

ANNUAL REPORT

(including annual accounts)

2016-17



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

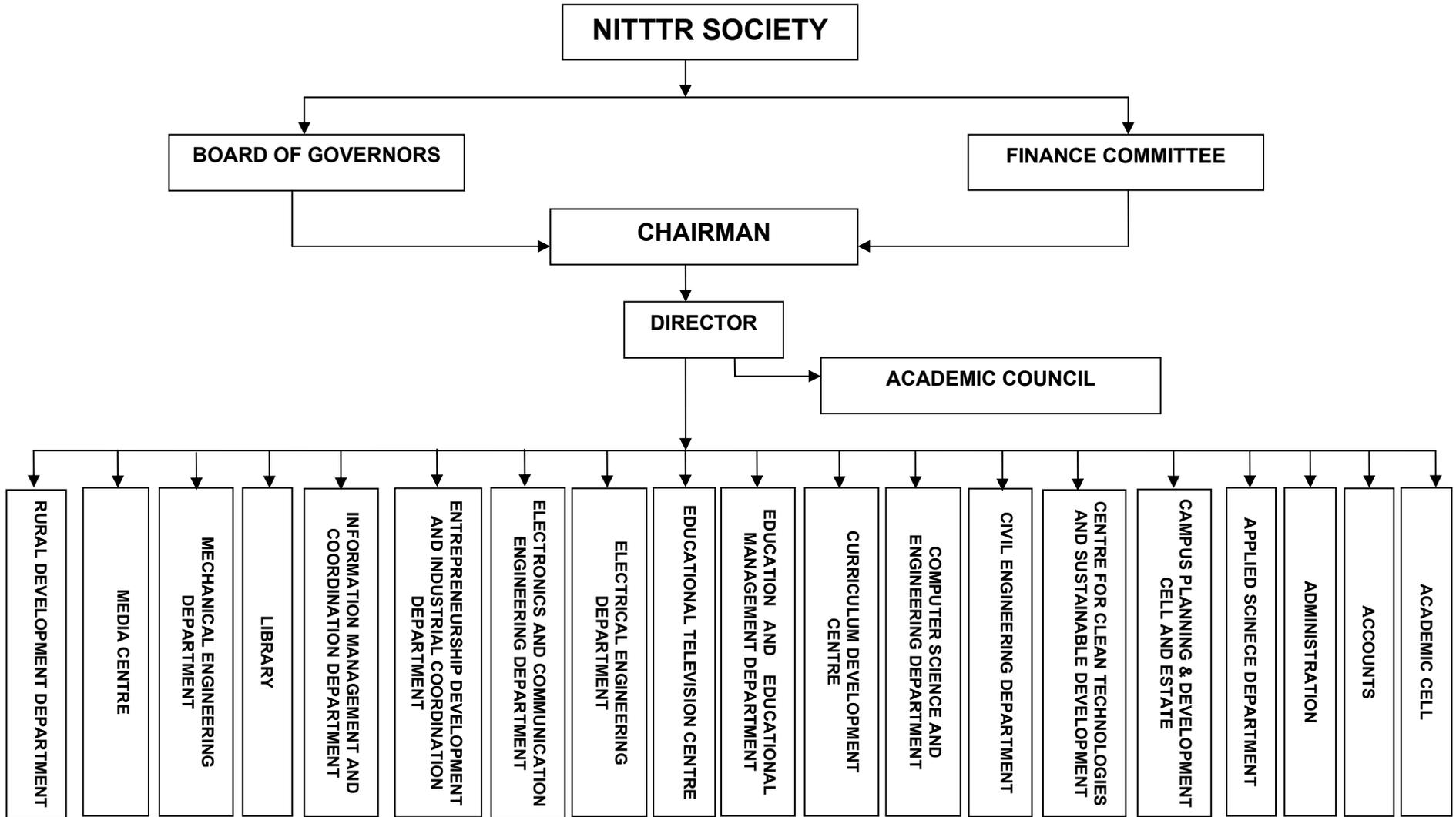
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ORGANISATIONAL STRUCTURE OF NITTTR CHANDIGARH



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**LIST OF MEMBERS OF THE NITTTR CHANDIGARH SOCIETY
AS ON 31.03.2017**

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 Kafeel Ahmed Director Technical Education, Govt. of Uttar Pradesh Vikas Nagar KANPUR – 208 024	Member
6.	Shri Pankaj Pandey Director Technical Education, Govt. of Uttarakhand N.C.C. Block, Polytechnic Campus SRINAGAR (GARHWAL)-246 174	Member
7.	Director Higher & Technical Education Govt. of Arunachal Pradesh ITANAGAR – 791 111	Member
8.	Shri Rajendra Ratnoo 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) – 144 601	Member
10.	Dr. D N Malkhede Advisor All India Council for Technical Education 7 th Floor, Chander Lok Building, Janpath NEW DELHI – 110 001	Member
11.	Prof. (Dr.) MP Poonia Director National Institute of Technical Teachers Training and Research, Sector 26, CHANDIGARH – 160 019 (from 01.04.2016 to 18.01.2017)	Member-Secretary
12.	Prof. (Dr.) PK Tulsi Director-in-charge, National Institute of Technical Teachers Training and Research, Sector 26, CHANDIGARH – 160 019 (19.01.2017 to 31.03.2017)	Member-Secretary

**LIST OF MEMBERS OF THE BOARD OF GOVERNORS
OF NITTTR, CHANDIGARH
AS ON 31.03.2017**

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 Kafeel Ahmed Director Technical Education, Govt. of Uttar Pradesh Vikas Nagar KANPUR – 208 024	Member
6.	Shri Pankaj Pandey Director Technical Education, Govt. of Uttarakhand N.C.C. Block, Polytechnic Campus SRINAGAR (GARHWAL) – 246 174	Member
7.	Director Higher & Technical Education Govt. of Arunachal Pradesh ITANAGAR – 791 111	Member
8.	Shri Rajendra Ratnoo 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) – 302 017	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 – 110 057	Member
12.	Dr. D N Malkhede Advisor All India Council for Technical Education 7 th Floor, Chander Lok Building, Janpath NEW DELHI – 110 001	Member
13.	Prof. (Dr.) Suresh K Dhameja Dean, Academic & International Affairs and Professor & Head, Entrepreneurship Development and Industrial Coordination Department and Information Management and Coordination Department National Institute of Technical Teachers Training and Research, Sector 26, CHANDIGARH – 160 019	Member
14.	Prof. (Dr.) MP Poonia Director National Institute of Technical Teachers Training and Research, Sector 26, CHANDIGARH – 160 019 (from 01.04.2016 to 18.01.2017)	Member-Secretary
15.	Prof. (Dr.) PK Tulsi Director-in-charge, National Institute of Technical Teachers Training and Research, Sector 26, CHANDIGARH – 160 019 (19.01.2017 to 31.03.2017)	Member-Secretary

**LIST OF MEMBERS OF THE FINANCE COMMITTEE
OF NITTTR, CHANDIGARH
AS ON 31.03.2017**

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) – 144 601	Member
5.	Prof. (Dr.) MP Poonia Director National Institute of Technical Teachers Training and Research, Sector 26, CHANDIGARH – 160 019 (Till 18.01.2017)	Member-Secretary
6.	Prof. (Dr.) PK Tulsi Director-in-charge, National Institute of Technical Teachers Training and Research, Sector 26, CHANDIGARH – 160 019 (w.e.f.19.01.2017)	Member-Secretary

**LIST OF MEMBERS OF THE ACADEMIC COUNCIL
AS ON 31.03.2017**

Sr. No.	Name and Designation with full address	Status
1.	Prof. (Dr.) MP Poonia Director National Institute of Technical Teachers Training and Research, Sector 26, CHANDIGARH – 160 019 (Till 18.01.2017)	Chairman
2.	Prof. (Dr.) PK Tuls Director-in-charge, National Institute of Technical Teachers Training and Research, Sector 26, CHANDIGARH – 160 019 (w.e.f.19.01.2017)	Chairman
3.	Dr. N Sathyamurthy Director IISER, Knowledge City Sector – 81, P.O. Manauli SAS Nagar Mohali (Punjab) - 140 306	Eminent Member
4.	Dr. I K Bhat Professor, Applied Mechanics Department Malaviya National Institute of Technology JLN Marg, JAIPUR – 302 017	Eminent Member
5.	Dr. H K Sardana Chief Scientist CSIR-CSIO Sector - 30 C CHANDIGARH – 160 030	Special Invitee
6.	Dr. M M Malhotra (former Principal, TTTI, Chandigarh) H.No. 647, Sector - 8 PANCHKULA (HARYANA)-134 109	Special Invitee
7.	Registrar Panjab University Sector -14 CHANDIGARH - 160 014	Special Invitee
8.	Dr. J S Saini Dean, Extension Services and Consultancy and Professor, Rural Development Department NITTTR, Sector-26 CHANDIGARH 160 019	Member
9.	Dr. (Mrs.) S P Bedi Dean, Research & Development and Professor, Education and Educational Management Department NITTTR, Sector-26 CHANDIGARH - 160 019	Member

Sr. No.	Name and Designation with full address	Status
10.	Dr. B S Pabla Professor Mechanical Engineering Department NITTTR, Sector-26 CHANDIGARH - 160 019	Member
11.	Dr. S S Banwait Professor and Head Mechanical Engineering Department NITTTR, Sector-26 CHANDIGARH - 160 019	Member
12.	Dr. A B Gupta Professor and Head Curriculum Development Centre NITTTR, Sector-26 CHANDIGARH - 160 019	Member
13.	Dr. Sanjay Sharma Professor Civil Engineering Department NITTTR, Sector-26 CHANDIGARH - 160 019	Member
14.	Dr. Hemant Sood Professor and Head Civil Engineering Department NITTTR, Sector-26 CHANDIGARH - 160 019	Member
15.	Dr. Sunil Dutt Professor Education and Educational Management and Faculty Incharge, Academic Cell NITTTR, Sector-26 CHANDIGARH - 160 019	Member
16.	Dr. B C Choudhary Professor and Head Applied Science Department NITTTR, Sector -26 CHANDIGARH - 160 019	Member
17.	Dr. Rakesh Kumar Wats Professor and Head Media Centre NITTTR, Sector -26 CHANDIGARH - 160 019	Member
18.	Dr. (Mrs.) Maitreyee Dutta Professor Computer Science and Engineering Department NITTTR, Sector-26 CHANDIGARH - 160 019	Member
19.	Dr. Sukhdeep Singh Dhani Professor, Mechanical Engineering Department NITTTR, Sector 26 CHANDIGARH - 160 019	Member

Sr. No.	Name and Designation with full address	Status
20.	Dr. Upendra Nath Roy Professor and Head Rural Development Department NITTTR, Sector 26 CHANDIGARH - 160 019	Member
21.	Dr. C Ramakrishna Professor and Head Computer Science and Engineering Department NITTTR, Sector-26 CHANDIGARH - 160 019	Member
22.	Er. Ajay K Duggal Faculty Incharge ETV Centre NITTTR, Sector 26 CHANDIGARH-160019	Member
23.	Dr. (Mrs.) Lini Mathew Associate Professor Faculty Incharge, Electrical Engineering Department NITTTR, Sector-26 CHANDIGARH 160 019	Member
24.	Dr. Rajesh Mehra, Faculty Incharge and Associate Professor Electronics and Communication Engineering Department NITTTR, Sector 26, CHANDIGARH-160 019	Member
25.	Shri Manmohan Singh Senior Librarian (Acting Chief Librarian) NITTTR, Sector-26 CHANDIGARH - 160 019	Member
26.	Er. Vinod Kumar Associate Professor Civil Engineering Department NITTTR, Sector-26 CHANDIGARH - 160 019	Member
27.	Dr. Ritula Thakur Assistant Professor Electrical Engineering Department NITTTR, Sector-26 CHANDIGARH - 160 019	Member
28.	Er. Amit Goyal Assistant Professor Rural Development Department NITTTR, Sector 26 CHANDIGARH – 160 019	Member

Sr. No.	Name and Designation with full address	Status
29.	Prof. (Dr.) PK Tulsi Director-in-charge, National Institute of Technical Teachers Training and Research, Sector 26, CHANDIGARH – 160 019 (till 18.01.2017)	Member - Secretary
30.	Prof. (Dr.) Suresh K Dhameja Dean, Academic & International Affairs and Professor & Head, Entrepreneurship Development and Industrial Coordination Department and Information Management and Coordination Department NITTTR, Sector-26 CHANDIGARH 160 019 (as member upto 18.01.2017 and thereafter as member- secretary w.e.f. 19.01.2017)	Member - Secretary

1.0 THE INSTITUTE

National Institute of Technical Teachers Training and Research, Chandigarh, is one of the four such national institutes in the country with focus on development of technical education in the northern region comprising the states of Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Uttar Pradesh, Uttarakhand, 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 with Director as the executive head and managed by a Board of Governors. 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 (ISBT) in Sector 43 and 05 kms each from Chandigarh Railway Station and ISBT , Sector 17.

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 for 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 achieve its stated objectives and remain in the forefront in all its functional areas.

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 view the emerging needs of the country, the institute presently extends its services in the following areas as well:

- Development of various instructional resources with emphasis on digital content including educational video films and e-content generation providing easy access to the users across the nation. This also include development and offering programmes through MOOCs.
- Continuing Education for Working Engineers/Technicians/Managers

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 upto **18.01.2017** and thereafter Dr. PK Tulsi, Professor and Head, Education and Educational Management Department took over as Director-in-charge of institute w.e.f. **19.01.2017**.

2.0 ACHIEVEMENT HIGHLIGHTS

Achievements of the institute 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 undertaken during the years are as under:

- **115** and **78** students admitted in 05 Master's Degree Programmes (Regular and Modular) respectively.
- **77** students on roll for Ph.D. Programmes in different disciplines at the Institute.
- An International Conference on Recent Trends and Development in Environmental

Sustainability on May 20, 2016 was organised by Centre for Clean Technologies and Sustainable Development at NITTTR, Chandigarh.

- An International Conference on Educational Futures on November 18-19, 2016 was organised by Centre for Clean Technologies and Sustainable Development at NITTTR, Chandigarh.
- The department of Computer Science and Engineering, NITTTR Chandigarh and Green ThinkerZ Society organized an International Conference on Interdisciplinary Research for Sustainable Development (IRSD 2016) in association with Spoken Tutorial Project, IIT Bombay on December 1 - 2, 2016 at NITTTR Chandigarh.
- An International Conference on Latest Trends in Sustainable Construction Materials and Practices on March 02-03, 2017 was organised by Centre for Clean Technologies and Sustainable Development.
- A National Conference on Technical & Vocational Education & Training in India: Challenges & Opportunities was organised by Education and Educational Management Department in collaboration with CPSC, Manila on March 17, 2017 at NITTTR, Chandigarh.
- A two-days International Conference on Communication, Computing and Networking (ICCCN-2017) was organized by Department of Computer Science and Engineering on March 23-24, 2017 at NITTTR, Chandigarh.
- NBA Accreditation status was granted to the PG programmes in Computer Science and Engineering Department, Electronics and Communication Engineering Department and Electrical Engineering Department for academic years 2016-17 and 2017-18 i.e. up to 30.06.2018
- A Special Course in English Language sponsored by Ministry of External Affairs was organised by the institute from February 1 to April 22, 2016 for 29 Teachers from Mongolia.
- 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.
- **02** Job Fair for Persons with Disabilities (PWDs) for the Qualified Differently Abled Persons were organised. **251** PWDs participated and **97** were shortlisted in these job fairs. **20** companies participated in the fair.
- The Centre for physically challenged persons organised a Regional Stakeholders Sensitisation Workshop for Promoting Employment of the persons with Disabilities which was attended by **150** Employers' organizations, NGOs and other stakeholders.
- Provided support to MHRD in implementation of the Grant-in-Aid Scheme for strengthening of polytechnics of various states in northern region under World Bank Assistance.
- **05** MOUs signed with Technical Institutions and Industry for undertaking Collaborative Projects.
- A Memorial Lecture on 'Human Values' was delivered by Dr. Acharya Shambhushivananda, Global Chancellor of AM Gurukula and Global Neohumanist Education Network on February 15, 2017 which was coordinated by Electronics and Communication Engineering Department for the faculty, staff and students of the institute.

- A Memorial Lecture on 'Sustainable Automation' was delivered by Dr. GS Dangayach, Professor & Head, Mechanical Engineering Department, MNIT, Jaipur on March 17, 2017, which was organised by Mechanical Engineering Department for the benefit of faculty, staff and students of the institute.
- 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 2016-17, 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 I.K. Gujral Punjab Technical University, Kapurthala for Ph.D. Programmes. As on March 2017, **77** 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 **77** students, **13** 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 full-time industry-oriented and practice-based Master's Degree Programmes of **02** years' duration affiliated to Panjab University, Chandigarh and approved by AICTE 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 also offering these Master's Degree Programmes on modular basis. The modular programme is of 3½ years duration. These ME programmes are duly approved by AICTE and affiliated to Panjab University.

Admissions made in these programmes during 2016-17 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)	02	05	15	22	CH-01, GU-01, HA-01, HP-07, J&K-02, MH-01, MP-01, PU-04, RA-01, UK-01, UP-02
2.	Civil Engineering (Construction Technology and Management)	--	04	24	28	BH-01, CH-02, HA-03, HP-04, J&K-02, PU-10, RA-01, UP-05,
3.	Computer Science and Engineering	04	02	17	23	HA-04, HP-02, JH-01, MH-03, PU-08, RA-03, UP-02
4.	Electrical Engineering (Instrumentation and Control)	02	06	16	24	BH-01, CH-02, HP-02, NGL-01, PU-05, RA-01, TE-01, UK-01, UP-10
5.	Electronics and Communication Engineering	02	03	13	18	CH-02, HA-04, HP-05, KA-01, MH-01, PU-02, RA-01, UP-02
Total		10	20	85	115	
MASTER'S DEGREE (MODULAR MODE)						
1.	Mechanical Engineering (Manufacturing Technology)	07	02	03	12	HA-01, HP-03, KE-02, OD-01, PU-02, UP-03
2.	Civil Engineering (Construction Technology and Management)	04	16	16	36	AS-01, CG-02, CH-04, DE-01, HA-02, HP-08, J&K-02, PU-08, RA-02, UP-06
3.	Computer Science and Engineering	03	02	02	07	CH-01, KE-01, PU-01, UK-01, UP-03
4.	Electrical Engineering (Instrumentation and Control)	06	05	--	11	BH-04, HA-02, KE-01, RA-01, UP-03
5.	Electronics and Communication Engineering	06	04	02	12	CH-01, KE-03, PU-01, RA-01, TE-01, UP-05
Total		26	29	23	78	

Note: **114** (regular) and **267** (modular) students of previous batches are also on roll.

AS – Assam, BH – Bihar, CG – Chhattisgarh, CH – Chandigarh, DE – Delhi, GU – Gujarat, HA – Haryana, HP – Himachal Pradesh, J&K – Jammu and Kashmir, JH – Jharkhand, KA – Karnataka, KE – Kerala, MH – Maharashtra, MP – Madhya Pradesh, NGL – Nagaland, OD – Odisha, PU – Punjab, RA – Rajasthan, TE – Telangana, UK – Uttarakhand, UP – Uttar Pradesh

ME Students on roll

Regular	229
Modular	345

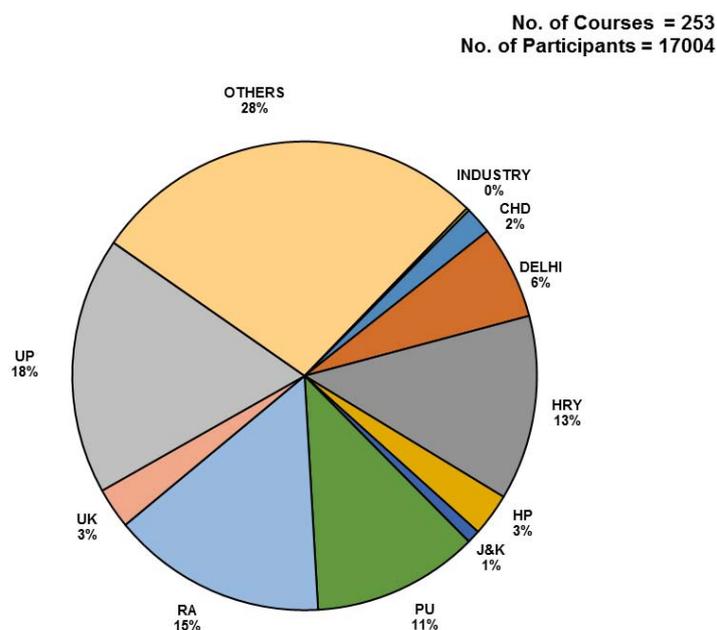
2.1.2 Short Term Courses (STCs)

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 2016-17, **253** short-term programmes were conducted through contact and ICT mode for faculty/staff of polytechnics and engineering colleges which were attended by **17004** teachers from various states of the country.

(i) Training Programmes/Workshops:

A)	Short Term Courses	No. of Courses	No. of Teachers Trained
	Contact Mode	200	3297
	ICT Mode	53	13707
	Total	253	17004
B)	Conferences/Seminars	06	783
C)	No. of Training Workshops	27	1651
D)	No. of Students Trained	17	2400
E)	Curriculum Development Workshops	33	477

STATEWISE PERCENTAGE OF PARTICIPATION IN SHORT TERM COURSES FOR THE YEAR 2016-17



CONFERENCES AND SEMINARS

RECENT TRENDS AND DEVELOPMENT IN ENVIRONMENTAL SUSTAINABILITY (RTDES-2016)

International conference on Recent Trends and Development in Environmental Sustainability (RTDES-2016) was held on May 20, 2016, Friday at National Institute of Technical Teachers Training and Research, Sector 26, Chandigarh which was organized by a young NGO, Environment Matters in collaboration with NITTTTR, Chandigarh and IWE (India) Chandigarh Chapter. The conference was inaugurated by Sh. Sant Balbir Singh Ji Seechewal, the



internationally acclaimed personality in the field of environment conservation, social reform and extension of education and economic development of backward areas of Punjab. In his inaugural address, he highlighted the need for the general masses in taking small steps at their individual and village levels to not pollute the environment with their activities. The government at the same time should take measures for penalization of the defaulters as a part of effective implementation of the regulations. He highlighted the need to address the pollution of rivers and the basic rights of humans to good food, water and air. Guest of Honour, Sh. Surinder Kumar, Director, Ministry of Environment, Forests & Climate Change, Regional office, Chandigarh in his address, highlighted the various initiatives being taken by the ministry to conserve the forests, environment and tackling the problem of climate change. Sh. Birendra Chaudhary, Member Secretary, Chandigarh Pollution Control Committee was the other Guest of Honour for the inauguration. In his address, he highlighted the various norms to be followed by industries and commercial sector to function in an environment friendly manner. The various facilities like online application for consent for establishment and operation and measures introduced by the Committee to streamline the process for the applicants were highlighted by Mr. Chaudhary. Mrs. Shruti Shukla, State Coordinator cum Dy. Director, Guidance Bureau, State Council of Educational Research & Training, Punjab; Er. Sandeep Garg, Chairman Environment Matters, Dr. Sanjay Sharma, Prof and Head, Centre for Clean Technologies and Sustainable Development were amongst the others present at the conference. Eminent speakers from India and abroad presented the issues and latest research in the area. The conference was attended by more than 150 delegates and deliberations were made for innovative ideas for environmental sustainability. Various industries like JLPL, ECO Group, GILLCO, AIMIL presented the cutting edge technologies in this area. The international conference has been planned as a regular annual event by the organizers.

AN INTERNATIONAL CONFERENCE ON EDUCATIONAL FUTURES

An International conference on "Educational Futures" was held in NITTTTR premises on November 18-19, 2016 in collaboration with NERI-Neohumanist Education And Research Institute under the guidance of Dr. M.P. Poonia director of the institute. Various educationists, social activists, policy makers, research scholars and students participated to have a fresh perspective of the educational processes.



Some of the themes which were explored included education and creativity, ecological perspectives, meditation and yoga, casual layered analysis for future studies, learning strategies in diversity and inclusion and design challenges for a new national educational policy. 32 papers were presented during two day conference in addition to presentations by key note speakers and guest speakers invited to share their views.

The proceedings were compiled by Dr. Acharya Shambhushivananda Avadhuta and Dr. Sanjay Sharma—the Coordinators of this conference and were made available to the global educational community policy makers and interested scholars.

INTERNATIONAL CONFERENCE ON INTERDISCIPLINARY RESEARCH FOR SUSTAINABLE DEVELOPMENT (IRSD 2016)

An International Conference on Interdisciplinary Research for Sustainable Development (IRSD 2016) was organized by Department of Computer Science and Engineering, NITTTR Chandigarh and Green ThinkerZ Society in association with Spoken Tutorial Project, IIT Bombay on December, 1 - 2 2016 at NITTTR, Chandigarh. The conference was technically sponsored by International Institute of Organized Research (IIOR), India and the conference proceedings have been published as a *special issue* of International Journal of Research in Electronics and Computer Engineering (IJRECE) and The Research Journal (TRJ) which are highly indexed with online as well as print ISSN.

The core theme of the Conference was Sustainable Development through Interdisciplinary Research with a Special Track on Free and Open Source Software (FOSS) powered by Spoken Tutorial Project, IIT Bombay. A galaxy of academicians from different research domains



were present for a reviving and thought-provoking power-packed day at NITTTR, Chandigarh, India. A wide range of topics were covered during the conference which were beneficial to both industry and academia.

All the logistics support for the conference was provided by the Team of Green ThinkerZ Society, a society active in the field of Social and Environmental Sustainability. More than **100** abstracts were received for paper presentations, but only **55** got selected for presentation and possible publication in the conference proceedings.

INTERNATIONAL CONFERENCE ON SUSTAINABLE CIVIL ENGINEERING PRACTICES

The International Conference on Sustainable Civil Engineering Practices was held on 2nd and 3rd March 2017. The programme was coordinated by Dr. Sanjay Sharma Prof. Incharge, Centre for Clean Technology and Sustainable Development.

Increasing population density creates the need to build more, develop more, and transport more, our environment is under continued stress and impact. There is a need to understand that growth cannot come at the risk to resources and ecology. As the stewards of society's infrastructure, civil engineers must take the lead in applying sustainability to selection, planning, design and construction.

The conference was organised to serve as a platform to create awareness and appreciation amongst academicians, scientists, researchers and practitioners from various disciplines and sectors about developing and implementing sustainable practices and technologies that shall minimize the impact on environment. Deliberations were held on new initiatives in latest technologies in the field of infrastructure. This helped in formulating concrete strategies with optimal utilization of available resources for developing these technologies; consolidating the suggestions, strategies and recommendations made during the conference.



Total 150 participants attended the conference. Chief Guest for the inaugural session was Dr. RP Singh, Secretary General QCI.

Valedictory session was chaired by Dr. Suneel Pandey, Director Environment and Waste Management Division, The Energy and Resources Institute (TERI). Guest of honors for the session were Dr. Manoj Arora, Director PEC University Technology, Brig (Dr.) R.S. Grewal, Vice Chancellor, Chitkara University. Dr. Sanjay Sharma presented the brief report of the conference.

A NATIONAL CONFERENCE ON TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING IN INDIA: CHALLENGES AND OPPORTUNITIES

A National Conference on “Technical and Vocational Education and Training in India: Challenges and Opportunities” was organised on 17.03.2017 in collaboration with Colombo Plan Staff College, Manila. **64** faculty members from various institutions participated. Three key-note speakers were invited and **12** papers were presented during the one day conference. The key note speakers included Dr. Ramhari Lamichhane, Director General, CPSC Manila, Dr. PK Tulsi and Dr. SK Dhameja from NITTTR, Chandigarh. Prof. (Dr.) MM Malhotra and Prof. (Dr.) SK Bhattacharya, former Directors, NITTTR, Chandigarh chaired the presentation sessions in the conference.



INTERNATIONAL CONFERENCE ON COMMUNICATION, COMPUTING AND NETWORKING (ICCCN-2017)

As a part of ongoing Golden Jubilee Celebrations of the institute, a two-day International Conference on Communication, Computing and Networking (ICCCN-2017) was organized by Department of Computer Science and Engineering at NITTTR, Chandigarh on March 23-24, 2017. The themes of the conference were Intelligent Computing, Parallel & Distributed

Computing, Wireless Networks, Computer Network and Security, Signal and Image Processing and Data Science. Dr. P. K. Tuls, Director Incharge, NITTTR Chandigarh, in her welcome address talked about the role that computers play in our daily life and highlighted the need of communication, computing and networking.

The conference was inaugurated by the Chief Guest Sh. D. K. Jain, Director, C-DAC Mohali who in his inaugural address highlighted the initiatives taken by C-DAC in the field of Health Informatics, Multilingual Technologies, Professional Electronics, Software Technologies, Cyber Forensics and Security and Multimedia Technologies.

The Guest of Honour, Dr. Abey Kuruvilla, Executive Director, International Affairs, University of Wisconsin, Parkside, USA emphasized on the role of computers as smart devices such as Mobile Phones, laptops, PCs, etc. He highlighted that progressive India needs to look into concerns such as Information Security, Cyber Security and Health Informatics. He also extended his idea of doing joint research with the University of Wisconsin, USA in the area of Cyber Security.



186 research papers were received, out of which **126** papers were registered for the conference. 15 researchers were connected via video-conferencing mode.

The outcomes of the conference were: Research papers presented in the conference on emerging technologies like Green Computing, Big data analytics, Cloud Computing etc. opened new ideas for research amongst the delegates; Research Scholars could get the opportunity to discuss their research problems with the invited speakers and as well as with the other delegates; The delegates could get the scope of getting knowledge about HoneyNet Technologies as demonstrated by scientists of C-DAC Mohali.

To encourage and motivate the young researchers, at the end of each technical session, a best paper was chosen out of the presented papers and was awarded with a certificate by the session chair. Best paper award was also announced out of all the presented papers in the conference. First prize was awarded to Ms. Poorwa Hirve, Ms. Mayura Nene and Dr. Jagannath Aghav from College of Engineering, Pune and the second prize was awarded to Mr. Anurag Jagetiya and Dr. C Ramakrishna from NITTTR, Chandigarh.

SPECIAL COURSE IN ENGLISH LANGUAGE FOR MONGOLIAN TEACHERS

A Special Course in English Language was organised by the institute from February 01 to April 22, 2016 in which 29 Mongolian Teachers participated. Ministry of External Affairs under its flagship programme ITEC i.e. Indian Technical and Economic Cooperation sponsored 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 **2016-17, 08** curricula for the state of Punjab have been designed and **09** curricula certificate programmes in alignment with NSQF for MRSPTU, Bathinda have been designed by Curriculum Development Centre of the institute. The Centre has revised **03** Skill Development Certificate Programmes for Smart Centre +, Tech. Mahindra Foundation, NITTTR, Chandigarh

The details of curricula designed and revised are given below:

CURRICULA DESIGNED
Curriculum designed of following 08 diploma programmes in alignment with NSQF for the state of Punjab:
<ol style="list-style-type: none"> 1. Civil Engineering 2. Mechanical Engineering 3. Automobile Engineering 4. Computer Engineering 5. Electrical Engineering 6. Electronics and Communication Engineering 7. Computer Science and Engineering 8. Information Technology
Curriculum designed of following 09 certificate programmes in alignment with NSQF for MRSPTU, Bathinda:
<ol style="list-style-type: none"> 1. Electrician 2. Tool and Die Maker 3. Farm Equipment Technician 4. Welder 5. Plumber 6. Refrigeration and Air Conditioning Mechanic 7. Servicing and Maintenance of Electronics Instruments 8. Food Processing 9. Computer Maintenance and Programming Assistant
CURRICULA REVISED
03 Skill Development Certificate Programmes for Smart Centre +, Tech. Mahindra Foundation, NITTTR, Chandigarh
<ol style="list-style-type: none"> 1. ITeS-BPO 2. Hospitality 3. Retail

2.3 Instructional Material Development

During the year 2016-17, 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	:	01
• Laboratory Manuals	:	21
• Modules	:	03
• Booklets/Readers	:	12
• Course Material for Training Programmes	:	200

Non Print Material

• Educational Video Films	:	51
• Lecture based Video Films	:	217
• CAI Packages	:	02
• Video Lectures uploaded on You Tube	:	1237

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 2016-17, the following Research Studies and Development Projects were completed:

The following Ph.D thesis under the supervision of faculty were completed during 2016-17:

- Design and Development of a Microcontroller Based Moisture Content Measuring Device for Cereal Grains Using their Electrical Properties.
- Design and Development of a Temperature Compensated pH Monitoring/Control system for Process Industries.

Research Studies:

- Inclusive Education System in the Schools and Colleges of Chandigarh
- A fact Finding Study of Deaf-Mute Bank Employee
- Energy Conservation Practices in Technical Institutions: Present Status and Future Action
- Investigations of Parameters for Surface Modification of Dies using Edm Process.

- Study of Thermohy Drodynamic Performance of Multiple-Axial-Groove Journal Bearings.
- Study on Nano Coating of Cutting Tools.
- Synthesis and Performance Evaluation of a Robust Controller for a Multi-Section Steam Turbine.
- Cutting Tool- Life Enhancement Using Nano-Composite Coating.
- High Failure Rate in First Year Diploma Programme for the State of Punjab was completed.
- Perceptions of Students regarding: Strategies to Enhance Employability of Graduates from Technical Institutions; Quality Teaching; Student Evaluation; Research in Engineering and Technical Education; Teacher as a Counsellor.
- Proceedings of Panel Discussion on the themes: Strategies to Enhance Employability of Graduates from Technical Institutions; Quality Teaching; Student Evaluation; Research in Engineering and Technical Education; Teacher as a Counsellor.
- Evaluation of Training Programmes organized by NITTTR, Chandigarh).
- Impact of Training Programmes organized by NITTTR on Technical Education System.

In addition to above, **06 Ph.D** and **262 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. **159** papers of the institute faculty were published in the journals and **120** papers were presented by the faculty in various conferences and seminars. **The details are enclosed at Annexure- II.**



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 share the findings of research alongwith concerns and opinions on various issues related to engineering and 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.

Signing of Memorandum of Understanding

The institute signed **05** MoUs with the following Institutions and Organisations:

- Institute of Integrated Himalayan Studies (IIHS), Himachal Pradesh University, Shimla
- M/s ASP Industrial Test House (P) Ltd., 87 (FF), Navyug Market, Ghaziabad (UP)
- Indian Institute of Architects, Punjab Chapter, SCO 53-55, 3rd Floor, Sector 17D, Chandigarh
- M/s ABB India Limited, 21st Floor, World Trade Centre, Brigade Gateway, No. 26/1, Dr. Rajkumar Road, Malleswaram West, Bengaluru-560 055
- Headquarters Chief Engineer Jodhpur Zone, Opposite Military Hospital, Near ECHS Complex, Jodhpur

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 2016-17, 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, 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, Evaluation and Design Recommendation for Repair and Rehabilitation of Buildings.

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

- Street Lighting Inspection, Municipal Corporation of Panchkula
- Design of Electrical Installation for providing LED lights at various Green Belts/Parks/Parking and Markets etc. of Municipal Corporation, Chandigarh

⇒ **Testing Services to Industry in the area of Electronics and Communication Engineering:**

- Antenna Testing

⇒ **Training Programmes for Students**

The institute organised **05** training programmes of 4-6 weeks and **03** programme of 06 months duration, **05** training programmes of less than 04 weeks through which **186** students of technical institutions participated.

Other Projects

- Development of study material in Electrical Installation and Maintenance Works for Skipper Electrical India Ltd., Gurgaon (HRY).
- 04 Training Programme were conducted by EMGT Department namely Personal Development, Effective Teaching, Induction Training Programme for Newly Recruited Teachers and Instructional Delivery.
- Analysed the existing model curricula of 08 diploma programmes.
- Bio-gas plant project was made operational during the year by Rural Development Department

On-going Projects

- Vermiculture, Organic Farming and Waste Water Treatment are ongoing projects undertaken by the Rural Development Department.

2.6 Academic Achievements of the Departments

Applied Science Department

During the year 2016-17, the department has conducted **22** short term courses for polytechnic, engineering college teachers and industry, which were attended by **215** 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 **03** training programme through ICT in which **458** teachers participated. 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 **19** participants. The Centre organized an Annual Review Workshop for polytechnics implementing the PWD Scheme wherein **21** participants participated. The Centre also organised a Regional Stakeholders Sensitisation Workshop for Promoting Employment of the Persons with Disabilities which was attended by **150** Employers' organizations, NGOs and other stakeholders. 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 training and employment opportunities, mainstreaming and empowering the PWDs education, training and career opportunities for the PWDs. These STCs were conducted in the areas of:

- Skill Training and Employment Opportunities for Persons with Disabilities
- Mainstreaming and Empowering the Persons with Disabilities

Dr. JS Saini, Professor awarded the 17th NCPEDP-Mindtree Helen Keller Award 2016 – National Centre for Promotion of Employment for Disabled People (NCPEDP) at New Delhi.

Civil Engineering Department

During the year 2016-17, the department conducted **25** short term training programmes for **165** Polytechnic and Engineering College Teachers, and **07** ICT programmes in different areas of Civil Engineering were also conducted which were attended by **1025** teachers.

During the year under report, the department conducted **03** workshops in different areas on NDT Analysis and Repair of Concrete Structures, Concrete-concept and Challenges and Advances in Water Proofing Materials and Techniques which were attended by **86** participants. Currently **129** Students are pursuing ME (CTM) Modular (Batch, 2014, 2015 & 2016) and ME (CTM) Regular (Batch 2015 & 2016). 16 pre-thesis and 21 ME thesis work of Modular and Regular batch students were got completed.

The department faculty published/presented **33** Papers in National/International Seminar/Conferences and developed **04** readers. The department also provided design and testing services to industry as consultancy projects to various government and private organisations in the areas of design, testing of material and quality control of infrastructure works. The gross value of the consultancy services was more than Rs. 1.15 Crore.

Centre for Clean Technologies and Sustainable Development

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 **03** training programmes for **57** Polytechnic and Engineering College Teachers. In addition, one STC was conducted at YMCA Faridabad for 56 teachers.

Two international conferences were also organized by the Centre.

Computer Science and Engineering Department

During the year 2016-17, the department conducted **29** training programmes through contact mode and **08** training programme through ICT mode, which were attended by **515** and **5111** participants respectively. Some of the significant programmes include : Linux Administration using CentOS, Cloud computing, Web Based Content Development using Moodle, CISCO CCNA Exploration , PHP and MySQL, Wireless Networking, ASP.Net, VB.Net, Mobile Computing, Open Source Technologies, Latex Programming, Cyber Crime and Forensic Tools, Web Based Designing, Software Testing, NS2/3 Simulator, Graphic Designing and Animation for Web, Building your own Smartphone, Data Mining and Business intelligence, PC Hardware and Network Maintenance, SciLab Programming.

In addition, the department imparted practical training on Core Java, Open Source Web Technologies, Android Programming and Animation and Multimedia Tools 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 Laboratory Manuals on Network Technologies, Advance Computer Networks, Advance Algorithms, Multimedia System Design, Advance Databases, Software Testing and Quality Management, Network Security, Cloud Computing, Business Intelligence and Mining, Digital Image Processing.

The department faculty also guided **41** ME (CSE) thesis and is guiding **02** Ph.D. students. Department faculty has published **10** papers in International Journals and presented **28** papers in International/National Seminars and Conferences. The department faculty & staff also attended training on Quantitative Data Processing, Analysis & Reporting through SPSS, In-country Follow Up Workshop on "Conceive-Design-Implement-Operate (CDIO).

Curriculum Development Centre

During the year 2016-17, Curriculum Development Centre conducted **05** Short Term Training Programmes for the faculty of Engineering Colleges, Polytechnics and Universities and trained **203** teachers. The centre also organised **03** ICT Based Training in which **438** faculty members from various Technical Institutes participated. In addition, the centre organised **07** Training Programmes for students of Engineering Colleges and Polytechnics which were attended by **146** students. The Centre contributed in Designing the Curricula of **08** Diploma Programmes for the state of Punjab and **09** certificates programmes for MRSPTU, Bathinda in alignment with NSQF. The Centre has revised **03** Skill Development Certificate Programmes for Smart Centre +, Tech. Mahindra Foundation, NITTTR, Chandigarh

The Centre organised **33** Curriculum Development Workshops in which **477** participants from Industry and Academic Institutions participated. The department developed study material on **02** 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. The faculty member of the department has also presented a paper in international conference.

Education and Educational Management Department

Department of Education & Educational Management, during the year 2016-17, organized **24** Short Term Training Programmes for the teachers working in technical institutions. Out of **527** teachers who participated in these programmes, 60% were from Engineering colleges and remaining 40% were from the Polytechnics. The programmes organized included:

Research Methodology, Induction Training Programme for Newly Recruited Teachers, Career Guidance & Counselling, Professionalism in Teaching and Assessment, Personality Development, Institutional Management and Student Evaluation etc. The Department organized one week programme for the faculty of College of Science & Technology, Rinchending (Bhutan) and In-Country Programme on Instructional Design and Delivery System in collaboration with Colombo Plan Staff College, Manila; **31** and **37** teachers participated in the two programmes respectively. In addition, three programmes, two on Research Methodology and one on Instructional Delivery were organized through Integration of Communication Technologies. **1070** teachers were trained through these three programmes. A total of **1539** teachers from technical institutions were trained. Course material was provided to all the participants of various programmes. Three programmes on Preparing Students for Job Interviews were organized for the students of technical institutions. **1285** students from various technical institutions participated in these programmes.

National Conference on Technical and Vocational Education and Training in India: Challenges and Opportunities was organized on 17.03.2017 in collaboration with Colombo Plan Staff College, Manila. **64** faculty members from various institutions participated. Three key-note speakers were invited and **12** papers were presented during the one day conference. As a part of Golden Jubilee Celebrations, the Department organized five Panel Discussions on Strategies to Enhance Employability of Graduates from Technical Institutions, Quality Teaching, Student Evaluation, Research in Engineering Education and Technical Education and Teacher as a Counsellor. Fifteen experts from industry and institutions of higher learning acted as panellists and eleven technical institutions participated in the deliberations. Background papers for all the Panel Discussions were prepared by the department and proceedings have been compiled. The department has conducted 04 Research Studies. Dr. P.K. Tulsi, Dr.(Mrs.) S.P. Bedi and Dr. Sunil Dutt delivered expert lectures in various Faculty Development Programmes organized by UIET, Panjab University, Chandigarh; Geography Department, Panjab University, Chandigarh; PEC University of Technology, Chandigarh; Chitkara University; Navodaya Leadership Institution etc. The department generated IRG of Rs. 7,89,100/- through various training programmes and consultancy services. Six papers were presented by the faculty of the department in various National & International Conferences.

Educational Television Centre

The Centre conducted **04** contact based short term training programmes for Polytechnics/Engineering Colleges which were attended by **27** teachers. These programmes included Video Film Production Techniques, Graphics and Animation for Instructional Material, Multi Media Technology and Script Writing and Video Production Techniques for e-content Generation. One workshop was conducted on "An Orientation Workshop on

Outcome Based Education and Accreditation” for Programme Evaluation (PEVs). The centre produced instructional material on the above mentioned areas.

The department provided infrastructure and man power support in organising 47 programmes through ICT. 1237 video lectures were recorded and uploaded on the NPTEL after editing.

ETV Centre produced **51** video films, films for Skipper- Nigeria **35**, films for Health & Family Welfare department Punjab **61** and Open School video films **08**, Prakriti films **10**.

Electrical Engineering Department

During the year 2016-17, the department conducted **23** short term programmes for polytechnic teachers/engineering colleges, out of which **15** were in contact mode and **08** through ICT mode. The number of teachers trained through these programmes are **1393**, out of which **149** were in contact mode and **1244** through ICT programmes. One special programme was conducted for students on Solar Energy Project to provide hands on training. 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 conducted three STCs in collaboration with two industries like M/s Mathworks Inc. and M/s Opal RT Pvt. Ltd.

Under the guidance of faculty, **55** final thesis and **23** pre-thesis have been completed by the M.E. students. The department faculty has published **49** papers in the National/International journals and presented **17** papers in National/International conferences. The department faculty also delivered keynote addresses and expert talks in conferences and training programmes at various other institutions. Dr. Ritula Thakur has been awarded Ph.D degree from Panjab University during the current year.

A programme on training the trainers' of technical schools of Nigeria was conducted in Electrical Installation in 2015 based on which **35** educational Video films have been developed.

The ME programme (Instrumental and Control) run by the department has been awarded NBA accreditation for two years w.e.f. 2016-18. NBA expert team visited the department during 4-6 November 2016.

The department has carried out a consultancy project (worth Rs. 9.0 lacs) of design of electrical installation for providing LED light at various green belts/parks/parking/market/street lighting etc. for Municipal Corporation, Chandigarh.

The Electrical Engineering and Mechanical Engineering Departments are in the process of setting up a Simulation Centre of Excellence in this institute in collaboration with M/s ABB India Private Limited.

Electronics and Communication Engineering Department

During the year 2016- 2017, the department conducted **18** training programs for a polytechnic and programs for faculty of engineering colleges in which **45** and **307** teachers participated respectively. The significant programs conducted were in the areas of mobile communication and its applications, wireless communication, introduction to system designing, SCI lab programming, FPGA based digital system design, wireless and mobile communication, Digital System Design, 3G communication, VLSI Design, digital signal processing and image processing using SCI Lab, 3G and LTE, advanced VLSI Design, Antenna design using HFSS, Advance DSP with MATLAB, MATLAB and Simulink applications, introduction to wireless sensor networks and MATLAB programming. The department conducted **06** training programs through ICT mode for polytechnic and for faculty of engineering colleges in which **38** and **1142** teachers participated respectively. The significant program conducted were optical fiber communication, artificial neural network, 2G vs 3G, wireless and mobile communication, VLSI Design, embedded world. The department faculty also prepared instructional material on these topics and gave to the participants of short term courses.

In addition to ME Regular and Modular classes of various sessions/spells during the year under the guidance of faculty, **43** ME thesis have been completed by the students. Four to six weeks practical training was provided to the B.Tech. students of various engineering colleges. The department faculty has published **60** papers in the national/international journals and presented **35** papers in national/international conferences. The department faculty/staff have also attended various training programmes at outside organizations during the year.

Electronics Service Centre of the department conducted **06** short term courses and **02** faculty development programmes under TEQIP-II and trained **149** teachers and technical staff. The centre conducted practical classes for project training for ME Electronics and Communication Engineering (regular) students and training **16** students. The centre contributed in workshop on Servicing and Maintenance of Electronic Instruments with NSQF alignment for MRSPTU, Bathinda.

The centre also conducted **03** student training programmes 1. Embedded System and PCB Design for 4-6 months and trained **09** students, 2. Embedded System and PCB Design and 3. Power Supply, UPS, Inverter and SMPS for 06 week and trained **56** students.

Entrepreneurship Development and Industrial Coordination Department

During 2016-17, the department conducted **07** short term courses for polytechnics and engineering colleges which were attended by **252** teachers. The department also trained **79** teachers from polytechnics and **577** teachers from engineering colleges in **04** training programmes organised through ICT. **02** Students Training programmes were organised by the department which were attended by **182** students and **25** teachers.

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-resources subscribed by the library are being accessed by the students anywhere in the institute campus. During the period more than 800 users have accessed and consulted the -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 also be accessed through IndCAT a Union Catalogue Project on the INFLIBNET.

The Library has compiled user guide i.e. NITTTR Library Guide. In addition the library is bringing out Current Contents of Journals received in the library. The department has organized/conducted **05** short term courses for the Polytechnics Librarians and Engineering Colleges Librarians -**71** participated in these courses.

Mechanical Engineering Department

The department conducted **24** short term courses for the faculty of polytechnics colleges and engineering colleges, through which **864** teachers were trained in various areas of mechanical engineering. Three faculty members of the department presented research papers in International Conferences in Canada and China. Two staff members of the department attended a training program at NITIE, Mumbai. Department procured state-of-the-art laboratory equipment for training the technical teachers in cutting-edge technology areas as well as research & development. Department faculty and technical staff was provided in-house training on these equipment. Institute is in the process of setting up of Simulation

Centre of Excellence with a funding of Rs. 1.65 crore from M/s. ABB India Limited, Bangalore under CSR scheme, for modeling and simulation of electro-mechanical equipment.

In addition, **53** ME thesis have been completed by the students under the guidance of faculty.

Media Centre

Media Centre conducted **06** programmes for the faculty of Engineering Colleges and Polytechnics of all states all over India. Out of these, **04** programmes were ICT based and **02** programmes were Interdisciplinary. The department trained **255** participants from Polytechnics and **817** from Engineering Colleges. The department organized one Awareness Workshop on “Outcome Based Education and Accreditation” for Engg. Colleges affiliated to IKG PTU, Kapurthala and MRSSTU, Bathinda (PU). **337** participants attended the Workshop. 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 two papers in International Conferences in USA and Bangalore (India). The department faculty has also published one chapter in a book and a paper in international journal.

Rural Development Department

The Department has conducted **08** programmes for polytechnics and engineering colleges teachers. **192** polytechnic teachers and **64** engineering college teachers participated in these Programmes. The department conducted **02 ICT based** training programmes on the topics of **Climate Change and Disaster Management; and Skill India** for Engineering Colleges and Polytechnics in which **321** participated, **18 workshops** with respect to implementation of the Scheme of Community Development through Polytechnics were organized for different States in the northern region in which **731 participants** participated. The department also conducted **2 Pre-Job Training Programmes** for MBA Students of Institute of Integrated Himalayan Studies (IIHS), Himachal Pradesh University, Shimla which were attended by **40** MBA students.

In addition to above, the department conducted a **Poster Competition on Swachh Bharat Abhiyan for the Teachers and Students of Schools in Chandigarh**. **310 students and 51 teachers** participated in the Poster Competition. 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 provided necessary guidance to construct two low-cost kitchens, 20 smokeless chullah and two ferro-cement rooftop in the states of Uttar Pradesh and Uttarakhand.

The training programmes were conducted on Swachh Bharat Abhiyan; Skilling India; Unnat Bharat Abhiyan; Orientation to CDTP Scheme; Earthquake Resistant Low Cost Housing; Climate Change and Disaster Management; Housing for Himalayan States; Skill India; Innovative Approach Towards Green and Sustainable Buildings; Pre-Job Training of MBA Students of Institute of Integrated Himalayan Studies (IIHS), Himachal Pradesh University, Shimla; Preparation of Utilization Certificates and Statements of Accounts under CDTP Scheme; Training/Orientation Programme for MIS of CDTP Scheme.

The department also compiled study materials on the above mentioned topics.

Er. Amit Goyal, Assistant Professor was awarded the Young Concrete Engineer 2016-17 award by Indian Concrete Institute, Chandigarh Center (Chandigarh, Punjab, Haryana, J&K, HP) and Ultratech Cement.

Information Management and Coordination Department

During the year under report, the department prepared annual report of the institute for the year 2016-17 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 Challenges and Advances Novel Drug Delivery System – An Approach towards Improvement for Quality Life at Government Polytechnic Dehradun. The department coordinated one training programme with CDC on Special English Teaching Training for 29 nos. Mongolian Teachers from 01 Feb to 22 April, 2016. An ICT based training programme on Coaching of Teachers in Life Skills was conducted for 421 participants.

Instructional Resource 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.

Golden Jubilee Year Activities

The institute is completing 50 years of its journey encompassing its endeavour to improve the technical education in the country with emphasis on northern region. Various events/activities in addition to operational plan were identified and list of those which have been completed in this academic year are listed below:

1. Awareness Workshop for NBA Evaluators
2. Prakriti Documentary Film Festival
3. Health Check-up Camp
4. Panel Discussion on Strategies to Enhance Employability of Graduates from Technical Institutions
5. Panel Discussion on Quality Teaching
6. Poster Competition for School Children on Swachh Bharat Abhiyan
7. Panel Discussion on Research in Engineering and Technical Education
8. Panel Discussion on Student Evaluation
9. International Conference on Educational Futures
10. Panel Discussion on Teacher as a Counsellor
11. Blood Donation Camp
12. International Conference on Inter-disciplinary Research for Sustainable Development

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 and Engineering, Educational Television Centre, Media Centre and Information Management and Coordination Department.
- **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, Mother Teresa 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** with 11 A/C and fully furnished rooms, a Dining Hall, Conference Hall and Exercise Room.
- **Faculty and Staff Residences**.

Besides the main campus in Sector 26, there are additional residential campuses in Sectors 29 and 42 with eighty 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 2016-17, the following renovation work was completed:

- Renovation of 04 Nos. bathrooms (Ladies and Gents) at 1st and 2nd Floor in the ETV Building.
- Installation, commissioning of **03** Nos. Lift/Elevator in three institute Buildings i.e. (i) Homi Bhabha Academic Block, (ii) Ramanujan Centre for Computer Science and Educational Television and (iii) Sir J C Bose Academic and Administrative Block.
- Renovation of Golden Jubilee ETV Studio Room at 1st Floor in Ramanujan Centre for Computer Science and Educational Television.
- Installation of CCTV IP HD Cameras (62 Nos.) for Institute Security.
- Renovation of Committee Room.
- Completion of renovation work of Institute House Type-III, IV and V (31 Nos.) in Sector 26, Chandigarh by BSNL.
- Renovation of Institute Houses Type –III (11 Nos.) in Sector 29 Chandigarh by BSNL.
- Completion of renovation of Institute House Type-II (14 Nos.) in Sector 26 and 29, Chandigarh by CPWD.
- Providing & Fixing M.S. Grills in Two Lawns near campus gate.

3.2 Equipment

Equipment worth ₹ **294.62 lakh** was purchased during the year **2016-17**. The total value of equipment increased to ₹ **4161.54 lakh as on 31.03.2017**. After providing necessary depreciation on the assets, the net value of the equipment remained at ₹ **1453.49 lakh** as on **31.03.2017**.

3.3 Furniture

Furniture worth ₹ **12.46 lakh** was purchased during the year **2016-17**. The total value of furniture increased to ₹ **361.61 lakh as on 31.03.2017**. After providing necessary depreciation under rules, the net value of furniture remained at ₹ **175.80 lakh** as on **31.3.2017**.

3.4 Expenditure

An expenditure amounting to ₹ **3306.32 lakh** has been incurred during the financial year **2016-17** under various schemes as indicated below:

Sr. No.	Name of the Scheme	(Rupees in Lakh)
		Expenditure incurred
1.	Plan (Non-recurring) - Capital Assets	652.26
2.	Plan-General (Recurring)	318.13
3.	Non-Plan-(Recurring)	
	a) Salary - Part - A : 1324.09	
	b) Salary - Part - B : 626.75	
	c) Non-Salary components : 377.22	2335.93
	Total Expenditure	3306.32

3.5 Library

Sr. No.	Particulars	No. available as on 31.03.2017
1.	Number of Books	38899
2.	Number of ISI and IRC	10043
3.	Bound Journals	4051
4.	Print Journals	37
5.	Newspapers	10
6.	Magazines	14
7.	e-journals <ul style="list-style-type: none">• IEL• ASME• Economic & Political Weekly• Institute for studies in Industrial Development (ISID)• J Gate Plus (JCCC)• JSTOR (2500)• Nature• Oxford University Press• Web of Science Lease Access	09

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 2016-17

S. No.	Name and Address
1.	His Excellency, Prof. Kaptan Singh Solanki, Hon'ble Governor, Haryana, Punjab and Administrator UT, Chandigarh
2.	Prof. Sarit K Das, Director, IIT Ropar
3.	Dr. Kannan M. Moudgalya, Professor, Chemical Engineering, System and Control and Educational Technology, IIT Bombay
4.	Shri Anil Malik, IAS, Principal Secretary to Government of Haryana, Technical Education, Haryana
5.	Prof. MPS Ishar, Vice Chancellor, MRSPTU, Bathinda, Punjab
6.	Shri Raj Nehru, Vice Chancellor, Haryana Vishwakarma Skill University, Faridabad, Haryana
7.	Dr. Ashok Goyal, Director, College Development Council, MRSPTU, Bathinda, Punjab
8.	Dr. Abey Kuruvilla, Executive Director, International Affairs, University of Wisconsin, Parkside, USA
9.	Shri DK Jain, Director, C-DAC, Mohali
10.	Shri APS Virk, CEO, Punjab State Civil Aviation Council, Patiala, Punjab
11.	Dr. Jatinder Aggarwal, CEO, Sarthak Educational Trust, New Delhi,
12.	Dr. HN Dutta, Scientist G (Retd.), National Physical Laboratory, New Delhi
13.	Er. Sudhir Gera, Director (Operations), IEC Kirloskar Gensets Limited, Jalandhar
14.	Dr. Ram Hari Lamichhane, Director-General, CPSC, Manila
15.	Dr. G. Kulanthaivel, Faculty Consultant, CPSC, Manila
16.	Dr. SK Bhattacharya, former Director, NITTTR, Chandigarh and Director, SUS College of Engineering and Technology, Tangori (Punjab)
17.	Dr. Acharya Shambhushivananda, Global Chancellor of AM Gurukula & Global Neohumanist Education Network
18.	Dr. GS Dangayach, Professor & Head, Mechanical Engineering Department, MNIT, Jaipur
19.	Dr. PS Yadav, Director, Haryana Institute of Rural Development, Nilokheri
20.	Shri S Rajaram, Chief Operating Executive, HMT Machine Tools Limited, Pinjore

6.0 AUDITED ACCOUNTS

The Audited Accounts of the Institute for the year 2016-17 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 2016-17:

Sr. No.	Instructional Material Developed	Author(s) Name
PRINT MATERIAL		
Text Books		
1.	E-book on “Quality Management Practices of Electronics Industry in Northern India” LAP LAMBERT Academic Publishing; 2016 218 pp.	Sunil Dutt
Laboratory Manuals		
1.	GM Counter Experiment	BC Chaudhary
2.	Scintillation Counters Experiment	BC Chaudhary
3.	To Determine the Speed of Light in Air Using Modulated Laser Beam	BC Chaudhary
4.	Virtual Instrumentation	Lini Mathew
5.	EMG Data Acquisition using Myo Trace 400	Lini Mathew
6.	Programmable Logic Controllers	Ritula Thakur
7.	Microcontroller Based Embedded Systems	Ritula Thakur
8.	OP4510 Simulator	Ritula Thakur
9.	Network Technologies	C Ramakrishna
10.	Advance Computer Networks	C Ramakrishna
11.	Advance Algorithms	Shano Solanki
12.	Multimedia System Design	Shano Solanki Sangeeta Gupta
13.	Advance Database	Rakesh Kumar Sangeeta Gupta
14.	Software Testing and Quality Management	Rakesh Kumar Pardeep Kumar
15.	Network Security Lab Manual	Mala Kalra C Ramakrishna
16.	Cloud Computing	Mala Kalra
17.	Business Intelligence and Mining	Amit Doegar Amrendra Sharan
18.	Digital Image Processing	Amit Doegar
19.	Digital Image Processing	ECE Faculty
20.	HFSS Module-I	ECE Faculty
21.	Embedded System Design using Flowcode	ECE Faculty

Modules		
1.	Project Management for New Enterprises	Amardev Singh
Sr. No.	Instructional Material Developed	Author(s) Name
2.	Module on Semi Custom VLSI Design	ECE Faculty
3.	Module on ASIC Design	ECE Faculty
Booklets / Readers		
1.	Readers on Traffic Engineering – Reprint of Document	AK Duggal
2.	Maintenance of Highways	AK Duggal
3.	Design of Airport Pavement	AK Duggal
4.	Types of Highway Construction	AK Duggal
5.	Sim Power System	Shimi SL Lini Mathew
6.	Hybrid Wind, PV and Fuel Cell System	Shimi SL
7.	Speed Control of 3 ϕ Induction Motor using IPM and DSP Processor (TMS320F28335)	Shimi SL
8.	Harmonic Elimination Cascaded Multi Level Inverter	Shimi SL
9.	MPPT for Photo-Voltaic System	Shimi SL
10.	NBA Accreditation and Quality Management	Rakesh Wats
11.	Innovation and Creativity Development in Teachers and Students	Rakesh Wats
12.	Technical Teachers' Role, Self Esteem Motivation and Professionalism Development	Rakesh Wats

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.	Installation of Overhead Conductors and Cables II
2.	Basics of Organic Farming
3.	Organic Farming for Health Food
4.	Operation Research
5.	Need and Philosophy of Entrepreneurship
6.	Youth Entrepreneurship
7.	Entrepreneurial Support System at National, State and District Level
8.	Introduction to Marketing
9.	Finance for Non-Finance Persons

10.	Understanding Blocks in Becoming Entrepreneurs
11.	Motivation for Starting Business
12.	Schemes of Assistance by SIDBI for Entrepreneurs
13.	Intellectual Property Rights for Entrepreneurs
14.	Consideration for Product Selection
15.	Leadership Skills for Entrepreneurs
16.	Management of Human Resources
17.	Social Entrepreneurship : A Conceptual Framework
18.	Recent Innovations in Technology and its Impacts
19.	Social Entrepreneurship as an Emerging Field
20.	Opportunities in Green Business
21.	Effective HR Management Practices in Business
22.	Financial Literacy for Entrepreneurs
23.	Business Plan Formulation
24.	Management of Technology and Innovation
25.	Technology Strategy of Multinational Companies
26.	Schemes of NABARD for Entrepreneurs
27.	Appraisal of Business Plan
28.	Need and Importance of Effective Business Communication
29.	Technology Management – An Introduction
30.	Technology Adoption
31.	Process of Planning in context of Technology
32.	Intellectual Property Rights
33.	Technology Management in Context of Entrepreneurship
34.	Organisation Technology Strategy
35.	Business Model Approach for Technology Transfer
36.	Technology Transfer
37.	Technology Management and Innovation
38.	Significance of Innovation in Creating Value
39.	ICT Knowledge Management with Emphasis to Educational Institutions – A Practical Interaction
40.	Leveraging Technology for Offering Solutions to Niche Markets – An Experiential Sharing
41.	Technology Acquisition and Exploitation
42.	Security Implementation Hypervisor
43.	Virtualization Technology
44.	Implementation of Software Repository and Cloud Storage
45.	IP Addressing
46.	Artificial Neural Network
47.	2G Vs 3G
48.	Optical Fiber Communication
49.	Wireless and Mobile Communication
50.	VLSI Design
51.	Embedded World

Lecture Based Video Films 55 -	
1.	NBA Self assessment Report - How to Prepare the SAR Part-1
2.	NBA Self assessment Report - How to Prepare the SAR Part-2
3.	Environment Pollution and its Impact on Society
4.	Samasya Ka Samadhan
5.	NBA An introduction
6.	NBA Self- Assessment Report
7.	Best Practices of Report Writing NBA
8.	NBA Curriculum & Teaching Practices
9.	NBA Program Outcomes
10.	Making An Effective Presentation, Part -1
11.	Making An Effective Presentation, Part - 2
12.	Making An Effective Presentation, Part -3
13.	Vernier Caliper
14.	Curriculum Design Process
15.	Curriculum Development - An overview
16.	Inspection, Lecture 3
17.	Standard of Measurement
18.	Fuzzy Rule Based Control Systems
19.	Introduction to Fuzzy Logic Part-2
20.	Introduction to fuzzy Logic Part-2
21.	Units of Measurements
22.	Micrometer
23.	NBA Workshop Inauguration Ceremony
24.	NBA Self Assessment Report (SAR)
25.	NBA Objectives
26.	Introduction to NBA
27.	Appropriate Technology
28.	Prospects and Challenges of Organic Farming
29.	Environment Management System, Part-1
30.	Environment Management System, Part-2
31.	Environmental Management System, Part-3
32.	Environmental Management System, Part-4
33.	Linear Programming Problem - Formulation
34.	Introduction Operation Research
35.	Linear Programming Problem - Graphical Method
36.	Natural Farming/ प्राकृतिक खेती की संभावना
37.	Project Formulation
38.	Aspects of Report writing, Part -1
39.	Aspects of Report writing, Part - 2
40.	Instructional Strategies, Part - 1

41.	Instructional Strategies, Part - 2
42.	Aspects of Academic Planning
43.	Earthquake
44.	Climate Change and Sustainable Development : A Case study of South Asia and India
45.	Prospects and Challenges of Sustainable Agriculture (Organic Farming) Part -2
46.	Eco Development Projects
47.	Socio Ecological Models - Chak Ramnagar Model
48.	Rural Marketing
49.	Organic Food for Healthy Future
50.	Expert Lecture on Woman Harassment (STC PROJECT)
51.	Impact of Industrialization on Environment (STC PROJECT)
52.	PRA Exercise
53.	Internal combustion Engine
54.	Engine Efficiencies – Different Types
55.	I C Engine Efficiencies
	National Institute of Open Schooling, Chandigarh (NIOS 8 Films)
1.	Classification of Living Organism
2.	Heredity
3.	Climate
4.	Arithmetic Progression
5.	Fundamental Rights and Fundamental Duties
6.	The Living World Life Process - II, Control and Coordination
7.	Building Blocks of Life Cell and Tissues
8.	Lines and Angles
	Others –Prakriti Film festival
1.	Prakriti –Part 1
2.	Prakriti –Part 2
3.	Prakriti –Part 3
4.	Prakriti –Part 4
5.	Prakriti –Part 5
6.	Prakriti –Part 6
7.	Prakriti –Part 7
8.	Prakriti –part 8
9.	Prakriti –Part 9
10.	Prakriti –Part10

	Film for SKIPPER NIGERIA (35 Films) – Recording for the following films were made and completed after post production
1.	Industrial Installation – Electrical Layout of Industry
2.	Industrial Installation – Industrial Installation
3.	Industrial installation – PLC Application in Control of Electrical Machines
4.	Solid State Devices and Circuits-Solid State Electronics
5.	Solid State Devices and Circuits-Transistor
6.	Solid State Devices and Circuits-Properties and Application of Diodes
7.	Solid State Devices and Circuits-Solid State Devices-Part 1
8.	Solid State Devices and Circuits-Solid State Devices-Part 2
9.	Solid State Devices and Circuits-Solid State Devices-Part 3
10.	Solid State Devices and Circuits-Digital Electronics
11.	Industrial Installation –Trunking and Ducting System for Electrical Installation
12.	Solid State Devices and Circuits-Power Supply Unit
13.	Solid State Devices and Circuits-Power LED
14.	Solid State Devices and Circuits-Testing Semiconductors and Using Oscilloscope
15.	Solid State Devices and Circuits - Integrated Circuits
16.	Solid State Devices and Circuits - Oscillators
17.	Solid State Devices and Circuits - Light Sensing Devices
18.	Statutory Regulations During Setting-up of Winding Machines
19.	Preventing Statutory Regulations During Soldering of Terminations
20.	Statutory Regulations During Handling of Cable Drums & Use of Liquid Varnish and Oven
21.	Industrial Installation :Principle of Operation of AC Machines and their Applications
22.	Industrial Installation - Installation of Electrical Machines & Equipments
23.	Industrial Installation - Principle of Operation of DC Machines and their Applications
24.	Simple Joints in Cables and its Termination Process - Unit-3
25.	Installation of overhead conductors and cables - Unit-6
26.	Cable Construction (continued) Unit-2
27.	Cable Types Unit-2
28.	Concepts of Electricity and Cables/Conductors, Unit -1
29.	Industrial Installation-Maintenance of Electrical Machines and Equipments
30.	Various Types of Data and Communication Cabling Methods
31.	Tools and Materials used in Cable Jointing,Unit-9, Part-1
32.	Cable Jointing Steps, Unit-9 (Part-2)
33.	Installation Process of Underground Cables, Unit-5
34.	Winding of Electrical Machines-Preparation and Interpretation of Winding Drawings
35.	Armoured Cables their Application, Jointing and Termination Process Unit - 4

	Department of Health and Family Welfare Punjab (61 Films)
1.	Specialty Updates on Eye (24/4/16) Part 1
2.	Specialty Updates on Eye (24/4/16) Part 2
3.	Specialty Updates on Orthopedics (8/5/16) Part 1
4.	Specialty Updates on Orthopedics (8/5/16) Part 2
5.	Specialty Updates on Orthopedics (8/5/16) Part 3
6.	Specialist Updates on Orthopedics (8/5/16) Part 4
7.	Specialty Updates on Orthopedics (8/5/16) Part 5
8.	Specialty Updates on Orthopedics (8/5/16) Part 6
9.	Specialty Updates on Orthopedics (8/5/16) Part 7
10.	Specialty Updates on Psychiatry (15/5/16)
11.	Specialist Updates on Surgery (29/5/16) Part 1
12.	Specialty Updates on Surgery (29/5/16) Part 2
13.	Specialist Updates on Surgery (29/5/16) Part 3
14.	Specialty Updates on Surgery (29/5/16) Part 4
15.	Specialty Updates on Surgery (29/5/16) Part 5
16.	Specialty Updates on Gynecology(12/5/16) Part 1
17.	Specialty Updates on Gynecology(12/5/16) Part 2
18.	Specialty Updates on Gynecology(12/5/16) Part 3
19.	Specialty Updates on Gynecology(12/5/16) Part 4
20.	Specialty Updates on Pediatrics (12/5/16) Part 1
21.	Specialty Updates on Pediatrics (12/5/16) Part 2
22.	Specialty Updates on Pediatrics (12/5/16) Part 3
23.	Specialty Updates on Pediatrics (12/5/16) Part 4
24.	Specialty Updates on Pediatrics (12/5/16) Part 5
25.	Specialty Updates on Pediatrics (12/5/16) Part 6
26.	Specialty Updates on Eye (30/7/16) Part 1
27.	Specialty Updates on Eye (30/7/16) Part 2
28.	Specialty Updates on Eye (30/7/16) Part 3
29.	Specialty Updates on Eye (30/7/16) Part 4
30.	Specialty Updates on Eye (30/7/16) Part 5
31.	Specialty Updates on Eye (30/7/16) Part 6
32.	Specialty Updates on Eye (30/7/16) Part 7
33.	Specialty Updates on Anesthesia (18/09/2016) Part 1
34.	Specialty Updates on Anesthesia (18/09/2016) Part 2
35.	Specialty Updates on Pathology and Transfusion Medicine (25/9/2016) Part 1

36.	Specialty Updates on Pathology and Transfusion Medicine (25/9/2016) Part 2
37.	Specialty Updates on Pathology and Transfusion Medicine (25/9/2016) Part 3
38.	Specialty Updates on Pathology and Transfusion Medicine (25/9/2016) Part 4
39.	Medical Summit (11/11/2016) Part 1
40.	Medical Summit (11/11/2016) Part 2
41.	Medical Summit (11/11/2016) Part 3
42.	Medical Summit (11/11/2016) Part 4
43.	Medical Summit (11/11/2016) Part 5
44.	Medical Summit (11/11/2016) Part 6
45.	Specialty Updates on ENT (20/11/2016) Part 1
46.	Specialty Updates on ENT (20/11/2016) Part 2
47.	Specialty Updates on ENT (20/11/2016) Part 3
48.	Specialty Updates on Dermatology (4 /12/2016) Part 1
49.	Specialty Updates on Dermatology (4 /12/2016) Part 2
50.	Specialty Updates on Dermatology (4 /12/2016) Part 3
51.	Specialty Updates on Dentistry (11/12/2016) Part1
52.	Specialty Updates on Dentistry (11/12/2016) Part 2
53.	Specialty Updates on Dentistry (11/12/2016) Part 3
54.	Specialty Updates on Radiology (18/12/2016) Part 1
55.	Specialty Updates on Radiology (18/12/2016) Part 2
56.	Specialty Updates on Radiology (18/12/2016) Part 3
57.	Specialty Updates on Radiology (18/12/2016) Part 4
58.	Specialty Updates on Cornea & External Eye Disease (26/2/2017) Part 1
59.	Specialty Updates on Cornea & External Eye Disease (26/2/2017) Part 2
60.	Specialty Updates on Cornea & External Eye Disease (26/2/2017) Part 3
61.	Specialty Updates on Cornea & External Eye Disease (26/2/2017) Part 4
	List of Training Programme through ICT from April 2016 to March, 2017
1.	Operations Research
2.	Artificial Neural Network
3.	Thrust Area of research in Engineering and Science
4.	Embedded C Programming of Microcontroller
5.	Entrepreneurship Development and Global Business Foundation Skills
6.	Construction of Flexible Pavement
7.	2G Vs 3G
8.	NBA Accreditation & quality Management

9.	Industrial Automation & Robotics
10.	Disaster Management
11.	Strategic Planning and Management of Technical Institution
12.	Repair & Maintenance of Buildings
13.	Strategic Management and SWOT Analysis for Institution Excellence
14.	Fibre Optic Communication System
15.	Environment & Sustainable Development
16.	Effective Curriculum Implementation
17.	Business Start up and Social Entrepreneurship
18.	Real world Interfacing with Microcontroller 8051
19.	Climate Change & Disaster Management
20.	Remote Sensing & GIS Applications in Engineering
21.	Wireless & Mobile Communications
22.	Biomedical Instrumentation
23.	Optimization Using MATLAB
24.	New Manufacturing Technology
25.	Advance Operation Research
26.	Entrepreneurship and Business Incubation
27.	Panel Discussion
28.	Technical Teacher Role Self Esteem and Professional Development
29.	Communication Skills
30.	Advances in OFC Technology
31.	E-governance, Eco-premiership and Green IT in Technical Institutions
32.	Coaching of Teachers in Life Skill
33.	Tools for Engineering Research
34.	FACTS devices and distributed Generation
35.	Green Techniques for Sustainable Environment
36.	Developing Value, Attitudes & Managerial Skills in Teachers
37.	Curriculum Development
38.	Recent Trends in Automobile Engineering
39.	AutoCAD for Engineers
40.	Skill India
41.	Sustainable Environmental Management
42.	VLSI Design
43.	Power Electronics for Renewable Energy System
44.	Embedded World

	Student Programmes through ICT from April 2016 to March, 2017
1.	Preparing students for Job Interview
2.	Preparing students for Job Interview
3.	Preparing students for Job Interview
	Miscellaneous Programmes through ICT from April 2016 to April 2017
1.	Gender Harassment at Work Place
CAI PACKAGES	
1.	“Data Structures in MATLAB – Concepts & Commands” (Computer Programming & Applications - MMT6108) (Mech. Engg.)
2.	Arduino Programming using MATLAB/Simulink” (Industrial Automation & Control - MMT6209) (Mech. Engg.)

No. of Lecture Based Video Films produced for the Training : 1237
Programmes offered through ICT and uploaded on You Tube

Annexure- II

A. RESEARCH PUBLICATIONS BY THE INSTITUTE FACULTY (JOURNALS)

Sr. No.	Title of the Paper Published	Author(s) Name
	APPLIED SCIENCE	
1.	“High Speed Intersatellite Communication System by Incorporating Hybrid Polarization Wavelength Division Multiplexing Scheme”, Journal of Optical Communication, August 2016.	Sushank Chaudhary Neha Chaudhary Saurabh Sharma BC Choudhary
2.	“FGP Approach to Multiobjective Quadratic Fractional Programming Problem”, International Journal of Applied and Computational Mathematics (Springer) 2016.	KC Lachhwani
3.	“Optimization of Condition-based Maintenance using Soft Computing” International Journal on Neural Computing and Applications (Springer), 2016.	Deepam Goyal BS Pabla SS Dhami KC Lachhwani
	CIVIL ENGINEERING	
4.	“Impact of Treated Waste Water on Flexural and Split Strength in Ambuja Technical Journal, Vol-2, October, 2016.	Hemant Sood
5.	“Effect of Treated Waste Water on Compressive Strength and Permeability of M-25 Grade Concrete”, International Journal of Advanced Research (IJAR), Vol-4 (2016).	Hemant Sood
6.	“Effect of PET Fibres on the Mechanical Properties of Concrete”, International Journal of Civil Engineering December, 2016.	Hemant Sood
7.	“Effect of PET Fibres in the Performance of Concrete”, International Journal of Scientific Research and Education – Vol.4, Issue/12/December, 2016.	Hemant Sood
8.	“Effect of Using Slag and Treated Waste Water on the Strength of PPC Concrete”, International Journal of Advanced Engineering & Research Development, Vol-4, Issue 1, January, 2017.	Hemant Sood
9.	“Effect of Using Slag and Treated Waste Water on the Compressive Strength of Variable Grades of PPC Concrete”, International Journal of Advanced Engineering & Research Development, Vol-4, Issue 1, January, 2017.	Hemant Sood
10.	“Level of Service Concept in Urban Roads”, International Journal of Engineering Science Invention Research Development (IJESIRD), VOL III, Issue I, July 2016, e-ISSN: 2349-6185	Robin Dhiman Ajay K Duggal
11.	“Determination of Level of Service of Jan Marg in Chandigarh”, International National Research Journal of Engineering and Technology (IRJET) Vol. III Issue 07, July 2016, e-ISSN 2395-0056.	Robin Dhiman Ajay K Duggal
12.	“Recycling practices in Flexible pavement with the help of RAP and rejuvenators”, International Journal of Engineering Science, Invention Research Development (IJESIRD) III , issue 1 , July 2016 , www.ijesird.com , e-ISSN2349-6185	Viranta Sharma Ajay K Duggal

Sr. No.	Title of the Paper Published	Author(s) Name
13.	"To study the effect of partial replacement of lime by cement in Mastic Asphalt", International Journal of Engineering & Technology , Vol 03 , Issue : 11 , Nov 2016.	Swati Chandel Ajay K Duggal
14.	"Feasibility Study of Metro Rail Project in Chandigarh ; International Research Journal of Engineering & Technology", IJERT Journal , Vol: 3 , Issue 7 , July 2016 e-ISSN 2395-0056.	Prateek Malhotra Ajay K Duggal
15.	"Metro Rail Transit System in various Indian Cities –A Preliminary Study, International Journal of Engineering Science Invention Research Development Vol III , issue 1 , July 2016 , www.ijesird.com , e-ISSN2349-6185 2016.	Prateek Malhotra Ajay K Duggal
16.	"Flexible Pavements with repeated distress history – A case Study", International research Journal of Engineering and technology IRJET Vol.3 Issue 08, Aug 2016, e-ISSN 2395-0056.	Naiyara Khan Ajay K Duggal
17.	"Review on Improvement of Engg Properties of Soil using Waste Plastic Bottles Strips (Polyethylene Terephthalate)", International Journal on Emerging Technologies 8 (1) : 01-04 (2017).	VK Sonthwal
18.	"Improvement of Engg Properties of Soil Using Waste Plastic Bottles Strips (Polyethylene Terephthalate)", International Journal on Theoretical & Applied Sciences 9 (1) : 21-27 (2017).	VK Sonthwal
19.	"Review on Improvement of Engg Properties of Soil", International Journal on Emerging Technologies 7 (2) : 48-51 (2016).	VK Sonthwal
20.	"Improvement of Engg Properties of Clayey Soil Using Shredded Rustar Tyre", International Journal of Theoretical and Applied Sciences 9 (1) : 01-06 (2017).	VK Sonthwal
21.	"Stabilization of Soil Reinforced with Quarry Dust", International Journal of Recent Trends in Engg & Research 318-323, Vol 21, issue 9 September, 2016.	VK Sonthwal
22.	"Stabilization of Soil Reinforced with Quarry Dust and Poly Propylene Fibre Waste" International Journal of Trend in Research and Development, Vol. 315, 325-328 September-October, 2016.	VK Sonthwal
23.	"Soil Stabilization by Using Waste Material : A Review", International Journal of Science, Invention Research & Development, Vol-III, Issue 1....	VK Sonthwal
24.	"Analysis of Water Quality Parameters & Discharge Rate through Conventional & Geo Textile Based Filter", International Research Journal of Engineering & Technology (IRJET), Vol- 03 issue: 08/August, 2016.	SK Sharma Anirudh
25.	"To Determine the Efficiency of Crystalline Water Proofing System in Concrete", International Research Journal of Engineering & Technology (IRJET) / Vol – 03 issue. 08/ August, 2016.	SK Sharma Navrit Bhandari
26.	"Development of Eco Friendly Geopolymer Brick Using Foundation Sand IRJET / Vol – 03, issue 08/August, 2016.	SK Sharma Preetinder Singh

Sr. No.	Title of the Paper Published	Author(s) Name
27.	"An Experimental Investigation on Properties of High Strength Bacterial Concrete (Bacillus Subtilis)", International Research Journal of Engineering & Technology IRJET - /Vol – 03 issue 05/ May2016.	SK Sharma Neha Singla
CENTRE FOR PHYSICALLY CHALLENGED PERSONS		
28.	"Abilympics – A Way Forward for Harnessing the Potential of Persons with Disabilities", International Journal of Business Management and Scientific Research, Volume 20, PP20-36, August 2016.	JS Saini
COMPUTER SCIENCE AND ENGINEERING DEPARTMENT		
29.	"Botnet Analysis using Ensemble Classifier", Elsevier Journal on Perspective in Science, Vol. 8, pp. 502–504, September 2016.	A Bijalwan N Chand E Pilli C Ramakrishna
30.	"Classification of Heavy Metal Ions Present in Multi-frequency Multi-electrode Potable Water Data using Evolutionary Algorithm", Springer Journal on Applied Water Science, pp. 1-11, doi:10.1007/s13201-016-0514-0, December 2016.	Rashmi Karkra Prashant Kumar Baban K. S. Bansod Sudeshn Bagchi Pooja Sharma C Ramakrishna
31.	"Stream Control Transmission Protocol," CSI Communications, Vol. 40, Issue 4, pp. 33-35, July 2016.	Anurag Jagetiya C Ramakrishna
32.	"Multi-path TCP: Future of Multi-homing," CSI Communications, Vol. 40, Issue 1, pp.19-20, April 2016.	Anurag Jagetiya C Ramakrishna
33.	"Scalable Key Parameter Yield of Resources Model for Performance Enhancement in Mobile Cloud Computing", Springer, Wireless Personal Communications, 2017. {Online First}.	Rakesh Kumar Santosh Kumar Yadav
34.	"D-BEENISH: Distance Incorporated Balanced Energy Efficient Network Integrated Super Heterogeneous Protocol for WSN", Inderscience International Journal of Systems, Control and Communications {Accepted}.	Rakesh Kumar Rakesh Mathur
35.	"A Fuzzy Logic Based Clustering Algorithm for Network Optimization", Inderscience International Journal of Systems, Control and Communications, Volume-7, Issue-2, pp. 132-150, 2016.	Navdeep Singh Rakesh Kumar
36.	"Blind Water Marking of 3-D Images using DWT-SVD Technique", International Journal of Advanced Research in Computer Science and Software Engineering(IJARCSSE), Vol. 6, Issue 12, pp. 173-181, December 2016.	Rikky Rastogi Rakesh Kumar
37.	"A Survey on Workflow Scheduling in Cloud Computing Environment", International Journal of Innovative Research in Computer and Communication Engineering, Vol. 4, Issue 5, pp. 8504-8510, May 2016.	Rakesh Kumar Manish Gautam
38.	"A Survey on Android Malware Detection", International Journal of New Technology and Research (IJNTR), Volume-2, Issue-12, December 2016, pp. 47-53.	Nirmala Yadav Aditi Sharma Amit Doegar

Sr. No.	Title of the Paper Published	Author(s) Name
ELECTRONICS AND COMMUNICATION ENGINEERING		
39.	"Design of Pixel Neighborhood Based Offline Handwritten Thinning Framework for Devnagri Numeral Script using Elman Neural Network" Thomson Reuter International Journal of Computer Science and Security, vol14, No.07, June 2016.	Gulshan Goyal Maitreyee Dutta
40.	"Experimental Approach for Performance Analysis of Thinning Algorithms for Offline Handwritten Devnagri Numerals" Thomson Reuter Indian Journal of Science and Technology, Vol 9(30), DOI:10.17485/ijst/2016/v9i30/97528, August 2016.	Gulshan Goyal Maitreyee Dutta
41.	"Classification of Objects from High Resolution Remote Sensing Images using Recognition", International Journal of Engineering Trends and Technology, Vol 38, no. 1, August 2016 ISSN : 2231-5381.	Nikita Aggarwal Mohit Srivastava Maitreyee Dutta
42.	"Comparative Analysis of Pixel Based and Object Based Classification of High Resolution Remote Sensing Images- A Review", International Journal of Engineering Trends and Technology, Vol 38, no. 1, August 2016 ISSN : 2231-5381.	Nikita Aggarwal, Mohit Srivastava, Maitreyee Dutta
43.	"Time Dependent Signature Verification using Normalized Weighed Coefficients", SCOPUS indexed International Journal of Electrical and Computer Engineering, Vol 6, No 6, September 2016.	Manas Singal Manish Trikha Maitreyee Dutta
44.	"Signature Verification using Normalized Static Features and Neural Network Classification", SCOPUS indexed International Journal of Electrical and Computer Engineering, Vol 6, No 6, September 2016.	Manish Trikha Manas Singal Maitreyee Dutta
45.	"Online Signature Verification: Present State of Technology", Thomson Reuter indexed International Journal on Recent and Innovation Trends in Computing and Communication.", Vol 4, Issue 9, pp: 66-68, Sept. 2016 ISSN 2321-8169.	Manas Singal Maitreyee Dutta
46.	"Online Signature Verification using Normalized Dynamic Feature with Artificial Neural Network Classification," Thomson Reuter indexed International Journal of Engineering Sciences and Research Technology", 5(9), September 2016, ISSN: 2277-9655.	Manish Trikha Maitreyee Dutta
47.	"Online Signature Verification with Periodic Template Updating Mechanism", SCI Xplore Indexed International Journal of Engineering and Technical Research, vol-6, Iss-1, pp 68-71, Oct., 2016 ISSN: 2321-0869.	Manas Singal Maitreyee Dutta
48.	"Review on Point Spread Function Estimation Techniques", IJEEE, Vol 3, Issue 5, October 2016, e ISSN: 1694-2310, p-ISSN: 1694-2426.	Ritesh Pawar Maitreyee Dutta
49.	"Face Detection and Recognition using Binary Patterns", International Journal of advanced research in Electrical, Electronics and Instrumentation Engineering, Vol 5, Issue 10, October 2016.	Amit Kumar Chanchal Dr. Maitreyee Dutta
50.	"Recognition of Emotions from Facial Expressions and its Application in CAR Driving System," International Journal of Advanced Research in Electronics and Communication Engg., Vol 5, issue 10, October. 2016.	Amit Kumar Chanchal Maitreyee Dutta

Sr. No.	Title of the Paper Published	Author(s) Name
51.	"SURE Based Parametric PSF Estimation for Image Deconvolution", Thomson Reuter indexed International Journal of Computer Science and Information Security, Vol 14, No. 10, Oct., 2016 , Researcher IdE-1319-2016.	Ritesh Pawa Maitreyee Dutta
52.	" PSF Estimation with PSO and SURELET Deconvolution for Blurred Image" International Journal of Innovative Technology and Exploring Engineering, Vol 6, Issue 6, November 2016, ISSN 2278-3075.	Ritesh Pawar Maitreyee Dutta
53.	"Novel Low Power & High Speed 13T SRAM Cell using Fin FETs", IET Circuits, Devices & Systems, 2016. (SCI Indexed).	Shilpa Saxena Rajesh Mehra
54.	"Reconfigurable Low Pass FIR Filter Design Using Canonic Signed Digit For Audio Application, Indian Journal of Science and Technology, Vol. 10, No. 16, pp. 1-6, 2017. (Scopus Indexed in UGC list).	Preethi Nair Rajesh Mehra Chandni
55.	"20 Tap Reconfigurable IIR Filter Using Fully Parallel MAC Algorithm", International Journal of Computer Applications (IJCA), Vol. 156, No.10, pp. 1-6, 2016. (Google Indexed).	Rohini Rajesh Mehra Chandni
56.	"FPGA Based Asynchronous FIR Filter Design for ECG Signal Processing", International Journal of Computer Applications (IJCA), Vol. 156, No.7, pp. 16-20, 2016. (Google Indexed).	Rahul Rajesh Mehra Chandni
57.	"IIR Filter Design using Factored-Canonical Signed Digit for SONAR Applications", International Journal of Computer Science and Information Security, Vol. 14, No. 11, pp. 216-221, 2016. (Google Indexed).	Pushpraj Rajesh Mehra Shallu
58.	"FPGA Based Band Pass FIR Filter using Factored Canonic Signed Digit Technique for Satellite Application", International Journal of Computer Applications (IJCA), Vol. 156, No 3, pp. 45-49, 2016. (Google Indexed).	Roshan Lal Rajesh Mehra Shallu
59.	"Selective Mapping and Partial Transmit Sequence Based PAPR Reduction for OFDM Applications", International Organization of Scientific Research (IOSR), Vol. 15, No. 06, pp.70-76, 2016. (Google Indexed).	Shailly Kumari Rajesh Mehra
60.	"PAPR Reduction using Companding Technique for Multicarrier Transmission", International Journal of Engineering Science and Technology (IJEST), Vol. 8, No. 11, pp. 237-243, 2016. (Google Indexed)	Shailly Kumari Rajesh Mehra
61.	"Adaptive Noise Cancellation using Modified Normalized Least Mean Square Algorithm", International Journal of Engineering Trends and Technology (IJETT), Vol. 34. No. 4. pp. 215-219, April 2016. (Google Indexed).	Lalita Sharma and Rajesh Mehra
62.	"Denoising ECG Signal Using Daubechies and Symlet Wavelet Transform Techniques", International Journal of Advanced Research in Computer and Communication Engineering, Vol. 5, No. 9. pp. 438-443, September 2016. (Google Indexed)	Tanuj Yadav Rajesh Mehra
63.	"Reconfigurable Distributed Arithmetic Based Adaptive Noise Canceller using Modified NLMS Algorithm", IOSR Journal of VLSI and Signal Processing, Vol. 6 No. 3, pp. 31-37, 2016. (Google Indexed).	Rajesh Mehra Lalita Sharma

Sr. No.	Title of the Paper Published	Author(s) Name
64.	“High Performance and Low Power SRAM Cell design using Power Gating Technique”, International Journal of Electrical and Electronic Engineering & Telecommunication. Vol. 5. No. 3. pp. 35-47, July 2016. (Google Indexed).	Shilpa Saxena Rajesh Mehra
65.	“Finfet Based Low Power & High Speed SRAM Cell Design”, International Journal of Engineering Science and Technology. Vol. 8, No. 6, pp. 158-170, July 2016. (Google Indexed).	Shilpa Saxena Rajesh Mehra
66.	“Unsupervised Learning Based Modified C-ICA for Audio Source Separation in Blind Scenario”, International Journal of Information Technology and Computer Science, Vol. 3, pp 10-18, 2016. (Google Indexed).	Naveen Dubey Rajesh Mehra
67.	“Design Analysis of Two – Code Keying Approach Based on MD code to Improve the Performance of OCDMA System” International Journal of Engineering Science and Computing (IJESC) Vol. 6, pp. 2062-2066, July, 2016.	Mukesh Kumar Umesh Kumar Tiwari Kanika Sharma Sandeep Singhai
68.	“Improvement of Span Length of 160Gb/s Ultra Dense Wavelength Division Multiplexing PON with FBG by reducing Chromatic Dispersion ”, International Journal of Engineering Science and Computing, Vol. 6, Issue 7, pp1921-1924, August, 2016.	Chhavi Saini Umesh Tiwari Kanika Sharma
69.	“Design and Analysis of Multiplier Accumulation Unit by Using Hybrid Adder”, International Journal of Computing Trends & Technology (IJCTT), ISSN 2231-2803, July 2016.	Amiya Prakash Kanika Sharma
70.	“Literature Review on Design and Analysis of Multiplier Accumulation Unit by Using Hybrid Adder”, International Research Journal of Engineering and Technology (IRJET), Volume 3, Issue, 7 July 2016.	Amiya Prakash Kanika Sharma
71.	“Improved Energy Efficient Routing Scheme (IEERS) for Wireless Sensor Network”, International Journal of Engineering Science and Computing, Vol. 6 Issue 7, pp 1996-1999, July 2016.	Ravi Kumar Anand Kanika Sharma
72.	“Resonantly Peak Detection Algorithm in Structural Health Monitoring”, International Research Journal of Engineering and Technology , pp. 100-106 Vol. 3, Issue 8, August 2016.	H Singh Kanika Sharma
73.	“Survey on Impedance Measurement Technique Based Structural Health Monitoring”, International Research Journal of Engineering and Technology, pp. 106-116, Vol. 3, Issue 8, August 2016.	H Singh Kanika Sharma
74.	“Improved Development of Energy Efficient Routing Algorithm for Privacy Preservation of Sink in WSN”, International Research Journal of Engineering and Technology, Vol. 3 No. 1 ISSN 2395- 0056, pp 1-7, January 2016.	Pallavi Saxena Kanika Sharma
75.	“Review Paper on Data Gathering Techniques Based on Mobile Sink In WSN”, International Journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering (IJIREEICE), ISSN 2321-2004, Vol. 4 , Issue 8, pp. 29-32, Aug 2016.	Shipra Sharma Kanika Sharma
76.	“Improved Lifetime by Mobile Sink Based Energy Efficient Adaptive Threshold Clustering Hierarchy Algorithm for WSN”, International Advanced Research Journal in Science , Engineering and Technology , Vol . 3 ISSN 2393-8021, Issue 10, pp. 72-75, October 2016.	Shipra Sharma Kanika Sharma

Sr. No.	Title of the Paper Published	Author(s) Name
77.	"Improved Stability Period by Mobile Sink based Energy Efficient Adaptive Threshold Clustering Hierarchy Algorithm for WSN", International Advanced Research Journal in Science , Engineering and Technology ,Vol. 3, ISSN 2393-8021, Issue 10, pp 81-84,October 2016.	Shipra Sharma Kanika Sharma
78.	"Energy Efficient Routing Algorithm for Privacy Preservation of Sink in WSN,"MIT International Journal of Electronics and Communication Engineering, Vol.5, no.2, pp.56-59, 2015.	Pallavi Saxena Kanika Sharma
79.	"Spectrum Sensing Schemes in Cognitive Radio Networks: A Review", International Journal of Engineering Trends and Technology, Volume-40, Number-4, pp. 215-219, October 2016, ISSN No: 2349-0918.	Anita Kumari Garima Saini
80.	"Optimizing Channel Estimation for SCFDMA", International Journal of Advanced Research, Ideas And Innovation in Technology, Volume-2, Issue-6, pp.1-5, 2016, ISSN No: 2454-132X.	Priyanka Malhotra Garima Saini
81.	"Optimization of Horn Antenna using various Technique- A review", International Journal of Advance Research In Electrical, Electronics And Instrument Engineering, Volume-5, Issue-10, pp.7806-7809, October 2016, ISSN No: 2320-3765.	Anku Bala Garima Saini
82.	"Gain Enhancement of Pyramidal Horn Antenna for X Band using Improved Geometry", International Journal of Advance Research In Electrical, Electronics and Instrument Engineering, Volume-5, Issue-10, pp.8804-8809, October 2016 ISSN No: 2320-3765.	Anku Bala Garima Saini
83.	"Compact Printed Dipole Antenna with Low Return Loss and VSWR", International Journal of Scientific Research Engineering and Technology, Volume-5, Issue-11, November 2016, ISSN No: 2278-0882.	Sarabjeet Kaur Garima Saini
84.	"Design and Fabrication of Compact PIFA Portable Device", International Journal of Electronics and Electricals and Computational System, Volume-5, Issue-11, November 2016, ISSN No: 2348-117X.	Anamika Sharma Garima Saini
85.	"Performance Analysis for PAPR Reduction using Hybrid Technique in OFDM System", International Journal of Engineering Technology And Research, Volume-3, Issue-11, pp.18-22, November 2016, ISSN No: 2394-3386.	Arushi Garg Garima Saini
86.	"A Printed Monopole Antenna for TV White Space Application" International Journal of Electronics and Communication Technology, Volume-7, Issue-4, pp. 32-34, December 2016, ISSN No: 2230-9543.	Ghulam Ahmed Raza Garima Saini
87.	"A Review of Antenna For TV White Space Spectrum Communication" International Journal of Electrical and Electronics Engineering, Volume-3, Issue-4, pp. 17-20, August 2016, ISSN No: 1694-2310.	Ghulam Ahmed Raza, Garima Saini,
88.	"Gain and Bandwidth Enhancement of Microstrip Patch Antenna for 2.4/5 GHz WLAN Application Using EVG Structure", International Journal of Engineering Research Online , Volume-4, Issue-4, 2016, ISSN No: 2321-7758.	Vijay Kumar Srivastva, Garima Saini,

Sr. No.	Title of the Paper Published	Author(s) Name
89.	"A Dual Wide-Band Slotted Rectangular Patch Antenna For 2.4/5 GHz WLAN Application", International Journal of Engineering Research and Technology , Volume-5, Issue-7, pp. 60-65, July-2016, ISSN No: 2278-0181.	Vijay Kumar Srivastva, Garima Saini
90.	"Design Analysis of Cross-Slot Patch Antenna for Hotspot Applications", International Journal of Electrical and Electronics Engineering, Volume-3, Issue-7, pp. 1-4, July-2016, ISSN No: 2348 – 8379.	Avneet Kaur Garima Saini
91.	"A-Review of Various Design of Periodic Structures For Frequency Selective Surface", International Journal of Engineering Trends and Technology, Volume-37, Issue-5, pp. 246-250, July-2016, ISSN No: 2231-5381.	Avneet Kaur Garima Saini
92.	"Design of Novel Modified SSRR Antenna for WLAN Applications", International Journal of Electrical & Electronics Engineering, Volume -3, Issue-6, pp. 1-11, December, 2016, ISSN No: 1694-2310.	Sushil Kumar Verma Garima Saini
93.	"Energy Efficient Algorithm using Sensing Time and Secondary User in Cognitive Radio Network", International Journal of Engineering Trends and Technology, Volume 41, Issue 1, pp. 11-14, November, 2016 , ISSN No: 2231-5381.	Anita Kumari Garima Saini
94.	"Split Ring Resonator Based Wide Bandwidth Planar Inverted-F Antenna For Wi-Fi/WLAN Applications", International Journal of Control Theory and Application, Volume 41, Issue 1, pp. 9027-9034, Sep, 2016 , ISSN No.- 2229-6093.	Neha Yadav Garima Saini
95.	"Log-Periodic Terahertz Antenna with CSRR Metamaterial Superstrate", International Journal of Engineering Research & Technology, Volume-5, Issue-9, pp. 583-586, September, 2016 , ISSN No.- 2278-0181.	Pankaj Kumar Singh Garima Saini
96.	"Log-Periodic Terahertz Antenna with Square SRR Metamaterial Superstrate", International Journal of Engineering Research & Technology, Volume-5, Issue-7, pp. 527-530, September, 2016 , ISSN No.- 2278-0181.	Pankaj Kumar Singh Garima Saini
97.	"A Review of Patch Antennas Loaded With Different Metamaterials", International Journal of Electrical and Electronics Engineering (IJEET), Volume 2, Issue 08, pp. 38-40, October, 2015 , ISSN No.- 1694-2310.	Sushil Kumar Garima Saini
98.	"Miniaturization of Microstrip Patch Antenna using Slots for S band", International Engineering Science and Computing", Volume 6, Issue No. 7, pp. 2000-2003, July, 2016.	Vaishali Kamboj Garima Saini Ashish Saini
EDUCATION AND EDUCATIONAL MANAGEMENT		
99.	"The Association Between Students' Learning Engagement and Their Achievement in Psychology", International Journal of Multidisciplinary Education and Research, Volume 1, Issue 7, 33-35 p.	A Dogra Sunil Dutt
100.	"Effect of Online Learning in Psychology Course on Undergraduate Students' Engagement in Learning", Issues and Ideas in Education, Volume 4, Issue 1, 17-24 p.	A Dogra Sunil Dutt
101.	"Online Learning in Undergraduate Psychology Course - Its Effect on Students' Achievement", Innovative Research in Applied Science & Technology, Volume 2, No. 2, 1-5p; 2016.	A Dogra Sunil Dutt

Sr. No.	Title of the Paper Published	Author(s) Name
102.	"Efficient Hydro Energy Production and Operation Management in Residential Building Feasibility Analysis", Accepted for Publication in International Journal of Sustainable Building Technology & Urban Development, Vol.8, No.1, 1-12.	Anil Kumar Misra Amandeep Kaur Neelabh Jain Bhavish Mahipal Manpreet Singh
	ELECTRICAL ENGINEERING	
103.	"Cost Analysis of Trips in Chemical Industry due to Line Faults with Flexible Controller", International Journal of Engineering Research and General Science, Vol.4, Issue 3, pp.644-651, May-June, 2016.	Meraj Akhtar Lini Mathew
104.	"Cost Comparison of FACTS Devices for Industrial Applications – A study", International Journal of Technical Research and Science, Vol.1, Issue 4, pp.39-46, July, 2016.	Meraj Akhtar Lini Mathew
105.	"A Comparative Study for Different Methods used for ECG Demonising", International Journal of Science, Technology and Engineering, Vol.3, Issue 1, pp.166-169, July, 2016.	Anupma Kumari Lini Mathew
106.	"Adaptive Second Order Volterra Series Filter for Removing Noise from Nonlinear System", International Journal of Current Research, Vol.8, Issue 5, pp.30944-30948, May, 2016.	Dhanesh Lini Mathew
107.	"Maximum Power Point Tracking Control Method for a Hybrid PV/WT/FC Renewable Energy System", International Journal of Control Theory and Applications, Vol.10, No. 6, pp.411-424, 13, 2017. [Scopus Indexed] ISSN 0974-5572.	Md.Junaid Khan Lini Mathew
108.	"Different Kinds of Maximum Power Point Tracking control method for Photovoltaic Systems: A Review Achieves of Computational Methods in Engineering", Springer Netherlands, pp. 1-13, September 2016. (DOI: 10.1007/s11831-016-9192-1). [SCI Indexed, IF=4.214].	Md. Junaid Khan Lini Mathew
109.	"Elbow Movement Classification of a Robotic Arm using Wavelet Packet and Cubic SVM, Communication and Computing Systems", Taylor and Francis Group, London, pp. 605-610, November 2016. ISBN 978-1-138-02952-1, DOI: 10.1201/9781315364094.	Y Narayan P Kumari Garima Lini Mathew Shallu
110.	"Advance Approach towards Elbow Movement Classification using Discrete Wavelet Transform and Quadratic Support Vector Machine., Communication and Computing Systems", Taylor and Francis Group, London, pp. 839-844, November 2016. ISBN978-1-138-02952-1, DOI: 10.1201/9781315364094	P Kumari Y Narayan V Ahlawat Lini Mathew Alokdeep
111.	"EMG Signal Classification Using Discrete Wavelet Transform and Decision Tree classifier", International Journal of Control Theory and Applications, Vol.10, No. 6, pp. 411-424, 13, 2017. [Scopus Indexed] ISSN 0974-5572.	Yogendra Narayan Lini Mathew S Chatterji
112.	"Detection of Bearing Faults in Rotary Machine using Vibration Signatures", International Journal of Control Theory and Applications, Vol. 9, Issue No. 19, pp. 9107-9115, 2016. [Scopus Indexed] ISSN 0974-5572.	Pankaj Verma Amandeep Sharma Lini Mathew
113.	"Measurement of Soil Attributes Using NIR Spectroscopy: A Review", International Journal of Advance Research in Science and Engineering, Vol.5, No. 8, August 2016	Babankumar S Bansod Ritula Thakur Vikash Yadav Neha Kamboj

Sr. No.	Title of the Paper Published	Author(s) Name
114.	"Agricultural Robot: Intelligent Robot for Farming", International Advanced Research Journal in Science, Engineering and Technology, Vol.3, No.8, August 2016.	Nidhi Aggarwal Ritula Thakur
115.	"Design of an Agricultural Robot to Move between Rows", International Journal on Innovative Research in Science, Engineering and Technology, Vol.5, No. 8, August 2016.	Nidhi Aggarwal Ritula Thakur
116.	"Zigbee Based Smart Street Light Control System using LabVIEW", International Journal of Innovative Research in Science, Engineering and Technology, Vol. 5, No. 4, April 2016.	Manish Kumar Ritula Thakur
117.	"Detection of Fluoride Ion in Water: An Optical Approach and Review", International Journal of Advanced Technology in Engineering and Science, (ISSN 2348-7550), Vol. 04, Issue 06, June 2016.	Neha Sahu Ritula Thakur Baban K Bansod
118.	"Density Independent and Temperature Compensated Moisture Prediction Model for Agricultural Products using Impedance Analyzer: A Review", International Journal of Advanced Engineering, Management and Science, Vol. 02, Issue 07, July 2016, Page no.-1129-1135.	Arti Sharma, Baban K Bansod Ritula Thakur
119.	"Power Quality Improvement using Passive & Active Filters", International Journal of Engineering Trends and Technology (IJETT), Vol. 36, No. 3, pp.130-136 June 2016	Anuj Chauhan Ritula Thakur
120.	"Design of Shunt Passive Filter for Harmonic Mitigation", International Journal of Current Research, Vol. 8, Issue 06, pp.33307-33312, June, 2016.	Gagandeep Kaur Ritula Thakur
121.	"Harmonic Analysis of CFL and Incandescent Lamp", International Journal of Current Research, Vol. 8, Issue, 06, pp.33299-33303, June, 2016.	Gagandeep Kaur Ritula Thakur
122.	"Online Monitoring of Moisture Content in Transformer Oil", Global Journal of Engineering, Science and Research Management, Vol.3, No.4, April 2016.	Sandeep Kumar Ritula Thakur
123.	"Online Monitoring of Petroleum Fuel Parameters in Storage Tank Using Microcontroller", Global Journal of Engineering, Science and Research Management, Vol.3, No.4, April 2016.	Pankaj Joshi Ritula Thakur
124.	"Mitigation of Power Quality Problems using Unified Series Shunt Compensator in MATLAB/SIMULINK", International Journal of Management, IT & Engineering, Vol. 6, No. 11, November, 2016.	Pradeep Kumar Ritula Thakur
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130.	"DSP-Based SVPWM Signal Generation Algorithm for Three Phase Inverter", International Journal of Modern Electronics and Communication Engineering (IJMECE) ISSN: 2321-2152 Volume No 4, Issue No 6, November, 2016.	Karthar Singh Shimi SL
131.	"Sensorless Control of Induction Motor: A Review", International Journal of Engineering Research and Applied of Science Allied Science. ISSN : 24551 -9660 , Vol 01 , issue 08, October 2016.	Karthar Singh Shimi SL
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133.	"Low Cost Solar Powered Smart Management System for Indian Farming", International Journal of Advance Research, Ideas and Innovations in Technology, ISSN: 2454-132X Impact factor: 4.295 (Volume3, Issue1), January 2017.	Nirdosh Kumar Shimi SL
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135.	"Extensive Labview Based Power Quality Monitoring and Protection System", International Journal of Advance Research, Ideas and Innovations in Technology Volume-2, Issue-4, July 2016.	Anurag Verma Shimi SL
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145.	"Motivation behind Corporate Social Responsibility – A Case study of BHEL, India", Vanijya Manthan, Journal of Commerce and Management, (ISSN No. 2350-0719, Vol 3, No.1, January – June, 2016).	SK Dhameja Madhulika Manika
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149.	"Experimental Investigation of Different Additives used for Surface Modification of EN31 Steel by EDM Process", American Journal of Mechanical Engineering, 2016, Vol. 4, No. 6, pp. 226-235.	Rajeev Kumar SS Banwait
150.	"Intelligent Tool Wear Monitoring in Machining Ti6Al4V Alloy using Support Vector Machines; (2016), Communication and Computing Systems", CRC Press, Print ISBN: 978-1-138-02952-1, eBook ISBN: 978-1-315-31944-5, DOI: 10.1201/9781315364094-90, pp. 499-505.	Saini A Vanraj Goyal D Pabla BS Dhami SS

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151.	"Sound Emission based Sensor Location Optimization in Fixed Axis Gearbox using Support Vector Machines; (2016), Communication and Computing Systems", CRC Press, Print ISBN: 978-1-138-02952-1, eBook ISBN: 978-1-315-31944-5, DOI: 10.1201/9781315364094-156, pp. 867-872.	Vanraj Saini A Goyal D Dhami SS Pabla BS
152.	"Study on Formation of Wrinkles in Panel Drawing Operation using FEM; (2016), Communication and Computing Systems", CRC Press, Print ISBN: 978-1-138-02952-1, eBook ISBN: 978-1-315-31944-5, DOI: 10.1201/9781315364094-6, pp. 23-29.	Jasleen Kaur SS Dhami Pabla BS
153.	"Optimization of Condition Based Maintenance using Soft Computing: A Review; (2016), Neural Computing & Applications", Springer, DOI: 10.1007/s00521-016-2377-6.	Goyal D Pabla BS Dhami SS Lachhwani K
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156.	Chapter on A Treatise on Management and its Relevance in Contemporary Business Environment in book entitled "Reflection on Indian Management", VSRD Academic Publishing Kanpur, India.	RK Wats Kamakshi Malik
157.	"Impact of Residential Building Towers on the Ambient Air in Peri-Urban Areas of Chandigarh, UT, India", Published in International Journal of Management and Applied Science. Vol:2, Issue 12, December 16, 2016.	Rakesh K Wats Meenu Wats
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158.	"Earthquake Resistant Interlinked Block Masonry System with Energy Dissipater Visco-elastic Links", Journal of Practice Periodical on Structural Design and Construction, ASCE, pp-04017001-1-13.	Amit Goyal Pankaj Agarwal
159.	"Use of Co-Polymer of Styrene Butadiene Rubber-A Seismically Innovative Approach towards Energy Dissipation", Elsevier Journal of Procedia Engineering, 173, pp-1800-1807.	Amit Goyal Pankaj Agarwal

B. PAPERS PRESENTED/ACCEPTED AT IMPORTANT CONFERENCES AND SEMINARS

Sr. No.	Title of the Paper Presented/Accepted	Author(s) Name
	CIVIL ENGINEERING	
1.	“Subgrade Strength Improvement using Pond Ash and Polyester Fibre for Sustainable Road Construction”, National Conference : Civil Engineering Conference – Innovation for sustainability, 9-10 September, 2016.	Hemant Sood
2.	“Influence on Strength Characteristics of Concrete of Variable Grades Using Treated Waste Water”, National Conference: Civil Engineering Conference – Innovation for sustainability, 9-10 September, 2016.	Hemant Sood
3.	“Effect of Treated Waste Water on Compressive Strength of Concrete of Variable Grades”, National Conference: Civil Engineering Conference – Innovation for sustainability, 9-10 September, 2016.	Hemant Sood
4.	“Effect of Fiber & Silica Fume on High Performance Concrete”, R.N Raikar Memorial International Conference & Banathia – Basheu Symposium on Advance in Science & Technology of Concrete , Mumbai December 18 th -19 th 2016.	SK Sharma Paaras Gupta
5.	“Effect of HPFRCC on Beam Coloum Joints”, National Conference on Sustainable Civil Engineering Practices, Chitkara University Himachal Pradesh , PEC , Chandigarh & NITTTR, Chandigarh , March 18 th -19 th 2016.	SK Sharma
6.	“Behavior of High Performance Fiber Reinforced Concrete”, International Conference on Sustainable Civil Engineering Practice, NITTTR, Chandigarh, 02-03 March, 2017.	SK Sharma
7.	“Passive Noise Control & its Mechanism”, International Conference on Sustainable Civil Engineering Practice, NITTTR, Chandigarh, 02-03 March, 2017.	SK Sharma
8.	“To Study the Effect of Partial Replacement of Lime by Cement in Mastic Asphalt – An overview” in National Conference on Technical Advancement in Civil Engineering (NCTACE- 2016), LPU, Jalandhar, November, 2016	Swati Chandel Ajay K Duggal
9.	“Flexible Pavements with Repeated Distress History – An Overview in Civil Engineering”, National Conference on Technical Advancement in Civil Engineering (NCTACE- 2016) LPU, Jalandhar, November, 2016.	Naiyara Khan Ajay K Duggal
	CENTRE FOR PHYSICALLY CHALLENGED PERSONS	
10.	“Inclusive Education System in Chandigarh”, International Conference on Education, Psychology and Society, Hong Kong, 14-16 December, 2016.	JS Saini

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11.	"Inclusive Development from the Disability Perspective", in National Seminar on Trends and Issues in Social Development Panjab University, Chandigarh on 2-3 March, 2017.	JS Saini
	CURRICULUM DEVELOPMENT	
12.	"Quality Management in Building Construction Industry by Implementation of Total Quality Management", International Conference on Sustainable Civil Engineering Practices, NITTTR, Chandigarh, 02-03 March, 2017.	S K Gupta
	COMPUTER SCIENCE AND ENGINEERING DEPARTMENT	
13.	"Recommendation Generation using Typicality Based Collaborative Filtering Proceedings", 7 th IEEE International Conference on Cloud Computing, Data Science & Engineering, Amity University, Noida, India, 12-13 January, 2017. [Scopus indexed].	Sharandeep Kaur C Ramakrishna S Solanki N Chawla S Sharma K Kaur
14.	"User Interactive Recommender System for Electronic Products using Fuzzy Numbers Proceedings", 10 th Springer International Conference on Advanced Computing and Communication Technologies, Panipat, India, 18-20 November 2016. [SCOPUS indexed].	Shalini Sharma C Ramakrishna S Solanki S Kaur K Kaur
15.	"A Comparative Analysis of SVM and its Stacking with other Classification Algorithm for Intrusion Detection", International Conference on Advances in Computing, Communication & Automation, 2016, Tulas Institute Dehradun, India, pp. 1-6, 8-9 April 2016.	N Chand P Mishra C Ramakrishna E Pilli M Govil
16.	"Performance Analysis of Supervised Learning Based Intrusion Detection System", 2 nd International Conference on Sustainable Computing Techniques in Engineering, Management and Science, at Jain Engineering College, Belgaum (Near Goa), India, 27- 28, January 2017.	Shalini Chaurasia C Ramakrishna
17.	"Performance Evaluation of Multipath TCP under Diversified Networks", 1 st International Conference on Communication, Computing and Networking (ICCCN 2017), NITTTR Chandigarh, pp. 443-448, 23-24 March 2017.	Anurag Jagetiya C Ramakrishna
18.	Performance Analysis of IDS Model Based on Supervised Learning Approaches 4 th IEEE International Conference on Computing for Sustainable Global Development, New Delhi, India, 01-03 March 2017.	Shalini Chaurasia C Ramakrishna
19.	"Prevention of EDoS Attack using Hybrid Filtering Technique (EDoS Guard)", 2 nd International Conference on Sustainable Computing Techniques in Engineering, Science and Management, Goa, India, 27-28 January 2017. [SCOPUS indexed].	Shruti Wadhwa C Ramakrishna Challa, Poonam Saini

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21.	"A Comparative Analysis of SVM and its Stacking with other Classification Algorithm for Intrusion Detection & Quot", International Conference on Advances in Computing, Communication & Automation, 2016, Tulas Institute Dehradun, India, pp. 1-6, 8-9 April 2016.	N Chand P Mishra C Ramakrishna E Pilli M Govil
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23.	"AJIGJAX: A Hybrid Image Based Model for Captcha/CaRP," 3rd IEEE Uttar Pradesh Section International Conference on Electrical, Computer and Electronics, Indian Institute of Technology (Banaras Hindu University) Varanasi, India, 9-11 December, 2016 [Won First Prize].	Nitisha Payal C Ramakrishna
24.	"Big Data Analytics using Multi-Classifer Approach with RHadoop,& Quot", 9 th International Conference on Contemporary Computing, 2016, Jaypee Institute of Information Technology, Noida, India, August 11-13, 2016.	P Hiranandani N Chand E Pilli M Gupta C Ramakrishna R Joshi
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26.	"Recommending Music Using Interaction Based Social Proximity Factor", Proceedings of IEEE International Conference on Engineering and Technology Coimbatore, pp. 257-260, 16 December, 2016.	K Kaur S Sharma S Solanki C Ramakrishna
27.	"User Interactive Recommender System for Electronic Products Using Fuzzy Numbers", Proceedings of 10 th Springer International Conference on Advanced Computing and Communication Technologies, Panipat, India, 18-20 November 2016. [Scopus indexed].	Shalini Sharma, C Ramakrishna, S. Solanki, S. Kaur, K. Kaur
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29.	"Optimal Resource Allocation Approach in Cloud Computing Environment", 2 nd IEEE International Conference on Next Generation Computing Technologies (NGCT - 2016), 14-16 October 2016, University of Petroleum and Energy Studies, Dehradun (India), ISBN Number: 978-1-5090-3257-0.	Pawan Kumar Rakesh Kumar

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30.	"An Enhanced Approach for Movie Recommender System using Association Rule Mining", International Conference on Communication Computing and Networking.	Mariya Khurshid Rakesh Kumar Shano Solanki
31.	"Min-Parent: An Effective Approach to Enhance Resource Utilization in Cloud Environment", IEEE International Conference on Advances in Computing, Communication & Automation (ICACCA-2016), Dehradun, UK, April 2016.	Raj Kumar Mala Kalra Sudeep Tanwar Sudhanshu Tyagi Neeraj Kumar
32.	"Load Balancing in Cloud Data Center Using Modified Active Monitoring Load Balancer", IEEE International Conference on Advances in Computing, Communication & Automation (ICACCA-2016), Dehradun, UK, April 2016.	Ankit Kumar Mala Kalra
33.	"Deadline Constrained Scheduling of Scientific Workflows on Cloud using Hybrid Genetic Algorithm", IEEE International Conference on Cloud Computing, Data Science and Engineering (Confluence 2017), Amity University, Noida, January, 2017.	Gursleen Kaur Mala Kalra
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36.	"Survey on Energy Efficient Techniques for Green Cloud Computing", Proceedings of International Conference on Communication, Computing and Networking (ICCCN-2017), pp 233-240, NITTTR, Chandigarh, March 2017, ISBN: 978-8-193-38970-6.	Raksha Kiran Karda Mala Kalra Sarbjeeet Singh
37.	"A Study on Virtualization in Green Cloud", Proceedings of International Conference on Communication, Computing and Networking (ICCCN-2017), pp 212-219, NITTTR, Chandigarh, March 2017, ISBN: 978-8-193-38970-6.	Anjum Mohd Aslam Mala Kalra Sarbjeeet Singh
38.	"A Review of Fault-Tolerant Workflow Scheduling Techniques", Proceedings of International Conference on Communication, Computing and Networking (ICCCN-2017), pp 220-225, NITTTR, Chandigarh, March 2017, ISBN: 978-8-193-38970-6.	Urvashi Nag Mala Kalra Sarbjeeet Singh
39.	"Discrete Binary Cat Swarm Optimization for Scheduling Workflow Applications in Cloud Systems", 3rd IEEE International Conference on "Computational Intelligence and Communication Technology" (IEEE-CICT 2017), February, 2017, ABES Engineering College, Ghaziabad.	Bhopender Singh Mala Kalra Poonam Singh
40.	"Internal crack detection in kidney bean seeds using X-ray imaging technique", International Conference on Advances in Computing, Communications and Informatics (ICACCI), 21-24 September, 2016.	Surbhi Sood Shveta Mahajan, Amit Doegar Amitava Das

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41.	"GA Based Blind Deconvolution Technique of Image Restoration using Upstrum Domain of Motion Blur," International Conference on Science, Engineering Law & Management, 06-07 January, 2017, Malaysia.	Maitreyee Dutta
42.	"Design of Band Pass Digital FIR Filter using FCSD on FPGA for Satellite", IEEE 4 th International Conference on Computing for Sustainable Global Development, pp. 989-993, 2016. (Scopus Indexed).	Nirbhay Kumar Singh Rajesh Mehra Shallu
43.	"Design Analysis of FIR Filter on FPGA for Communication Applications", IEEE 4 th International Conference on Computing for Sustainable Global Development, pp. 4871-4876, 2016. (Scopus Indexed).	Amit Kumar Rana Rajesh Mehra Shallu
44.	"FPGA Based FIR Band Pass filter using Kaiser Window for Satellite Communication", IEEE International Conference on Next Generation Computing Technologies (NGCT-2016), pp. 409-413, 2016. (Scopus Indexed).	Vivek Kumar Rajesh Mehra Shallu
45.	"FPGA Based Design of Wave Digital Filter for 4G Application", IEEE 4 th International Conference on Computing for Sustainable Global Development, pp. 4940-4946, 2016. (Scopus Indexed).	Priya Singla Rajesh Mehra Shallu
46.	"Butterworth Filter Design for ECG on FPGA", IEEE 4 th International Conference on Computing for Sustainable Global Development, pp. 4877-4882, 2016. (Scopus Indexed).	Ranjeet Singh Chauhan Rajesh Mehra Shallu
47.	"FPGA Based IIR Filter Design Analysis for Audio Application", IEEE 4 th International Conference on Computing for Sustainable Global Development, pp. 4889-4894, 2016. (Scopus Indexed).	Shefali Bharti Rajesh Mehra Shallu
48.	"Area and Speed Efficient Layout Design of Shift Registers using Nanometre Technology", International Conference on Advances in Sensors, Actuators, Metering and Sensing (ALLSENSORS), pp. 58-62, ISBN-978-1-61208-543-2, 2017.	Rajesh Mehra Priya Kaushal Ayushi Gagneja
49.	"Denoising and SNR Improvement of ECG Signals Using Wavelet Based Techniques", 2 nd IEEE International Conference on Next Generation Computing Technologies, pp. 678-682, October 2016. (Scopus Indexed).	Tanuj Yadav Rajesh Mehra
50.	"Prototype Design of Computationally Efficient Digital Down Converter for 3G Applications" for presentation in 10th International Conference on Advanced Engineering Computing and Applications in Sciences, 09-13 October, 2016 at Venice Italy.	Rajesh Mehra
51.	"Implementation and Designing of FIR Filters using Kaiser Window for De-Noising of Electrocardiogram Signals on FPGA", IEEE Seventh Power INDIA International Conference (PIICON) 2016. (Scopus Indexed).	Laxmi Rajesh Mehra Chandni
52.	"Reconfigurable FIR Filter for Denoising of ECG" IEEE 7 th Power India International Conference (PIICON), November 2016. (Scopus Indexed)	Bhupender Singh Rajesh Mehra Chandni

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53.	"FPGA Based Implementation of Pulsed Radar with Time Delay in Digital Beam Forming using Partially Serial Architecture", 3 rd IEEE International Conference CICT, 2017. (Scopus Indexed).	Rabil Khanna Rajesh Mehra Chandni
54.	"FPGA Based Decimator using Fully Parallel Technique for Hearing Aid Applications", 3 rd IEEE International Conference CICT, 2017. (Scopus Indexed).	Karuna Grover Rajesh Mehra Chandni
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58.	"Area and Speed Efficient Layout Design of Shift Registers using Nanometer Technology", International Conference on Advances in Sensors, Actuators, Metering and Sensing, pp. 58-62, Nice, France, March 2017. ISBN: 978-1-61208-543-2	Rajesh Mehra
59.	"Comparative Analysis of 2-Dimensional Codes for OCDMA System" in Proceedings, 47 th Mid Term Symposium on Modern Information and Communication Technologies for Digital India (MICTDI) Chandigarh, India pp 13, 2016.	Mukesh Kumar Umesh Kumar Tiwari Kanika Sharma Sandeep Singhai
60.	"Study of Chirped FBG Demultiplexer for UDWDM Passive Optical Network" Proceeding of 47 th International Symposium on MICTDI , Chandigarh, pp-9, April 2016.	Chhavi Saini Umesh Tiwari Kanika Sharma Sandeep Singhai
61.	"Comparative Analysis of Hierarchical Clustering Schemes for Wireless Sensor Network – A Review" 47 th Mid- term Symposium on Modern Information & Communication Technologies for Digital India (MICTDI), pp.2 April 2016.	Ravi Kumar Anand Kanika Sharma
62.	"A Review on Energy Efficient and Traffic Handling in Mobile Sensor Networks by usage of Hybrid Compressive Sensing and Improved MEMAC", IEEE Internal Conference on Computing and Sustainable Global Development, 01 - 03 March, 2017.	Rachit Manchanda Kanika Sharma
63.	"Review on Reducing Energy Consumption and Improving the Lifetime of LEACH Protocol for Wireless Sensor Networks", IEEE Internal Conference on Computing and Sustainable Global Development, 01 - 03 March, 2017.	Bharti Goyal Kanika Sharma
64.	"Review on Data Gathering in Wireless Sensor Networks with Compressive Sensing", IEEE Internal Conference on Computing and Sustainable Global Development, 01 - 03 March, 2017.	Aman Jindal Kanika Sharma
65.	"Soft Computing Technique Implementation and Challenges in Antenna Engineering", IEEE International Conference on Micro Electronics and Telecommunication Engineering, pp-167-172, 2016.	Anamika Sharma Garima Saini

Sr. No.	Title of the Paper Published	Author(s) Name
66.	"Miniaturization of Microstrip Patch Antenna using Polygon Shaped Slot", Proceedings of 47 th IETE Mid-term Symposium on Modern Information and Communication Technologies for Digital India, Volume 6, Issue 07, pp. 2000-2003, July, 2016.	Vaishali Kamboj Garima Saini Ashish Saini
67.	"Four Slots SRR Loaded PIFA for 5GHz", Proceedings of 47 th IETE Mid-term Symposium on Modern Information and Communication Technologies for Digital India, pp. 3, 2016.	Neha Yadav Garima Saini
68.	"Effect of Split Ring Resonator slot Position on Planar Inverted-F Antenna", Proceedings of 47 th IETE Mid-term Symposium on Modern Information and Communication Technologies for Digital India, Volume 6, Issue 08, pp. 2224-2226, August, 2016.	Neha Yadav Garima Saini
69.	"Recent improvement in Feeding Structure of Impulse Radiating Antenna", Proceedings of 47 th IETE Mid term Symposium on Modern information and Communication Technologies for Digital India, 9 th - 10 th April 2016.	Sarabjeet Kaur Garima Saini
70.	"A PAPR Reduction Analysis of Various Technique in OFDM System", International Conference on Micro Electronics and Telecommunication Engineering, pp. 349-354, 2016.	Arushi Garg Garima Saini
71.	"Silicone Rubber Superstrate Loaded Patch Antenna Design using Slotting Technique", IOP Conference Series: Materials Science and Engineering , pp. 1-8, 2016, ISSN No: 1757899X.	Bhupinder Kaur Garima Saini Ashish Saini
72.	"Effect of Polyurethane Resin over Microstrip Patch Antenna", 3 rd National Conference on Multifunctional Advanced Materials Science, pp. 22-23, May 2016.	Bhupinder Kaur Garima Saini Ashish Saini
73.	"Wideband Planar Inverted-F antenna with Circular Split Ring Resonator Loading", International Conference on Engineering and Applied Sciences, pp. 220-227, 8 th – 10 th June 2016, Hong Kong.	Garima Saini SS Pattnaik
74.	"SRR Loaded Multiband Planar Inverted F Antenna", International Conference on Science, Engineering, Law & Management, 06-07 January, 2017, Malaysia. (Awarded Best Paper Award) .	Garima Saini SS Pattnaik
EDUCATION AND EDUCATIONAL MANAGEMENT		
75.	"Perceptions of Students Regarding Quality of Instruction in Technical Institutions in India", National Conference on Technical & Vocational Education in India: Challenges & Opportunities, NITTTTR, Chandigarh, 17 March, 2017.	PK Tulsi SP Bedi Sunil Dutt TN Thukral Amandeep Kaur
76.	"Perceptions of Students Regarding Evaluation of Students' Performance", National Conference on Technical & Vocational Education in India: Challenges & Opportunities, NITTTTR, Chandigarh, 17 March, 2017.	PK Tulsi SP Bedi Sunil Dutt TN Thukral Amandeep Kaur
77.	"Strategies Adopted by Technical Institutions to Promote Research Culture: Perceptions of Students", National Conference on Technical & Vocational Education in India: Challenges & Opportunities, NITTTTR, Chandigarh, 17 March, 2017.	PK Tulsi SP Bedi Sunil Dutt TN Thukral Amandeep Kaur

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78.	"Impact of Training Programmes organized by NITTTR on Technical Education System", National Conference on Technical & Vocational Education in India: Challenges & Opportunities, NITTTR, Chandigarh, 17 March, 2017.	PK Tulsi MP Poonia
ELECTRICAL ENGINEERING		
79.	"Stator Condition Assessment in Three Phase Induction Motor using Inrush Current Analysis", 47 th Midterm Symposium on Modern Information and Communication Technologies for Digital India (MICTDI-2016). IETE Chandigarh Centre and CSIR-CSIO, Chandigarh, April, 2016.	N Prasad Gupta Amandeep Sharma Lini Mathew Prashant Kumar Pankaj Verma
80.	"Review on Superconducting Fault Current Limiter", 47 th Midterm Symposium on Modern Information and Communication Technologies for Digital India (MICTDI-2016). IETE Chandigarh Centre and CSIR-CSIO, Chandigarh, April, 2016.	Shilpi Yadav Lini Mathew Kuldeep Singh Rajput
81.	"Energy Conservation Opportunities in Institutional Buildings – A case Study in India", IEEE International Conference on Power and Renewable Energy (ICPRE 2016) held at Shanghai, China, October, 2016 (Awarded Excellent Paper).	Ashmita Rupal Poonam Syal Sanjay Sharma
82.	"Discrete Wavelet Packet Based Elbow Movement Classification Using Fine Gaussian SVM", 1 st IEEE International Conference on Power Electronics, Intelligent Control and Energy Systems (ICPEICES), pp. 1-5, Delhi, July 2016. DOI: 10.1109/ICPEICES.2016.7853657.	Prateek Viridi Yogendra Narayan Preeti Kumari Lini Mathew
83.	"Binary Movement Classification of SEMG Signal using Linear SVM and Wavelet Packet Transform", 1 st IEEE International Conference on Power Electronics, Intelligent Control and Energy Systems (ICPEICES), pp. 1-4, Delhi, July 2016. DOI: 10.1109/ICPEICES.2016.7853657.	Babita Preeti Kumari Yogendra Narayan Lini Mathew
84.	"Educational and Employment Challenges for Visually Challenged – An exploratory investigation in India", International Conference on Educational Futures, NITTTR, Chandigarh, November, 2016.	Poonam Syal Renuka Sharma Abhishek Syal
85.	"Measurement of Soil Attributes Using NIR Spectroscopy: A Review", International Conference on Recent Innovations in Sciences, Management, Education and Technology, JCD Memorial College, Sirsa, Haryana, 27 th August, 2016.	Vikash Yadav Ritula Thakur
86.	"A Novel Method for Rapid and Non-Destructive Determination of Moisture Content in Fruits", International Conference on Agricultural Sciences and Food Technologies for Sustainable Productivity and Nutritional Security, 25-27 August, 2016.	Ritula Thakur Babankumar
87.	"Optical Sensing of Soil Macronutrients", National Conference on Signal Processing & Smart Sensor Network, SRMS Women's College of Engineering & Technology, 19 April, 2016.	Jyoti Singh Babankumar Ritula Thakur
88.	"Chemometric Modeling and Signal Processing Approach for Raman Spectra", National Conference on Signal Processing & Smart Sensor Network, SRMS Women's College of Engineering & Technology, 19 April, 2016.	Namarat Gandhi Babankumar Ritula Thakur

Sr. No.	Title of the Paper Published	Author(s) Name
89.	"Enhanced Howland Based Constant Current Source for Soil ECa Measurement", National Conference on Signal Processing & Smart Sensor Network, SRMS Women's College of Engineering & Technology, 19 April, 2016.	Ritula Thakur Babankumar
90.	"A Novel Six Level Inverter for Single-Phase Stand-Alone Photovoltaic System", 18th European conference on power electronics and application, pp1-8, October 2016.	SK Rai P Chaturvedi Shimi SL
91.	"SHE-PWM based Multilevel T-Type Inverter Topology for Single-Phase Photovoltaic Applications", IEEE International conference on power electronics , drives and energy systems, Trivandrum , India , 14-17 December, 2016.	SK Rai P Chaturvedi Shimi SL
92.	"A Multilevel Inverter Topology for Single-Phase PV System", IEEE 7th Power India International Conference, Govt. Engineering college Bikaner, Rajasthan, India, 25-27 November, 2016.	SK Rai P Chaturvedi Shimi SL
93.	"Phasor Measurement Unit and its Application to Smart Grid", National Conference on Resent Advancement in Communication system and data Engineering, Jamshedpur, October, 2016.	Arindam Chowdhury Shimi SL Mithilesh Kumar
94.	"Real Time Speed Control of Induction Motor using New Generation DSP Controller", 2nd IEEE Conference on Innovative Applications of Computational Intelligence on Power, Energy and Controls with their Impact on Humanity (CIPECH-16), KIET Group of Institutions, Ghaziabad, 18-19 November, 2016 (Published in Book of Proceeding).	Gopal Lal Jat Kartar Singh Abhay Mahajan Shimi SL
95.	"A Simple Feed Forward Fuzzy Direct Torque Control of DSP Based Induction Motor Drive", IEEE Conference on Electrical Power and Energy Systems (ICEPES-16), Maulana Azad National Institute of Technology, Bhopal, India. 14-16 December, 2016 (Published in Book of Proceeding).	Gopal Lal Jat Abhay Mahajan Kartar Singh Shimi SL
96.	"Lighting Audit through MATLAB Graphical User Interface (GUI)", 2nd., International Conference on Advances in Computing, Communication, & Automation (ICACCA), IEEE Explore, pp. 1-6, Sept.-October., 2016.	Ranjay Kumar Ojha Lini Mathew Tilak Thakur
97.	"Design and development of a Graphical User Interface for Real Time Monitoring and Analysis of Vital Human Body Parameters", 1st IEEE., International Conference on Power Electronics, Intelligent Control and Energy Systems (ICPEICES), pp. 1-8, Delhi, July 2016. DOI: 10.1109/ICPEICES.2016.7853657.	Prabhjot Kaur Lini Mathew
98.	"Design an Intelligent Controller for a Process Control System", International Conference on Innovation and Challenges in Cyber Security (ICICCS-INBUSH), pp. 217-223, Greater Noida, February 2017. DOI: 10.1109/CICCS.2016.7542302.	Meenakshi Sharma Pallavi Verma Lini Mathew
99.	"Droop Control of Solar PV, Grid and Critical Load Using Suppressing DC Current Injection Technique without Battery Storage", International Conference on Advanced Material Technologies (ICAMT 2016), Visakhapatnam, India, December 2016. (icamt2016.org/papers/MT0462.pdf).	Jayachandra Dama Lini Mathew G.Srikanth

Sr. No.	Title of the Paper Presented/Accepted	Author(s) Name
100.	"Detection, Localization and Reduction of Power Quality Disturbances Using Various Mother Wavelet , Transform", 3rd International Conference on Recent Developments in Science, Engineering and Technology (REDSET 2016), Gurgaon, India, October, 2016.	Amit Singh Lini Mathew Navneet K Singh
101.	"Design and Implementation of Three Phase Three Level Inverter Based DSTATCOM", 4th International Conference on Power, Control and Embedded System (ICPCES 2017), MNNIT, Allahabad, India, March, 2017.	Anju Bala Geeta Thakur Lini Mathew
102.	Analysis of Postural Transitions and Implementation of Control of Lower Limb Exoskeleton Device", IEEE International Conference on Computing, Communication and Control Technology (IC4T-2016), Lucknow, India, November, 2016.	Devendra Mohan Ratan Das Neelesh Kumar Lini Mathew
103.	"Detection, Localization and Reduction of Power Quality Disturbances Using Wavelet Transform", 1st International Conference on Computer, Communication and Management Technologies (ICCCMT-2016), Allahabad, India.	Amit Singh Lini Mathew Navneet K Singh
ENTREPRENEURSHIP DEVELOPMENT AND INDUSTRIAL COORDINATION		
104.	"Integrating Environmental Impact Assessment System for Construction Projects in India with Green Building Practices to Achieve Sustainable Development", International Conference on Clean Energy at McGill University, Montreal, Canada, 22-24 August, 2016.	SK Dhameja
105.	"Business Opportunities in Chandigarh, Urban Observatory Workshop by UK India Joint Network on Sustainable Cities and Urbanisation in India", Hotel Mount View, Chandigarh on 18 th January, 2017.	SK Dhameja
106.	"Business Start-up through Incubation in TVET Sector, National Conference on Technical & Vocational Education and Training in India : Challenges and Opportunities", CPSC Manila and NITTTTR Chandigarh, 17 th March, 2017.	SK Dhameja
107.	"Entrepreneurship and Development in Punjab: Transitions in Economic Landscape", International Conference on "50 Years of Economic Development in Punjab" organized by the Department of Economics, Punjabi University, Patiala (Punjab) in collaboration with CIPT, New Delhi, 25 – 26 March, 2017 at Punjabi University, Patiala (Punjab).	Piyush Verma Amardev Singh Ridhi Arora
MECHANICAL ENGINEERING		
108.	"Recycling of Titanium and its Alloys for sustainable Development – An overview", International Conference on Interdisciplinary Research for Sustainable Development 2016, Chandigarh, India.	Rishi Gaur SS Banwait
109.	"Optimisation of Spur Gear Design for Defect Minimisation : A Case Study", 30 th International Conference on advances and Trends in Engineering Materials and their Applications, Ottawa, Canada, October, 2016.	Pavitar Pal SS Banwait

Sr. No.	Title of the Paper Presented/Accepted	Author(s) Name
110.	"Investigation of Surface Roughness of Single Point Diamond Turned Germanium Substrate by Coherence Correlation Interferometry and Image Processing; IOP", Conf. Series: Materials Science and Engineering 149 (2016) 012032 doi:10.1088/1757-899X/149/1/012032.	Shivani Gupta Neha Khatri Vinod Karar SS Dhama
111.	"A Hybrid Controller for Position Control of a Pneumatic Actuator under Variable Loading Conditions", 3 rd International Conference on Mechatronics and Mechanical Engineering (ICMME2016), Shanghai, China, 21-23 October, 2016.	SS Dhama
112.	"Condition Based Maintenance of Bearings and Gears for Fault Detection – A Review; (2016)", 7th International Conference on Materials Processing & Characterization, Elsevier, Hyderabad, 17-19 March, 2017.	Kumar S Goyal D Dang RK Dhama SS Pabla BS
113.	"Statistical and Frequency Analysis of Acoustic Signals for Condition Monitoring of Ball Bearing; (2016)", 7th International Conference on Materials Processing & Characterization, Elsevier, Hyderabad, 17-19 March, 2017.	Kumar S Goyal D Dhama SS
114.	"Intelligent Predictive Maintenance of Dynamic Systems using Condition Monitoring and Signal Processing Techniques - A Review; (2016)", International Conference on Advances in Computing, Communication, & Automation (ICACCA 2016), Dehradun, IEEE, DOI: 10.1109/ICACCA.2016.7578870, 8-9 April, 2016.	Vanraj Goyal D Saini A Dhama SS Pabla BS
115.	"Effect of Cryogenic Treatment and Electrodeposited Ni-TiO ₂ on Tungsten Carbide Tools" for presentation in International Conference on Advances and Trends in Engineering Materials and their Application, Toronto, Canada, 04-08 July, 2016	BS Pabla
116.	"Prediction of Multi-Response Parameters in Material Removal Processes using Soft Computing – A Review; (2016)", International Conference on Advances in Computing, Communication, & Automation (ICACCA 2016), Dehradun, IEEE, DOI: 10.1109/ICACCA.2016.7578855, April 8-9, 2016.	Saini A Goyal D Vanraj Pabla BS Dhama SS
117.	"Optimization of Cutting Parameters for Minimizing the Surface Roughness and Specific Energy: Review Paper", CPIE International Conference at NIT, Jalandhar, 19-21 December, 2016.	Sachin Sharma PS Rao
118.	"Minimization of Specific Energy Consumption and Surface Roughness in Wet Machining by Optimizing the Cutting Parameters", CPIE International Conference at NIT, Jalandhar, 19 - 21 December 2016.	Sachin Sharma PS Rao Amit Singh
119.	"DEM Simulation and Analysis Powder Material Velocity and Mass Flow Rate in Hopper Models of Different Hopper Angles", CPIE International Conference at NIT, Jalandhar, 19-21 December, 2016.	Veneet Kumar PS Rao Dinesh Pal
120.	"CFD Analysis of Nozzle Based System To Synthesized Submicron Particle", CPIE International Conference at NIT, Jalandhar, 19 -21 December, 2016	Sachin Sharma PS Rao Parmod Kumar

Sr. No.	Title of the Paper Published	Author(s) Name
MEDIA AND CONTINUING EDUCATION CENTRE		
121.	"Impact of Residential Building Towers on Ambient Air in Peri Urban Areas of Chandigarh, UT, India", in ISER 67 th International Conference on Science, Technology, Engineering & Management (ICSTEM) at New York 15-16 Oct. 2016.	RK Wats
122.	"Correlation between Enhancing Stresses and Trends of Self Medication among Young Girls in Chandigarh", 3rd International Conference on Public Mental Health & Neurosciences - ICPMN-2016, Bangalore, December 14-15, 2016.	RK Wats
RURAL DEVELOPMENT		
123.	"IPO Financing: An Alternative Source of Financing for SMEs in Current Era", IORS Journal of Business and Management, Volume 18, Issue 7 (July 2016) PP 119-125.	Gupta Versha JS Saini
124.	"Viscoelastic Properties of Old Rubber Tyres: A Seismically Innovative Approach for Load Bearing Structures", ICSSR Sponsored National Seminar on Disaster Risk Reduction in North-Western India, 6-7 March, 2017 at Department of Geography, Punjab University Chandigarh.	Amit Goyal Pankaj Agarwal
125.	"Use of Co-Polymer of Styrene Butadiene Rubber-A Seismically Innovative Approach towards Energy Dissipation", 11 th International Symposium on Plasticity and Impact Mechanics, Implast 2016, IIT Delhi.	Amit Goyal Pankaj Agarwal
126.	"Innovative Approach Towards Earthquake Resistant Construction", International Conference on Educational Future, 18-19 November, 2016 at NITTTR, Sector-26, Chandigarh.	Amit Goyal Pankaj Agarwal
127.	"Climate Change and Sustainable Development: Regional and Grassroots Initiatives", National Seminar on "Disaster Risk Reduction in North-Western India" organized by Geography Department of Panjab University on 6-7 March 2017.	UN Roy

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.	International Conference on Advances and Trends in Engineering Materials and their Application, Toronto, Canada	04-08 July, 2016	Dr. BS Pabla
2.	10 th International Conference on Advanced Engineering Computing and Applications in Sciences, Venice Italy	09-13 October, 2016	Dr. Rajesh Mehra
IN-COUNTRY TRAINING PROGRAMMES			
1.	Case Study Teaching & Writing, IIT Delhi	14 -17 April, 2016	Er. Amardev Singh
2.	Privacy and Information Security, PEC University of Technology, Chandigarh	22 April, 2016	Er. Shano Solanki
3.	TEQIP-II Sponsored Faculty Development Programme on Computing Tools to Facilitate Multidisciplinary Research, GNDEC Ludhiana	16-27 May, 2016	Dr. Poonam Syal Er. Shano Solanki Er. Mala Kalra
4.	03 Days Workshop on Quantitative Data Analysis, Processing and Reporting Through SPSS conducted by PEWT, at NITTTR Chandigarh	25-27 May, 2016	Dr. BC Choudhary Dr. KC Lachhwani
5.	Research Methodology and Statistics, PEC Chandigarh	30.05.2016 to 04.06.2016	Er. Amit Doegar Dr. Kanika Sharma
6.	NBAL five days Assessor's Training Course Based on ISO/IEC 17025:2005, CIPET Chennai	31.05.2016 to 04.06.2016	Dr. Sanjay Sharma
7.	Java Fundamentals and Programming, CCET, Chandigarh	13-17 June, 2016	Er. Amrendra Sharan
8.	Hands on Mathematical Modelling and Software Simulation for Power System Engineering, SVNIT, Surat	06-15 June, 2016	Dr. Ritula Thakur
9.	DST sponsored FDP on Big Data Analytics, GGSIPU, Delhi	04 -15 July, 2016	Dr. Rakesh Kumar
10.	Orientation and Performance Auditing of TEQIP-II, NPIU, New Delhi	07 July, 2016	Dr. SK Dhameja

Sr. No.	Area and Place of Training	Period	Attended by Shri/Ms.
11.	Workshop on Image Processing and Machine Learning for Pattern Recognition, UIET Panjab, Chandigarh	11-16 July, 2016	Er. Shimi S.L
12.	Two weeks GIAN course on Empirical Methods in Operational Management Research at IIM Bangalore	08-19 August, 2016	Dr. KC Lachhwani
13.	02 days Workshop on Advancements and Applications of Ultrafast Laser Pulses at IIT, Guwahati	22-23 August, 2016	Dr. BC Choudhary
14.	IEEE WIE Global Summit 2016, IEEE Bangalore	24 August, 2016	Dr. Ritula Thakur
15.	Introduction to Robotics, IIT Bombay	26-27 August, 2016	Er. Shimi SL
16.	NBA Accreditation, NITTTR Chandigarh	17 September, 2016	Dr. BS Pabla Dr. SS Banwait Dr. SS Dhami
17.	Workshop on PEC-Industry Conclave 2016	23-25 September 2016	Dr. SK Dhameja Er. Amardev Singh Er. Amit Deogar
18.	Global Initiative for Academic Networks (GIAN) Programme on Interior Architecture, Craft and Design, IIT Roorkee	03-12 October, 2016	Er Amit Goyal
19.	Micro Structural Engineering and Properties of Advanced Ceramics, IIT Roorkee	15-21 November, 2016	Er. PS Rao
20.	Regional Workshop under DST-NIMAT Project by EDII Ahmedabad, KIET Group of Institutions, Ghaziabad (UP)	16 November 2016	Er. Amardev Singh
21.	AICTE sponsored QIP STC on "Developments and Challenges in Fault, Reliability and Safety Analysis of Software Systems for Smart Cities", IIT Roorkee	28.11.2016 – 02.12.2016	Dr. Rakesh Kumar
22.	Big Data Analytics for Smart Grid, MNIT Jaipur	10-14 December, 2016	Er. Mala Kalra
23.	"Use of Copolymer of Styrene Butadiene Rubber-A Seismically Innovative Approach towards Energy Dissipation" in 11 th International Symposium on Plasticity and Impact Mechanism, IIT, Delhi	11-14 December, 2016	Er. Amit Goyal

Sr. No.	Area and Place of Training	Period	Attended by Shri/Ms.
24.	TEQIP-II sponsored Winter School on Computational Intelligence in Pattern Recognition (CIPR-2016), NIT Kurukshetra	12-17 December, 2016	Dr. Kanika Sharma Er. Shano Solanki Er. Amit Deogar
25.	Unit Based Programme Productivity/ Efficiency Improvement Ergonomics Development, NITIE, MUMBAI	26-29 December, 2016	Er. Pardeep Kumar Er. Siddartha Nanhachal Sh. Rakesh Goel Sh. Jasvir Singh Mrs. Savita Bhanot Sh. KS Elias Mrs. Kamlesh Batra Sh. Jagdish Dhiman Sh. Rajiv Negi Sh. Jai Krishan Sh. Mohan Lal Mrs. Satinder Kaur Mrs. Chander Kanta Sh. Mukesh Singh Sh. Ashok Kumar Sh. Jaspal Singh Sh. Dinesh Kumar Mrs. Meena Sharma Mrs. Nisha Gupta Mrs. Japjot Kaur Mrs. Neelam Kumari Sh. Kuldeep Singh
26.	Global Initiative for Academic Networks (GIAN) Programme on Green Building, IIT Roorkee	02-13 January, 2017	Er Amit Goyal
27.	Smart India Heckathon 17 by AICTE, NITTTR, Chandigarh	03 January, 2017	Dr. SK Dhameja
28.	Coaching of Teachers in Life Skills, NITTTR Chandigarh	16-20 January, 2017	Er. Sunil Jassal Er. Himmi Gupta
29.	One Day Workshop on Nature Inspired Optimization Techniques, MRIU Faridabad	21 January 2017	Er. Amit Doegar
30.	Indian Patent Filing Procedure, Patent Search Exercise, Patent Drafting Exercise & International Patent Filing, CGPDTM, Nagpur	13-17 February, 2017	Er. Amardev Singh
31.	Central Line Ministries Training Programme - S-2 level, New Delhi	23 February, 2017	Er. Amrendra Sharan
32.	Renewable Sources Impact on Modern Power System Operation, UIET Panjab University, Chandigarh	06-11 March, 2017	Dr. Poonam Syal Er. Garima Saini
33.	National Workshop on MOOCs for SWAYAM Vigyan Bhawan, New Delhi	02 March, 2017	Dr. S.P. Bedi Dr. Sunil Dutt

Sr. No.	Area and Place of Training	Period	Attended by Shri/Ms.
IN-HOUSE TRAINING PROGRAMMES			
1.	Heartfulness Workshop on Meditation	07-11 April, 2016 (03 days)	Dr. S.P. Bedi Dr. Sunil Dutt
2.	Development of Action Plan-India	19-21 April, 2016	Dr. Poonam Syal
3.	Temasek Foundation –Singapore Polytechnic TVET Programme on Conceive-Design-Implement-Operate(CDIO)	19-21 April, 2016	Dr. Lini Mathew Dr. Poonam Syal Dr. Rakesh Kumar Er. Mala Kalra Er. Shano Solanki Er. Amit Doegar Er. Amardev Singh Er. Amrendra Sharan Er. PS Rao
4.	Industry Based Faculty Training Programme by Opal-RT	23-27 May, 2016	Dr. Ritula Thakur Er. Shimi SL
5.	Quantitative Data Processing, Analysis & Reporting through SPSS,	25-27 May, 2016	Dr. Lini Mathew Dr. Poonam Syal Dr. Ritula Thakur Er. Shimi SL Dr. Rakesh Kumar
6.	Mathworks training services on the topics Modeling Electrical Power Systems with Simscape and Modeling physical systems with Simcape	21-22 July, 2016	Dr. Lini Mathew Dr. Poonam Syal Dr. Ritula Thakur Er. Shimi S.L.
7.	Math Works Training Services on the topics SIMULINK for System and Algorithm Modelling and Control System Design with MATLAB and SIMULINK	17-19 August, 2016	Dr. Lini Mathew Dr. Poonam Syal, Dr. Ritula Thakur Er. Shimi S.L.
8.	Training on Flexible Manufacturing System	21-29 August, 2016	All Faculty of Mech Engg Technical Staff Ph.D Scholars
9.	Financial Literacy Workshop by CFIL,	January 31, 2017	Er. Amardev Singh

Audit Report for the year 2016-17

NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH
SECTOR 26, CHANDIGARH
BALANCE SHEET AS AT 31st March, 2017

(Rs. In Lacs)

Sources of Funds	Schedules	Current Year	Previous Year
UNRESTRICTED FUNDS			
Corpus Fund	1	6,191.86	5,251.58
General Fund		(1,713.60)	(1,570.51)
DESIGNATED EARMARKED / ENDOWMENT FUNDS	2	2,008.23	1,728.06
CURRENT LIABILITIES & PROVISIONS	3	2,445.76	2,443.94
TOTAL		8,932.25	7,853.07
APPLICATION OF FUNDS			
FIXED ASSETS			
Tangible Assets	4	3,718.66	3,538.36
Intangible Assets			
Capital Work in progress		530.04	568.72
INVESTMENTS FROM EARMARKED/ ENDOWMENT FUNDS	5	-	-
Long term			
Short term			
INVESTMENTS-OTHERS	6	-	-
CURRENT ASSETS	7	4,412.98	3,682.23
LOANS, ADVANCES & DEPOSITS	8	270.58	63.77
TOTAL		8,932.26	7,853.07
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 & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2017

(Rs. In Lacs)

Particulars	Schedule	Amount Current Year	Amount Prev. Year
<u>INCOME</u>			
Academic Receipts	9	170.91	233.94
Grants / Subsidies	10	2,388.00	2,166.91
Income from Investments	11	-	
Interest Earned	12	285.86	122.28
Other Incomes	13	292.47	277.84
Prior Period Income	14	-	-
TOTAL (A)		3,137.24	2,800.97
<u>EXPENDITURE</u>			
Staff Payments & Benefits(Establishment Expenses)	15	2,314.85	2,180.93
Academic Expenses	16	168.18	245.06
Administrative & General Expenses	17	669.79	538.46
Transportation Expenses	18	2.78	4.63
Repairs & maintenance	19	124.03	113.08
Finance Costs	20	-	1.57
Depreciation	4		
Other Expenses	21	0.71	-
Prior Period Expenses	22		
TOTAL (B)		3,280.34	3,083.73
Balance being excess of expenditure over income (A-B)		(143.10)	(282.76)
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 31.3.2017

(Rupees in lakh)

A	RECEIPTS	CURRENT YEAR		PREVIOUS YEAR	
		Plan	Non Plan	Plan	Non Plan
I	Balance at the beginning of the year				
	Cash in hand	9.69		2.92	
	Temporary Imprest	-		5.59	
	Balance in Bank	23.84		456.76	
	Deposit Account	1,985.43		1,216.70	
	Interest accrued on FDR	-		-	
	FDR- Against Letter of Credit	-		-	
	Total Cash	2,018.96		1,681.97	
II	Grants-in-aid received from Govt. of India				
	On Capital Account-Creation of Capital Assets	800.00	-	1,002.27	-
	On Revenue Account Grant- under RPS By AICTE	300.00	2,088.00	327.73	1,839.18
		-	-	2.09	-
	Total Grants	1,100.00	2,088.00	1,332.09	1,839.18
III	Deposits (including Consultancies)				
	Consultancy Projects	-	399.98	-	860.55
	Total	-	399.98	-	860.55
IV	Internal Resources				
a	Interest Account				
	Interest earned on S/B Account & FDR	-	146.71	-	168.20
	Interest received on advances to staff	-	5.51	-	4.07
	Total	-	152.22	-	172.27

b	Rental Receipts				
	Booking of Badminton Hall	-	0.09	-	-
	Rent from Residential Houses	-	-	-	12.91
	Rent from Auditorium	-	1.12	-	1.21
	Rent from Guest House	-	9.07	-	1.98
	Rent from Hostel	-	55.60	-	56.70
	Booking of Conference Hall	-	0.46	-	-
	Rent from AICTE	-	-	-	1.05
	Rent from Mess/Canteen	-	0.72	-	0.12
	Total	-	67.07	-	73.96
c	Fee Receipts				
	Fee from ME Students	-	219.67	-	232.63
	Fee under various courses	-	0.07	-	1.31
	Total	-	219.74	-	233.94
d	Receipt from other sources				
	Institute Receipts (Misc.)	-	37.28	-	(31.50)
	Receipt from Publication	-	0.04	-	0.74
	Receipt from consultancy share	-	102.05	-	117.50
	Income Tax Refund	-	-	-	2.28
	IFDI Academic Cell	-	-	-	0.54
	Tender Fees	-	-	-	0.21
	HRR	-	15.05	-	-
	Alumni Association	-	2.57	-	-
	Overhead charges	-	59.40	-	60.78
	RTI Fee	-	0.03	-	0.03
	Photocopy charges	-	0.63	-	0.47
	Security	-	2.73	-	-
	Time Barred Cheque	-	1.29	-	-
	Application Fee	-	-	-	3.40
	Unadjusted Receipts	-	-	-	23.13
	Adjustment of opening	-	-	-	(4.62)
	Sec of Retired Employees	-	-	-	0.01
	Total	-	221.06	-	172.97
e	Other Receipts				
	Recovery of Loans & Advances	0.26	5.50	0.47	7.56
	Deposit QIP Poly AICTE	-	-	-	2.33
	CTD	-	0.01	-	-
	FDR Loan from GPF	-	-	-	286.96
	Pension & Leave salary contribution	-	-	-	0.96
	Other Receipts	-	1.28	-	-
	Total	0.26	66.79	0.47	297.80
	Total Receipts	0.26	1,126.86	0.47	950.96

V SPONSORED PROJECTS

Sponsored Projects	88.41	-	-	-
AICTE QIP Poly	3.71	-	3.02	-
1.2.71 EDIC	-	-	1.75	-
C-4 RD Registration	-	-	0.55	-
CT-13 Mech. SP	-	-	1.10	-
W 14 Civil	-	-	1.05	-
DASA	-	-	1.00	-
IFD 14 Camps	-	-	2.80	-
ETV 5.13 (Gyan Vani)	-	-	2.12	-
5.17 COMSC, PWD SP-16	39.50	-	-	-
SP 54	21.19	-	63.11	-
Total	152.81	-	76.50	-
Grand Total	3,272.03	3,214.86	3,091.04	3,650.69
Total Plan and Non Plan	6,486.88		6,741.72	

B PAYMENTS

	CURRENT YEAR		PREVIOUS YEAR	
	PLAN	NON PLAN	PLAN	NON PLAN
I Non Recurring				
Renovation of buildings	194.00	-	296.31	-
Renovation of Instt Staff Quarters	118.81	-		
Equipment purchased during the year	282.57	-	534.39	-
Computer & Peripheral	38.13	-	-	-
Intangible Assets	21.59	-	29.07	-
Furniture purchased during the year	12.46	-	16.76	-
Work in Progress - BSNL	(15.30)	-	33.80	-
Work in Progress - New Building	-	-	30.00	-
Total	652.26	-	940.33	-

II RECURRING**a Establishment expenses
Salaries-Pay & Allowances
to:**

Faculty	44.84	375.31	39.59	330.11
Technical Non Teaching/ C&D Staff	53.42	460.87	44.56	350.62
Salary - Outsourced Person	-	178.58	-	154.42
Salary- A& B	0.75	13.74	11.23	131.59
Salary- NPS	54.89	234.10	61.65	253.18
Bonus	-	10.57	-	3.76
Dearness allowance	-	19.99	-	13.91
Children Allowance	-	10.37	-	12.63
Salary- MSA	4.09	29.20	-	-
LTC	-	11.79	-	8.76
Medical treatment charges	-	36.71	-	29.72

Institute Share-(CPF)	-	1.73	-	0.48
Pension and Commutations	-	423.31	-	398.94
Gratuity	-	59.63	-	72.73
Leave encashment	-	41.47	-	76.47
Leave Salary & Pension Contribution	-	3.20	-	-
New Pension Scheme (Institute share)	-	32.51	-	29.30
Professional Development Allowance	-	7.75	-	29.73
Total		157.98	1,950.84	157.03
				1,896.35

b Other Payments

Stipend	-	-	-	0.18
Fee & Honorarium	51.71	1.21	41.91	5.80
Academic Contingencies	3.00	2.78	11.28	4.90
TA including STC	66.27	-	112.04	17.54
TA to BOG/Experts	39.16	10.15	-	1.10
STAFF WELFARE FUND	-	2.82	-	-
Secretarial Assistance (P.I.)	-	0.02	-	0.02
Repayment of loan from GPF	-	70.00	-	216.96
Over time allowance	-	0.06	-	0.14
Temporary Advance	-	0.25	-	-
Earnest Money	-	12.51	-	-
Distribution Fund	-	2.22	-	-
Welfare Fund ME Students	-	1.13	-	-
Loans to C-4	-	0.60	-	6.12
Advance to MNIT Jaipur	-	-	5.09	-
Contribution of Maint. Fund	-	15.32	-	-
Contribution to Corpus Fund	-	15.32	-	-
Contribution to Equipment Replace Fund	-	15.32	-	-
Contribution to Faculty Dev Fund	-	15.32	-	-
Total		160.14	165.03	170.31
				252.76

c Administrative Expenses

Interest Paid on Loan from GPF	-	-	-	1.57
Advertisement	-	11.15	-	7.09
Annual Day celebrations	-	3.97	-	3.37
Annual Sports	-	1.63	-	1.29
Audit Fee	-	0.68	-	-
Gate Scholarship	-	12.35	-	-
Golden Jubilee of Institute	-	0.11	-	-
Entertainment & Contingencies	-	-	-	0.63

8.2. (Rural Dev)	-	0.15	-	-
Ground Rent	-	0.59	-	0.59
Hindi Day	-	0.12	-	0.55
Indp./Vishwakarma day	-	0.25	-	0.24
ISO 9001-2008	-	-	-	0.46
Legal /Professional charges	-	3.84	-	5.33
Library Books/ Journals	-	20.47	-	13.44
Liveries	-	0.77	-	0.40
ME Course expenses	-	43.32	-	51.99
Misc. Expenses(Office)	-	16.92	-	7.71
News Paper & Periodicals	-	0.55	-	0.59
Ph.D Assistant Ship and Research	-	30.22	-	-
Postage & Telegrams	-	2.30	-	2.47
Printing & Stationery	-	10.51	-	7.14
Property Tax	-	3.07	-	-
Purchase of Medicines	-	0.30	-	0.10
Service charges on NPS	-	0.09	-	0.09
Telephone Trunk call charges	-	3.63	-	3.59
Total	-	166.96	-	108.65

d Operation & Maintenance

Electricity & Water Charges	-	61.63	-	50.96
Internet Connectivity	-	-	-	1.53
Mtc Applied Sc. Lab	-	1.55	-	0.67
Mtc Audit	-	-	-	0.01
Mtc Buildings	-	36.57	-	34.58
Mtc Campus	-	1.70	-	0.80
Mtc CDC	-	0.65	-	0.04
Mtc Civil Lab	-	2.12	-	4.33
Mtc Computer	-	7.92	-	2.10
Mtc ECE	-	1.91	-	1.12
Mtc EDIC Lab	-	0.30	-	0.05
Mtc Electrical	-	24.33	-	24.53
Mtc Electrical lab	-	1.97	-	0.76
Mtc EMGT	-	0.38	-	0.13
Mtc ESC	-	0.43	-	0.27
Mtc ETV Lab	-	7.01	-	4.57
Mtc Furniture	-	4.46	-	3.09
Mtc Guest House	-	3.92	-	3.52
Mtc. Hostel	-	8.08	-	5.06
Mtc IMCO	-	0.53	-	0.61
Mtc ISO	-	-	-	0.06
Mtc Library	-	0.91	-	1.16
Mtc Mechanical Engg Lab	-	2.50	-	0.51
Mtc Media	-	2.64	-	3.78
Mtc Phones & Communications	-	1.34	-	4.01
Mtc Ref. & air conditioning	-	7.62	-	11.45

lab				
Mtc Rural Development	-	0.41	-	0.66
Mtc Sports	-	0.01	-	5.25
Mtc Student centre	-	-	-	0.15
Mtc Vehicle	-	2.78	-	4.63
			-	-
Total	-	183.66	-	170.39
Total Payments	970.39	2,466.50	1,267.67	2,428.16
e Sponsored Projects				
Sponsored Projects	81.78	-	-	-
1.2.71 EDIC	-	-	1.75	-
ETV 5.13 Video Film Shimla/ Gyanvani	-	-	3.45	-
IT Bionery- AICTE Projects- RD	-	-	0.30	-
ICT 76	-	-	2.40	-
AICTE QIP Poly	2.96	-	4.08	-
IFD (3)	0.02	-	-	-
IFDI A.Cell Fee	0.06	-	-	-
IFD 14 Comp	-	-	2.80	-
C-4 (RD) Registration fees	0.60	-	0.55	-
SP 54 (Mongolian Students)	53.53	-	29.79	-
W-14 Civil	1.43	-	1.12	-
DIL Project	-	-	0.58	-
EG 1 ECE	-	-	14.53	-
PSCB - 13	0.94	-	-	-
PBR 12 SP	0.64	-	-	-
CT 13 Mech SP	-	-	6.81	-
5.17 Person with Disability	46.08	-	0.65	-
5.17 (COMSC, PWD) SP-16	47.19	-	-	-
Total	235.23	-	68.81	-
f RPS- AICTE				
Consumables	-	-	1.17	-
Total	-	-	1.17	-
g Deposits (including consultancies)	-	362.27	-	956.94
Cash in hand	6.84	-	9.69	-
Temporary Imprest	-	-	-	-
Bank Balance	487.85	-	23.84	-
Fixed Deposits	1,957.81	-	1,985.43	-
FDR- Against Letter of Credit	-	-	-	-
Interest Accrued on FDR	-	-	-	-
Total Cash	2,452.50	-	2,018.96	-
Total	3,658.12	2,828.76	3,356.62	3,385.10
Total Plan and Non Plan	6,486.88		6,741.72	

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 31.3.2017

LIABILITIES	Amount (Rs.)	ASSETS	Amount (Rs.) (Rupees in lakh)
GPF		Investment	1,780.92
Opening Balance	1,352.42	Int. accrued as on 31.03.17	84.33
Add: Subscription in the year	244.82	Subscription due for March 2016	
Add: Sub for March 2017		GPF	
Add Interest credited	107.81	CPF	
Less: Subscription for March 2016		UC due to CPF	
Less: Advance/ Withdrawal	-232.15		
Closing Balance	1,472.90	NPS-II	
		Tax recovered from interest on Investments pending refund from Income Tax Department	
CPF		Cash at Bank	
Opening Balance	186.74	Indian Bank	66.61
Add: Subscription in the year	1.5		
Add: Sub for March 2017			
Add Interest credited	12.33		
Less: Subscription for March 2016			
Less: Advance/ Withdrawal	-		
Closing Balance	200.57	Sundry Debtors	1.13
Institute Contribution (CPF)			
Opening Balance	116.68		
Add: Subscription in the year	0.03		
Add: Sub for March 2017	-		
Add Interest credited	9.39		
Less: Subscription for March 2016	-		
Less: Advance/ Withdrawal	-		
Closing Balance	126.1		
NPS Tier-II Account			
Opening Balance	-		
Add: Subscription in the year	-		
Add: Sub for March 2017	-		
Add Interest credited	-		
Less: Subscription for March 2016	-		
Less: Advance/ Withdrawal	-		
Closing Balance	-		

Interest Reserve

Opening Balance	-2.85
Add: Excess of Income over expenditure	136.25
Closing Balance	133.4
Dead Account	0.02

Total	1,932.99	Total	1,932.99
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Sd/-
Accounts Officer
NITTTR, Chandigarh.

Sd-
Director,
NITTTR, Chandigarh

**ACCOUNTING POLICIES
SCHEDULE 23**

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 Govt 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
SCHEDULE 24**

1. 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)(iiiab).
2. The details of funds maintained by Institute:

1. **Corpus Fund**

(Amount in Lacs)

Particulars	Current Year	Previous Year
Opening Balance	5251.58	4212.24
Add: Addition in Fund	940.28	1039.34
Less: Utilization of Fund	-	-
Closing Balance	6191.86	5251.58

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	(1563.95)	(1287.74)
Add: Addition in Fund		
Less: Utilization of Fund	(143.13)	(276.22)
Closing Balance	(1713.64)	(1563.95)

3. **Designated/ Earmarked Fund**

(Amount in Lacs)

Particulars	Current Year	Previous Year
Opening Balance	1654.86	1684.04
Add: Addition in Fund	512.22	370.74
Less: Utilization of Fund	232.15	399.92
Closing Balance	1934.93	1654.86

4. **Restricted Fund**

(Amount in Lacs)

Particulars	Current Year	Previous Year
Opening Balance	73.20	278.60
Add: Addition in Fund	444.84	228.48
Less: Utilization of Fund	444.73	444.73
Closing Balance	73.31	73.20

5. TDS deducted by the various firms as confirmed on website amounting to Rs. 8.39 lakhs has been given effect in the Balance Sheet.
6. This is to certify that there is an unspent balance of Rs. 2452.50 lakhs including FDRs worth Rs. 1957.81 lakhs as on 31.3.2017.
7. Institute is in possession of land measuring 86902.193 square yards (i.e 17.96 Acre), inclusive of 72600 square yard of free hold land.

8. The Security towards ME students of Rs. 51.08 lacs is outstanding as on 31st March 2017.
9. Schedule one to Twenty four are annexed to and form an integral part of the Balance Sheet as on 31.3.2017.
10. Detail of Capital Work in Progress 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	33.82
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	116.32
Advance for Renovation of Building	2014-15	0.53
Expenditure on Building Work In Progress	2015-16	63.80
Expenditure on Building Work In Progress	2016-17	75.49
Total		530.04

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

Building Account

- 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.
- 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

Audit Certificate



भारतीय लेखा परीक्षा तथा लेखा विभाग
कार्यालय महा निदेशक लेखा परीक्षा (केन्द्रीय), चण्डीगढ़
Indian Audit & Accounts Department
Office of The Director General of Audit (Central), Chandigarh



क्रमांक: पी.डी.ए. (सी)/के. व्यय/SAR NITTR 2016-17/2017-18/4918
दिनांक: 12-01-2018

सेवा मे,

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

विषय: National Institute of Technical Teachers' Training and Research, Chandigarh
के वर्ष 2016-17 के लेखाओं पर पृथक लेखापरीक्षा प्रतिवेदन

महोदय,

कृपया National Institute of Technical Teachers' Training and Research,
Chandigarh के वर्ष 2016-17 के लेखाओं पर पृथक लेखापरीक्षा प्रतिवेदन (Separate Audit Report) संसद के
दोनों सदनों के समक्ष प्रस्तुत करने हेतु सलंगन पायें। संसद में प्रस्तुत होने तक प्रतिवेदन को गोपनीय रखा जाए।

संसद में प्रस्तुत करने के उपरांत प्रतिवेदन की पांच प्रतियाँ इस कार्यालय को भी भेज दी जाएँ।

कृपया इस पत्र की पावती भेजें।

सलंगन: उपरोक्त अनुसार

भवदीय,

— हस्ता —

महा निदेशक

✓ उपरोक्त की प्रतिलिपी वर्ष 2016-17 की पृथक लेखापरीक्षा प्रतिवेदन की प्रति सहित आवश्यक कार्यवाही हेतु
Director, National Institute of Technical Teachers' Training and Research, Sector 26,
Chandigarh को प्रेषित की जाती है।

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 2017

We have audited the Balance Sheet of the National Institute of Technical Teachers' Training and Research, Chandigarh as at 31 March 2017, 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;
 - 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. Balance Sheet

A.1 Sources of Funds

A.1.1 Corpus Fund: Rs.61.92 crore

As per the prescribed guidelines of Technical Education Quality Improvement Programme (TEQIP) II, Centrally Funded Institutions are to annually contribute 0.5 per cent of the total recurring expenditure to each of the four funds (Corpus fund; Faculty Development Fund; Equipment replacement fund; and Maintenance fund).

Above included an amount of Rs.61.28 lakh (@ 0.5 per cent of recurring expenditure of the year 2016-17 for each of the four funds) whereas amount of Rs.102.24 lakh in respect of the years 2014-15 and 2015-16 was not depicted in the accounts. This has resulted in overstatement of Corpus/General fund as well as understatement of Earmarked Funds by Rs.163.52 lakh.

A.1.2 Designated/Earmarked/Endowment Funds (Schedule 2 and 2A): Rs.20.08 crore

A.1.2.1 As per the applicable format of accounts as prescribed by MHRD, Schedule 2 Designated /Earmarked/ Endowment Funds should disclose the "Cash & bank balances, Investments, Interest accrued but not due" which represent the respective Endowment Fund. However, such disclosure was not made.

A.1.2.2 Endowment funds were represented by the bank balances which were inappropriately classified under the head "Current Assets" instead of "Investments from Earmarked/ Endowment Funds".

A.1.2.3 GPF/ CPF (Rs.1932.95 lakh) was represented by the Cash and Bank Balances of Rs.1931.86 lakh on the Assets side. The difference of Rs.1.09 lakh needs to be reconciled.

A.1.2.4 Above includes amount of Rs.73.31 lakh on account of grants given for sponsored Projects (GOI: Rs.25.30 lakh, TEQIP-II World Bank: Rs.17.83 lakh, RPS by AICTE: Rs.1.67 lakh and Computer Science OP. No. 5.17: Rs.28.50 lakh). This has resulted in overstatement of Endowment Funds (Schedule-2A) and understatement of sponsored projects (Schedule-3(a)) by Rs.73.31 lakh.

A.1.2.5 Fund TEQIP-II World Bank: Rs.1.70 crore

As per the Cash Book maintained of the fund the closing balance as on 31.03.2017 was Rs.21.06 lakh (including third party liabilities of Rs.5.28 lakh) instead of Rs.17.83 lakh (stated as Rs.170.02 lakh due to typhographical error) as worked out above. This Balance of Rs. 21.06 lakh included third party liabilities of Rs.5.28 lakh. This has resulted in understatement of Current Liabilities by Rs.5.28 lakh, understatement of Current Assets by Rs.3.23 lakh (Rs.21.06 lakh – Rs.17.83 lakh) and overstatement of Endowment Funds (Schedule 2A) by Rs.2.05 lakh (Rs.17.83 lakh- Rs.15.78 lakh).

A.1.2.6 GPF/ CPF Fund

Other Additions: Rs.1.36 crore (being excess of income over expenditure in GPF/CPF Account / Page 43 of Balance Sheet)

Above included Income Accrued on Investments from Earmarked/ Endowment Funds GPF/CPF Rs.84.33 lakh. As per the certificates given by the concerned banks, actual interest accrued was Rs.83.00 lakh. This has resulted in overstatement of both, GPF/ CPF Fund (Designated Earmarked/ Endowment Funds: Schedule 2) and Income Accrued on Investments from Earmarked/ Endowment Funds GPF/CPF (Loans, Advances & Deposits: Schedule 8) by Rs.1.33 lakh each.

A.1.3 Current Liabilities & Provisions (Schedule 3)

Sundry Creditors (others): Rs.1.22 crore

Above included Sundry Creditors amounting to Rs.52.25 lakh against the amount of Rs.43.98 lakh reflected in the General ledger maintained by the Institute. The difference needs to be reconciled.

A.2 Application of Funds

A.2.1 Fixed Assets (Schedule 4)

A.2.1.1 Assets under TEQIP-II World Bank: Rs.93.56 lakh

As per the instructions contained in the applicable format of accounts the fixed assets for which the ownership vests with the Institute are to be added to the Corpus Fund of the Institute otherwise these fixed assets created out of funds of sponsored projects for which

ownership does not vests with the Institute, are to be separately disclosed in the Notes to Accounts.

As per the terms and conditions of the funding agency, the ownership of the assets of TEQIP Fund is to be transferred to the Institute on close of the project, and at present does not vests with the Institute. However, the Institute has added Fixed Assets of Rs.93.56 lakh created upto 31.03.2015, to the Corpus Fund in contravention to the applicable format. This has resulted in overstatement of Corpus Fund/General (Schedule 1) as well as Fixed Assets (Schedule 4) by Rs.93.56 lakh. Further, the Fixed Assets of Rs.448.10 lakh created during the 2015-16 & 2016-17 were not separately disclosed in the Accounts.

- A.2.1.2 (i) Pb State Co-op Bank-13-Mech: Equipments: Rs.5.85 lakh**
(ii) Customized AICTE: Rs. 1.86 lakh
(iii) IFD-14: Rs.2.02 lakh

Depreciation on above equipments Gross Block being Rs.9.73 lakh was not charged since the date of purchase of these assets. This has resulted in understatement of deficit and overstatement of Corpus/General Fund as well as Fixed Assets to the extent of depreciation not charged on these assets.

- A.2.1.3 (i) Assets under 5.16 Comp. Sc. Computer: Rs.2.99 lakh**
(ii) Pb State Co-op Bank-13-Mech:Computer: Rs.3.72 lakh
(iii) IFD-14: Computer: Rs.2.99 lakh

Depreciation on aforesaid additions made in 2015-16, was charged at the rate of 10 *per cent* instead of applicable rate of 60 *per cent*; for the years 2015-16 and 2016-17. For these two years depreciation of Rs.1.58 lakh on Gross Block of Rs.9.70 lakh @ 10 *per cent* has been charged in Accounts whereas the depreciation worked out to be Rs.8.15 lakh (Rs.5.82 lakh for the year 2015-16 and Rs.2.33 lakh for the year 2016-17 at the adopted rate of 60 *per cent*). This has resulted in overstatement of Fixed Assets as well as Corpus/General Fund by Rs.6.57 lakh each understatement of deficit for the year 2016-17 by Rs.2.33 lakh.

A.2.1.4 Capital Work in Progress (CWIP): Rs.5.30 crore

a) As per records maintained by the Institute, the Institute has a balance of Rs.1.22 crore (with BSNL: Rs.86.49 lakh and with CPWD: Rs.25.31 lakh and with Chandigarh Administration: Rs.10.69 lakh) on account of Capital advances, instead of Rs.5.30 crore as shown above. The difference of Rs.4.08 crore needs to be reconciled.

b) Out of pending capital advances of Rs.122.50 lakh as stated above, an amount of

Rs.8.90 lakh was utilized upto 31.03.2017. As per the instructions contained in prescribed format, balance amount of advances i.e. Rs.113.60 lakh is required to be included under unutilized grant (Schedule 3 C) instead of showing as capital work in progress. This has resulted in overstatement of CWIP (Schedule 4) and understatement of Advances on Capital Account (Loans Advances & Deposits: Schedule 8) by Rs.113.60 lakh besides overstatement of Corpus/ Capital Fund (Schedule 1) and understatement of unutilized grants (Current Liabilities: Schedule 3 C) to the same extent.

A.2.2 Current Assets (Schedule 7):

A.2.2.1 Cash & Bank Balances

With Scheduled Banks: in term deposit accounts: Rs.20.39 crore

Above wrongly included Fixed Deposit Receipts amounting to Rs.1.37 crore which was got matured in March 2017. However, entry for closure of FDR was not made in the cash book of the Institute upto the close of the year. This has resulted in overstatement of above captioned term deposit accounts and understatement of saving bank accounts with Scheduled Banks by Rs.1.37 crore each.

A.2.2.2 FDR's GPF/CPF-with Scheduled Bank-Restricted Fund: Rs.17.81 crore

Above wrongly included Fixed Deposit Receipts amounting to Rs.40.00 lakh having date of investment 03.04.2017. Thus, above captioned term deposit accounts are overstated and above captioned saving bank accounts are understated by Rs.40.00 lakh each.

B. Income & Expenditure Account

Income

Interest Earned (Schedule 12)

On Debtors and Other Receivable: Rs.2.56 crore

B.1 Above has been wrongly shown as Interest Earned on Debtors & Other Receivables instead of Interest Earned on Investments made in Fixed Deposit Receipts.

B.2 Above included interest accrued but not received Rs.134.06 lakh. As per the certificates given by the concerned banks actual interest accrued was Rs.58.14 lakh. This has resulted in overstatement of both Income (Interest Earned: Schedule 12) and Income Accrued on FDR's (Loans, Advances and Deposits: Schedule 8) by Rs.75.92 lakh each.

C. Notes on Accounts (Schedule number not mentioned)

Note at Sl. No. 7 states that, the Institute is in possession of the land measuring 33.06 acres including freehold land measuring 15.68 acre. Aforesaid note is not in conformity with the note given in the previous year's accounts wherein total area in possession of the

institute was stated as 18.863 acres including freehold land of 15.883 acre. Further, as per the statement submitted (20.07.2017) by Estate Officer, the Institute was in possession of a total land 17.982 acre. In view of this, above note needs to be revised appropriately. Further, the Institute has not yet got the lease deed executed in respect of aforesaid leasehold lands, which may also be disclosed in the Notes to Accounts.

D. General

D.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 2017 is as under:

- i Assets overstated by Rs.1.74 crore.
- ii Liabilities understated by Rs.2.79 crore.
- iii Capital/Corpus Fund overstated by Rs.4.53 crore.
- iv Deficit for the year understated by Rs.0.78 crore.

D.2 Provision for retirement benefits was not on the basis of actuarial valuation as prescribed in AS-15.

E. Grants in aid

Out of the available funds of Rs.33.54 crore (Plan Rs.11.63 crore and Non-plan Rs.21.91 crore), including previous year balance of Rs.1.58¹ crore (Plan Rs.0.63 crore and Non Plan Rs.0.95 crore), Grant in Aid received during the year Rs.31.88 crore (Plan Rs.11.00 crore and Non Plan Rs.20.88 crore), and Internal Receipts of Rs.0.08 crore (Plan Rs.Nil and Non Plan Rs.0.08 crore), the Institute utilized Rs. 28.25 crore (Plan Rs.9.53 crore and Non Plan Rs.18.72 crore) leaving an unspent balance of Rs.5.29 crore² (Plan Rs.2.10 crore and Non Plan Rs.3.19 crore) at the end of the year.

Besides the Institute was having an unspent balance of Rs.7.04 crore as Internal Revenue Generation (IRG).

F. Management letter

Deficiencies which have not been included in the Audit report have been brought to the

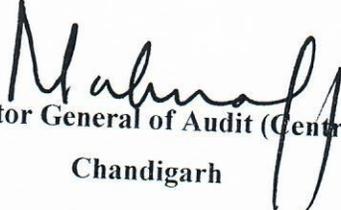
¹ Unspent balance of grant as per previous SAR were Rs. (-) 2.40 crore, which has been reworked to Rs.1.58 crore (as the Institute has carried forward minus balances) as detailed in Annexure A.

² This balance of grant has been worked out after deducting capital advances of Rs.1.23 crore. Before deduction of capital advances, the Institute has a unutilized balance of grant Rs.6.52 crore (Plan Rs.3.33 crore and Non Plan Rs.3.19 crore).

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 2017; 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.


Director General of Audit (Central),
Chandigarh

Place: Chandigarh

Date: 12-01-2018

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. However, the Internal Audit system was found to be inadequate as the scope of work was not defined and that the work of preparation of accounts as well as work of internal audit was done by the same firm of Chartered Accountant, thus, defeating the objective of independence of Accounts and Audit functions.

2. Internal Control System:

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

- i. As per the rules and regulations of the Institute, atleast three meetings of the Governing Body are required to be held, however, only two such meetings were held during the year;
- ii. There was no laid down procedure for appointment and performance evaluation of contractual consultants.
- iii. Certain Accounting Records such as bank books are not prepared appropriately as the Institute is maintaining single cash book for the five different saving bank accounts. The Institute is preparing consolidated Bank Reconciliation Statement, as it is not in position to work out the cash/ balance in each of the bank as per its cash book which is maintained for all these banks accounts. The Institute has also mixed the separate funds relating to Government of India, the various projects and Earmarked/ Endowment Funds (except TEQIP and Government of India Project: PWD) in the saving bank accounts operated by it in different accounts.

3. Physical verification of Fixed Assets other than Library Books

Physical Verification of Fixed Assets for the year 2016-17 is still under progress. Previous physical verification was conducted for the year 2015-16. It has been noticed that consolidated report indicating the result of physical verification was not prepared though department-wise certificates have been recorded.

4. **Physical Verification of Library Books**

Institute had a balance of 48899 no. of books as on 31.3.2017. Physical verification of Library books was conducted in 2014-15 and next physical verification is due in 2017-18.

5. **Physical Verification of Inventory**

Physical verification of inventory was conducted and no shortage/ excess was noticed.

6. **Regulatory in payment of statutory dues**

The Institute was regular in depositing the statutory dues.


Director