

ANNUAL REPORT 2017-18



**NATIONAL INSTITUTE OF TECHNICAL TEACHERS
TRAINING AND RESEARCH , CHANDIGARH**
(An ISO 9001 : 2015 Certified Institute)

ANNUAL REPORT

(including annual accounts)

2017-18



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

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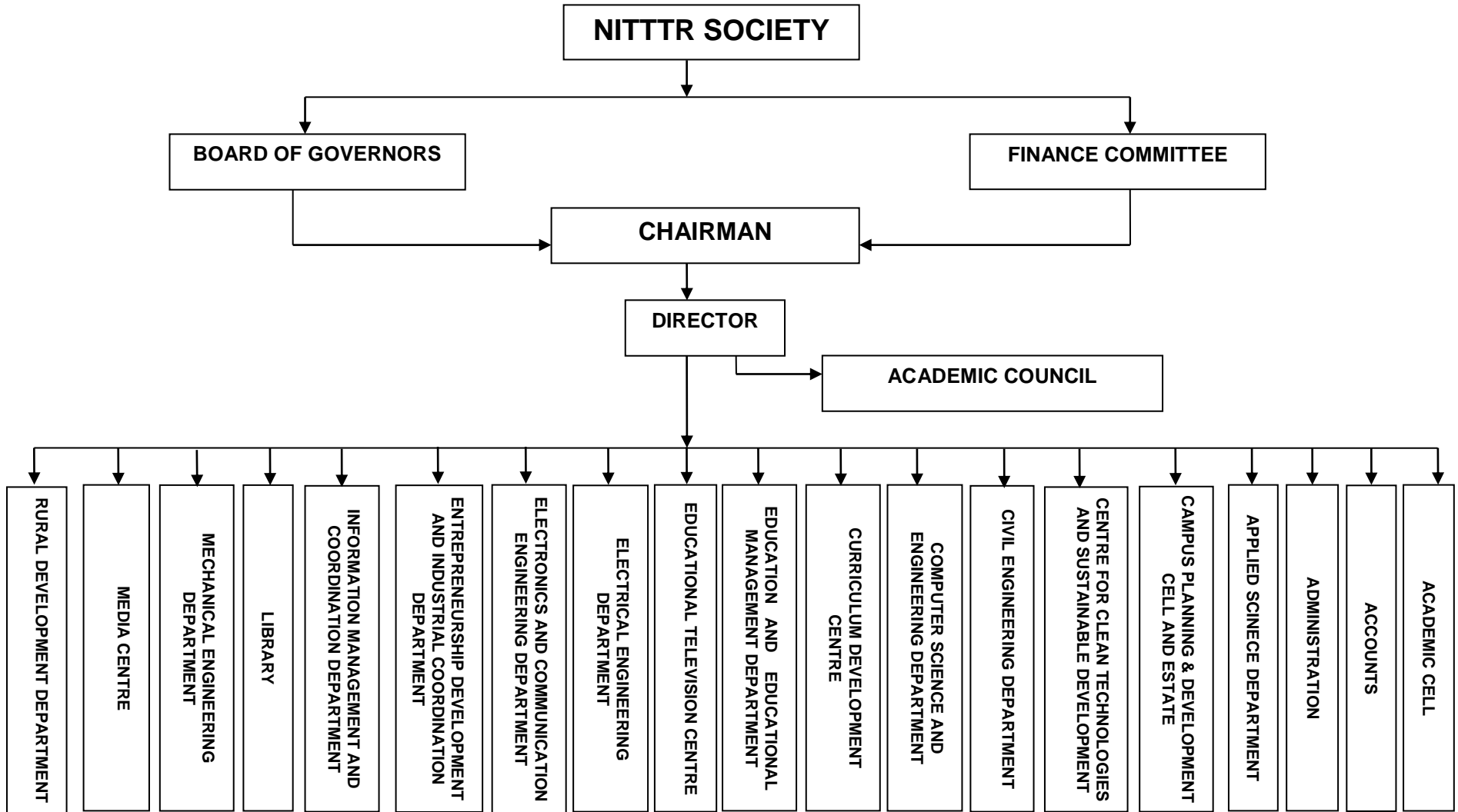
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ORGANISATIONAL STRUCTURE OF NITTTR CHANDIGARH



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**LIST OF MEMBERS OF THE NITTTR CHANDIGARH SOCIETY
AS ON 31.03.2018**

Sr. No.	Name and Designation with full address	Status
1.	Dr. K.K. Talwar. Chairman Board of Governors, NITTTR, Chandigarh.	Chairman
2.	Shri Madhu Ranjan Kumar, Joint Secretary (DL,BP & A) Department of Higher Education, Ministry of Human Resource Development, Govt. of India, Shastri Bhawan, NEW DELHI – 110 115	Member
3.	Mrs. Darshana M. Dabral, Joint Secretary and Financial Adviser (IFD) Department of Higher Education, Ministry of Human Resource Development, Govt. of India, Shastri Bhawan, NEW DELHI – 110 115	Member
4.	Prof. Ajay Sharma Hon'ble Vice Chancellor, Punjab Technical University, IK Gujral Punjab Technical University, KAPURTHALA (Punjab) 144 603	Member
5.	Dr. Dileep N. Malkhede, Advisor (RIFD) All India Council for Technical Education, Nelson Mandela Marg, Vasant Kunj, NEW DELHI 110 070	Member
6.	Shri Daria Singh Yadav, Director, Technical Education, Rajasthan, W-6, Gaurav Path (Residency Road) JODHPUR – 342 001.	Member
7.	Shri RC Rajput, Director, Technical Education, Uttar Pradesh. GT Road, Vikas Nagar KANPUR – 208 024	Member
8.	Shri Pankaj Kumar Pandey, IAS Director, Technical Education, Govt. of Uttarakhand N.C.C. Block, Polytechnic Campus, SRINAGAR (Garhwal) 246 174	Member

Sr. No.	Name and Designation with full address	Status
9.	Dr. Tayek Talom, Director, Higher & Technical Education, Govt. of Arunachal Pradesh, CITY ITANAGAR – 791 111.	Member
10.	Shri K Vivekanandan, IAS Commissioner, Technical Education, Govt. of Tamil Nadu, 53, Sardar Patel Road, Guindy CHENNAI – 600 025	Member
11.	Prof. (Dr.) S.S. Pattnaik, Director National Institute of Technical Teachers' Training and Research, Sector – 26, CHANDIGARH – 160 019.	Member-Secretary

**LIST OF MEMBERS OF THE BOARD OF GOVERNORS
OF NITTTR, CHANDIGARH
AS ON 31.03.2018**

Sr. No.	Name and Designation with full Address	Status
1.	Dr. K.K.Talwar. Chairman Board of Governors, NITTTR, Chandigarh.	Chairman
2.	Shri Madhu Ranjan Kumar, Joint Secretary (DL,BP & A) Department of Higher Education, Ministry of Human Resource Development, Govt. of India, Shastri Bhawan, NEW DELHI – 110 115	Member
3.	Mrs. Darshana M.Dabral, Joint Secretary and Financial Adviser (IFD) Department of Higher Education, Ministry of Human Resource Development, Govt. of India, Shastri Bhawan, NEW DELHI – 110 115	Member
4.	Prof. Ajay Sharma Hon'ble Vice Chancellor, Punjab Technical University, IK Gujral Punjab Technical University, KAPURTHALA (Punjab) 144 603	Member
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7.	Shri RC Rajput, Director, Technical Education, Uttar Pradesh. GT Road, Vikas Nagar KANPUR – 208 024	Member
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Sr. No.	Name and Designation with full Address	Status
9.	Dr. Tayek Talom, Director, Higher & Technical Education, Govt. of Arunachal Pradesh, CITY ITANAGAR – 791 111.	Member
10.	Shri K Vivekanandan, IAS Commissioner, Technical Education, Govt. of Tamil Nadu, 53, Sardar Patel Road, Guindy CHENNAI – 600 025	Member
11.	Prof. I.K. Bhat, Professor, Motilal Nehru National Institute of Technology, Teliarganj, ALLAHABAD – 211 004 (Uttar Pradesh)	Member
12.	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
13.	Dr. A.B. Gupta, Professor & Head, Curriculum Development Centre (CDC), National Institute of Technical Teachers' Training and Research, Sector – 26, CHANDIGARH – 160 019	Member
14.	Prof. (Dr.) S.S. Pattnaik, Director National Institute of Technical Teachers' Training and Research, Sector – 26, CHANDIGARH – 160 019.	Member-Secretary

**LIST OF MEMBERS OF THE FINANCE COMMITTEE
OF NITTTR, CHANDIGARH
AS ON 31.03.2018**

Sr. No.	Name and Designation with full Address	Status
1.	Dr. K.K.Talwar. Chairman Board of Governors, NITTTR, Chandigarh.	Chairman
2.	Shri Madhu Ranjan Kumar, Joint Secretary (DL,BP & A) Department of Higher Education, Ministry of Human Resource Development, Govt. of India, Shastri Bhawan, NEW DELHI – 110 115	Member
3.	Mrs. Darshana M.Dabral, Joint Secretary and Financial Adviser (IFD) Department of Higher Education, Ministry of Human Resource Development, Govt. of India, Shastri Bhawan, NEW DELHI – 110 115	Member
4.	Prof. Ajay Sharma Hon'ble Vice Chancellor, Punjab Technical University, IK Gujral Punjab Technical University, KAPURTHALA (Punjab) 144 603	Member
5.	Prof. (Dr.) S.S. Pattnaik, Director National Institute of Technical Teachers' Training and Research, Sector – 26, CHANDIGARH – 160 019.	Member

**LIST OF MEMBERS OF THE ACADEMIC COUNCIL
AS ON 31.03.2018**

Sr. No.	Name and Designation with full address	Status
1.	Prof. (Dr.) S.S. Pattnaik, Director National Institute of Technical Teachers Training and Research, Sector 26, CHANDIGARH – 160 019 (w.e.f.18.08.2017 onwards)	Chairman
2.	Prof. (Dr.) PK Tulsi Director-in-charge, National Institute of Technical Teachers Training and Research, Sector 26, CHANDIGARH – 160 019 (from 01.04.2017 to 17.08.2017)	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 NITTTTR, Sector-26 CHANDIGARH 160 019	Member
9.	Dr. (Mrs. SP Bedi) Dean, Research & Development and Professor, Education and Educational Management Department NITTTTR, Sector 26, CHANDIGARH-160 019	Member

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

Sr. No.	Name and Designation with full address	Status
19.	Dr. (Mrs.) Maitreyee Dutta Professor Computer Science and Engineering Department NITTTR, Sector-26 CHANDIGARH - 160 019	Member
20.	Dr. Sukhdeep Singh Dhani Professor, Mechanical Engineering Department NITTTR, Sector 26 CHANDIGARH - 160 019	Member
21.	Dr. Upendra Nath Roy Professor and Head Rural Development Department NITTTR, Sector 26 CHANDIGARH - 160 019	Member
22.	Dr. C Ramakrishna Professor and Head Computer Science and Engineering Department NITTTR, Sector-26 CHANDIGARH - 160 019	Member
23.	Dr. (Mrs.) Lini Mathew Associate Professor Faculty Incharge, Electrical Engineering Department NITTTR, Sector-26 CHANDIGARH 160 019	Member
24.	Shri Manmohan Singh Senior Librarian (Acting Chief Librarian) NITTTR, Sector-26 CHANDIGARH - 160 019	Member
25.	Er. Vinod Kumar Associate Professor Civil Engineering Department NITTTR, Sector-26 CHANDIGARH - 160 019	Member
26.	Dr. Rajesh Mehra, Faculty Incharge and Associate Professor Electronics and Communication 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.	Er. Ajay K. Duggal, Associate Professor Civil Engineering Department NITTTR, Sector-26 CHANDIGARH - 160 019	Member
30.	Dr. J S Saini Dean, Extension Services and Consultancy and Professor, Rural Development Department NITTTR, Sector-26 CHANDIGARH 160 019	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 country. However, being situated in the northern region, the main attention of the institute is focussing on 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 programs 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- 2015 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 of Chandigarh. 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. The clean campus with innovative digital approach makes the institute unique not only in city but also in the country.

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 program.
- 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 programs 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 Programs, Computer Assisted Instructional Multimedia Packages to technical and vocational institutions and other organisations
- To offer programs for technical and vocational teachers through distance learning mode using state of the art technologies
- To offer courses / programs 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 programs
- 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 Programs and Activities

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

- Education and Training Programs
- Instructional Material Development (mainly focussing on digital resources or MOOCs for Swayam and NCTEL)

- Curriculum 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 actively involved 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 programs through MOOCs.
- Continuing Education for Working Engineers/Technicians/Managers

In addition to the above programs 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 Society/Board/Finance Committee. Under provisions of the Memorandum of Association (MoA), the Board of Governors is assisted by the following committees:

- ◇ Academic Council
- ◇ Finance Committee

Director of the Institute is the Chairman of the Academic Council

Dr. PK Tulsi, Professor and Head, Education and Educational Management Department took over as Director-in-charge of institute with effect from **19.01.2017** and continued upto **17.08.2017**. Thereafter, Prof. (Dr.) S.S. Pattnaik took over the charge of Director with effect from **18.08.2017**.

2.0 ACHIEVEMENT HIGHLIGHTS

Achievements of the institute are reported under **05** major areas viz; Staff Development; through Training & Education Curriculum Development & revision; Instructional Material Development & implementation; Research and Development; Extension Services and Consultancy. Distinctive programs and activities undertaken during the years are as under:

- **87** and **96** students respectively got admitted in Master's Degree Programs 05 Regular and Modular respectively. In addition, 115 Regular and 201 Modular students of previous batches were also on roll as on date (Total Students in PG – 499).

- **73** students on roll for Ph.D. Programs in different disciplines at the Institute.
- Workshop on Promoting Innovative Research through CRIKC organised on 07.04.2017.
- National Seminar on “New Generation Concrete”, 19 April 2017.
- Start up Manthan 2017: A Business Plan Competition for Students of Technical and Management Institutions of Northern Region, 20 April 2017 (Golden Jubilee Program).
- “Tech Fest” 20-21 April, 2017 (Golden Jubilee Program).
- Workshop on Institute Brand Building at International Level 09 June, 2017.
- “Skill Summit and Round Table on Consolidation & Networking with Sector Skill Councils for Skilling India”, 28 April 2017.
- Golden Jubilee National Seminar on “Promotion of Skills and Technologies for Sustainable Rural Development in India”, 31 August –01 September 2017.
- Educational Conclave on “Emerging Trends in Technical Education”, 6-7 September 2017.
- “National Seminar on Triggering Entrepreneurship Amongst Aspiring Minds”, 7 November, 2017.
- Conference on “Reforms in Technical Education and Way Ahead” for the State of Haryana, 30 November 2017.
- International Conference on “Clean Technologies for Sustainable Development”, 23-24 February 2018.
- Springer LNNS series- 2nd *International Conference* on “Computing, Communication and Networking (ICCCN)”, 29-30 March 2018.
- 76 Video Films prepared for MOOCs.
- NBA Accreditation status for the PG programs in Computer Science Department continues to be applicable upto 30.06.2020 and up to 30.06.2018 for Electronics and Communication Engineering Department and Electrical Engineering Department.
- Job Fair for the Differently Abled Persons.
- 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.
- **06** MOUs signed with Technical Institutions and Industry resulting in creation of 04 training hubs for undertaking Collaborative Academic and Research Activities.
- Consultancy including Design and Testing Services to Industry: Gross Value of Rs.685.73 Lacs.
- Established Simulation Centre of Excellence supported by ABB India Ltd.

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 programs besides more efficient and effective use of multi-media in teaching-learning process. During 2017-18, the details of the long term and short term training programs conducted by the institute for faculty/staff of engineering colleges and polytechnics are given below:

2.1.1 Long Term Programs

2.1.1 (a) Ph.D. Programs

Institute is an approved Research Centre of Panjab University, Chandigarh, I.K. Gujral Punjab Technical University, Kapurthala and H.P. University, Shimla for Ph.D. Program as on March 2018, **73** students are undergoing Ph.D. programs in different disciplines. The Institute is also a Ph.D. Centre under QIP (Poly) Scheme of AICTE.

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

The Institute offers full-time industry-oriented and practice-based Master's Degree Programs 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 Programs on modular basis. The modular program is of **3½** years duration. These ME programs are duly approved by AICTE and affiliated to Panjab University and mainly for the working personnel who undergoes the course work during Summer and Winter break but are evaluated along with the regular students on the same question paper as they appear examination with regular students. This unique model of the institute is a platform for the service personnel to upgrade quality knowledge through a flexi mode degree awarding programme ensured with quality. This programme was launched in the year 2005. Since then majority of the polytechnic faculty members could enhance their qualification spreading to all parts of the country.

Admissions made in these programs during 2017-18 are given below:

MASTER'S DEGREE (REGULAR MODE)

Sr. No.	Name of the Program	No. of Participants				Total	State-wise Break-up
		Polys	Engg. Colleges	Industry	General		
1.	Civil Engineering (Construction Technology and Management)	-	9	4	15	28	PB-7, UP-4, HP-6, J&K-3, UK-2, HR-5, CH-1
2.	Computer Science and Engineering	1	1	1	11	14	HR-2, PB-6, MH-1, HP-3, CH-1, J&K-1
3.	Electrical Engineering (Instrumentation and Control)	-	3	-	6	9	UP-2, BH-2, UK-1, PB-2, HP-1, CH-1
4.	Electronics and Communication Engineering	2	2	-	12	16	PB-6, HR-1, CH-3, MH-1, BH-1, NL-1, DL-1, UP-1, HP-1
5.	Mechanical Engineering (Manufacturing Technology)	2	2	-	16	20	PB-4, HP-4, CH-4, DL-1, UP-3, JH-1, BH-1, UK-2
Total:		5	17	5	60	87	

MASTER'S DEGREE (MODULAR MODE)

Sr. No.	Name of the Program	No. of Participants				Total	State-wise Break-up
		Polys	Engg. Colleges	Industry	General		
1.	Civil Engineering (Construction Technology and Management)	4	12	16	-	32	HP-5, HR-4, UP-6, NL-1, J&K-4, PB-11, RJ-1
2.	Computer Science and Engineering	10	4	3	-	17	HP-4, PB-3, RJ-1, UP-5, CH-1, NL-1, UK-1, J&K-1
3.	Electrical Engineering (Instrumentation and Control)	3	1	6	-	10	HR-2, HP-3, BH-1, J&K-1, UP-1, CG-1, TS-1
4.	Electronics and Communication Engineering	3	4	4	-	11	UP-5, CH-1, DL-2, BH-1, PB-2
5.	Mechanical Engineering (Manufacturing Technology)	11	11	4	-	26	DL-4, UP-10, TS-1, HR-5, PB-1, JH-2, HP-1, CH-1, UK-1
Total		31	32	33	-	96	

115 (regular) and 201 (modular) students of previous batches are also on roll.

PB-Punjab, UP-Uttar Pradesh, HP-Himachal Pradesh, J&K-Jammu and Kashmir, UK-Uttarakhand, HR-Haryana, CH-Chandigarh, MH-Maharashtra, BH-Bihar, NL-Nagaland, DL-Delhi, JH-Jharkhand, RJ-Rajasthan, TS-Telangana

ME Students on roll

Regular	202
Modular	297
Total:	499

2.1.2 Short Term Courses (STCs) (Faculty Development Programme)

The Faculty Development Programmes were broadly of 5 categories viz: industry oriented, industry supported, research oriented, skill oriented and advanced level.

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 2017-18, **242** short-term programs were conducted through contact and ICT mode for faculty/staff of engineering colleges and polytechnics which were attended by **13936** teachers from various states of the country.

Conferences/Seminars, Training Workshops, Curriculum Development Workshops and Students Training etc. were other development programmes conducted by the institute.

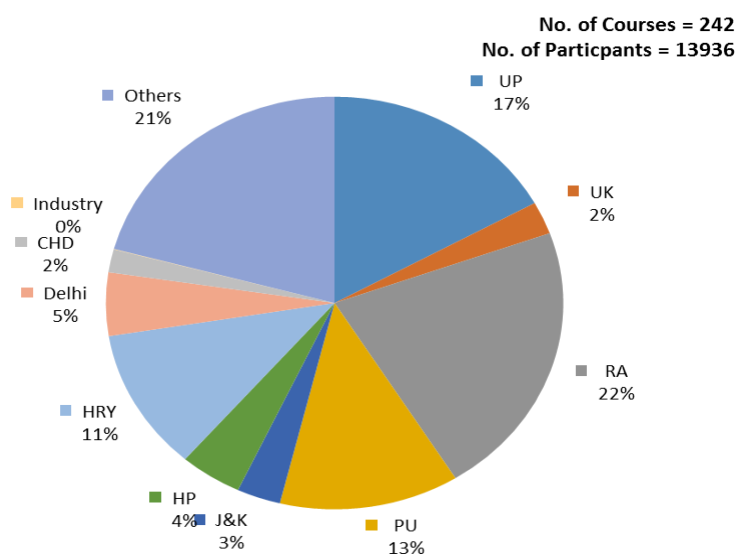
(i) Training Programs/Workshops:

	Type of Training Programs	No. of Courses/Programs	No. of Teachers Trained
A)	Short Term Courses		
	Contact Mode	187	2670
	ICT Mode	55	11266
	Total:	242	13936
B)	Conferences/Seminars	09	1646
C)	No. of Training Workshops	16	2078
	Total:	267	17563
D)	Students Training Programs	16	2155
E)	Curriculum Development Workshops	32	442

Total Programmes: 315

Total Manpower: 20160

STATEWISE PERCENTAGE OF PARTICIPATION IN SHORT TERM COURSES FOR THE YEAR 2017-18



INTERNATIONAL CONFERENCE ON “CLEAN TECHNOLOGIES AND SUSTAINABLE DEVELOPMENT”

A two days International Conference on “Clean Technologies and Sustainable Development” was organized jointly with Chitkara University, Himachal Pradesh from 23-24 February, 2018 in collaboration with the Ministry of Science and Technology, Department of Scientific and Industrial Research, Govt. of India, New Delhi. Quality Council of India played the role of Knowledge Partner and FICCI assisted in organizing this conference as an Industry Partner.



Dr. D.P. Agarwal, Former Chairman of UPSC, New Delhi and Chief Guest highlighted need to balance the industrial and economic growth such as to sustain the quality of life. Mr. Andrew Ayre, Deputy, British High Commissioner, Chandigarh, Mr. Mohammed Ibrahim Almojel, Chairman-Al Mojel Group of Companies & Tourism & Franchise Committee, Dr. Vimal Kumar Varun, Member Secretary, Scientist 'F', Department of Scientific Industrial Research, New Delhi served as the Guest of Honour in their varied capacities. Mr. Subodh Agrawal, Advisor Punjab, Haryana, Himachal Advisory Council, FICCI gave the industry perspective with respect to clean technologies & sustainable development whereby he emphasized that with the growing importance of sustainable practices in different sectors there is need to move towards incorporating sustainability principles into daily practice by adopting cleaner technology and green design principles which can be done through a dedicated commitment on behalf of professionals to acknowledge their professional obligation, extend their knowledge base and participate in all levels of policy decisions.

Over 362 academicians, researchers, teachers, administrators, officers, industry professionals, architects and students attended the conference. Clean Technologies, Eco & Green materials in construction, sustainable buildings, smart cities & villages, sustainability in road construction, alternative manufacturing technologies, economics of cleaner production, case studies on cleaner production in Industries, Sustainable Transport and Infrastructure & Management Innovative Materials and techniques for sustainable concrete construction, sustainable construction through pre cast technique, architecture structure interaction for sustainable built environment, pollution prevention techniques and technologies, zero energy buildings, water pollution- prevention and management, carbon footprint management/CDM, Environment Impact Mitigation, Waste minimization & management, sustainable infrastructure, renewable energy infrastructure are a few of the topics that were discussed during the two days through technical sessions and research paper presentations by eminent architects, town planners, industry professionals, researchers and students from India and other countries like Germany, UAE, Canada.

An exhibition showcasing products and innovations from industry and projects prepared by college students related to sustainable materials and infrastructure was also organized which was inaugurated by Mr. Navjot Singh Sidhu, Cabinet Minister, Department of Local Government, Punjab. The conference witnessed a huge response and support from industry with companies like Aimil Ltd, Reliance Industries Ltd, Wringling India Pvt Ltd, Avantech Engineering, Wipro Ltd, RDC Concrete (I) Pvt Ltd, Ambuja Cement Limited, showcasing their latest clean and sustainable technologies.

SPRINGER LNNS SERIES - 2ND INTERNATIONAL CONFERENCE ON COMMUNICATION, COMPUTING AND NETWORKING 2018 (ICCCN-2018)

Department of Computer Science organized Springer LNNS Series - 2nd International Conference on Communication, Computing and Networking 2018 (ICCCN-2018) from 29-30 March, 2018 under the able guidance and dynamic leadership of Director, Dr. S.S. Pattnaik. The Chief Guest & Keynote Speaker for the inaugural ceremony was Prof. Raghuram Rao Akkinipally, Director, NIPER Mohali. The Guest of Honour were Prof. Dr. MD Mamun Bin Ibne Reaz University, Kebangsaan Malaysia, Malaysia and Dr. Biplab Sikdar, National University of Singapore, Singapore.

Around 100 papers were presented by the delegates from all across India in the 8 different technical sessions and one technical session through video conferencing. The eminent personalities from Malaysia, Singapore and India delivered the expert talks during technical sessions on Cyber Security Challenges and Solutions for the Internet of Things by Dr. Biplab Sikdar. This included Enterprise Blockchain - Myth or Reality by Mr. Mani Madhukar from IBM, Research Opportunities in Software Remodularization by Dr. Jitendra Kumar Chhabra from NIT Kurukshetra, Security Requirements for Disruptive Technologies-A challenge by Ch A.S. Murty, Joint Director, CDAC-Hyderabad.



Prof. Manoj Kumar Arora, Director, Punjab Engineering College Chandigarh was the Chief Guest of the Valediction Ceremony and Dr. Mohammed Altaf Khan, Jamia Millia Islamia University, New Delhi was Guest of Honour for the valediction ceremony.

NATIONAL CONFERENCE ON NEW GENERATION CONCRETE

Civil Engg. Department organised a one day National Conference on New Generation Concrete on 19th April, 2017. The main aim of the conference was to create awareness about the recent advances in Concrete Technology, techniques and practices which can be adopted for finding field solutions. The sub-theme of the conference are self compacting concrete, porous concrete, geo-polymer concrete, transparent concrete etc. The conference was inaugurated by Sh. Mukesh Anand,, Chief Engineer, U.T, Chandigarh. He briefed about the relevance of the conference in the current scenario and also appreciated the collaborative work done by the Civil Engg. Department with the U.T administration, Chandigarh. Dr. P.K Tulsi, Director Incharge of the institute briefed about the activities of the institute and the need for collaboration between industry and educational institutions.

Eminent personalities from academia and industry delivered the keynote address included Dr. Singhal, Aman from BASF Chemicals , Dr. H.K Sharma, from NIT Kurukshetra , Dr. Rajesh Kumar , Head Civil Engg , CCET , Chandigarh , Dr. Pankaj Aggarwal and Sh. Manoj Kulshreshtha The conference received more than 32 technical papers for presentations from researchers of reputed institutes from all over the country and 18 papers were presented during the conference.

The conference was attended by around 40 delegates from industry and academic institutions and 107 students from neighbouring technical institutions. Sh. Anup Chauhan, Chief Engineer, PWD B&R, Haryana was be the Chief Guest for the closing ceremony. He appreciated the high quality of research papers and also expressed the need for conducting such types of conference in other areas of Civil Engineering.

GOLDEN JUBILEE NATIONAL SEMINAR ON PROMOTION OF SKILLS AND TECHNOLOGIES FOR SUSTAINABLE RURAL DEVELOPMENT IN INDIA

Golden Jubilee National Seminar on “**Promotion of Skills and Technologies for Sustainable Rural Development in India**” was organized from 31st August to 1st September, 2017 at NITTTR, Chandigarh. The major objective of the seminar was to highlight the issues of Skill Development and Transfer of Technology for the sustainable rural development in India. In this national seminar, about 250 participants from various parts of the country participated. The experts and research scholars belong to polytechnics and engineering college system, universities, management institutes and from IITs. The Chief Guest of the seminar was Dr. HS Dhaliwal, Vice-Chancellor, Eternal University, Baru Sahib, Sirmour (HP). The Guest of Honour of the seminar was Sh. Hriday Nath Singh, Chief Patron, Unnat Bharat Abhiyan, GOI. The Key Note speaker during the inaugural session was Professor Raj Nehru, Vice-Chancellor, Haryana Vishwakarma Skill University, Gurugram (Haryana). Dr. HS Dhaliwal inaugurated the seminar and focused on Agriculture Development, Skill Development and development of various technologies required for the development of Indian villages. In his welcome address.



Dr. SS Pattnaik, Director of the institute presented a viewpoint on India to adopt modern technologies in agriculture and various infrastructure development just like Israel. Dr. UN Roy, Seminar Convener, presented the basic theme for organization of seminar along with the various activities undertaken by the Department of Rural Development of NITTTR, Chandigarh. Professor Raj Nehru highlighted the importance of vocational and skill training for the

youths of rural India so that they can be given chance to go employment for self or wage-employment. Sh. Hriday Nath Singh who is looking after the Unnat Bharat Abhiyan in the country emphasized on the basic development of rural areas by organic farming and livestock rearing. He emphasized that in order to sustain the agriculture, we need to adopt natural and organic methods so that the adverse impact of the chemical based agriculture is reduced.

NATIONAL CONCLAVE ON “EMERGING TRENDS IN TECHNICAL EDUCATION”

As a part of the **Golden Jubilee Celebrations** of the institute a National Conclave on “Emerging Trends in Technical Education” was organized at NITTTR, Chandigarh from September 6-7, 2017. The broad objective of the conclave was to bring about a synergy

between the various stakeholders for improving the outcomes of technical education delivery mechanisms in India. This national conclave was aimed to provide a forum for those who influence policies and decisions that will improve the strategies for enhancing the quality of technical education in the country. More than 300 experts from policy making bodies at national and state levels, industry and academic leaders and other stakeholders of technical education deliberated on this two day event to address the challenges



being faced in the technical education sector assessment, accreditation, evaluation & quality standards in technical education; International trends in technical education delivery and investments in technical education; Educational models relevant to technical education; learning from world class institutions; emerging landscape for elevating the quality of technical education in India through global partnerships; creating conducive atmosphere for engagement with industry in the domains of R&D, consultancy, & manpower development to generate world class technically competent workforce. The conclave was jointly organised by NITTTR, Chandigarh and FICCI.

TECHFEST 2017 (20-21 APRIL, 2017) AND STARTUP MANTHAN 2017 [BUSINESS PLAN COMPETITION FOR THE STUDENTS OF TECHNICAL / MANAGEMENT INSTITUTES (NORTHERN REGION)]

As a part of the **Golden Jubilee Year** Celebrations Activities of National Institute of Technical Teachers Training and Research (NITTTR) Chandigarh, the institute organized Startup Manthan 2017 [Business Plan Competition for the Students of Technical / Management Institutes of Northern Region] on 20- 21 April, 2017. The event was aimed at to develop an entrepreneurship spirit among engineering students in order to prepare them confront challenges in the world of work. Dr. Manoj K. Arora, Director, PEC University of Technology, Chandigarh , chief guest highlighted the need to motivate the young generation to create jobs by themselves in the current scenario of shrinking jobs. Dr. P.K. Tulsi, Director In-charge, Dr. S.K. Dhameja and Dr. S.P. Bedi were overall coordinators for the Techfest 2017.



In the Business Plan Competition i.e. Startup Manthan 2017 a total of 19 teams from different States of Northern Region majorly from Uttar Pradesh, Himachal Pradesh, Haryana, NCR Region, Punjab and the Union Territory of Chandigarh itself participated. A Panel Discussion Session was also held in which the participants sought the Guidance & Mentoring by the Experts for further refining their Business prospects. The event invoked appreciation among the students, invited experts, and organizers.

The **Techfest 2017** was observed in full swing with diploma, degree and post graduate degree students from different technical educational institutes participating in a variety of events such as Technical Quizzes, Robo War, Poster Making, and Project Demonstration etc. in different engineering departments of the institute viz.-a-viz. Electrical, Civil, Computer Science, Electronics and Communication and Mechanical Engineering .

CONFERENCE ON “REFORMS IN TECHNICAL EDUCATION AND WAY AHEAD”

A one day conference on Reforms in Technical Education and Way Ahead was conducted for the state of Haryana on November 30, 2017. The conference was attended by more than 300 stakeholders of technical education comprising of policy makers, officials of statutory bodies, industry leaders, officials of industrial associations, Vice chancellors of all Universities of Haryana State, Principals and faculty of Technical institutions, Skill training institutes, Sector Skill Councils etc. The broad deliberations during the conference revolved around formulation of a strategic plan for technical education in the state of Haryana and finalising the role of each stakeholders for making technical education highly relevant, responsive and need based for developing world class technical manpower for the socio-economic growth of the country in general and state in particular. The broad theme of the conference was enhancing employability.



NORTH INDIA SKILL SUMMIT- 2017 CONSOLIDATION AND NETWORKING WITH SECTOR SKILL COUNCILS FOR SKILLING INDIA

NITTTR, Chandigarh and FICCI hosted over 300 participants from NSDA (National Skill Development Agency), NSDC (National Skill Development Corporation), SSCs (Sector Skills Council), SSDMs (State Skills Development Missions), NULM (National Urban Livelihood Mission), CSR (Corporate Social Responsibility) companies, academia, industry, government officials, VTPs (Vocational Training Providers) and NITTTR, Chandigarh on 28th April 2017 to finalize a framework with the active involvement of all the stakeholders for the sustainable skill development in the country. The Summit was organized to provide a platform for evolving approaches for sustainability in skill development and strategic re-orientation in the wake of emerging challenges on the skill development front.

PROMOTING INNOVATIVE RESEARCH THROUGH CRIKC

The workshop was organized on 07.04.2017 with an aim to promote innovations and research through sharing the resources by faculty and Ph.D. Scholars amongst CRIKC institutions.

Dr. Arun K Grover, Vice Chancellor, Panjab University, Chandigarh, Chief Guest addressed the gathering about importance of Golden Jubilee Celebration to any institution. He also stressed on (a) need to identify the gaps at national level and global level, (b) target for Chandigarh to become Singapore in terms of R&D through CRIKC, (d) Agenda now to look forward to next fifty years to grow, (e) CRIKC society to connect with local schools in Chandigarh. Dr. BC Choudhary, Professor, NITTTR, Chandigarh discussed various types of research, responsible research,



innovation and challenges and presented a brief on technologies developed by the Indian researchers such as Arsenic water filter for Hand pump outlets, biogas application as fuel for running a 54 seater bus, molecular imaging. Dr. PK Tulsi, Director-in-charge discussed various factors leading to lack of innovation amongst faculty and students that include lack/abundance of resources, missing top level management existing in various institutions, assessment criteria, lack of practical exposure to the students etc. Significant contributions were also made by Dr. Sunil Arora from Centre for Nanoscience & Nanotechnology, PU, Chandigarh, Dr. Deepak Salunke from Department of Chemistry, Panjab University

CRIKC member institutes presented their broad research areas and infrastructure available with them.

After deliberations follow up action was listed to facilitate collaborative research, sharing the resources and developing innovative and creative culture amongst the students at the early stage.

TRIGGERING ENTREPRENEURSHIP AMONGST ASPIRING MINDS

During DST, GOI sponsored “**Two weeks FDP on Business Start-ups through Innovation and Incubation**” conducted from 6-17 November 2017, a half a day workshop on “Triggering Entrepreneurship Amongst Aspiring Minds” was organized in the Institute’s Main Studio on 7th November 2017. The event was attended 79 participants from Chandigarh, Punjab, Haryana and Himachal Pradesh and in addition by 129 faculty members from Engineering Colleges and Polytechnics through ICT mode. During the event the program participants were motivated to opt for Entrepreneurial Career and also inspire others for the same. The inputs in this workshop were provided by Shri GB Singh, Regional Director, FICCI, Chandigarh, Shri Ram Kumar Das, AGM, Indian Bank, Chandigarh, Shri HS Cheema, MD, Cheema Boilers Ltd, Kharar (Punjab), Shri BM Gulati, Director, Jay Dee Enterprises, Chandigarh. Professor SS Pattnaik, Director, NITTTTR, Chandigarh, Prof. JS Saini, Head-EDIC, NITTTTR, Chandigarh, Prof. SK Dhameja, Dean – A & IA, NITTTTR, Chandigarh and Er. Amar Dev, Assistant Professor, EDIC, NITTTTR, .

OTHER IMPORTANT EVENTS:

JOB FAIR for PwDs

A job fair was organized for PwDs on April 17-18, 2017 by the centre SMART+ (in collaboration with Sarthak) for placement of PwDs. The centre provides a structured process that imparts knowledge and skills to participants with the objective to perform certain tasks and to desire to use them. At SMART+, PwDs are provided skill development training of 4 months with the ultimate goal of providing employment. Making them employable inculcates a sense of



motivation and self-independency in the stratum of society empowering them to participate in the mainstream. 120 nos placements were done in various sectors through job fair.

SIGNING OF MOUs :

The institute signed MoUs with 6 organizations of prominence. The broad objective is to undertake collaborative research activities through participation in Nationally and Internationally funded projects, jointly organize events such as seminars, workshops, conferences and training programs and support each other's' endeavour in delivery of academic programs and research activities besides exchange of scientific and technical information.



with SCL, Mohali (Feb , 2 , 2018)



with YMCA University of Science and Technology, Faridabad (Haryana) (Jan 11, 2018)



with Tech Mahindra Foundation, Mumbai, (Dec 18, 2017)



with SKCET, Coimbatore (Jan 10, 2018)



Sport Activities: Competitions are held in Outdoor & Indoor games: Cricket, Badminton, TT, Volleyball, Carrom and Chess. Dr S. S. Pattnaik facilitating a prize winner.



Yoga camp (June 21, 2017)

CONFERENCES AND SEMINARS:

S.No.	Title(s)	Dates	Dept.	No. of Participants
1.	National Seminar on "New Generation Concrete".	19.04.2017	Civil Engineering	54 Faculty + 107 Students
2.	Skill Summit & Round Table on "Consolidation & Networking with Sector Skill Councils for Skilling India"	28.04.2017	Media Centre	330
3.	Golden Jubilee National Seminar on "Promotion of Skills and Technologies and Technologies for Sustainable Rural Development in India	31.08.2017 to 01.09.2017	Rural Development	105
4.	Educational Conclave on "Emerging Trends in Technical Education" (All States)	06.09.2017 to 07.09.2017	CCT&SD	300
5.	Triggering Entrepreneurship Amongst Aspiring Minds	07.11.2017	EDIC	129
6.	One day Conference on "Reforms in Technical Education & Way Ahead" for the State of Haryana	30.11.2017	Media Centre	200
7.	One day Seminar for ME Students on CST Simulation Software	22.01.2018	Electronics Engineering	15
8.	International Conference on "Clean Technologies for Sustainable Development" in collaboration with Chitkara University.	23.02.2018 to 24.02.2018	CCT&SD	400
9.	Springer LNNS series- 2 nd International Conference on Computing, Communication and Networking (ICCCN)	29.03.2018 to 30.03.2018	Computer Science & Engineering	113
	Total:			1646+ 107 Students

WORKSHOPS (OTHER THAN CURRICULUM DEVELOPMENT WORKSHOPS)

Sr.No.	Name of the Programme alongwith dates and venue	Dates	Department	No. of Participants
1.	One day workshop on "Innovative research through CRIKC" at NITTTR, Chandigarh.	07.04.2017	Applied Science	60
2.	Workshop on IPv4 to IPv6 Migration Methods	14.07.2017	Computer Science	18
3.	One day orientation workshop about NSQF for developing curriculum of diploma programme for Haryana State at NITTTR, Chandigarh	03.04.2017	CDC	74

Sr.No.	Name of the Programme alongwith dates and venue	Dates	Department	No. of Participants
4.	One-day workshop for NBA Accreditation for Government Polytechnic, Ambala at NITTTR, Chandigarh	11.07.2017	CDC	12
5.	One-day workshop on NSQF for IRDT Kanpur at NITTTR, Chandigarh	20.07.2017	CDC	3
6.	One-day workshop on NSQF orientation at IRDT, Kanpur	08.03.2018	CDC	62
7.	One-day orientation on at IRDT, Dehradun	17.11.2017	CDC	105
8.	One-day orientation workshop on NSQF at Government Polytechnic, Lucknow	09.03.2018	CDC	70
9.	NBA Workshop on Quality Improvement at NITTTR, Chandigarh	25.1.2018	Electronics & Comm. Engg.	06
10.	Preparing for "Smarth Udyog"- India's Response to Industry 4.0 at NITTTR, Chandigarh	28.02.2018	EDIC	110
11.	National Workshop on Emerging Challenges of Cyber Crime in India through ICT (15 centers connected) at JNU, Delhi.	09-10.10.2017	ETV	600
12.	National Workshop on Simulation of Electromechanical Systems, NITTTR, Chandigarh	09-10.11.2017	Mechanical Engineering	83
13.	One Day Workshop on "Review of CDTP Scheme & its Role in Skill Development Mission" on 4 th December, 2017 at NITTTR, Chandigarh.	04.12.2017	Rural Development	104
14.	One Day Workshop on "Skill India" on 6 th January, 2018 at Govt. Polytechnic College, Amritsar (Pb.)	06.01.2018	Rural Development	50
15.	Regional Workshop on Organic Farming in collaboration with Indian Institute of Himalayan Studies (IIHS), HP University, Shimla	23.03.2018	Rural Development	700 (including 100 farmers)
16.	Annual Review-cum-Operational Plan Preparation Workshop under PWD Scheme.		CPCP Dept.	21
	Total:			2078

2.2 Instructional Material Development

During the year 2017-18, institute continued its efforts to promote development of instructional material, both print (text books, laboratory manuals, modules, readers etc.) and non-print (video programme CAO Paclages i.e. MOOCs material, Experimental Kits etc.). Emphasis was made to develop course material for MOOCs as it is thrust area of MHRD.

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

Non Print Material (Digital Resources)

Educational Video Films	16
Lecture based Video Films/(NCTEL)	73
CAI Packages	02
Video Lectures uploaded on You Tube	73
Video Films – MOOCs	76

Print Material

Text Books	03
Laboratory Manuals	05
Modules	04
Readers	04
Course Material for Training Programs	12
Worksheets for Experiments	25

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.

2.3 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 **2017-18**, **05** curricula have been designed and **16** curricula were revised, out of these **06** are curricula of certificate programs in alignment with NSQF and **10** nos. are curricula for H.P. State. The department conducted **32** Curriculum Development Workshops of **1-2** days' duration which were attended by **442** participants.

Curriculum Designed: 5 Nos

1.	Degree Level Program in Aeronautical Engineering	For Punjab State Civil Aviation Council, Patiala
2.	Food Processing	NSQF Compliant Diploma Level Programme for MRSPTU, Bathinda
3.	Computer Engineering	
4.	Welding Technology	
5.	Refrigeration and Air Conditioning	

Curriculum Revised : 6 Nos.

1.	Electronics Engineering	NSQF Compliant Diploma Programme for HSBTE, Panchkula
2.	Mechanical Engineering	
3.	Electrical Engineering	
4.	Computer Engineering	
5.	Civil Engineering	
6.	Automobile Engineering	
7.	Mechanical Engineering	Diploma Program for H.P. State
8.	Civil Engineering	
9.	Computer and Science Engineering	
10.	Electronics and Communications Engineering	
11.	Electrical and Electronics Engineering	
12.	Electrical Engineering	
13.	Information Technology	
14.	Instrumentation Engineering	
15.	Architecture Assistantship	
16.	Automobile Engineering	

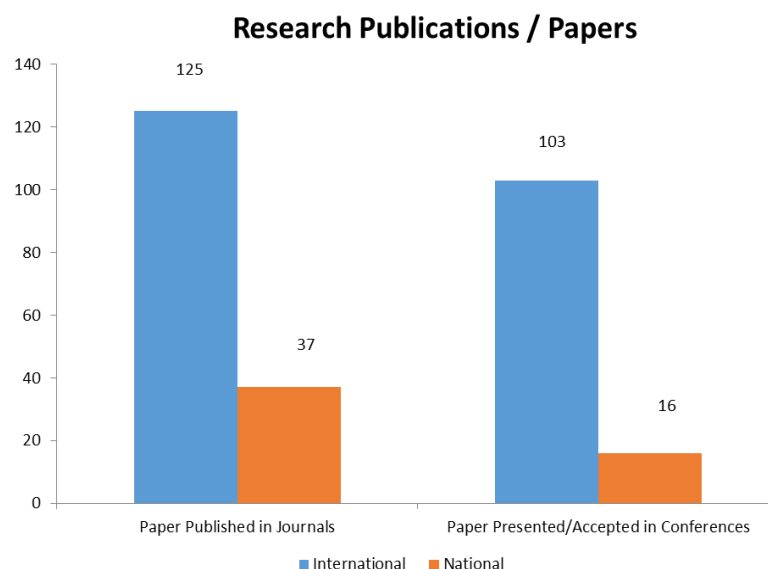
2.4 Research and Development

Research and development activities in technology and technical education form an important aspect of the institute's programme. During the year 2017-18, the following Research Studies and Development Projects were completed:

1. Sponsored R&D Project on Emergency Vehicle Pre-emption (DST Chandigarh).
2. Feedback from Industry regarding Curriculum of Various Diploma Programmes.
3. Developed a Hybrid Vehicle powered by PV System and High Gain Boost Convert
4. Application of ICT based Assistive Technology in Delivery of Education and Training for Persons with Disability in Chandigarh Region- An Exploratory Study.
5. 16 Research Proposals were submitted to AICTE for funding
6. The following Ph.D thesis under the supervision of faculty were completed and defended during 2017-18:
 - a. Performance of Multiple-Axial-Groove Journal Bearings.
 - b. Development of Geo-polymer Based Ferro-cement Panels under Flexural Loading.
 - c. Performance Optimization of Cutting Tools with Multiple Nano Coatings.
 - d. Performance Enhancement of Carbide Cutting Tools in Milling of Titanium Alloy.

In addition to above, **121 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. **125 papers** of the institute faculty were published in **International Journals** and **37 papers** of the institute faculty were published in **National Journals**. **103 papers** were presented by the faculty in various International Conferences & Seminars and **16** were presented by the faculty in various National Conferences & Seminars and.

The details are enclosed at Annexure- II.



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. Sarthak related informations to be considered.

Signing of Memorandum of Understanding

The institute signed **06** MoUs with the following Institutions and Organisations:

1. Tech Mahindra Limited, Mumbai
2. Semi-Conductor Laboratory, Department of Space, Govt. of India, S.A.S. Nagar (Punjab)
3. YMCA University of Science and Technology, Faridabad (Haryana)
4. Sri Krishna College of Engineering and Technology, Coimbatore (Tamilnadu)
5. C.V. Raman College of Engineering, Bhubaneswar (Odisha)
6. Teachers Training Centre (TTC), Jodhpur

The major objectives of signing these MoUs are to:

- a) Develop training hubs to enhance the learning of faculty through diversified facilities and local experts support.
- b) Support each other's' endeavour in delivery of academic programs and research activities.

- c) Exchange of scientific and technical information.
- d) Joint supervision of Postgraduate and Ph.D. students
- e) Undertaking collaborative research activities through participation in Nationally and Internationally funded projects.
- f) Jointly organize events such as seminars, workshops, conferences and training programs.
- g) Training of students of PG level.
- h) Collaboratively working for various National Mission.

Consultancy Projects

During the year 2017-18, 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), Bearing capacity determination, Evaluation and Design Recommendation for Repair and Rehabilitation of Buildings.
- ⇒ **Testing Services/Research Projects to Industry in the area of Electrical Engineering:**
 - Emergency Vehicle Preemption – Department of Science and Technology (DST) Project.
 - Street Lighting Inspection, Municipal Corporation of Panchkula
- ⇒ **Testing Services to Industry in the area of Electronics and Communication Engineering:**
 - Antenna Testing
- ⇒ **Training Programs for Students**
The institute organised **16** training programs in which **2155** students of technical institutions participated.

The institute could complete consultancy projects worth Rs.6.86 Crores with net IRG of Rs.2.15 Crores.

Other Projects

- 03 Training Programs were conducted by EMGT Department namely Induction Training Program, Research Methodology and Training for Newly Recruited Junior Engineers.
- Analysed the Existing Model Curricula for Diploma Programs (NSQF aligned).

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 2017-18, the department has conducted **19** short term courses for polytechnic, engineering college teachers and industry, which were attended by **264** participants. The department has conducted **02** training programs through ICT in which **619** teachers participated.

The department faculty published/presented **01** Paper in International Conference and developed **03** Print Materials. The department also provided sample analysis using AFM & PLS and training programs under consultancy services.

Short Term Programs (Contact Mode)

1. Lasers and Their Applications
2. Numerical Methods in Engineering
3. Nanotechnology: Developments & Applications
4. Lasers: Developments & Applications
5. Optical Fiber Communication Technology
6. Differential Equations & Their Engineering
7. Laboratory Organization and Updating in Applied Physics
8. Advances in Laser Technology
9. Nuclear Radiations and Their Applications
10. Fuzzy Logic in Mathematical Programming Problems
11. OFC Networks & Trouble Shooting
12. Mathematical Programming Problems
13. Nanomaterials: Characterization & application
14. Nuclear Energy and Power Options
15. Optimization Techniques with Engineering Applications
16. Optimization Techniques with MATLAB
17. Newer Experiments in Applied Physics
18. Advances in Optical Fiber Communication Technology
19. Integral Transform With Application

Short Term Programs (ICT Mode)

1. Optical Fibers; Potential & Applications
2. Advanced Operations Research,

Centre for Physically Challenged Persons

The Centre organized **02** training programs for the polytechnics teachers which were attended by **40** participants. The Centre organized an Annual Review cum-Operational Plan Preparation Workshop for polytechnics implementing the PWD Scheme wherein **21** participants participated. The training programs 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 through education, training and career opportunities.

Short Term Programs (Contact Mode)

1. Technical and Vocational Training for Persons with Disabilities
2. India Sign Language for Polytechnics implementing the Scheme for Integrating Persons with Disabilities in the Mainstream of Technical and Vocational Education.

The Centre in collaboration with Sarthak Educational Trust, New Delhi, organised a Stakeholders Sensitisation Workshop on 17 April, 2017 and a Job Fair for the differently abled persons on 18 April, 2017. **230** persons with disabilities and **132** employers and disability sector stakeholders participated in these mega events.

Civil Engineering Department

During the year 2017-18, the department conducted **24** short term training programs on contact modes and **06** programs on ICT Mode which were attended by **166 and 544** teachers respectively from polytechnics and engineering colleges. The department also conducted **01** Seminar with the participation of **54** delegates from industries and academic institutions and **107** students. The department faculty published **27** papers in International Journals and **03** in National Journals. **21** papers were presented/accepted in International Conferences and **05** in National Conferences. The department developed various instructional resources that include **04** Print Material and **01** Video Film. The department also provided design and testing services to industry as consultancy projects of Gross Value more than **Rs.60 lacs**.

Short Term Programs (Contact Mode)

1. Evaluation and Rehabilitation of Pavements
2. Laboratory Practices in Environmental Engineering
3. Construction and Maintenance of Black Top Pavements
4. Structural Health Monitoring
5. Quality Control of Concrete
6. Software Applications in Project Management
7. Low Cost Housing Techniques and Practices
8. Recycling Materials in Highway Construction
9. Material Testing
10. Laboratory Practices in Civil Engineering
11. Water Resources Management
12. Yoga and Meditation
13. Concrete Lab Practices
14. Mapping by Total Station
15. Structural Design with STAAD PRO
16. Concrete Mix Design – New Directions
17. Limit State Design of Steel Structures
18. Building Design using ETABS
19. Public Health Engineering Lab
20. Retrofitting and Rehabilitation of Structures
21. Lab Practices in Soil Engineering
22. Bearing Capacity Estimation for Foundations
23. Seismic Analysis Design and Retrofitting of Bridges
24. Smart City

Short Term Programs (ICT Mode)

1. Remote Sensing, GPS and GIS in Civil Engineering
2. Application of AutoCAD in Engineering
3. Green Building and Techniques
4. Disaster Management
5. Retrofitting and Rehabilitation of Structures
6. Environment Pollution

National Seminar/Conferences

1. National Seminar on “New Generation Concrete”

Centre for Clean Technologies and Sustainable Development

During the year 2017-18, the Centre conducted **07** short term training programs which were attended by **167** participants. The Centre conducted Education Conclave on Latest Trends in Technical Education on 6-7 September, 2017 in which **300** delegates participated. The Centre also conducted Capacity Building Program for Panjab ECBC code for different stake holders from academic institutions and other government sectors which was attended by **100** participants. One International Conference on Clean Technologies and Sustainable Development was also organized by Centre which was attended by **400** attended.

Short Term Training Programs:

1. NABET Accredited Training Program on Laboratory Management System & Internal Auditing as per IS/ISO/IEC 17025:2005 at NITTTTR Chandigarh
2. NABET Accredited Training Program on Laboratory Management System & Internal Auditing as per IS/ISO/IEC 17025:2005 at Vadodara, Gujarat.
3. NABET Accredited Training Program on Laboratory Management System & Internal Auditing as per IS/ISO/IEC 17025:2005 at Vadodara, Gujarat.
4. NABET Accredited Assessors' Training Program as per IS/ISO/IEC 17025:2005 at NITTTTR, Chandigarh.
5. NABET Accredited Training Program on Laboratory Management System & Internal Auditing as per IS/ISO/IEC 17025:2005 at Vadodara, Gujarat.
6. NABET Accredited Training Program on Laboratory Management System & Internal Auditing as per IS/ISO/IEC 17025:2005 at Vadodara, Gujarat.
7. SMART CITY 12.03.2018 14.03.2018

During the year under report, the Centre has submitted the following proposals:

- Proposal for Zero Energy Building to Chandigarh Administration
- Proposal for conducting technology based entrepreneurship development programs (TEDP) for science & technology persons
- Proposal for creating awareness about hazards of e-waste generation and preparedness for innovative solutions

- Development of light weight foamed concrete based on Construction and demolition debris.
- Proposal to conduct training programs under plan scheme “National program for training of scientists &technologists working in govt. Sector
- Application for seeking partial financial support under bird-crf scheme of DSIR for creation of common research and technology development) for low cost machining.
- Application form for grant for holding international conference and printing of proceedings
- Capacity building for Panjab ECBC code
- Capacity building for Haryana ECBC code

Computer Science and Engineering Department

During the year 2017-18, the department conducted **26** training programs through contact mode and **07** training programs through ICT mode, which were attended by **397** and **2597** participants respectively. The department conducted one workshop and 01 student training program in which **18** and **118** participants attended respectively. The department also conducted **01** Seminar which was attended by **113** delegates. The department faculty published **12** Papers in International Journals and **28** papers were presented/accepted in International Conferences. The department faculty also developed **08** Print Material and **01** Non-print Material.

Short Term Programs (Contact Mode)

1. Cyber Threats and Security Measures
2. Mobile Computing
3. Web Based Designing
4. Linux Administration Using Centos
5. Java Fundamental and Java Programming
6. Computer Animation
7. Soft Skills and Class Room
8. Intel Sponsored Machine Learning Algorithms using Python
9. Graphic Designing and Animation for Web
10. Cyber Crime and Forensic Tools
11. ASP.NET
12. Photoshop
13. PHP MySQL
14. Latex Programming
15. Window Server 2012 Administrations
16. Android Programming
17. Preparing SAR for PG Program Accreditation
18. Network Security and Firewall
19. Cyber Crime & Security Awareness
20. Software Testing
21. PHP and Open Source
22. R Programming
23. ASP NET
24. NS 2/3 Simulator
25. Open Source Technologies
26. Repair & Maintenance of Laptop & computer

Short Term Programs (ICT Mode)

1. Artificial Neural Network and Fuzzy Logic
2. Scilab Programming
3. Data Mining and Business Intelligence
4. Cloud Computing through ICT
5. Open Source Technology
6. One day Student Training "Open Source Tools"
7. One day student training on "Cloud Computing" ICT-cum-contact mode.

Student Training Program

1. Core Java Programming

International / National Seminar/Conference:

1. Springer LNNS series- 2nd International Conference on Computing, Communication and Networking (ICCCN)

Curriculum Development Centre

During the year 2017-18, Curriculum Development Centre conducted **07** Short Term Training Programs and **03** ICT Programs for the faculty of polytechnics and engineering colleges and trained **215 and 658** teachers respectively. In addition, the centre organized **02** training programs for students of engineering colleges and polytechnics which were attended by **39** students. The Centre organized **06** Workshops other than Curriculum Development in which **326** participants participated. The centre also conducted **32** Curriculum Development Workshops for the States of Haryana, Punjab and Uttar Pradesh which was attended by **442** participants. The department faculty published **01** paper in International Journal and presented **03** papers in International Conferences.

Short Term Programs (Contact Mode)

1. Communications Skills for Effective Curriculum Implementation
2. Curriculum Development
3. Accreditation of Program
4. Communication Skills
5. Organizing Student- Centered Activities
6. Project Planning , Execution and Evaluation
7. Effective Curriculum Implementation

Short Term Programs (ICT Mode)

1. Communication Skills
2. Curriculum Development
3. Outcome Based Education

Student Training Programs

1. One-day programme on Communication Skills on 20.03.2018
2. One-day programme on Communication Skills on 26.03.2018

Education and Educational Management Department

During the year 2017-18, the department conducted **22** short term training programs and **04** ICT Programs for the teachers of polytechnics, engineering colleges and working professionals from Industry which were attended by **266** and **479** participants respectively. The department also conducted **03** student training programs and trained **1364** students. The department faculty published **06** Papers in International Journals and **01** in National Journal.

In addition, the Faculty o EMGT has developed video films for Five MOOCs on

- Instructional Planning
- Research in Technical Education
- Communication for Teaching-Learning
- Group dynamics and Group-based Learning
- Development of Self-learning material

Short Term Programs (Contact Mode)

1. Career Guidance & Counselling (including Career Skills)
2. Classroom Communication
3. Motivation, Team Building and Creativity
4. Class Room Teaching & Soft Skill Development
5. Preparing Students for Job Interviews
6. Soft Skills and Classroom Teaching
7. Induction Training Program for Newly Recruited Teachers
8. Student Centered Methods of Instruction
9. Leading from Within Learning to Manage your Ego and Emotions
10. Career Guidance and Counselling
11. Evaluation Theory and Practical Work
12. Induction Training Program for Newly Recruited Teachers
13. Managerial Skills
14. Induction Training Program for Newly Recruited Teachers
15. Enhancing Performance of Staff
16. Stress Management
17. Students Centered Method of Instructions 2
18. Teaching Effectiveness
19. Professionalism in Teaching and Assessment
20. Research Methodology
21. Soft Skill and Classroom Teaching
22. Mentoring, Coaching and Counselling

Short Term Programs (ICT Mode)

1. Research Methodology
2. Instructional Planning (Module I : IPD)
3. Instructional Delivery (Module II : IPD)
4. Student Evaluation (Module III : IPD)

Student Training Programs

1. Preparing Students for Job Interviews through ICT
2. Preparing Students for Job Interviews through ICT
3. Preparing Students for Job Interviews through ICT

Educational Television Centre

During the year 2017-18, the department conducted **09** short term courses for polytechnic and engineering college teachers, which were attended by **113** participants. The department conducted **01** National Workshop, which was attended by **600** participants. The department faculty published **07** papers in International Journals and **02** papers in National Journal. The department presented/accepted **03** papers in International Conferences and **01** paper in National Journal. The Centre also developed **03** print material and **01** non-print material.

Short Term Programs (Contact Mode)

1. Effective use of Instructional Material using Adobe Photoshop Adobe after Effect & Premier
2. Enhancing Presentation Quality using Graphic & Animation
3. Video Film Production Techniques
4. Graphics Animation for Instructional Material Development
5. Script Writing and Video Editing
6. Camera and Editing Techniques
7. Script Writing and Video Production Techniques for e-content Generation
8. "e-Teacher Digital Teaching / Learning Approach"
9. "MATLAB Programming"

Electrical Engineering Department

During the year 2017-18, the department conducted **15** short term courses for polytechnic and engineering college teachers, which were attended by **163** participants. The department conducted **08** training programs through ICT and **1481** participants attended. The department developed **03** print materials. The department faculty guided **34** thesis of M.E. students. **02** projects under consultancy were completed. The department published **24** papers in International Journals and **08** in National Journal. **28** papers were accepted/presented in International conferences/seminars.

Short Term Programs (Contact Mode)

1. Hands on Practices on Power Electronics and Drives
2. PLC Practices and its Programming
3. FACTS and Smart Grid Technologies
4. Bio-Medical Instrumentation
5. Computer Aided Power System Analysis
6. Instrumentation for Environmental Engineering
7. Embedded C Programming of Microcontrollers
8. Potential Research and Development areas in Science and Technology
9. MATLAB/SIMULINK with Hardware Interface for Engineering Applications
10. Real World Interfacing with 8051
11. Tools for Engineering Research
12. Alternate Energy Sources- Aspects and Prospects
13. Energy Management and Conservation
14. Hands on Practices in LabVIEW
15. Electrical , Electronics & Computer Based Projects

Short Term Programs (ICT Mode)

1. Embedded System Practices
2. Energy, Environment and Sustainable Development
3. Power Quality Monitoring and Analysis
4. Renewable and Clean Energy Technologies
5. Power Electronics and its Applications
6. Industrial Automation Practices
7. MATLAB and LABVIEW with its Hardware Interface
8. Soft Computing Techniques using MATLAB (LM)

Student Training Program

1. 6 months summer training on Embedded System

Electronics and Communication Engineering Department

During the year 2017-18, the department conducted **18** short term courses for polytechnic and engineering college teachers, which were attended by **191** participants. The department conducted **03** ICT Programs and **1018** participants attended. **02** student training programs were conducted and **16** engineering students were trained by the department. The department also conducted **1** seminar and **15** participants attended.

The department conducted **01** workshop on quality improvement which was attended by **06** participants. The department completed **03** print materials, **09** non-print material and **29** video films **32** final thesis of M.E. Students were guided by department faculty. **03** projects under consultancy were completed. The department published **29** papers in international journals and **06** in National Journals and 10 papers were presented/accepted in International Conferences..

Short Term Programs (Contact Mode)

1. 3G and 4G
2. Electronic Design Automation
3. Introduction to System Designing
4. Power Electronics Devices and Project Fabrication
5. Electronics Devices and Project Fabrication
6. Power Supply, UPS, Inverter and SMPS
7. Electrical & Electronics Devices and Project Fabrication
8. FPGA Based Digital System Design
9. Introduction to Long Term Evolution
10. PCB Design and Fabrication
11. FPGA Based Digital System Design
12. Digital System Design
13. Antenna & its Applications
14. Advanced DSP Using MATLAB
15. 3G and LTE
16. 2G and 3G
17. Embedded World
18. Signal Processing with MATLAB

Short Term Programs (ICT Mode)

1. VLSI Design
2. Wireless & Mobile Communication
3. Embedded Systems

Student Training Programs

1. Antenna Design
2. Embedded System

National Seminar/Conference

1. One day Seminar for ME Students on CST Simulation Software

Entrepreneurship Development and Industrial Coordination Department

During 2017-18, the department conducted **06** short term courses for polytechnics and engineering colleges which were attended by **177** teachers. The department also trained **1050** teachers from polytechnics and engineering colleges in **06** training programs organised through ICT. The department also conducted **04** DST sponsored programs which were attended by **186** participants. **04** students training programs were organised by the department which were attended by **658** students. The department published **01** paper in International Journal and **02** papers presented/accepted in International journal and **01** paper in National journal.

Short Term Programs (Contact Mode)

1. Program Accreditation by NBA for Technical Institutions
 2. Faculty Development Program (FDP) on Entrepreneurship Development
 3. Establishing and Management of Entrepreneurship Development Cells (EDCs) and Industry-Institute Partnership Cells (IIPCs) in Technical Institutions
 4. Total Quality Management and ISO 9001:2015
 5. Comprehensive Entrepreneurship Development Program.
 6. Enterprise Development through Self-employment
- DST Sponsored Training Programs**
7. Entrepreneurship Awareness Camps
 8. Entrepreneurship Awareness Camps
 9. Entrepreneurship Awareness Camps
 10. FDP on Business Start-ups through Innovation and Incubation

Short Term Programs (ICT Mode)

1. Interventions for Effective Industry-Institute Partnership f and Remote Centre
2. Strategic Management and SWOT Analysis for Institution Excellence and Remote Centre:-
3. Fund Raising for New Business Start-ups Remote Centre
4. Project Management Skills for Managing Business Ventures and Remote Centre
5. Business and Soft Skills Development in Institutions and Remote Centre
6. E-governance and Green Technology Entrepreneurship

Student Training Programs

1. Personality Development of Students for Effective Entrepreneurship
2. Entrepreneurship Awareness Camps
3. Entrepreneurship Awareness Camps
4. Entrepreneurship Awareness Camps

National Seminar/Conference:

1. Triggering Entrepreneurship Amongst Aspiring Minds (TEAM)

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 **06** short term courses for the Polytechnics Librarians and Engineering Colleges Librarians **97** participated in these courses.

Short Term Programs (Contact Mode)

1. Recent Trends in Libraries
2. Knowledge Organisational Tools
3. Information Literacy and Life Long Learning
4. Digital Library Management
5. Library Automation Using GSDL: Basis
6. Cloud Computing Applications in Libraries

Mechanical Engineering Department

During the year 2017-18, the department conducted **17** short term courses for polytechnic and engineering college teachers, which were attended by **153** participants. The department conducted **06** ICT Programs and **1494** participants attended. **01** student training program of 06 months duration was conducted and **05** engineering students were trained by the department. The department also conducted **1** seminar which was attended by **15** participants.

The department conducted **01** workshop on quality improvement which was attended by **83** participants. The department completed **04** print materials, **02** non-print material and **01** video fil **29** final thesis of M.E. Students were guided by department faculty. **02** projects under extension services and **03** recruitment projects under consultancy were completed. The department published **18** papers in International journals and 13 papers in National Journal. **02** papers presented/accepted in International Conferences and 01 in National Conferences..

Short Term Programs (Contact Mode)

1. Teaching Practices in Engineering Drawing
2. Metrology Laboratory Practices
3. Supervisory Skill Development for Workshop Instructors
4. CAD using CREO
5. Engineering Materials and NDT
6. Repair and Maintenance of Machine Tools
7. CAD using CATIA
8. Production Management
9. Finite Element Analysis Using ANSYS
10. Refrigeration and Air Conditioning
11. Computer Aided Manufacturing (CAM)
12. CNC Machines : Operation & Programming
13. Cutting Tool Technology
14. Fluid Power Circuits : Elements and Design
15. Manufacturing Processes
16. Industrial Automation and Robotics
17. Mechatronics

Short Term Programs (ICT Mode)

1. Optimization Using MATLAB
2. Product Design and Development" through ICT
3. Modeling & Simulation using MATLAB
4. Recent Trends in Automotive Engineering
5. Advanced Manufacturing Methods
6. Outcome Based Education

Student Training Programs

1. B.Tech. 6 months training

Media Centre

During the year 2017-18, the department conducted **07** short term courses for polytechnic and engineering college teachers, which were attended by **704** participants. The department also conducted **03** Conferences/Seminar which were attended by **830** participants.

The department completed **04** print materials, **01** non-print material and **04** video films. The department also provided assistance in **04** recruitment projects under consultancy projects. The department published **02** papers in National Journals and **03** papers were presented in International Conferences.

Short Term Programs (Contact Mode)

1. Innovation and Creativity Development in Teachers and Students
2. Instructional Material Development using Latest Media
3. Managing Yourself
4. Technical Teachers' self Esteem, Motivation and Professionalism Development
5. E-Governance in Technical Education
6. Leadership and Management Development
7. Faculty Development Planning and Management

National Seminar/Conference:

1. Skill Summit & Round Table on Consolidation & Networking with Sector Skill Councils for Skilling India
2. Educational Conclave on “Emerging Trends in Technical Education”
3. One day Conference on “Reforms in Technical Education & Way Ahead for the State of Haryana

Rural Development Department

The Department has conducted **10** training programs for polytechnics and engineering colleges teachers. **197** polytechnic teachers and **17** engineering college teachers participated in these program. The department also conducted **03** ICT based training programs in which **558** teachers participated. **14** workshops with respect to implementation of the Scheme of Community Development through Polytechnics were organized for different States in the northern region in which **1350** participants participated. The department also conducted **02** Pre-Job Training Programs for MBA (Rural Development) Students of Institute of Integrated Himalayan Studies (IIHS), Himachal Pradesh University, Shimla which were attended by **57** MBA students. The department also organised **Golden Jubilee National Seminar on “Promotion of Skills and Technologies and Technologies for Sustainable Rural Development in India”** from 31st August to 1st September, 2017 at NITTTR, Chandigarh in which **105** participants attended from various parts of the country. The department faculty published **02** papers in National Journals and **02** papers were presented/accepted in International Conferences and **03** in National Conferences.

Major thrust of the department has been to provide practical knowledge on appropriate technologies like low-cost toilet, low-cost roof, wastewater disposal, waste water treatment, rain water harvesting, bee keeping, organic farming and agriculture wastes recycling, biogas plants and smokeless chullah. This year, the Department constructed two low-cost kitchens, 15 smokeless chullahs and some initiatives have been taken by Institute level, Camps organized in 4 villages of Bijnor district with RVIT, Bijnor.

Short Term Programs (Contact Mode)

1. Mixed Forest Development & Organic Farming for Sustainable Development of Himalayan Region.
2. Unnat Bharat Abhiyan.
3. Converging for Skilling Development.
4. Affordable Housing in Disaster Prone Areas.
5. Orientation to CDTP Scheme.
6. Skilling India through Polytechnics and Engg. Colleges.
7. Make in India- Issues and Challenges.
8. Technologies for Sustainable Rural Development.
9. Disaster Management and Sustainable Development.

10. STC on Integrated Village Development of Himalayan States through Rural Tourism and Organic Farming.
11. Pre Job Training of MBA Students-3rd Semester from IIHS,HP
12. Pre Job Training of MBA Students-1st Semester from IIHS,HP

Short Term Programs (ICT Mode)

1. Earthquake Risk Management for Rural and Urban Housing.
2. Innovative Approach towards Employment Generation in India.
3. Climate Change and Disaster Management.

Student Training Program

1. Pre-Job Training of MBA (Rural Management) Students-IIIrd Semester on “Integrated Village Development” from IIHS, HP University, Shimla, 15-31 January 2018 at NITTTR, Chd.
2. Pre-Job Training of MBA (Rural Management) Students- Ist Semester on “Management Techniques and Technologies for Sustainable Rural Development” from IIHS, HP University, Shimla from 05-21 February, 2018

National Seminar/Conference:

1. Golden Jubilee National Seminar on “Promotion of Skills and Technologies and Technologies for Sustainable Rural Development in India

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 activity of the department during 2017-18 was preparation of Operational Plan of the institute depicting the annual calendar of Training Programs 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 2017-18 after consolidating the needs of various states of the Northern region through conduct of annual workshops held with each state representative. The department 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 prepared **06** MoU which were signed with different organisations and provided necessary liaising with MHRD, DTEs, BTEs, Training Hubs and other private technical institutions and industry to promote various activities of the Institute.

Golden Jubilee Year Activities

The institute completed 50 years of its journey encompassing its endeavour to improve the technical education in the country with emphasis on northern region. Various events/activities were identified and those completed in this academic year are listed below. This include *Golden Jubilee National Seminar on “Promotion of Skills and Technologies and Technologies for Sustainable Rural Development in India”* from 31st August to 1st September, 2017 at NITTTR, Chandigarh in which **105** participants attended from various parts of the country. In addition, Tech-Fest (competition) was organized for engineering students.



Closing Ceremony of Golden Jubilee Year Celebrations, from L to R : Dr C Thangaraj, Director, NITTTR Bhopal; Dr. S.N. Panda, Director, NITTTR Chennai; Sh. B K Mishra, Sr. V.P., Tech Mahindra Foundation; Dr K.K.Talwar, Chairman, BOG; Sh.Madhuranjan Kumar, Jt Secy, MHRD,GOI; Dr S.S. Pattnaik, Director; Dr M P Poonia , Vice Chairman, AICTE; Dr J S Saini, NITTTR Chandigarh.

Following is list of Golden Jubilee Programmes & Activities during year of Report:

Sr.No.	Event	Date(s)
1.	Promoting Innovative Research through CRIKC	7 April 2017
2.	Golden Jubilee Disability Sector Stakeholders Round-table	17 April, 2017
3.	NITTTR Golden Jubilee Job Fair for Persons with Disabilities	18 April, 2017
4.	Golden Jubilee National Conference on New Generation Concrete	19 April, 2017
5.	Business Plan Competition for Management Institutes (NR)	20 April, 2017
6.	Tech-Fest and Project Competition for Engineering Colleges and Polytechnics of Northern Region	20-21 April, 2017
7.	Golden Jubilee NITTTR – Oracle FDP on Java Fundamentals & Programming	24-28 April, 2017
8.	Round Table on Consolidation and Networking with SSCs for Skilling India	28 April, 2017
9.	Workshop on IPv4 to IPv6 Migration Methods	5 May, 2017

Sr.No.	Event	Date(s)
10.	Establishment of Chapters of Professional Bodies at NITTTR, Chandigarh.	26 May, 2017
11.	Workshop on Institute Brand Building at International Level	9 June, 2017
12.	Workshop on Harnessing benefits from MOUs	16 June, 2017
13.	Panel Discussion through ICT on Role of Institutions in Curbing Gender Harassment	24 August, 2017
14.	National Workshop on Simulation of Electro – Mechanical Systems	24 -25 August, 2017
15.	NITTTR Golden Jubilee Alumni Meet	26 August, 2017
16.	Golden Jubilee National Seminar on Technologies and Skill Promotion for Sustainable Rural Development in India	31 August– 01 Sept. 2017
17.	NITTTR-Golden Jubilee Teachers Day	5 Sept., 2017
18.	Education Conclave on Emerging Trends in Technical Education	6-7 Sep. 2017
19.	NITTTR-Golden Jubilee Outstanding Institution Award (Engineering College Category) (NR)	7 Sept., 2017
20.	NITTTR-Golden Jubilee Outstanding Institution Award (Polytechnic Category) (NR)	7 Sept., 2017
21.	NITTTR-Golden Jubilee Best CDTTP Scheme Implementing Polytechnic Award (NR)	7 Sept., 2017
22.	NITTTR-Golden Jubilee Best PWD Scheme Implementing Institution Award (NR)	7 Sept., 2017
23.	Distinguished Alumnus Award	7 Sept. 2017
24.	Life Time Achievement Award (Principals/Directors/Faculty/Staff of the Institute)	7 Sept., 2017

Achievements of institution partners:

1. The Institute established a Start-Up 'Enovate Skills' on 1st August, 2016 to work on the following major areas:
 1. Robotics & Automation
 2. Renewable Energy
 3. Product design and development

During current year, the following were the achievements:

ACTIVITY	Nos of programs	No of persons trained	Beneficiary
2 days workshop	18	980	Diploma & Engineering Students
3 & 5 d Workshop	4	280	
1 day Workshop & Seminar	20	890	
Summer training- 6 weeks	1	25	
2 National Level Workshop	2	“”Electronics 4 You” Conference, Bangalore	Diploma & Engineering Students
World Skill Competition	2		

2. Sarthak SMART+ Centre:

At the Centre, PwDs were provided skill development training of 4 months with the objective of employment. There were **184** candidates who were provided training out of which **120** candidates were provided placement through this Centre. In addition, the following activities were also carried out:

- Number of mobilization and awareness camps organised : 22
- Total number of UDID camps organised: : 04
- Total number of candidates mobilised in : 897

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 2017-18, the following renovation work was completed:

- Addition/Alteration of 03 Nos. Type-II, Staff Quarters, 03 Nos. Stores & 03 Nos. Staircase of Type-II Quarters, NITTTR Campus, Sector 29, Chandigarh (Rs.26.5 Lacs completed).
- Renovation of PG Hostel Rooms and Corridors at NITTTR, Sector 26, Chandigarh (Rs.104 Lacs under progress).
- Addition/Alteration of 10 Nos. Type-II Staff Quarters, 15 Nos. Stores & other Miscellaneous civil works at NITTTR Campus, Sector 26, Chandigarh (Rs.126 Lacs under progress).

3.2 Equipment

Equipment worth ₹318.81 lakh was purchased during the year 2017-18. The total value of equipment increased to ₹4202.58 lakh as on 31.03.2018. After providing necessary depreciation on the assets, the net value of the equipment remained at ₹1626.60 lakh as on 31.03.2018.

3.3 Furniture

Furniture worth ₹16.46 lakh was purchased during the year 2017-18. The total value of furniture increased to ₹380.51 lakh as on 31.03.2018. After providing necessary depreciation under rules, the net value of furniture remained at ₹175.41 lakh as on 31.3.2018.

3.4 Expenditure

An expenditure amounting to ₹3491.54 lakh has been incurred during the financial year 2017-18 under various schemes as indicated below:

Sr. No.	Name of the Scheme	(Rupees in Lakh)
		Expenditure incurred
1.	Plan (Non-recurring) - Capital Assets	858.86
2.	Plan-General (Recurring)	547.22
3.	Non-Plan-(Recurring)	2085.46
	Total Expenditure	3491.54

3.5 Library

Sr. No.	Particulars	No. available as on 31.03.2017
1.	Number of Books	49326
2.	Number of ISI and IRC	10043
3.	Bound Journals	23173
4.	Print Journals	36
5.	Newspapers	10
6.	Magazines	14
7.	e-journals <ul style="list-style-type: none">• IEL (ASPP) & (POP)• ASCE Journals online• ASME Journals online• Economic & Political Weekly• Institute for studies in Industrial Development (ISID) Database• JGate Plus (JCCC)• JSTOR• Springer Link 1700 Collection• Nature Journal• Web of Science	

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 programs 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 programs for its own faculty/staff.

Filling up of the Vacant Posts:

The institute has initiated the process of filling up of senior positions of the institute like Professors, Sr. Administrative Officer, Accounts Officers etc. Steps have been taken to fill up the vacant non-teaching positions in the ministerial and technical/laboratory staff level.

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 2017-18:

S. No.	Name and Address
1.	Prof. Md. Mamun Bin Ibne Reaz, Universiti Kebangsaan Malaysia, Malaysia
2.	Dr. Biplab Sikdar, National University of Singapore, Singapore
3.	Shri Suburo Matsui, Emeritus Professor Kyoto University and Chairman, Japan Institute of Waste Water Engineering & Technology.
4.	Shri Acharya Dev Vrat, Governor of Himachal Pradesh
5.	Shri Navjot Sidhu, Hon'ble Minister of Urban Development, Punjab
6.	Shri Charanjit Singh Channi, Minister, Technical Education & Industrial Training
7.	Shri Andrew Ayre, Deputy, British High Commissioner, Chandigarh
8.	Shri Subodh Agrawal, Advisor Punjab, Haryana, Himachal Advisory Council, FICCI
9.	Prof. Manoj Kumar Arora, Director, PEC University of Technology, Chandigarh
10.	Dr. HS Dhaliwal, Vice-Chancellor, Eternal University, Baru Sahib, Sirmour (HP).
11.	Shri Hriday Nath Singh, Chief Patron, Unnat Bharat Abhiyan, GOI.
12.	Prof. Raj Nehru, Vice-Chancellor, Haryana Vishwakarma Skill University, Gurugram

S. No.	Name and Address
13.	Dr. D.P. Agarwal, Former Chairman of UPSC, New Delhi
14.	Ch A.S. Murty, Joint Director, CDAC-Hyderabad
15.	Prof. Raghuram Rao Akkinapally, Director, NIPER Mohali
16.	Dr. Mohammed Altaf Khan, Jamia Millia Islamia University, New Delhi
17.	Embassy Officials from Indonesia and Myanmar.
18.	Shri Mohammed Ibrahim Almojel, Chairman-AI Mojel Group of Companies & Tourism & Franchise Committee
19.	Dr. Vimal Kumar Varun, Member Secretary, Scientist 'F', CSIR, New Delhi
20.	Shr. Mani Madhukar from IBM
21.	Shri. Mukesh Anand,, Chief Engineer, U.T, Chandigarh.
22.	Shri Anup Chauhan, Chief Engineer, PWD B&R, Haryana

6.0 AUDITED ACCOUNTS

The Accounts of the Institute for the year 2017-18 submitted for audit to be 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 2017-18:

PRINT MATERIAL

Sr. No.	Instructional Material Developed	Author(s) Name
	Text Books	
1.	Skill Development and Technologies for Sustainable Rural Development in India” published by Abhishek Publication, Chandigarh (2017-18)	Rural Dev.
2.	e-Book on, ‘Productive Pedagogies for Active Learning’. LAP LAMBERT Academic Publishing. 2017. 168pp.	Parul Sood and Sunil Dutt
3.	Book on “Skill Development and Technologies for Sustainable Rural Development in India”	UN Roy & Amit Goel
	Laboratory Manuals	
1.	Advance Database	Rakesh Kumar
2.	Cloud Computing	Mala Kalra
3.	Advance Power Electronics	Shimi S.L.
4.	Instrumentation for Environmental Engineering	Poonam Syal & Jyothi P.M.
5.	Python	Maitreyee Dutta
	Modules	
1.	E-learning Module on Design of RCC Structure	SK Sharma Himmi Gupta
2.	ASIC Design	Rajesh Mehra
3.	Synopsys Custom Designer Tool	Rajesh Mehra
4.	Introduction to Optimetries-II	Garima Saini
	Readers	
1.	Composite Structures in Buildings	AK Duggal
2.	Constructing Costing & Financial Management	AK Duggal
3.	Feasibility Studies for Construction Projects	Himmi Gupta
4.	PPTs on Green Buildings, Steel Structures, Building Maintenance Laboratory Management System, Finite Element Modelling; Seismic Analysis of Structures, Design of Bridges, Building Design using ETABS, Green Buildings, Retrofitting of Structures, Environmental Engineering	Sanjay Sharma Himmi Gupta
	Course Material	
1.	Fuzzy Logic and its Application	Shano Solanki
2.	Measure of Central Tendency	Shano Solanki
3.	presentation as per NBA guidelines during visit (PPT)	C. Rama Krishna
4.	Mobile Adhoc Networks: Issues & Challenges (PPT)	C. Rama Krishna

Sr. No.	Instructional Material Developed	Author(s) Name
5.	Cyber Security, Cryptography Techniques (PPT)	C. Rama Krishna
6.	Experimental Kit - Ardrino based inverters kit	Shimi S.L.
7.	Charts – 2 Nos. - Power Electronics Lab.	Electrical Engg.
8.	17 (Training program Course Material booklets)	EDIC Dept.
9.	A reader on Electrochemical Honing- ECH	PS Rao
10.	A Booklet of lecture notes on Manufacturing Technology MT-I	PS Rao
11.	A Booklet of lecture notes on Manufacturing Technology MT-II	PS Rao
12.	A Booklet of lecture notes on Computer Aided Design and Manufacturing CAD/CAM	PS Rao
	Worksheets for Experiments	
1.	GM Counter Experiments: To Study the Operation of Count Rate with the Applied Voltage and Thereby Determine the Operating Voltage of the Slope of Plateau. To Study the Intensity of Gama Radiations as they pass through different thicknesses and to determine the Linear Absorption Coefficient.	BC Chaudhary
2.	Scintillation Counter Experiments: Study of Energy Spectra of Radioactive Sources: Cs ¹³⁷ , Co ⁶⁰ , Na ²² , Ba ¹³³ and hence to locate the photopeaks, X-ray peaks and Compton escape peaks. To draw the Energy Spectrum and to determine the Absorption Coefficients of Lead, Iron and Copper for Gamma Rays.	BC Chaudhary
3.	To Determine the Speed of Light in Air Using Modulated Laser Beam	BC Chaudhary
4.	Animated Clip on Traffic Engineering	AK Duggal
5.	Instructional Material Development using latest media	R.K. Wats
6.	E-governance in Technical Education	R.K. Wats
7.	Leadership & Management Development	R.K. Wats
8.	Power Point Presentation (10 Nos.) ; Slides 225 Nos.	R.K. Wats
9.	PPT on ICT and Its applications for teaching to Persons with disabilities	Maitreyee Dutta
10.	ppt. on various topics on business analytics	Maitreyee Dutta
11.	Updated ppts. On Media Tools, e-content Generation Tool, Topics on Matlab Programming, Topics on Scilab Programming	Maitreyee Dutta
12.	Technical and Vocational Training for Persons with Disabilities	JS Saini
13.	India Sign Language for Polytechnics implementing the Scheme for Integrating Persons with Disabilities in the Mainstream of Technical and Vocational	JS Saini
14.	Swachh Bharat Abhiyan	Rural Dev.
15.	Skilling India	Rural Dev.
16.	Orientation to CDTP Scheme	Rural Dev.
17.	Unnat Bharat Abhiyan	Rural Dev.

Sr. No.	Instructional Material Developed	Author(s) Name
18.	Earthquake Resistant Low Cost Housing	Rural Dev.
19.	Climate Change and Disaster Management	Rural Dev.
20.	Housing for Himalayan States	Rural Dev.
21.	Skill India	Rural Dev.
22.	Innovative Approach Towards Green and Sustainable Buildings	Rural Dev.
23.	Pre-Job Training of MBA Students of Institute of Integrated Himalayan Studies (IIHS), Himachal Pradesh University, Shimla	Rural Dev.
24.	Preparation of Utilization Certificates and Statements of Accounts under CDTP Scheme	Rural Dev.
25.	Training/Orientation Program for MIS of CDTP Scheme	Rural Dev.
	NON PRINT MATERIAL	
	Video Films	
1.	Video Lecture Areas on Environments Management System – recording Completed	Himmi Gupta
2.	NIRF- Appraisal Criteria (2 video films)	C. Rama Krishna
3.	EDA Tools	Rajesh Mehra
4.	Design Optimization	Rajesh Mehra
5.	2G Air Interface	Garima Saini
6.	2G and 3G Architecture	Garima Saini
7.	Embedded Systems and Controllers	Kanika Sharma
8.	Embedded in Wireless Sensor Networks	Kanika Sharma
9.	Real Time Operating systems	Kanika Sharma
10.	FPGA Implementation for Digital Systems	Kanika Sharma
11.	Programmable Logic Devices	Kanika Sharma
12.	A Video on Rapid Proto Typing- RPT	PS Rao
13.	Video film on IoT	Maitreyee Dutta
14.	MIS for CDTP Scheme has been prepared and tested in collaboration with Computer Science Department. The same has been used by all the CDTPs in Northern Region. Usernames and passwords are being created for the institutions implementing the CDTP scheme as well as DTEs in Central and Western Region	Rural Dev.
15.	Video Film on “Use and Application of Wastes in Concrete Construction” (Oplan No.V-32) - Shooting Completed.	Rural Dev.
16.	Video Film on “Role of ICT in Interlocked Block Masonry in Rural System”.	Rural Dev.
	CAI PACKAGES	
1.	Computer Aided Design -CAD	PS Rao
2.	Computer Aided Manufacturing- CAM	PS Rao

A. RESEARCH PUBLICATIONS BY THE INSTITUTE FACULTY

I. PATENTS/COPYRIGHT

Sr.No.	Name of Patents/Copyright	Author(s) Name
	APPLIED SCIENCE DEPARTMENT:	
1.	<i>Copyright of "MATLAB Codings for Solving Multi-level Multiobjective Linear Fractional Programming Problems based on modified Fuzzy Goal Programming Approach" by Kailash Lachhwani and Suresh Nehra, IIT Kharagpur. Copyright No. L-69182/2017 of registration at Office of the Registrar of Copyrights, Copyright office, Department of Higher Education, MHRD, Govt. of India, New Delhi.</i>	KC Lachhwani Suresh Nehra
	COMPUTER SCIENCE & ENGINEERING DEPARTMENT	
2.	Patent on "Energy Efficient and Intelligent Cluster Type Heterogeneous System for Grid based Wireless Sensor Networks," Indian Patent Office Journal, Dated 02/03/2018, No. Part 1, Page No. 7775.	Rajvir Singh C. Rama Krishna
	ELECTRONICS & COMMUNICATION ENGINEERING DEPARTMENT	
3.	"Copyright Protection of Digital Images using Unseen Visible Watermarking" Journal of Emerging Technologies and Innovative Research, Volume 4, Issue 12, pp. 107-109, December 2017.	Nirbhay Kumar Singh, Geetanjali, Rajesh Mehra, Shallu

II. PAPERS PUBLISHED BY THE INSTITUTE FACULTY:

Sr.No.	Name of Paper Published	Author(s) Name
	CIVIL ENGINEERING DEPARTMENT	
	International Journals:	
1.	Correlation of Accident with Traffic Volume of NH-1, International Journal of Engineering Technology, Science & Research, Vol.4. Issue 7, July, 2017	Hemant Sood Navdeep Mor
2.	Assessment of Level of Service Concept in Urban Roads, International Journal for Scientific Research & Development (IJSRD), Vol. 5, Issue-6, 01.09.2017	AK Duggal Aditi Sharma
3.	Analytical and visual Approach towards faster deterioration of Parking Areas - International Journal for Scientific Research & Development (IJSRD), Vol. 5, Issue-4, June, 2017	AK Duggal Nivedita Shukla
4.	A Review on Warm Mix Asphalt - International Journal for Scientific Research & Development (IJSRD), Vol. 6, Issue-1, 2018	AK Duggal Arpan Chhaba

Sr.No.	Name of Paper Published	Author(s) Name
5.	Effect of Aging on Various Types of Bituminous Pavements - International Journal for Scientific Research & Development (IJSRD), Vol. 1, Issue-6, June, 2017	AK Duggal Nivedita Shukla
6.	A Review on Black Spots Study of Highways in India - International Journal of Innovative Research in Science Engineering & Technology (IJRSET), Vol. 6, Issue-6, June, 2017	AK Duggal/ Neha Bhagria
7.	Analysis of Black Spots in the Chandigarh City- International Journal of Innovative Research in Science Engineering & Technology (IJRSET), Vol.6, Issue 7, July, 2017	AK Duggal/ Neha Bhagria
8.	Role of Filler in the enhancement of Properties of Bituminous Mixes - International Journal of Research in Applied Science & Engineering Technology (IJRASET), Vol. 5, Issue-VIII, August, 2017	AK Duggal/ Ankita Dhiman
9.	Review on Reutilization of Plastic Waste in Paving Mixes - International Journal of Research in Applied Science & Engineering Technology (IJRASET), Vol. 5, Issue-VIII, August, 2017	AK Duggal/ Shivani Thakur
10.	Effect of Alccofine on Strength Characteristics of Concrete of Different Grades – A Review -International Research Journal of Engineering & Technology, Vol. 4, Issue, May, 2017	Hemant Sood/ Malvika Gautam
11.	A Review on Influence of Fog on Road Crash - International Research Journal of Engineering & Technology, June 2017.	Hemant Sood/ Amandeep Singh
12.	Rubber Modified Concrete – A Green Approach for Sustainable Infrastructural Development - International Research Journal of Engineering & Technology, Vol. 4, Issue 6, June, 2017	Hemant Sood/ Manoj Chuhan
13.	Analysing the Effect of Cross – Sectional Column on Symmetrical RCC Frame Structure - International Research Journal of Engineering & Technology. Vol. 6, Issue 6, June, 2017	Hemant Sood/ Harman
14.	Improving the Strength of Rubber Modified Concrete using Synthetic Resin, International Research Journal of Engineering & Technology, Vol. 5, Issue 7, July, 2017	Hemant Sood/ Manoj Chuhan
15.	Effect of Treated Waste Water on Flexural & Split Tensile Strength of Concrete of Variable Grades, International Research Journal of Engineering & Technology, Vol. 4, Issue 6, June, 2017	Hemant Sood/ Syantha Ghosh
16.	Effect of Granite Powder and Polypropylene Fiber on Compressive, Spilt Tensile & Flexure Strength of Concrete at High Temperature – International Research Journal of Engineering & Technology – Vol. 4, Issue 7, July, 2017	Hemant Sood/ Harjeet Singh
17.	Comparative Study of Sisal Fiber and Glass Fiber Reinforced Concrete – A Review – International Journal for Research in Applied Sc. & Engineering Technology, Vol. 5, Issue 8, August, 2017	Hemant Sood/ Saurabh Sood

Sr.No.	Name of Paper Published	Author(s) Name
18.	Experimental Investigation of Mechanical Properties of Hybrid Sisal – Glass Fiber Reinforced Concrete – International Journal for Research in Applied Sc. & Engineering Technology, Vol. 5, Issue 8, August, 2017	Hemant Sood/ Saurabh Sood
19.	A Review Study of Strength Properties of Hybrid Fiber Reinforced Concrete using PPC, International Research Journal of Engineering & Technology, Vol. 4, Issue 8, August, 2017	Hemant Sood/ Avinash Thakur
20.	Study of Strength Properties of Hybrid Fiber Sisal/Polypropylene Reinforced Concrete using PPC, International Journal for Research in Applied Science & Engineering Technology, Vol. 5, Issue 8, August, 2017	Hemant Sood/ Avinash Thakur
21.	A Review Study on the Effect of Addition of Crumb Rubber and Rice Husk Ash in Concrete - International Research Journal of Engineering & Technology, Vol. 4, Issue 8, August, 2017	Hemant Sood/ Nikhil Brari
22.	Effect of Addition of Granite Powder and Polypropylene Fiber n Concrete - A Review – International Journal for Research in Applied Science & Engineering Technology, Vol. 5, Issue 8, August, 2017	Hemant Sood/ Harjeet Singh
23.	Improvement in Tensile Strength of Concrete using Steel and Polypropylene Fibers - International Journal Engg. Science & Computing, Vol. 7, Issue 11, Nov, 2017	Hemant Sood/ Monika Sharma
24.	Comparison of Sugarcane Bagasse Ash, Fly Ash & Rice Husk Ash on M – 25 Grade of concrete – International Journal of Engg. & Technical Research, Vol. II, Issue X, Nov, 2017	Hemant Sood/ Priyanka Kumari
25.	Effect of using Curing Methods on Various Concrete Grades – International Journal of Engineering Science & Computing, Vol. 4, Issue 12, Dec, 2017	Hemant Sood/ Rajesh Sharma
26.	Effects of Recycled Waste Tire Rubber as Coarse Aggregate on the performance of Concrete, International Journal of Engineering and Techniques- Volume 4 Issue 1, January-February 2018.	Sanjay Sharma Imran Khan, Mir Aijaz,
27.	A Review on Self compacting concrete, International Journal for research in Applied Science & Engineering Technology volume 5, Issue XI, November 2017	Sanjay Sharma, Shashank Dwivedi,
	National Journals:	
28.	Carbon Footprint Assessment of RBl Grade 81 Stabilized Pavements using Life Cycle Approach - Indian Journal of Science & Technology. ISSN:0974-6846, DOI:10.17485/ijst/2017/V10i26/115438, July, 2017	Hemant Sood/ Pardeep Gupta & Gaurav Gupta
29.	Effect of Treated Waste Water on Cement Concrete Workability Journal of Engineering & Technology Education, NITTTR, Chandigarh, Vol. 11, No. 1, Jan-June, 2017	Hemant Sood/ Kamal Kishore

Sr.No.	Name of Paper Published	Author(s) Name
30.	For Impact on Road Work: A Case Study of Mohali District – Journal of Engineering & Technology Education – Vol.11, Issue 2, July – Dec., 2017.	Amandeep Singh Navdeep
	COMPUTER SCIENCE & ENGINEERING DEPARTMENT	
	International Journals:	
31.	“An Efficient Approach for Secure Information Retrieval on Cloud,” Journal of Intelligent and Fuzzy Systems, IOS Press, vol. 34, no. 3, pp. 1345-1353, 2018 [SCIE, Thomson Reuters Impact Factor: 1.426]	Rohit Handa, C. Rama Krishna and Naveen Aggarwal
32.	“My Smartphone Kit: Design and Development of an Integrated Platform for Innovation and Product Design in Engineering Education,” Wiley Journal on Computer Applications in Engineering Education, Vol. 26, Issue. 3, pp. 642-654, 2018. [SCIE, Thomson Reuters Impact Factor: 1.153]	S.R.N. Reddy, Jasleen Kaur, Suresh Chande, Rama K. Challa
33.	“Efficient Multistage Bandwidth Allocation Technique for Virtual Machine Migration in Cloud Computing,” Journal of Intelligent and Fuzzy Systems, IOS Press, 2018. [SCIE, Thomson Reuters IF-1.426, Accepted on 13th February 2018]	A. Bhardwaj and C. Rama Krishna
34.	“Capacity Enhancement using MU-MIMO in Vehicular Ad hoc Network,” International Journal of Applied Engineering and Research, vol. 12, no. 16, pp. 5872-5883, 2017. [SCOPUS indexed and UGC Approved Journal - 2018 (Journal No. - 64529)]	Khurana M, Rama Krishna C & Panda SN
35.	“Performance Evaluation of Bandwidth for Virtual Machine Migration in Cloud Computing,” <i>International Journal of Knowledge Engineering and Data Mining</i> , Inderscience, 2018. [Accepted][UGC Approved Journal No. 47797]	A. Bhardwaj and C. Rama Krishna
36.	“Two-level Security Framework for Virtual Machine Migration in Cloud Computing,” Journal on Information Technology, Vol.7, No. 1, pp.34-44, February 2018. [ICI indexed]	Yashveer Yadav, C. Rama Krishna
37.	"Prevention of DDoS and EDoS using Hybrid Filtering Technique in a Cloud Environment," International Journal of Pure and Applied Mathematics, Vol. 114, No. 12, pp. 383-392, 2017. [UGC Approved Journal No. 23425]	Shruti Wadhwa, Poonam Saini, Rama Krishna Challa
38.	“A Survey on Security Architecture and Key Management Systems in a Wireless Sensor Network,” International Journal of Computer Science and Network Security, vol. 17, no. 4, pp. 263–273, April 2017.	Sunil Kumar, C. Rama Krishna, and A. K. Solanki
39.	“Error Prone Transmission System to Resist Data Loss in a Wireless Sensor Network,” International Journal of Computer Network and Information Security, Vol.9, No.11, pp.17-26, November 2017.	Sunil Kumar, C. Rama Krishna, and A. K. Solanki

Sr.No.	Name of Paper Published	Author(s) Name
40.	"An Approach to Mitigate Malware Attacks using Netfilter's Hybrid Frame in Firewall Security," International Journal of Open Source Software and Processes (IJOSSP), IGI-Global, ISSN: 1942-3926, EISSN: 1942-3934, Volume-9, Issue-1, pp. 32-61, 2018, Scopus Indexed	Nivedita Nahar, Prerna Dewan and Rakesh Kumar
41.	"Ubiquitous Health Monitoring Using WBANs: A Comprehensive Review," Wireless Networks, Springer, Print ISSN: 1022-0038, Online ISSN: 1572-8196, 2018, SCI, Scopus Indexed, IF=1.6	Roopali and Rakesh Kumar
42.	"Windowing Based Threshold Technique To Play The Simple Breakout Game At Neutral Attention Level," International Journal of System of Systems Engineering, Inderscience, Online ISSN 1748-068X, Print ISSN 1748-0671, Volume-8, Issue-2, pp. 147-173, 2017, Scopus Indexed.	Gauttam Jangir and Rakesh Kumar
	CURRICULUM DEVELOPMENT CENTRE	
	International Journals:	
43.	'Identification of Critical Factors for Implementation of TQM in Building Construction Industry' published in International Journal for Research in Applied Science & Engineering, ISSN:2321-9653, Vol.6, March, 2018	SK Gupta
	ELECTRICAL ENGINEERING DEPARTMENT	
	International Journals:	
44.	sEMG signal classification using Discrete Wavelet Transform and Decision Tree classifier International Journal of Control Theory and Applications, Vol.10, No.6 pp.511-524, 13, 2017 (Scopus Indexed) ISSN 0974-5572.	Yogendra Narayan, Lini Mathew, S.Chatterji
45.	PID Controller for Two Tank Liquid Level Process Using LabVIEW International Journal of Technical Research & Science, Vol.2 No.2454-2024 pp.413-417, July 2017	Nayanmani Deka, Lini Mathew
46.	ZIGBEE Based Real Time Monitoring and Controlling for Precision Agriculture Using LabVIEW International Journal of Technical Research & Science, Vol.2 No.2454-2024 pp.413-417, July 2017	Shivangi Gupta, Lini Mathew
47.	Sign Language Recognition Using Image Processing International Journal of Advanced Research in Computer Science and Software Engineering Vol.7, No.2277-128, pp.142-145 August, 2017	Kamal Preet Kaur, Lini Mathew
48.	LabVIEW Implementation of WSN for Real Time Monitoring in Precision Agriculture International Journal of Computer Applications, Vol.171, No.4, pp.36-40, August, 2017	Shivangi Gupta, Lini Mathew
49.	Literature Survey on Hand Gesture Techniques for Sign Language Recognition International Journal of Technical Research & Science, Vol.2, No.2454-2024, pp.431-433, August, 2017	Kamalpreet Kaur, Lini Mathew

Sr.No.	Name of Paper Published	Author(s) Name
50.	Reduction of Fault Time in Smart Grid System Using Fuzzy Logic Controller International Journal of Advance Research in Science and Engineering, Vol.6, No.10, pp.525-533, October, 2017	Kitty Tripathi, Lini Mathew
51.	A review on different technique for optimal placement of DG in distribution system International Journal of Advance Engineering and Research Development, (UGC approved) Vol.5, Issue 2 e-ISSN-2348-4470, p-ISSN-2348-6406, February 2018	Md.Firoz Ansari, Poonam Syal, Lini Mathew
52.	An overview of Industrial Vision Systems International Journal of Advance Research and Innovative Ideas in Education, Vol.3, pp.201-207, April, 2017	Aparna, Ritula Thakur
53.	Design and implementation of moving work piece sorting system based on LabVIEW International Journal of Advance Research and Innovative Ideas in Education, Vol.3, pp.284-295, April 2017	Aparna, Ritula Thakur
54.	An overview of ZigBee Technology and its Industrial Applications International Journal of Advance Research and Innovative Ideas in Education, Vol.3, Issue 4, 2017	Ram Nath, Ritula Thakur
55.	Design and development of Gesture Recognition based robotic arm using ARDUINO Controller International Research Journal of Management Science & Technology, Vol.8, Issue 10, pp.111-122, 2017	Rizwanullah Siddiqui, Ritula Thakur
56.	Flex Sensors based Robotic ARM for Disabled Persons: mA Review International Journal of Emerging Technologies in Engineering Research (IJETER), Volume 5, Issue 9, September 2017	Rizwanullah Siddiqui, Ritula Thakur
57.	A comparison between satellite based and drone based remote sensing technology to achieve sustainable development: a review Journal of Agriculture and Environment for International Development, 111 (2): 383 -407, 2017	Baban kumar Bansor, Rangoli Singh, Ritula Thakur
58.	Design of Nano Grid using Solar and Hydro System for Smart Homes International Journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering, Vol.5, Issue 5, May 2017, ISSN (Online) 2321 – 2004 ISSN (Print) 2321 – 5526. DOI 10.17148/IJIREEICE.2017.5545	Shiwani Goyal, Shimi S.L.
59.	Nano Grid Based Smart Homes with Electricity Production & Trading Facility International Journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering, Vol.5, Issue 5, May 2017. ISSN (Online) 2321 – 2004 ISSN (Print) 2321 – 5526. DOI 10.17148/IJIREEICE.2017.5545	Shiwani Goyal, Shimi S.L.
60.	Voice Operated Intelligent Fire Extinguisher Vehicle with Water Jet Spray, International journal of Innovative Research in Electrical Electronics Instrumentation and Control Engineering, Vol.5 Issue 10, October 2017, ISSN (Online) 2321 – 2004 (Print) 2321 – 5526, DOI:10.17148/IJIREEICE.2017.51002	Meena Kumari, Shimi S.L.

Sr.No.	Name of Paper Published	Author(s) Name
61.	Voice Operated Intelligent Fire Extinguisher Vehicle International journal of Innovative Research in Electrical Electronics Instrumentation and Control Engineering, Vol.5, Issue 10, October 2017, ISSN (Online) 2321 – 2004 ISSN (Print) 2321 – 5526. DOI:10.17148/IJIREEICE.2017.51003	Meena Kumari, Shimi S.L.
62.	From Apposite Preference to Specific Application: An Overview of Microcontroller Unit International Journal of Technical Research & Science, Vol.2, Issue 8, September 2017. ISSN No.2454 – 2024	Snehil Mishra, Shimi S.L.
63.	Design and Implementation of PID and Adaptive Tuned PID Controller for Industrial Application International Journal of Technical Research & Science, Vol.2, Issue 9, September 2017, ISSN No.2454 – 2024	Snehil Mishra, Shimi S.L.
64.	Real Time ECG Analysis for Prediction of Sudden Cardiac Death Using PCA Interpretation International Journal of Engineering Science Invention (IJESI), Volume 7, Issue 2, PP.54-66, February 2018. ISSN (Online) 2319 – 6734, ISSN (Print): 2319 - 6726	Bhasker Pandey, Shimi S.L.
65.	Analysis and Comparative Classification of EMG Signals International Journal of Creative Research Thoughts, Vol.6, Issue 1, pp.382-388, February 2018, ISSN: 2320-2882	Gopal Tiwari, Shimi S.L
66.	Sudden Cardiac Death Risk Estimation Algorithms; A Review IOSR Journal of Engineering (IOSRJEN), Vol.08, Issue 3, pp.18-22, March 2018. ISSN (e):	Bhasker Pandey1, Shimi S.L.
67.	IoT Based Parameter Monitoring of Three Phase Induction Motor International Journal of Creative Research Thoughts, Vol 45, Issue 5, March 2018.	Shefali Jamwal and Shimi S.L
	National Journals:	
68.	Increasing Trends of Wearables and Multimodal Interface for Human Activity Monitoring – A Review Biosensors and Bioelectronics, Elsevier, Vol.90, pp 298-307, April 2017, DOI: 10.1016/J.bios. 2016.12.001 (SCI Indexed, Impact Factor=7.78)	Preeti Kumari, Lini Mathew, Poonam Syal
69.	Techno Economic Feasibility Analysis of Different Combinations of PV-Wind-Diesel-Battery Hybrid system for Telecommunication Applications in Different Cities of Punjab, India Renewable and Sustainable Energy Reviews, Elsevier Vol.76, pp 577-607, April 2017, DOI: 10.1016/J.rser.2017.03.076(SCI Indexed, Impact Factor = 9.122)	Mohd.Junaid Khan, Amit Kumar Yadav, Lini Mathew
70.	A review on various electrochemical techniques for heavy metal ions detection with different sensing platforms Biosensors and Bioelectronics, 2017 Vol.94, pp.443-455	Babankumar, Tejinder Kumar, Ritula Thakur

Sr.No.	Name of Paper Published	Author(s) Name
71.	Calibration of Capacitive Cell for Measuring Moisture Content in Grains International Journal of Pure and Applied Physics, Vol.13, Issue, 1, pp.146-149, 2017	Harinder Singh, Baban kumar S Bansod, Ritula Thakur, Tejbir Singh, Jeewan Sharma
72.	Analysis of water quality parameters by hyperspectral imaging in Ganges River Spatial Information Research https://doi.org/10.1007/s41324-018-0164-4 (Springer Journal)	Babankumar Bansod, Rangoli Singh, Ritula Thakur
73.	Analysis and Fabrication of Micro-Device as Liquid Sensor Journal of Applied Computing, 2(1): 1-4, 2017, E-ISSN 2456-5059	Vandana Sharma, Shimi S.L., Sandeep Arya
74.	Design and fabrication of micro-channels based fluid viscosity sensor ISSS J Micro Smart Syst, Springer, July 2017, DOI 10.1007/s41683-017-0012-0	Sandeep Arya, Vandana Sharma, S.L.Shimi
75.	Outcome Based Assessment of Engineering Undergraduate Final Year Projects for Tire-2 Institute Springer AISC – ISSN No.-2194-5357) 27 th -28 th Feb., 2018	Gopal Tiwari, Ram Singh, Vinay Chandan, S.L.Shimi, Manish Jain
ELECTRONICS & COMMUNICATION ENGINEERING DEPT.		
International Journals:		
76.	“Review of Different Approaches for Face Detection “International Journal of Latest Engineering Research and Applications (IJLERA) Volume – 02, Issue – 12, December – 2017, PP 01-10, ISSN: 2455-7137.	Susamma Mathew, Shiwani Vashist, Shallu Sharma, Rajesh Mehra
77.	“A Survey on lossless compression Algorithms for Medical Images”, International Journal of Electrical Electronics & Computer Science Engineering, Volume 4, Issue 6, pp. 96-102, December 2017, ISSN No. 2348-2273.	Vivek Kumar, D.Sriramulu, Rajesh Mehra, Shallu
78.	“Palm Print Recognition and Authentication Using Hough Transform For Biometric Application” International Journal for Research in Applied Science & Engineering Technology (IJRASET) Volume 5 Issue XII December 2017, ISSN: 2321-9653	Ranjeet Singh Chauhan, Jagriti Kumari, Rajesh Mehra, Shallu
79.	“Image Compression and Denoising using Wavelet Transform” International Journal of Modern Electronics and Communication Engineering(IJMECE), Volume No. - 5, Issue No. – 6, November 2017, ISSN: 2321-2152	Bhupender Singh, Parul Sharma, Rajesh Mehra, Shallu Sharma
80.	"Review of Tunnel FET", UGC approved International Research Journal of Engineering and Technology, Vol 4, Issue 3, pp. 1195-1199, July 2017	Prabhat Tamak, Rajesh Mehra

Sr.No.	Name of Paper Published	Author(s) Name
81.	"Design of Double Gate Heterojunction TFET for low power application", UGC approved International Journal of Scientific Research and Development, Vol. 5, Issue 06. pp. 40-44, August 2017	Prabhat Tamak, Rajesh Mehra
82.	"Speed and Area Efficient Reconfigurable Viterbi Decoder using Hybrid Approach", International Journal for Scientific Research & Development," Vol. 5, Issue-02, pp. 1575-1577, April 2017	Dinesh Kumar Rajesh Mehra
83.	"A Power Efficient Schmitt Trigger Latch Design Using CNTFET Technology", International Journal of Advancement in Engineering Technology, Management and Applied Science, Vol. 4, Issue 10, pp.62-67, October 2017.	Raj Kumari, Rajesh Mehra
84.	"Optimized Design of Switched Capacitor Integrator", International Journal of Engineering Research and Applications, Volume 8, Issue 1, Part-III, pp. 85-90, January 2018.	Pragati Sheel, Rajesh Mehra
85.	"Techniques to improve Darlington pair amplifier applications for high data rate communication system", International Journal of Electronics and Communication Engineering and technology (IJECET), Vol. 8, Issue 5, pp. 7-17, October 2017.	Rashmi Singh, Rajesh Mehra
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89.	"Comparative Study of Solar Cell Devices using Lead and Tin based Perovskite Material Through Numerical Simulation", UGC approved International Research Journal of Engineering and Technology, Vol.5, Issue 5, pp.1289-1292, July 2017.	Navneet Kour, Rajesh Mehra
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94.	"Design of a Compressive Data Gathering Scheme with an Energy Efficient Reconstruction Algorithm for WSN", UGC Approved International Journal of Latest Trends in Engineering and Technology (IJLTET)", Vol.8 Issue (4-1) 5, pp. 097-103, 2017.	Aman Jindal, Kanika Sharma
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96.	"A Compact Dual Element PIFA Array for Wireless MIMO Advance TDD LTE Applications" , International Journal of Advancement In Engineering Technology, Management And Applied Sciences Volume 04, Issue 09, pp. 85-93, September 2017, ISSN:2349-3224, UGC Journal No:63082	Manish Kumar Soni, Garima Saini
97.	"Design Of Reconfigurable Notch Band Antenna for UWB Application Using P-I-N diodes", International Journal of Emerging Trends and Technology In Computer Science, Volume 6, Issue 5, pp. 245-252, September 2017, ISSN:2278-6856, UGC Journal – 48939	Praveen Kumar Chakravarti, Garima Saini
98.	"Evaluation of SAR on Human Phantom Due to Circular SRR Loading", International Journal of Advanced Research in Science and Engineering, Vol. No. 06, Issue No.09, pp. 1384-1390, September 2017, ISSN: 2319-8354, UGC Journal No:	Garima Saini, Shyam Sunder Pattnaik
99.	"A Review of Wearable/Body Worn Antennas for Body-Centric Wireless Communication (BWC)",International Journal of Advancement In Engineering Technology, Management and Applied Science, Volume 04, Issue 10, pp. 31-44, October 2017, ISSN:2349-3224, UGC Journal No: 63082	Ajeet Thakur, Garima Saini
100.	"A Design Concept of Printed Inverted F-Antenna for Smart Watch Applications", International Journal of Electrical Electronics And Computer Science Engineering, Volume 4, Issue 5, pp. 62-65, October 2017, ISSN:-2348-2273, UGC Journal No. 44927	Ajeet Thakur, Garima Saini
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104.	"3-D Printed Antennas: A Review", International Journal of Engineering Science and Computing, Volume 8, Issue No. 3, pp. 16582-16586, March 2018, ISSN: 2321-3361	Arashpreet Kaur, Garima Saini
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105.	"Deep insights into the advancements and applications of perovskite based photovoltaic cells" Elsevier SCI Published in Journal of Energy Chemistry, ISSN No. 2095-4956	Chandni Devi, Rajesh Mehra,
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109.	"High Gain Amplifier Design for Switched-Capacitor Circuit Applications", IOSR Journal of VLSI and Signal Processing, Volume 7, Issue 5. pp. 62-69, October 2017.	Pragati Sheel, Rajesh Mehra
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111.	"Corporate Social Responsibility Reporting by Indian Banks from the Perspective of Employees", International Journal of Research in Business Management, Volume 5, No.11, Nov. 2017 pp 43-64.	Puneet Kaur and Jasmer Singh Saini,
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112.	Effect of Web Quest based Instruction on student's Achievement and Critical Thinking: A Review. International Journal of Multidisciplinary Educational Research. Vol. 6, No. 7(1), 2017.145-155p.	Richa Bansal and Sunil Dutt

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113.	Gender and Academic Achievement in Engineering Colleges. International Journal of Engineering, Research & Technology. Vol. 6, Issue 6, 2017, 1027-29p.	K Krishnakumar and Sunil Dutt
114.	Predictive Value of Engineering Entrance Test on Academic Performance in Engineering Degree Course. International Journal of Recent Engineering Research and Development. Vol. 2, Issue 6, 2017, 38-43p. K	Krishnakumar and Sunil Dutt
115.	Effect and Use of Collaborative Learning: A Review International Educational E-Journal Vol. 6, No. 3, 2017, 102-113p.	Suruchi and Sunil Dutt
116.	Attitude of secondary class students towards biology exposed through problem based learning. International Journal of Multidisciplinary Research and Development Vol. 4, Issue 6, 2017, 427-432p.	Preeti Thakur and Sunil Dutt
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118.	Analyzing the concept of Big Data Using Hadoop's Mapreduce with HDFcs, Journal of Network Communication and Emerging Technologies, Vol.7, Issue 12, Dec17.	Amandeep Kaur ¹ , Gurbinder Singh ¹ & Tanvi Sharma ²
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119.	A review of task scheduling based on Meta heuristics Approach in Cloud Computing, International Journal on Knowledge and Information Systems (SCI Indexed journal) Vol 36, No. 3, 2017, Springer Publication.	Poonam Singh, Maitreyee Dutta, Naveen Aggarwal
120.	An extensive review of development of EEG based Computer-Aided diagnosis systems for epilepsy detection published in Networ: Computation in Neural Systems (SCI Indexed journal, Taylor and Francis), Vo. 28, Iss 1, 2017	Jagriti Saini, Maitreyee Dutta
121.	GA based Blind Deconvolution Technique of Image Restoration using Cepstrum Domain of Motion Blur, Indian Journal of Science and Technology (SCOPUS Indexed), vol. 10 (16), April, 2017	Ramteke Mamta, Maiteyee Dutta
122.	Epilepsy Disease Detection Using Artificial Neural Network and MSE Optimization with GA, in International journal of Innovative Research in Science, Engineering and Technology (IJIRSET), Vol. 6, Iss 7, July 2017	Jagriti Saini, Maitreyee Dutta
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127.	PSO Based Blind Deconvolution Technique of Image Restoration Using Cepstrum Domain of Motion Blur, Springer Lec. Notes Computational Vision, vol. 28 Book on Computational vision and Bioinspired Computing, Chapter 84, ISBN: 978-3-31971766-1	G. Ramteke Mamta, Maitreyee Dutta
	MECHANICAL ENGINEERING DEPARTMENT	
	International Journals:	
128.	"Analyzing the Effect of Different Process Parameters on Tool Wear, Chip Formation and Surface Integrity During Milling of Hastelloy C-276", International Research Journal of Engineering and Technology (IRJET), Vol. 4, Issue 7, July 2017, pp. 2631-2634	Tarun Batra and P S Rao
129.	"Review on Effect of Various Type of Reinforcement Particle on Mechanical Behavior of 6161 and 7045 Al Alloy Matrix Composite", International Journal of Engineering Technologies in Engineering Research (IJETER), Vol. 5, Issue 8, Aug 2017, pp. 100-109	Nishant Verma, P S Rao and S C Vettivel
130.	A Review of Modelling of Temperature Distribution at Tool-Work piece Interface During Machining Process; International Journal of Innovative Research in Science, Engineering and Technology; Vol 6, Issue 8, August 2017, DOI:10.15680/IJIRSET.2016.0608105	Arun Kumar and S. S. Dhama
131.	"Characterization of Any Experimental Investigation on Mechanical Behavior of B ₄ C and RHA Reinforced Al alloy 7075 hybrid composite using stir casting", International Research Journal of Engineering and Technology (IRJET), Vol/Issue 8(3), September 2017, pp. 179-186	Nishant Verma, P S Rao and S C Vettivel
132.	"Application of RSM to Optimize MIG Welding Process Parameters for Hardness", International Journal of Engineering Technologies in Engineering Research (IJETER), Vol 5, Issue 9, September 2017, pp. 31-36	Sahil Angaria, P S Rao and SS Dhama

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133.	Optimization of Machining Parameters in Turning EN-45 Steel Using Plain Carbide Tool, International Journal of Scientific Research in Science, Engineering and Technology, Volume 3, Issue 6, September 2017	Santosh Kumar, B S Pabla, Jatinder Madaan
134.	Finite Element Analysis and Multibody Dynamics of 6-DOF Industrial Robot; International Journal of Mechanical and Production Engineering Research and Development; Vol. 7, Issue 5, October 2017, pp. 1-12	Rahul Arora and S. S. Dhami
135.	3D Scanning for Reverse Engineering- Technological Advancement, Process Overview, Accuracy Inspection, Challenges and Remedies; International Journal of Emerging Technologies in Engineering Research; Volume 5, Issue 10, October 2017, pp. 33 – 40	Mudit Bansal and S. S. Dhami
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138.	“Analysis of Axle Tube and Brake Housing of 65 HP Tractor”, International Journal of emerging Technologies in Engineering Research, Vol. 5, Issue 11, November 2017, pp. 11-17.	Vikas, S. S. Banwait
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141.	“A Parametric Analysis of Deformation of Workpiece” in Closed Die Forging” International Journal of Mechanical and Production Engineering Research and Development; Vol. 7, Issue 6, December 2017, pp. 147-154	Jasleen Kaur, S. S. Dhami and B. S. Pabla
142.	“Robot Position Optimization for a Pick & Place Operation; International Journal of Emerging Technologies in Engineering Research; Volume 5, Issue 12, December 2017, pp. 63 – 70	Varinder Singh and S. S. Dhami
143.	“Optimization of CGI during Milling using Tungsten Carbide Tool” International Journal of Emerging Technologies in Engineering Research; Volume 5, Issue 12, December 2017, Pp. 55 – 62	Subhash Pokhariyal, K. C. Rai and S. S. Dhami
144.	“Experimental Investigation during CNC Milling of Hastelloy C-276 in Dry Conditions” International Journal for Research in Applied Science and Engineering Technology, Vol 5, issue IX, 2017. 1753-1759	Tarun Batra and PS Rao

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145.	"Comparative Analysis of Cryogenic Treated Carbide Tools: A Review International Journal for scientific research and development, Vol 5, Issue 02, 2017, pp 2195-2197	Sameem and PS Rao
	National Journals:	
146.	Ultrasonic Machining Of WC–Co Composite Material: Experimental Investigation And Optimization Using Statistical Techniques, Proceedings of the Institution of Mechanical Engineers, Volume 231 Issue 5, April 2017	R Kataria, J Kumar, B S Pabla
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148.	Optimization of Sound Sensor Placement for Condition Monitoring of Fixed-Axis Gearbox; <i>Cogent Engineering</i> ; June2017, https://doi.org/10.1080/23311916.2017.1345673	Vanraj, S. S. Dhama and B. S. Pabla
149.	Multi Sensor Data Fusion based Gear Fault Diagnosis using Complete Ensemble Empirical Mode Decomposition with Adaptive Noise; Indian Journal of Science & Technology; Volume 10, Issue 24, June 2017, DOI 10.17485/ijst/2017/v10i24/115296	Vanraj, S. S. Dhama and B. S. Pabla
150.	Non-Contact Incipient Fault Diagnosis Method of Fixed-Axis Gearbox Based on CEEMDAN; Royal Society Open Science; July 2017, http://dx.doi.org/10.1098/rsos.170616	Vanraj, S. S. Dhama and B. S. Pabla
151.	Parametric Analysis and Optimization of Closed Die Forging of Gear Blank; Indian Journal of Science and Technology; Volume 10, Issue 26, July 2017, DOI: 10. 17485/ijst /2017/v10i26/115760	J Kaur, S. S. Dhama and B. S. Pabla
152.	Condition Monitoring Parameters for Fault Diagnosis of Fixed Axis Gearbox: A Review; Computational Methods in Engineering; July 2017, Volume 24, Issue 3, pp 543–556	D Goyal, S. S. Dhama and B. S. Pabla
153.	Hybrid Data Fusion Approach for Fault Diagnosis of Fixed-Axis Gearbox; Structural Health Monitoring; August 2017; DOI: 10.1177/1475921717727700	Vanraj, S. S. Dhama and B. S. Pabla
154.	Effect of Nanoparticles based Lubricants on Static Thermal Behaviour of Journal Bearings: A Review; Research Journal of Engineering and Technology; Vol. 8(2), August 2017, pp. 149-153	Rajeev Kumar Dang, Deepam Goyal, S. S. Dhama, Amit Chauhan
155.	"Microwave Joining of Metals: A Review, Research Journal of Engineering and Tech. 2017; 8(3): 282-290, September 2017	S Salot, B S Pabla, S Sehgal, H Kumar
156.	"Effect of TIG Welding Process Parameters Tensile Behavior of 5XXX and 6XXX series Aluminium Alloys: A Review", Research J. Engineering and Tech. 2018;9(1): 01-08, January 2018	Abhi Bansal, B.S Pabla, S.C Vettivel

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158.	"Condition Based Maintenance of Bearings and Gears for Fault Detection – A Review" Materials Today; Volume 5, Issue 2, Part 1, March 2018, pp. 6128-6137	Sanjay Kumar, Deepam Goyal, Rajeev K. Dang, Sukhdeep S. Dhami and B. S. Pabla
	MEDIA CENTRE	
	National Journal:	
159.	"Quality Education for Empowering Indian Youth" Yojana Journal, June, 2017 Publication	Rakesh Wats/ Meenu Wats
160.	"Employee Engagement: A Study of Drivers among Teachers	Rakesh Wats/ Kamaksi Malik
	RURAL DEVELOPMENT DEPARTMENT	
	National Journal:	
161.	"Use of Rubber and Steel Industry Waste for the improvement of Concrete Strength", E-ISSN 2250–2459, Volume 7, Special Issue 2, December 2017, pp. 318-322.	Dinesh Kumar, Amit Goyal, Sunita Kotwal
162.	"Low Cost Passive Energy Dissipation System for Masonry Buildings under Earthquake Loading", E-ISSN 2250–2459, Volume 7, Special Issue 2, December, 2017, pp. 323-329.	Amit Goyal, Pankaj Agarwal

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III. PAPERS PRESENTED/ACCEPTED AT IMPORTANT CONFERENCES AND SEMINARS:

	Title of the Paper Presented/Accepted	Author(s) Name
	APPLIED SCIENCE DEPARTMENT:	
	International Conferences:	
1.	Experimental and Theoretical Investigation of Phase Shifted Fiber Bragg Grating for Temperature Measurement, Presented in IEEE-International Conference on Power, Control, Signals and Instrumentation Engineering (IEEE-ICPCISI), Chennai, Sept. 2017.	Deepa Srivastava, Bhargab Das, Umesh Tiwari and B.C. Choudhary,
	CIVIL ENGINEERING DEPARTMENT:	
	International Conferences:	
2.	Partial Replacement of Lime by Cement and Fly ash in Mastic Asphalt - International Journal of Arts & Sciences (IJAS) Academic Conference at University of Freiburg, Germany from 28 November to 01 December, 2017.	Ajay Kr. Duggal
3.	Partial Replacement of Lime by Cement and Fly ash in Mastic Asphalt - International Journal of Arts & Sciences (IJAS) Academic Conference at University of Freiburg, Germany from 28 November to 01 December, 2017	Hemant Sood
4.	Life Cycle Analysis of Pond Ash Stabilized Pavements for Lowering Carbon Emissions in India - 2nd Indian International Conference on Air Quality Mgt. Organized by IIT, Madras. Book Chapter Publication with Springer Process - IIT Delhi, 01-02 June, 2017	Hemant Sood/ Pardeep Gupta & Gaurav Gupta
5.	Critical Pavements Response Analysis of Pond Ash Stabilized Sub-Grade Using Non-Linear Approach - ASCE International Conference on Highway Pavements & Airfield Technology. Proceeding published by ASCE: Airfield and Highway Pavements 2017: Testing and Characterization of Bound and Unbound Pavements Materials. pp382395 Doi:10.1061/9780784480939.033, Philadeiphia, USA 27-30 Aug., 2017	Hemant Sood/ Pardeep Gupta & Gaurav Gupta
6.	Performance Evaluation of Pond Ash-Brick Kiln Dust Stabilized Silty Clay Mixture - Conference of International Journal of Arts and Sciences, Freiburg Germany 28 Nov. -01 Dec., 2017	Hemant Sood/ Pardeep Gupta & Gaurav Gupta
7.	Artificial Neural Network : A Tool for Sustainable Infrastructure Development 23-24 Feb, 2018 - International Conference on Clean Technology & Sustainable Development, 23-24 Feb, 2018 at NITTTR, CHD	Himmi Gupta
8.	Pathway To Net Zero Energy Buildings (72-78), International Conference on Clean Technologies and sustainable Development February 23-24, 2018 at NITTTR Chandigarh.	Sanjay Sharma/Priyanka, Balkar Singh,

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9.	Behaviour of Hpdsp Concrete On Beam Column Joints (112–121), International Conference on Clean Technologies and sustainable Development February 23-24, 2018 at NITTTR Chandigarh.	Sanjay Sharma, Mr. Sushil Kumar Swar, Dr Harikishan Sharma
10.	Issues Related To Various Construction Techniques Practiced In Rural Himachal (122–125), International Conference on Clean Technologies and sustainable Development February 23-24, 2018	Sanjay Sharma, Robin Mahajan
11.	Sustainable Rural Houses Confirming To Traditional And Modern Construction Practices In South Western Part of Rajasthan (126-133), International Conference on Clean Technologies and sustainable Development February 23-24, 2018 at NITTTR Chandigarh.	Sanjay. K .Sharma, Mansingh Rathore, Vimalpreet,
12.	Sustainable Rural Houses Confirming To Traditional And Modern Construction Practices In Northern-Eastern Part of Rajasthan(134-141), International Conference on Clean Technologies and sustainable Development February 23-24, 2018 at NITTTR Chandigarh.	Sanjay.K .Sharma, Prateek Sharma, Vimalpreet,
13.	PATHOLOGY OF THE AMBER FORT : Reconnaissance Survey, Monitoring & Find Root Cause of Cracks (150–156), International Conference on Clean Technologies and sustainable Development February 23-24, 2018	Sanjay Kumar Sharma, Kaushal Choudhary,
14.	Structural strength Assessment of Timber members from a sustainable Heritage Building (157-163), International Conference on Clean Technologies and sustainable Development February 23-24, 2018	Sanjay Sharma, Swapna Sarita Pradhan and Ranjana Yadav
15.	Development of Wastewater Reutilization Framework through study of wastewater Reutilization potential in PEC, NITTTR and CCET Chandigarh (190-198), International Conference on Clean Technologies and sustainable Development February 23-24, 2018	Charul Sharma, S.K Sharma
16.	Analysis and Design Developing Net Zero Energy Buildings (323-331), International Conference on Clean Technologies and sustainable Development February 23-24, 2018	Shah Iffat Hussain, Ayoona Yaqoob , Jai Prakash, Sanjay Sharma,
17.	A Review on Strengthening of Beam Column Joints by using FRP Materials (190-198) International Conference on Clean Technologies and sustainable Development February 23-24, 2018	Sanjay Sharma Akanksha Singh, Bikram Thakur,
18.	Condition Assessment using Non-destructive Test and Repair of RCC building (524 - 527), International Conference on Clean Technologies and sustainable Development February 23-24, 2018	Sanjay Sharma, Ashish Kapoor, Aman Kumar ,
19.	Sustainable Water Supply Infrastructure Rainwater Harvesting- A review (389 - 393) International Conference on Clean Technologies and sustainable Development February 23-24, 2018	Sanjay Sharma Abhishek Singh Rana, Uma Malik ,

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20.	Various Effects of Iron Slag on Concrete Properties- A Review (524 - 527) International Conference on Clean Technologies and sustainable Development February 23-24, 2018	Sanjay Sharma Jaskarn Singh, Jasvir Singh Rattan,
21.	Review on Non-destructive and Semi-destructive Test Methods available For Structural Condition Assessment of Timber Structures, International Conference on Advances in Construction Materials and Structures (ACMS-2018)	Sanjay Sharma Swapana Sarita Pradhan, and Rajanana Yadav,
22.	Experimental Investigation on Effect of Industrial Waste Slag and alccofine on Durability Properties of High Strength Concrete, 12th International Conference on Civil, agricultural, Biological and Environmental Sciences (CABES-2017)	Sanjay Sharma,
	National Conferences:	
23.	Life Cycle Cost Analysis of Brick Kiln Dust Stabilized Perpetual Pavements for Lowering Greenhouse Gas Emissions in India, Scopus Indexed Conference: ASCE India Conference on Urbanization Challenges in Emerging Economies. (publication of proceedings under process), IIT Delhi, 12-14 Dec., 2017	Hemant Sood/ Pardeep Gupta & Gaurav Gupta
24.	Influence of Alccofine on Strength Characteristics of Concrete of Different Grades - National Conference on " New Generation Concrete" 19.04.2017	Hemant Sood/ Malvika Gautam
25.	Hydrological and hydraulic – Simulation, Science and Technology for Sustainable Livelihood in Indian Himalayan Region November 20-21, 2017	Sanjay Sharma, Aisha Sharma,
26.	Need and Scope of Storm water Management in Chandigarh City, International Academy of Arts , Science & Technology Nov. 7, 2017	Sanjay Sharma, Aisha Sharma,
27.	Enhancing Mechanical and Durability Properties of Geopolymer Concrete with Mineral Admixtures, Computer and Concrete , Vol. 21 , No. 3 (2018) 000-000, DOI: https:// doi.org /10.12989/cac.2018.21.3.000	Sanjay Sharma Bharat Bhushan Jindal, Dhirendra Singhal, and Parveen
	COMPUTER SCIENCE & ENGINEERING DEPARTMENT	
	International Conferences:	
28.	Recommender System Survey: Clustering to Nature Inspired Algorithms" published in 2 nd International Conference on Communication, Computing and Networking from 29-30 March, 2018 at NITTTR, Chandigarh	Suraj Pal Singh, Shano Solanki
29.	"Impact of Factors Affecting Pre-copy Virtual Machine Migration Technique for Cloud Computing," International Conference on Nanotechnology: Ideas, Innovations & Initiatives, IIT Roorkee, 6-8 December 2017.	A. Bhardwaj and C. Rama Krishna
30.	"Improving the Performance of Pre-copy Virtual Machine Migration Technique," Springer LNNS series- 2nd International Conference on Communication, Computing and Networking (ICCCN), NITTTR Chandigarh, 29-30 March 2018.	A. Bhardwaj and C. Rama Krishna

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31.	“Privacy Preserving Multi Keyword Ranked Search with Context Sensitive Synonyms over the Encrypted Cloud Data”, Springer Sponsored-International Conference on Communication, Networks and Computing (CNC-2018), ITM University, Gwalior, India 22-24 March 2018. [UGC Approved Journal No.16246]	Anu Khurana, Rama Krishna Challa and Navdeep Kaur
32.	“Improved Ranking for Search over Encrypted Cloud Data using Parallel Index,” Springer AISC Series- International Conference on Advanced Computing Networking and Informatics (ICANI-2018), 22-24 February 2018, MEDI-CAPS University, Indore. [UGC Approved Journal No. 49365]	Anu Khurana, Rama Krishna Challa and Navdeep Kaur
33.	“Privacy Preserving Ranked Multi Keyword Context Sensitive Fuzzy Search over Encrypted Cloud Data,” Springer CCIS Series- International Conference on Futuristic Trends in Network and Communication Technologies (FTNCT-2018), Jaypee University, Solan, 9-10 February 2018. [UGC Approved Journal No.16246]	Anu Khurana, Rama Krishna Challa and Navdeep Kaur
34.	“Critical Path-based Ant Colony Optimization for Scientific Workflow Scheduling in Cloud Computing under Deadline Constraint,” Springer AISC Series-International Conference on Recent Advancements in Computer, Communication and Computational Sciences (RACCCS- 2017), Aryabhata College of Engineering & Research Center, Ajmer, India, Sep. 2-3, 2017.	A. Lal, C. Rama Krishna
35.	“A Technique to Resolve Data Integrity and Confidentiality Issues in Wireless Sensor Network,” IEEE Sponsored-8th International Conference on Cloud Computing, Data Science & Engineering (Confluence-2018), pp. 184-189, 11-12 Jan., 2018.	Sunil Kumar, C. Rama Krishna, and A. K. Solanki
36.	“A Technique to Analyze Cyclomatic Complexity and Risk in a Wireless Sensor Network,” IEEE Sponsored-5th International Conference on Signal Processing and Integrated Networks (SPIN-2018), February 2018.	Sunil Kumar, C. Rama Krishna, and A. K. Solanki
37.	“Energy Analysis of Two-tiered Clustered Architectures for Smart World Applications,” 5th IEEE Region 10 (Asia Pacific) Humanitarian Technology Conference (R10HTC-2017), Dec. 21-23, 2017, Dhaka Bangladesh.	Singh R., Krishna C.R., Sharma R., Vig R.
38.	“Detection of Advanced Malware by Machine Learning Techniques,” Springer Sponsored- 2nd International Conference on Soft Computing: Theories and Applications, Bundelkhand University, Jhansi, 22-24 December 2017.	S. Sharma, C. Rama Krishna and S. K. Sahay
39.	“A Review on Methodologies of Scientific Workflow Scheduling Algorithm under Dead Line Constraint,” IEEE Sponsored-International Conference on Energy, Communication, Data Analytics and Soft Computing (ICECDS-2017), SKR Engineering College, Chennai, India, August 1-2, 2017.	A. Lal, C. Rama Krishna
40.	“Detecting Aggressive Driving Behavior using Mobile Smartphone,” Springer LNNS Series- 2nd International Conference on Communication, Computing and Networking, March 29-30, 2018, National Institute of Technical Teachers Training and Research, Chandigarh, India.	R. Chhabra, S. Varma, C. Rama Krishna

	Title of the Paper Presented/Accepted	Author(s) Name
41.	"Real-Time Implementation of Scheduling Policies for Education using Raspberry Pi: A Review," Springer LNNS Series- 2nd International Conference on Communication, Computing and Networking, March 29-30, 2018, National Institute of Technical Teachers Training and Research, Chandigarh, India.	Payal Kamboj, C Rama Krishna, SRN Reddy
42.	"Real-Time Implementation of Scheduling Policies using Raspberry- Pi," IEEE Sponsored- 8th International Conference on Cloud Computing, Data Science & Engineering (Confluence-2018), 11-12 Jan., 2018, Amity University Uttar Pradesh, Noida.	Payal Kamboj, C Rama Krishna, SRN Reddy
43.	"Efficient Key Distribution and Mutual Authentication mechanism Using Modified Needham Schroeder and Otway Rees Protocol for Cloud Environment," Springer LNNS Series- 2nd International Conference on Communication, Computing and Networking, March 29-30, 2018, National Institute of Technical Teachers Training and Research, Chandigarh, India.	A. K. Vashishtha, C. Rama Krishna, Rajiv Chechi
44.	"Energy-efficient Delay-aware Preemptive Variable-length Time Slot Allocation Scheme for WBASN (eDPVT)," Springer LNNS Series- 2nd International Conference on Communication, Computing and Networking, March 29-30, 2018, National Institute of Technical Teachers Training and Research, Chandigarh, India.	Tamanna Puri, Rama Krishna Challa, Navneet Kaur Sehgal
45.	"A Hybrid Approach to Address IP Traceback Problem using Nature Inspired Algorithm," International Conference on Cognitive Informatics & Soft Computing (CISC-2017), VBIT, Hyderabad, India, 21-22 December 2017.	Amrita Saini, C. Rama Krishna, Sachin Kumar
46.	"An Energy Efficient Hybrid Optimized Routing Protocol for WSN," 2nd International Conference on Telecommunication and Networks (TEL-NET 2017), ISBN: 978-1-5090-6711-4, EISBN: 978-1-5090-6710-7, pp. 1-6, 10-11 August, 2017 at Amity University, Noida, UP, India	Renu Kumari and Rakesh Kumar
47.	"An Approach to Improve BEST-MAC: Bit map Assisted Efficient Scalable TDMA-Based MAC protocol Using Optimal Cluster Head Selection," 2nd International Conference on Telecommunication and Networks (TEL-NET 2017), ISBN: 978-1-5090-6711-4, EISBN: 978-1-5090-6710-7, pp. 1-5, 10-11 August, 2017 at Amity University, Noida, UP, India	Manju Gangwar and Rakesh Kumar
48.	"Detection of Object in Motion Using Improvised Background Subtraction Algorithm," IEEE International Conference on Trends in Electronics and Informatics (ICEI 2017) on 11-12 May 2017, Tamil Nadu, India, pp. 651-656	Prerna Dewan, and Rakesh Kumar
49.	"An Improved Linux Firewall Using a Hybrid Frame of Netfilter," IEEE International Conference on Trends in Electronics and Informatics (ICEI 2017) on 11- 12 May 2017, Tamil Nadu, India, pp. 657-662	Nivedita and Rakesh Kumar
50.	"Application of Intelligent Water Drops Algorithm to Workflow Scheduling in Cloud Environment", IEEE International Conference on Computing Communication and Networking Technologies (ICCCNT), IIT Delhi, ISBN: 978-1-5090-3038-5, 3-5 July 2017.	Mala Kalra and Sarbjeeet Singh

	Title of the Paper Presented/Accepted	Author(s) Name
51.	“An Improved Harmony Search Algorithm with Group Technology Model for Scheduling Workflows in Cloud Environment”, 4th IEEE International Conference on Electrical, Computer and Electronics (UPCON), GLA University, Mathura, 26-28 Oct 2017. E-ISBN: 978-1-5386-3004-4.	Nidhi Chaudhary and Mala Kalra
52.	“Robust Scheduling of Deadline-Constrained Workflows Using Hybrid Instances” International Conference on Computational Strategies for Next Generation Technologies (NEXTCOM – 2017), CT Institute of Engineering Management & Technology, Jalandhar, Springer, CCIS Series (ISSN No. 1865-0929), November 25-26, 2017.	Urvashi Nag and Mala Kalra
53.	“Bio-Inspired Threshold Based VM Migration for Green Cloud”, International Conference on Data and Information Sciences (ICDIS), Springer, IGNTU, Karnataka, pp. 203-211, November 17-18, 2017.	Raksha Kiran, Mala Kalra
54.	“Using Artificial Neural Network for VM Consolidation Approach to Enhance Energy Efficiency in Green Cloud”, International Conference on Data and Information Sciences (ICDIS), Springer, IGNTU, Karnataka, pp. 276-285, Nov. 17-18, 2017.	Anjum Mohd Aslam, Mala Kalra
55.	“A Hybrid Approach for Energy Efficient Job Scheduling in Cloud”, 2nd International Conference on Communication, Computing and Networking, NITTTR, Chandigarh, 29-30 March, 2018.	Sunil Kumar and Mala Kalra
	CDC DEPARTMENT	
	International Conferences:	
56.	Managing Issues and Concerns of Adolescence presented in 22nd International Conference on Advancements and Challenges in Social Sciences and Business Management-Interdisciplinary Research and Practices 24-25 Feb.ruary, 2018 at Bangalore organized by Research and Development Association, Rajasthan Chamber of Commerce and Industry, Jaipur.	PK Singla
57.	Implementation of TQM in Building Construction Industry for Sustainable Building presented in International Conference on Clean Technology and Sustainable Development from 23-24 February, 2018 at NITTTR, Chandigarh	SK Gupta
58.	Identification of Obstacles in Implementation of TQM in Building Construction Industry in India, accepted in International Conference on 26th World Congress on Engineering, 04-06 July, 2018 at London.	SK Gupta
	ELECTRICAL ENGINEERING DEPARTMENT	
	International Conferences:	
59.	Implementation of Smart Metering based on Internet of Things, 3 rd International Conference on Communication Systems (ICCS-2017), IOP Conference Series: Materials Science and Engineering, 331(2018)012015, DOI:10. 1088/1757-899X/331/1/012015	Milanpreet Kaur, Lini Mathew, Alokdeep, Ajay Kumar

	Title of the Paper Presented/Accepted	Author(s) Name
60.	Analysis of Broken Rotor Bar Fault Diagnosis for Induction Motor, IEEE International Conference on Innovations in Control, Communication and Information Systems (ICICCI-2017), Delhi-NCR, Greater Noida, India, August 2017, (Scopus Indexed)	Amandeep Sharma, Lini Mathew, S Chatterji
61.	A Novel Park's Vector Approach for Investigation of Incipient Stator Fault Using MCSA in Three-Phase Induction Motors, IEEE International Conference on Innovations in Control, Communication and Information Systems (ICICCI-2017), Delhi-NCR, Greater Noida, India, August 2017 (Scopus Indexed)	Amandeep Sharma, Lini Mathew, S.Chatterji
62.	Various Indices for Diagnosis of Air-gap Eccentricity Fault in Induction Motor-A Review, 3 rd International Conference on Communication Systems (ICCS-2017), Pilani, India, October, 2017. Conference Proceedings also published in IOP Conference Series: Materials Science and Engineering Vol.331, No.1, IOP Publishing (UK), 2018 (Scopus Indexed)	Nikhil, Lini Mathew, Amandeep Sharma
63.	Real-Time-Simulation of IEEE-5-Bus Network on OPAL-RT-OP4510 Simulator, Proceedings of 3 rd International Conference (ICCS-2017) held at BKBIET Pilani, India, October, 2017. Conference Proceedings also published in IOP Conference Series: Materials Science and Engineering Vol.331. No.1, IOP Publishing (UK), 2018 (Scopus Indexed)	Anjali Atul Bhandakkar, Lini Mathew
64.	sEMG Signal Classification using Ensemble Learning Classification Approach and DWT, 2018 IEEE International Conference on Current Trends Towards Converging Technologies, Coimbatore, India March, 2018	Nityanand Thakur, Lini Mathew, Yogendra Narayan
65.	sEMG Signal Classification with Novel Feature Extraction using Different machine Learning Approaches, 1st International Conference on Signals, Machines, and Automation (SIGMA 2018), Delhi, India, February, 2018	Lini Mathew, Yogendra Narayan
66.	Load Flow Analysis and Real-Time Simulation of Multi-Machine-9-Bus system on OPAL-RT-OP4510, IEEE International Conference on Electrical, Electronics, Computers, Communication, Mechanical and Computing (EECCMC), January, 2018 at Tamil Nadu, India.	Anjali Atul Bhandakkar, Lini Mathew
67.	An Electrooculogram Signal Based Control System in Offline environment International Conference on Medical Information and Bio Engineering, Indexed by SCOPUS and Eicompindex, 9 to 11 October, 2017 at Barcelona, Spain	Babita, Poonam Syal, Preeti Kumari
68.	Comparative Analysis of KNN, SVM, DT for EOG based Human Computer Interface, IEEE International Conference on Current Trends in Computer, Electrical, Electronics and Communication, 8-9 September, 2017 at Mysore, Karnataka.	Babita, Poonam Syal, Preeti Kumari
69.	Home Automation Control System Implementation using SSVEP based Brain Computer Interface, IEEE International Conference on Inventing, Computing and Informatics, 23-24 November 2017 at Coimbatore, Tamil Nadu.	Prateek Virdi, Poonam Syal, Preeti Kumari

	Title of the Paper Presented/Accepted	Author(s) Name
70.	Implementation of Fuzzy Sliding Mode Controller for a Grid Connected Solar Photovoltaic System to Control Voltage, IEEE International Conference on Computational Intelligence and Computing Research, at Coimbatore, Tamil Nadu, 14-16 December, 2017.	Mohd.Amin, Poonam Syal, Shoeb Hussain
71.	Comparative Study of Control Schemes for a Utility Grid Connected Solar Photovoltaic System to Control Voltage. International Conference on Recent Innovation and Trends in Engineering Technology & Research, 23-24 December, 2017 at Jaipur, India.	Mohd.Amin, Shoeb Hussain, Poonam Syal
72.	Simulation of Intelligent Room Lighting Illuminance Control, IEEE International Conference on Computational Intelligence and Computing Research, 14 to 16 December, 2017 at Coimbatore, Tamil Nadu,	Deepak Makkar, Poonam Syal
73.	ZigBee And GSM Based Fault Detection System For Low Tension Pillar, International Conference on Intelligent Communication, Control and Devices (ICICCD 2017), 15-16 April, 2017 at University of Petroleum and Energy Studies, Dehradun,	Ram Nath, Ritula Thakur
74.	Design and Development of Nano pH Sensor and Interfacing with Arduino, International Conference on Advanced Trend in Engineering (ICATE-2017), Datta Meghe College of Engineering, Navi Mumbai, 7-8 April, 2017	Shivam Vajpayee, Ritula Thakur, Babankumar
75.	Wind Energy Scenario, Policies and Energy Conversion Topologies: An Overview, International Conference on Research Trends in Engineering, Applied Science and Management (ICRTESSM – 2017), Pune, 28th May, 2017	Ved Prakash, Ritula Thakur, Umesh Rathore
76.	Modeling, Simulation and Analysis of Doubly-Fed Induction Generator in Wind Energy Conversion System, International Conference on Research Trends in Engineering, Applied Science and Management (ICRTESSM–2017), Pune, 28th May, 2017	Ved Prakash, Ritula Thakur, Umesh Rathore
77.	Support Vector Machine based classification Improvement for EMG Signals using Principal Component Analysis, 7 th International Conference on Computing, Engineering and Information Technology (ICCEIT 2017), August 19, 2017 at Chennai, India.	Vivek Ahlawat, Ritula Thakur, Yogendra Narayan
78.	Smooth Starter for DC Shunt Motor using Buck-Boost Power Converter, IEEE conference on International Conference on Innovations in Control, Communication and Information Systems (ICICCI-2017), 12-13 August 2017 Greater Noida, India,	Rohit Kumar, Anurag Choudhary, Shimi S.L.
79.	Implementation of Room Automation with Cloud Based Monitoring System, IEEE 2nd International Conference on Inventive Systems and Control (ICISC-2018), Coimbatore, India 19-20 January 2018 (SCOPUS Indexed)	Manjeet Singh, Shimi S.L.
80.	Implementation of Smart Classroom Using WAGO PLC, IEEE 2nd International Conference on Inventive Systems and Control (ICISC-2018), Coimbatore, India 19-20 January 2018 (SCOPUS Indexed)	Vibhuti, Shimi S.L.

	Title of the Paper Presented/Accepted	Author(s) Name
81.	Modeling and Analysis of Novel Topology for Multilevel Inverter with Reduce Number of Switches, International Conference on Recent Trends in Engineering and Science, Andhra Pradesh, 20th and 21st Feb, 2018. (SCOPUS Indexed)	Rohit Kumar, Shimi S.L., Shivendra Kaur
82.	Performance Analysis of Various Parameters of Transformers under Short Circuit condition using Finite Element Method-An overview International Conference on Recent Trends in Engineering and Science, Andhra Pradesh, 20th and 21st Feb, 2018 (SCOPUS Indexed)	Divi Saxena, Shimi S.L., Sarpreet Kaur
83.	A Review on Islanding Detection Technique Based on Intelligence Methods, International Conference on Recent Trends in Engineering and Science, Andhra Pradesh, 20th and 21st Feb, 2018 (SCOPUS Indexed)	Anu Radha, Shimi S.L.
84.	MATLAB/SIMULINK Simulation of PV system based on MPPT in Variable Irradiance with EV Battery as Load, 2017 IEEE International Conference on Computational Intelligence and Computing Research, Tamil Nadu College of Engineering, Coimbatore 641659, Tamil Nadu 14-16 December 2017 (SCOPUS Indexed)	Arshdeep Singh, Shimi S.L.
85.	Bidirectional DC to DC Converter: An Overview of Various Topologies Switching Schemes and Control Techniques International Conference on Recent Trends in Engineering and Sciences, Visakhapatnam, India, 21st Feb.2018.	R.Deepak and S.L.Shimi
86.	Building and Generation Strategy for Hybrid System in Electricity Market, International Conference on Research Trends in Engineering, Applied Science and Management, Chandigarh 2018 (IJETSR), 11th March 2018, ISSN-2394-3386 (Accepted)	Arun Kumar Sharma, Shimi S.L., Y.P.Verma
	ELECTRONICS & COMMUNICATION ENGINEERING DEPT.	
	International Conferences:	
87.	"Analysis of Darlington pair amplifier at 90nm technology", IEEE International conference on electrical electronics and optimization techniques (ICEEOT), pp. 3637-3641, 2016.	Rashmi Singh, Rajesh Mehra,
88.	"Energy Efficient FinFET Based SRAM Design in 22 Nanometer Technology", International Conference on Electrical, Electronics & Communication Engineering (ICEECE), pp. 20-26.July 2017.	Ayushi Gagneja and Rajesh Mehra
89.	"A Novel CNTFET based Power and Delay Optimized Hybrid Full Adder", International Conference on Electrical, Electronics and Communication Engineering(ICEECE), Chandigarh, pp. 13-19, July 2017.	Priya Kaushal , Rajesh Mehra
90.	"Routing and Clustering Optimization Techniques in WSN: A Review", IEEE 8 th International Conference on Computing and Networking Technologies, July 2017, ISBN-978-1-5090-3037-8	Neha Sharma, Kanika Sharma
91.	"Recent Advancements in Clustering Protocols for Wireless Sensor Networks, "IEEE 8th International Conference on Computing and Networking Technologies, July 2017, ISBN- 978-1-5090-3037-8.	Priya Rana, Kanika Sharma

	Title of the Paper Presented/Accepted	Author(s) Name
92.	“Maximum Likelihood Estimation based Clustering Algorithm on Wireless Sensor Network – A Review”, International Conference on Energy, Communication , Data Analysis& Soft Computing, by IEEE Madras Session, SRK Engineering College, No. 2, pp. 452-457, August 2017.	Uday K.R and KanikaShrama
93.	“Energy Efficient Clustering Algorithm Based on Maximum Likelihood Estimation on Wireless Sensor Network”, IETE International Conference on Science, Technology & Management, International Journal of Electronics, Electrical and Computational System vol. 6, No.9 pp 679-685, September 2017.	Uday K.R and Kanika Sharma
94.	“Review paper on Various Clustering Schemes”, IEEE International Conference on Smart Technologies and Management for Computing, Communication, Controls, Energy, and Materials (ICSTM), pp 44-48, October 2017	Pratiksha Gupta, Kanika Sharma
95.	“Optical Reconfigurable Microstrip Patch Antenna for Wide Band Applications: A Review” 4 th International Conference on Emerging Trends In Engineering Technology, Science and Management, IETE, pp. 442-449, July 2017, ISBN:978-93-86171-54-2	Naman Thakur, Garima Saini
96.	“Low Complexity MMSE Channel Estimator For Downlink MC-CDMA System” IEEE 2nd International Conference on Inventive Systems and Control, pp. 706-709, 2018	Nitin Kumar Suyan, Garima Saini
	ENTREPRENEURSHIP DEVELOPMENT & COORDINATION	
	International Conferences:	
97.	“Blue Ocean Strategy in Technical and Vocational Education and Training Sector” International Conference on Education 26-29 June 2017 at University of Toronto, Canada.	SK Dhameja
98.	“Green Information Technology: Mapping the Swaying Factors and Strategies” 3rd International Conference on Cyber Security (ICCS-2017) 12–13 August, 2017. organized by the Rajasthan Technical University Kota (Rajasthan)	Amardev Singh
	National Conferences:	
99.	“Promotion of Skills and Technologies for Sustainable Rural Development in India”, Golden Jubilee National Seminar on Technologies and Skill Promotion for Sustainable Rural Development in India, 31 August to 01 September, 2017 at NITTTTR, Chandigarh.	UN Roy JS Saini YK Anand (Presenter)
	EDUCATION TELEVISION CENTRE	
	International Conferences:	
100.	“Contiki based mitigation of UDP flooding attacks in the Internet of things”, IEEE International Conference on Computing, Communication and Automation (ICCCA20127), Noida, 5-6 th May 2017	Manisha Malik, Kamaldeep, Maitreyee Dutta

	Title of the Paper Presented/Accepted	Author(s) Name
101.	“Contrast Enhancement of night time imagery for traffic activity understanding”, Proceedings of the IEEE 2017 International Conference on Computing Methodologies and Communication (ICCMC), held at Noida, 18-19 July, 2017, pp 809-813	Nikil Verma, Maitreyee Dutta
102.	“Epilepsy Disease Detection Using Artificial Neural Network and Performance improvement using PSO and GA”, in International Conference on Emerging Trends in Electrical, Electronic, Computer Science and Information Technology”, held at Mumbai, India on 23 rd July, 2017	Jagriti Saini, Maitreyee Dutta
	National Conferences:	
103.	“Defending DDoS in the Insecure Internet of things: A Survey”, Springer Advances in Intelligent Systems and Computing (AISC Series) through Power, Circuit and Information Technologies (ICPCIT 2017) held at Madanapalle, Andhra Pradesh, 27-19 April, 2017	Manisha Malik, Kamaldeep, Maitreyee Dutta
	MECHANICAL ENGINEERING DEPARTMENT	
	International Conferences:	
104.	“Development of Low Cost Programmable Indexing Head for Horizontal Milling Machine”, IEEE International Conference on Mechatronics and Automation, August 6-9, 2017, Takamatsu, Japan, pp. 2028 – 2033.	Sanjiv Kumar, Deepam Goyal, S. S. Banwait
105.	“Diamond Tool Wear Measurement by Profilometry Method for Ultra-Precision Machining of Silicon”, International Conference on Nanotechnology: Ideas, Innovations and Initiatives, December 6 - 08, 2017 at IIT Roorkee, India, pp. 131 – 141.	G. Singh, V. Mishra, V. Karar and S. S. Banwait
	National Conferences:	
106.	“Effect of different Cutting Conditions during CNC Machining of Hastelloy-X--A review” NCRAME 2017 June 02-03 2017 at NIT Kurukshetra Haryana, Vol.1, 40-43	Tarun Batra and P S Rao
107.	Performance Improvement Using VSM as a Lean Tool in Ceramic Industry: A Case Study, Joint Indo-German Conference on Sustainable Engineering, BITS Pilani, September 15-16, 2017	B S Pabla, Suthar, S.S.. and Bhamu
108.	“Study of Cutting Performance of Different Materials by Abrasive Jet Machining Process – A review” in National Conference on Unconventional Manufacturing Technology (UMT-2017) held on 22-23 Sep 2017 at AK Garg Engg. College, Ghaziabad, UP	Tarun Batra and P S Rao
109.	“A Review on Process Parameters of Ultra Sonic Machining – USM” in National Conference on Unconventional Manufacturing Technology (UMT-2017) held on 22-23 Sep 2017 at AK Garg Engg. College, Ghaziabad, UP	Nishant Verma and P S Rao
110.	“Optimization of process parameters on Electrical Discharge Machining- A review” in National conference on Unconventional Manufacturing Technology (UMT-2017) held on 22-23 Sep 2017 at AK Garg Engg. College, Ghaziabad, UP	Sameem Ahmed and P S Rao
111.	“Electro Deposition of Titanium Alloys with Hydroxyapatite for Biomedical Implants-A Review” ICCM MEMS 2018 at Lovely Professional University, Jalandhar, Punjab, 15-17 March, 2018.	Vinod Kumar, P S Rao, Chander Prakash

	Title of the Paper Presented/Accepted	Author(s) Name
	MEDIA CENTRE	
	International Conferences:	
112.	Impact of Unplanned Vertical Urbanization on Indoor Air Quality and Health of its Occupants, 27 th International Conference on Research in Science & Technology (ICRST) held at Asian Institute of Technology (AIT) Bangkok, Thailand December 29-30, 2017	Rakesh Wats/ Meenu Wats
113.	Increasing Trends of Self Medication among Young Girls in Chandigarh with Relation to Their Stress Levels, 27 th International Conference on Research in Science & Technology (ICRST) held at Asian Institute of Technology (AIT) Bangkok, Thailand December 29-30, 2017	Rakesh Wats/ Aanchal
114.	“Attaining Employee Engagement through Green Human Resource Management: The Millennials Perception” International Conference on Clean Technologies and Sustainable Development, NITTTR, Chandigarh, Feb., 23-24, 2018.Pp 448-465	Rakesh Wats/ Kamakshi Malik
	RURAL DEVELOPMENT DEPARTMENT	
	International Conferences:	
115.	Paper presented on "Low Cost Passive Energy Dissipation System for Masonry Buildings under Earthquake Loading" in International Conference on Innovation in Structural Engineering, 29-31 December, 2017, University College of Engineering, Osmania University, Hyderabad.	Amit Goyal & Pankaj Agarwal
116.	Paper presented "Use of Rubber and Steel Industry Waste for the Improvement of Concrete Strength" in International Conference on Innovation in Structural Engineering, 29-31 December, 2017, University College of Engineering, Osmania University, Hyderabad.	Dinesh Kumar, Amit Goyal & Sunita Kotwal
	National Conferences:	
117.	Paper presented in National Seminar on “Development Village: Developed National” 29-30 October 2017 organized by AICTE, New Delhi	UN Roy
118.	Key Note Address in a National Seminar on “Recent Innovations and Technological Development in Civil Engg.”(NCRITD 2018) from 12-13 March, 2018 held at The Gandhigram Rural Institute (GGRI, Gandhigram Dindigal Distt, Tamil Nadu on 12 th March, 2018	UN Roy
119.	Paper presented on "Role of ICT in the Development of Earthquake Resistant Interlinked Block Masonry System with Visco-Elastic Energy Dissipator Links" Conference on Advances in Electrical & Information Communication Technology, at R.V Institute of Technology, Bijanor in association with IETE & IJCA, India.	Amit Goyal & Pankaj Agarwal

ANNEXURE – III

TRAINING PROGRAMS ATTENDED BY INSTITUTE FACULTY/ STAFF

Sr. No.	Area and Place of Training	Period	Attended by Shri/
INTERNATIONAL TRAINING / VISITS			
1.	Conceive-Design- Implement- Operate (CDIO) Forum 2017” at Singapore Polytechnic, Singapore.	12 - 14.09.2017	.Amit Goyal Shimi S.L.
2.	CDIO Forum 2017 at Singapore.	12 - 14 09.2017	SK Gupta
3.	APACC International Accreditors’ Training 2017 at Kathmandu, Nepal.	13 – 14.10.2017	C. Rama Krishna Lini Mathew
4.	Participated in the International Conference on Smart Grid Technologies at Singapore.	11 – 12.09.2017	Shimi S.L.
5.	CDIO workshop on Advancing, Innovating and Sustaining at Singapore Polytechnic, Singapore.	12 – 14.09.2017	Shimi S.L.
IN-COUNTRY TRAINING PROGRAMS			
1.	GIAN course on “From Data to Knowledge: State of the Art Tools to Analyse Static and Dynamic Data” at NIT, Durgapur.	28.08.2017 to 08.09.2017	KC Lachhwani
2.	GIAN Course on “The Finite Element method in Engineering : Basic Procedure, Applications and Current Research Topics“ at Guru Jambheshwar University, Hissar (Haryana)	18 – 22.12.2017	Himmi Gupta
3.	Summer School on “Social Networks” at IIT Ropar.	29.05.2017 to 02.06.2017	Shano Solanki
4.	“Recent Developments and Challenges in Internet of Things Security (RDCIoT)” at NIT Kurukshetra	03 – 08.07.2017	Rakesh Kumar
5.	“Advance Optimization Techniques” at MNIT Jaipur	06 - 15.10.2017	Rakesh Kumar
6.	Stakeholder Workshop on Approval Process 2018-19 & AICTE Initiatives at PEC, Chandigarh	12.01.2018	C. Rama Krishna
7.	MeitY sponsored Faculty Development Program on “Embedded Systems and IoT” conducted by Electronics and ICT academy, IIT Roorkee at CDAC, Mohali	25 – 29.09.2017	Mala Kalra

Sr. No.	Area and Place of Training	Period	Attended by Shri/
8.	Training Workshop on "INDIA MASTERS 2017" at Bangalore	05 – 08.12.2017	Ritula Thakur
9.	One day workshop on EDUMEET on Factory Automation at PEC, Chandigarh	19.01.2018	Ritula Thakur, Shimi S.L.
10.	FPGA Based Digital System Design at NITTTR Chandigarh.	24 – 29.07.2017	Ritula Thakur
11.	Seminar on Embedded Software Safety and Security at Hotel Hans, Barakhamba Road, Connaught Place, New Delhi	13.10.2017	Rajesh Mehra
12.	National Public Procurement Conclave organized by CII at New Delhi.	11 – 12.12.2017	Rajesh Mehra Rakesh Kumar
13.	Advance Optimization Techniques at MNIT, Jaipur	06 – 15.10.2017	Kanika Sharma
14.	Next Generation MIMO and OFDM Wireless Technologies at NIT, Kurukshetra	08 – 17.12.2017	Garima Saini
15.	"Design Challenges in Low Power VLSI Design" at GNDEC, Ludhiana	04 – 16.12.2017	Kanika Sharma
16.	Basic Managerial Skills for Teachers at NITTTR, Kolkata (West Bengal), India	17 - 28.07.2017	Amardev Singh
17.	Faculty Development Program on Machine Learning Algorithms using Python at Computer Science & Engineering Department	24 - 28.07.2017	Maitreyee Dutta
18.	STC on "Contemporary Advances in Materials and Manufacturing Engineering" (CAMME-2017) at JNTU, Kakinada, AP	30 - 10.11.2017	PS Rao
19.	Course on "Composite materials in engineering application design and manufacturing prospective" at IIT Mandi	15 – 19.01.2018	PS Rao
20.	Workshop on "Advanced Functional Materials" (WAFM-2018) at Punjab Engineering College, Chandigarh	17.03.2018	PS Rao
21.	one day ISB Leadership Summit 2017 at Indian School of Business ISB, Mohali Campus, Punjab.	22.09.2017	PS Rao
22.	MHRD, Global Initiative for Academic Networks (GIAN) Program on "Architecture Theory: Worldviews, Conceptual Histories and Role Models" at IIT, Roorkee	20 – 24.12.2017	Amit Goyal
23.	Ministry of Home Affairs, Integrating "Disaster Risk Reduction (DRR) in Rural Development Policies and Program" at National Institute of Disaster Management, New Delhi.	20 – 24.11.2017	Amit Goyal

Sr. No.	Area and Place of Training	Period	Attended by Shri/
IN-HOUSE TRAINING PROGRAMS			
1.	E-Teacher (Digital Teaching-Learning Approach) organised by ETV Department of NITTTR, Chandigarh	19.03.2018 to 23.03.2018	Mala Kalra
2.	Workshop on "Preparation for Samarth Udyog-India's Response to Industry 4.0" at NITTTR, Chandigarh in association with QCI, Delhi	28.02.2018	C. Rama Krishna
3.	Intel Sponsored FDP on Machine Learning Algorithm using Python at NITTTR, Chandigarh	24 - 28.07.2017	Shano Solanki
4.	"E-Teacher" (Digital Teaching-Learning Approach) organized by ETV Department of NITTTR, Chandigarh	19.03.2018 to 23.03.2018	Shano Solanki
5.	National Seminar on Sustainable Skill Development	31.08.2017 to 01.09.2017	AB Gupta
6.	Industry-Institute Integration Meet	18.12.2017	AB Gupta
7.	International Conference on Communication, Computing & Networking	29 -30.03.2018	AB Gupta
8.	Participated and Co-chaired session in the National Conference on New Generation Concrete organized by CE Department at NITTTR, Chandigarh	19.04.2017	PK Singla
9.	National Seminar on Environment Preservation in Sustainable Development	07 - 08.04.2017	SK Gupta
10.	Workshop on Institute Brand Building at International Level at NITTTR, Chandigarh	09.06.2017	PK Singla
11.	Participated and Member of Panel discussion during the International Conference on Olympism: Global Innovation forum for Humanity and Sustainable Development from Ancient Olympia to India, Tokyo 2020 organized by Dev Samaj College of Education, Chandigarh	09.06.2017	PK Singla
12.	International Conference on Clean Technologies & Sustainable Development	23 -24.02.2018	SK Gupta
13.	Educational Conclave on "Emerging Trends in Technical Education", at NITTTR, Chandigarh	06 – 07.09.2017	Rama Chhabra
14.	Workshop on "Preparing for 'Samarth Udyog' – India's Response to Industry 4.0" at NITTTR, Chandigarh.	28.02.2018	Rama Chhabra

Sr. No.	Area and Place of Training	Period	Attended by Shri/
15.	Workshop/s on Promoting Innovative Research through CRIRC at NITTTR Chandigarh.	07.04.2018	Hemant Sood
16.	Workshop on "Advances in Corrosion in Concrete Structures – Science, Prevention & Repair" at NITTTR, Chandigarh.	24.04.2018	Hemant Sood
17.	"E-Teachers" at NITTTR, Chandigarh.	19 – 23.03.2018	Himmi Gupta
18.	Machine Learning Algorithms using Python" conducted by Computer Science and Engineering Department in association with Intel Higher Education.	24- 28.07.2017	Shimi S.L.
19.	Hardware in Loop for Smart Grid Applications through ICT. Conducted by Electrical Engineering Department in collaboration with Typhoon HIL, Switzerland	9 – 13.10.2017	Shimi S.L. Ritula Thakur
20.	E-teacher (Digital/ Teaching/ Learning Approach)" conducted by Education Television Centre Department	19 – 23.03.2018	Lini Mathew, Poonam Syal, Ritula Thakur, Shimi S.L
21.	3 days workshop on ANSYS-EM.	26- 28.02.2018	Lini Mathew, Poonam Syal, Ritula Thakur, Shimi S.L
22.	Yoga Camp	22- 25.05.2017	Shimi S.L.
23.	National Workshop on Simulation of Electromechanical System Conducted by Electrical Engineering & Mechanical Engineering.	09 – 10.11.2017	Lini Mathew, Poonam Syal, Ritula Thakur, Shimi S.L
24.	One-day Workshop on "PLC" for students of M.E. by Electrical Engineering (Instrumentation & Control)	26.07.2017	Shimi SL
25.	Golden Jubilee National Seminar on "Promotion of Skills and Technologies for Sustainable Rural Development in India", by Rural Development Department	31.08.2017 to 01.09 2017	Ritula Thakur
26.	Workshop on "Promoting Innovative Research through CRIKC" by Applied Science Department	07.04.2017	Ritula Thakur
27.	One-day Workshop on "Planning of Hardware/Software Requirements & Pilot Projects for SCoE Conducted by NITTTR in collaboration with ABB India Ltd on	10.04.2017	Ritula Thakur / Shimi S.L.
28.	STC on Optical Fibers Potential and Applications	18 – 22.12.2017	Poonam Syal

Sr. No.	Area and Place of Training	Period	Attended by Shri/
29.	E-Teacher (Digital/Teaching/Learning Approach)	19- 23.03.2018	Garima Saini
30.	Education Conclave on Emerging Trends in Technical Education	06-07.09.2017	JS Saini Amardev Singh
31.	e-Teachers [organised by ETV department in collaboration with Blackboard Technologies India Pvt. Ltd.] at NITTTR Chandigarh	19 – 20.03.2018	Amandeep Kaur
32.	Educational conclave on “Emerging trends in technical education” on at NITTTR, Chandigarh.	06 – 07.09.2017	PS Rao

AUDIT REPORT FOR THE YEAR 2017-18

NATIONAL INSTITUTE OF TECHNICAL TEACHER'S TRAINING AND RESEARCH
SECTOR 26, CHANDIGARH
BALANCE SHEET AS AT 31st March, 2018

SOURCES OF FUNDS	SCHEDULES	(Rs. In Lacs)	
		Current year	Previous year
UNRESTRICTED FUNDS			
Corpus Fund	1	7,302.19	6,191.86
General Fund		(1,625.06)	(1,713.60)
DESIGNATED EARMARKED / ENDOWMENT FUNDS	2	2,148.50	2,008.23
CURRENT LIABILITIES & PROVISIONS	3	2,819.12	2,445.76
TOTAL		10,644.75	8,932.25
APPLICATION OF FUNDS			
FIXED ASSETS	SCHEDULES	Current year	Previous year
Tangible Assets	4 & 4A	3,984.76	3,718.66
Intangible Assets			
Capital Work in progress		637.11	530.04
INVESTMENTS FROM EARMARKED/ ENDOWMENT FUNDS	5	-	-
Long term			
Short term			
INVESTMENTS-OTHERS	6	-	-
CURRENT ASSETS'	7	5,817.18	4,412.98
LOANS, ADVANCES & DEPOSITS	8	205.70	270.58
TOTAL		10,644.75	8,932.25
SIGNIFICANT ACCOUNTING POLICIES	23		
CONTINGENT LIABILITIES & NOTES TO ACCOUNTS	24		

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NITTTR, Chandigarh

**NATIONAL INSTITUTE OF TECHNICAL TEACHER'S TRAINING AND RESEARCH
SECTOR 26, CHANDIGARH
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2018**

Particulars	Schedule	Amount Current Year	(Rs. In Lacs) Amount Prev. Year
<u>INCOME</u>			
Academic Receipts	9	152.93	170.91
Grants / Subsidies	10	3,046.31	2,388.00
Income from Investments	11	-	
Interest Earned	12	283.32	285.86
Other Incomes	13	180.45	292.47
Prior Period Income	14	-	-
TOTAL (A)		3,663.01	3,137.24
<u>EXPENDITURE</u>			
Staff Payments & Benefits(Establishment Expenses)	15	2,734.84	2,314.85
Academic Expenses	16	123.54	168.18
Administrative & General Expenses	17	163.04	186.20
Transportation Expenses	18	4.02	2.78
Repairs & maintenance	19	83.45	124.03
Finance Costs	20	-	-
Depreciation	4	465.57	483.59
Other Expenses	21	-	0.71
Prior Period Expenses	22	-	
TOTAL (B)		3,574.47	3,280.34
Balance being excess of income over expenditure (A-B)		88.54	(143.10)
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		

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NATIONAL INSTITUTE OF TECHNICAL TEACHERS' TRAINING AND RESEARCH
Sector - 26, Chandigarh

Receipts and Payment Account for the Period Ended 31.03.2018

-195286447.2

A. RECEIPTS

		(Rs In Lakhs)		
S.No.	Particulars	Annexure	Current Year	Previous Year
I	Opening Balance			
	A) Cash Balance		6.84	9.69
	B) Bank Balance			
	- In Current Account			
	- In Deposit Account		1957.81	1985.43
	- In Saving Account		487.85	23.84
	Reconciliation of Previous Year (FDR)			
II	Grant Received			
	A) From Government of India	1	4096.31	3188.00
	B) From State Government			
	C) From Other Sources			
III	Academic Receipts	2	207.65	219.74
IV	Receipts against Earmarked Endowment Funds	3	61.90	
V	Receipts against Sponsored Projects / Schemes	4	119.94	152.81
VI	Receipts against Sponsored Fellowships & Scholarships			
VII	Income on Investments from			
	A) Earmarked / Endowment Fund			
	B) Other Investments			
VIII	Interest Received on	5		
	A) Bank Deposit		347.38	146.71
	B) Loan & Advances		0.45	5.51
	C) Savings Bank Accounts			
IX	Investment Encashed			
X	Term Deposit with Scheduled Bank Encashed			
XI	Other Income (Including Prior Period Income)	6	261.17	281.54

XII	Deposits & Advances	7	280.20	467.02
XIII	Miscellaneous Receipts including Statutory Receipts	8	616.90	
XIV	Any Other Receipts	9	145.44	6.59
	TOTAL		8589.85	6486.88

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B PAYMENTS

S.No.	Particulars		Current Year	Previous Year
I	EXPENSES			
	- Establishment Expenses	10	2632.68	2233.80
	- Academic Expenses	11	54.73	43.32
	- Administrative Expenses	12	157.03	213.88
	- Transportation Expenses			
	- Repair & Maintenance	13	164.18	183.66
	- Prior Period Expenses			
II	Payment against Earmarked / Endowment Funds	14	1.51	
III	Payments against Sponsored Project / Scheme	15	112.04	237.99
IV	Payments against Sponsored Fellowships / Scholarships			
V	Investments and Deposit Made			
	A) Out of Earmarked / Endowment Fund			
	B) Out of Own Funds (Investment Other)			
VI	Term Deposits with Scheduled Bank			
VII	Expenditure on Fixed Assets and Capital Work In Progress			
	A) Fixed Assets	16	858.85	672.73
	B) Capital Work In Progress			

VIII	Other Payments Includings Statutory Payments	17	543.24	
IX	Refunds of Grants			
X	Deposits and Advances	18	179.92	363.12
XI	Other Payments	19	97.05	85.88
XII	Closing Balances			
	A) Cash In Hand		6.94	6.84
	B) Bank Balances			
	- In Current Accounts			
	- In Saving Accounts		1392.04	487.85
	- In Deposits Accounts		2389.64	1957.81
	TOTAL		8589.85	6486.88

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NATIONAL INSTITUTE OF TECHNICAL TEACHERS' TRAINING AND RESEARCH
Sector - 26, Chandigarh

(Rs In Lakhs)

1. Grants Received

Particulars	Current Year	Previous Year
Grant in Aid Capital OH 35	1050.00	800.00
Grant in Aid General (OH31)	955.06	300.00
Grant Salary OH-36	2091.25	2088.00
	4096.31	3188.00

2. Academic Receipts

Particulars	Current Year	Previous Year
C01 ME	207.65	219.67
Fees under various courses		0.07
	207.65	219.74

3. Receipts against Earmarked Endowment Funds

Particulars	Current Year	Previous Year
Corpus Fund	15.48	
Equipment Replacement Fund	15.48	
Faculty Development Fund	15.48	
Maintenance Fund	15.48	
	61.90	0

4. Receipts against Sponsored Projects / Schemes

Particulars	Current Year	Previous Year
AICTE QIP POLY	11.39	3.71
SPONSORED PROJECTS		88.41
5.13 MISC ETV	0.23	
C-4 R/D	1.00	

ETV 5.13 (GYAN VANI)	0.47	
INSPIRE FELLOWSHIP BY SC & TECH GOI	3.78	
IT BIONERY RD PROJECT	1.27	
PDA-08	90.00	
SP-01	0.75	
SP-04(Mech	5.91	
SP-10(Edic)	0.10	
Sp-11(Edic)	0.10	
Sp-12	0.10	
Sp-13(Edic)	1.36	
SP-14	1.01	
SP-15	2.47	
SP-16		39.50
SP-54		21.19
	119.94	152.81

5. Interest Received on Particulars

	Current Year	Previous Year
A. Bank Deposits		
Interest From Bank	347.38	146.71
A. Loan & Advances	0.00	0.00
Interest on Advances	0.45	5.51
	347.83	152.22

6. Other Income (Including Prior Period Income)

Particulars	Current Year	Previous Year
BOOKING OF AUDITORIUM	1.59	1.12
Booking of Board Room	0.04	0.00
Booking of Conference Hall	0.55	0.46
BOOKING OF EXAMINATION HALL	1.09	0.00
Booking of Syndicate Room	0.09	0.00
Booking of TT Hall	0.02	0.00
Booking of Badminton Hall	0.00	0.09
Receipt of Institute Share	21.44	102.05
Co6	1.82	0.00
Ground Rent CM Auto Sales	0.01	0.00
Health Food Bills	0.05	0.00
HRR	18.61	15.05
IFD 10 Sale of Publication	0.03	0.04
Misc Receipt	60.56	37.28
Overhead Charges	13.51	59.40
Projector Charges	1.23	0.00

Rent From Dinning Hall	0.58	0.00
Rent From Guest House	17.94	9.07
Rent From Hostel Rooms	40.07	55.60
Rent From Mess/Canteen	0.00	0.72
RTI	0.02	0.03
Sale of Old Newspaper and Magazine	0.08	0.00
Vollyball Ground Booking	0.02	0.00
Photocopy Charges	0.00	0.63
Ph.D Assistancship/Research	1.12	0.00
FDR of Prior Period	80.72	0.00
	261.17	281.54

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7. Deposits & Advances

Particulars	Current Year	Previous Year
Consultancy Projects	237.78	399.98
Permanent Imprest to Dharam Singh	0.04	0.00
Permanent Imprest to Vishnu Dutt	0.02	0.00
TEMPORARY ADVANCE	28.53	0.00
Loan to C4	1.60	0.00
Advance to MNIT	5.09	0.00
Advance Legal Fees	0.75	0.00
Other Receipts	0.10	61.28
Festival Advance	2.43	0.00
Loan for Car	0.45	0.00
Loan for Computer	0.72	0.00
Loan for HBA	1.96	0.00
Loan for Scooter	0.74	0.00
Loans	-	5.76
	280.20	467.02

8. Miscellaneous Receipts including Statutory Receipts

Particulars	Current Year	Previous Year
Duties & Taxes		
GST	3.38	
CGST	3.97	
IGST	22.68	
UTGST	3.97	

Income Tax Experts	4.86	
Income Tax Firms	6.31	
Income Tax Retirees	12.38	
Income Tax Staff	228.56	
Interest IGST	0.00	
Interest on Service Tax	0.02	
Service Tax	8.92	
Income Tax Receivable	3.09	
Recovery & Deduction From Salary	0.00	
GIS	9.47	
GPF	296.04	
LIC	9.05	
R&FW	0.07	
Staff Welfare Fund	4.13	
	616.90	0

9. Any Other Receipts

Particulars	Current Year	Previous Year
Alumini Association	1.67	2.57
Distribution Fund	6.82	0.00
Earnest Money	92.08	0.00
Royalty to Authors	0.37	0.00
Security of Firms	31.78	2.73
CTD	0.00	0.01
Equipment Written Off	8.56	0.00
Vehicles	0.51	0.00
Sundry Creditors	1.70	1.29
Welfare Fund ME Students	1.96	
	145.44	6.59

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NATIONAL INSTITUTE OF TECHNICAL TEACHERS' TRAINING AND RESEARCH
Sector - 26, Chandigarh

10. Establishment Expenses

Particulars	Current Year	Previous Year
REVENUE (NON SALARY)		
OH-31 (TRAINING & PENSION)		
Academic Cont	3.07	5.78
Honorarium (Training)	30.34	52.92
TA (Training)	91.68	66.27
Regular Pension	422.13	389.70
OH-36 (SALARY)		
Retirement Benefits	0.00	0.00
Commutation	30.53	33.62
Gratuity	55.88	59.63
Leave Encashment to Retirees	54.88	41.47
TA to Retirees	0.45	0.00
SALARY PART-A		
Salary Faculty	659.43	608.03
Salary Non Faculty	638.16	663.18
Outsource Salary	182.01	178.58
DA	8.95	19.99
Arrears	333.72	0.00
Bonus	0.00	10.57
SALARY PART-B		
Children Education Allowance	7.89	10.37
Leave Encashment	9.52	0.00
LTC	12.74	11.79
Medical	45.84	36.71
NPS	25.99	32.51
PDA	18.31	7.75
CPF Institute share	1.15	1.73
Leave Salary & Pension Contribution	3.20	3.20
	2632.68	2233.80

11. Academic Expenses

Particulars	Current Year	Previous Year
C01 ME	54.73	43.32
	54.73	43.32

12. Administrative Expenses

Particulars	Current Year	Previous Year
REVENUE (NON SALARY)		
OTA	0.02	0.06
Contribution to reserve Fund	53.96	61.28
NON SALARY	0.00	0.00
Contingency	0.00	0.00
Advertisement	5.29	11.15
Annual Day	1.15	3.97
Annual Sports	1.66	1.63
Cont RMCT	0.16	0.00
EDC Machine Charges	0.26	0.00
Golden Jubilee of the Institute	32.73	0.11
Hindi Day	0.58	0.12
Independence Day	0.20	0.25
Library Journal	6.59	0.00
Livery	0.35	0.77
Medicine	0.07	0.30
Newspaper & Periodicals	0.36	0.55
Office Contingency	20.56	0.00
PDA-02(IMCO)	0.14	0.00
Postage	1.55	2.30
Property Tax	3.21	3.07
Republic Day	0.07	0.00
Service Charges NPS	0.06	0.09
Stationary	8.78	10.51
TT Charges	2.90	3.63
Professional & Audit Fees	5.74	4.52
Gate Scholarship	0.00	12.35
8.2 RD	0.00	0.15
Ground Rent	0.59	0.59
Misc Expense (Office)	0.00	16.92
P.Hd Assistanceship & Research	0.00	30.22
Honorarium	1.80	0.00
TA	8.18	49.31
IFDI A CELL	0.06	0.06
	157.03	213.88

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13. Repair & Maintenance

Particulars	Current Year	Previous Year
Maintenance		183.66
Mtc Academic Cell	0.00	0.00
Mtc Applied Sc	0.15	0.00
Mtc Building	41.61	0.00
Mtc Campus	1.16	0.00
Mtc Cdc	0.14	0.00
Mtc Civil	3.65	0.00
Mtc Computer	5.97	0.00
Mtc ECE	0.31	0.00
Mtc EDIC	0.14	0.00
Mtc Electrical	10.30	0.00
Mtc Electrical Lab	0.95	0.00
Mtc Electronic Service Centre	0.01	0.00
Mtc EMGT	0.14	0.00
Mtc ETV	1.34	0.00
Mtc Furniture	2.85	0.00
Mtc Guest House	1.76	0.00
Mtc Hostel	4.55	0.00
Mtc IMCO	0.70	0.00
Mtc Internet Connectivity	0.07	0.00
Mtc ISO	0.25	0.00
Mtc Lib	1.29	0.00
Mtc Mechanical	1.78	0.00
Mtc Media	2.45	0.00
Mtc R/D	0.37	0.00
Mtc Refrigeration & A.C	6.71	0.00
Mtc Sports	0.05	0.00
Mtc Telephone	1.16	0.00
Mtc Vehicle	4.02	0.00
Mtc Water & Electricity Charges	70.30	0.00
	164.18	183.66

14. Payment against Earmarked / Endowment Funds

Particulars	Current Year	Previous Year
CORPUS FUND	0.68	
FACULTY DEV FUND	0.73	
MAINTENANCE FUND	0.10	
	1.51	0

15. Payments against Sponsored Project / Scheme

Particulars	Current Year	Previous Year
SPONSORED PROJECTS		81.78
1.2.107 SIRD ASSAM	1.76	0.00
1.2.224 SIRD RD	0.59	0.00
3.2.14 ETV VIDEO	1.77	0.00
3.2.6 ETV VIKLANGTA SE TAKKAR	1.22	0.00
5.13 ETV PALAMPUR	0.51	0.00
5.13 ETV SHIMLA	0.01	0.00
5.13 IGNOU ETV	2.16	0.00
AICTE QIP POLY	9.34	2.96
AICTE-RPS	0.00	0.00
AICTE (SC/ST STUDENTS)	1.50	0.00
CUSTOMISED ETV RPS 5.20	5.53	0.00
DASA 2013	2.50	0.00
DST NIMMAT EDIC SP 1.2.153	1.07	0.00
GATE AICTE	0.06	0.00
INSPIRE FELLOWSHIP BY SC & TECH GOI	4.22	0.00
IT BIONERY RD PROJECT	1.27	0.00
NCP PROJECT ETV 4.17	4.76	0.00
PDA-08	53.30	0.00
SP-01	1.75	0.00
SP-03	1.41	0.00
SP-04(Mech	4.23	2.82
SP-05	0.04	0.00
SP-09	3.27	0.00
SP-10(Edic)	0.32	0.00
Sp-11(Edic)	0.26	0.00
Sp-13(Edic)	0.63	0.00
SP-14	1.01	0.00
SP-15	0.53	0.00
SP-17 Civil)	4.18	0.00
SP-32	0.07	0.00
STUDY VISIT IMCO 1.2.215	1.18	0.00
TEQIP EC 83	0.62	0.00
VOACTIONAL EDUCATIONAL FILM ETV	0.97	0.00
IFD (3)	0.00	0.02
SP-54	0.00	53.53
W-14 civil	0.00	1.43
PSCB-13	0.00	0.94
PBR 12	0.00	0.64
5.17 PWD	0.00	46.08
5.17 (PWD) SP-16	0.00	47.19
C-4 RD Registration Fees	0.00	0.60
	0.00	0.00
	112.04	237.99

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16. Expenditure on Fixed Assets and Capital Work In Progress

Particulars	Current Year	Previous Year
Equipments		282.57
Equip - CIVIL	71.56	0.00
Equip - Mechanical	75.58	0.00
Equipment-Applied Sc	20.72	0.00
Equipment-Building	1.04	0.00
Equipment-Computer	12.83	0.00
Equipment-ECE	0.44	0.00
Equipment-Elect Mtc	0.20	0.00
Equipment Electrical Deptt	91.17	0.00
Equipment-EMGT	0.25	0.00
Equipment-ESC	15.70	0.00
Equipment-ETV	14.92	0.00
Equipment Hostel	0.84	0.00
Equipment-IMCO	0.44	0.00
Equipment-Institute Sports	1.87	0.00
Equipment-Media	8.50	0.00
Equipment-Office	0.92	0.00
Equipment- Ref & Aircondining	1.05	0.00
Equipment-Rural Dev	7.33	0.00
Equipment Telephone	0.08	0.00
Advance Renovation (BSNL)	154.90	0.00
Renovation	219.63	312.81
Work in Progress (BSNL)	0.00	-15.30
Advance to Maruti Suzuki	6.71	0.00
Computer & Peripherel	1.50	38.13
Furniture	16.45	12.46
Intangible Assets	122.87	21.59
Library Books	11.37	20.47
		0.00
	858.85	672.73

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17. Other Payments Includings Statutory Payments

Particulars	Current Year	Previous Year
Duties & Taxes		
CGST	3.64	
IGST	11.82	
UTGST	3.64	

Income Tax Experts	4.63
Income Tax Firms	6.84
Income Tax Retirees	12.13
Income Tax Staff	154.97
Interest on Service Tax	0.02
Service Tax	9.77
GST	3.38
Income Tax Receivable	4.84
Recovery & Deduction From Salary	0.00
CTD	0.01
GIS	9.47
GPF	296.04
LIC	9.05
R&FW	0.07
STAFF WELFARE FUND	12.92

543.24

0

18. Deposits and Advances

Particulars	Current Year	Previous Year
1.2.155	0.69	0.00
2.1.3 Cdc	0.62	0.00
5.15 C	0.97	0.00
5.18 Mechancial	4.79	0.00
5.20	4.35	0.00
5.21	1.18	0.00
5.28	0.27	0.00
Cd-1	0.50	0.00
CP-1	34.58	0.00
CP-10 CP-5 (E)	0.60	0.00
CP-15 Civil	3.74	0.00
CP-17	0.12	0.00
CP-18	0.06	0.00
CP-2	0.54	0.00
CP-25	15.08	0.00
CP-3	0.41	0.00
CP-36	4.41	0.00
CP-42	3.25	0.00
CP-43	0.55	0.00
CP-5	0.00	0.00
CP-50	0.24	0.00
CP-53	0.68	0.00
CP-58	0.27	0.00
CP-62	0.91	0.00
CP-63	1.93	0.00
CP-64	4.16	0.00
CP-65	0.39	0.00
CP-66 CDC	2.92	0.00
CP-67	4.87	0.00
CP-69 Computer Sc	0.87	0.00

CP-71	1.19	0.00
CP-73	1.24	0.00
CP-75(CDC)	0.16	0.00
-CP-76	13.19	0.00
CP-77	21.85	0.00
CP-81 ETV	0.03	0.00
CP-82 CDC	0.36	0.00
CP-84(ETV)	0.04	0.00
CP-85	0.05	0.00
CP-8 COMP CP 5 (C)	0.30	0.00
Cs-1	0.05	0.00
EC-151	3.00	0.00
IC01 COMPUTER SC.	0.05	0.00
IMCO -C TOSS/CITROP	4.67	0.00
IMCO SPIC	1.90	0.00
SERVICE CHARGES OF DINNING HALL	0.02	0.00
W-26(NBA)	0.35	0.00
Consultancy project	0.00	362.27
Permanent Imprest to Dharam Singh	0.02	0.00
TEMPORARY ADVANCE	33.82	0.25
Loan to C-4	1.00	0.60
REVENUE (NON SALARY)	0.00	0.00
LOAN & ADVANCES	0.00	0.00
Festival Advance	2.33	0.00
Advance to M/S Avantech Ltd	0.35	0.00
Loan for Computer	0.01	0.00
	179.92	363.12

19. Other Payments

Particulars	Current Year	Previous Year
DISTRIBUTION FUND	35.72	2.22
EARNEST MONEY	27.44	12.51
ROYALTY TO AUTHORS	0.14	0.00
WELFARE FUND ME STUDENTS	0.18	1.13
Security of Firms	23.47	0.00
Sundry Creditors	0.74	0.00
Secreterial Assistance	0.00	0.02
Repayment of loan rom GPF	0.00	70.00
MISC DEPOSIT AUDITORIUM	9.16	
DEPOSIT OF QIP POLY	0.22	
	97.05	85.88

Accounts Officer
NITTTR, Chandigarh

Director,
NITTTR, Chandigarh



भारतीय लेखापरीक्षा तथा लेखा विभाग
कार्यालय प्रधान निदेशक लेखापरीक्षा (केन्द्रीय), चण्डीगढ़
Indian Audit & Accounts Department
Office of The Principal Director of Audit (Central),
Chandigarh



सं/No: पी.डी.ए. (सी)/के. व्यय/SAR NITTTR Chandigarh/ 2017-18/2018-19/ 2757

दि०/Dated: 28/11/2018

सेवा मे,

सचिव,
उच्चतर शिक्षा विभाग,
मानव संसाधन विकास मंत्रालय,
भारत सरकार
कमरा न. 127, सी विंग
शास्त्री भवन, नई दिल्ली - 110001

विषय: राष्ट्रीय तकनीकी शिक्षक प्रशिक्षण एवं अनुसंधान संस्थान, चंडीगढ़, (National Institute of Technical Teachers' Training and Research, Chandigarh) के वर्ष 2017-18 के लेखाओं पर पृथक लेखापरीक्षा प्रतिवेदन

महोदय,

कृपया राष्ट्रीय तकनीकी शिक्षक प्रशिक्षण एवं अनुसंधान संस्थान, चंडीगढ़, (National Institute of Technical Teachers' Training and Research, Chandigarh) के वर्ष 2017-18 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।

संलग्न: उपरोक्त अनुसार

भवदीय,

—हस्ता—

प्रधान निदेशक

✓ उपरोक्त की प्रतिलिपी वर्ष 2017-18 की पृथक लेखापरीक्षा प्रतिवेदन की प्रति सहित आवश्यक कार्यवाही हेतु निदेशक, राष्ट्रीय तकनीकी शिक्षक प्रशिक्षण एवं अनुसंधान संस्थान, चंडीगढ़, (National Institute of Technical Teachers' Training and Research, Chandigarh), सेक्टर 26, चंडीगढ़ को प्रेषित की जाती है।

उप 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 2018

We have audited the Balance Sheet of the National Institute of Technical Teachers' Training and Research, Chandigarh as at 31 March 2018, Income & Expenditure Account and Receipts & 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 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 except as stated in Comment No. D.2.

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 (Schedule 1): ₹ 73.02 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 ₹ 2.17 crore (at ₹ 54.37 lakh each) transferred to above mentioned four funds in compliance of TEQIP-II guidelines. However, the portion of three funds Faculty Development Fund; Equipment replacement fund; and Maintenance fund amounting to ₹ 54.37 lakh each has not been depicted under the Earmarked/ Endowment Funds (Schedule 2). This has resulted in overstatement of Corpus/General fund (Schedule 1) and understatement of Earmarked Funds/ Endowment Funds (Schedule 2) by ₹ 1.63 crore each.

**A.1.2 Designated/Earmarked/Endowment Funds (Schedule 2 and 2A):
₹ 21.49 crore**

A.1.2.1 Above includes amount of ₹ 0.54 crore on account of grants received for sponsored Projects (GOI: ₹ 0.24 crore, RPS by AICTE: ₹ 0.02 crore and Computer Science OP. No. 5.17: ₹ 0.28 crore). This has resulted in overstatement of Endowment Funds (Schedule-2A) and understatement of Current Liabilities (Schedule 3) on account of Sponsored projects (Schedule-3(a)) by ₹ 0.54 crore each. No corrective action has been taken despite being pointed out in previous year report.

A.1.2.2 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 despite being pointed out in previous year report.

A.1.2.3 Endowment funds were represented by the bank balances which were inappropriately classified under the head "Current Assets" instead of "Investments from Earmarked/ Endowment Funds". No corrective action has been taken despite being pointed out in previous year report.

A.1.3 Current Liabilities & Provisions (Schedule 3)

A.1.3.1 Unutilised Grants: ₹ Nil

Above does not include unutilised balance of Grant-in-Aid as on 31 March 2018 of ₹ 13.64 crore. This has resulted in understatement of Current Liabilities by ₹ 13.64 crore, overstatement of Corpus/Capital Fund by ₹ 6.31 crore and overstatement of General Fund (Schedule 1) by ₹ 7.33 crore. Besides, Income of the current year has been overstated by ₹ 4.14 crore due to taking entire revenue grant of ₹ 30.46 as Income instead of utilisation to the extent of revenue expenditure of ₹ 26.32 crore.

A.1.3.2 Current Liabilities & Provisions (Schedule 3)

Sundry Creditors (others): ₹ 1.31 crore

Against the above outstanding amount General Ledger amounting to ₹ 1.18 crore have been produced to audit. The difference of ₹ 0.13 crore has still not been reconciled despite being pointed out in previous report.

A.2 Application of Funds

A.2.1 Fixed Assets (Schedule 4): ₹ 39.85 crore

A.2.1.1 The applicable format of accounts prescribes that the fixed assets for which the ownership vests with the Institute are to be added to the Corpus Fund of the Institute.

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. The project was closed during the year 2017-18, however, Fixed Assets amounting to ₹ 4.49 crore (₹ 4.48 crore purchased during the years 2015-16 & 2016-17 and ₹ 0.01 crore purchased during the year 2017-18) have not been transferred to the Institute Account as per the requirement. This has resulted in understatement of Fixed Assets (Schedule 4) as well as understatement of Corpus Fund (Schedule 1) by ₹ 4.49 crore each. Further, depreciation is also required to be provided at the applicable rates.

A.2.1.2 The applicable Format of Financial Statements prescribes specific rates of depreciation in respect of different categories of Assets for ensuring uniformity. However, as per Significant Accounting Policy at Sl. No. 3, the Institute is providing depreciation on Fixed Assets on written down value method at the rates specified in the Income Tax Rules, 1962.

- (i) Non-application of specific rates of depreciation provided in the prescribed format has resulted in overcharging of depreciation amounting to ₹ 3.25 crore. This has resulted in understatement of Fixed Assets (Schedule 4) and overstatement of Expenditure on account of depreciation (Schedule 4) by ₹ 3.25 crore each.
- (ii) Separate rates of depreciation on Furniture Fixture and Electrical Installations 7.5% and 5 % respectively have been provided in the prescribed format, whereas, the Institute has merged Furniture Fixture & Electrical Installations amounting to ₹ 1.93 crore under one head (charging depreciation at the rate of 10 %) due to which applicable depreciation could not be worked out.

A.2.2 Capital Work in Progress (Schedule 4A): ₹ 6.37 crore

A.2.2.1 Above includes an amount of ₹ 3.82 crore against which works had been completed by CPWD and the buildings are being utilised by the Institute. This has resulted in overstatement of CWIP (Schedule 4A) and understatement of Fixed Assets (Schedule 4) by ₹ 3.82 crore. Further, depreciation on these buildings of ₹ 3.82 crore is also required to be charged from the date of their occupation by the Institute.

A.2.2.2 As per the Form-65 received from CPWD balance amount with them was ₹ 0.11 crore whereas the Balance as per the Institute books was ₹ 0.25 crore. The difference of ₹ 0.14 crore needs to be reconciled.

A.2.3 Current Assets (Schedule 7): ₹ 58.17 crore

3. Cash & Bank Balances

a. with Scheduled Banks

In term deposit accounts: ₹ 23.90 crore

The Institute was having Investments on Fixed Deposit Receipts ₹ 22.35 crore instead of ₹ 23.90 crore. Above wrongly includes interest income ₹ 1.55 crore as interest on account of GPF ₹1.55 crore has been accounted twice both in GPF & the Institute Balance Sheet. Thus, Current Assets (Schedule 7) as well as Interest Earned (Schedule 12) are overstated by ₹ 1.55 crore each.

B. Income & Expenditure Account

Expenditure

Staff Payments & Benefits (Establishment Expenses) (Schedule 15):

₹27.35 crore

A reference is invited to Sl. No. 2 of Accounting Policies stating that the accounts have been prepared on accrual basis. As per accrual basis of accounting, provision for Retirement benefits such as Gratuity and Leave Encashment should be booked as Expenditure in Income & Expenditure Account and actual payments of these retirement benefits during the financial year should be reduced from the accumulated provisions.

Actual payments on account of Gratuity and Leave Encashment of ₹ 1.11 crore made during the year were wrongly booked as Expenditure in the Income & Expenditure Account instead of deducting from the accumulated provisions. This has resulted in overstatement of Staff Payments & Benefits as well as overstatement of Provisions (Schedule 3) by ₹ 1.11 crore each. Further Provision for Retirement Benefit was not made as per AS 15.

C. Significant Accounting Policies (Schedule 23)

Significant Accounting Policy at Sl. No. 1 stating that the accounts have been maintained in the format prescribed by the Ministry of Human Resource Development vide letter dated 21-16/2012-TS. II dated 21st February 2012 is incorrect as the Institute has prepared its accounts in the Revised Format of Accounts prescribed by the Ministry of Human Resource Development (MHRD), Government of India vide letter dated 17th February 2015 applicable to Central Higher Educational Institutions. No corrective action was taken despite being pointed through previous year Management Letter.

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 2018 is as under:

- i Assets understated by ₹ 6.18 crore.
- ii Liabilities understated by ₹ 14.16 crore.
- iii Corpus/General Fund overstated by ₹ 7.98 crore.
- iv Surplus for the year understated by ₹ 4.58 crore.

D.2 Schedule 10- Grant/ Subsidies and Schedule 3 (c) - Unutilized Grants from UGC, Government of India and State Governments as prescribed in the applicable format have not been prepared despite being pointed out during previous audit.

E. Grants in aid

E.1 Out of the available funds of ₹ 47.48 crore (OH 31- ₹ 9.55 crore, OH-35: ₹ 13.83 crore and OH-36: ₹ 24.10 crore), including previous year balance of ₹ 6.52^V crore (OH 31- ₹ Nil, OH-35: ₹ 3.33 crore and OH-36: ₹ 3.19 crore) and Grant in Aid received from Govt. of India, New Delhi during the year ₹ 40.96 crore (OH 31- ₹ 9.55 crore, OH-35: ₹ 10.50 crore and OH-36: ₹ 20.91 crore), the Institute utilized ₹ 33.84 crore (OH 31- ₹ 5.47 crore, OH-35: ₹ 7.52^{II} crore and OH-36: ₹ 20.85 crore) leaving an unspent balance of ₹ 13.64^Y crore (OH 31- ₹ 4.08 crore, OH-35: ₹ 6.31 crore and OH-36: ₹ 3.25 crore).

Besides the Institute was having an unspent balance of ₹ 10.14 crore as Internal Revenue Generation (IRG).

E.2 Insufficient revision of Utilization Certificates/Statement of unspent balances

The Institute has not revised its Utilization Certificates (UCs) as per closing grants balances included in the Separate Audit Reports for the year 2016-17 resulting in overstatement of opening IRG balance by ₹ 4.06 crore and understatement of opening grant balances by ₹ 4.06 crore (₹ 5.94 crore- ₹ 1.88 crore:- OH-31: ₹ 2.18 crore OH-35: ₹ 0.49 crore and OH-36: ₹ 1.39 crore) in the UCs submitted to the Ministry for the year 2017-18. Consequently, closing balance of IRG is also overstated and closing grant balances have been understated to the same extent of ₹ 4.06 crore each.

F. Management Letter

Deficiencies which have not been included in the Audit Report have been brought to the notice of the 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.

^V As per previous SAR the balance of unutilized grant was Rs.5.29 crore which did not include capital advances of Rs.1.23 crore as on 31.03.2017.

^{II} Expenditure during the year Rs.8.59 crore + opening capital advances Rs.1.23 crore – closing capital advances Rs.2.30 crore

^Y including closing capital advances of Rs.2.30 crore

- 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 2018; and
 - b. In so far as it relates to Income & Expenditure Account, of the surplus for the year ended on that date.

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

22
28/11/18

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

Place: Chandigarh

Date:

Annexure to Audit Report

1. Internal Audit System:

Ministry of Human Resource Development vide its letter dated 21.04.2017, has issued Internal Audit mechanism in - Autonomous Institute for taking appropriate action. Guideline 2 included in Annexure 1 of the mechanism emphasises on the need for independent, regular and robust **Internal Audit Set-up** headed by a Chief Executive. During the year 2017-18, internal audit of the Institute was conducted by two member team who were holding the charge of two departments. Thus, independence of the internal audit team was not ensured. Separate Internal audit set-up headed by one Chief Executive is needed to be established for making compliance of the ibid MHRD guidelines.

2. Internal Control System:

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

- i. The Institute is maintaining single cash book for the five different saving bank accounts and is also 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 Government of India Project: PWD) in the saving bank accounts operated by it in different accounts.
- ii. No compliance to various observation included in Separate Audit Report for the year 2016-17, Annexure enclosed therein and the observations raised through the Management Letter has not been made by the Institute in the Accounts for the year 2017-18 as pointed vide Audit Comment at Sl.No. A.1.2, A.1.3.2, C and D.1.
- iii. Two important schedules prescribed in the applicable format, Schedule 10- Grant/ Subsidies and Schedule 3 (c)- Unutilized Grants from UGC, Government of India and State Governments; were not prepared accordingly.
- iv. Against the 248 sanctioned posts 109 posts were lying vacant in the Institute as on 31.03.2018.

3. Physical verification of Fixed Assets other than Library Books

Physical Verification of Fixed Assets for the year 2017-18 was conducted in 2018-19. It was 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 49326 no. of books as on 31.3.2018. Physical verification of Library books was conducted in 2014-15, of which 150 books were untraceable upto 31.03.2018. The physical verification was due in 2017-18, which has not been conducted so far.

5. Physical Verification of Inventory

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

6. Regulatory in payment of statutory dues

Service tax on examination fee amounting to ₹ 0.04 lakh had not been deposited in the Government account despite being pointed out during previous audit.


Deputy Director

**Partnering, Networking, Digitizing & Empowering
For
Quality Technical Education**



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