS Bansod
122.	"Analysis of Milk Adulteration Using MID-IR Spectroscopy", International Journal of Engineering Technology, Management and Applied Science, Volume-3 Issue-5 pp-696-698, September –October 2015.	Kunal Kishore Ritula Thakur
123.	"Microcontroller Based Automatic Sprinkler Irrigation System", International Journal of Modern Engineering Trends(IJMER), Volume 5, Issue 4, April 2015.	Jagdeep Ritula Thakur Daljit Singh

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124.	"High Temperature Superconducting Techniques and its Applications", International Journal of Engineering Technology, Management and Applied Sciences, Volume 3, Issue 5 pp-286-294, May-2015.	Ritula Thakur Puneet Chawla
125.	"Soil pH Sensing Techniques and Technologies", International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering, Volume- 4, Issue 5, May-2015.	Sachin Kumar B S Bansod Ritula Thakur Manish Kumar
126.	"Calculative Analysis of 11KV Urban Distribution Feeder", International Journal on Recent Techniques in Mechanical and Electrical Engineering, Volume-2 Issue-8 pp-74-84, August 2015.	Ritula Thakur Puneet Chawla
127.	"Determination of Grain Moisture Content Using FTIR Spectroscopy", International Journal of Scientific Research, Volume 4, Issue 10, October 2015.	Supriya Ritula Thakur
128.	"Analysis and Review of Possible e-pill with Wireless Communication, Finding Applications in Biomedical", Journal of Engineering & Technology Education, Volume 9, No.1, January-June 2015.	Ajay Sharma Ritula Thakur Abhishek Mishra
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131.	"A Review of PROFINET Fieldbus System", International Research Journal of Engineering and Technology, Vol. 2, Issue 8, November, 2015.	Varun Ritula Thakur
132.	"The Role of Modular Programming in Industrial Control System", International Research Journal of Engineering and Technology, Vol. 2, Issue 9, December, 2015.	Varun Ritula Thakur
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134.	"Determination of Sugar Content in Apple Juice using FTIR Spectroscopy: A Review", International Journal of Sciences & Applied Research.	Sarvesh Singh Ritula Thakur
135.	"A Low Cost Non-Destructive Grain Moisture Embedded System for Food Safety and Quality", World Academy of Science, Engineering and Technology, International Science Index, Nutrition and Food Sciences (2015), 2(2), 264.	Ritula Thakur BS Bansod P Mehta S Chatterji

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137.	"Voltage drop calculations & design of urban distribution feeders", IJRET: International Journal of Research in Engineering and Technology, Volume: 04 Special Issue: 12, Oct-2015.	Ritula Thakur Puneet Chawla
138.	"Safety and Security System for House Boats", International Journal of Innovations in Engineering and Technology , Vol 6, No.1, pp 65-73, October 2015	B Indulal Shimi SL
139.	"Implementation of Safety and Security System for House Boats using PIC Microcontrollers", International Journal of Engineering Research and Technology , Dec 2015, http://dx.doi.org/10.17577/IJERTV41S110235 .	B Indulal Shimi SL
140.	"Design and Fluid Structure Interaction Analysis of a Micro-Channel as Fluid Sensor", Advanced Engineering Forum Vol. 14 pp.46-56, 2016, ISBN-13: 978-3-03835-887-9.	Vandana Sharma Shimi SL Saleem Khan Sandeep Arya
141.	"Home Automation and Energy Management Using Smart Phone", International Journal for Research in Applied Science and engineering Technology , Vol 3, Issue X , Oct 2015, ISSN No. 2321-9653.	Amit Dwivedi Shimi SL
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143.	"ANN Based Age Estimation of In Service Transformer Oil Samples", International Journal on Recent Technologies in Mechanical and Electrical Engineering Vol 2 ,issue 11, November 2015.	Mohd. Aslam Ansari Shimi SL
144.	"Development of ANN and ANFIS Models for Age Prediction of in Service Transformer Oil Samples", International Journal for Innovative Research in Science and Technology , Vol 2, Issue 7, December 2015.	Mohd. Aslam Ansari Shimi SL
145.	"Online Condition Assessment of Transformer Oil for Incipient Fault Detection", International journal of science research engineering and technology. Vol. 4 Issue 10,pp.991-997, October 2015.	Kamini Devi Shimi SL
146.	"Design of Online Condition Assessment of Transformer Oil for Incipient Fault Detection", International journal of engineering trends and technology, Vol 31 no.2 pp.59-68, January 2016.	Kamini Devi Shimi SL

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	MECHANICAL ENGINEERING	
147.	“Condition Based Maintenance of Machine Tools-A Review”, CIRP Journal of Manufacturing Science and Technology, Elsevier , Vol.10, pp. 24-35 (2015)	D Goyal BS Pabla
148.	“Experimental Investigation and Optimization of Machining Characteristics in Ultrasonic Machining of WC-Co Composite Using GRA Method”, Journal of Materials and Manufacturing Processes, April, 2015, pp. 921-933	BS Pabla R Kataria
149.	“Precision Finishing of External Cylindrical Surfaces of En8 Steel by Electro Chemical Honing (ECH) Process using OFAT Technique”, Journal of Materials Today Proceedings, 2 (2015), pp. 3220-3229.	PS Rao DK Dwivedi
	RURAL DEVELOPMENT	
150.	“Seismic Performance Evaluation of Innovative Inter-Linked Block Masonry System with Viscoelastic Link Elements”, The Masterbuilder, August 2015, Vol.17, NO. 8, 112-115	Amit Goyal Pankaj Agarwal
151.	“Seismic Performance Evaluation of Inter-Linked Block Masonry System with Vicoelastic Link Elements”, Surface Reporter Magazine , August 2015, 99.	Amit Goyal Pankaj Agarwal
152.	“Shake Table Testing of Seismic Resistant Inter-Linked Block Masonry System with Vicoelastic Energy Elements Links”, Published Proceedings of the International Seminar on Emerging Building Material and Construction Technology, March 2016, New Delhi, 251-258.	Amit Goyal Pankaj Agarwal

B. PAPERS PRESENTED/ACCEPTED AT IMPORTANT CONFERENCES AND SEMINARS

Sr. No.	Title of the Paper Presented/Accepted	Author(s) Name
	APPLIED SCIENCE	
1.	“Photoluminescence of Cobalt Doped ZnS Nano Particles” during the 10th Chandigarh Science Congress (CHASCON 2016), from 29th Feb.- 2nd March, 2016 at Panjab University, Chandigarh.	BC Choudhary
2.	“Role of Optimization Techniques in Sustainable Developments” in International Conference on “Sustainable Skill Development (ICSSD-2016)” organized by Rural Development Department from 18-19 February, 2016	KC Lachwani BC Choudhary

Sr. No.	Title of the Paper Presented/Accepted	Author(s) Name
	CIVIL ENGINEERING	
3.	“A Review on Alccofine – A New Generation Micro Fine Concrete Material for High Strength Concrete” Proceeding of National Conference on Sustainable Infrastructure Development – 2015 (NCSID-2015).	SK Sharma
4.	“Study on Utilization of Lime Mud (A Waste of Pulp and Paper Industry) as a Construction Material” Proceeding of National Conference on Sustainable Infrastructure Development – 2015 (NCSID-2015).	SK Sharma
5.	“Partial Replacement of Fine Aggregate with Foundry Sand for Casting of Concrete Interlocking Paver and Hollow Blocks”, Proceeding of National Conference on Sustainable Infrastructure Development – 2015 (NCSID-2015).	SK Sharma
6.	“Innovation in Low Cost Composites from Local Resources and Waste for Sustainable Construction Works”, Proceeding of National Conference on Sustainable Infrastructure Development – 2015 (NCSID-2015).	SK Sharma
7.	“Utilization of Municipal Solid Waste (MSW) Ash in Concrete”, Proceeding of National Conference on Sustainable Infrastructure Development – 2015 (NCSID-2015).	SK Sharma
8.	“Structural Performance of HPDSP Concrete on RC Joints”, Proceeding of National Conference on Sustainable Infrastructure Development – 2015 (NCSID-2015).	SK Sharma
9.	“Analysis on Effect of Reinforcing Action of Polyester Fibre in Sand and Clay”, in International Conference for Engineering and Technology at Las Vegas, USA, from 21 -25 March, 2016.	Hemant Sood
10.	“Improvement of Hot Mix Asphalt by Addition of Steel Fibres”, in International Conference for Academic Disciplines at University of Las Vegas, USA from 21-25 March, 2016.	AK Duggal
11.	“Climate Responsive Buildings”, 31st National Convention of Environmental Division Board of the Institution of Engineers (India) and National Seminar on Climate Change-Need for Global Partnership from 6-7 Nov, 2015, P 118-127.	Himmi Gupta
12.	“Foundry Sand based Geopolymer Concrete – A Sustainable Material for Paver Blocks”, National Conference on Sustainable Civil Engineering Practices (NCSCEP) from 18-19 March, 2016, ISBN 9789382782261, P 59-69.	Himmi Gupta
13.	“Effects of Different Temperatures on Flyash Based Geopolymer Concrete using Foundry Sand”, National Conference on Sustainable Civil Engineering Practices (NCSCEP) from 18-19 March, 2016, ISBN 9789382782261, P 143-149.	Himmi Gupta

Sr. No.	Title of the Paper Presented/Accepted	Author(s) Name
14.	“Climate Change – Need for Global Partnership”, Proceedings of 31st National Convention of Environmental Division Board of the Institution of Engineers (India) and National Seminar on from November 6-7, 2015.	Himmi Gupta
	CENTRE FOR PHYSICALLY CHALLENGED PERSONS	
15.	“Healthcare and Reproductive Health Issues of the Deaf in India”, during ICMR Sponsored Seminar on “Evolving a Consensus among various Stakeholders for Developing a Model for Making Gynaecology OPD and Ward Services in Hospitals Disabled Friendly”, organized by PGIMER, Chandigarh on 24 September, 2015	JS Saini
16.	“Employment of PWDs with Special Reference to Food Processing Industry” organized by ASSOCHAM- Chandigarh on 22.03.2016	JS Saini
	CURRICULUM DEVELOPMENT	
17.	“Life Skills Training Enterprise-A Case Study”, in the 16 th International Conference on Contemporary Issues and Innovations in Global Business, Management, Economics, Tourism and Information and Communication Technology, (ICGBMETICT-2015), Jaipur, 30-31 May, 2015	PK Singla
	COMPUTER SCIENCE	
18.	“Energy Efficient QoS Aware MAC Layer Time Slot Allocation Scheme for WBASN,” International Conference on Advances in Computing, Communications and Informatics (ICACCI), 10-13 August 2015, Kochi, Kerala	Tamanna Puri Navneet Sehghal C Ramakrishna
19.	“Reminiscing Genesis of Computer from Stone to Silicon Era,” 1st International Conference on Innovation Techniques in Engineering Management, Surya Group of Institutions, Lucknow, 2 May, 2015	A Jagetiya C Ramakrishna SP Sharma
20.	“Design and Implementation of a Platform Independent Synchronization Using WCF Web-Services,” IEEE International Conference on Communication Control and Intelligent System (CCIS-2015), 07-08 November 2015	S Jaison C Ramakrishna
21.	“An Efficient Multi-Keyword Synonym-Based Fuzzy Ranked Search over Out sourced Encrypted Cloud Data,” 9th International Conference on Advanced Computing and Communication Technologies, India, Panipat, 27-29 November 2015	Vandana Saini C Ramakrishna Neelam S Khan
22.	“Dynamic Cluster based Privacy-Preserving Multi-Keyword Search over Encrypted Cloud Data,” 6th International Conference on Cloud System and Big Data Engineering, 14-15 Jan 2016, Amity University, Noida, India	Gagan C Ramakrishna Rohit Hand

Sr. No.	Title of the Paper Presented/Accepted	Author(s) Name
23.	"Botnet Analysis Using Ensemble Classifier," International Conference on Recent Trends in Engineering And Material Sciences (ICEMS-2016), Jaipur National University, Jaipur, India, March 17-19, 2016	Bijalwan N Chand E Pilli C Ramakrishna
24.	"Survey on Recent DDoS Mitigation Techniques and Comparative Analysis," 2nd IEEE International Conference on Computational Intelligence and Communication Technologies (CICT-2016), ABES Engineering College, Ghaziabad, 12-13 February, 2016	Ankur Rai C Ramakrishna
25.	"Dynamic Cluster based Privacy-Preserving Multi-Keyword Search over Encrypted Cloud Data," 6th International Conference on Cloud System and Big Data Engineering, 14-15 Jan 2016, Amity University, Noida, India	Gagan C Ramakrishna Rohit Hand
26.	"Data Security and Optimization in Health Care Using Cloud Computing: A Review," IETE National Conference on ICT in Health Care, MNIT, Jaipur, India, 05 March, 2016	Vartika Kulshrestha Seema Verma C Ramakrishna
27.	"Big Data Analysis Techniques and Challenges in cloud Computing Environment", International Conference on Communication, Information and Computing Technology (ICCICT-15), 12-13 May, 2015	Pawan Kumar Aditya Bhardwaj Amit Doegar
28.	"Independent Task Scheduling in Cloud Environment Using Big Bang- Big Crunch Approach", IEEE International Conference on Recent Advances in Engineering and Computational Science Panjab University, Chandigarh, 21-22 December 2015	Vandana Kumari Mala Kalra Sarbjeeet Singh
29.	"Energy Optimized VM Placement in Cloud Environment", IEEE International Conference- CONFLUENCE – 2016, Amity University, Noida, 14-15 January 2016	Amandeep Kaur Mala Kalra
ELECTRONICS AND COMMUNICATION ENGINEERING		
30.	"Vision Based Computer Mouse Control Using Hand Gestures", IEEE International Conference on Soft Computing Techniques and Implementations (ICSCTI), pp. 85-89, October 2015.	Sandeep Thakur Rajesh Mehra Buddhi Prakash
31.	"Reducing Computational Cost of ECG Signal Using Multirate Signal Processing", IEEE International Conference on Soft Computing Techniques and Implementations (ICSCTI), pp. 51-56, October 2015.	S K Mirania Rajesh Mehra G P Pal
32.	"Blind Audio Source Separation Using Wiener Filtering Approach", IEEE Conference, pp.1-6, 2015.	Pardeep Sharma Rajesh Mehra Naveen Dubey
33.	"Design, Performance and Cost Analysis of Various Band Pass IIR Filters for Myriametre Band Applications", IEEE, 2015.	Manish K Soni Rajesh Mehra Rajesh Kumar

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34.	"Adaptive Filter Design for ECG Noise Reduction Using LMS Algorithm", IEEE Conference, 2015.	Ishika Sharma Rajesh Mehra Monika Singh
35.	"An Improved Digital Image Watermarking Technique using DCT for protecting Distribution Rights", IEEE International Conference on Contemporary Computing, 2015.	Gaurav Gupta Amit M Joshi Kanika Sharma
36.	"Antennas for Cognitive Applications: Concepts and Design Approaches", International conference on Electronics Design Innovations and Technologies, pp. 146-149, June, 2015.	Amit Verma Garima Saini
37.	"Modified Cuckoo Search-Based Image Enhancement," Proceedings of the 4th International Conference on Frontiers in Intelligent Computing: Theory and Applications (FICTA) November, 2015, Advances in Intelligent Systems and Computing 404, pp. 625-634, DOI 10.1007/978-81-322-2695-6_53 Springer India 2016.	Lalit Maurya PK Mahapatra Garima Saini
38.	"Statistical Tuning of Cost-231 Hata Model at 1.8Ghz over Dense Urban Areas of Ghazibad", International Conference on Computing for sustainable Global Development", pp. 7084-7089, March, 2016.	Ranjeeta Verma Garima Saini
39.	"Development of Efficient Resource Allocation Algorithm in Chunk Based OFDMA System", Proceedings of International Conference on Advancements in Engineering & Technology, pp. 144-147, March, 2016.	Ranjeeta Verma Garima Saini
EDUCATION AND EDUCATIONAL MANAGEMENT		
40.	"Evaluation of Training Programmes offered Online in India", International Conference on e-Learning in Workplace from 10-12 June, 2015 at New York.	PK Tulsi MP Poonia
41.	"Learning Styles and Achievements of Engineering Students", IEEE EDUCON 2016 April, 2016 at Abu Dhabi.	PK Tulsi MP Poonia Anu Priya
42.	"Training of Technical Teachers in India: A Case of NITTTTR", IEEE EDUCON 2016 April, 2016, Abu Dhabi.	PK Tulsi MP Poonia Anu Priya
43.	"Research at Higher Education : Problems and Actions Required" in World Summit on Accreditation (WOSA-2016)", 18-19 March, 2016, NBA at Hotel Leela Ambience, Gurgaon.	PK Tulsi MP Poonia
ELECTRICAL ENGINEERING		
44.	"Assessment of Fault Diagnosis Techniques of Induction Motors", in International Conference on Innovation in Engineering science And Management (ICIESM – 2016), ICC, New Delhi, January 2016.	Amandeep Sharma S. Chatterji Lini Mathew Niranjan Gupta

Sr. No.	Title of the Paper Presented/Accepted	Author(s) Name
45.	“Sustainable Skill Development and Workforce Training for Persons with Disability: An Exploratory Study in the United States”, International Conference on Sustainable Skill Development: Challenges and Future Perspectives, held on 18-19 February, 2016, NITTTR, Chandigarh.	Abhishek Syal Poonam Syal Dmitri Leybman Sabiha Shirol
46.	“Energy Conservation Measures – A case Study of Cement Unit”, - 2nd IEEE International Conference on recent advances in Engineering & Computational Sciences organized by UIET, Chandigarh, Punjab University Chandigarh, held on 21-22 December, 2015.	Poonam Syal Amritpal Singh
47.	“Modelling and Simulation of Hybrid Power Flow Controller Implemented on Multi Machine System”, 2nd International Conference (IEEE Sponsored) on Recent Advances in Engineering and Computational Sciences (RAECS-2015), UIET, Panjab University, Chandigarh, India, December 2015.	Lini Mathew S Chatterji
48.	“Speech Recognition Based Robotic Arm with Six Degrees of Freedom”, International Conference on recent Advance in Computing, Communication & Electrical Technology (RACCET 2015), HR Group of Institutions, Ghaziabad, U.P., April 2015.	Farooq A. Tantray Shimi SL Lini Mathew
49.	“Design and Implementation of Smart Industrial Automation System using VHDL on FPGA”, International Conference on Recent Trends in Electrical Engineering (ICRTEE-15), Patil College of Engineering & Technology, Nagpur, 22-23 April 2015.	Deepak Kumar Lini Mathew
50.	“Design of FPGA Based PID Controller for Industrial Application”, International conference on Recent Trends in Electrical Engineering (ICRTEE-15), Patil College of Engineering & Technology, Nagpur, 22-23 April 2015.	Ashutosh Chahande Lini Mathew
51.	“Hybrid Control of Robotic Arm using EEG and EMG signals: A Review”, International Conference on Emerging & Futuristic Trends in Engineering & Technology, Maharaja Agrasen University, Baddi, H.P., May, 2015.	Ram Murti Singh Sumit Kumar Yogendra Narayan Mohd. Junaid Khan Lini Mathew S Chatterji
52.	“Literature Review on Solar Maximum Power Point Tracking (MPPT) System”, International Conference on Trends in Engineering, Maharaja Agrasen University, Baddi, H.P., May, 2015.	Mohd. Junaid Khan Yogendra Narayan Lini Mathew S Chatterji
53.	“Intelligent Cooling System for Three Level Inverter”, International Conference on Communication, Control and Intelligent Systems (CCIS), at GLA University, Mathura, November 2015.	Alok Deep Jyoti Singh Yogendra Narayan S Chatterji Lini Mathew
54.	“Development of a Software Module for Feature Extraction and Classification of EMG Signals”, International Conference on Communication, Control and Intelligent Systems (CCIS), GLA University, Mathura, November 2015.	Chanchal Garg Yogendra Narayan Lini Mathew

Sr. No.	Title of the Paper Presented/Accepted	Author(s) Name
55.	"Robotic Arm Controlling using Automated Balancing Platform", International Conference on Communication, Control and Intelligent Systems (CCIS), GLA University, Mathura, November 2015.	Alok Deep Jyoti Singh Yogendra Narayan S Chatterji Lini Mathew
56.	"A Review Soil pH Sensing Techniques and Technologies", National Conference ARTEC-2015, SRMS Women's College of Engineering & Technology, Bareilly, 25th April 2015.	Sachin Kumar B S Bansod Manish Kumar Ritula Thakur
57.	"A Review: Determination of Water Quality Index for Portable Water Using FIS, National Conference on Advances & Research Trends in Electronics & Communication (ARTEC-2015)", SRMS Women's College of Engineering & Technology, Bareilly, 25th April 2015.	Danish Akhtar Ritula Thakur
58.	"A Safe Route Synthesis of Antimony Nanostructures for Fabrication of Electrodes", National Conference on Nanoscience and Instrumentation Technology (NCNIT-2015), Kurukshetra, 19-20, June 2015.	Manish Kumar B S Bansod Sachin Kumar Zeba Parveen Jaspreet Kaur Ritula Thakur
59.	"In Situ Embedded Arsenic Sensor Based on rGO/MnOx Nanocomposite Modified Glassy Carbon Electrode", Proceedings of NCNIT, NIT, Kurukshetra, pp 19-20, June 2015.	Pooja Devi B S Bansod Manpreet Kaur Ritula Thakur
60.	"Nano Carbon/Manganese Oxide Nanocomposite for Electrochemical Detection of arsenic in Water- A Step towards Portable Real Time Sensor", International Conference on Signal Processing, Computing and Control, Jaypee University of Information Technology, Solan, H.P. 24th-26th September, 2015.	Pooja Devi BS Bansod Manpreet Kaur Ritula Thakur
61.	"Need of ICT for Sustainable Development of Power Sector", International Conference on ICT for Sustainable Development (ICT4SD - 2015), Ahmedabad, 3-4 July 2015.	Prashant Kumar Shimi S L Lini Mathew Pushpendra Singh
62.	"Advanced Power System Configuration for Sustainable Grid , International Conference on Solar and Smart Grid", KIIT University, Bhubaneswar, 5-6 February 2016.	Prashant Kumar Shimi S L Lini Mathew Pushpendra Singh
63.	"Harmonic Elimination in a Solar Powered Cascaded Multilevel Inverter Using Genetic Algorithm and Differential Evolution Optimization Techniques", Proceedings of the ASME 2015 International Mechanical Engineering Congress & Exposition IMECE2015, Houston, Texas, November 13-19, 2015,	Shimi S L Tilak Thakur Jagdish Kumar

Sr. No.	Title of the Paper Presented/Accepted	Author(s) Name
ENTREPRENEURSHIP DEVELOPMENT AND INDUSTRIAL COORDINATION		
64.	"Emerging Global Trends – Women and Rural Entrepreneurship", National Seminar on Entrepreneurship Education in TVET Sector of Bhutan (8 th October, 2015)	SK Dhameja
65.	"Application of Blue Ocean Strategy for Entrepreneurship in TVET" in International Conference on TVET Skills for Poverty Alleviation, Entrepreneurship and Employability, CPSC Manila, 22-23 June, 2015.	SK Dhameja
MECHANICAL ENGINEERING		
66.	"Gesture Based Control of a Simulated Robot Manipulator 2015 ASME", International Design Engineering Conference, August, 2015 Boston, USA	SS Dhami Ashutosh Sharma Rohit Kumar Parveen Kalra
67.	"Electrochemical Honning-An Innovative Approach", 2nd DAAAM International Conference at University of Zadar, Croatia , 21-24 October, 2015	PS Rao PK Jain
MEDIA AND CONTINUING EDUCATION CENTRE		
68.	"Sustainable Skill Development", International Conference on Sustainable Skill Development NITTTTR, Chandigarh, 18-19 March, 2016	Rakesh Wats
69.	"Stress, Stressors and De-Stressors among College (Science) Students-A Case Study of DAV College, Panjab University, Chandigarh", International Conference on Public Mental Health & Neurosciences (ICPMN 2015) Bengaluru, 9-10 December, 2015	Rakesh Wats
70.	"Comparison of Mental Well Being Amongst the Technical and Non-Technical Sciences Students", International Conference on Public Mental Health & Neurosciences (ICPMN 2015) Bengaluru, 9-10 December, 2015	Rakesh Wats
RURAL DEVELOPMENT		
71.	"Experiences of Implementing Community Development through Polytechnics [CDTP] Scheme and Strategic Actions for its Sustainability: - A Case Study, International Conference on Sustainable Skill Development: Challenges and Future Perspectives", 18-19 February, 2016 at NITTTTR, Chandigarh	UN Roy YK Anand
72.	"Action Research and Intervention for Improved Water and Sanitation and Sustainable Rural Development", National Seminar on Population and Development: Issues and Challenges in 21 st Century, held at Nagpur from 18-19 March, 2016	UN Roy
73.	"Shake Table Testing of Seismic Resistant Inter-Linked Block Masonry System with Vicoelastic Energy Dissipator Links", Proceeding of the International Seminar on emerging Building Material and Construction Technologies, March 2016, New Delhi, 251-258.	Amit Goyal Pankaj Agarwal

Annexure – III

TRAINING PROGRAMMES ATTENDED BY INSTITUTE FACULTY/ STAFF

Sr. No.	Area and Place of Training	Period	Attended by Shri/Ms.
INTERNATIONAL TRAINING/VISITS			
1.	TVET Programme for Principals and Leaders at ITF, Singapore	13-17 April, 2015	SK Dhameja
2.	Leadership, Development and Management at DUDLEY College, West Midlands (UK)	14-18 September, 2015	Rama Chhabra Vinod Kumar Sunil Jassal
3.	Study Visit to Technical Institutions/ Organisations in Canada	21-25 September, 2015	BS Pabla
4.	Study Visit to Technical Institutions/ Organisations in Canada	21 November - 01 December, 2015	PK Tuls JS Saini SK Dhameja SS Banwait AB Gupta Sanjay Sharma BC Choudhary Rakesh Wats Maitreyee Dutta
5.	Training Programme on CDIO (Create, Design, Innovate & Operate): Workshop on Advancing Innovating and sustaining CDIO, at Singapore Polytechnic, Singapore	8-10 December, 2015	Hemant Sood AK Duggal SS Dhami PK Singla Kanika Sharma
6.	Two workshops on Leadership Development and Management organised by DUDLEY College, Birmingham (UK) at NITTTR, Chandigarh.	12-14 October, 2015 and 17-18 March, 2016	Rama Chhabra Vinod Kumar Sunil Jassal
IN-COUNTRY TRAINING PROGRAMMES			
7.	Research Techniques at SBSST Campus, Ferozepur	25 May – 05 June, 2015	Amit Doegar Kanika Sharma Shimi SL
8.	CNC Machines at NITTTR Kolkata	08-19 June, 2015	PS Rao
9.	Renewable Energy and Smart Grids (RESG2015) at PEC University of Technology, Chandigarh	27-31 July, 2015	Shimi SL
10.	NBA Accreditation at DTU, Delhi	August, 2015	BS Pabla SS Banwait
11.	NR DMS, DST, Govt. of India Sponsored, Summer School on Geospatial Technologies at Chitkara University, Baddi (HP)	21 Jul-10 Aug, 2015	Himmi Gupta
12.	Solar Energy at KVIC, Chandigarh	22-23 August, 2015	Amardev Singh
13.	Management Capacity Enhancement Programme under TEQIP –II at Indian Institute of Management, Indore, MP	24-30 August, 2015	PS Rao

Sr. No.	Area and Place of Training	Period	Attended by Shri/Ms.
14.	CCNA Instructor Training at CRISP Bhopal	08-17 September, 2015	Rakesh Kumar Amit Doegar Pardeep Bansal Amrendra Sharan Rajiv Negi
15.	Engineering Optimization Methods (Analytical Models) at NIT Kurukshetra	23-27 September, 2015	Kanika Sharma
16.	Quality Management System as per ISO 9001:2015 at Intertek India Pvt. Ltd., Panchkula (Haryana)	28 September, 2015	Amardev Singh
17.	Effective Teaching at IIT Kharagpur	09-11 October, 2015	PK Tuli SP Bedi Sunil Dutt TN Thukral
18.	Trends and Challenges in Emerging Power Systems at MNIT, Jaipur	19-23 October, 2015	Kanika Sharma
19.	6th Annual Conference on Disaster Risk Reduction: Challenges and Opportunities for Sustainable Growth Organized by the International Society for Integrated Disaster Risk Management & TIFAC at Scope Convention Centre, Scope Complex, Lodhi Road, New Delhi.	28-30 October, 2015	Amit Goyal
20.	Orientation Workshop on Outcome Based Accreditation at India Habitat Centre, New Delhi.	16 November, 2015	BS Pabla SK Dhameja SS Banwait
21.	ISTE- TEQIP sponsored Short Term Training Programme on "Advanced Research Thrust Areas in Engineering & Science at Govt. College of Engineering, Karad, Maharashtra	21-30 November, 2015	Himmi Gupta Poonam Syal
22.	Recent advances in Alternative and Renewable Energy Technologies at DTU, Delhi	07-11 December, 2015	Poonam Syal
23.	Soil Health Management at IIT Delhi	07-12 December, 2015	UN Roy
24.	SBP on Carving Human Resource Approaches and Procedure at SMVDU, Katra, (J&K)	21 December, 2015 – 03 January, 2016	Shano Solanki
25.	E-Content for Technical Education at NITTTR, Bhopal	04-15 January, 2016	Garima Saini PS Rao
26.	Management Capacity Enhancement Programme (MCEP) at IIM Trichy (Chennai Campus)	18-22 January, 2016	BC Choudhary

Sr. No.	Area and Place of Training	Period	Attended by Shri/Ms.
27.	National Accreditation Board for Laboratories Assessors Training at Kolkata by NABL	14-19 March, 2016	Himmi Gupta
28.	World Summit Accreditation (WOSA-2016) NBA at The Leela Ambience, Gurgaon	18-20 March, 2016	SK Dhameja SK Gupta
29.	International Seminar on Emerging Building Materials and Construction Technologies, Organized by Building Materials & Technology Promotion Council, Ministry of Housing & Urban Poverty Alleviation, GOI, New Delhi	21-22 March, 2016	Amit Goyal
IN-HOUSE TRAINING PROGRAMMES			
1.	Set-up for Condition Monitoring of Gears, Shafts & Bearings	30 April, 2015	All Faculty and Technical Staff of Mech Engg Department
2.	Build My_Smart Phone in collaboration with Indira Gandhi Technical University for Women, New Delhi	04-08 May, 2015	Ritula Thakur Rajiv Negi
3.	Hindi Workshop on Unicode	10.08.2015	JP Tungal Karamjit Kaur Sachdev
4.	OFC Networks and Trouble-shooting	11-15 January, 2016	SBL Sachan Rajiv Negi
5.	IBM CE-Enablement Programme-Application Development for Cloud Deployment using IBM Bluemix	19-22 January, 2016	Rakesh Kumar Mala Kalra Amrendra Sharan Saurabh Kaushal
6.	IBM CE-Enablement Programme on Applications Security Management	08-12 February, 2016	Rakesh Kumar Mala Kalra Saurabh Kaushal
7.	GTSNX and Soil Works	1-3 March, 2016	AK Duggal
8.	IBM CE – Foundation Course in Big Data using IBM Infosphere Big Insights	14-18 March, 2016	Rakesh Kumar Shano Solanki Saurabh Kaushal
9.	Training of Reverse Engineering Using 3D Scanner	31 March to 01 April, 2016	All Faculty and Technical Staff of Mech Engg Department



Speed Post

भारतीय लेखा तथा लेखा परीक्षा विभाग
कार्यालय प्रधान निदेशक - लेखा परीक्षा (केन्द्रीय), चण्डीगढ़
INDIAN AUDIT AND ACCOUNTS DEPARTMENT
OFFICE OF THE PRINCIPAL DIRECTOR OF AUDIT (CENTRAL),
CHANDIGARH - 160017

क्रमांक/No. पी.डी.ए (सी.) / के.एच.एम / आर.डी. / 2016-17 /
दिनांक/Dated : 29/10/2016 1074

सेवा में,

सचिव,
शिक्षा विभाग,
मानव संसाधन विकास मंत्रालय,
भारत सरकार
नई दिल्ली - 110001

Accounts
11/11/16
Ru



विषय: National Institute of Technical Teachers' Training and Research, Chandigarh के
वर्ष 2015-16 के लेखाओं पर पृथक लेखापरीक्षा प्रतिवेदन

महोदय,

कृपया National Institute of Technical Teachers' Training and Research, Chandigarh
के वर्ष 2015-16 के लेखाओं पर पृथक लेखापरीक्षा प्रतिवेदन (Separate Audit Report) संसद के दोनों सदनों के समक्ष प्रस्तुत करने हेतु
संसद पार्य, संसद में प्रस्तुत होने तक प्रतिवेदन को गोपनीय रखा जाए

संसद में प्रस्तुत करने के अगुस्त प्रतिवेदन की पांच प्रतियाँ इस कार्यालय को भी भेजी जाएं

कृपया इस पत्र की धारणी न करें

भवदीय,

- 12/11/16 -

संलग्न- उपरोक्त अनुसंग

प्रधान निदेशक

✓ इसरोक की प्रतिलिपि वर्ष 2015-16 के पृथक लेखापरीक्षा प्रतिवेदन की पॉलि कॉपीज आवाज्यक कार्यवाही हेतु Director, National
Institute of Technical Teachers' Training and Research, Sector 26, Chandigarh को प्रेषित की जाती है

2, 11/11/16

निदेशक (केन्द्रीय व्यय)

Separate Audit Report of the Comptroller & Auditor General of India on the Accounts of the National Institute of Technical Teachers' Training and Research, Chandigarh for the year ended 31 March 2016

We have audited the Balance Sheet of National Institute of Technical Teachers' Training and Research, Chandigarh as at 31 March 2016, Income & Expenditure Account and Receipts and Payments Account for the year ended on that date under Section 20(1) of the Comptroller & Auditor General's (Duties, Powers & Conditions of Service) Act, 1971. The audit has been re-entrusted for a period of five years from 2013-14 to 2017-18. These financial statements are the responsibility of the Institute's management. Our responsibility is to express an opinion on these financial statements based on our audit.

2. This Separate Audit Report contains the comments of the Comptroller & Auditor General of India (CAG) on the accounting treatment only with regard to classification, conformity with the best accounting practices, accounting standards and disclosure norms, etc. Audit observations on financial transactions with regard to compliance with the Law, Rules & Regulations (Propriety and Regularity) and efficiency-cum-performance aspects, etc., if any, are reported through Inspection Reports/ CAG's Audit Reports separately.

3. We have conducted our audit in accordance with auditing standards generally accepted in India. These standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatements. An audit includes examining, on a test basis, evidences supporting the amounts and disclosure in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of financial statements. We believe that our audit provides a reasonable basis for our opinion.

4. Based on our audit, we report that:

- i) We have obtained all the information and explanations, which to the best of our knowledge and belief were necessary for the purpose of our audit except position stated in comment number C.6;
- ii) The Balance Sheet and Income and Expenditure Account/Receipts and Payments Account dealt with by this Report have not been drawn up in the format prescribed by the Ministry of Human Resources Development, Government of India vide order No. 29-4/2012-FD dated 17 April 2015.

- iii) In our opinion, proper books of accounts and other relevant record have been maintained by the National Institute of Technical Teachers' Training and Research, Chandigarh as required under Clause 19 (a) of the Memorandum of Association of the Institute in so far as it appears from our examination of such books.
- iv) We further report that:

A. Consolidated Balance Sheet

A.1 Source of Funds

A.1.1 Designated/Earmarked/Endowment Funds (Schedule-2A): Rs.17.28 crore

Above includes amount of Rs.73.20 lakh on account of grants given for sponsored Projects (GOI: Rs.27.56 lakh, TEQIP-II World Bank: Rs.7.77 lakh, RPS by AICTE: Rs.01.67 lakh and Computer Science OP. No. 5.17: Rs.36.19 lakh) which should have been included in sponsored projects (Schedule-3(a)). This has resulted in overstatement of Endowment Funds (Schedule-2A) and understatement of sponsored projects (Schedule-3(a)) by Rs.73.20 lakh.

A.1.2 Current Liabilities & Provisions (Schedule-3)

A.1.2.1 Current Liabilities

Others (Annexure-1): Rs.1.17 crore

Above includes security of firms amounting to Rs.1.17 crore whereas security of firms as per the ledger account was Rs.1.09 crore as on 31 March 2016. The difference needs to be reconciled.

A.1.2.2 Provisions

Expenses Payable (Annexure 6): Rs. 1.39 crore

Above does not include provision amounting to Rs.17.05 lakh in respect of children education allowance and Gratuity payable up to 31 March 2016 but paid in April/May 2016. This has resulted in understatement of current liabilities and provisions as well as expenditure during the year and overstatement of Corpus/Capital Fund by Rs.17.05 lakh.

A.2 Application of Funds

Fixed Assets

Buildings (Residential)

Addition in Buildings (Residential): Rs.4.49 crore

- (i) Above includes advance of Rs.32.58 lakh given to BSNL for miscellaneous civil works of NITTTR, Type-III staff Quarters. As per the statement submitted by BSNL the said work had not been completed as on 31 March 2016, thus, the same should have been shown as capital work in progress. This has resulted in

overstatement of Buildings under fixed assets and understatement of capital work in progress by Rs.32.58 lakh. Expenditure as well as Deficit during the year have also been overstated and Corpus/Capital Fund has been understated to the extent of depreciation charged on this work.

- (ii) Above includes Rs.14.36 lakh on account of purchase of LCD display and Electronic lectern which should have been depicted under head Equipments. It resulted in undercharging of depreciation by Rs.0.72 lakh and understatement of Equipment by Rs.13.28 lakh (Rs.14.36 lakh- Rs.1.08 lakh) and overstatement of buildings by Rs.14.00 lakh (Rs.14.36 lakh- Rs.0.36 lakh) and overstatement of Capital/Corpus Fund by Rs.0.72 lakh.

B. Income & Expenditure Account

Income

Academic Fees (Schedule-9) Rs.2.34 crore

Above includes academic receipts amounting to Rs.45.73 lakh pertaining to April 2016 to June 2016 which should have been booked under Current liabilities and Provisions. This has resulted in overstatement of Income (academic receipts) for the year 2015-16 as well as Corpus/Capital Fund and understatement of Current liabilities by Rs.45.73 lakh.

C. General

C.1 Net impact of Audit comments on the Annual Accounts

Net impact of Audit comments on the Annual Accounts of the Institute for the year ending 31 March 2016 is as under:

- i Asset overstated by Rs.0.72 lakh.
- ii Liabilities understated by Rs.62.78lakh.
- iii Capital/Corpus Fund overstated by Rs.63.50 lakh.

- C.2** Ministry of Human Resource Development vide order No. 29-4/2012-FD dated 17 April 2015 has introduced new format of accounts for all autonomous bodies under its administrative control from the year 2014-15. National Institute of Technical Teachers Training & Research, Chandigarh has not prepared its accounts in the new format of accounts.

C.3 Non- reconciliation of fixed assets shown in fixed assets register and the accounts

It has been noticed that Assets register/ books of accounts do not match with the annual accounts in respect of accounting of following fixed assets:

(Rs. in lakh)

Sr.no.	Particulars	As per fixed assets register	As per annual accounts	Difference value Rs.
1.	Equipments	437.54	455.46	17.92
2.	Computer	65.82	125.20	59.38
3.	Software	40.88	30.03	(-)10.85
4.	Furniture	17.69	16.76	(-)00.93
5.	Buildings	50.62	459.85	409.23
	Total	612.55	1087.30	474.75

The difference needs to be reconciled.

C.4 Provision for Pension Fund

Provision for liability towards pension on superannuation of employees has not been made despite being pointed out in the last years' audit report. Non-provision of liability towards pension was in contravention to the Format of Accounts prescribed by the Ministry.

C.5 Non-creation of provision for employee benefits such as Leave Encashment and Gratuity on actuarial basis

A reference is invited to Accounting policy at Sr. No. 8 which states that provision for employee benefits such as Leave Encashment and Gratuity has been made on estimation basis. The policy of the Institute is in contravention to the Format of Accounts prescribed by the Ministry which requires the provision to be made on actuarial basis.

C.6 Non-production of record

- (i) Records related to advance Rs.0.69 lakh (on account of ETV, Media & Computer Science Building granted in 2002-03- Refer Note to Accounts sl. No. 11) and status of related work(s) had not been produced during previous audit as well as the current audit.
- (ii) Record in respect of court case no.CWP 2905-2013 was not shown to audit.

D. Grants in aid

Out of the available funds of Rs.30.23 crore (Plan Rs.12.08 crore and Non-plan Rs.18.15 crore), including previous year balance of Rs.(-) 1.54^{II} crore (Plan Rs.(-) 1.23 crore and Non Plan Rs. (-) 0.31 crore). Grant in Aid received from Govt. of

^{II} Unspent balance of grant and IRG as per previous SAR were Rs. Nil & Rs. 8.56 crore respectively. The unspent balances of grants and IRG as on 31.03.2015 have been reworked by adjusting the excess expenditure of Rs.1.54 crore deducted from IRG in previous SAR.

India, New Delhi during the year Rs. 31.69 crore (Plan Rs.13.30 crore and Non Plan Rs.18.39 crore),) and Internal Receipts of Rs. 0.08 crore (Plan Rs.0.0047 crore and Non Plan Rs.0.0756 crore). the Institute utilized Rs.32.63 crore (Plan Rs.12.68 crore and Non Plan Rs.19.95 crore) leaving an unspent balance of Rs. (-) 2.40 crore (Plan Rs.(-) 0.60 crore and Non Plan Rs.(-) 1.80 crore) at the end of the year.

E. Management letter

Deficiencies which have not been included in the Audit report have been brought to the notice of the Institute's management through a management letter issued separately for remedial/ corrective action.

- v) Subject to our observations in the preceding paragraphs, we report that the Balance Sheet, Income & Expenditure Account and Receipts & Payments Account dealt with by this report are in agreement with the books of accounts.
- vi) In our opinion and to the best of our information and according to the explanations given to us, the said financial statements read together with the Accounting Policies and Notes on Accounts, and subject to the significant matters stated above and other matters mentioned in Annexure to this Audit Report give a true and fair view in conformity with accounting principles generally accepted in India:
- a. In so far as it relates to the Balance Sheet, of the state of affairs of the National Institute of Technical Teachers' Training and Research, Chandigarh as at 31st March 2016; and
- b. In so far as it relates to Income & Expenditure Account, of the deficit for the year ended on that date.

For and on behalf of the C & AG of India.

Handwritten signature and date: 28/12/16

**Principal Director of Audit
(Central), Chandigarh**

Place: Chandigarh

Date:

Annexure to Audit Report

1. Internal Audit System:

The Institute is having pre-audit system. In addition to that, the Institute has got conducted its Internal Audit through a firm of Chartered Accountants. System of follow-up action taken on Internal Audit Report was in existence. However, the Internal Audit system was found to be inadequate as Fixed Assets did not tally with Accounts and there was improper classification of Heads.

2. Internal Control System:

Internal Control system was found to be inadequate to the extent that:

- (i) The Institute has not prepared its own Accounting Manual.
- (ii) Register of Contractors has not been maintained by the Institute.
- (iii) Non production of records as stated in comment No. C-6 of SAR.

3. Physical verification of Fixed Assets other than Library Books

Physical Verification of Fixed Assets for the year 2015-16 had been conducted. However, Fixed Assets Register did not tally with Accounts.

4. Physical Verification of Library Books

Physical verification of Library books was conducted in 2014-15. The physical verification of library books for the financial year 2015-16 was under process.

5. Physical Verification of Inventory

Physical Verification of Inventory for the year 2015-16 had been conducted.

6. Regulatory in payment of statutory dues

The Institute was regular in depositing the statutory dues.

2/1/2016
Director

NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH
SECTOR 26, CHANDIGARH
BALANCE SHEET AS AT 31st March, 2016

SOURCES OF FUNDS	SCHEDULES	Current year	(Rs. In lacs) Previous year
UNRESTRICTED FUNDS			
Corpus Fund	1	5,251.58	4,212.24
General Fund		(1,570.51)	(1,287.74)
		-	
DESIGNATED EARMARKED / ENDOWMENT FUNDS			
	2	1,728.06	1,962.63
CURRENT LIABILITIES & PROVISIONS			
	3	2,443.94	2,354.37
TOTAL		7,853.07	7,241.51
APPLICATION OF FUNDS			
FIXED ASSETS			
Tangible Assets	4	3,538.36	2,891.99
Intangible Assets			
Capital Work in progress		568.72	664.12
INVESTMENTS FROM EARMARKED/ ENDOWMENT FUNDS			
	5	-	-
Long term			
Short term			
INVESTMENTS-OTHERS			
	6	-	-
CURRENT ASSETS			
	7	3,682.23	3,478.81
LOANS, ADVANCES & DEPOSITS			
	8	63.77	206.59
TOTAL		7,853.07	7,241.51
SIGNIFICANT ACCOUNTING POLICIES			
	23		
CONTINGENT LIABILITIES AND NOTES TO ACCOUNTS			
	24		

Sd/-
Accounts Officer
NITTTR, Chandigarh

Sd/-
Director
NITTTR, Chandigarh

**NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH
SECTOR 26, CHANDIGARH**

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2016

(Rs. In Lacs)

Particulars	Schedule	Amount Current Year	Amount Previous Year
<u>INCOME</u>			
Academic Receipts	9	233.94	206.25
Grants / Subsidies	10	2,166.91	1,988.31
Income from Investments	11	-	
Interest Earned	12	122.28	104.60
Other Incomes	13	277.84	201.73
Prior Period Income	14		
TOTAL (A)		2,800.97	2,500.89
<u>EXPENDITURE</u>			
Staff Payments & Benefits (Establishment Expenses)	15	2,180.93	2,038.41
Academic Expenses	16	245.06	248.78
Administrative & General Expenses	17	538.46	525.40
Transportation Expenses	18	4.63	3.21
Repairs & maintenance	19	113.08	123.97
Finance Costs	20	1.57	-
Depreciation	4		
Other Expenses	21	-	-
Prior Period Expenses	22		
TOTAL (B)		3,083.74	2,939.77
Balance being excess of expenditure over income (A-B)		(282.77)	(438.88)
Transfer to / from Designated Fund			
Building fund			
Others (specify)			
Balance Being Surplus / (Deficit) Carried to Capital Fund			
SIGNIFICANT ACCOUNTING POLICIES	23		
CONTINGENT LIABILITIES AND NOTES TO ACCOUNTS	24		

Sd/-
Accounts Officer
NITTTR, Chandigarh

Sd/-
Director
NITTTR, Chandigarh

**NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH
SECTOR-26, CHANDIGARH
SCHEDULE FORMING PART OF RECEIPTS AND PAYMENTS ACCOUNT FOR THE
YEAR ENDED 31.3.2016**

(Rs. in Lacs)

A	RECEIPTS	CURRENT YEAR		PREVIOUS YEAR	
		Plan	Non Plan	Plan	Non Plan
I Balance at the beginning of the year					
	Cash in hand	2.92		11.10	
	Temporary Imprest	5.59		11.19	
	Balance in Bank	456.76		293.55	
	Deposit Account	1,216.70		1,252.47	
	Interest accrued on FDR	-		-	
	FDR- Against Letter of Credit	-		-	
	Total Cash	1,681.97		1,568.31	
II Grants-in-aid received from Govt. of India					
	On Capital Account-Creation of Capital Assets	1,002.27	-	579.06	-
	On Revenue Account	327.73	1,839.18	272.91	1,715.40
	Grant from AICT for Computer Science			-	-
	Grant from T-Equip - World Bank	-		300.68	-
	Grant- under RPS By AICTE	2.09		0.42	-
	Grant under - Sponsored Project for Computer Sc.	-		5.14	-
	Amount awarded by GOI	-		-	-
	Total Grants	1,332.09	1,839.18	1,158.21	1,715.40
III Deposits (including Consultancies) (as annexure-I)					
			860.55	-	760.81
IV Internal Resources					
a Interest Account					
	Interest earned on S/B Account & FDR		168.20	-	113.42
	Interest received on advances to staff		4.07	-	1.00
	Total	-	172.27	-	114.42
b Rental Receipts					
	Rent from residential Houses		12.91	-	10.04
	Rent from Auditorium		1.21	-	0.20
	Rent from Guest House		1.98	-	-

Rent from Hostel	56.70	-	46.51	
Rent from AICTE	1.05	-	-	
Rent from Mess/Canteen	0.12	-	0.12	
Total	73.96	-	56.87	
c Fee Receipts				
Fee from ME Students	232.63	-	206.24	
Fee under various courses	1.31	-	-	
Total	-	233.94	-	
d Receipt from other sources				
Institute Receipts (Misc.)	(31.50)		5.08	
Recovery against books			-	
Receipt from Publication	0.74		0.41	
Sale of Newspaper & Periodicals			9.07	
Sale proceeds of fixed assets			86.73	
Receipt from consultancy share	117.50		-	
Income Tax Refund	2.28		-	
IFDI Academic Cell	0.54		-	
Tender Fees	0.21		-	
Royalty share	-		-	
Sale proceeds of Prospects	-		0.01	
Ph.D Fee	-		-	
Penal Interest	-		-	
Overhead charges	60.78		51.56	
RTI Fee	0.03		0.03	
Photocopy charges	0.47		0.65	
Sundry Creditors	-		-	
Written off Securities	-		-	
Application Fee	3.40		2.61	
Unadjusted Receipts	23.13		-	
Adjustment of opening	(4.62)			
Sec of Retired Employees	0.01			
Mess Charges			0.06	
Total	172.97	-	156.21	
e Other Receipts				
Recovery of Loans & Advances	0.47	7.56	0.65	8.24
Time barred cheques			-	-
Permanent Imprest	-	-	-	0.02
Deposit QIP Poly AICTE		2.33		
FDR Loan from GPF	-	286.96		
Pension & Leave salary contribution		0.96	-	-
Total	0.47	297.80	0.65	8.26
Total Receipts	0.47	950.96	0.65	542.00

V SPONSORED PROJECTS

AICTE QIP Poly	3.02		0.18	-
1.2.71 EDIC	1.75	-		
C-4 RD Registration	0.55			
DST NIMAT - I	-		0.53	-
Inspire Fellowship - Academic Cell	-		5.80	-
CT-13 Mech. for CTU	-		47.46	-
CT-13 Mech. SP	1.10			
W 14 Civil	1.05			
SADB 13	-		85.35	-
PSCB - 13 - Mech.	-		48.39	-
DASA	1.00		1.00	-
IFD 14 Camps	2.80			
ETV 5.13 (Gyan Vani)	2.12			
SP 54	63.11			
TEQIP EC 83	-		5.17	-
Total	76.49	-	193.88	-
Grand Total	3,091.03	3,650.69	2,921.05	3,018.21
Total Plan and Non Plan	6,741.71		5,939.26	

B PAYMENTS**CURRENT YEAR****PREVIOUS YEAR****Plan Non Plan****Plan Non Plan****I Non-Recurring**

Renovation of buildings	296.31		166.43	-
Advance renovation with CPWD (8 works)	-		-	-
Equipment purchased during the year	534.39		290.82	-
Advance adjusted for water lane pipe	-		-	-
Re-surfacing of Roads	-		-	-
Software for Library	-			
Intangible Assets	29.07			
Equipment - Sponsored Project	-			
Library Books	-			
Library Journal	-			
Renovation of Electrical	-		-	-
Fire Fighting to CPWD	-			
Furniture purchased during the year	16.76		11.12	-
Installation of Electrical Power Generator	-		-	-
Installation of Water pipe Line	-		-	-
Advance for Equipment - Mechanical	-			
Advance for Equipment - Applied Science				
Work in Progress - Advance to CPWD			-	-
Work in Progress - Advance to CPWD - PRO Cell			-	
Work in Progress - Type - II Houses - CPWD			-	

Work in Progress - Civil Lab - CPWD			-	
Work in Progress - BSNL	33.80			
Work in Progress - New Building	30.00		159.73	
Total	940.33		628.10	-

II RECURRING

a Establishment expenses

Salaries-Pay & Allowances to:

Faculty	39.59	330.11	63.10	525.55
Technical Non-Teaching/C&D Staff	44.56	350.62	55.80	411.34
Salary - Outsourced Person	-	154.42	0.76	95.49
Salary- A& B	11.23	131.59	-	-
Salary- NPS	61.65	253.18		107.25
Bonus	-	3.76	-	3.83
Dearness allowance	-	13.91	-	30.14
Children Allowance		12.63		11.27
LTC		8.76	-	-
Medical treatment charges	-	29.72	-	22.54
Reimbursement of cost of books		-	-	-
Institute Share-(CPF)		0.48	-	1.64
Pension - Faculty		-	-	50.17
Pension - C & D			-	298.78
Pension & Retirement benefits to retirees			-	5.85
Pension and Commutations		398.94		
Gratuity		72.73	-	45.65
Leave encashment-for LTC		-	-	28.64
Leave encashment		76.47	-	34.07
Leave Salary & Pension Contribution			-	1.80
New Pension Fund		29.30	24.32	-
Professional Development Allowance		29.73	-	18.28
Tuition Fee		-	-	-
Secretarial Assistance		0.02	-	0.02
Arrear MACP		-	-	-
Total	157.03	1,896.37	143.97	1,692.32

b Other Payments

Over time allowance		0.14	-	0.31
Library Books			-	-
Library Journals			-	-
TA including STC	112.04	17.54	150.06	12.58
TA to BOG/Experts	-	1.10	-	0.53
Stipend		0.18	-	1.27
Fee & Honorarium	41.91	5.80	40.59	25.15
Repayment of loan from GPF	-	216.96		
Difference in opening Balance	-	-		
Advance to MNIT Jaipur	5.09	-		
Academic Contingencies	11.28	4.90	15.32	6.97
Total	170.31	246.62	205.97	46.82

c Administrative Expenses			
Property Tax		-	5.27
Printing & Stationery	7.14	-	10.37
Liveries	0.40	-	0.87
Hindi Day	0.55	-	0.44
Independence / Vishwakarma day	0.24	-	0.22
Advertisement	7.09	-	12.83
Teachers Day	-	-	0.02
Annual Sports	1.29	-	5.77
Vigilance Day	-	-	-
News Paper & Periodicals	0.59	-	0.60
Annual Day celebrations	3.37	-	1.69
Postage & Telegrams	2.47	-	3.00
Telephone Trunk call charges	3.59	-	3.46
Entertainment & Contingencies	0.63	13.81	8.64
Library Books/ Journals	13.44	-	9.13
Legal /Professional charges	5.33	-	3.53
Library Contingencies	-	-	-
Ground Rent	0.59	-	0.59
Printing of Publication	-	-	-
Audit Fee	-	-	0.50
Library Membership	-	-	-
Misc. Expenses(Office)	7.71	-	0.88
Interest Paid on Loan from GPF	1.57	-	-
Interest on TDS	-	-	-
Service charges on NPS	0.09	-	-
Interest on Service Tax	-	-	-
Overhead Expenses	-	-	-
ME Course expenses	51.99	-	39.92
ISO 9001-2008	0.46	-	-
Total	-	108.55	13.81
			107.73

d Operation & Maintenance			
Mtc Student centre	0.15	-	0.51
Mtc Electrical	24.53	-	38.23
Mtc Electrical lab	0.76	-	0.52
Mtc Rural Development	0.66	-	0.87
Mtc Media	3.78	-	3.12
Mtc ETV Lab	4.57	-	1.72
Mtc Civil Lab	4.33	-	1.89
Mtc Phones & Communications	4.01	-	2.25
Mtc. Electronics & Communications	-	-	1.22
Mtc Guest House	3.52	-	7.24
Mtc Furniture	3.09	-	7.98
Mtc Buildings	34.58	-	19.64
Mtc Campus	0.80	-	1.94
Mtc Vehicle	4.63	-	3.21
Mtc Curriculum Development Centre	-	-	-
Mtc Ref. & air conditioning lab	11.45	-	8.07
Electricity & Water Charges	50.96	-	42.84
Repair of Machinery	-	-	-

Mtc EDIC Lab	0.05	-	0.28
Mtc Electronics Service Centre	-	-	0.28
Mtc Hostel	5.06	-	14.24
Mtc Audit	0.01	-	-
Mtc Computer	2.10	-	6.81
Mtc Mechanical Engg Lab	0.51	-	2.27
Mtc Education & Educational Lab	-	-	-
Mtc Applied Sc. Lab	0.67	-	1.23
Loans & Advances to staff	6.12	0.27	9.85
Mtc Sports	5.25	-	-
Purchase of Medicines	0.10	-	-
Internet Connectivity	1.53	-	-
Mtc Institute Generator	-	-	-
Mtc Subscription fee for Library software	-	-	-
Mtc Office	-	-	0.52
Mtc Academic Cell	-	-	0.00
Mtc CDC	0.04	-	0.17
Mtc EMGT	0.13	-	0.19
Mtc ECE	1.12	-	-
Mtc ESC	0.27	-	-
Mtc IMCO	0.61	-	1.40
Mtc ISO	0.06	-	0.12
Mtc Library	1.16	-	1.41
Mtc Hindi Cell	-	-	0.02
Total	-	176.61	0.27
Total Payments	1,267.67	2,428.16	992.12
			2,026.92

e **Sponsored Projects**

1.2.71 EDIC	1.75		
Customized AICTE Sponsored Project	-	2.09	-
ETV 5.13 Video Film Shimla/ Gyanvani	3.45	0.87	-
IT Bionery- AICTE Projects-RD	0.30	0.36	-
ICT 76	2.40		
AICTE QIP Poly	4.08	15.08	-
IFD 14 Comp	2.80		
C-4 (RD) Registration fees	0.55		
SP 54 (Mongolian Students)	29.79	-	-
W-14 Civil	1.12		
5.13 ETV Kapurthala		-	-
5.13 ETV Palampur		-	-
DST - Nimmat - I		-	-
DST – Nimmat - II		-	-
Ph.D Fee Academic Cell		-	-
DIL Project	0.58	0.37	-
EG 1 ECE	14.53		
5.13 ETV IGNOU	-	0.14	-
GATE -AICTE Project		-	-
PADB Mechanical		-	-
PADB -13		-	-

5.12 ETV Training Programme			-	-
Inspire Fellowship - Academic Cell	-		5.80	-
SADB -13	-		86.65	-
PSCB - 13	-		30.76	-
1.2.207 - SIRD			-	-
CT 13 Mech SP	6.81		1.53	-
5.17 Person with Disability	0.65		7.80	-
TEQIP EC 83			4.55	-
5.16 Comp Science			22.99	-
5.13Misc ETV			0.41	-
Vocational Education Film DPI ETV			0.01	-
Others			55.77	-
Total	68.81	-	235.18	-

f	TEQIP			
	T.A.	-	323.00	-
	Consumables	-	9.36	-
	Salaries	-	-	-
	Equipment	-	0.00	-
	Others	-	-	-
	Honorarium	-	0.18	-
	Total	-	332.54	-

g	RPS- AICTE			
	Consumables	1.17	-	0.06
	Equipment	-	-	-
	Total	1.17	-	0.06

h	Deposits (including consultancies)-annex-1		956.94	-	667.65
	Cash Balance				
	Cash in hand	6.04		2.92	
	Temporary Imprest	3.66		5.59	
	Bank Balance	23.84		456.76	
	Fixed Deposits	1,985.43		1,216.70	
	FDR- Against Letter of Credit				
	Interest Accrued on FDR			-	
	Total Cash	2,018.96	-	1,681.97	-
	Total	3,356.62	3,385.10	3,241.88	2,694.57
	Total Plan and Non Plan	6,741.71		5,936.45	

Sd/-
Accounts Officer
NITTTR, Chandigarh

Sd/-
Director
NITTTR, Chandigarh

**NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH,
SECTOR-26, CHANDIGARH
BALANCE SHEET GPF/CPF AS AT 31.3.2016**

(Rs. in Lacs)			
LIABILITIES	Amount (Rs.)	ASSETS	Amount (Rs.)
<u>GPF</u>		Investment	1631.76
Opening Balance	1270.27	Int. accrued as on 31.03.16	10.08
Add: Subscription in the year	238.76	Subscription due for march 2016	
Add: Sub for March 2016		GPF	
Add Interest credited	105.62	CPF	
Less: Subscription for March 2015		UC due to CPF	
Less: Advance/ Withdrawal	262.23	NPS-II	
Closing Balance	1352.42	Tax recovered from interest on	
		Investments pending refund from	
<u>CPF</u>		Income Tax Department	
Opening Balance	176.44	Cash at Bank	
Add: Subscription in the year	1.66	Indian Bank	10.03
Add: Sub for March 2016			
Add Interest credited	14.50	Sundry Debtors	1.13
Less: Subscription for March 2015			-
Less: Advance/ Withdrawal	5.87		
Closing Balance	186.74		
<u>Institute Contribution (CPF)</u>			
Opening Balance	125.34		
Add: Subscription in the year	1.34		
Add: Sub for March 2016	0		
Add Interest credited	10.12		
Less: Subscription for March 2015	0		
Less: Advance/ Withdrawal	20.12		
Closing Balance	116.68		
<u>NPS Tier-II Account</u>			
Opening Balance			
Add: Subscription in the year			
Add: Sub for March 2016			
Add Interest credited			
Less: Subscription for March 2015			

Less: Advance/ Withdrawal

Closing Balance

Interest Reserve

Opening Balance 108.85

Add: Excess of Income over
expenditure -111.70

Closing Balance -2.85

Dead Account 0.02

Total	1653.00	Total	1653.00
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Sd/-
Accounts Officer
NITTTR, Chandigarh.

Sd/-
Director
NITTTR, Chandigarh

ACCOUNTING POLICIES

1. The Accounts have been maintained in the format as prescribed by the Government of India, Ministry of Human Resource Development, vide their letter No. 21-16/2012-TS.II dated 21st February 2012, issued by the Under Secretary to the Government of India.
2. The Accounts have been prepared on accrual basis.
3. Depreciation on fixed Assets has been provided on written down value method on the rates specified in the Income Tax Act. Rules, 1962. The institute has not claimed depreciation on Fixed Assets purchased during the year out of World Bank aided TEQIP projects.
4. The Fixed Assets are stated at cost of acquisition including inward freight, duties and taxes and incidental and direct expenses related to acquisition, installation and commissioning. The fixed assets purchased out of sponsored projects and restricted projects are booked by credit to Capital fund and merged with Fixed assets of the Institution.
5. Expenditure on purchase of stores is accounted as revenue expenditure, except that the value of closing stock held on 31st March is set up as inventories by reducing the corresponding Revenue Expenditure on the basis of information obtained from Departments. They are valued at cost.
6. (i) The Institute receives grants-in-aid from Government of India under Plan(General)-Recurring, Plan-(Non-Recurring)-Creation of Capital Assets and Non-Plan (Recurring)schemes to meet the expenditure on salaries of employees, pension to retirees, traveling expenses for training of technical teachers, purchase of store/equipments and maintenance, etc. against Institute's annual budget approved by the Board of Governors. The funds, if remained unutilized at the end of the financial year, are carried over to the following financial year with the approval of the Government of India.

(ii) For specific projects, unspent balance/funds, if any, are refunded to the concerned sponsoring agencies/departments after the completion of the respective Project.
7. Institute receives funds against Sponsored Projects and Consultancy Project which are shown as deposits in Schedule 3a. The Institute recognizes its income on completion of project/consultancy.
8. Institute makes provision of employee benefits such as Leave Encashment and Gratuity on estimation basis.
9. The Board of Governors delegated powers jointly to the Director and the Accounts Officer of the Institute to approve and sign the Annual Accounts of the Institute before submission to Audit Officer vide Item No. B.4.4.8 in their meeting held on 27.1.2006.

Sd/-
Accounts Officer
NITTTR, Sector-26, Chandigarh

Sd/-
Director
NITTTR, Sector-26, Chandigarh

NOTES ON ACCOUNTS

- This is a non-commercial organization and Income Tax is not applicable as in the case of Universities or other Educational Institutions existing solely for education purpose and not for the purpose of profit and which are wholly or substantially financed by the Government under Section 10(23C) (iii ab).
- The details of funds maintained by Institute:

1. Corpus Fund

(Amount in Lacs)

Particulars	Current Year	Previous Year
Opening Balance	4212.24	3512.55
Add: Addition in Fund	1039.34	702.49
Less: Utilization of Fund	-	2.80
Closing Balance	5251.58	4212.24

The addition to Corpus fund is on account of Grant received from Ministry for Capital expenditure.

2. General Fund

(Amount in Lacs)

Particulars	Current Year	Previous Year
Opening Balance	(1287.74)	(848.86)
Add: Addition in Fund		
Less: Utilization of Fund	(276.22)	(438.88)
Closing Balance	(1563.95)	(1287.74)

3. Designated/ Earmarked Fund

(Amount in Lacs)

Particulars	Current Year	Previous Year
Opening Balance	1684.04	1394.21
Add: Addition in Fund	370.74	631.54
Less: Utilization of Fund	399.92	341.71
Closing Balance	1654.86	1684.04

4. Restricted Fund

(Amount in Lacs)

Particulars	Current Year	Previous Year
Opening Balance	278.60	140.14
Add: Addition in Fund	228.48	310.86
Less: Utilization of Fund	440.45	172.42
Closing Balance	66.63	278.60

- The Goods including equipments, furniture etc. valuing Rs. 82.68 lakh were identified as obsolete/ unserviceable during the year 2013-14. Process for disposal and the sale proceeds shall be reported shortly.
- In the year 1995, the Govt of India, Ministry of Human Resource Development had approved construction of two buildings namely New Administrative Block and Hostel Block in the institute premises. As per guidelines, the work was executed through NBCC Ltd, a Govt. of India Enterprises as consultant. The NBCC Ltd invited tenders and construction work was allotted to Shri Vijay Kumar Garg & Company. The contract was signed between NBCC (on behalf of the NITTR Chandigarh) & the Contractor. Due to certain irregularities on the part of the contractor, the contract was terminated. The contractor filed a claim against NBCC. The award of Arbitration case has been announced on 23.06.2008 and as per award the respondent i.e. NBCC shall pay to the claimant Rs. 3734915/-. The Institute

moved to court challenging the merit of the award through Institute Counsel but institute petition has been dismissed on 22.03.2011 being not maintainable as the award is not against him. The NBCC paid the award payment to M/s Vijay Kumar Garg Contractor (P) LTD and asked institute to make payment along with legal expenses and consultancy services payment i.e. Rs. 3841465/-. The NBCC vide letter dated 05.09.2012 has initiated Arbitration Proceedings against institute and meeting is yet pending.

- (ii) An amount of Rs. 36.36 lakh (including interest earned from time to time) towards security from the contractor has been withheld.
5. TDS deducted by the various firms as confirmed on website amounting to Rs. 2.84 lakh has been given effect in the Balance Sheet.
 6. This is to certify that there is an unspent balance of Rs. 2015.31 lacs including FDRs worth Rs.1985.42 lakhs as on 31.3.2016.
 7. Institute is in possession of land measuring 18.863 acres out of which 15.883 acres is held as free hold.
 8. The Security towards ME students of Rs. 55.76 lacs is outstanding as on 31st March 2016.
 9. Schedule one to Twenty one are annexed to and form an integral part of the Balance Sheet as on 31.3.2016.
 10. Detail of Capital Work in Progress including capital advance of Rs. 664.12 lakhs is as follows:

Purpose of Advance	Year of Advance	Amount (Rupees in lakh)
ETV, Media & computer Science Building	2002-03	0.69
Construction of Hostel Block	2007-08	29.89
Capital Work in Progress with Chd Admin. - New Lab	2010-11	57.20
Capital Advance for building-work in progress- OBC	2010-11	63.11
Advance for building-work in progress - OBC-OSC	2010-11	107.61
Advance for Renovation of Building	2012-13	38.78
Advance for Renovation of Building	2013-14	207.11
Advance for Renovation of Building	2014-15	159.73
Total		664.12

11. Amortization of lease premium on the basis of period of lease has been charged under rules.

Building Account

1. An advance of Rs. 10.69 lakh out of the advance amount deposited with Chandigarh Administration for construction of Staff Quarters is awaiting adjustment in Institute Accounts. The work has since been completed and buildings handed over to the Institute. The certificate for having received the final payment from this Institute has been obtained from the Sub Divisional Engineer, W/s Sub Div. -3 Chandigarh. However, accounts in support of this expenditure are awaited from the concerned quarter.
2. PUDA has filed a civil suit for recovery of Rs. 85.00 lakh against the Institute. The Institute has also filed a counter claim worth Rs. 17.00 lakh against PUDA. As per Order in the court of Navjeet Klair, Civil Judge (Jr Divn), Chandigarh dated 22.02.2014, it is ordered that the suit of the plaintiff fails and the same is dismissed. The counter claim of the defendants being time barred is also dismissed.

**Sd/-
Accounts Officer
NITTTR, Chandigarh**

**Sd/-
Director
NITTTR, Chandigarh**



National Institute of Technical Teachers Training and Research

(An ISO 9001 : 2008 Certified Institute)

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