

ANNUAL REPORT 2020-21



National Institute of Technical Teachers Training And Research

Sector – 26, Chandigarh –160 019 (India)

(An ISO 9001 : 2015 Certified Institute)



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Teaming Together

ORGANISATIONAL STRUCTURE OF NITTTR CHANDIGARH

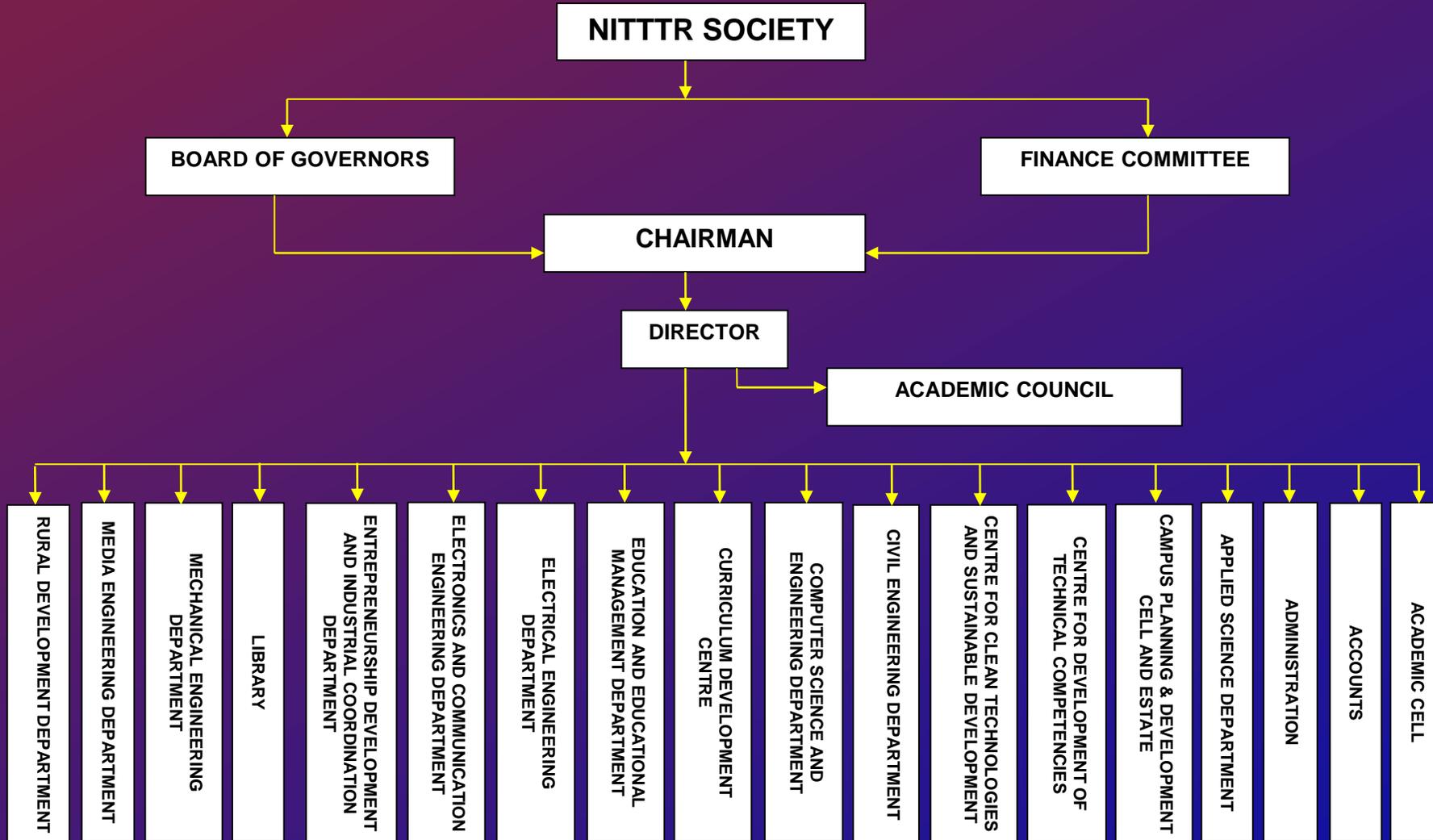


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Audited Accounts

**LIST OF MEMBERS OF THE NITTTR CHANDIGARH SOCIETY
AS ON 31.03.2021**

Sr. No.	Name and Designation with full address	Status
1.	VACANT	Hon'ble Chairman
2.	Shri Madhu Ranjan Kumar Joint Secretary (Admn.) Department of Higher Education Ministry of Education Govt. of India, Shastri Bhawan NEW DELHI – 110 015	Member
3.	Mrs. Darshana M. Dabral Joint Secretary and Financial Adviser (IFD) Department of Higher Education Ministry of Education Govt. of India, Shastri Bhawan NEW DELHI – 110 015	Member
4.	Director Director of Technical Education Government of Telengana 2 nd Floor, Vidya Bhavan Opp. to Latha Talkies, Nampally Hyderabad 500 001	Member
5.	Sh.Krishan Kumar Kataria Director, Technical Education Government of Haryana Bays No. 7-12, Sector 4 Panchkula 134 112	Member
6.	Dr. Abhay Wagh Director of Technical Education Government of Maharashtra 3 Mahapalika Marg Elphinstone Technical Institute Campus Mumbai 400 001	Member
7.	Director Director of Technical Education Government of J&K Government Polytechnic Premises Bikram Chowk Jammu 180 004 (J & K)	Member

Sr. No.	Name and Designation with full address	Status
8.	Director Director of Technical Education Government of Uttarakhand N.C.C. Block Polytechnic Campus Srinagar (Pauri Garhwal) 246 174	Member
9.	Prof. Raj Kumar Vice Chancellor Panjab University Sector 14 Chandigarh – 160 014	Member
10.	Prof. (Dr.) L.N.Mittal House No. 845-P, Sector – 4 Panchkula – 134 112	Member
11.	Prof. (Dr.) SS Pattnaik Member-Secretary NITTTR, Sector – 26 CHANDIGARH – 160 019	Member Secretary

**LIST OF MEMBERS OF THE BOARD OF GOVERNORS OF NITTTR,
CHANDIGARH AS ON 31.03.2021**

Sr. No.	Name and Designation with full Address	Status
1.	VACANT	Hon'ble Chairman
2.	Shri Madhu Ranjan Kumar Joint Secretary (Admn.) Department of Higher Education Ministry of Education Govt. of India, Shastri Bhawan NEW DELHI – 110 015	Member
3.	Mrs. Darshana M. Dabral Joint Secretary and Financial Adviser (IFD) Department of Higher Education Ministry of Education Govt. of India, Shastri Bhawan NEW DELHI – 110 015	Member
4.	Director Director of Technical Education Government of Telengana 2 nd Floor, Vidya Bhavan Opp. to Latha Talkies, Nampally Hyderabad 500 001	Member
5.	Sh.Krishan Kumar Kataria Director, Technical Education Government of Haryana Bays No. 7-12, Sector 4 Panchkula 134 112	Member
6.	Dr. Abhay Wagh Director of Technical Education Government of Maharashtra 3 Mahapalika Marg Elphinstone Technical Institute Campus Mumbai 400 001	Member
7.	Director Director of Technical Education Government of J&K Government Polytechnic Premises Bikram Chowk Jammu 180 004 (J & K)	Member

Sr. No.	Name and Designation with full Address	Status
8.	Director Director of Technical Education Government of Uttarakhand N.C.C. Block Polytechnic Campus Srinagar (Pauri Garhwal) 246 174	Member
9.	Sh.Subhash Chander Raihan Managing Director, Sri Tools Industries, E- 183,184, & 185, Phase IV Focal Point Ludhiana – 141 010	Member
10.	Prof. (Dr.) Sachin Maheshwari Division of Manufacturing Processes and Automation Engineering, Netaji Subhas Institute of Technology (NSIT), Azad Hind Fauj Marg Sector – 3 Dwarka Delhi – 110 078	Member
11.	Prof. Raj Kumar Vice Chancellor Panjab University Sector 14 Chandigarh – 160 014	Member
12.	Prof. (Dr.) L.N.Mittal House No. 845-P, Sector – 4 Panchkula – 134 112	Member
13.	Prof. (Dr.) Hemant Sood Professor Civil Engg. Department NITTTR, Sector – 26 CHANDIGARH – 160 019	Member
14.	Prof. (Dr.) SS Pattnaik Member-Secretary NITTTR, Sector – 26 CHANDIGARH – 160 019	Member Secretary

**LIST OF MEMBERS OF THE FINANCE COMMITTEE OF NITTTR,
CHANDIGARH AS ON 31.03.2021**

Sr. No.	Name and Designation with full Address	Status
1.	VACANT	Hon'ble Chairman
1.	Shri Madhu Ranjan Kumar Joint Secretary (Admn.) Department of Higher Education Ministry of Education Govt. of India, Shastri Bhawan NEW DELHI – 110 015	Member
2.	Mrs. Darshana M. Dabral Joint Secretary and Financial Adviser (IFD) Department of Higher Education Ministry of Education Govt. of India, Shastri Bhawan NEW DELHI – 110 015	Member
3.	Sh.Krishan Kumar Kataria Director, Technical Education Government of Haryana Bays No. 7-12, Sector 4 Panchkula 134 112	Member
4.	Prof. (Dr.) SS Pattnaik Member-Secretary NITTTR, Sector – 26 CHANDIGARH – 160 019	Member Secretary

**LIST OF MEMBERS OF THE ACADEMIC COUNCIL
AS ON 31.03.2021**

Sr. No.	Name and Designation with full address	Status
1.	Prof. S.S. Pattnaik, Director Academic Council, National Institute of Technical Teachers Training & Research, Chandigarh - 160019	Chairman
2.	Prof. Sandeep Sancheti, Vice Chancellor, SRM Institute of Science and Technology, SRM Nagar, Kattankulathur, Chengalpattu District, (Tamil Nadu)	Member
3.	Mr Tarik Singh, Competency Head - IoT and Digital, Tech Mahindra Foundation, Chandigarh	Member
4.	Prof. (Dr.) BS Pabla, Professor, Mechanical Engineering Department National Institute of Technical Teachers Training & Research, Chandigarh - 160019	Member
5.	Prof. (Dr.) SS Banwait, Dean, Academics and Research & Development and Professor & Head, Mechanical Engineering Department National Institute of Technical Teachers Training & Research, Chandigarh - 160019	Member
6.	Prof. (Dr.) AB Gupta, Dean, Extension Services and Consultancy and Professor, Curriculum Development Centre, National Institute of Technical Teachers Training & Research, Chandigarh - 160019	Member
7.	Prof. (Dr.) Maitreyee Dutta, Professor and Head, Computer Science & Engineering Department National Institute of Technical Teachers Training & Research, Chandigarh – 160019	Member
8.	Prof. (Dr.) Rajesh Mehra, Professor and Head, Curriculum Development Centre National Institute of Technical Teachers Training & Research, Chandigarh - 160019	Member

Sr. No.	Name and Designation with full address	Status
9.	Prof. (Dr.) Sandeep Singh Gill, Professor and Head, Electronics and Communication Engineering Department, National Institute of Technical Teachers Training & Research, Chandigarh - 160019	Member
10.	Prof. (Dr.) C Rama Krishna, Professor, Computer Science & Engineering National Institute of Technical Teachers Training & Research, Chandigarh - 160019	Member
11.	Prof. (Dr.) SK Dhameja, Professor and Head, EDIC, National Institute of Technical Teachers Training & Research, Chandigarh - 160019	Member
12.	Prof. (Dr.) SS Dhami, Professor & Head, Mechanical Engineering Department National Institute of Technical Teachers Training & Research, Chandigarh - 160019	Member
13.	Prof. (Dr.) Poonam Syal, Professor and Head, Rural Development Department, National Institute of Technical Teachers Training & Research, Chandigarh – 160019	Member
14.	Prof. (Dr.) Sunil Dutt, Professor & Head, EMGT Department National Institute of Technical Teachers Training & Research, Chandigarh - 160019	Member
15.	Prof. (Dr.) Sanjay Kumar Sharma, Professor and Head, Civil Engineering Department National Institute of Technical Teachers Training & Research, Chandigarh - 160019	Member
16.	Prof. (Dr.) Hemant Sood, Professor, Civil Engineering Department National Institute of Technical Teachers Training & Research, Chandigarh - 160019	Member
17.	Prof. (Dr.) UN Roy, Professor, Rural Development Department National Institute of Technical Teachers Training & Research, Chandigarh – 160019	Member

Sr. No.	Name and Designation with full address	Status
18.	Prof. (Dr.) Rupinder Singh, Professor, Mechanical Engineering Department, National Institute of Technical Teachers Training & Research, Chandigarh - 160019	Member
19.	Prof. (Dr.) Niraj Bala, Professor, Entrepreneurship Development & Coordination Department, National Institute of Technical Teachers Training & Research, Chandigarh - 160019	Member
20.	Dr. Meenakshi Sood, Associate Professor, Curriculum Development Centre, National Institute of Technical Teachers Training & Research, Chandigarh - 160019	Member
21.	Dr. Hemant Kumar Vinayak, Associate Professor, EDIC Department, National Institute of Technical Teachers Training & Research, Chandigarh - 160019	Member
22.	Mrs. Shano Solanki, Assistant Professor, Computer Science and Engineering Department, National Institute of Technical Teachers Training & Research, Chandigarh - 160019	Member
23.	Prof. PK Singla, Faculty Incharge (Administration) National Institute of Technical Teachers Training & Research, Chandigarh - 160019	Member
24.	Prof. (Dr.) Srinivasa KG, Coordinator, Academic Cell, National Institute of Technical Teachers Training & Research, Chandigarh - 160019	Member



The Institute

1.0

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, major focus is towards 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 cover 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 (Engineering Colleges & Polytechnics), officials of directorates/boards of technical education, central and state government departments, industry, students from technical institutes and community. NITTTR, Chandigarh is an ISO 9001- 2015 certified organisation.

NITTTR is an autonomous organisation registered under the Societies Registration Act 1860 with Director as the Executive Head. It is managed by a Board of Governors. The Institute is situated in a well-developed campus in Sector 26, Chandigarh covering an area of over 15.98 acre housing the academic buildings, hostels, guest house and residential accommodation for faculty and staff. It also has residential campus in sectors 29 and 42 of Chandigarh with land areas of 0.75 acre and 1.25 acre respectively. 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. It is 21 km from Chandigarh Airport. The clean campus with innovative digital approach makes NITTTR unique not only in city but also in the country. The lush green campus is secured with CCTV cameras and has integrated digital developments in its routine activities. Innovation in digital pedagogy, integrating social media and providing low cost solution in teaching learning using open source tools are many such focal points of the Institute as an advocate and proposer of socio-digital pedagogy. In the recent past, the Institute has developed a strong tie up with industries to become a solution provider to strengthen the Atamirbhar Bharat and Unnat Bharat mission.



VISION & MISSION

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.***

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.

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 systematic 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*

Operational Objectives (contd..)

- *To design new instructional system and strategies for production of online 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 teachers through SWAYAM and NCTEL web portal*
- *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 Nonformal 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.

QUALITY POLICY

(ISO 9001-2015)

Institute is committed to provide high quality and customized education, training, research and development and extension services to technical and vocational education system, industry and community. The Institute shall develop leadership in technical teachers' training and provide educational products and services to enable the technical education system to achieve excellence internationally.

Leadership Approach

*“Take risks in your life If you win, you can lead! If you lose, you can guide!”
-Swami Vivekananda*



Beliefs

Partnering builds *Strength*
Networking creates *Wealth*
Empowering leads *Progress*



Approach

United we *Work*
Together we *Achieve*
Team we *Win*



PROGRAMS & ACTIVITIES

Keeping in view the emerging needs of the country, the Institute is 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 includes development and offering programs through MOOCs. Till Date the Institute has developed 11 MOOCs including three MOOCs for AICTE-NITTT.*
- *Continuing Education for Working Engineers/ Technicians/ Managers*



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

- Education & Training Programs
- Curriculum Development
- Instructional Material Development
(mainly focusing on digital resources or MOOCs for Swayam and NCTEL)
- Research and Development
- Extension Services
- Consultancy in Technical Education and Allied Areas

In addition to the above programs and activities, the Institute offers consultancy services to international, national and state level organisations in the above stated 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 Principal Academic and Executive Officer 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:

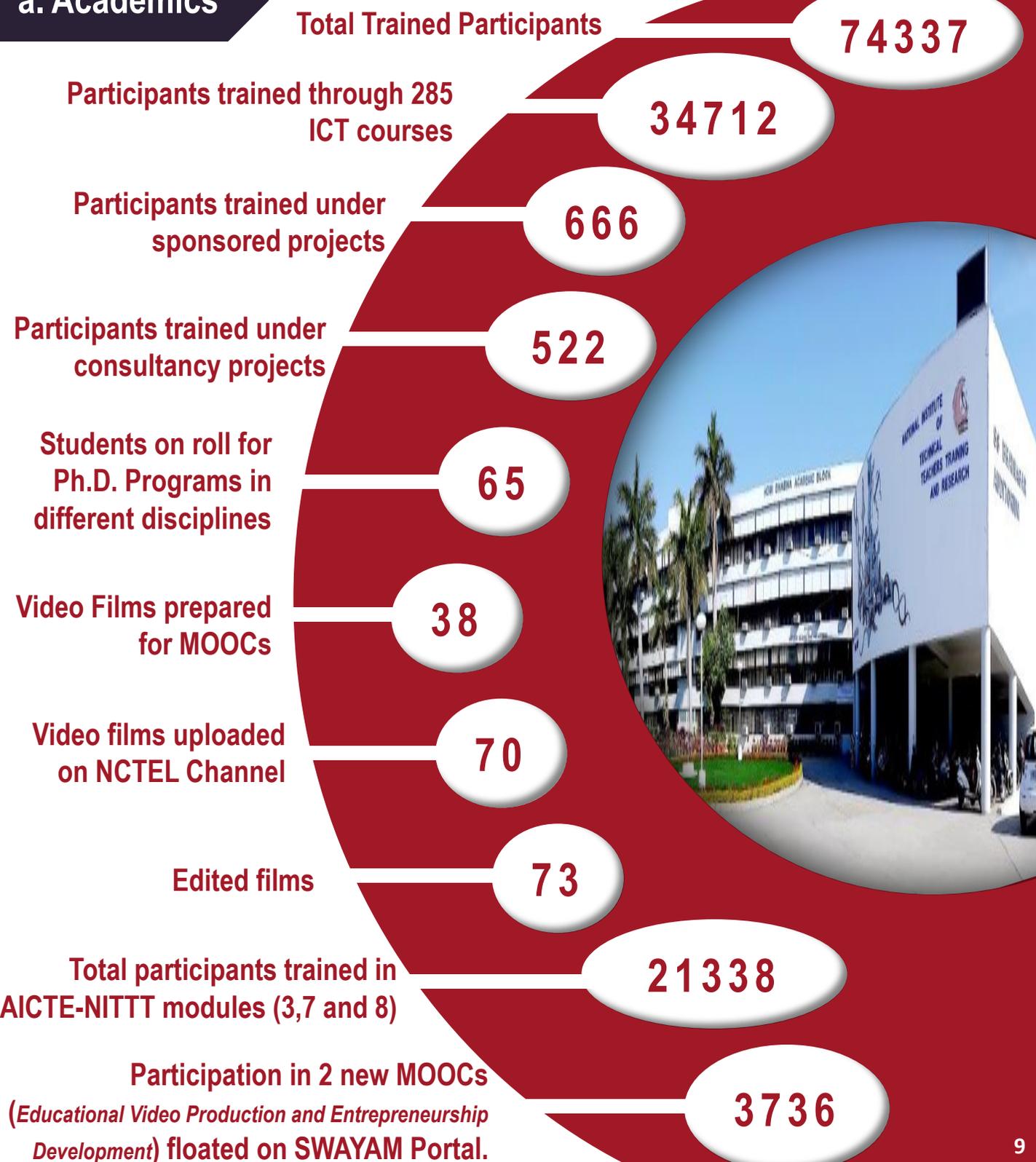
- *Finance Committee*
- *Academic Council*

Director of the Institute is the Chairman of the Academic Council

Achievement Highlights

Achievements of the Institute are reported under 05 major areas viz; Staff Development & Education through Training & Education; Curriculum Development & Revision; Instructional Material Development & Implementation; Research and Development and Extension Services and Consultancy. Distinctive programs and activities undertaken during the year are as under:

a. Academics



2.0

Achievement Highlights

a. Academics

102 students got admitted in **05** Master's Degree Programs (**Modular**) and **89** students got admitted in **07** Master's Degree Programs (**Regular**).

In addition, **58** Regular and **107** Modular students of previous batches were also on roll as on date (Total Students in PG **369**).

Submitted Proposal for Deemed to be University

2 Mentors Orientation programmes conducted with total participants **123** under mission mentoring/ NITTT-OTP for mentors

Recognized as **NRC** in EEE and as a part of that Electrical Engineering Department floated SWAYAM NRC Course on "**Big Data Analytics for Smart Grid**" on 1st December, 2020. **1947** participants enrolled in this course.

3 Re-run **MOOCs on SWAYAM on Graphics and Animation Development, Self-Learning Material Development and Research of Technical Education** are floated in *September, 2020* and **3** Rerun **MOOC courses on Graphics and Animation Development, Self-Learning Material Development and Research of Technical Education** were floated in *February, 2021* with total enrolled learners are **9115**

17 **AICTE** sponsored **ATAL** programmes have conducted during this period with participation of **2173**

20 **QIP** seats received for **Ph.D.** in Engineering

FDP conducted under sponsored projects received from various Agencies (Details are given under sponsored project). Total participants trained: **666**.

2 Workshops on Orientation Training Programmes for Mentors and trained **191** participants

2.0

Achievement Highlights

b. Infrastructure



Renovation of Old Hostel (Chander Shekhar Hostel) 108 rooms with balconies including bathrooms, corridors and staircase etc. at NITTTTR, Sector 26, Chandigarh

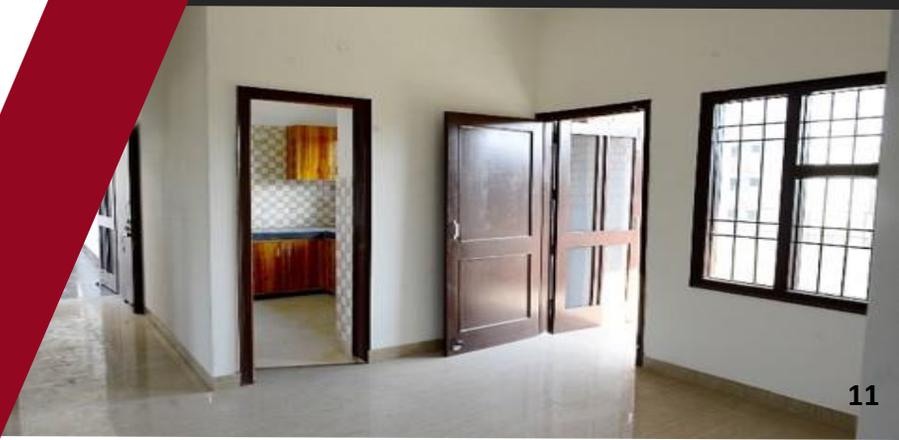
Renovation of Central Cutout of the Institute



Renovation of Conference Hall-II



Renovation of Type-IV houses (8 houses) in Sector 42, Chandigarh



2.0 Achievement Highlights

c. Policies

Framed the Industrial training Policy for Faculty Members

RS. 10 Lakh per year from IRG to train the Non-Teaching Staff



d. Contribution and Precaution in COVID

- *An alumna of NITTTR, Chandigarh, Dr. Charanjit Singh initiated the design and manufacture of face shields for the doctors and other medical staff engaged in fighting Coronavirus.*
- *Supplied first 5000 face shields to TBRL Chandigarh.*
- *Supplied nearly 50,000 face shields to various government, semi-government departments and other agencies, till date.*



GLIMPSES OF EVENTS

COVID CONTAINMENT MEASURES



During COVID-19, the Institute took appropriate steps for sanitization, social distancing in the Institute as well as in NITTTR Chandigarh Residential Campus.

GLIMPSES OF EVENTS

DISTRIBUTION OF MASKS TO SECURITY GUARDS

The Estate office of Institute prepared cotton face masks according to the specification and distributed among all security guards, Malis (Gardeners) and other workers engaged in essential services of the Institute.



SANITIZING THE WHOLE INSTITUTE AND RESIDENTIAL CAMPUS

Under the guidance of Prof. S S Pattnaik, the Institute implemented the project of sanitizing the Institute academic, administrative and residential campuses through Municipal Corporation, Chandigarh. During this period, Institute also implemented Thermal Scanning test and hand sanitation of all people entering the Campus from outside.

CONTRIBUTION OF ALUMNUS

An alumnus of NITTTT, Chandigarh, Dr. Charanjit Singh who did M.E. in Manufacturing Technology in 2009 batch, contacted Dr. Manjit Singh, Director, TBRL, Chandigarh to initiate the design and manufacture of face shields for the doctors and other medical staff engaged in fighting Coronavirus. He supplied first 5000 face shields to TBRL Chandigarh. He is so motivated that he has supplied nearly 50,000 face shields to various government, semi-government departments and other agencies, till date.



GLIMPSES OF EVENTS

ANNUAL DAY CELEBRATION



Institute Celebrated 53rd Annual Day on 7th September, 2020 online. The event was conducted through Google Meet as well as live streamed through YouTube channel. Prof. K K Aggarwal, Chairman, National Board of Accreditation was the chief guest of the function. On the occasion of 53rd Institution Day 7 Sep 2020, an open forum discussion on NEP-2020 was held in the presence of Prof. S S Pattnaik Director NITTTR Chandigarh. The discussion was coordinated by Prof. PK Singla with his team of rapporteurs: Dr. Meenakshi Sood, Dr. Balwinder Raj, Dr. Ashok Kumar and Dr. Mala Kalra. All faculty of the institute participated in the open forum discussion about the role of NITTTRs in the perspective of NEP 2020. NITTTR Chandigarh published an e-souvenir on the occasion of Annual Day. Sh. Madhu Ranjan Kumar, Officiating chairman, BOG and Joint Secretary, Ministry of Education, GOI released e-Souvenir. 15 faculty members published articles in e-Souvenir.

PANEL DISCUSSION ON 'MAKING MENTORING RELEVANT: NEP 2020 PERSPECTIVE'

NITTTR, Chandigarh in collaboration with other three NITTTRs organized a Panel Discussion on 'Making Mentoring Relevant: NEP 2020 Perspective' on 21st September, 2020, wherein about 25 Vice- Chancellors, Directors of leading Universities/Institutes (Annexure I) dwelled on four themes: Road-map for Inclusive Teachers Mentoring; The Science of Mentoring Relationship; Setting Standards for Teacher Educators; and, Challenging Challenges in Teachers Mentoring. In the follow up action of this panel discussion NITTTRs organized 2 days brain storming sessions on the four themes and prepared a document.



GLIMPSES OF EVENTS

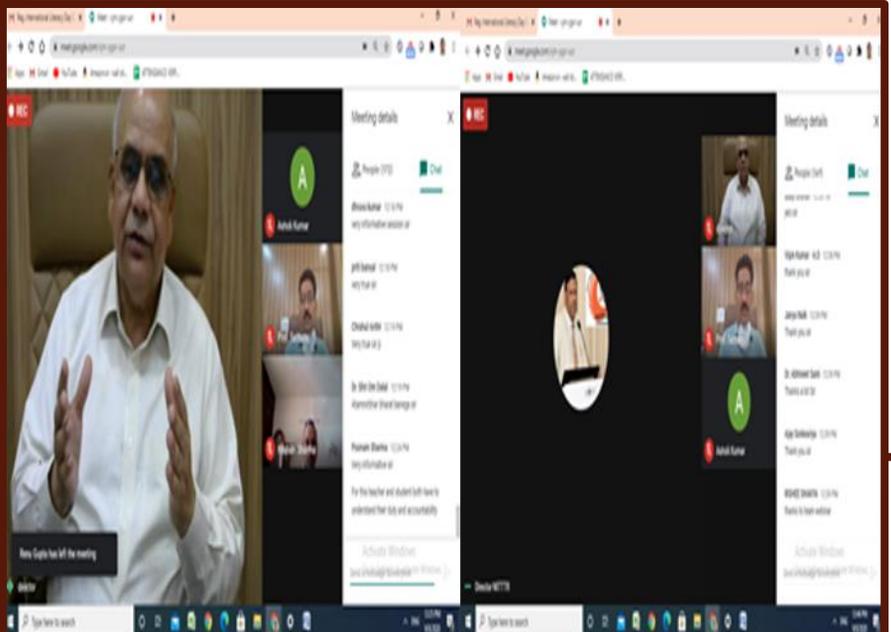
WEBINAR SERIES ON ATMANIRBHAR BHARAT



NITTR organized a 5-Days Webinar Series on Atmanirbhar Bharat: Transmutation from Privation to Exuberance on July 27-31, 2020. Sessions were conducted on five pillars Economy, Infrastructure, System, Vibrant Demography and Demand. *Mr. B.K.Mishra, Sr. Vice President and Global Head --Delivery & Operation at Tech Mahindra, Mr. Saket Misra, an Investment banker and CEO of Venus India Asset Finance, Mr. Bijay Kumar Sahoo, Group president strategic HR Reliance Industries and other many eminent speakers delivered expert talks and showed the path to the participants to become Self-Reliant.*

NATIONAL WEBINAR ON “LITERACY IN NATIONAL EDUCATION POLICY 2020”

Institute organized a national webinar on “Literacy in National Education Policy 2020” on 8th September, 2020 in collaboration with NIT Kurukshetra on the occasion of International Literacy Day. About 200 participants attended the webinar from different parts of the country. Padma Sri Awardee Dr. Satish Kumar, Director of NIT Kurukshetra, Prof. (Dr.) SS Pattnaik, Director, NITTR Chandigarh, Dr. Anurag Gaur from NIT Kurukshetra and other eminent scholars deliberated on the topic.



GLIMPSES OF EVENTS

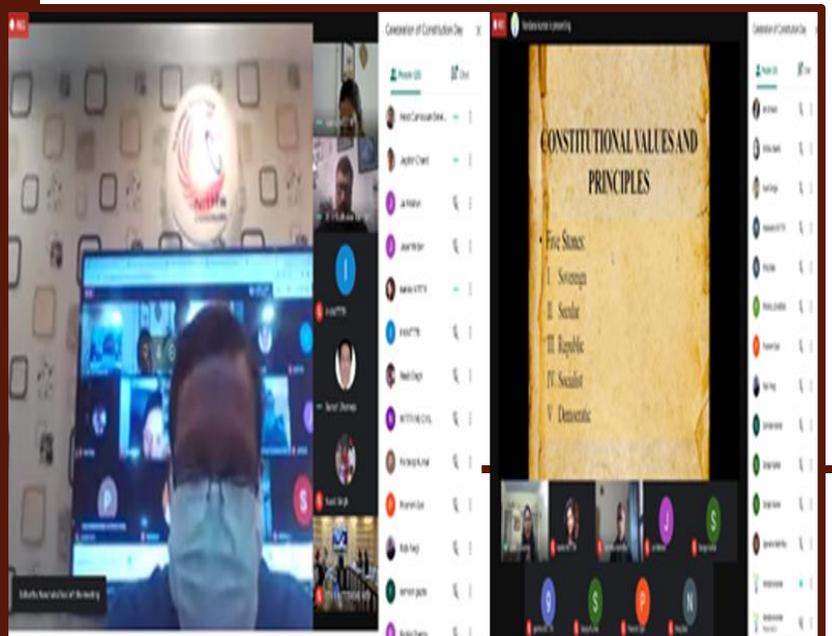
RASHTRIYA EKTA DIWAS



On the occasion of birth anniversary of Late Sardar Vallabhbhai Patel, **Rashtriya Ekta Diwas** (“**National Unity Day**”) was observed at NITTTTR, Chandigarh on **31st October 2020** (Saturday). In view of the prevailing COVID situation, the function was conducted in online mode. The function was presided by Prof. (Dr.) SS Pattnaik, Director, NITTTTR, Chandigarh. Prof. Udyakumar R. Yaragatti, Director, Malviya National Institute of Technology, Jaipur was Chief Guest on the occasion. Dr. Sudhir Baweja, Co-Ordinator, Department of Philosophy, Panjab University, Chandigarh delivered the keynote address on “Invoking the Spirit of National Unity”. ‘Rashtriya Ekta Diwas Pledge’ was taken by the NITTTTR family during the function corroborating their commitment towards the National Unity and Integrity and spreading this message among the countrymen. More than 130 Employees and Students of the Institute took the pledge in their respective departments/sections. Pledge was also taken online on the Institute website.

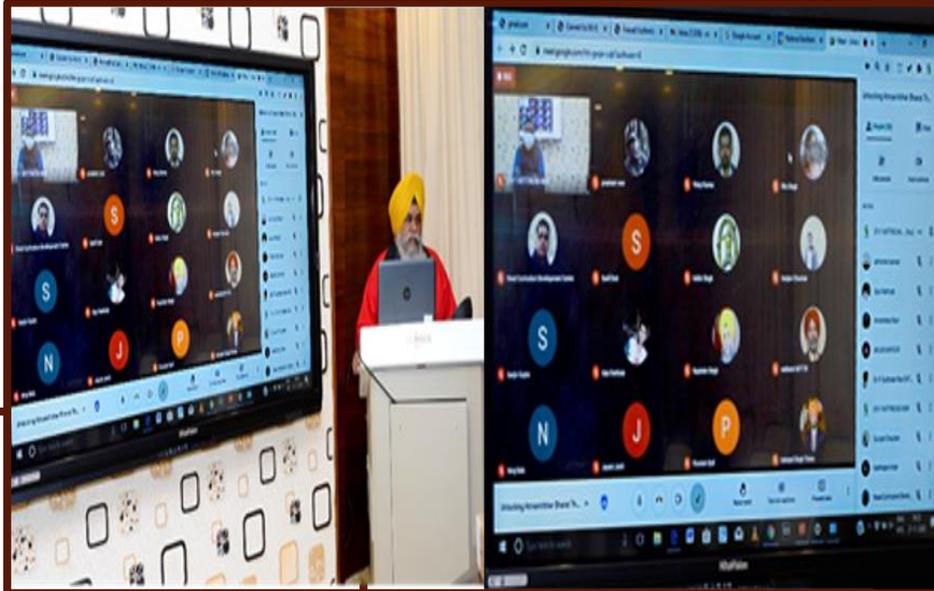
CONSTITUTION DAY, 26th NOVEMBER 2020

The Constitution day (Samvidhan Diwas) was celebrated on **26th Nov. 2020** in the institute by conducting Reading of Preamble Ceremony, special talk and quiz in online mode following the guidelines issued in the wake of COVID 19 pandemic. A special talk on “Constitutional values and Fundamental Principles of Indian Constitutions” was delivered by **Prof. Vandana Ajay Kumar**, Department of Law, Panjab University, Chandigarh had been invited to deliver this talk. Prof. Vandana rightly indicated about the significance of foundation stones or pillars of Constitutional Values and Principles and discussed the objectives to be achieved by the constitution.



GLIMPSES OF EVENTS

NATIONAL CONFERENCE ON “UNLOCKING ATMANIRBHAR BHARAT THROUGH NEP-2020”



National Conference on “Unlocking Atmanirbhar Bharat Through NEP-2020” held on 27 November, 2020. 23 participants attended the Conference and 21 papers were presented in this conference.

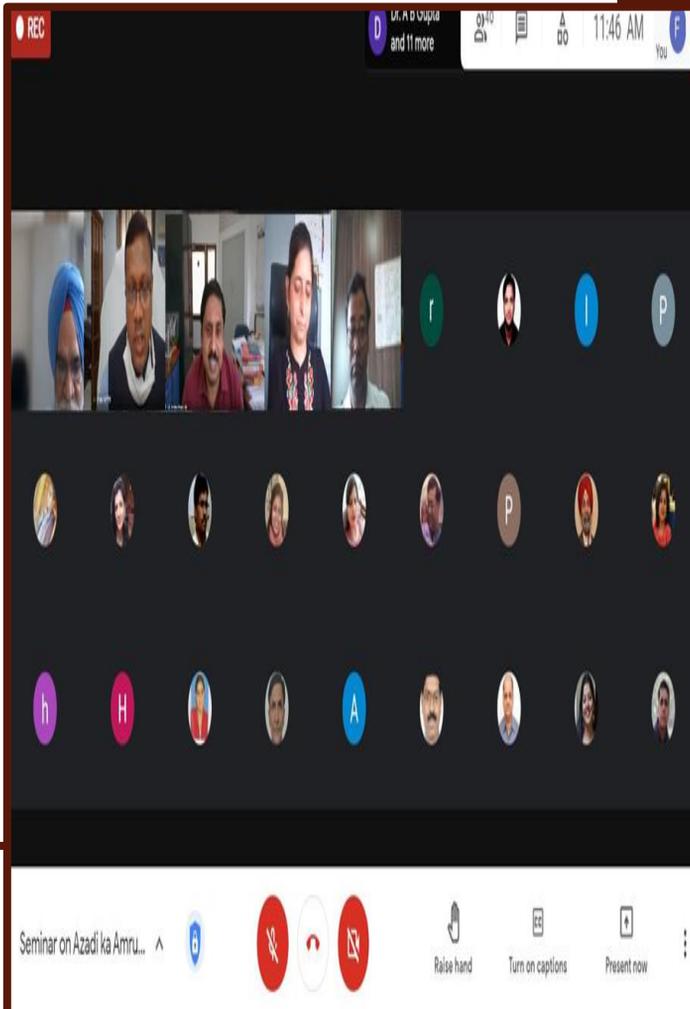
*NITTTR Chandigarh celebrated International Women’s Day on the theme ‘Choose to Challenge’ on 8th March 2021. The event was organized in the Conference Hall II J C Bose Administrative Block in offline and online mode and attended by Deans, Heads of various departments, faculty, staff and students. The program began with the address of Prof. (Dr.) SS Pattnaik, Director, NITTTR Chandigarh who talked about importance of cohesiveness in the workplace and at home maintained by women. Invited Keynote speaker **Dr. Nandita Gupta IAS**, Joint Secretary at Ministry of Food and Public Distribution, GOI, New Delhi delivered her talk online focusing on Women empowerment and stressed upon gender equality. The event also included the launch of a short film ‘Nari - A Woman’s Quest for Identity’ by Art Infnitii directed by **Mr. Jyotirmya** and produced by **Dr. Rita Dutt** along with the creative team of **Mr. Sarvpriya Nirmohi** and **Mr. Chaitanya**.*

CELEBRATION OF INTERNATIONAL WOMEN’S DAY



GLIMPSES OF EVENTS

AZADI KA AMRUT MAHOTSAV



*National Institute of Technical Teachers Training and Research, Chandigarh inaugurated the celebration of Azadi ka Amrut Mahotsav on **12th March 2021**. An online seminar on the said theme was organised and attended by Deans, Heads of various departments, faculty, staff and students. The program began with the address of **Prof. (Dr.) SS Pattnaik**, Director, NITTTT Chandigarh who talked about importance of Azadi to young generation. He also shared his thoughts about the precious Azadi which is result of many known and unknown endless freedom struggles. Prof. Pattnaik highlighted the need to celebrate the day in the name of 'Azadi Ka Amrut Mahotsav' which provides us an opportunity to recall the events and freedom struggle personalities. The invited keynote speaker **Dr. Manoranjan Dhal**, Professor & Chairperson, Organisational Behaviour & Human Resources, IIM, Kozhikode delivered the talk online on the contribution of labour movement in India's freedom struggle. He highlighted the journey of struggle for social justice, beginning from how the demands were raised for upliftment of working conditions of labours as well as for protecting their health and finally how they got their rights. He also stressed on being aware of our responsibilities along with freedom.*

GLIMPSES OF EVENTS

**Outstanding Institution Award-2020
Presented to Government Polytechnic College,
Bathinda by NITTTR, Chandigarh.**



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 e-contents, videos, in teaching-learning process. During 2020-21, 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 Programmes

2.1.1 (a) Ph.D. Programs

NITTTTR 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. 58 students are pursuing Ph.D. programs in different disciplines. The Institute is also the coordinator of Ph.D. 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, JC Bose University and approved by AICTE. The Institute offered following Master Degree Programmes in 2020-21 :

- Mechanical Engineering (Manufacturing Technology)
- Civil Engineering (Construction Technology and Management)
- Computer Science and Engineering
- Electrical Engineering (Instrumentation and Control)
- Electronics and Communication Engineering
- Mechanical Engineering (Robotics)
- Electronics and Communication Engineering (A.I.)
- Mechanical Engineering (Robotics)
- Electronics and Communication Engineering (Artificial Intelligence)

NITTTTR is also offering these Master's Degree Programs in modular mode. The modular program is of 3½ years duration. These ME programs are duly approved by AICTE and affiliated to Panjab University and are mainly for the working personnel who undergo the course work during summer and winter break but are evaluated along with the regular students on the same question paper as they appear in the examination with regular students. This unique model of the Institute is a platform for the service personnel to upgrade their knowledge through a flexi mode degree awarding programme ensuring quality. This programme was launched in the year 2005. Since then majority of the Polytechnic faculty members from all parts of the country could enhance their qualification.

Admissions made in these programs during 2020-21 are given below:

MASTER'S DEGREE (REGULAR MODE)

Sr. No.	Name of the Program	No. of Enrolments/Students				Total	State-wise Break-up
		Polys	Engg. Colleges	Industry	General		
1.	Civil Engineering (Construction Technology and Management)	2	2	-	20	24	Jharkhand-2,Kerala-1, WB-1, PB-2, RJ-3,Telangana-1,UP-2,MP-3,HR-3,J&K-2,Bihar-2, UK-1,CH-1
2.	Computer Science and Engineering	-	2	-	11	13	PB-3,RJ-1,Chattishgarh-1,UP-4,CH-1,HP-3
3.	Electrical Engineering (Instrumentation and Control)	1	-	-	14	15	PB-2,WB-2,UP-3,RJ-1,Bihar-2,Karnataka-1,HP-1,CH-1, UK-1,HR-1
4.	Electronics and Communication Engineering.	-	-	-	7	7	HR-1,UP-4,HP-1,PB-1
5.	Mechanical Engineering (Manufacturing Technology)	1	-	-	16	17	RJ-1, WB-1,HP-6, CH-3,PB-4,MS-1,ND-1
6.	Mechanical Engineering (Robotics)				06	06	
7.	Electronics and Communication Engineering (Artificial Intelligence)				07	07	
Total:		4	4	-	81	89	

MASTER'S DEGREE (MODULAR MODE)

Sr. No.	Name of the Program	No. of Enrolments/Students				Total	State-wise Break-up
		Polys	Engg. Colleges	Industry	General		
1.	Civil Engineering (Construction Technology and Management)	32	1	-	34	34	BH-16,JK-3,HR-1,HP-1,UK-1,UP-2,WB-3,CH-1,NL-3,AP-1,RJ-1,TS-1
2.	Computer Science and Engineering	10	-	1	11	11	HP-3, HR-1,UP-3, PA-1, PB-1,NL-1,RJ-1
3.	Electrical Engineering (Instrumentation and Control)	14	1	3	18	18	BH-11, CH-1,HR-1,WB-3,HP-1,JK-1
4.	Electronics and Communication Engineering.	20	-	-	-	20	BH-7,RJ-11,HP-2
5.	Mechanical Engineering (Manufacturing Technology)	19	-	-	19	19	WB-1,JK-2,NL-2,BH-14
Total		95	2	4	82	102	

58(regular) and 107 (modular) students of previous batches are also on roll.

Total ME Students on roll – M.E. (Regular) – 160 and M.E. (Modular) – 209, thus total 369.

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

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. In the year 2020-21, 74337 participants were trained. 319 short-term programs including ICT Mode, ATAL Courses, Programs under Sponsored and Consultancy Projects were conducted for faculty/staff of engineering colleges and polytechnics which were attended by 38121 teachers from various states of the country. 36216 participants were trained through ARPIT Course/ SWAYAM MOOCs/ AICTE-NITTT modules.

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

i. Training Programs/Workshops:

Total Participant Trained= 74337 (34712 + 2173 + 666 + 570 + 36216)

	Type of Training Programs	No. of Courses/ Programs	No. of Teachers Trained
A)	Short Term Courses		
	ICT Mode	285	34712
	ATAL Courses	17	2173
	Sponsored Projects	08	666
	Consultancy Projects	09	570
B)	Conferences/Seminars:		
	(i) International	1	110
	(ii) National	3	348
(C)	Workshops:		
	(i) Training Workshops (other than Curriculum Development Workshop)	20	1528
	Total (A+B+C):	343	40107
D)	Students Training Programs	05	146
E)	Curriculum Development Workshops	37	150

Besides the Short Term Courses through ICT, the institute trained 36216 participants through ARPIT Course/ SWAYAM MOOCs/ AICTE-NITTT modules.

CONFERENCES AND SEMINARS ►

S.No.	Title(s)	From	To	No. of Participants
1.	National webinar on "Literacy in National Educational Policy 2020" in collaboration with NIT Kurukshetra on the occasion of International Literacy Day	08.09.2020	08.09.2020	200
2.	National Conference on "Unlocking Atmanirbhar Bharat Through NEP-2020" held	27.11.2020	27.11.2020	23
3.	5 Days Webinar series on Atma-Nirbhar Bharat: Transmutation from Privation to Exuberance	20.07.2020	24.07.2020	125
4.	E-conference under the scheme Grant of Organizing Conference (GOC) from AICTE	11.03.2021	12.03.2021	110
Total:				458

◀ WORKSHOPS (OTHER THAN CURRICULUM DEVELOPMENT WORKSHOPS)

Sr.No.	Name of the Programme alongwith dates and venue	From	To	No. of Participants
1.	Malware Analysis and Reverse Engineering	15.07.2020	17.07.2020	174
2.	Role of RCIs and PIs in Promotion of Sustainable Rural Development in Aspirational Districts of India under Unnat Bharat Abhiyan.	16.07.2020	18.07.2020	400
3.	Module 3 Capacity building programme for NITTTR Kolkatta through ONLINE Mode	10.08.2020	14.08.2020	43
4.	Module 7 Capacity building programme for NITTTR Kolkatta through ONLINE Mode	10.08.2020	14.08.2020	28
5.	Capacity Building Programme of Module 8 of NITTT, AICTE	24.08.2020	28.08.2020	44
6.	Online Quiz for B.Tech Students of various Engg. Colleges on Electronics Devices and Circuits	31.08.2020	31.08.2020	229
7.	One Day Online Panel Discussion on Making Mentoring Relevant: Nep 2020 Perspective	21.09.2020	21.09.2020	68
8.	Designing and Developing Rubrics for Effective Implementation of OBE" on 25.09.2020 under AICTE Margdarshan Scheme	25.09.2020	25.09.2020	24
9.	Online Workshop on "Innovative Organic Farming Techniques and Marketing through FPO and Farm Gate"	20.01.2021	22.01.2021	81
10.	Online Workshop on "Rural Entrepreneurship and Rural Startups"	17.02.2021	19.02.2021	37
11.	Online Workshop on "Participatory Rural Appraisal for Micro Planning of a Village"	09.03.2021	09.03.2021	21
12.	Online Workshop on "Low Cost Design and Construction under PMGAY under Unnat Bharat Abhiyan"	17.03.2021	19.03.2021	15
13.	Workshop on "Vetting NBA SAR Proposal of UG Programmes (CSE)" for MIET, Meerut under AICTE Margdarshan Scheme	04.02.2021	04.02.2021	38

◀ WORKSHOPS (OTHER THAN CURRICULUM DEVELOPMENT WORKSHOPS)

Sr.No.	Name of the Programme alongwith dates and venue	From	To	No. of Participants
14.	Workshop on “Vetting NBA SAR Proposal of UG Programmes (Electrical Engg.)” for MIET, Meerut under AICTE Margdarshan Scheme	09.02.2020	09.02.2020	24
15.	Workshop on “Vetting NBA SAR Proposal of UG Programmes (Mechanical Engg.)” for MIET, Meerut under AICTE Margdarshan Scheme	12.02. 2021	12.02.2021	33
16.	Workshop on “Vetting NBA SAR Proposal of UG Programmes (CSE)” for MIET, Meerut under AICTE Margdarshan Scheme	04.03.2021	04.03.2021	59
17.	Workshop on “Vetting NBA SAR Proposal of UG Programmes (Electrical Engg.)” for MIET, Meerut under AICTE Margdarshan Scheme	005.03.2021	05.03.2021	20
18.	Workshop on “Vetting NBA SAR Proposal of UG Programmes (Mechanical Engg.)” for MIET, Meerut under AICTE Margdarshan Scheme	16.03.2021	16.03.2021	16
19.	Workshop on “COs Articulation and Mapping with POs: Hands on Approach”	15.06. 2020	15.06. 2020	150
20.	Workshop on “Designing and Developing Rubrics for Effective Implementation of OBE” under AICTE Margdarshan Scheme	25.09.2020	25.09.2020	24

2.2 Instructional Material Development

During the year 2020-21, institute continued its efforts to promote development of instructional material, both print (text books, laboratory manuals, modules, readers etc.) and non-print (video programme, MOOCs videos). Emphasis was made to develop course material for MOOCs as it is thrust area of MOE.

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

Print Material: 72

Type of Instructional Material	No. Completed during 2020-21
Text Books	01
Text Books Edited	09
Books Chapter	07
Instructional Manuals	20
Readers	03
Worksheets	06
Laboratory Material	26

Sr. No.	Instructional Material Developed
	Text Books
1.	Learning Analytics, Published by Springer, by Prof. K G Srinivasa
	Edited Books
1.	Statistical Modelling and Machine Learning Principles for Bioinformatics Techniques, Tools & applications (978-981-15-2444-8), Published by Springer by Prof. K G Srinivasa et al.,
2.	Artificial Intelligence for Information Management : A Health care Perspective (978-981-16-0414-0), Published by Springer by Prof. K G Srinivasa et al.,
3.	Edited Book - Materials today: Proceedings for Symposium on Synthesis, Characterization & Processing of Inorganic, Bio and Nano Materials – 2019, Volume 33, Part 3, 2020, pp 1453-1740 (Elsevier) by Prof. Rupinder Singh et al.,
4.	Editor for book on 'Non-Conventional Hybrid Machining Processes: Theory and Practice' Part of the Manufacturing Design and Technology Series (Series Editor: J. Paulo Davim), CRC Press, Taylor & Francis, 2021, ISBN 9780367139131 by Prof. Rupinder Singh et al.,
5.	Guest Editor for Special Collection on 'Nano-Composites and Smart Materials: Design, Processing, Manufacturing and Applications' in Advanced Composites Letter, 2020 (SAGE publications, SCIE, Impact Factor 0.55) by Prof. Rupinder Singh et al.,
6.	Editor for book on '4D Printing: Fundamentals and Applications, Elsevier, 2021 (ISBN: 9780128237250) by Prof. Rupinder Singh et al.,

Sr. No.	Instructional Material Developed
7.	Editor for book on Advances in Manufacturing Technology: Computational Materials Processing and Characterization, CRC Press, Taylor & Francis, 2021, by Prof. Rupinder Singh, Prof. S.S.Dhami, Prof. B.S.Pabla
8.	Editor for book on '3D Printing in Biomedical Engineering' Springer, 2020, ISBN 978-981-15-5424-7. (Published), by Prof. Rupinder Singh et al.
9.	Advances in computational intelligent techniques (978-981-15-2619-0) published by Springer by Dr. Meenakshi Sood et al.,
Laboratory Manuals	
1.	Cyber Check Suite
2.	Zenmap and Honeybot
3.	Session Hijacking
4.	Vulnerability Assessment & Penetration Testing
5.	Basics of Cyber Forensics
6.	Exploiting Web Application Vulnerability
7.	XSS
8.	Write Protect™ desktop
9.	True Imager 4.0
10.	A Practical Approach to Network Monitoring
11.	A Practical Approach to Network Sniffing
12.	The Art of Social Engineering
13.	Password Cracking of Windows Operating System
14.	Password Cracking of Linux Operating System
15.	Penetration Testing of Password Protected Documents
16.	Performing Reverse Engineering & Analysis of Android Apps
17.	SNORT- Network Intrusion Detection System
18.	WinLiFT Imager Builder Tool
19.	WinLiFT Analyzer Tool
20.	True Back-Win 2.0
21.	Internet of Things-I
22.	Internet of Things-II
23.	Recommender System
24.	Open Source Cryptography Tools
25.	Bug & Bounty
26.	Windows Firewall

Educational Video Films	73
Video Films uploaded on NCTEL channel on You Tube	70
Video Films – MOOCs	38

Non Print Material (Digital Resources) - 181 Video Films

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.

MOOCs Films – 38 Videos

Sr. No.	Name of the Films	Completed	Remarks
1.	Camera Techniques Part 1 by Dr. Abid Ali	Completed	In house/Studio Recording done and Post-Production work Completed
2.	Camera Techniques Part 2 by Dr. Abid Ali	Completed	In house/Studio Recording done and Post-Production work Completed
3.	Camera Techniques Part 3 by Dr. Abid Ali	Completed	In house/Studio Recording done and Post-Production work Completed
4.	Camera Techniques Part 4 by Dr. Abid Ali	Completed	In house/Studio Recording done and Post-Production work Completed
5.	Camera Techniques Part 5 by Dr. Abid Ali	Completed	In house/Studio Recording done and Post-Production work Completed
6.	Lighting Techniques Part 1 by Anurag Soni	Completed	In house/Studio Recording done and Post-Production work Completed
7.	Lighting Techniques Part 2 by Anurag Soni	Completed	In house/Studio Recording done and Post-Production work Completed
8.	Lighting Techniques Part 3 by Anurag Soni	Completed	In house/Studio Recording done and Post-Production work Completed
9.	Video Editing by Ashish	Completed	In house/Studio Recording done and Post-Production work Completed
10.	Blender Part 1 by Ashish	Completed	In house/Studio Recording done and Post-Production work Completed
11.	Blender Part 2 by Ashish	Completed	In house/Studio Recording done and Post-Production work Completed
12.	Blender Part 3 by Ashish	Completed	In house/Studio Recording done and Post-Production work Completed
13.	Blender Part 4 by Ashish	Completed	In house/Studio Recording done and Post-Production work Completed
14.	Scrip Writing PART 1 by Dr. Maitreyee Dutta	Completed	In house/Studio Recording done and Post-Production work Completed
15.	Script Writing PART 2 by Dr. Abid Ali	Completed	In house/Studio Recording done and Post-Production work Completed
16.	Script Writing PART 3 by Dr. Abid Ali	Completed	In house/Studio Recording done and Post-Production work Completed
17.	Scrip Writing PART 4 Dr. Abid Ali	Completed	In house/Studio Recording done and Post-Production work Completed
18.	Business Plan Formulation And Assessing Techno Economic Marketing Feasibility Of Business a. Plan 1 By Dr. S K Dhameja	Completed	In house/Studio Recording done and Post-Production work Completed

MOOCs Films – 38 Videos (contd..)

Sr. No.	Name of the Films	Completed	Remarks
19.	Business Plan Formulation And Assessing Techno Economic Marketing Feasibility of Business Plan 2 By Dr. S K Dhameja	Completed	In house/Studio Recording done and Post-Production work Completed
20.	Business Plan Formulation And Assessing Techno Economic Marketing Feasibility of Business Plan 3 By Dr. S K Dhameja	Completed	In house/Studio Recording done and Post-Production work Completed
21.	Business Plan Formulation And Assessing Techno Economic Marketing Feasibility Of Business a. Plan 4 By Dr. S. K. Dhameja	Completed	In house/Studio Recording done and Post-Production work Completed
22.	Diff Legislation And Act Part 1 Factor Act 1948	Completed	In house/Studio Recording done and Post-Production work Completed
23.	Module 6 Video 2 Shops And Establish Act 1953	Completed	In house/Studio Recording done and Post-Production work Completed
24.	Video 3 Sale Of Goods Act 1930	Completed	In house/Studio Recording done and Post-Production work Completed
25.	Diff Legislation And Act Part 4 -By Dr S K Dhameja	Completed	In house/Studio Recording done and Post-Production work Completed
26.	Diff Legislation And Act Part 5 -By Dr S K Dhameja	Completed	In house/Studio Recording done and Post-Production work Completed
27.	Diff Legislation And Act Part 6 -By Dr S K Dhameja	Completed	In house/Studio Recording done and Post-Production work Completed
28.	Management Of Micro Small And Medium Enterprise Part 1 -By Dr S K Dhameja	Completed	In house/Studio Recording done and Post-Production work Completed
29.	Management Of Micro Small And Medium Enterprise Part 2-By Dr S K Dhameja	Completed	In house/Studio Recording done and Post-Production work Completed
30.	Part 2 Video 1 Marketing Management-By Dr S K Dhameja	Completed	In house/Studio Recording done and Post-Production work Completed
31.	Part 2 Video 8 Hr Management-By Dr S K Dhameja	Completed	In house/Studio Recording done and Post-Production work Completed
32.	Introductory Film On Script By Dr Maitreyee Dutta	Completed	In house/Studio Recording done and Post-Production work Completed
33.	Editing Ashish	Completed	In house/Studio Recording done and Post-Production work Completed
34.	Edic Module 2 Part 1c-By Dr S K Dhameja	Completed	In house/Studio Recording done and Post-Production work Completed
35.	Edic Module 2 Part 1d-By Dr S K Dhameja	Completed	In house/Studio Recording done and Post-Production work Completed
36.	Edic Module 3 Part C-By Dr S K Dhameja	Completed	In house/Studio Recording done and Post-Production work Completed
37.	Edic Module 3 Part C (A)-By Dr S K Dhameja	Completed	In house/Studio Recording done and Post-Production work Completed
38.	Edic Module 3 Part C(B)-By Dr S K Dhameja	Completed	In house/Studio Recording done and Post-Production work Completed

NCTEL Uploaded Films - 70 Videos

Sr. No.	Name of the Films	Completed	Remarks
1.	Attack detection with Snort Tool	Completed	NCTEL Edited & Uploaded Film
2.	Cain And Abel Tool part-1	Completed	NCTEL Edited & Uploaded Film
3.	Cain And Abel Tool part-2	Completed	NCTEL Edited & Uploaded Film
4.	cyber check suite	Completed	NCTEL Edited & Uploaded Film
5.	Logic Cube Write Protect	Completed	NCTEL Edited & Uploaded Film
6.	Network scanning using NMAP Tool	Completed	NCTEL Edited & Uploaded Film
7.	Password Cracking with John the Ripper Tool	Completed	NCTEL Edited & Uploaded Film
8.	True imager 4.0	Completed	NCTEL Edited & Uploaded Film
9.	Winlift Analyzer	Completed	NCTEL Edited & Uploaded Film
10.	winlift imager builder	Completed	NCTEL Edited & Uploaded Film
11.	Open Source Cryptography Tools	Completed	NCTEL Edited & Uploaded Film
12.	Cyber Forensic PART 1	Completed	NCTEL Edited & Uploaded Film
13.	Cyber Forensic PART 2	Completed	NCTEL Edited & Uploaded Film
14.	Information Gathering	Completed	NCTEL Edited & Uploaded Film
15.	Digital Foot Printing	Completed	NCTEL Edited & Uploaded Film
16.	Advanced Construction Techniques & Practices –An Introduction	Completed	NCTEL Edited & Uploaded Film
17.	Latest wireless technologies1	Completed	NCTEL Edited & Uploaded Film
18.	Latest wireless technologies2	Completed	NCTEL Edited & Uploaded Film
19.	Latest wireless technologies3	Completed	NCTEL Edited & Uploaded Film
20.	Latest wireless technologies4	Completed	NCTEL Edited & Uploaded Film
21.	Latest wireless technologies5	Completed	NCTEL Edited & Uploaded Film
22.	Latest wireless technologies6	Completed	NCTEL Edited & Uploaded Film
23.	Latest wireless technologies7	Completed	NCTEL Edited & Uploaded Film
24.	ECE Virtual Lab Practices using Free simulators 1	Completed	NCTEL Edited & Uploaded Film
25.	ECE Virtual Lab Practices using Free simulators 2	Completed	NCTEL Edited & Uploaded Film
26.	ECE Virtual Lab Practices using Free simulators 3	Completed	NCTEL Edited & Uploaded Film
27.	ECE Virtual Lab Practices using Free simulators 4	Completed	NCTEL Edited & Uploaded Film
28.	ECE Virtual Lab Practices using Free simulators 5	Completed	NCTEL Edited & Uploaded Film
29.	ECE Virtual Lab Practices using Free simulators 6	Completed	NCTEL Edited & Uploaded Film
30.	ECE Virtual Lab Practices using Free simulators 7	Completed	NCTEL Edited & Uploaded Film
31.	ECE Virtual Lab Practices using Free simulators 8	Completed	NCTEL Edited & Uploaded Film
32.	ECE Virtual Lab Practices using Free simulators 9	Completed	NCTEL Edited & Uploaded Film
33.	ECE Virtual Lab Practices using Free simulators 10	Completed	NCTEL Edited & Uploaded Film
34.	ECE Virtual Lab Practices using Free simulators 11	Completed	NCTEL Edited & Uploaded Film

NCTEL Uploaded Films - 70 Videos (contd...)

Sr. No.	Name of the Films	Completed	Remarks
35.	Embedded processing techniques	Completed	NCTEL Edited & Uploaded Film
36.	Development of head up displays	Completed	NCTEL Edited & Uploaded Film
37.	Designing Precision farming	Completed	NCTEL Edited & Uploaded Film
38.	Solving Optimization Problem using MATLAB by Dr Ss Dhami	Completed	NCTEL Edited & Uploaded Film
39.	Online mentoring Session by Karanpal Singh	Completed	NCTEL Edited & Uploaded Film
40.	Independence Day Celebration	Completed	NCTEL Edited & Uploaded Film
41.	Online Panel Discussion on making mentoring relevant	Completed	NCTEL Edited & Uploaded Film
42.	National Unity Day 2020	Completed	NCTEL Edited & Uploaded Film
43.	Intro to nanostructural material and nano sensors by Dr Ashok	Completed	NCTEL Edited & Uploaded Film
44.	Stress Management by Nishchal Kapoor	Completed	NCTEL Edited & Uploaded Film
45.	Flexible, Wearable Smart Sensor and Building in Indegeneou Ecosystem	Completed	NCTEL Edited & Uploaded Film
46.	Metal Oxide Gas Sesor by Dr Rahul	Completed	NCTEL Edited & Uploaded Film
47.	Moisture Content Measurement of Peanuts	Completed	NCTEL Edited & Uploaded Film
48.	Advanced Materail for sensor Applications	Completed	NCTEL Edited & Uploaded Film
49.	Challenges and Strategies toward development of Electrochemical Biosensors	Completed	NCTEL Edited & Uploaded Film
50.	Semiconductor Nanostructured based gas sensor from health monitoring	Completed	NCTEL Edited & Uploaded Film
51.	Polymer nano composites as chemiresistive sensors	Completed	NCTEL Edited & Uploaded Film
52.	AI enabled sensor technology by Dr Ketan	Completed	NCTEL Edited & Uploaded Film
53.	Electrochemical sensor platform based on Nanostructure Metal oxides	Completed	NCTEL Edited & Uploaded Film
54.	Designing Biosignal preprocessing	Completed	NCTEL Edited & Uploaded Film
55.	Electrochemical Impedance based thin, thick film gas sensor	Completed	NCTEL Edited & Uploaded Film
56.	Role of Sensors in AI	Completed	NCTEL Edited & Uploaded Film
57.	Ethics and Value by Er PK Singla	Completed	NCTEL Edited & Uploaded Film
58.	Practical Session by Dr KG Srinivasa	Completed	NCTEL Edited & Uploaded Film
59.	Tools for e-content Development	Completed	NCTEL Edited & Uploaded Film
60.	Using Moodle for blended Learning	Completed	NCTEL Edited & Uploaded Film
61.	Evaluation: Concept and Types by Dr Sunil Dutt	Completed	NCTEL Edited & Uploaded Film
62.	Development of Rubric by Amandeep Kaur	Completed	NCTEL Edited & Uploaded Film
63.	Hands on session on Practice of MOODLE	Completed	NCTEL Edited & Uploaded Film
64.	Practical Session on flipped classroom by Dr KG Srinivasa	Completed	NCTEL Edited & Uploaded Film
65.	LMS and Platfrom for Academia	Completed	NCTEL Edited & Uploaded Film
66.	Collaborative Learning Technology by Amandeep Kaur	Completed	NCTEL Edited & Uploaded Film
67.	Flipped Classroom by Dr Sunil Dutt	Completed	NCTEL Edited & Uploaded Film
68.	Socio Digital Pedagogy by Dr SS Pattnaik	Completed	NCTEL Edited & Uploaded Film
69.	Blended Learning by Mrs Amandeep Kaur	Completed	NCTEL Edited & Uploaded Film
70.	Understanding Learning and Learner by Dr Sunil Dutt	Completed	NCTEL Edited & Uploaded Film

Other Video Films- 73 Videos

Sr. No.	Name of the Films	Completed	Remarks
1.	Azaadi Ka Amrit Mahotsav.	Completed	In house Recording done and Post-Production work Completed
2.	BOG 23/3/21	Completed	In house Recording done and Post-Production work Completed
3.	Finance Committee Meeting 23/3/21	Completed	In house Recording done and Post-Production work Completed
4.	NITTR Society Meeting 23/3/21	Completed	In house Recording done and Post-Production work Completed
5.	Award Ceremony-4/2/21	Completed	In house Recording done and Post-Production work Completed
6.	Inauguration of renovated Chandra Shekhar Hall 16/2/21	Completed	In house Recording done and Post-Production work Completed
7.	Editing of the film on GRIID (Consultancy Project)	Completed	In house Recording done and Post-Production work Completed
8.	Combine Farewell Function of Dr P K Tulsi , Shri Bharat Bedi , Smt .Sudesh Kumari, Mr Sohan Lal and Mr.Rajesh, Mr Srichand	Completed	In house Recording done and Post-Production work Completed
9.	Institutional 360 tour - 13 numbers films (overall,media,mach,elect,elex,civil,edic,cdc,cse,apps c,emgt,academic cell	Completed	In house Recording done and Post-Production work Completed
10.	Annual Day films 6 nos cultural, lamp, e sovierear, conference hall in annual day ,plus tv port	Completed	In house Recording done and Post-Production work Completed
11.	Conference Hall Inaugural	Completed	In house Recording done and Post-Production work Completed
12.	Annual Day Programme	Completed	In house Recording done and Post-Production work Completed
13.	NEP(New Education Policy) film	Completed	In house Recording done and Post-Production work Completed
14.	Woman's Day	Completed	In house Recording done and Post-Production work Completed
15.	Simplex Method Theory And Algorithm Part 3- By Dr. Kailash Lachwani	Completed	In house/Studio Recording done and Post-Production work Completed
16.	Video report on "Green Skill Development Programme On Sustain And Enhance Tech Knowledge In Solar Energy System" 1 ST MARCH TO 25 MARCH SP40	Completed	In house Recording done and Post-Production work Completed
17.	Attack detection with Short Tool	Completed	In house/Studio Recording done and Post-Production work Completed
18.	Cain And Abel Tool part-1	Completed	In house/Studio Recording done and Post-Production work Completed
19.	Cain And Abel Tool part-2	Completed	In house/Studio Recording done and Post-Production work Completed
20.	Cyber check suite	Completed	In house/Studio Recording done and Post-Production work Completed

Other Video Films- 73 Videos (contd..)

Sr. No.	Name of the Films	Completed	Remarks
21.	Logic Cube Write Protect	Completed	In house/Studio Recording done and Post-Production work Completed
22.	Network scanning using NMAP Tool	Completed	In house/Studio Recording done and Post-Production work Completed
23.	Password Cracking with John the Ripper Tool	Completed	In house/Studio Recording done and Post-Production work Completed
24.	True imager 4.0	Completed	In house/Studio Recording done and Post-Production work Completed
25.	Winlift Analyzer	Completed	In house/Studio Recording done and Post-Production work Completed
26.	winlift imager builder	Completed	In house/Studio Recording done and Post-Production work Completed
27.	Open Source Cryptography Tools	Completed	In house/Studio Recording done and Post-Production work Completed
28.	Cyber Forensic	Completed	In house/Studio Recording done and Post-Production work Completed
29.	Information Gathering	Completed	In house/Studio Recording done and Post-Production work Completed
30.	Digital Foot Printing	Completed	In house/Studio Recording done and Post-Production work Completed
31.	Heritage Management	Completed	In house/Studio Recording done and Post-Production work Completed
32.	Annual Day Cultural Program	Completed	Editing Completed
33.	Inaugural Video of Conf Hall 2	Completed	Editing Completed
34.	Lamp lighting Video	Completed	Editing Completed
35.	e- Souvenir Video	Completed	Editing Completed
36.	Annual Day Video	Completed	Editing Completed
37.	Institutional Tour Video	Completed	Editing Completed
38.	ECE Department Tour Video	Completed	Editing Completed
39.	CSE Department Tour Video	Completed	Editing Completed
40.	Civil Department Tour Video	Completed	Editing Completed
41.	EMGT Department Tour Video	Completed	Editing Completed
42.	CDC Department Tour Video	Completed	Editing Completed
43.	EDIC Department Tour Video	Completed	Editing Completed
44.	Rural Department Tour Video	Completed	Editing Completed
45.	Electrical Department Tour Video	Completed	Editing Completed
46.	Academic Cell Tour Video	Completed	Editing Completed
47.	Media Engineering Department Tour Video	Completed	Editing Completed
48.	Mechanical Engineering Department Tour Video	Completed	Editing Completed
49.	Applied Science Department Tour Video	Completed	Editing Completed
50.	NEP Video	Completed	Editing Completed

Other Video Films- 73 Videos (contd..)

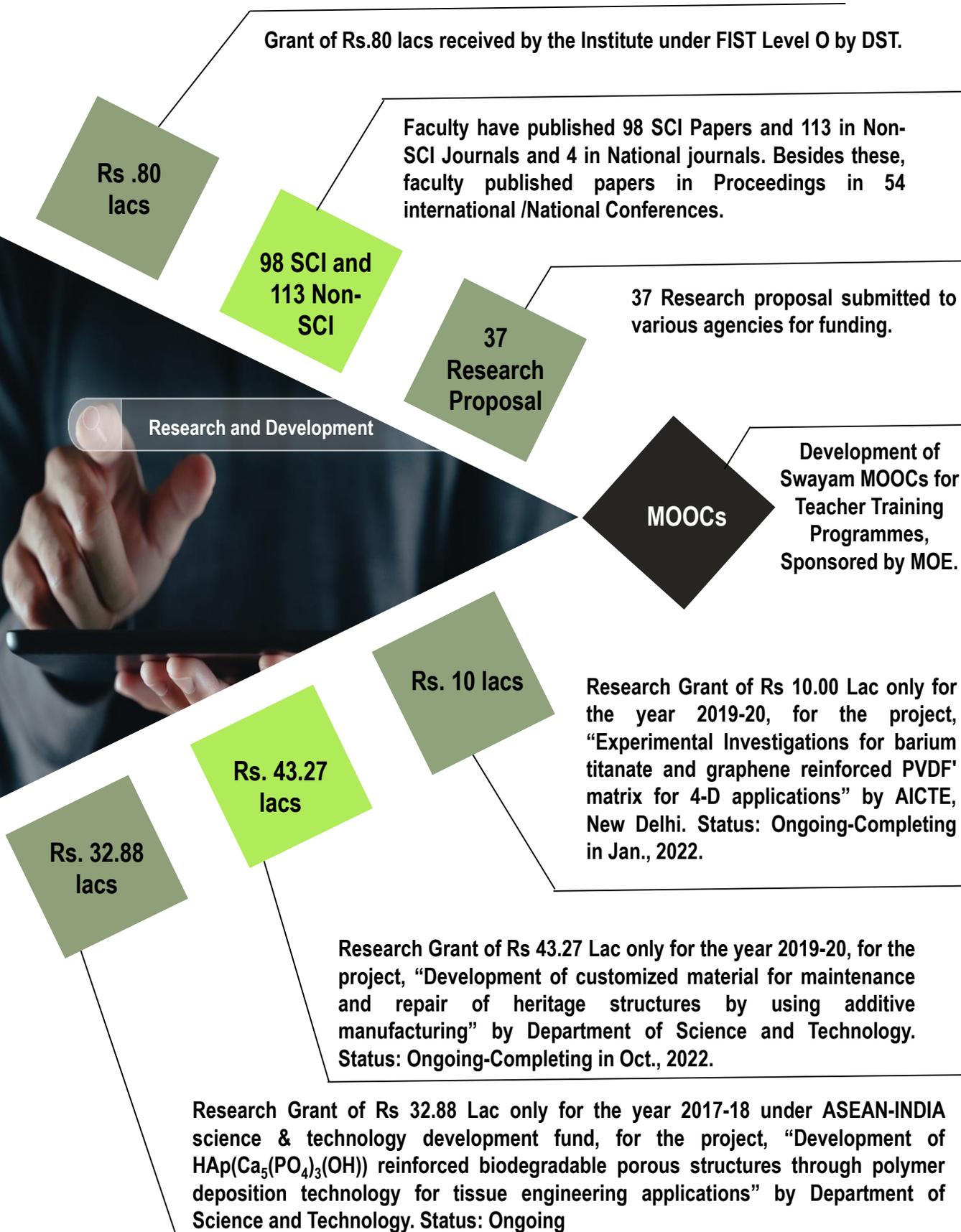
Sr. No.	Name of the Films	Completed	Remarks
51.	Independence day celebration	Completed	Editing Completed
52.	Simplex Method Part 1 by Cr KC Lachwani	Completed	Editing Completed
53.	Simplex Method Part 2 by Cr KC Lachwani	Completed	Editing Completed
54.	Heritage Management	Completed	Editing Completed
55.	Heritage Management	Completed	Editing Completed
56.	Heritage Management	Completed	Editing Completed
57.	Heritage Management	Completed	Editing Completed
58.	Heritage Management	Completed	Editing Completed
59.	Heritage Management	Completed	Editing Completed
60.	Heritage Management	Completed	Editing Completed
61.	Heritage Management	Completed	Editing Completed
62.	Heritage Management	Completed	Editing Completed
63.	Heritage Management	Completed	Editing Completed
64.	Heritage Management	Completed	Editing Completed
65.	Heritage Management	Completed	Editing Completed
66.	Heritage Management	Completed	Editing Completed
67.	Civil workshop videos (CGSDP Solar Energy Programme) 3 Nos.	Completed	Editing Completed
68.	Institute department videos (4 Nos.).	Completed	Editing Completed

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 2020-21, 36 curricula have been designed for the state of Uttar Pradesh and Delhi. The department conducted 55 Curriculum Development Workshops of 1-2 days' duration which were attended by 506 participants. Institute Received consultancy project of Rs.6,49,000/- for Designing two vocational courses for short duration of one year for IEDUP, Lucknow. Institute received consultancy project of Rs. 40 lacs for designing first year curricula of Polytechnics for Delhi State.

2.4 Research and Development



2.4 Research and Development

In addition to above, **108** 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

List of students who have obtained Ph.D. degree

Sr. No.	Name of Scholar	Date of Conduct of Viva-voce Examination	TITLE	Supervisors
1.	Aditya Bhadwaj (CSE)	03.08.2020	"Efficient Pre-Copy Virtual Machine Migration Technique for Cloud Computing"	Prof. C. Rama Krishna
2.	Roopali (CSE)	22.02.2021	"Data Aggregation and Dissemination in Cloud-Based Wabns for Ubiquitous Health Monitoring"	Prof. Rakesh Kumar
3.	Shallu (ECE)	08.01.2021	"Efficient Machine Learning Algorithm for Cancer Detection Using Biomedical Images"	Prof. Rajesh Mehra

2.5 Extension Services and Consultancy

Policy Planning and Service to Industry and Community

NITTTTR 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 areas of engineering and technology, educational management, curriculum development, entrepreneurship development and rural development.

Sponsored Projects

1. Institute received grants of Rs. 15,81,000 for conducting various AICTE sponsored ATAL FDPs. 17 AICTE sponsored ATAL programmes have been conducted during this period with participation of **2173**.
2. Program on “Sustainability and Smart City Concepts” conducted during 16–20 November, 2020, **25 participants attended**.
3. DST sponsored STC on Solid Waste Management Technology and Regulatory Compliance from 18-22 January, 2021. **36** participants attended the course.
4. AICTE sponsored STTP on “Effective Teaching Practices” Phase-2 from 18-23 January, 2021. **51** participants attended the course.
5. FDP on Outcome Based Education for Program Accreditation (Under AICTE Margdarshan Scheme) from 15-19 February, 2021. **50** participants attended the course.
6. Green Skill Development Programme on Sustain & Enhance Technical Knowledge in Solar Energy (240 Hrs) from 1st March- 25th March, 2021 by Civil Engineering and rural Development Department --- **20** participants
7. Received project on Study and Development of Deep Learning Modules for Radar Applications from LRDE/ DRDO (Rs.10 lakhs).
8. Cooperation for Research and Development (1 PhD scholar on the topic "Analysis of Non-Stationary Signals during condition monitoring of rotating electrical machines" by ABB Limited (Rs. 1.44 lakhs)

2.5 Extension Services and Consultancy

9. Simulation Centre of Excellence by ABB Limited (165.00 lakhs)
10. HLL Centre of Excellence by Typhone HIL (16.809 LAKHS).
11. Grant of Rs. 80 lacs received by the Institute under FIST Level O by DST.
12. Ongoing project on Establishment of Advanced Laboratories for Cyber Security Training to Technical Teachers (Co-Principal Investigator), sponsored by Ministry of Electronics and IT, GOI, New Delhi,
13. Establishment of IoT Enabled Laboratory under ongoing RPS - AICTE Project.
14. Refresher Course on IoT - A Project based Learning using Virtual IoT Lab from 10-21 June, 2020. 148 participants attended.
15. Refresher Course on Artificial Intelligence and Machine Learning - A Project based Learning Approach from 24 June to 05 July, 2020. 133 participants attended.
16. Industrial Training Cyber Security Measures and Tools from 22 June to 3 July, 2020. 203 participants attended.

Sponsored Projects

➤ Consultancy Projects and Extension services

Consultancy Projects

During the year 2020-21, the following consultancy projects were undertaken:

Sr.No	Name of Consultancy Project	Status of Project
1.	Executed Consultancy Projects worth 1220 Lakhs during the year 2020-21.	Completed
2.	Recruitment of Junior Draftsman in Punjab state for Subordinate Services Selection Board, Punjab	Completed
3.	Recruitment of different officials at different cadres in Punjab state for Department of Local Government, Punjab	Completed
4.	Recruitment of different executives for Punjab State Cooperative Bank	Completed
5.	05 Students Training Programs for 146 students were conducted	Completed
6.	Refresher course on Application of Nanoscience in Modern Day Research and Technology (5-18 June, 2020)	Completed
7.	Refresher course on Application of Nanoscience in Modern Day Research and Technology (19 June to 07 July, 2020)	
8.	Trained principals/ Instructor of ITI colleges of Uttarakhand State under workforce Development Project funded by world bank (around Rs.40 Lakhs).	348 participants Trained

2.5 Extension Services and Consultancy

SIGNING OF MOUs:

The institute during 2020-21 signed 08 MoUs with organizations of prominence like Associate Chambers of Commerce & Industry of India (GEM-ASSOCHAM) New Delhi, State Institute of Rural Development and Panchayat Maraimalai Nagar, Eastman Cast & Forge Limited, Ludhiana, Maxpro Networking Pvt. Ltd. (MNNPL), Punjab, Department of Revenue (Disaster Management), Govt. of H.P., Shimla, Govt. of NCT of Delhi, Board of Technical Education, Delhi, Aespaes Lab Pvt. Ltd., Karvenagar, Pune and Dept. of Higher Education, MOE, Govt. of India, New Delhi.

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.

Signing of Memorandum of Understanding

Sr. No.	Organisations	Date of Signing	Date of Maturity	Signing Authority
1.	Associate Chambers of Commerce & Industry of India (GEM-ASSOCHAM), 5, Sardar Patel Marg, Chankyapuri, New Delhi-110 021	20.10.2020	19.10.2023	Shri Pankaj Dharkar, Chairman, National Gem Council, ASSOCHAM.
2.	State Institute of Rural Development and Panchayat Raj (Rural Development & PR Department), Maraimalai Nagar – 603209	20.11.2020	19.11.2025	Director, SIRDPR.
3.	Eastman Cast & Forge Limited, Ludhiana, G.T. Road, Near Airport, Ludhiana 141120	07.12.2020	06.12.2023	Shri Narinder Mohan Whole Time Director
4.	Maxpro Networking Pvt. Ltd. (MNNPL), Punjab Plot No. D-38, Industrial Area, Phase-1, SAS Nagar, Mohali	16.12.2020	15.012.2023	Director, Maxpro Networking Pvt. Ltd. (MNNPL), Punjab

2.5 Extension Services and Consultancy

Signing of Memorandum of Understanding

Sr.No.	Organisations	Date of Signing	Date of Maturity	Signing Authority
5.	Department of Revenue (Disaster Management), Govt. of H.P., Shimla	27.01.2021	26.01.2026	Dir-cum-Spl. Secy. (Revenue), Govt. of H.P., Shimla
6.	Govt. of NCT of Delhi Board of Technical Education, Muni Maya Ram Marg, Pitampura, Delhi – 110088	2020	2021	Dr. S.L Bhandarkar Controller
7.	Aespaes Lab Pvt. Ltd., F.No. 401, Sr. No.34/9, 10, 11 CTS 1192 P N4 Sangeeta Sahakari Sanstha, Karvenagar, Pune- 411 052	15.12.2020	14.12.2023	Mr. Abhiram Joshi Director Aespaes Lab Pvt. Ltd., Pune

The major objectives of signing these MoUs are to:

- Develop training hubs to enhance the learning of faculty through diversified facilities and local experts support.*
- Support each other's' endeavour in delivery of academic programs and research activities.*
- Exchange of scientific and technical information.*
- Undertaking collaborative research activities through participation in Nationally and Internationally funded projects.*
- Jointly organize events such as seminars, workshops, conferences and training programs.*
- Training of students of PG level.*
- Collaboratively working for various National Mission.*

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, NITTR 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.

*Applied Science Department
Civil Engineering Department*

*Computer Science and Engineering Department
Curriculum Development Centre*

*Electrical Engineering Department
Electronics and Communication Engineering Department*

*Entrepreneurship Development and Industrial Coordination Department
Education and Educational Management Department*

*Library
Mechanical Engineering Department*

*Media Engineering Department
Rural Development Department*

Academic Achievements of the Departments

"The hardest problems of pure and applied science can only be solved by the open collaboration of the world-wide scientific community."

– Kenneth G. Wilson

APPLIED SCIENCE DEPARTMENT



Prof. (Dr.) Pankaj Sharma

Professor

Research Areas: Chalcogenide Glasses, Thin Films, Nanomaterials, Ferrites.



Prof. (Dr.) B. C. Choudhary

Professor

Research Areas - Fiber Optics, Radiation Physics



Dr. Ashok Kumar

Associate Professor

Research Areas: Physics of nanomaterials and thin films, Nanotechnology enabled energy devices.



Dr. Kailash Chandra Lachhwani

Assistant Professor

Research Areas - Operation Research, Mathematical Programming

During the year 2020-21, the department has conducted **39** online short term courses for polytechnic, engineering college teachers and industry, which were attended by **2620** teachers from polytechnics and engineering colleges. The department supported in designing **01** curricula for the state of BTE, Delhi which was attended by **05** participants. The department faculty published **18** paper in SCI Journal, **05** paper in non-SCI Journal and **01** paper in National Journal. The department faculty published/presented **05** papers in International Conferences and **05** papers in National Conference.

The department submitted **16** research proposals to various agencies. The department also conducted **2** ATAL AICTE sponsored courses. The faculty of department attended **28** on-line training programs/conferences/workshops, **52** on-line webinars, and **25** on-line lectures during this year. The department published **03** readers and **06** worksheets. The department has completed **08** Print material and **01** Non-Print material (Video Film on "Simplex method: Theory and Techniques part III"). Faculty attended **08** In house Training Programmes and attended **03** International Conferences.

Short Term Programs Conducted (Online)

1. Quantum and Energy Materials: Potential & Applications
2. Operational Research - An Introduction
3. Nanomaterials and Devices
4. Quantum and Energy Materials: Potential & Applications
5. Nanomaterials and Devices
6. Quantum and Energy Materials: Potential & Applications
7. Nanomaterials and Devices
8. Operational Research: An Introduction
9. Refresher course on Application of Nanoscience in Modern Day Research and Technology
10. Thin films and their applications
11. Nanomaterials and their applications
12. Energy storage devices
13. Training Programme on Energy Storage and Harvesting Devices
14. Energy harvesting devices
15. Training Programme on Energy Harvesting and Materials Characterization Techniques
16. Materials characterization techniques
17. Nuclear Radiations and Their Applications
18. Training Programme on Materials Characterization Techniques, Devices and Applications
19. Materials and devices for advanced applications
20. Advances in Laser Technology
21. Advances in Laser Technology
22. Mathematical Programming and Optimization Techniques
23. Energy storage materials
24. Energy storage materials and Characterization
25. Smart Materials and Nanotechnology

Short Term Programs Conducted (Online) (contd...)

26. Materials characterization techniques
27. Optical Fibers: Potentials and Applications
28. Applied Physics for Engineers - I
29. Refresher Course in Engineering Physics
30. Applied Physics for Engineers - II
31. Emerging Trends in OFC Technology
32. Applied Mathematics for Engineers - I
33. Operations Research with Engineering Applications
34. Characterization of Multifunctional Materials
35. Refresher Course on Essential Physics and Mathematics for Engineers
36. Essential Physics for Engineers
37. Essential Mathematics for Engineers
38. Computational Tools and Techniques for Engineers
39. Nuclear Energy and Power Generation

RESEARCH AND DEVELOPMENT

PAPERS PUBLISHED BY THE APPLIED SCIENCE FACULTY IN SCI JOURNALS:

Sr.No.	Name of the Paper Published	Author (s) Name
1.	Rare-earth (Dy) doped $(\text{GeS}_2)_{80}(\text{In}_2\text{S}_3)_{20}$ thin film: Influence of annealing temperature in argon environment on the linear and nonlinear optical parameters” Applied Physics A Vol (2021) DOI: 10.1007/s00339-020-04170-5 (SCI)	Pankaj Sharma, V Sharma, E Sharma, A Dahshan, KA Aly, P Kumar, A Khan, Ashok Kumar
2.	Evaluation of optical linear and non-linear parameters of thermally deposited GeTeSeGa thin films in NIR (1 μm –2.6 μm) wavelength range from their transmission spectra, <i>Optik: International Journal for Light and Electron Optics</i> Vol 219 (2020) 165181 (SCI, Scopus Indexed).	Ekta Sharma, P.B. Barman, Pankaj Sharma
3.	“Transformation in the structural and optical properties with the phase change from hematite (Fe_2O_3) to pure spinel structure in Mn-Zn nanoferrites” <i>Physica B: Physics of Condensed Matter</i> Vol 584 (2020) 412107 DOI: 10.1016/j.physb.2020.412107 (SCI, Scopus Indexed)	Prashant Thakur, Vineet Sharma, Rohit Sharma, Joachim Wollschläger, Kevin Ruwisch, A. Dahshan, Shipra Thakur, Pankaj Sharma
4.	“Evaluation of optical properties of thermally deposited (Sn,Se)-(Bi,Te) thin film” <i>AIP Conf Proc</i> 2265 (Nov 2020) 030263 (CPCI (WoS), Scopus Indexed). – with earlier affiliation	R Sharma, E Sharma, S Kumar, V Sharma, Pankaj Sharma
5.	“Study of dielectric properties of Se-Te-Zn ternary chalcogenide glasses” <i>AIP Conf Proc</i> 2270 (Nov 2020) 030011 (CPCI (WoS), Scopus Indexed). – with earlier affiliation	A Kumar, V Singh, Pankaj Sharma, N Goyal

Sr. No.	Name of the Paper Published	Author (s) Name
6.	Carbon –dioxide gas sensor using CO-doped grapheme nanoribbon: A first principle DFT study Scopus Materials Today: Proceedings, 45 (2021) 5023-5028 Elsevier Publications	Deji, Navjot Kaur, B.C. Choudhary, Ramesh.K. Sharma
7.	Effect of Ni Doping on the Structural and Optical Properties of ZrO ₂ Thin Films; Davinder Kumar, Avtar Singh, BS Saini, BC Choudhary, Vandana Shinde and Raminder Kaur, Journal of Electronic Materials, 50 (2021) 65-74	Davinder Kumar, Avtar Singh, BS Saini, BC Choudhary, Vandana Shinde and Raminder Kaur
8.	“Solving the general fully neutrosophic multi-level multiobjective linear programming problems” OPSEARCH March (2021). (Scopus –ESCI indexed). https://doi.org/10.1007/s12597-021-00522-8	Dr. KC Lachhwani
9.	Facile solvothermal synthesis of nano-assembled mesoporous rods of cobalt free - La ₂ NiFeO ₆ for electrochemical behaviour, Materials Science and Engineering: B (SCI I.F. 4.051) doi: 10.1016/j.mseb.2020.114664 (2020)	Jashandeep Singh, Amit Kumar and Ashok Kumar
10.	Energy storage properties of double perovskites Gd ₂ NiMnO ₆ for electrochemical supercapacitor application, Solid State Sciences (SCI I.F. 3.059) 10.1016/j.solidstatesciences.2020.106252 (2020)	Amit Kumar, Ashok Kumar and Ashavani Kumar
11.	Ethylene glycol/ citric acid stabilized wet chemically synthesized Y ₂ CoNiO ₆ , and its structural, dielectric, magnetic and electrochemical behavior, Journal of Materials Science: Materials in Electronics (SCI I.F. 2.478) doi: 10.1007/s10854-020-03263-4 (2020)	Maret Ickler, Manju Devi, Irina Rogge, Jashandeep Singh and Ashok Kumar
12.	Investigation of structural, morphological, and electrochemical properties of mesoporous La ₂ CuCoO ₆ rods fabricated by facile hydrothermal route, International Journal of Minerals, Metallurgy and Materials (SCI I.F. 2.232) doi: 10.1007/s12613-020-2011-6 (2020)	Jashandeep Singh and Ashok Kumar
13.	Mesoporous spheres of Dy ₂ NiMnO ₆ synthesized via hydrothermal route for structural, morphological, and electrochemical investigation, Ionics (SCI I.F. 2.817) doi: 10.1007/s11581-020-03644-z (2020)	Jashandeep Singh, Irina Rogge, Uttam Kumar Goutam and Ashok Kumar
14.	Phase transformation in wet-chemically synthesized Y ₂ NiFeO ₆ , and its magnetic and energy storage properties, Applied Physics A (SCI I.F. 2.584) doi:10.1007/s00339-020-03802-0 (2020)	Manju Devi, Ashok Kumar, Ashavani Kumar,
15.	Structural, dielectric and energy storage properties of citric acid and ethylene glycol assisted hydrothermally synthesized Y ₂ FeCoO ₆ , Physica Status Solidi A (SCI I.F. 1.981) doi:10.1002/pssa.202000324 (2020)	Manju Devi Ashavani Kumar and Ashok Kumar
16.	The synthesis, structural, optical and electrical characterizations of double perovskite oxide Y ₂ CuCoO ₅ , AIP Conf. Proc. doi: 10.1063/5.0001234 (2020)	Manju Devi, Ashavani Kumar and Ashok Kumar
17.	Structural, dielectric and magnetic properties of double perovskite-La ₂ CoNiO ₆ ceramics synthesized by wet chemical route, Int J Nanotechnol (SCI) (accepted)	Jashandeep Singh, Amit Kumar, Uttam Kumar Goutam, Ram Janay Choudhary & Ashok Kumar
18.	Facile wet chemical synthesis and electrochemical performance of double perovskite- La ₂ NiMnO ₆ for energy storage application, Materials Today Proc. (Accepted)	Jashandeep Singh and Ashok Kumar

PAPERS PUBLISHED BY THE APPLIED SCIENCE FACULTY IN NON-SCI JOURNALS

Sr.No.	Name of the Paper Published	Author (s) Name
1.	Proceedings of 5-Days webinar Series on 'Atmanirbhar Bharat: Transmutation from Privation to Exuberance, July 27-31, 2020, Member Editorial Team.	Ashok Kumar
2.	'Alkaline earth stannates nanomaterials as an electron transport layer in dye sensitized solar cells' in Handbook of Polymer and Ceramic Nanotechnology, (eds Chaudhery Mustansar Hussain and Sabu Thomas) Springer, (Submitted August 06, 2020)	Ashok Kumar, Sarath Chandra Veerla, Kabali Vijai Anand and Astakala Anil Kumar
3.	Forecasting and fostering demands, Proc. of Webinar Series on AtmanirbharBharat: Transmutation from Privation to Exuberance, July 27-31, 2020 (submitted)	Ashok Kumar and Balwinder Singh Dhaliwal,
4.	Science and Covid-19, 53 rd Annual Day e-Souvenir, NITTTR Chandigarh.	Ashok Kumar and Pankaj Sharma
5.	"Optimization model in sustainable development: multiobjective programming approach" has been published in conference proceeding (Springer) of Sustainable Development through Engineering Innovations (SDEI), held on 17 - 19 September, 2020 at Guru Nanak Dev Engineering College, Ludhiana (Punjab), India. https://doi.org/10.1007/978-981-15-9554-7_12	Dr. KC Lachhwani

PAPERS PUBLISHED BY THE APPLIED SCIENCE FACULTY IN NATIONAL JOURNAL

Sr.No.	Name of the Paper Published	Author (s) Name
1.	Current Research trends on the application of supercapacitors in electric vehicles, Journal of Engineering & Technology Education, 14, 14-18 (2020)	Ashok Kumar, Renu Dhahiya and Pankaj Sharma

PAPERS PUBLISHED / PRESENTED BY THE APPLIED SCIENCE FACULTY IN INTERNATIONAL CONFERENCES/SEMINARS

Sr.No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author (s) Name
1.	'Alkaline earth stannates nanomaterials as an electron transport layer in dye sensitized solar cells' in Handbook of Polymer and Ceramic Nanotechnology, (eds Chaudhery Mustansar Hussain and Sabu Thomas) Springer, (Submitted August 06, 2020)	Ashok Kumar, Sarath Chandra Veerla, Kabali Vijai Anand and Astakala Anil Kumar
2.	Nanoscience and Nanotechnology for Interdisciplinary Teaching and Research:NEP-2020, Proceedings of National Conference on Unlocking Atmanirbhar Bharat through NEP-2020, November 27, 2020, NITTTR Chandigarh	Ashok Kumar, Balwinder Raj, and Pankaj Sharma

**PAPERS PUBLISHED / PRESENTED BY THE APPLIED SCIENCE
FACULTY IN INTERNATIONAL CONFERENCES/SEMINARS**

Sr.No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author (s) Name
3.	Proceedings of 5-Days webinar Series on 'Atmanirbhar Bharat: Transmutation from Privation to Exuberance, July 27-31, 2020, Member Editorial Team.	Ashok Kumar
4.	Science and Covid-19, published in e-souvenir 53rd institute day, September 07, 2020. pp. 71-73.	Ashok Kumar and Pankaj Sharma,
5.	Current Research trends on the application of supercapacitors in electric vehicles, Journal of Engineering & Technology Education, 14, 14-18 (2020)	Ashok Kumar, Renu Dhahiya and Pankaj Sharma

**PAPERS PUBLISHED / PRESENTED BY THE APPLIED SCIENCE
FACULTY IN NATIONAL CONFERENCES/SEMINARS**

Sr.No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author (s) Name
1.	Nanoscience and Nanotechnology for Interdisciplinary Teaching and Research: NEP-2020, Proceedings of National Conference on Unlocking Atmanirbhar Bharat Through NEP-2020, November 27, 2020, NITTTR Chandigarh.	Ashok Kumar, Balwinder Raj, and Pankaj Sharma
2.	Forecasting and fostering demands, Proc. of Webinar Series on AtmanirbharBharat: Transmutation from Privation to Exuberance, July 27-31, 2020 (submitted)	Ashok Kumar and Balwinder Singh Dhaliwal,
3.	Science and Covid-19, 53 rd Annual Day e-Souvenir, NITTTR Chandigarh.	Ashok Kumar and Pankaj Sharma
4.	"Optimization model in sustainable development: multiobjective programming approach" has been published in conference proceeding (Springer) of Sustainable Development through Engineering Innovations (SDEI)', held on 17 - 19 September, 2020 at Guru Nanak Dev Engineering College, Ludhiana (Punjab), India. https://doi.org/10.1007/978-981-15-9554-7_12	Dr. KC Lachhwani
5.	Nanoscience and Nanotechnology for Interdisciplinary Teaching and Research:NEP-2020, Proceedings of National Conference on Unlocking Atmanirbhar Bharat through NEP-2020, November 27, 2020, NITTTR Chandigarh	Dr. Ashok Kumar, Dr. Balwinder Raj, and Dr. Pankaj Sharma

Ph.D. Thesis Guided

No. of Ph.D thesis guided	Submitted - 02 In Progress - 09
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ON-LINE IN-HOUSE TRAINING ATTENDED BY THE APPLIED SCIENCE FACULTY/STAFF

Sr.No.	Title of Training Programme	Period of Training	Attended By
1.	Capacity Building NITTT Modules (M1): Orientation towards Technical Education and Curriculum Aspects, by NITTTR Chennai.	17.08.2020-21.08.2020	Dr. B.C. Chaudhary
2.	Capacity building programmes, module 8 on institutional management and ADMINISTRATIVE PROCEDURE_OF AICTE-NITTTR Modules for all NITTTRs faculty members held from 24-28 August 2020.	24.08.2020-28.08.2020	Dr. K.C. Lachhwani
3.	Capacity Building NITTT Modules (M7) : CPS, Innovation and Meaning full R&D, (26-30 May) by NITTTR Chandigarh	26.05.2020-30.05.2020	Dr. B.C. Chaudhary
4.	Capacity Building NITTT Module (M5) : Technology Enabled Learning and Life-long Self learning (09-13 June) by NITTTR Chennai.	09.06.2020-13.06.2020	Dr. B.C. Chaudhary
5.	Capacity building, module 3 on Communication Skills, modes and knowledge dissemination	26.05.2020 – 30.05.2020	Dr. Ashok Kumar
6.	Attended Capacity Building Program 'Module 7' ICTO 70 organized by NITTTR Chandigarh during May 26-30, 2020.	26.05.2020 – 30.05.2020	Dr. Pankaj Sharma
7.	Attended Capacity Building Training Programme Module-6 on 'Effective Modes of Student Assessment and Evaluation' organized by NITTTR Chandigarh during June 08-12,2020	08.06.2020 – 12.06.2020	Dr. Pankaj Sharma
8.	Attended Capacity building NITTT, module 8 on Institutional Management and Administrative Procedure, organized by NITTTR Chandigarh, 24-28 August 2020	24.08.2020 – 28.08.2020	Dr. Pankaj Sharma

ON-LINE INTERNATIONAL CONFERENCE ATTENDED BY THE APPLIED SCIENCE FACULTY/STAFF

Sr.No.	Title of Training Programme	Period of Training	Attended By
1.	Attended (online) an International Conference SPIE Defense + Commercial Sensing Digital Forum 2020 during April 27- May 01, 2020	27.04.2020 to 01.05.2020	Dr. Pankaj Sharma
2.	International Virtual Conference on Frontiers in Manufacturing Technology, organized by Kalinga Institute of Industrial Technology (KIIT), Deemed to be University, IoE, Bhubaneswar, Odisha, October 13-14, 2020.	13.10.2020 – 14.10.2020	Dr. Pankaj Sharma
3.	International virtual conference on Advances in Functional Materials, Kalinga Institute of Industrial Technology, Deemed University, Bhubaneshwar, August 26-28, 2020	26.08.2020 – 28.08.2020	Dr. Pankaj Sharma



“Work hard, Work harder, Work with efficiency, Work in a cooperative spirit, Work with a team spirit to make your country great, self supporting and strong.”
– Sir M. Visvesvaraya

CIVIL ENGINEERING DEPARTMENT



Prof. (Dr.) Hemant Sood
Professor
Research Areas - Concrete Technology, Pavement Design, Transportation Engineering



Prof. (Dr.) Sanjay Kumar Sharma
Professor
Research Areas - Hydraulics & Irrigation, Environmental Engg., Building Maintenance



Er. Ajay Kumar Duggal
Associate Professor
Research Areas - Transportation Engineering, Foundation Engineering, Highway Engineering



Er. Vinod Kumar Sonthwal
Associate Professor
Research Areas - Geo-technical Engineering, Construction Management, Soil Mechanics

“Work hard, Work harder, Work with efficiency, Work in a cooperative spirit, Work with a team spirit to make your country great, self supporting and strong.”
– Sir M. Visvesvaraya

CIVIL ENGINEERING DEPARTMENT



Er. Himmi Gupta
Assistant Professor
Research Areas - Structural Engineering, Bridge Engineering, Project Management



Dr. Amit Goyal
Assistant Professor
Research Areas - Structure Dynamics, Masonry Structure, Low Cost Housing



Er. Suresh Kumar Gupta
Joint Associate Professor
Research Areas - Curriculum Development, Civil Engineering

During the year **2020-21**, the department has conducted **17** online short term training programs in ICT Mode, which were attended by **1414** teachers from polytechnics and engineering colleges. The department faculty published **05** papers in SCI Journals, **23** papers in Non-SCI Journals and **01** paper in National Journal. The faculty filed **01** Patent “A Process of Making Construction Material Using Electroplating Waste Sludge and The Products Thereof”. The department also published **07** paper in proceedings of International Conferences and **01** paper in National Conference.

The department also published **04** book chapters. The faculty of the department attended **04** online training programs and **08** online webinars during the year. The faculty also submitted **02** research proposals in various agencies. The department has completed **04** Print material and **01** Non-Print material (Video Film on “Simplex method: Theory and Techniques part III”). The department provided design and testing services to industry as consultancy projects of Gross Value more than **Rs. 1,15,51,791.00** with Net IRG of **Rs.97,89,825.00**.

Short Term Programs Conducted (Online)

1. Green and Intelligent Buildings
2. Advanced Construction Technology
3. Smart Sustainable Cities
4. Alternate Technologies in Road Construction (Flexible Pavements)
5. Emerging Technologies in Civil Engineering
6. Affordable Housing
7. Remote Sensing and its Applications in Engineering
8. Fundamentals of Concrete Technology
9. Applications of AutoCAD for Engineers
10. Fire Resistant Design of Structures
11. Rural Construction Technologies
12. Drafting and Modeling using AutoCAD Software
13. Structural Designing using STAAD Pro
14. Modelling and Analysis of Geotechnical Problems using GTSNX and Soilworks Softwares
15. IoT and Artificial Intelligence Applications in Civil Engineering
16. Sustainable Built Environment
17. Repair and Rehabilitation of Structures

RESEARCH AND DEVELOPMENT

PATENTS/COPYRIGHT

Sr.No.	Name of Patents/Copyright	Author (s) Name
1.	A Process of Making Construction Material Using Electroplating Waste Sludge and the Products thereof.	Dr. Sanjay Sharma/ Rao Meda Sivasankara

PAPERS PUBLISHED BY THE CIVIL ENGINEERING FACULTY IN SCI JOURNAL

Sr.No.	Paper Published	Author (s) Name
1.	A Critical Review on Prioritization of Road Segments for User Safety and Identification of Black Spots. <i>Indian Highways</i> , 48(9).	Nandal, M., Mor, N., & Sood, H. (2020).
2.	An overview of use of artificial neural network in sustainable transport system. <i>Computational methods and data engineering</i> , 83-91.	Nandal, M., Mor, N., & Sood, H.
3.	Experimental investigation on mechanical properties of polyurethane modified bituminous waterproofing membrane. <i>Materials Today: Proceedings</i> , 27, 467-474.	Rupal, A., Sharma, S. K., & Tyagi, G. D.
4.	Influence of Nano-modification on Strength Parameters of Concrete. In <i>Advances in Sustainable Construction Materials and Geotechnical Engineering</i> (pp. 97-105). Springer, Singapore.	Sharma, H., Majeed, B., & Sharma, S.
5.	Utilization of kitchen waste for production of pullulan to develop biodegradable plastic. <i>Applied microbiology and biotechnology</i> , 104(3), 1307-1317.	Rishi, V., Sandhu, A. K., Kaur, A., Kaur, J., Sharma, S., & Soni, S. K.

PAPERS PUBLISHED BY THE CIVIL ENGINEERING FACULTY IN NON-SCI JOURNALS

Sr. No.	Name of the Paper Published	Author (s) Name
1.	Use of Fibre Reinforced Polymers (FRP) in Strengthening of High Performance Concrete Beam Column Joint. <i>International Research Journal of Engineering and Technology (IRJET)</i> ; Volume: 07 Issue: 12 Dec 2020	Yeole, S. A., Sharma, S. K., & Sharma, H. K.
2.	A High Performance Concrete-Experimental Investigations <i>International Journal of Innovative Technology and Exploring Engineering (IJITEE)</i> ISSN: 2278-3075, Volume-10 Issue-2, December 2020	Sonone, R. G., Sharma, S., & Sharma, H. K. SIFCON-

**PAPERS PUBLISHED BY THE CIVIL ENGINEERING
FACULTY IN NON-SCI JOURNALS (contd..)**

Sr. No.	Name of the Paper Published	Author (s) Name
3.	The Utilization of EAF Slag as Coarse Aggregate A Review – IST International Conference on Recent Innovation in Science, Engineering and Technology, 11-12 September, 2020, Paper published in Invertis Journal Of Science and Technology, Vol. 13; No 3; July-September 2020, pp. 116-128	Azmat Naseem, Mehnaz Dhar and Dr. Sanjay Sharma
4.	REVIEW ON FATE OF EMERGING CONTAMINANTS DURING IN-VESSEL COMPOSTING International Research Journal of Modernization in Engineering Technology and Science Volume:02/Issue:10/October -2020 www.irjmets.com	Azmat Naseem, Dr. Sanjay Sharma
5.	Replacement of Sand with Waste Water Sludge in Construction of Geopolymer Concrete-A Review International Research Journal of Modernization in Engineering Technology and Science (IRJMETS) Volume:02/Issue:12/ December-2020 www.irjmets.com	Archna, Dr. Sanjay Sharma
6.	Effect Of Colloidal Nano Silica And Carbonation On Mechanical and Durability Properties of Recycled Aggregate Concrete International Research Journal of Modernization in Engineering Technology and Science Volume:02/Issue:11/ November -2020 www.irjmets.com	Irfan Ahmad Malik Dr. Hemant Sood
7.	Analysis and Design of (G+5) RC Multi Storied Building using STAAD Pro. Software- Journal of Emerging Technologies and Innovative Research (JETIR) (ISSN-2349-5162) JETIR 08 December 2020, Volume 7, Issue 12 JETIR2012060	Dr. Sanjay Sharma Arti
8.	Study of Ambient Air Quality Trends in Paonta Sahib, Himachal Pradesh India Publication with International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056 p-ISSN: 2395-0072 Volume: 07 Issue: 12 Dec 2020 www.irjet.net 12 DEC. 2020	Naveen ¹ , Dr. Sanjay Kumar Sharma ² , Sabira javaid ³
9.	ASSESSMENT OF IN-SITU STRUCTURAL PROPERTIES OF TIMBER Research Paper- International Research Journal of Engineering And Technology (IRJET) e-ISSN: 2395-0056 p-ISSN: 2395-0072	Geeta Dr. Sanjay Kumar Sharma Dr. Ranjana Yadav
10.	REVIEW OF IMPROVING PROPERTIES OF SOIL USING FLY-ASH AND TERRA-ZYME Research Paper- International Research Journal of Engineering And Technology (IRJET) e-ISSN: 2395-0056 p-ISSN: 2395-0072	Akshya Raghwa Er. Vinod Kumar Sonthwal
11.	A CRITICAL REVIEW ON ENHANCING SOIL PROPERTIES USING MARBLE POWDER AND TERRAZYME Research Paper- International Research Journal of Engineering And Technology (IRJET) e-ISSN: 2395-0056 p-ISSN: 2395-0072 Volume: 07 Issue: 11 Nov 2020 www.irjet.net	Divanshu Sharma Prof. Vinod Kumar Sonthwal
12.	Review on Performance Study on Mastic Asphalt at Rotary Section International Research Journal of Engineering and Technology IRJET) e-ISSN:2395-0056 p-ISSN: 2395-0072 Volume:08 Issue:01 Jan 2021	Ritu Gupta ¹ , Ajay K. Duggal ²
13.	Use of Waste Foundry Sand and Crushed Waste Glass on Stabilization of Black Cotton Soil -Review with International Research Journal of Engineering and Technology (IRJET) e-ISSN:2395-0056 p-ISSN:2395-007	Manish Prof. Vinod kumar Sonthwal

**PAPERS PUBLISHED BY THE CIVIL ENGINEERING
FACULTY IN NON-SCI JOURNALS (contd..)**

Sr. No.	Name of the Paper Published	Author (s) Name
14.	Engineering Properties Enhancement of Black Cotton Soil by using Lime and Polypropylene Fibre Research Paper- International Research Journal of Engineering And Technology (IRJET) e-ISSN:2395-0056 p-ISSN: 2395-0072	Mohammed Saqib Qadeer Prof. Vinod Kumar Sonthwal
15.	Study on possibility of using electroplating sludge and brick waste as raw material in mechanical pressed bricks International Research journal of Modernization in Engineering Technology(IRJMETS) Vol. 3, Issue 1, Jan.2021	Iqra Ashraf Dr. Sanjay Sharma
16.	Potentiality of Exercising the Electroplating Sludge as a Partial Substitute for Sand in Cement Concrete International Research journal of Modernization in Engineering Technology (IRJMETS) Volume 3, Issue 1, January, 2021	Manisha Thakur Dr. Sanjay Sharma
17.	Effect of Silica Glass Fibre on Strength and Workability of Concrete - A Review International Research Journal of Modernization in Engineering Technology and Science e-ISSN: 2582-5208 Volume: 3/ Issue 1/ January 2021 www.irjmets.com	Neha Dr. Sanjay Sharma Dr. Amit Goyal
18.	Analysis of Energy Simulation Softwares to Enhance Energy Efficiency of New and Existing Buildings - IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE) ISSN(e) : 2278-1684, ISSN(p) : 2320-334X, PP : 09-12	Aditya Punia, Dr. Sanjay Sharma, Dr. Poonam Syal
19.	A Review on Development plan for Solid Waste Management of an Institution buildings: case study of NITTTTR Chandigarh Research Paper- International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056 p-ISSN: 2395-0072 Volume: 08 Issue: 02 Feb. 2021 www.irjet.net	Raj Kumar, Dr. Sanjay Sharma, Er. Himmi Gupta
20.	Software Simulation Modelling Based Approach in Building Envelope Optimization IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE) ISSN(e) : 2278-1684, ISSN(p) : 2320-334X, PP : 01-03	Parasram Pandit Dr. Sanjay Sharma Er. Himmi Gupta
21.	Non-Destructive test method for RCC OHWT: A Review International Research Journal of Engineering and Technology (IRJET) e-ISSN:2395-0056 p-ISSN: 2395-0072 Volume: 08 Feb 2021 www.irjet.net	Suraj Kumar Pandey Dr. Sanjay Sharma Ashish Kapoor
22.	A REVIEW ON SUSTAINABLE SOLID WASTE MANAGEMENT FOR UT: CASE STUDY OF CHANDIGARH CITY. Research Paper-International Research Journal of Engineering And Technology (IRJET) e-ISSN: 2395-0056 p-ISSN: 2395-0072 Volume: 08 Issue: 2 /February 2021 www.irjet.net	Vikas Balyani Dr. Sanjay Sharma Dr. Amit Goyal.
23.	Dhar, M., & Sharma, S. (2020). Studies on the utilization of eaf slag as coarse aggregate in concrete-A review. Invertis Journal of Science & Technology Vol. 13, No. 3, July-September 2020, pp- 116-128	Dr. Sanjay Sharma and et. al

PAPERS PUBLISHED BY THE CIVIL ENGINEERING FACULTY IN NATIONAL JOURNAL

Sr.No.	Name of the Paper Published	Author (s) Name
1.	Design of Flexible pavement: MATLAB Program as per guidelines of IRC:37-20-2018” Kpiramal of Evgineering & Technology Education publishers NITTTTR, Chandigarh, Volume 14, No.1, January-June 2020	Vandna Sambyal, Dr. Hemant Sood, Manjit Singh

PAPERS PUBLISHED/PRESENTED BY THE CIVIL ENGINEERING FACULTY IN INTERNATIONAL CONFERENCES/SEMINARS

Sr.No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author (s) Name
1.	Effect of colloidal Nano Silica and Carbonation on Mechanical and Durability properties of Recylced Aggregate Concrete: A Review in International of Modernisation in Engineering Technology and Science November 2020, Volume 2, Issue 11, eISSN-2582-5208	Irfan Ahmed Malik/ Dr. Hemant Sood
2.	Developing and Enhancing the Properties of Concrete Using RMC Sludge International Conference Advances in Applied Sciences, Humanities & Technology to OvercomeGlobal Disasters (ICAASHTOGD-20) Organized by Raja Balwant Sing Engineering Technical Campus Bichpuri Agra-283105 from 18-19 Septmber, 2020.	Vikas Kumar & Dr. Hemant Sood
3.	Experimental Investigation on Performance Enhancement of Recycled Aggregate Mortar. International Conference Advances in Applied Sciences, Humanities & Technology to Overcome Global Disasters (ICAASHTOGD-20) Organized by Raja Balwant Sing Engineering Technical Campus Bichpuri Agra-283105.	Rituraj Singh Dr. Sanjay Sharma Scientist Santha Kumar G Himmi Gupta
4.	Role of high performance materials in strengthening of masonry structures-ICON 2020-National web conference on Innovations in concrete and construction 2020 Organized by Department of Civil Engineering, Sona Collage of Technology, Salem, Tamil Nadu, India	Dinesh Chandra Pandey, Dr. Amit Goyal, Dr. R. Siva Chidambaram
5.	Influence of dampers in cyclic performance of RCC framed structures-ICON 2020-National web conference on Innovations in concrete and construction 2020 Organized by Department of Civil Engineering, Sona Collage of Technology, Salem, Tamil Nadu, India	Bharati, Dr. Amit Goyal, Dr. R.Siva Chidambaram
6.	Studies on The Utilization of EAF Slag as Coarse Aggregate- A Review – IST International Conference on Recent Innovation in Science, Engineering and Technology, 11-12 September,2020, Paper published in Invertis Journal of Science and Technology, Vol. 13; No 3; July-September 2020, pp. 116-128	Mehnaz Dhar and Dr. Sanjay Sharma

**PAPERS PUBLISHED/PRESENTED BY THE CIVIL ENGINEERING
FACULTY IN INTERNATIONAL CONFERENCES/SEMINARS (contd..)**

Sr.No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author (s) Name
7.	Experimental Investigation on Performance Enhancement of Recycled Aggregate Mortar.International Conference on Innovative Trends in Engineering & Management (ITEM-2020) Conference ISBN: 978-81-947536-0-5	Rituraj Singh Dr. Sanjay Sharma Scientist Santha Kumar G Himmi Gupta

**PAPERS PUBLISHED/PRESENTED BY THE CIVIL ENGINEERING
FACULTY IN NATIONAL CONFERENCES/SEMINARS**

Sr.No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author (s) Name
1.	Research Paper on “Developing and Enhancing the Properties of Concrete using RMC sludge” in International Conference on Advances in Applied Sciences, Humanities & Technology to Overcome Global Disasters held at Raja Balwant Singh Engineering Technical Campus, Bichiure (AGRA)- 28310 from 18-19 September, 2020	Vikas/Dr. Hemant Sood

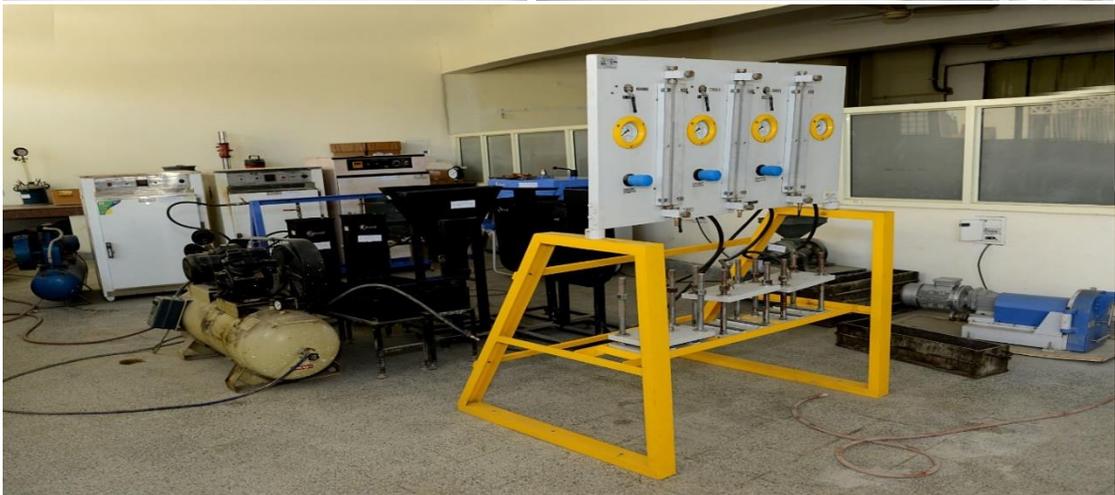
RESEARCH & DEVELOPMENT

No. of M.E. Thesis Guided	40
No. of Ph.D. Thesis Guided	Awarded - 01 Submitted 02 In Progress - 05

**TRAINING PROGRAMMES ATTENDED BY THE CIVIL
ENGINEERING FACULTY/STAFF**

Sr.No.	Title of Training Programme	Period of Training	Attended By
1.	Control Charts & trend Analysis in line with ISO 17025:2017 by A Dasgupta, Bangalore	01-10.7.2020	Himmi Gupta
2.	Two weeks Industrial Training at Chandigarh Housing Board	20-31.07.2020	Himmi Gupta
3.	AICTE sponsored one week online STTP, Phase –I on Soft Computing Techniques in Civil Engineering by Shri Vishnu Engg. College for Women, Bhimavaram, Andhra Pradesh	17-22.08.2020	Himmi Gupta
4.	Short Course on Numerical Solutions to Geotechnical Challenges with midas GTSN X	1-12 June, 2020	Vinod Kumar Sonthwal

1. Published a book Chapter on “Stabilizing Different Subgrade Soils with Pond Ash to Lower Greenhouse Gas Emissions for Bituminous pavements in India” in Book (Electronic and Print Format) on “Urban Air Quality Monitoring, Modelling and Human Exposure Assessment” by Springer 23.10.2020.
2. Published a book chapter in book Application of ICT-Driven Machine Learning Techniques For Prediction of Road Accidents: Hidden Eye to Sustainable Road Infrastructure in a book titled “Fundamentals and methods of Machine and Deep Learning: Algorithms, Tools, and Applications” by Wiley_Scrivener Press.
3. Published a book Chapter Application of brick Kiln Dust for Sustainable Construction in a book titled “Sustainable Development through Engineering Innovations”. Lecture Notes in Civil Engineering Volume 113 by Springer Nature November 2020.
4. Dr. Sanjay Kumar Sharma & Subhanshu Dadwal “Impact of New Development on Drainage System and Design of Suitable LID Structures- 3rd International Conference on Innovative Technologies for Clean and Sustainable Development organised by NITTTR, Chandigarh and MAU. Book Chapter Publication with Elsevier process - NITTTR Chandigarh, 19-21 February, 2020”



*“Computer science is no more about computers than astronomy is about telescopes.”
– Edsger Dijkstra*

COMPUTER SCIENCE AND ENGINEERING DEPARTMENT



Prof. (Dr.) Maitreyee Dutta

Professor

*Research Areas - Digital Signal & Image Processing,
Data Warehousing & Data Mining*



Prof. (Dr.) Rama Krishna Challa

Professor

*Research Areas - Wireless Communication &
Networks, Cryptography & Cyber Security*



Prof. (Dr.) Srinivasa KG

Professor

*Research Areas - High Performance Computing,
Cloud Computing, Data Science, IoT, Digital Pedagogy*



Er. Shano Solanki

Assistant Professor

*Research Areas - Algorithm Analysis & Design,
Multimedia System Design, Web Based Training*

*“Computer science is no more about computers than astronomy is about telescopes.”
– Edsger Dijkstra*

COMPUTER SCIENCE AND ENGINEERING DEPARTMENT



Er. Amit Doegar
Assistant Professor
Research Areas – Networking, Image Processing,
Open Source Technologies



Dr. Mala Kalra
Assistant Professor
Research Areas - Cloud Computing, Information
Retrieval, Swarm Intelligence



Dr. Rakesh Kumar
(on lien as Associate Professor at CUH, Mahendragarh)
Assistant Professor
Research Areas - Wireless Sensor Networks, Adhoc
Networks, Cloud Computing

During the year **2020-21**, the department conducted **39** online short term training programs in ICT Mode, which were attended by **6383** teachers. The department conducted **08** Workshops other than curriculum development workshop in which **364** participants attended. The department faculty published **16** Papers in SCI Journals and **05** papers published in Non-SCI Journals. The department also published **13** paper in proceedings of International Conferences. The faculty also submitted **10** research project. The department published **02** Books and Text Books Chapters.

The department has completed **18** Print material and **44** Non-Print material (video films). The department also published **02** text books and published **03** book chapters. The faculty of the department attended 11 online training programs and **03** In-House training programs during the year. The department also conducted **7** **AICTE-ATAL** Programmes and **04** Consultancy Programmes under **AICTE Margdarshan Scheme**. The department received grant for research project/sponsored project of **Rs. 1,00,000** against DST Project on IoT and Machine Learning Techniques Enabled Hydroponic Farms and **Rs. 133,330** from AICTE for organizing International Conference on Edge, IoT and Social Computing for digital villages. Department also launched **01** MOOC course on “Educational Video Production” and rerun MOOC course on “Graphics and Animation Development”.

Short Term Programs Conducted (Online)

1. Internet of Things
2. Scilab Programming
3. Cloud, Fog and Edge Computing
4. Internet of Things
5. Linux Applications in Engineering Education
6. Data Science using R
7. Big Data Analytics
8. Data Analytics using Python
9. Open Source Cyber Security Tools
10. Cyber Security
11. Applications of IoT
12. Data Analytics with Python
13. Penetration Testing and Malware Analysis
14. Foundations of Blockchain Technology
15. Free Tools for Research and Publications
16. Social Networks Analysis using Open Source Tools
17. Cyber World Vulnerabilities and Safeguards
18. Machine Learning using Python

Short Term Programs Conducted (Online) (contd..)

19. Virtual Classroom and Latex Programming
20. Machine Learning and Predictive Mining using Python
21. Penetration testing using Metasploit
22. Data Science using Python
23. Cloud Computing: A Hands on approach with AWS Cloud
24. Scilab Programming
25. Research Pedagogy and Technical Writing
26. R Programming for Data Scientists
27. Digital Marketing : A Hands on Approach with Social Media
28. Digital Tools for Online Learning
29. Computer Programming using Python
30. Web Development using Django and Python
31. Cyber Attacks & Mitigation Techniques
32. IoT and Machine Learning Applications
33. Practical Approach to Cyber World and Forensics.
34. Free Tools for Research
35. Social Networks Analysis and its Applications
36. Technical Writing using LaTeX
37. Machine Learning using Python
38. Machines Learning Algorithms
39. Data Analytics and Visualization using R Programming

RESEARCH AND DEVELOPMENT

PAPERS PUBLISHED BY THE COMPUTER SCIENCE & ENGINEERING FACULTY IN SCI JOURNAL

Sr.No.	Name of the Paper Published	Author (s) Name
1.	S-DDoS: Apache Spark based Real-time DDoS Detection System, in Journal of Intelligent & Fuzzy Systems, IOS Press, 38(5), 2020, pp. 6527-6535. [Published, SCI-E Indexed, Impact factor: 1.637]	N. V. Patil, C. Rama Krishna, and K. Kumar
2.	A survey on state-of-the-art road surface monitoring techniques for intelligent transportation systems, International Journal of Sensor Networks, 2021 [Published, SCI-E, IF: 1.428]	R. Chhabra, C. Rama Krishna, and S. Verma
3.	Distributed frameworks for detecting distributed denial of service attacks: A comprehensive review, challenges and future directions. Wiley-Concurrency and Computation: Practice and Experience (2021): e 6197 [SCI-E, IF: 1.447]	Patil, Nilesh Vishwasrao, C. Rama Krishna, and Krishan Kumar
4.	Virtualization in Cloud Computing: Moving from Hypervisor to Containerization: A Survey, Arabian Journal for Science and Engineering, pp. 1-19, 2021. [Published, SCI-E Impact Factor 1.711]	A. Bhardwaj and C. R. Krishna

PAPERS PUBLISHED BY THE COMPUTER SCIENCE & ENGINEERING FACULTY IN SCI JOURNAL (contd..)

Sr.No.	Name of the Paper Published	Author (s) Name
5.	Context-aware hybrid adaptive beaconing for driver behavior dissemination in VANETs", IETE Journal of Research, 2021. [Published, SCI-E, IF: 1.125]	R. Chhabra, C. Rama Krishna, and S. Verma
6.	An ensemble-based supervised machine learning framework for android ransomware detection," International Arab Journal of Information Technology, 18 (3A), 2021. [Published, SCI-E IF: 0.654]	S. Sharma, C. Rama Krishna, and R. Kumar
7.	Multimodal device clustering using Mobile Agent for correlation in Sensor Based IoT" Ad Hoc and Sensor Wireless Networks (SCIE indexed).	Ankita Shukla, Vishal Krishna Singh, Mala Kalra
8.	Multi-objective Energy Aware and Deadline Constrained Workflow Scheduling in Clouds using Hybrid Approach, Wireless Personal Communications (SCI Indexed).	Mala Kalra, Sarbjeet Singh
9.	Indoor Air Quality Prediction Using Optimizers: A Comparative Study'. Journal of Intelligent and Fuzzy Systems, SCIE, 39 (2020) 7053–7069, DOI:10.3233/JIFS-200259 IOS Press	Saini, Jagriti, Dutta, Maitreyee, and Marques, Gonçalo
10.	Towards a Secure Internet of Things: A Comprehensive Study of Second Line Defense Mechanisms, in IEEE Access, vol. 8, pp. 127272-127312, 2020, doi: 10.1109/ACCESS.2020.3005643, (SCIE)	Kamaldeep, M. Dutta and J. Granjal
11.	Supervised ECG wave segmentation using convolutional LSTM, ICT Express (SCIE)	A Malali, S Hiriyannaiah, GM Siddesh, KG Srinivasa, NT Sanjay
12.	Deep Visual Ensemble Similarity (DVESM) approach for Visually Aware Recommendation and Search in Smart Community, Journal of King Saud University-Computer and Information Sciences (SCIE)	S Hiriyannaiah, GM Siddesh, KG Srinivasa
13.	Sensors for Indoor Air Quality Monitoring and Assessment through Internet of Things: A Systematic Review", has been accepted for publication in Environmental Monitoring and Assessment, SCIE	Maitreyee Dutta, Jagriti Saini, Marques, G.
14.	Indoor Air Quality Monitoring Systems Based on Internet of Things: A Systematic Review", in International Journal of Environmental Research and Public Health, 2020, 17, 4942; doi:10.3390/ijerph17144942	Jagriti Saini, Maitreyee Dutta, and Gonçalo Marques
15.	Indoor Air Quality Monitoring Systems for Enhanced Living Environments: A Review toward Sustainable Smart Cities ", Sustainability, 2020, 12, 4024; doi:10.3390/su12104024	Gonçalo Marques , Jagriti Saini, Maitreyee Dutta , Pradeep Kumar Singh, and Wei-Chiang Hong
16.	Indoor Air Quality Prediction Systems for Smart Environments: A Systematic Review', Journal of Ambient Intelligence and Smart Environments, vol. 12, no. 5, pp. 433-453, 2020, 21 September 2020, SCIE	Saini, Jagriti, Maitreyee Dutta, and Marques, Gonçalo.

PAPERS PUBLISHED BY THE COMPUTER SCIENCE & ENGINEERING FACULTY IN NON-SCI JOURNALS

Sr.No.	Name of the Paper Published	Author (s) Name
1.	A comprehensive review on indoor air quality monitoring systems for enhanced public health. Sustain Environ Res 30, 6 (2020), https://doi.org/10.1186/s42834-020-0047-y	Saini, J., Dutta, M. & Marques G
2.	Predictive Analytical Model for Microblogging Data Using Asset Bubble Modelling, International Journal of Cognitive Informatics and Natural Intelligence (SCOPUS)	S Hiriyannaiah, GM Siddesh, KG Srinivasa
3.	Data Analytic Techniques for Developing Decision Support System on Agrometeorological Parameters for Farmers, International Journal of Cognitive Informatics and Natural Intelligence (SCOPUS)	BJ Sowmya, S Seema, KG Srinivasa,
4.	The Paradox of Choice: Investigating Selection Strategies for Android Malware Datasets Using a Machine-learning Approach, Communications of the Association for Information Systems,46(1), 2020, pp. 619-637. [Published, SCOPUS indexed]	Shweta Sharma, Naveen Kumar, Rakesh Kumar, and Challa Rama Krishna
5.	A Hybrid Approach for Intrusion Detection Based on Machine Learning published in International Journal of Security and Networks (ISSN online 1747-8413 ISSN print 1747-8405) on 26 October 2020 Vol. 15, issue 4, Inderscience Publishers https://doi.org/10.1504/IJSN.2020.111128	Rohit Singh, Mala Kalra, Shano Solanki

PAPERS PUBLISHED / PRESENTED BY THE COMPUTER SCIENCE & ENGINEERING FACULTY IN INTERNATIONAL CONFERENCES/SEMINARS

Sr.No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author (s) Name
1.	Feature Based AD Assessment using ML, Congress on Intelligent System, September 5-6, 2020, to be published in SCOPUS Indexed Springer Book Series, 'Advances in Intelligent Systems and Computing' or 'Lecture Notes on Data Engineering and Communications Technologies'	Siddheshwari Dutt Mishra and Prof. Maitreyee Dutta
2.	Indoor Air Quality Monitoring with IoT: Predicting PM10 for Enhanced Decision Support, presented at The International Conference on Decision Aid Sciences and Applications (DASA'20) Organized by the University of Bahrain 8-9 th November 2020 (Online)	Jagriti Saini; Maitreyee Dutta; Gonçalo Marques
3.	Spiral CAPTCHA with Adversarial Perturbation and its Security Analysis with Convolutional Neural Network, Doctoral Symposium on Computational Intelligence, Institute of Engineering and Technology, Lucknow, India. 06 March, 2021. [Published, Scopus].	Shivani and C. Rama Krishna

Sr.No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author (s) Name
4.	CAPTCHA: A Systematic Review. In 2020 IEEE International Conference on Advent Trends in Multidisciplinary Research and Innovation (ICATMRI), pp. 1-8. IEEE, 2020	Shivani and C. Rama Krishna
5.	A cost-efficient Proof-of-Stake Voting based auditable blockchain E-Voting system", International Conference on Applied Scientific Computational Intelligence Using Data Science (ASCI-2020). https://link.springer.com/chapter/10.1007/978-981-15-3020-3_4	T. Sharma, C. Rama Krishna and A. Bahga
6.	Ransom Analysis: The Evolution and Investigation of Android Ransomware." In Proceedings of International Conference on IoT Inclusive Life (ICIIL 2019), NITTTT Chandigarh, India, pp. 33-41. Springer, Singapore, 2020. https://link.springer.com/chapter/10.1007/978-981-15-3020-3_4	Sharma, Shweta, Rakesh Kumar, and C. Rama Krishna
7.	Dimensionality Reduction for Face Recognition Using Principal Component Analysis Based Big Bang–Big Crunch Optimization Algorithm." In Innovations in Electrical and Electronic Engineering, pp. 949-955. Springer, Singapore, 2021.	Grewal, Supreet, and C. Rama Krishna
8.	Detection of Android Malware using Machine Learning Techniques", in 8th International Conference on Innovations in Computer Science and Engineering (ICICSE-2020)-LNNS Springer Series, Hyderabad, India, 21 June, 2020. [Published, SCOPUS indexed]	Sonal Pandey, C. Rama Krishna, Ashu Sharma, Sanjay Sharma
9.	Detection of Malware in Linux Operating System using Hybrid Analysis", in 8th International Conference on Innovations in Computer Science and Engineering (ICICSE-2020)-LNNS Springer Series, Hyderabad, India, 21 June, 2020. [Published, SCOPUS indexed]	Vaishali Chaudhary, C. Rama Krishna, Sanjay Sharma,
10.	Feature Based AD Assessment using ML, Congress on Intelligent System, September 5-6, 2020, to be published in SCOPUS Indexed Springer Book Series, 'Advances in Intelligent Systems and Computing' or 'Lecture Notes on Data Engineering and Communications Technologies'	Siddheshwari Dutt Mishra and Prof. Maitreyee Dutta
11.	Indoor Air Quality Monitoring with IoT: Predicting PM10 for Enhanced Decision Support", presented at The International Conference on Decision Aid Sciences and Applications (DASA'20) Organized by the University of Bahrain 8-9 th November 2020 (Online)	Jagriti Saini; Maitreyee Dutta; Gonçalo Marques
12.	Deep Classifier for News Text Classification using Topic Modelling Approach"published in International Conference on Innovative Computing And Communication (ICICC), Scopus indexed organized at Shaheed Sukhdev College of Business Studies in association with National institute of Technology Patna and University of Valladolid, Spain on 20-21 February 2021 at New Delhi, India	Megha Singla, Maitreyee Dutta

Sr.No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author (s) Name
13.	Predicting Prior Academic Failure of students” using Machine Learning Approach”, in International Conference on Innovative Computing and Communication (ICICC), Scopus indexed, organized at Shaheed Sukhdev College of Business Studies in association with National institute of Technology Patna and University of Valladolid, Spain on 20-21 February 2021 at New Delhi, India	Anamika, Maitreyee Dutta

RESEARCH & DEVELOPMENT

No. of M.E. Thesis Guided	17
No. of Ph.D Thesis Guided	Awarded - 04 Submitted - 01 In Progress - 14

MOOCS SWAYAM COURSES

1. Rerun of Graphics and Animation development (Feb-Mar) and July-Aug) - By Mrs. Shano Solanki
2. Educational Video Production launched by Prof. Maitreyee Dutta and Prof. S S Pattnaik.

SPONSORED RESEARCH PROJECTS ONGOING

S.No.	Name of the Project	Activity	Coordinator / Team Member
1.	AICTE Margdarshan Scheme	Organising FDPs and Workshops for Mentee Institutions to improve the quality parameters so that their programs get accredited by NBA	Dr. C. Rama Krishna and Dr. Mala Kalra
2.	Establishment of Advanced Cyber Security Lab	Continued, MeitY	Prof. Maitreyee Dutta
3.	SEBOT	Continuing	Prof. Maitreyee Dutta

TRAINING PROGRAMMES ATTENDED BY THE COMPUTER SCIENCE & ENGINEERING FACULTY/STAFF

Sr.No.	Title of Training Programme	Period of Training	Attended By
1.	2 Days Instructor Led Live Online Workshop On ML & AI Using Covid-19 Virus Data Analysis Organized by Finland Labs (A Unit of Revert Technology Pvt. Ltd.) In Association with NSS - IIT Roorkee	27-28.04.2020	Prof. Maitreyee Dutta
2.	AICTE Training And Learning (ATAL) Academy Online FDP on "Data Science" conducted by Punjab Engineering College (Deemed to be University).	04-08.05.2020	Mr. Amit Doegar
3.	Image Processing towards Data Science organized by department of CSE, Meenakshi College of Engineering, Chennai	06-07.07.2020	Mr. Amit Doegar
4.	Attending Two Weeks Professional Training on "AWS Cloud" organized by Online Idea Lab, Bengaluru.	29.07.2020-07.08.2020	Dr. Mala Kalra
5.	Attended one week Capacity Building programme on Module 8 i.e. "Institutional Management and Administrative Procedures" of AICTE-NITTT Modules at NITTTTR, Chandigarh	24-28.08.2020	Dr. Mala Kalra
6.	Expert Lecture for the FDP on "Data Sciences" sponsored by AICTE Training and Learning (ATAL) Academy at NIT SriNagar (J&K)	24-28.08.2020	Amit Doegar
7.	Attended one week STC on "Internet of Things for Healthcare Applications" organized by NIT, Jalandhar.	31.08.2020-04.10.2020	Dr. Mala Kalra
8.	Attended panel discussion on "Making Mentoring Relevant: NEP 2020 Perspective " organized by all the four NITTTTR's.	21.09.2020	Er. Shano Solanki
9.	Webinar on National Education Policy 2020 – Strategies and Framework for Autonomy organized by NITTTTR, BHOPAL on 15.10.2020	15.10.2020	Er. Shano Solanki
10.	AICTE Sponsored one week Short Term Training Program on "Machine Learning and IoT Technologies for Environmental Issues – Phase II" from 26th Oct to 31st Oct, 2020 organised by PVP Siddhartha Institute of Technology, Vijayawada, Andhra Pradesh(Online).	26-31.10.2020	Er. Shano Solanki
11.	AICTE ATAL FDP on "Data Sciences"	22-26.02.2021	Dr. Mala Kalra

ON-LINE IN-HOUSE TRAINING ATTENDED BY THE COMPUTER SCIENCE & ENGINEERING FACULTY/STAFF

Sr.No.	Title of Training Programme	Period of Training	Attended By
1.	Capacity Building Course Module7 on Creative Problem Solving, Innovation and Meaningful R&D conducted by Dr. P.K. Tulsi through Google Meet	26–30.05.2020	Shano Solanki
2.	Capacity Building Course Module 3 by Mrs. Amandeep Kaur from through Google Meet	26–30.05.2020	Prof. Maitreyee Dutta
3.	Capacity Building Course Module 3 by Mrs. Amandeep Kaur from through Google Meet	26–30.05.2020	Dr. Mala Kalra

BOOK PUBLISHED

1. Statistical Modelling and Machine Learning Principles for Bioinformatics Techniques, Tools, and Applications by Springer, April 2020 by Prof. K G Srinivasa.
2. Dutta, M., Krishna, C.R., Kumar, R., Kalra, M Proceedings of International Conference on IoT Inclusive Life (ICIIL 2019), NITTTR Chandigarh, India, Springer Lecture Notes on Networks and Systems, April, 2020

BOOK CHAPTER PUBLISHED

1. Saini J., Dutta M., Marques G. (2020) Particulate Matter Assessment in Association with Temperature and Humidity: An Experimental Study on Residential Environment. In: Dutta M., Krishna C., Kumar R., Kalra M. (eds) Proceedings of International Conference on IoT Inclusive Life (ICIIL 2019), NITTTR Chandigarh, India. Lecture Notes in Networks and Systems, vol 116. Springer, Singapore. https://doi.org/10.1007/978-981-15-3020-3_15
2. Saini J., Dutta M. (2020) Applications of IoT in Indoor Air Quality Monitoring Systems. In: Raj P., Chatterjee J., Kumar A., Balamurugan B. (eds) Internet of Things Use Cases for the Healthcare Industry. Springer, Cham. https://doi.org/10.1007/978-3-030-37526-3_4
3. Jagriti Saini, Maitreyee Dutta, “Smart Epilepsy Detection System Using Hybrid ANN-PSO Network”, Chapter 18, Swarm Intelligence Optimization: Algorithms and Applications, <https://doi.org/10.1002/9781119778868.ch18>

GRANT RECEIVED FOR RESEARCH PROJECT/SPONSORED PROJECT

1. Rs.1,00,000/- against DST Project on IoT and Machine Learning Techniques Enabled Hydroponic Farms - PI: Mrs. Shano Solanki, COPI: Mr. Amit Doegar
2. Rs. 1,33,330/- --- Grant received from AICTE for organizing International Conference on Edge, IoT and Social Computing for digital villages, --- Prof. K G Srinivasa/ Prof. Maitreyee Dutta



*“Curriculum should help children make deeper and fuller understanding of their own experience”
– Lilian Katz*

CURRICULUM DEVELOPMENT CENTRE



Prof. (Dr.) Rajesh Mehra
Professor
Research Areas - VLSI Design, Advanced Digital
Signal Processing, Embedded Design



Prof. (Dr.) A B Gupta
Professor
Research Areas - Curriculum Development,
Curriculum Implementation



Er. Suresh Kumar Gupta
Associate Professor
Research Areas - Curriculum Development, Civil
Engineering



Dr. Meenakshi Sood
Associate Professor
Research Areas - ANN, Antenna, Antenna(Plana,
Metamaterial, Fractal), Curriculum Development,
Digital Signal & Image Processing, Machine Learning

During the year 2020-21, Curriculum Development Centre conducted **22** online short term training programs in ICT Mode, which were attended by **2968** teachers. The centre conducted **55** Curriculum Development Workshops for the States of **Delhi and U.P.** with **506** participants. The faculty filed **02** Patents, published **05** papers in SCI Journal and **05** papers in Non-SCI Journal. The department faculty also published **02** papers in International Conference Proceedings. The Department has developed Curriculum of **36** Courses. The department has completed **01** Print material on Outcome Based Curriculum Design & Accreditation and edited **01** text book.

Short Term Programs Conducted (Online)

STAFF DEVELOPMENT THROUGH EDUCATION AND TRAINING

1. Neural Network and CNN
2. Neural Network and CNN
3. Neural Network and CNN
4. Curriculum Implementation
5. Neural Networks and CNN
6. Neural Network and CNN
7. Research Oriented Project Work
8. Outcome Based Curriculum
9. Curriculum Implementation
10. Outcome Based Curriculum Design
11. Skill Enhancement using Free & Open Software Tools
12. Curriculum Design and Implementation
13. Curriculum Design and Implementation
14. MENTORING AND COUNSELLING
15. Engineering Materials: Applications in Green Technology.
16. Practical Skills in Technical Education
17. Curriculum Implementation
18. Curriculum Development
19. Outcome Based Curriculum
20. Accreditation and Outcome Based Curriculum Design
21. NSQF Aligned Curriculum Design and Implementation
22. Research Oriented Project Work

RESEARCH AND DEVELOPMENT: PATENTS/COPYRIGHT FILED

Sr.No.	Name of Patents/Copyright	Author (s) Name
1.	Design of Household Waste Heat Harvesting System Published (12.02.2021)	Dr. Meenakshi Sood
2.	Artificial Intelligence and voice based patients monitoring system	Dr. Meenakshi Sood

PAPERS PUBLISHED BY THE CURRICULUM DEVELOPMENT CENTRE FACULTY IN SCI JOURNALS

Sr.No.	Name of the Paper Published	Author (s) Name
1.	Comparative analysis of photovoltaic technologies for high efficiency solar cell design	Divya Sharma, Rajesh Mehra, Balwinder Raj
2.	Hierarchical severity grade classification of non-proliferative diabetic retinopathy	Bhardwaj, C. Jain, Meenakshi Sood
3.	Design and implementation of a robust noise removal system in ECG signal using dual-tree complex wavelet transform	Prashar N, Meenakshi Sood, Jain S.
4.	Volumetric medical image compression using inter-slice correlation switched prediction approach	U.Sharma, Meenakshi Sood , E. Puthooran
5.	Region of interest based selective coding technique for volumetric MR image sequence	Urvashi S, Meenakshi Sood, Emjee Puthooran

PAPERS PUBLISHED BY THE CURRICULUM DEVELOPMENT CENTRE FACULTY IN NON-SCI JOURNALS

Sr.No.	Name of the Paper Published	Author (s) Name
1.	Two tier grading system for NPDR Severities of Diabetic Retinopathy in Retinal Fundus Images	Charu Bhardwaj, Shruti Jain, Dr. Meenakshi Sood
2.	Noval Cardiac Arrhythmia Processing using Machine Learning Techniques	Prashar N, M., Meenakshi Sood, Jain S.
3.	Automated Diagnostic Hybrid Lesion Detection System for Diabetic Retinopathy Abnormalities	Charu Bhardwaj, Shruti Jain, Meenakshi Sood
4.	Diabetic Reinopathy Lesion Discriminative Diagnostic System for Retinal Fundus Images	Charu Bhardwaj, Shruti Jain, Meenakshi Sood
5	Performance Evaluation of Building Construction Industry after implementation of total quality management(TQM)	SK Gupta

PAPERS PUBLISHED / PRESENTED IN INTERNATIONAL CONFERENCES/SEMINARS

Sr.No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author (s) Name
1.	Design of Waste Heat Recovery System for Green Environment	Jain S., Kumar P.,Meenakshi Sood
2.	Anomaly Detection and Qualitative Analysis of Diseases in Tomato	Meenakshi Sood, Anjna Singh Pk.

CURRICULUM WORKSHOPS CONDUCTED

Sr.No.	Name of Workshoop		State	No. of Participants
1.	Civil Engineering	Diploma Level	Delhi	11
2.	Automobile Engineering	Diploma Level	Delhi	12
3.	Electrical Engineering	Diploma Level	Delhi	14
4.	Electronics & Communication Engineering/Eltx. Engg.(Digital Eltx.) /Electronics Engineering (Medical Electronics)	Diploma Level	Delhi	13
5.	Computer Engineering/ITESM	Diploma Level	Delhi	14
6.	Civil Engineering i) Construction Technology ii) Public Health Environment Engg. iii) Part time	Diploma Level	Delhi	13
7.	Fashion Design	Diploma Level	Delhi	12
8.	Library Information Science	Diploma Level	Delhi	11
9.	Mechanical Engineering/Maintenance/ Production	Diploma Level	Delhi	14
10.	Instrumentation & Control	Diploma Level	Delhi	10
11.	Garment Fabrication Technology	Diploma Level	Delhi	10
12.	Textile Design	Diploma Level	Delhi	12
13.	Common subjects of first year	Diploma Level	Delhi	25
14.	Chemical Engineering	Diploma Level	Delhi	14
15.	Cosmetology & Health	Diploma Level	Delhi	10
16.	Printing Technology	Diploma Level	Delhi	11
17.	Applied Art & Art for Drawing Teachers	Diploma Level	Delhi	13
18.	Interior Design	Diploma Level	Delhi	8
19.	Architectural Assistantship	Diploma Level	Delhi	8
20.	Modern Practice (English & Hindi)	Diploma Level	Delhi	13
22.	Tool & Die	Diploma Level	Delhi	13
23.	Polymer Technology	Diploma Level	Delhi	8
24.	Medical Laboratory Technology	Diploma Level	Delhi	9
25.	Applied Physics	Diploma Level	Delhi	5
26.	Part time diploma programme in automobile Engineering	Diploma Level	Delhi	4
27.	Communication Skills	Diploma Level	Delhi	6

CURRICULUM WORKSHOPS CONDUCTED (contd..)

Sr.No.	Name of Workshop		State	No. of Participants
28.	Applied Chemistry	Diploma Level	Delhi	3
29.	Workshop Practice I & II	Diploma Level	Delhi	8
30.	Applied Mathematics	Diploma Level	Delhi	5
31.	Tool & Die Making	Diploma Level	Delhi	5
32.	Engineering Graphics	Diploma Level	Delhi	3
33.	Automobile Engineering(2 nd workshop)	Diploma Level	Delhi	13
34.	Electrical Engineering (2 nd workshop)	Diploma Level	Delhi	7
35.	ECE/Digital Eltx./Medical Eltx.(2 nd workshop)	Diploma Level	Delhi	6
36.	Computer /ITESM(2 nd workshop)	Diploma Level	Delhi	7
37.	Fashion Design (2 nd workshop)	Diploma Level	Delhi	8
38.	Library Information Science(2 nd workshop)	Diploma Level	Delhi	8
39.	Mechanical Engg/Mtc./Production (2 nd workshop)	Diploma Level	Delhi	19
40.	Instrumentation & Control (2 nd workshop)	Diploma Level	Delhi	9
41.	Garment Fabrication Technology(2 nd workshop)	Diploma Level	Delhi	7
42.	Textile Design(2 nd workshop)	Diploma Level	Delhi	10
43.	Cosmetology & Health (2 nd workshop)	Diploma Level	Delhi	7
44.	Applied Art (2 nd workshop)	Diploma Level	Delhi	7
45.	Applied Art for Drawing teachers(2 nd workshop)	Diploma Level	Delhi	6
46.	Modern Office Practice(Eng.& Hindi)(2 nd workshop)	Diploma Level	Delhi	8
47.	Interior Design(2 nd workshop)			6
47.	Automobile Engineering(2 nd workshop)	Diploma Level	Delhi	4
48.	MOP (Eng.& Hindi)(2 nd workshop)	Diploma Level	Delhi	8
49.	Applied Art(3 rd workshop)	Diploma Level	Delhi	6
50.	Mechanical Engg.(2 nd workshop)	Diploma Level	Delhi	14
51.	Tool & Die (2 nd workshop)	Diploma Level	Delhi	5
52.	Computer Engg.	Vocational course	UP	6
53.	Fire Technology	Vocational course	UP	6
54.	Computer Engineering (2 nd workshop)	Vocational course	UP	6
55.	Fire Technology(2 nd workshop)	Vocational course	UP	6
	Total:			506

“We want the education by which character is formed, strength of mind is increased, the intellect is expanded, and by which one can stand on one’s own feet .”

– Swami Vivekananda

EDUCATION AND EDUCATIONAL MANAGEMENT DEPARTMENT



Prof. (Dr.) Sunil Dutt
Professor

Research Areas - Educational Technology, Curriculum Development, Education and Education Management, Management, Personality Development



Mr. Parmod Kumar Singla
Associate Professor

Research Areas: Curriculum, Communication Skills, Management, Appropriate Technology for Rural Development, Entrepreneurship Development



Er. Rama Chhabra
Assistant Professor

Research Areas – Chemical Engineering, Information Management



Er. Amandeep Kaur Sandhu
Assistant Professor

Research Areas - Educational Management, Educational Technology

During the year 2020-21, the department conducted **32** Online ICT Programs attended by **3577** Faculty of various Engineering and Polytechnic Colleges. In addition, **02** AICTE-ATAL FDPs on '**Blended Learning & Flipped Classrooms**' and one AICTE-STTP on '**Effective Engineering Teaching Practices**' (through PVPSIT, Vijayawada) were conducted in which a total of **366** faculty of various Engineering and Polytechnic Colleges (177, 138 and 51 respectively) participated and a sum of **Rs.2,61,000/-** was received. The department faculty published **01** paper in National Journal.

The department completed **24** print materials, **80** non-print material (video films) and **05** consultancy projects in collaboration with Mechanical Engineering and Media Engineering Department were completed. The department faculty published one paper in UGC approved Journal. **07 MOOCs Swayam Courses** were conducted in which **14566** participants attended. **11** Webinars/Programs attended by the faculty of department. The department developed curriculum for **04** programmes for deemed university status and prepared curriculum for three programmes for higher modules.

Short Term Programs Conducted (Online)

1. Wellness and Stress Management during the Pandemic
2. Communication and Presentation Skills
3. Life Skills Development
4. Evaluation & Setting of Question Papers
5. Wellness and Stress Management during Pandemic
6. Building Self Reliant India: Lessons from Indian Philosophy
7. Evaluation and Setting Question Papers
8. Embracing the change - preparing for uncertain times like pandemic.
9. Action Research for improving Quality of Technical Education System
10. Cooperative & Collaborative Instructional Methods to promote Meaningful Learning
11. Developing Employable Skills
12. Research Methodology
13. Advances in Pharmacy Education
14. Managerial Skills for Technical Teachers & Administrators
15. Developing Values & Ethics
16. Preparing Students for Job Interviews
17. Instructional Planning & Delivery
18. Stress Management

Short Term Programs Conducted (Online) (contd..)

19. HRD & Training Methods
20. Effective Teaching Learning using Social Media
21. Digital Transformation of Teaching
22. Motivation, Team Building and Creativity
23. Project Planning & Management
24. Managing Your Ego and Emotions at Workplace
25. Induction Training Programme for Newly Recruited Teachers
26. Induction Training Programme for Newly Recruited Teachers
27. Enhancing Performance at Work Place
28. Classroom Communication in Digital Era
29. Soft Skills and Classroom Teaching
30. Guidance, Counselling and Mentoring Skills
31. Personality Development
32. Communication Skills, Modes and Knowledge Dissemination

MOOCs SWAYAM COURSES

Sr.No.	MOOC Title	Dates	Dates	Number of Participants
1.	Development of Self Learning Material	20.07.2020	12.10.2020	2829
2.	Development of Self Learning Material	31.01.2021	12.04.2021	892
3.	Research in Technical Education	20.07.2020	12.10.2020	592
4.	Research in Technical Education	31.01.2021	02.04.2021	600
5.	AICTE-NITTT Module 7: Creative Problem Solving, Innovation & Meaningful Research & Development	10.09 2020	11.11.2020	651
6.	AICTE-NITTT Module 3: Communication Skills, Modes and Knowledge Dissemination	02.03.2020	27.04.2021	7631
7.	AICTE-NITTT Module 3: Communication Skills, Modes and Knowledge Dissemination	11.09 2020	11.11.2020	1371

RESEARCH AND DEVELOPMENT

PAPERS PUBLISHED BY THE EDUCATION AND EDUCATIONAL MANAGEMENT FACULTY IN NATIONAL JOURNAL

Sr. No.	Name of Paper	Name of Journal and Details	International/ National	Author
1.	Using WebQuest Based Instruction to enhance students' Critical Thinking.	Issues and Ideas in Education, Vol. 8, No.1, 2020	National	Prof. Sunil Dutt (Co-Author)

CONSULTANCY PROJECTS

S.No.	Name of the Project	Amount in Rupees	Coordinator
1.	Recruitment of Food Safety Officer for Subordinate Services Selection Board, Punjab (CP-120)	30,35,266.00	Dr. SS Banwait/ Dr. Sunil Dutt/ Dr. Rakesh K Wats
2.	Recruitment of Planning Officer; Area Investigator for Department of Urban Planning, UT, Chandigarh (CP-121)	In progress	Dr. SS Banwait/ Dr. Sunil Dutt/ Dr. Rakesh K Wats
3.	Recruitment of Senior System Manager; System Manager; Assistant Manager and Technical Assistant for The Punjab State e-Governance Society, Mohali (CP-123)	25,73,546.00	Dr. SS Banwait/ Dr. Sunil Dutt/ Dr. Rakesh K Wats
4.	Recruitment of Junior Engineer (Electrical) for Department of Engineering Electrical Circle), Chandigarh Administration (CP-124)	Rs.5,00,000.00 (Advance received)	Dr. SS Banwait/ Dr. Sunil Dutt/ Dr. Rakesh K Wats
5.	Recruitment of Junior Draftsman for Subordinate Services Selection Board, Punjab (CP-130)	Rs.5,00,000/- (Advance received)	Dr. SS Banwait/ Dr. Sunil Dutt/ Dr. Rakesh K Wats

*“We will make electricity so cheap that only the rich will burn candles.”
– Thomas A. Edison*

ELECTRICAL ENGINEERING DEPARTMENT



Prof. (Dr.) Lini Mathew
Professor
Research Areas - Digital Signal Processing, ANN and Fuzzy Logic, Virtual Instrumentation



Prof. (Dr.) Piush Verma
Professor
Research Areas : Diagnostics Study of Power Transformers, Designing of Mini-Micro Hydro Power Generation, Energy Mgmt.



Dr. Ritula Thakur
Associate Professor
Research Areas - Power System, Microcontroller & Micro Processor, PLC and SCADA

*"We will make electricity so cheap that only the rich will burn candles."
– Thomas A. Edison*

ELECTRICAL ENGINEERING DEPARTMENT



Dr. Shimi S.L

Assistant Professor

Research Areas – Power Electronics & Drives, Digital Control, FACTS, Artificial Intelligence & Optimization, LABVIEW & its hardware interface



Prof. (Dr.) Poonam Syal

Joint Professor

Research Areas - Sustainable Rural Development, Energy Management, Instrumentation for Env't. Engg., Assistive Technologies, Research Methodology

During the year **2020-21**, the department conducted **22** online short term training programs in ICT Mode, which were attended by **2576** teachers. The faculty filed **01** Patent on Multilevel Inverter. The department faculty published **05** Papers in SCI Journals and **05** papers in Non-SCI Journals. The department also published **09** paper in proceedings of International Conferences and **04** in National Conferences. The department has completed **03** Non-Print material and prepared **35 MOOCs** video during the course “Big Data Analysis for smart grid”. The faculty of the department attended **03** online training programs and **04** In-House training programs during the year.

Short Term Programs Conducted (Online)

1. Teaching and Learning for Accreditation in Technical Education
2. Teaching and Learning for Accreditation in Technical Education
3. 8051 Microcontroller and its Applications
4. MATLAB Programming
5. Leadership and TeamWork for performance Excellence
6. 8051 and its Applications
7. Programming using MATLAB
8. Real World Applications of Microcontrollers
9. Artificial Neural Networks and Fuzzy Logic
10. Advances in Electrical & Electronics Engineering
11. Electrical Vehicle Technology
12. Image Processing and its Applications
13. Applications of HIL Simulations in Electrical Engineering (In collaboration with Typhoon HIL)
14. The Internet of Things and its Applications
15. Real Time Simulation: Roadmap for RE Grid Integration in Microgrid and Smart Grid
16. Research Trends in Electrical and Electronics
17. Recent Advances in Affordable and Clean Energy
18. Power Quality Analysis of Various Power Electronics
19. Role of Leadership in Higher Education.
20. Bio-Inspired optimization Techniques
21. Distributed Generation and Micro grid
22. Teaching and Learning for NBA Accreditation in Technical Education

RESEARCH AND DEVELOPMENT

PATENTS/COPYRIGHT FILED

Sr.No.	Name of Patents/Copyright	Author (s) Name
1.	Indian Patent Application No. 202011003964, Title: Multilevel Inverter was filed on January 29, 2020, in the name of National Institute of Technical Teachers Training and Research [V & A Ref: 1779-P-02-IN/TIFAC Ref: T.I. (59)/TIFA/2018]	Rohit Kumar and Dr. Shimi Sudha Letha

RESEARCH PROPOSALS SUBMITTED

Sr.No.	Project Titles (Separated by Comma)	Research Project Submitted	Funding Agency (Separated by Comma)
1.	"Integrated Yoga Therapy Intervention based on ECG and EEG Perspective" to Department of Science and Technology, - Dr. Ritula Thakur and Dr. Piush Verma.	Submitted	DST
2.	"Framework and Methodology for Predictive Lung Deposition Estimation using Low Cost Sensors" to Department of Science and Technology, - Dr. Piush Verma.	Submitted	DST
3.	Rurbanization through Rural Bio Resource Complex	Submitted	Department of Biotechnology
4.	Development of efficient in-situ technology for detection of mycotoxins in grains using NIRS	Submitted	ICAR, Ministry of Agriculture and Farmers Welfare
5.	Development of Sensor-fusion based IoT enabled Agri-Informatics system for Precision Farming and Sustainable Agriculture	Submitted	ICAR, Ministry of Agriculture and Farmers Welfare

PAPERS PUBLISHED BY THE ELECTRICAL ENGINEERING FACULTY IN SCI JOURNALS

Sr.No.	Name of the Paper Published	Author (s) Name
1.	"Artificial Intelligence based Fault Diagnosis for Condition Monitoring of Electric Motors" International Journal of Pattern Recognition and Artificial Intelligence, Vol.34, No.3, 2020. Pages: 2059043-1 to 2059043-30 DOI: 10.1142/S0218001420590430	Amandeep Sharma, Lini Mathew, Shantanu Chatterji, Deepam Goyal

PAPERS PUBLISHED BY THE ELECTRICAL ENGINEERING FACULTY IN SCI JOURNALS (contd..)

Sr.No.	Name of the Paper Published	Author (s) Name
2.	Artificial neural network-based maximum power point tracking controller for real-time hybrid renewable energy system, Soft Computing, (Springer) Published online on 25 February, 2021, https://doi.org/10.1007/s00500-021-05653-0 (Impact Factor 3.050)	Mohammad Junaid Khan, Lini Mathew
3.	Management of reactive power in industrial installation and economic analysis	Raj Kumar Saini, Devender Kumar Saini, Rajeev Gupta, Piush Verma R.P.Dwivedi,Ashwani
4.	Effect of dust particles on the Performance of solar panels- A Review update from 2015-2020	Raj Kumar Saini, Devender Kumar Saini, Rajeev Gupta, Piush Verma R.P.Dwivedi,Ashwani
5.	Efficient monitoring and control of wind energy conversion systems using Internet of things (IoT): A Comprehensive Review, Environment, Development and Sustainability (2021). https://doi.org/10.1007/s10668-021-01267-6 . (Impact Factor 2.191)	Shivaji Karad, Ritula Thakur

PAPERS PUBLISHED BY THE ELECTRICAL ENGINEERING FACULTY IN NON-SCI JOURNALS

Sr.No.	Name of the Paper Published	Author (s) Name
1.	"Different Techniques of Fault Detection in Electrical Equipment", International Journal of Advanced Science and Technology, Vol.29, No.7, 2020.	Md Zahid Hassnain, Ritula Thakur
2.	"Performance Improvement of Three Phase Squirrel Cage Induction Motor Operating Under Rated Voltages- A Design Consideration for Rural Areas" Advances in Intelligent Systems and Computing, Vol.989, page 1-11, 2020(Scopus Indexed)	Raj Kumar Saini, Devender Kumar Saini, Rajeev Gupta, Piush Verma, R.P.Dwivedi, Neeraj Gandotra, Robin Thakur, Ashwani Sharma
3.	"Maximum Power Point Tracking of a Hybrid PV-Wind–Diesel System for Micro Grid", International Journal of Innovative Technology and Exploring Engineering (IJITEE) ISSN: 2278-3075, Volume-9, Issue-6, April 2020	Anamika, Lini Mathew

**PAPERS PUBLISHED BY THE ELECTRICAL ENGINEERING
FACULTY IN NON-SCI JOURNALS (contd..)**

Sr.No.	Name of the Paper Published	Author (s) Name
4.	“Implementation of Modified Five Level Inverter using Reduced Number of Switches”, Electric Power and Renewable Energy Conference-2020 (EPREC-2020), NIT Jamshedpur, May 2020. Springer Lecture Notes in Electrical Engineering (LNEE)	Sumit Kumar Rai, Shimi S.L, Lini Mathew
5.	“Software and Hardware Implementation of 9 level Inverter with Low Component Count”, accepted for virtual presentation at IEEE Industrial Electronics Society (IES) 46 th Annual Conference IECON2020 to be held at Marina Bay Sands Expo and Convention Centre, Singapore during October 18-21, 2020	Sumit Kumar Rai, Shimi S.L, Lini Mathew

**PAPERS PUBLISHED/PRESENTED BY THE ELECTRICAL ENGINEERING
FACULTY IN INTERNATIONAL CONFERENCES/SEMINARS**

Sr.No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author (s) Name
1.	“Software and Hardware Implementation of 9 level Inverter with Low Component Count”, accepted for virtual presentation at IEEE Industrial Electronics Society (IES) 46 th Annual Conference IECON2020 to be held at Marina Bay Sands Expo and Convention Centre, Singapore during October 18-21, 2020	Sumit Kumar Rai, Shimi S.L, Lini Mathew
2.	Hardware Implementation of Low cost MPPT using Arduino for PV application, IEEE International Symposium on Sustainable Energy, Signal Processing & Cyber Security (IEEE-iSSSC-2020) organised by GIET University, Gunupur, India during 16 – 17 December, 2020	Shimmy Gupta, Lini Mathew
3.	“Transient Stability Assessment of Hybrid Power Flow Controller on a Multi-Machine System” IEEE International Conference on Sustainable Energy and Future Electric Transportation organised by Gokaraju Rangaraju Institute of Engineering and Technology, Hyderabad, India during 21 – 23 January 2021.	Ritula Thakur
4.	“An Intelligence Method for Designing of Multi-Machine Power System Stabiliser” IEEE International Conference on Sustainable Energy and Future Electric Transportation organised by Gokaraju Rangaraju Institute of Engineering and Technology, Hyderabad, India during 21 – 23 January 2021.	Ritula Thakur

PAPERS PUBLISHED/PRESENTED BY THE ELECTRICAL ENGINEERING FACULTY IN INTERNATIONAL CONFERENCES/SEMINARS (contd..)

Sr.No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author (s) Name
5.	“Intermixed Generalized Integrator based Grid-Friendly Inverter Control for Power Quality Enrichment in Microgrid System Applications” IEEE International Conference on Energy, Power and Environment (Towards Clean Energy Technologies) conducted by National Institute of Technology Meghalaya, Shillong, India during 5 –7 March 2021.	Ritula Thakur
6.	Attended the IEEE – Industrial Electronics Society (IES) 46th Annual Conference IECON2020, at Marina Bay Sands Expo and Convention Centre, Singapore during 18-21 October 2020 and presented a paper online titled “Software and Hardware Implementation of 9-level Inverter with Low Component Count”	Sumit Kumar Rai, Shimi S.L, Lini Mathew
7.	Attended IEEE Enabling Global Digital Inclusion through Sustainable Technology Solutions through WebEx on 18 th March 2021	Piush Verma
8.	Panel Discussion, IEEE Webinar on “Innovation for Start-ups” on 14 th October 2020,	Piush Verma
9.	Attended International Conference on International Education and Skill Summit - TIESS Virtual held from 27 th to 30 th January 2021	Piush Verma

PAPERS PUBLISHED/PRESENTED BY THE ELECTRICAL ENGINEERING FACULTY IN NATIONAL CONFERENCES/SEMINARS

Sr. No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author (s) Name
1	“National Education Policy 2020 Strategies and Framework for Autonomy” conducted by NITTTR, Bhopal on 15 th Oct. 2020	Dr. Piush Verma
2	International Education and Skill Summit - TIESS Virtual held from 27 th to 30 th January 2021.	Dr. Piush Verma
3	IEEE Enabling Global Digital Inclusion through Sustainable Technology Solutions through WebEx on 18 th March 2021	Dr. Piush Verma
4	Rural AtmaNirbharBharat: Role of Engineering Colleges using NEP”in National Conference on “Unlocking AtmaNirbhar Bharat Through NEP-2020” on 27 November, 2020	Ritula Thakur, Hemant Kumar Vinayak

RESEARCH AND DEVELOPMENT

No. of M.E. Thesis Guided	10
No. of Ph.D Thesis Guided	Submitted - 1 Awarded - 1 In Progress - 8

Design and Performance Optimization of Three Phase Squirrel Cage Induction Motor for Rural Area Application, Raj Kumar Saini from University of Petroleum Energy Studies(UPES), Dehradun defended his thesis on 28th August 2020. Guide: Dr. Piush Verma

TRAINING PROGRAMMES ATTENDED BY THE ELECTRICAL ENGINEERING FACULTY/STAFF

Sr.No.	Title of Training Programme	Period of Training	Venue	Attended by
1	STC on "Transition in Power Electronics towards Sustainable, Smart and Flexible Micro-Grids"	19.10.2020 to 23.10.2020	NIT, Delhi	Dr. Ritula Thakur
2.	Attended National level webinar on "National Education Policy 2020 Strategies and Framework for Autonomy" conducted by NITTTR, Bhopal	15.10.2020	NITTTR, Bhopal	Dr. Piush Verma
3.	Attended Panel discussion "Making Mentoring Relevant: NEP 2020 Perspective "conducted by National Institute of Technical Teachers Training and Research, Bhopal, Chandigarh, Chennai and Kolkata .	21.09.2020	All NITTTR	Dr. Piush Verma

IN-HOUSE TRAINING PROGRAMMES ATTENDED

Sr.No.	Title of Training Programme	Period of Training	Venue	Attended by
1.	'Capacity Building Programme - Module 3 - Communication Skills, Modes and Knowledge Dissemination' of AICTE-NITTTR Modules during	26.05.2020 to 30.05.2020		Dr. Lini Mathew
2.	STC on "Capacity Building Program" 'Module 3' (ICTO-70) conducted by NITTTR Chandigarh	26.05.2020 to 30.05.2020	NITTTR Chandigarh	Dr. Piush Verma

IN-HOUSE TRAINING PROGRAMMES ATTENDED (contd..)

Sr.No.	Title of Training Programme	Period of Training	Venue	Attended by
3.	Inter NITTR Capacity Building Workshop “Module-6” conducted by NITTR Chennai	09.06.2020 to 13.06.2020	NITTR Chennai	Dr. Piush Verma
4.	‘Capacity Building Programme - Module 3 - Communication Skills, Modes and Knowledge Dissemination’ of AICTE-NITTR Modules	26.05.2020 to 30.05.2020		Dr. Ritula Thakur
5.	‘Capacity Building Programme – Module 5 and 6 –“Technology Enabled Learning and Lifelong Self-Learning” of AICTE-NITTR Modules	09.06.2020 to 13.06.2020		Dr. Ritula Thakur



“The true laboratory is the mind, where behind illusions we uncover the laws of truth.”

– Dr. Jagadish Chandra Bose

ELECTRONICS & COMMUNICATION ENGINEERING DEPARTMENT



Prof. (Dr.) Sandeep Singh Gill
Professor
*Research Areas - VLSI CAD, Soft Computing
Techniques, Engineering Management*



Prof. (Dr.) Amod Kumar
Professor
*Research Areas - Artificial Intelligence, Biomedical
Engineering*



Dr. Balwinder Raj
Associate Professor
*Research Areas - Nanoelectronic Devices and
Circuits, VLSI & Embedded System Design, Modeling
and Simulation, FPGA Based Design*



Dr. Balwinder Singh Dhaliwal
Associate Professor
*Research Areas : Antenna (Fractal, MIMO), ANN,
Digital Signal Processing, Soft Computing*

“The true laboratory is the mind, where behind illusions we uncover the laws of truth.”

– Dr. Jagadish Chandra Bose

ELECTRONICS & COMMUNICATION ENGINEERING DEPARTMENT



Dr. Kanika Sharma
Assistant Professor
Research Areas – Embedded System Design, Digital System Design, Wireless Sensor Network



Er. Garima Saini
Assistant Professor
Research Areas - Advanced Digital Communication, Wireless & Mobile Communication, Antenna



Prof. (Dr.) Anant Lal Das
INAE- Visiting Professor
Research Areas : Electromagnetics, Microwave and Millimeter wave Engineering



Prof. (Dr.) SS Pattnaik
Joint Professor & Currently holding the Position of Director
Research Areas - Soft Computing, Multimedia, Antenna & Microwave, RF & Bio-medical

“The true laboratory is the mind, where behind illusions we uncover the laws of truth.”

– Dr. Jagadish Chandra Bose

ELECTRONICS & COMMUNICATION ENGINEERING DEPARTMENT



Prof. (Dr.) Rajesh Mehra

Joint Professor

*Research Areas - VLSI Design, Advanced Digital
Signal Processing, Embedded Design*



Dr. Meenakshi Sood

Joint Associate Professor

*Research Areas : ANN, Antenna, Machine Learning,
Multirate & Adaptive Signal Processing, Nature
Inspired Algorithms, Soft Computing Techniques*

During the year 2020-21, the department conducted **32** ICT Programs attended by **6238** Faculty of various Engineering and Polytechnic Colleges. **02** student training program were conducted and **05** engineering students were trained. The department also conducted **01** National Conference which was attended by **37** participants. The department conducted **01** **ATAL** sponsored program on "Flexible and Wearable Antennas: Recent Advancements, Fabrication, Techniques and Applications.

The department has submitted **06** research projects for funding to various agencies. carrying out one funded research project. The department faculty published **13** papers in SCI Journals and **19** papers published in non-SCI Journals. The department faculty also published/presented **07** papers in International Conferences and **03** in National Conferences. The faculty of the department attended **15** online training programs and **06** Webinars training programs during the year. The department has completed **03** print materials and **03** consultancy projects amounting to **Rs. 44 Lacs**.

Short Term Programs Conducted (Online)

1. Latest Wireless and Computing Technologies
2. Low Power VLSI Design
3. Image and Embedded Processing
4. Academic Leadership Enhancement in Technical Institutions
5. Image and Embedded Processing
6. Technological Interventions using Wireless Communication
7. Research Trends in VLSI Design
8. VLSI Physical Design Techniques
9. Advances in Antenna Design Techniques and Simulations using CST Studio Suite
10. Nanoelectronics Devices and Circuits Design
11. Antenna Design Techniques and Software Simulations using HFSS
12. Basic MATLAB Programming
13. Image Processing using MATLAB
14. Embedded World
15. Digital and Analog VLSI Design
16. Digital and Analog VLSI Design
17. Latest Wireless Technologies
18. Nanoelectronics Devices and Circuits
19. Industry Partnered online STC on IoT and LoRaWAN Technology using Arduino
20. IoT & Embedded Systems

Short Term Programs Conducted (Online) (contd..)

21. Digital Signal Processing Fundamentals
22. VLSI Design Challenges and Opportunities
23. Biomedical Instrumentation and Applications
24. IoT and Reconfigurable WSNs
25. Mobile Broadband Transformation
26. ECE Virtual Lab Practices using Free Simulators
27. Digital Filter Design using MATLAB
28. PLDs and Embedded Systems
29. Image Processing with MATLAB
30. Free and Open Source Software (FOSS) Tools for Effective Teaching-Learning
31. 4G and 5G Communication
32. Embedded System Design

PAPERS PUBLISHED BY THE ELECTRONICS & COMMUNICATION ENGINEERING FACULTY IN SCI JOURNALS

Sr.No.	Name of the Paper Published	Author (s) Name
1.	Analysis of ONOFIC technique using SiGe heterojunction Double Gate Vertical TFET for low power applications", <i>Journal of Silicon</i> , Springer, July 2020.	Shailendra Singh, Balwinder Raj,"
2.	Development & Analysis of compact model for Double Gate Schottky Barrier CNTFET, <i>Journal of Nanoelectronics and Optoelectronics</i> , ASP, August 2020	Anil Kumar Bhardwaj, Sumeet Gupta and Balwinder Raj
3.	"Comparative Analysis of Nanowire Tunnel Field Effect Transistor for Biosensor Applications, <i>Journal of Silicon</i> , Springe, Sep, 2020	Parveen Kumar, Sanjeev Kumar, Balwinder Raj
4.	Design and analysis of double-gate junctionless vertical TFET for gas sensing applications", <i>Applied Physics A</i> , Springer, Vol.127, No.16, 2 Jan 2021	Balwinder Raj, Manta Khosla, Sonal
5.	Design and analysis of Gate overlapped/underlapped NWFET based lable free biosensor", <i>Journal of Silicon</i> , Springer, 6 Jan 2021,	Girish and Balwinder Raj
6.	Enhanced Traffic-adaptive slotted MAC for IOT-based smart monitoring grid, <i>Journal of Super Computing</i>	Tanvi Sood, Kanika Sharma
7.	A Novelistic GSA and CSA Based Optimization for Energy-Efficient Routing using Multiple Sinks in HWSNs under Critical Scenarios, <i>Journal of Wireless Personal Communications</i>	Tanvi Sood, Kanika Sharma
8.	Analytical and compact modeling of sige hetero-Material vertical L-shaped TFET, <i>Journal of silicon</i>	Shailendra Singh, Balwinder Raj

PAPERS PUBLISHED BY THE ELECTRONICS & COMMUNICATION ENGINEERING FACULTY IN SCI JOURNALS (contd..)

Sr.No.	Name of the Paper Published	Author (s) Name
9.	Analysis of Junction less based symmetric Nanogap embedded TFET TFEE Biogense, IETE Journal of Research	Girish and Balwinder Raj
10.	A novel framework for energy-efficient compressive data gathering in heterogeneous wireless sensor network. International Journal of Communication Systems, 34(3), e4677.	Manchanda, R., & Sharma, K. (2021).
11.	LUET: a novel Lines-of-Uniformity based Clustering protocol for Heterogeneous-WSN for multiple-applications. Journal of King Saud University-Computer and Information Sciences.	Sood, T., & Sharma, K.
12.	Comparative Analysis of OFETs Materials and Devices for Sensor Applications. <i>Silicon</i> , 1-9.	Raj, B., Kaur, P., Kumar, P., & Gill, S. S.
13.	"A Modified Two-Step ANN Ensemble Approach to Improve Generalization and its Application in Fractal Antenna Design," Journal of Circuits, Systems and Computers, Vol. 29, No.7 (2020) 2050106 (13 pages), https://doi.org/10.1142/s_0218126620501066	Balwinder Singh Dhaliwal, Gaganpreet Kaur, Navreet Saini, Shyam Sundar Pattanik

PAPERS PUBLISHED BY THE ELECTRONICS & COMMUNICATION ENGINEERING FACULTY IN NON-SCI JOURNALS

Sr.No.	Name of the Paper Published	Author (s) Name
1.	"Hybrid Fractal Boundary MIMO Antenna for Multiband Applications," journal of Innovation in Electronics and Communications Engineering, Vol.9, No.2,2019,pp.29-32. Print ISSN:2249-9946. Online ISSN:2455-3514.	Mansi Girdhar and Balwinder S Dhaliwal
2.	(2020) Design of Wearable Antennas for Body area Networks. In: Pant M., Sharma T., Verma O., Singla R., Sikander A. (eds) Soft Computing: Theories and Application. Advances in Intelligent Systems and Computing, Vol 1053. Springer, Singapore, 11 February 2020, https://doi.org/10.1007/978-981-15-0751-9_84 .	V.Jain and Balwinder Singh Dhaliwal
3.	"Design of Wearable Microstrip Patch Antenna for WBAN Applications to enhance Bandwidth using Multiple slots and CRR," International Journal of Advanced Research in Engineering and Technology, Vol.11,No8, August 2020,pp.319-327.	Devarapaga Sriramulu, Garima Saini and Balwinder Singh Dhaliwal
4.	"Flexible wearable Patch Antennas for Body Area Network applications: A Review" Wutan Huatan Jisuan Jishu, Volume XVI, Issue XII, December 2020, pp.1040-1046. Doi.org/10.37896/whjj16.12/468	Vikas Jain and Balwinder Singh Dhaliwal

**PAPERS PUBLISHED BY THE ELECTRONICS & COMMUNICATION
ENGINEERING FACULTY IN NON-SCI JOURNALS (contd..)**

Sr.No.	Name of the Paper Published	Author (s) Name
5.	"Hybrid Fractal Boundary MIMO Antenna for Multiband Applications," SAMRIDDHI: A Journal of Physical Sciences, Engineering and Technology, Vol. 12, Special Issue 3,2020, pp.23-27. DOI:10.18090/samriddhi.v12iS3.5 (Published 30-11-2020)	Mansi Girdhar and Balwinder Singh Dhaliwal
6.	"Miniaturized Wearable Fractal Patch Antenna for Body Area Network Applications," International Journal of Electronics and Telecommunications, Vol.67,No.2,2021 ,pp.149-154.OI:10.24425/ijet.2021.135957	Vikas Jain and Balwinder Singh Dhaliwal
7.	Gurpurneet Kaur, Sandeep Singh Gill and Munish Rattan, "Artificial Intelligence based Nanoscale FinFET Device", Journal of Seybold Report, Vol. 15, Issue 9, 2020.	Gurpurneet Kaur, Sandeep Singh Gill and Munish Rattan
8.	Susamma Mathew, Garima Saini, S.S Gill, "Design of Compact MIMO Antenna for 5G Mobile Terminal", International Journal of Recent Technology and Engineering (IJRTE) ISSN: 2277-3878, Volume-9 Issue-3, September 2020.	Susamma Mathew, Garima Saini, S.S Gill
9.	Girish Wadhwa, Priyanka Kamboj; Jeetendra Singh, Balwinder Raj, "Design and Investigation of Junctionless DGTFT for Biological Molecule Recognition" Transactions on Electrical and Electronic Materials, Springer, Vol. , PP. 8 Aug, 2020	Girish Wadhwa, Priyanka Kamboj; Jeetendra Singh, Balwinder Raj
10.	Jamal Kutty K, Kanika Sharma, "Advanced DV-Hop Localization Algorithm for Wireless Sensor Network", International Journal of Advanced Research in Engineering and Technology (IJARET) ISSN Print: 0976-6480 and ISSN Online: 0976-6499, pp. 359-369, Volume-11 Issue-8, August2020.	Jamal Kutty K, Kanika Sharma
11.	Design of Compact MIMO Antenna for 5G Mobile Terminal" International Journal of Recent Technology and Engineering (IJRTE) ISSN:2277-3878, VOLUME-9 Issue-3, pp.202-207, September 2020	Susamma Mathew, Garima Saini
12.	A Novelistic GSA and CSA Based Optimization for Energy-Efficient Routing Using Multiple Sinks in HWSNs Under Critical Scenarios." Wireless Personal Communications (2021): 1-37	Sood, Tanvi, and Kanika Sharma.
13.	Lanthanum doped Zirconium Oxide (LaZrO2) High-k Gate Dielectric FinFET SRAM Cell Optimization", accepted for publication in Transactions on Electrical and Electronic Materials. (Scopus)	G Kaur, SS Gill, M Rattan
14.	Compact and Low Profile Planar Antenna with Novel Metastructure for Wearable MBAN Devices." Wireless Personal Communications (2021): 1-13.	Ramanpreet, Nancy, Munish Rattan, and SS Gill
15.	A squared bossed diaphragm piezoresistive pressure sensor based on CNTs for low pressure range with enhanced sensitivity. <i>Microsystem Technologies</i> , 1-9.	Devi, R., & Gill, S. S.

**PAPERS PUBLISHED BY THE ELECTRONICS & COMMUNICATION
ENGINEERING FACULTY IN NON-SCI JOURNALS (contd..)**

Sr.No.	Name of the Paper Published	Author (s) Name
16.	Whale Optimization Algorithm Approach for Performance Optimization of Novel Xmas Tree-Shaped FinFET. <i>Silicon</i> , 1-12.	Kaur, G., Gill, S. S., & Rattan, M.
17.	A Review on different cluster Head Selection Methods for improving the lifetime of Wireless Sensor Networks; International Journal of Advance Computational Engineering in Networking (IJACEN) col.8, Issue-4, April 2020	Vinod Kumar, Kanika Sharma
18.	Improved DV-HOP Localization Algorithm for Wireless sensor Networks, international Journal of Engineering in Advance Technology (IJEAT), VOL.9, Issue 5, June 2020	Janal Kutty, Kanika Sharma
19.	GAEER : Genetic Algorithm based energy efficient routing protocol in WSN, International Journal of Scientific in Technology research (Scopus Listed) vol.9, Issue 6, June 2020.	Roshan Lal, Kanika Sharma

**PAPERS PUBLISHED / PRESENTED IN INTERNATIONAL
CONFERENCES/SEMINARS**

Sr.No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author (s) Name
1.	Design and Performance Analysis of FinFET Based SRAM Cell Stability, 'Sustainable Development through Engineering Innovations (SDEI), 17-19 September, 2020 at Guru Nanak Dev Engineering College, Ludhiana (Punjab), India	Gurpurneet Kaur, Sandeep Singh Gill, Munish Rattan
2.	Design and Analysis of Dopingless TFET Biosensor for high performance", (Paper ID: CCSP_2019_NITJ_VLSI_16), International Conference on Communication Computing, NIT Jalandhar, 23-24 July 2020.	Girish Wadhwa, Balwinder Raj
3.	Parametric Analysis of Double Gate Tunnel Field Effect Transistor", (CCSP_2019_NITJ_VLSI_20), International Conference on Communication Computing, NIT Jalandhar, 23-24 July 2020.	Parveen Kumar, Balwinder Raj
4.	Design of Wearable Microstrip Patch Antenna for WBAN Applications to Enhance Bandwidth using Multiple Slots and CRR," International Journal of Advanced Research in Engineering and Technology, Vol. 11, No. 8, August 2020, pp. 319-327,ISSN online:0976-6499(Scopus Index).	Devarapaga Sriramulu, Garima Saini and Balwinder S. Dhaliwal
5.	A review of reconstruction Algorithm in Compressive Sensing" paper in IEEE sponsored International Conference on Advances in Computing, Communication and Materials (ICACCM), Conference ID-50413, held from 21st and 22nd Aug.2020.	Rachit Manchanda, Kanika Sharma

PAPERS PUBLISHED / PRESENTED IN INTERNATIONAL CONFERENCES/SEMINARS (contd..)

Sr.No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author (s) Name
6.	SSDA: Sleep Scheduled Data Aggregation in WSN based Internal of things: International Conference on Data Analytics and Management ICDAM-200 held on 18 th June 2020, Book Chapter, Springs, Data Analytics and Management	Rachit Manchanda, Kanika Sharma
7.	Improved Energy efficient routing protocol in WSN: IEEE sponsored International Conference on Advances in electrical, Computing, communications and Sustainable Technologies, 19-20 February, 2021	Sanjay Kumar Miranin, Kanika Sharma

PAPERS PUBLISHED / PRESENTED IN NATIONAL CONFERENCES/SEMINARS

Sr.No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author (s) Name
1.	“Curriculum Development for Autonomous Technical Institutions under NEP 2020 to Accelerate Multidisciplinary Research: A Step towards Atmanirbhar Bharat”, Proceedings of National Conference on Unlocking Atmanirbhar Bharat Through NEP-2020, Chandigarh, November 27, 2020, pp.1-6.	Jayant G. Joshi ,Balwinder Singh Dhaliwal and Shyam S. Pattnaik
2	“Innovations in Curriculum Design for Implementation of NEP 2020 To Achieve Atmanirbhar Bharat Objectives”, Proceedings of National Conference on Unlocking Atmanirbhar Bharat Through NEP-2020, Chandigarh, November 27, 2020, pp.127-132.	Meenakshi Sood , Balwinder Singh Dhaliwal and PK Singla
3.	“Soil Humidity Measurement using Microstrip Interdigital Capacitor (IDC) and Rectangular Slotted Fingers Interdigital Capacitor (RSFIDC),” Technical Volume of 35 th Indian Engineering Congress, The Institution of Engineers (India), December 18-20, 2020, pp.947-953	Jayant Gajanan Joshi, Mandar P Joshi, Balwinder Singh Dhaliwal and Shyam S. Pattnaik

RESEARCH AND DEVELOPMENT

No. of M.E. Thesis Guided	14
No. of Ph.D Thesis Guided	In Progress - 17

TRAINING PROGRAMMES ATTENDED BY THE ELECTRONICS & COMMUNICATION ENGINEERING FACULTY/STAFF

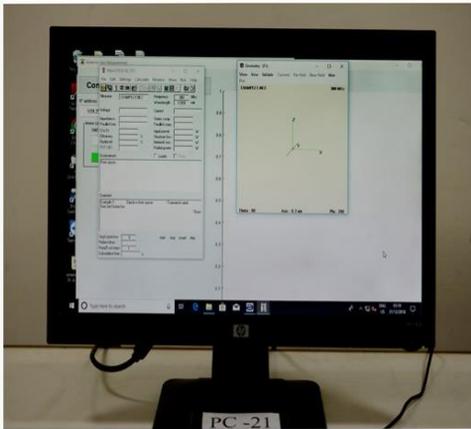
1. Attended CPSC's Online Regional Program on "Strengthening TVET Instructional Management System" organized by *Colombo Plan Staff College* Philippine held from 13-17 July 2020 – Dr. Balwinder Raj
2. Attended Online Short Term Course on "Sub-micrometer Semiconductor Device to Circuit Co Design and Modelling Techniques" (SSDCDMT-20) conducted, ECE, NIT Jalandhar, during 20th - 24th Aug 2020 – Dr. Balwinder Raj
3. Attended Online Short Term Course on "Latest Developments in Communication and Microwave Technologies" conducted, ECE, NIT Jalandhar, sponsored by TEQIP-III, during 2nd Sep - 6th Sep 2020. – Dr. Balwinder Raj
4. STC attended - On Metamaterial & its Applications organized by IEEE Antenna & Propagation Society (APS) Chapter –in association with IEEE Rajasthan Subsection, Malaviya National Institute of Technology Jaipur and Government Women Engineering College Ajmer, during July 27-31, 2020 – Dr. Garima Saini
5. AICTE Training and Learning (ATAL) Academy Online FDP on "Augmented Reality (AR) / Virtual Reality (VR)" from 2020-9-7 to 2020-9-11 at VNR VignanaJyothi Institute of Engineering and Technology – Dr. Balwinder Singh Dhaliwal
6. Participated in Online Panel Discussion on MAKING MENTORING RELEVANT: NEP 2020 PERSPECTIVE Conducted by NITTTR Bhopal, Chandigarh, Chennai, Kolkata on 21.09.2020 – Dr. Kanika Sharma
7. Attended Capacity Building Program, Module 8 on 'Institutional Management and Administrative Procedure' of AICTE-NITTTR Modules from 24 – 28 August, 2020 – Dr. Garima Saini
8. Attended Capacity Building Program on Module 1 'Orientation Towards Technical Education and Curriculum Aspects' of AICTE-NITTTR Modules from 17 – 21 August, 2020 – Dr. Garima Saini
9. Attended CPSC's Online Regional Program on "Strengthening TVET Instructional Management System" organized by *Colombo Plan Staff College* Philippine held from 13-17 July 2020. – Dr. Balwinder Raj
10. Attended Online Short Term Course on "Sub-micrometer Semiconductor Device to Circuit Co-Design and Modelling Techniques" (SSDCDMT-20) conducted, ECE, NIT Jalandhar, during 20th - 24th Aug 2020. – Dr. Balwinder Raj
11. Attended Capacity Building Program 'Module 3' Communication skills, Modes and knowledge Dissemination" conducted under AICTE-NITTTR Modules from 26th May to 30th May, 2020 - Dr. Garima Saini
12. Attended Capacity Building Program on Module 1 'Orientation Towards Technical Education and Curriculum Aspects' of AICTE-NITTTR Modules from 17 – 21 August, 2020. - Dr. Kanika Sharma

TRAINING PROGRAMMES ATTENDED BY THE ELECTRONICS & COMMUNICATION ENGINEERING FACULTY/STAFF

13. Attended a QIP short term course (online) on Mastering Advanced Techniques of Characterization for High-end Research (MATCH-2021) conducted by the Department of Materials Science & Engineering, IIT Kanpur from 25 – 31 January, 2021 - Dr. Balwinder Raj.
14. Attended The 34th International Conference on VLSI Design and 20th International Conference on Embedded Systems (VLSID2021) from 20 – 24 February, 2021 - Dr. Balwinder Raj.
15. Successfully completed 4 weeks Swayam Mooc on 'Managing Intellectual Property in Universities'

NATIONAL CONFERENCE ORGANIZED

Sr.No.	Name of the Seminar/Conference	No. of Participants
1.	National Conference on unlocking Atmanirbhar Bharat using NEP-2020, on 27-11-2020 (Dr. Balwinder Singh Dhaliwal , Co-convener)	37



ENTREPRENEURSHIP DEVELOPMENT & INDUSTRIAL COORDINATION DEPARTMENT



Prof. (Dr.) Suresh Kumar Dhameja

Professor

**Research Areas – Entrepreneurship Development,
Industry Institute Interaction, Technical and Vocational
Education and Training**



Prof. (Dr.) Niraj Bala

Professor

**Research Areas - Entrepreneurship Development, Patenting,
Business Startup, Skill Promotion and Rural Development,
Industrial Coordination, Manufacturing processes**



Dr. Harsh Vardhan Samalia

Associate Professor

**Research Areas - Strategic Management, Informal
Competition, Digital Transformation of Organizations,
Behavioral Aspects of Information Systems**

ENTREPRENEURSHIP DEVELOPMENT & INDUSTRIAL COORDINATION DEPARTMENT



Dr. Hemant Kumar Vinayak
Associate Professor
Research Areas - Entrepreneurship Development
including Technical, Rural, Women Entrepreneurship,
Micro, Small and Medium Enterprises (MSME) Start up



Er. Amardev Singh
Assistant Professor
Research Areas – Entrepreneurship Development, IPR,
Technology Adoption and Mgmt

During the year 2020-21, the department conducted **32** ICT Programs attended by **2067** Faculty of various Engineering and Polytechnic Colleges. The department conducted **02** workshop other than curriculum development workshops which was attended by **96** participants. The department published **04** papers in SCI Journals, **08** papers in Non-SCI Journals and **06** paper in National Journal. The department published **05** papers in International Conference and **01** paper in National Conference. The department faculty attended online **07** training programme and **07** In-House Training Programme. The department also attended online **13** webinars. The department faculty completed **04** print materials and **02** non-print material (video films).

Short Term Programs Conducted (Online)

1. Non Engineered Construction-Theory to Practice
2. Adroit Thinking - Concept, Methods and Practice
3. Understanding Project Management Basics
4. Strategic Planning for Entrepreneurship Promotion
5. Entrepreneurship and Start-up Policies 2017
6. Social Entrepreneurship for Technical Entrepreneurs
7. Understanding Project Management Basics
8. Understanding Project Management Basics
9. Entrepreneurship and Start-up Policies 2017
10. Management of Small and Medium Enterprises
11. Employability Skills for Industry 4.0
12. Management of Small and Medium Enterprises
13. Employability Skills for Industry 4.0
14. Strategic Industry Institute Partnership in Technical Education
15. Strategic Planning for Entrepreneurship Promotion
16. Digital transformation of Business
17. Employability Schemes for Industry
18. Industry Academia Likings: National & International Practices
19. Technology Management for Start-up
20. Businesses Green Shoots: Challenges, Skills and Strategies for Post Pandemic World
21. Intellectual Property Rights - Aspects and Prospects for Entrepreneurs
22. Entrepreneurial Career Orientation for Mechanical Engineering and Allied Disciplines

Short Term Programs Conducted (Online) (contd..)

23. Strategic planning for effective Industry Institute Partnership
24. How to start a Business Start-up
25. Startup of Business Incubation in Technical Institutions
26. Employability Skills for Industry 4.0
27. Innovation and Technological Entrepreneurship
28. Fostering Innovation and Incubation for Business Start ups
29. Employability Skills for Industry 4.0
30. How to set-up and manage a Business Start-up
31. Achievement Motivation Training for Entrepreneurship
32. Employability Schemes for Industry

PAPERS PUBLISHED BY THE ENTREPRENEURSHIP DEVELOPMENT & INDUSTRIAL COORDINATION FACULTY IN SCI JOURNALS

Sr. No.	Name of the Paper Published	Author (s) Name
1.	Characterization, electrochemical behavior and in vitro hemocompatibility of hydroxyapatite-bioglass-iron oxide-chitosan composite coating by electrophoretic deposition. Surface and Coatings Technology, 405, p.126564. (IF:3.748)	Singh, S., Singh, G. and Bala, N.
2.	Electrophoretic deposition of Fe ₃ O ₄ nanoparticles incorporated hydroxyapatite-bioglass-chitosan nanocomposite coating on AZ91 Mg alloy. Materials Today Communications, p.101870. (IF: 2.678)	Singh, S., Singh, G. and Bala, N., 2020
3.	Synthesis and characterization of iron oxide hydroxyapatite-chitosan composite coating and its biological assessment for biomedical applications. Progress in Organic Coatings, 150, p.106011. (IF:4.469)	Singh, S., Singh, G. and Bala, N., 2021
4.	"Identification of joint discrepancy in steel truss bridge using hilbert transform with root-MUSIC and ESPRIT techniques," International Journal of Civil Engineering, vol. 19, no. 6, pp. 653-668, 2021. DOI: 10.1007/s40999-020-00597-2. (published - 13 th Jan 2021) SCIE	A. Sharma, P. Kumar, H. K. Vinayak and S. K. Walia

PAPERS PUBLISHED BY THE ENTREPRENEURSHIP DEVELOPMENT & INDUSTRIAL COORDINATION FACULTY IN NON-SCI JOURNALS

Sr. No.	Name of the Paper Published	Author (s) Name
1.	"Transformational Leaderships of the Educators in Indian Higher Education: An empirical study", The International journal of analytical and experimental modal analysis, Volume XII, Issue II, 2020, ISSN NO: 0886-9367 (page 2022-34). UGC Care Approved Group II Journal. (Co- author)	Divya Sharma/ Dr. S.K. Dhameja
2.	"Impact of the Karma Yoga Practices Adopted by the Teachers in Higher Education on their Transformational Leadership Behaviour- A Study in Selected Universities of Delhi-NCR", International Journal of Advanced Science and Technology, Vol. 29, No. 7s, (2020), pp. 4597- 4608, ISSN: 2005-4238 IJAST (Co-author)	Divya Sharma/Dr. S.K. Dhameja
3.	"HR Practices and Startup" International Journal of Research and Analytical Reviews (UGC Care Journal), Volume 6, Issue 2 (April 2019) pp 418-426	Shivani Dhand/Dr SK Dhameja
4.	"Impact of National Culture on E-Government Development: A Longitudinal Study", Journal of Global Information Management, Vol. 29 (2), (February, 2021) {Category 'A' Journal as per ABDC journal ranking; SCOPUS Indexed}	Sushant Kumar, Kuldeep Baishya, Naman Sreen, Pradip H. Sadarangani and Harsh Vardhan Samalia
5.	"Factors Influencing Smartphone Adoption: A Study in Indian BOP Context", Global Business Review, Vol. 21 (6), {Category 'C' Journal as per ABDC journal ranking; SCOPUS Indexed}	Kuldeep Baishya & Harsh Vardhan Samalia
6.	"The influence of access to finance on driving the informal economy: An institution based view", Empirical Economic Letters, 19 (5), pp. 445-459 {Category 'C' Journal as per ABDC journal ranking}	Deb, R., Samalia H. V. & Mehta A.
7.	"Business Intelligence for Employee Retention: A Strategic Perspective"; Journal of Engineering & Technology Education Vol. 14, No. 1, January-June, 2020	Hergovind Singh, Harsh Vardhan Samalia, Y V R Murthy & Amardev Singh (2020)
8.	"Condition assessment of retrofitted steel truss bridge through fused Hilbert transform and frequency resolution enhancing techniques," Innovative Infrastructure Solutions, vol. 6, no. 1, pp. 1-30, 2021. DOI: 10.1007/s41062-020-00396-7. (published – 26th Nov 2020) Scopus	A. Sharma, P. Kumar, H. K. Vinayak, S. K. Walia and R. K. Patel

PAPERS PUBLISHED BY THE ENTREPRENEURSHIP DEVELOPMENT & INDUSTRIAL COORDINATION FACULTY IN NATIONAL JOURNALS

Sr.No.	Name of the Paper Published	Author (s) Name
1.	"A study on retention strategies adopted by insurance organizations and its relationship with carer stages" in Sambodhi Journal (UGC Care Journal) ISSN: 2249-6661 Vol-43, No.-2, April-June (2020), pages 356-361 (Co-author)	Shikha Patheja/ Dr. S.K. Dhameja
2.	"Effectiveness of the retention strategies in insurance companies: a comparative study of the employees with different designation in public and private sector companies" Journal of Test- Engineering and Management, Scopus Indexed, Volume 83, Page Number: 11378 – 11394, May-June 2020, ISSN: 0193-4120 (Co- author)	Shikha Patheja/ Dr. S.K. Dhameja
3.	"A comparative study on retention strategies for employees working at life and non-life insurance sectors and at different career stages" in Wesleyan journal of research, UGC care Journal, June 2020 (Co-author)	Shikha Patheja/ Dr. S.K. Dhameja
4.	"Impact of Noise Trading on Volatility in Indian Stock Market using EGARCH Model", Aut Aut Research Journal ISSN NO: 0005-0601 (UGC -care Group II & Scopus), volume XI, Issue VI, June 2020, pp. 165-176 (Co- author)	Savita/ Dr. S.K. Dhameja
5.	"Traditional finance, behavioral finance and noise trading: a review and assessment of the literature", Sambodhi, ISSN: 2249-6661(UGC Care Approved), Vol. 43, Issue 02, April-June 2020	Savita/ Dr. S.K. Dhameja
6.	"Impact of HR practices on organization performance: Review of literature", Test-Engineering and Management Journal, Volume 82, Page Number: 13670 – 13675, Publication Issue: 2020, ISSN: 0193-4120 P. Scopus Indexed. (Co- author)	Shivani Dhand/ Dr. S.K. Dhameja

PAPERS PUBLISHED / PRESENTED IN INTERNATIONAL CONFERENCES/SEMINARS

Sr. No.	Title of the Paper Presented/Accepted along with a Name of the Conference/Seminar (venue, with date)	Author (s) Name
1.	"Wear characterization of stir cast Mg-SiC composites" International Conference on Advances in Sustainable Technologies, November 6-7, 2020 organised by Lovely Professional University, Phagwara, India	Singh, A., Bala, N., and Mehta, M.

PAPERS PUBLISHED / PRESENTED IN INTERNATIONAL CONFERENCES/SEMINARS (contd..)

Sr. No.	Title of the Paper Presented/Accepted along with a Name of the Conference/Seminar (venue, with date)	Author (s) Name
2.	“Study the Effect of Reinforcements on Stir Cast Magnesium Metal Matrix Composites”, 8th International Conference on Advancements and Futuristic Trends in Mechanical and Materials Engineering, 19-20 December, 2020 organised by Society of Materials and Mechanical Engineers, India	Singh, A., and Bala, N.
3.	“A study on Magnesium Metal Matrix Composites”, 8th International Conference on Advancements and Futuristic Trends in Mechanical and Materials Engineering, 19-20 December, 2020 organised by Society of Materials and Mechanical Engineers, India	Singh, A., and Bala, N.
4.	“Seismic Evaluation, Strengthening and Retrofitting of Schools in Shimla, Himachal Pradesh”, Civil Engineering for a Disaster Resilient Society: Select Proceedings of VCDRRR, 15-20 March 2021, Scopus	Hemant Kumar Vinayak, Shailza Sharma, Rishabh Singh
5.	“Post Earthquake Safe Shelter For Shimla City”, Civil Engineering for a Disaster Resilient Society : Select Proceedings of VCDRRR, 15-20 March 2021 Scopus	Hemant Kumar Vinayak, Abhinandan and Shashidhara

PAPERS PUBLISHED / PRESENTED IN NATIONAL CONFERENCES/SEMINARS

Sr.No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author (s) Name
1.	“Rural Atma Nirbhar Bharta: Role of Engineering Colleges using NEP”, National Conference on Unlocking Atmanirbhar Bharat Through Nep-2020 held on 27 th November, 2020.	Dr. Ritula Thakur and Dr. Hemant Kumar Vinayak

RESEARCH AND DEVELOPMENT

No. of Ph.D Thesis Guided	Awarded – 2 In Progress - 10
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MOOCS SWAYAM COURSES

- Developed a MOOC on Entrepreneurship Development

TRAINING PROGRAMMES ATTENDED BY THE ENTREPRENEURSHIP DEVELOPMENT & INDUSTRIAL COORDINATION FACULTY/STAFF

Sr.No.	Title of Training Programme	Period of Training	Attended by
1.	Online training programme “Managing Virtual Classroom and Online Teaching” College Development Council, Punjab University Chandigarh	06.07.2020 to 07.07.2020	Dr. Hemant Kumar Vinayak
2.	Training programme on Developing Confident and Critical Thinkers through case study writing and Teaching organized by Chandler Institute of Governance, Singapore and Mahatma Gandhi Institute of Public Administration, Chandigarh	16.11.2020 to 27.11.2020	Dr. S.K. Dhameja
3.	Three Day Advanced Training Programme on Shodhganga and Plagiarism Issues”	25.11.2020 to 27.11.2020	Dr. Niraj Bala
4.	Training Programme on Rural Development through Rural Transformation by National Service Scheme by NIT Raipur.	02.12.2020 to 06.12.2020	Dr. Hemant Kumar Vinayak
5.	Conference on “Digital Trends in Construction” by ICI Pune Centre and CEMCON 2020	11.12.2020 to 19.12.2020	Dr. Hemant Kumar Vinayak
6.	'Virtual Conference on Disaster Risk Reduction-Civil Engineering for a Disaster Resilient Society' by NIT Suratkal, NIDM, New Delhi, International Water Management Institute, ADRRN, Institute of Himalayan Risk Reduction	15.03.2021 to 20.03.2021	Dr. Hemant Kumar Vinayak
7.	One-week Regional training programme on “Innovation in TVET Management” organized by Colombo Plan Staff College (CPSC) Manila via Zoom Cloud Meeting Room	22.03.2021 to 26.03.2021	Dr. Harsh Vardhan Samalia

IN HOUSE TRAINING PROGRAMMES ATTENDED BY THE ENTREPRENEURSHIP DEVELOPMENT & INDUSTRIAL COORDINATION FACULTY/STAFF

Sr. No.	Title of Training Programme	Period of Training	Attended by
1.	Capacity Building Training Programme for Module 7 on “Creative Problem Solving, Innovation and meaningful R & D” of AICTE-NITTTR Modules conducted by NITTTR, Chandigarh in Online Mode	26.05.2021 to 30.05.2021	Dr. S.K. Dhameja; Dr. Harsh Vardhan Samalia; Dr. Hemant Kumar Vinayak
2.	FDP on “Employability Schemes for Industry’ at NITTTR Chandigarh	11.08.2020 To 14.08.2020	Dr. Niraj Bala
3.	FDP on Industry Academia Linkages: National & International Practices” held at NITTTR Chandigarh.	17.08.2020 To 21.08.2020	Dr. Niraj Bala
4.	Capacity Building programme, Module 8 on ‘Institutional Management and Administrative Procedure’ of AICTE-NITTTR Modules held in Online Mode	24.08.2020 To 28.08.2020	Dr. Niraj Bala
5.	Capacity Building programme in Module - 1 ‘Orientation Towards Technical Education and Curriculum Aspects’ of AICTE-NITTTR Modules by NITTTR Chandigarh.	17.08.2020 To 21.08.2020	Dr. Harsh Vardhan Samalia / Dr. Hemant Kumar Vinayak / Er. Amardev Singh
6.	Capacity Building programme in Module - 8 ‘Institutional Management and Administrative Procedures’ of AICTE-NITTTR Modules from by NITTTR Chandigarh	24.08.2020 To 28.08.2020	Dr. Harsh Vardhan Samalia / Dr. Hemant Kumar Vinayak
7.	Capacity Building Training Programme for Module 3 on “Communication skills, Modes and Knowledge Dissemination” of AICTE-NITTTR Modules conducted by NITTTR, Chandigarh	26.05.2021 to 30.05.2021	Er. Amardev Singh

*“Man makes machines to man the machines that make the machines”
– Pete Townshend*

MECHANICAL ENGINEERING DEPARTMENT



Prof. (Dr.) Rupinder Singh
Professor
Research Areas : DOE ANN RSM TAGUCHI, Non-
Conventional Machining, Additive Manufacturing.,
Metal casting



Prof. (Dr.) B S Pabla
Professor
Research Areas - Manufacturing Technology,
CAD/CAM & CNC Machines, Optimization Techniques



Prof. (Dr.) S S Banwait
Professor
Research Areas – Engineering Design, Production
Management, Manufacturing Tech.



Prof. (Dr.) Sukhdeep Singh Dhani
Professor
Research Areas – Mechatronics, Automation &
Control System, Modeling & Simulation

*“Man makes machines to man the machines that make the machines”
– Pete Townshend*

MECHANICAL ENGINEERING DEPARTMENT



Er. Sunil D Jassal
Associate Professor
Research Areas - Thermal Engineering



Dr. P Sudhakar Rao
Assistant Professor
Research Areas - CAD/CAM, Manufacturing
Technology



Prof. (Dr.) A B Gupta
Joint Professor
Research Areas - Curriculum Development,
Curriculum Implementation



Prof. (Dr.) Niraj Bala
Joint Professor
Research Areas - Entrepreneurship Development, Patenting,
Business Startup, Skill Promotion and Rural Development,
Industrial Coordination, Manufacturing processes

During the year **2020-21**, the department has conducted **30** online short term training programs in ICT Mode, which were attended by **5805** teachers from polytechnics and engineering colleges. The Department has conducted **01** workshop with **105** participations. The department also conducted **02** curriculum development workshops in which **23** participants attended. The department conducted **01** Student Training Programme of **24** Weeks Duration and total of **02** student's participation. The department deigned **04** curricula and revised **01** curricula in ME Mechanical Engineering (Manufacturing Technology).

The department faculty published **28** papers in SCI Journals and **18** papers in Non-SCI Journals. The department also published **02** paper in National Journals. The department faculty published **01** paper in International Conference and published **06** papers in National Conference. The department organized **02** National Conference in which **77** participants attended. The faculty and technical staff of department attended **01** In-House training programme. The department developed **06** Print Material (edited books).

Short Term Programs Conducted (Online)

1. Additive Manufacturing & Process Optimization
2. Computer Aided Design and Manufacturing (CAD/CAM)
3. NBA Accreditation of Diploma Programs
4. Waste Management
5. NBA Accreditation of Engineering Programs
6. Modeling and Simulation using MATLAB
7. Recent Advances in Material Characterization
8. Computer Integrated Manufacturing & CNC (CIM/CNC)
9. NBA Accreditation of Diploma Engineering Programs
10. Waste Management
11. Mechanical Manufacturing and Process optimization
12. Accreditation of Engineering Programs
13. Materials Processing and Optimization
14. Engineering Optimization
15. CAD/CAM and Rapid Prototyping Technologies (CAD/CAM & RPT)
16. PLC Programming for Industrial Applications
17. Refresher Course in Mechanical Engineering
18. Refresher Course in Mechanical Engineering
19. Repair and Maintenance of Machine Tools
20. Ergonomics and Product Design

Short Term Programs Conducted (Online) (contd..)

21. Ergonomics and Product Design
22. Advances in Manufacturing (AMM)
23. Additive Manufacturing for Biomedical Applications
24. Automation and Robotics
25. Green Manufacturing
26. FEA using Ansys
27. Advanced Auto CAD
28. Recent Trends in Automobile Technology
29. CAD/CAM
30. CAD using SOLIDWORKS

RESEARCH AND DEVELOPMENT

PAPERS PUBLISHED BY THE MECHANICAL ENGINEERING FACULTY IN SCI JOURNALS

S. No.	Name of the Paper Published	Author (s) Name
1.	Fused filament fabrication: A review	Sudhir Kumar, Rupinder Singh, TP Singh, Ajay Batish Journal of Thermoplastic Composite Materials, 2020, In-press, DOI: 10.1177/0892705720970629 (Sage Publications)
2.	Numerical and Experimental Studies on Performance Enhancement of Journal Bearings Using Nanoparticles Based Lubricants	Dang, Rajeev Kumar; Goyal, Deepam; Chauhan, Amit; Dhami, SS; Archives of Computational Methods in Engineering; Springer Netherlands
3.	Thermo-mechanical investigations for friction stir spot welding of dissimilar thermoplastic	Ranvijay Kumar, Rupinder Singh, IPS Ahuja, Antoio Fortunato Composite Structures, 253, 2020
4.	Repair of automotive bumpers and bars with modified friction stir welding	R.Kumar, Rupinder Singh and IPS Ahuja Jol. of central south university, 27, 2020 DOI: 10.1007/s11771-020-4445-4 (Springer publications)
5.	Investigations for partial denture casting by fused deposition modelling assisted chemical vapour smoothing	Gurpartap Singh, Rupinder Singh, Sarbjit Singh Assembly Automation, Vol. 40, No. 5, 2020 DOI: 10.1108/AA-03-2020-0048 (Emerald publications)
6.	On effect of chemical assisted mechanical blending of barium titanate and graphene in PVDF for 3D printing applications	Ravinder Sharma, Rupinder Singh, Ajay Batish Journal of Thermoplastic Composite Materials, 2020 DOI: 10.1177/ 0892705720945377 (Sage Publications)

**PAPERS PUBLISHED BY THE MECHANICAL
ENGINEERING FACULTY IN SCI JOURNALS (contd..)**

S. No.	Name of the Paper Published	Author (s) Name
7.	On investigations of thermal conductivity, circumferential compressive strength and surface characterization of 3D printed hybrid blended magnetostrictive PLA composite	Sudhir Kumar, Rupinder Singh, T.P.Singh, Ajay Batish Journal of Thermoplastic Composite Materials, 2020 DOI: 10.1177/0892705720907651 (Sage Publications)
8.	Post processing of ABS replicas with vapour smoothing for investment casting applications	J.S.Chohan, Rupinder Singh, K.S.Boparai Proc. Natl. Acad. Sci., India, Sect. A Phys. Sci., 2020 (Springer Publications) DOI: 10.1007/s40010-020-00669-x
9.	On nano-graphene reinforced PVDF composite matrix for 4D applications	Vinay Kumar, Rupinder Singh, I.P.S. Ahuja, J P Davim Journal of Materials Engineering and Performance (2021) https://doi.org/10.1007/s11665-021-05459-Z
10.	Mechanical, rheological and thermal investigations of biocompatible feedstock filament comprising of PVC, PP and Hap	Nishant Ranjan, Rupinder Singh, IPS Ahuja Proc. Natl. Acad. Sci., India, Sect. A Phys. Sci., Vol. 91, No.1, 2021 DOI: 10.1007/s40010-020-00664-2 (Springer Publication)
11.	On investigations of thermal conductivity, circumferential compressive strength and surface characterization of 3D printed hybrid blended magnetostrictive PLA composite	Sudhir Kumar, Rupinder Singh, T.P.Singh, Ajay Batish Journal of Thermoplastic Composite Materials, 2020 DOI: 10.1177/0892705720907651 (Sage Publications)
12.	Friction welding for functional prototypes of PA6 and ABS with Al powder reinforcement	Rupinder Singh, R. Kumar, IPS Ahuja Proc. Natl. Acad. Sci., India, Sect. A Phys. Sci. (Springer Publications) DOI: 10.1007/s40010-020-00659-z
13.	Post processing of ABS replicas with vapour smoothing for investment casting applications	J.S.Chohan, Rupinder Singh, K.S.Boparai Proc. Natl. Acad. Sci., India, Sect. A Phys. Sci., 2020 (Springer Publications) DOI: 10.1007/s40010-020-00669-x
14.	3D printed scaffolds for tissue engineering applications: mechanical, morphological, thermal, in-vitro and in-vivo investigations	Nishant Ranjana, Rupinder Singh, IPS Ahuja, Ranvijay Kumar, Divya Singh, Seema Ramniwas, Anita K. Verma, Disha Mittal CIRP Journal of Manufacturing Science and Technology, Vol. 32, 2021 doi.org/10.1016/j.cirpj.2021.01.002
15.	On Mn doped ZnO nano particles reinforced in PVDF matrix for fused filament fabrication: Mechanical, thermal, morphological and 4D properties	Ranvijay Kumar, Rupinder Singh, Vinay Kumar, Pawan Kumar Jol. of Manufacturing Processes, Vol. 62, 2021 https://doi.org/10.1016/j.jmapro.2021.01.003
16.	Static thermal performance evaluation of elliptical journal bearings with nanolubricants	Rajeev Kumar Dang, Amit Chauhan, S. S. Dharmi; Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, November 2020

**PAPERS PUBLISHED BY THE MECHANICAL
ENGINEERING FACULTY IN SCI JOURNALS (contd..)**

S. No.	Name of the Paper Published	Author (s) Name
17.	Secondary recycled ABS and graphene composite for 3D/4D applications: rheological, thermal, magnetometric and mechanical analysis	Vinay Kumar, Rupinder Singh, I.P.S. Ahuja Journal of Thermoplastic Composite Materials (Sage Publications)
18.	ZnO nano particle grafted PLA thermoplastic composites for 3D printing applications: Tuning of thermal, mechanical, morphological and shape memory effect	Rupinder Singh, Ranvijay Kumar, Mohit Singh, Pawan Kumar Journal of Thermoplastic Composite Materials (Sage Publications)
19.	Comparison of mechanical and morphological properties of 3D printed functional prototypes: multi and hybrid blended thermoplastic matrix	Sudhir Kumar, Rupinder Singh, TP Singh, Ajay Batish Journal of Thermoplastic Composite Materials (Sage Publications)
20.	3D printing of dual thermoplastic materials with different layer combinations: Tensile, flexural and fractured surface investigations	Sudhir Kumar, Rupinder Singh, T.P. Singh, Ajay Batish, Akshay Kumar Journal of Thermoplastic Composite Materials (Sage Publications)
21.	On recyclability of thermosetting polymer and wood dust as reinforcement in secondary recycled ABS for non structural engineering applications	Kapil Chawla, Jaspreet Singh, Rupinder Singh Journal of Thermoplastic Composite Materials (Sage Publications) DOI: 10.1177/0892705720925135
22.	Some investigations on PLA-PEKK-HAp-CS composite: rheological, mechanical, thermal, tribological and morphological properties	Gurchetan Singh, Ranvijay Kumar, Rupinder Singh, M. M. Rahman, S. Ramakrishna Jol. of Central South University, 2021 (Springer publications)
23.	Investigations for wear characteristics of aluminum based metal matrix composite prepared by hybrid reinforcement	Swarandeeep Singh, Rupinder Singh, S.S.Gill Proc. Natl. Acad. Sci., India, Sect. A Phys. Sci. (Springer Publications) DOI: 10.1007/s40010-020-00683-z
24.	On cryogenic milling of primary recycled ABS: rheological, morphological and surface properties	Vinay Kumar, Rupinder Singh, I.P.S. Ahuja Journal of Thermoplastic Composite Materials, 2020 DOI: 10.1177/ 0892705720932621 (Sage Publications)
25.	On 3D printed ZnO reinforced PLA matrix composite: tensile, thermal, morphological and shape memory characteristics	Mohit Singh, Rupinder Singh, Ranvijay Kumar, Pawan Kumar, Pawanpreet Journal of Thermoplastic Composite Materials, 2020 DOI: 10.1177/ 0892705720935961 (Sage Publications)
26.	On effect of chemical assisted mechanical blending of barium titanate and graphene in PVDF for 3D printing applications	Ravinder Sharma, Rupinder Singh, Ajay Batish Journal of Thermoplastic Composite Materials, 2020 DOI: 10.1177/ 0892705720945377 (Sage Publications)
27.	Multi-material 3D printing of PLA-PA6-TiO2 polymeric matrix: flexural, wear and morphological properties	Sudhir Kumar, Rupinder Singh, Mohit Singh , T.P Singh, Ajay Batish ; Journal of Thermoplastic Composite Materials, 2020 DOI: 10.1177/ 0892705720953193 (Sage Publications)
28.	Comparison of Cold and Hot Forged EN8 Flats: Spring Back Effect, Surface Hardness and Microstructural Features	Rupinder Singh, Bibandeeep Singh, S.S. Banwait Transactions of the Indian Institute of Metals (Springer publications) DOI: 10.1007/s12666-020-02078-5

PAPERS PUBLISHED BY THE MECHANICAL ENGINEERING FACULTY IN NON-SCI JOURNALS

S. No.	Name of the Paper Published	Author (s) Name
1.	Powder mixed electrical discharge machining (PM-EDM): A Methodological Review	Mohd. Yunus Khan, P. Sudhakar Rao, Pabla, B. S.; Materials Today: Proceedings; Publisher Elsevier Ltd. Science Direct
2.	Performance Evaluation of Enterprise Resource Planning System in Indian MSMEs, November, 2020	S. S. Banwait, Shering P Regi International Journal of Engineering Research & Technology (IJERT) ISSN: 2278-0181 Vol. 9 Issue 11
3.	Polymer- Ceramic composites: A state of art review and future applications	Ranvijay Kumar, Rupinder Singh, M.S.J. Hashmi Advances in Materials and Processing Technologies, 2020, In-Press DOI: 10.1080/2374068X.2020.1835013 (Taylor and Francis publications)
4.	Manufacturing techniques and applications of polymer matrix composites: A brief review	Jasgurpreet S Chohan, Kamaljit S Boparai, Rupinder Singh, M.S.J Hashmi Advances in Materials and Processing Technologies, 2020, In-Press DOI: 10.1080/2374068X.2020.1835012 (Taylor and Francis publications)
5.	Rapid tooling through micro additive manufacturing with reinforcement of SiC/Al ₂ O ₃ in LDPE domestic waste	Piyush Bedi, Rupinder Singh, IPS Ahuja, and M.S.J Hashmi Advances in Materials and Processing Technologies, 2020, In-Press DOI: 10.1080/2374068X.2020.1835015 (Taylor and Francis publications)
6.	Friction stir-spot welding of 3D printed ABS and PA6 composites: flexural, thermal and morphological investigations	Ranvijay Kumar, Rupinder Singh, IPS Ahuja, and M.S.J Hashmi Advances in Materials and Processing Technologies, In-Press DOI: 10.1080/2374068X.2020.1835014 (Taylor and Francis publications)
7.	Investigations for surface roughness and dimensional accuracy of biomedical implants developed by combining fused deposition modelling, vapor smoothing and investment casting	Daljinder Singh, Rupinder Singh, K.S.Boparai Advances in materials and processing technologies, 2020, In-Press DOI: 10.1080/2374068X.2020.1835007 (Taylor and Francis publications)
8.	Optimization of friction stir welding process parameters during joining of aluminum alloys of AA6061 and AA6082	Kumar, Ravi; Dhami, Sukhdeep Singh; Mishra, RS; Materials Today: Proceedings; Elsevier

**PAPERS PUBLISHED BY THE MECHANICAL
ENGINEERING FACULTY IN NON-SCI JOURNALS (contd..)**

S. No.	Name of the Paper Published	Author (s) Name
9.	On multi-factor optimization of Ni-Cr based partial dentures by centrifugal casting	Gurpartap Singh, Rupinder Singh, Sarbjit Singh, Arvind Bhardwaj Advances in Materials and Processing Technologies, 2020 DOI:10.1080/2374068X.2020.1793093 (Taylor and Francis publications)
10.	Manufacturing techniques and applications of polymer matrix composites: A brief review	Jasgurpreet S Chohan, Kamaljit S Boparai, Rupinder Singh, M.S.J Hashmi Advances in Materials and Processing Technologies, 2020 DOI: 10.1080/2374068X.2020.1835012 (Taylor and Francis publications)
11.	Friction stir-spot welding of 3D printed ABS and PA6 composites: flexural, thermal and morphological investigations	Ranvijay Kumar, Rupinder Singh, IPS Ahuja, and M.S.J Hashmi Advances in Materials and Processing Technologies DOI: 10.1080/2374068X.2020.1835014 (Taylor and Francis publications)
12.	Rapid tooling through micro additive manufacturing with reinforcement of SiC/Al ₂ O ₃ in LDPE domestic waste	Piyush Bedi, Rupinder Singh, IPS Ahuja, and M.S.J Hashmi Advances in Materials and Processing Technologies, 2020 DOI: 10.1080/2374068X.2020.1835015 (Taylor and Francis publications)
13.	Investigations for surface roughness and dimensional accuracy of biomedical implants developed by combining fused deposition modelling, vapor smoothing and investment casting	Daljinder Singh, Rupinder Singh, K.S.Boparai Advances in materials and processing technologies, 2020 DOI: 10.1080/2374068X.2020.1835007 (Taylor and Francis publications)
14.	Polymer- Ceramic composites: A state of art review and future applications	Ranvijay Kumar, Rupinder Singh, M.S.J. Hashmi Advances in Materials and Processing Technologies DOI: 10.1080/ 2374068X.2020.1835013 (Taylor and Francis publications)
15.	Investigations and mathematical modeling using dimensionless analysis for hardness of SS-316L implants fabricated for batch production through rapid investment casting	Jaspreet Singh, Rupinder Singh, Harwinder Singh Advances in Materials and Processing Technologies DOI: 10.1080/2374068X.2020. 1835016 (Taylor and Francis publications)

**PAPERS PUBLISHED BY THE MECHANICAL
ENGINEERING FACULTY IN NON-SCI JOURNALS (contd..)**

S. No.	Name of the Paper Published	Author (s) Name
16.	On recyclability of thermoplastic ABS polymer as fused filament for FDM technique of additive manufacturing	Kapil Chawla, Jaspreet Singh, Rupinder Singh World Journal of Engineering
17.	Multi-material 3D printed PLA/PA6-TiO ₂ composite matrix: rheological, thermal, tensile, morphological and 4D capabilities	Rupinder Singh, Sudhir Kumar, Mohit Singh Advances in materials and processing technologies
18.	Analysis & Optimization of Parameters during EDM of Aluminium Metal Matrix Composite	P. Sudhakar Rao, Mumtaz Rizwee https://doi.10.51201/jusst12671

**PAPERS PUBLISHED BY THE MECHANICAL
ENGINEERING FACULTY IN NATIONAL JOURNALS**

S. No.	Name of the Paper Published	Author (s) Name
1.	Surface hardness investigation of rapid vacuum moulding components	Rupinder Singh, Nishant Ranjan, Manjinder Singh Jol. of Engineering and Technology Education, Vol. 14, No. 1, 2020
2.	Performance Analysis of s-unidentical k-out-of-n System using Reliability Block Diagram and Fault Tree Technique: A Case Study	N.S. Bhangu, G.L.Pahuja, Rupinder Singh Jol. of Engineering and Technology Education, Vol. 14, No. 2, July-December, 2020

**PAPERS PUBLISHED BY THE MECHANICAL ENGINEERING
FACULTY IN INTERNATIONAL CONFERENCES/SEMINARS**

S. No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author (s) Name
1.	A Supervised Machine Learning Approach to Predict Dimensional Accuracy of FDM Fabricated Parts, International Conference on Industrial and Manufacturing Systems" (CIMS-2020), 09 - 11 October, 2020, NIT Jalandhar	Rahul Bansal, S. S. Dhami, Jatinder Madan;

PAPERS PUBLISHED BY THE MECHANICAL ENGINEERING FACULTY IN NATIONAL CONFERENCES/SEMINARS

S. No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author (s) Name
1.	Empowering India's MSME's through start-up opportunities under NEP-2020 Unlocking Atmanirbhar Bharat through NEP-2020, 27 th November, 2020, NITTTR, Chandigarh	V. Kumar, Rupinder Singh,
2.	Digital Manufacturing to Boost Circular Economy under Atmanirbhar Bharat Initiatives Unlocking Atmanirbhar Bharat through NEP-2020, 27 th November, 2020, NITTTR, Chandigarh	N. Ranjan, V. Kumar, R. Kumar, Rupinder Singh
3.	A framework for the resilience and sustainable additive manufacturing process for self reliant India Unlocking Atmanirbhar Bharat through NEP-2020, 27 th November, 2020, NITTTR, Chandigarh	K S Boparai, Rupinder Singh
4.	Post processing of 3D printed replicas to reduce rework under self reliant India mission Unlocking Atmanirbhar Bharat through NEP-2020, 27 th November, 2020, NITTTR, Chandigarh	J S Chohan, Rupinder Singh,
5.	Development of a Low-Cost Real Time Non-Contact Health Monitoring System for Rotary Machinery Unlocking Atmanirbhar Bharat through NEP-2020, 27 th November, 2020, NITTTR, Chandigarh	Deepam Goyal, S. S. Dhami, B. S. Pabla
6.	MODWT based novel Health Indicator for Incipient gear fault diagnosis; 7 th National Conference on Advances in Manufacturing Technology, March 25 - 26, 2021, NITTTR, Chandigarh	Mansi, Kanika Saini , Vanraj , Sukhdeep S. Dhami

RESEARCH AND DEVELOPMENT PROJECTS SUBMITTED

Sr. No.	Name of Project	Team	Beneficiary State	Status of Project completed/ In progress
1.	Recycling of plastic solid waste for environmental protection by multi-hybrid material 3D printing for 4D applications; Cost: 54.5 Lacs; Funding Agency: DST (India-Portugal Programme of Cooperation in Science and Technology)	Prof. Rupinder Singh, Prof. B. S. Pabla	All States	Submitted to DST
2.	Hands on Training on 3D Printing for bio-medical applications; Cost: 4.0 Lacs; Funding Agency: SERB	Prof. Rupinder Singh	All States	Submitted to SERB

RESEARCH AND DEVELOPMENT PROJECTS SUBMITTED (contd..)

Sr. No.	Name of Project	Team	Beneficiary State	Status of Project completed/ In progress
3.	Recycled Acrylonitrile Butadiene Styrene - MelamineFormaldehyde Composite for 3D and 4D Printing Applications (Submitted on 16-11-2020, Application ID 1-9271795603, Funding Agency - AICTE)	Prof. Rupinder Singh, Prof. S. S. Dhami	All States	Under-review
4.	Integration of virtual reality, augmented reality and three dimensional printing as smart solution for recycling of thermoplastics and thermosetting polymers for non-structural applications (Submitted on 30-11-2020, Application ID TPN / 59405, Funding Agency - DST)	Prof. Rupinder Singh, Prof. B. S. Pabla	All States	Submitted to DST
5.	Automated manufacturability assessment and die design for die-casting using artificial intelligence	Dr. S. S. Dhami, Dr. Jatinder Madan	All States	Under-review

RESEARCH PROJECTS ONGOING

Sr. No.	Funding Agency/Scheme	Title of Project	Coordinator / Team Member
1.	Simulation Centre of Excellence by ABB India Ltd., Bengaluru	Purchase of hardware & software	Dr. B. S. Pabla Dr. S. S. Dhami
2.	FIST (DST) project	Grant of Rs 80 Lac only for the 05 years 2021-26, for the project, "FIST Level 0 category" by Department of Science and Technology. Status: Ongoing-Completing in March, 2026	Dr. Rupinder Singh Dr. B. S. Pabla Dr. S. S. Dhami Dr. Balwinder Raj Dr. Ashok Dr. KG Srinivasa
3.	Recyclable 3D printed dry cell as alternative sources of energy	Research Grant of Rs 1.50 Lac only for the year 2021-22 by Department of Science and Technology & Renewable Energy, Chandigarh Administration. Status: Ongoing-Completing in March, 2022	Dr. Rupinder Singh Dr. B. S. Pabla

RESEARCH AND DEVELOPMENT

No. of M.E. Thesis Guided	25
No. of Ph.D Thesis Guided	Awarded - 04 In Progress - 10

IN-HOUSE TRAINING PROGRAMMES

S. No.	Title of Training Programme	Period of Training	Attended by
1.	Training on Bio-printer	September, 2020 (02 days)	Department faculty and technical staff

NATIONAL CONFERENCES ORGANIZED

S. No.	Name of the Seminar/Conference	No. of Participants
1.	National Conference on Unlocking Atmanirbhar Bharat through NEP-2020, 27 th November, 2020, NITTTR, Chandigarh	37
2.	7th National Conference on Advancements in Manufacturing Technology (e-Conference), March 25 – 26, 2021, NITTTR, Chandigarh	40

BOOKS PUBLISHED

1. Editor for book on '3D Printing in Biomedical Engineering' (Co-Editor: Singh, Sunpreet, Prakash, Chander), Springer, 2020, ISBN ISBN 978-981-15-5424-7. (Published)
2. Editor for book on 'Non-Conventional Hybrid Machining Processes: Theory and Practice' Part of the Manufacturing Design and Technology Series (Series Editor: J. Paulo Davim), CRC Press, Taylor & Francis, 2020. (In-Press)
3. Guest Editor for Special Collection on 'Nano-Composites and Smart Materials: Design, Processing, Manufacturing and Applications' in Advanced Composites Letter, 2020 (SAGE publications, SCIE, Impact Factor 0.55).(In-Press)
4. Editor for book on '4D Printing: Fundamentals and Applications, Elsevier, 2021.(to be closed in Dec. 2020)
5. Section Editor for 'Fundamentals of thermoset and thermoplastic polymers & their recycling and sustainability' as part of Encyclopedia of materials: plastics and polymers (M. Saleem. J. Hashmi, 'Editor-in-Chief'), Elsevier, (to be closed in 2021).

BOOKS PUBLISHED (contd..)

6. Guest Editor for Special issue “3D and 4D Hybrid Printed Functional Prototypes” Materials International Open Access Journal (ISSN: 2668-5728)



MEDIA ENGINEERING DEPARTMENT



Prof. (Dr.) Rakesh Wats
Professor

***Research Areas - Quality Mgt. & General Management,
Civil Engineering (Irrigation & Hydraulics)***



Prof. (Dr.) SS Pattnaik

***Professor & Currently holding the Position of Director
Research Areas - Soft Computing, Multimedia, Antenna &
Microwave, RF & Bio-medical***

During the year **2020-21**, the department has conducted **07** online short term training programs in ICT Mode, which were attended by **364** teachers from polytechnics and engineering colleges. The department faculty published **01** book chapter. The department has edited **181** videos. The department has technically co-ordinated to conduct **293** online courses of various departments. The department also technically supported **92** on-line conferences and **12** extra programmes (workshops, annual day, board meetings and departmental meeting with Director). **70** videos were uploaded on NCTEL Portal. The department has designed Animation & Graphics for **46** modules.

Short Term Programs Conducted (Online)

STAFF DEVELOPMENT THROUGH
EDUCATION AND TRAINING

1. **Management Skills for Professional Teacher Excellence**
2. **Developing Creativity and innovation culture in institutions**
3. **Leadership for Academicians Programme**
4. **Leadership for Academicians Programme**
5. **Accreditation for Quality Assurance (NBA and NAAC Guidelines)**
6. **Technical Teachers Self Esteem. Motivation and Professionalism Development**
7. **Strategic Management and SWOT Analysis for Excellence**

BOOK CHAPTER PUBLISHED BY THE MEDIA ENGINEERING FACULTY

Sr.No.	Name of the Paper Published	Author (s) Name
1.	Book chapter on Engaging the Remote workforce: contemporary challenges of Business Organizations” in managing uncertainty during a Global Pandemic- An Indian Perspective, Sapatrishi Publications, Chandigarh	Dr. Rakesh K Wats & Kamakshi Malik

**PAPER PUBLISHED BY THE MEDIA ENGINEERING
FACULTY IN SCI JOURNAL**

Sr.No.	Name of the Paper Published	Author (s) Name
1.	A Modified Two-Step ANN Ensemble Approach to Improve Generalization and its Application in Fractal Antenna Design," Journal of Circuits, Systems and Computers, Vol. 29, No. 7 (2020) 2050106, https://doi.org/10.1142/S0218126620501066 .	Balwinder S. Dhaliwal, Gaganpreet Kaur, Navreet Saini, Shyam Sundar Pattnaik and Simranjit Kaur Josan

**PAPER PUBLISHED BY THE MEDIA ENGINEERING
FACULTY IN NON-SCI JOURNALS**

Sr.No.	Name of the Paper Published	Author (s) Name
1.	Stub loaded rectangular ring shaped tri-band monopole antenna for wireless applications, International Journal of Advances in Microwave Technology, vol.5,No.2, May 2020	Mandar P. Joshi, Jayant G. Joshi, Dr. Shyam S. Pattnaik

**PAPER PUBLISHED/PRESENTED BY THE MEDIA ENGINEERING
FACULTY IN INTERNATIONAL CONFERENCES**

Sr.No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author (s) Name
1.	SAR based best designs for wearable antenna: A review, 3rd International Conference on Intelligent Circuits and Systems, 26-27 June, 2020	Dr. Shyam Sundar Pattnaik

**PAPER PUBLISHED/PRESENTED BY THE MEDIA ENGINEERING
FACULTY IN NATIONAL CONFERENCES**

Sr.No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author (s) Name
1.	Soil humidity measurement using microstrip interdigital capacitor and rectangular slotted fingers interdigital capacitor, 35th Indian Engineering Congress, December 18-20, 2020	Dr. Shyam Sundar Pattnaik
2.	Curriculum development for autonomous technical institutions under NEP 2020 to accelerate multidisciplinary research: A step towards Atmanirbhar Bharat, National Conference on Unlocking Atmanirbhar Bharat Through NEP-2020, November 27, 2020.	Dr. Shyam Sundar Pattnaik

RESEARCH AND DEVELOPMENT

No. of Ph.D Thesis Guided

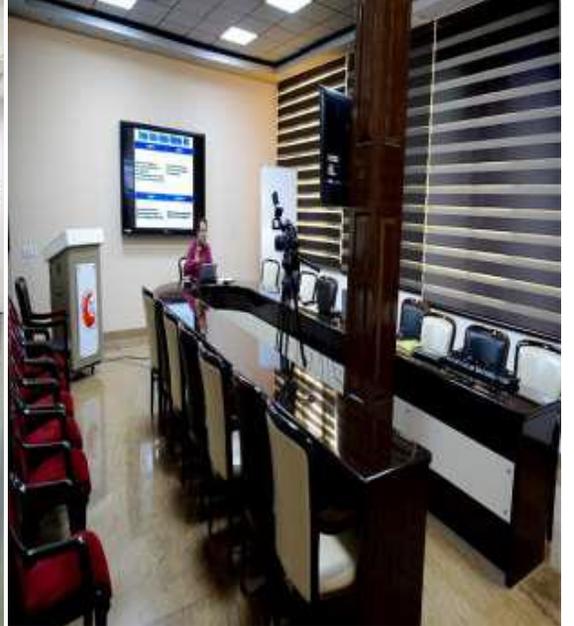
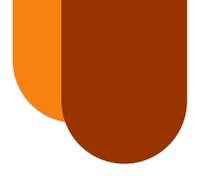
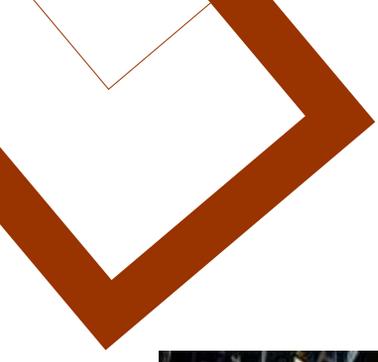
Awarded - 01

DESIGNING AND EDITING WORK

Sr.No.	Name of the Content	Status
1.	Designed the 4 Page Brochure for ME admissions 2020	Completed
2.	Designed A4 Poster for ME Admissions 2020	Completed
3.	Designed the Advertisement Poster for Admission 2020	Completed
4.	Designed the presentations of AICTE-NITTT Module 8 on Institutional Management and Administrative Procedures	Completed
5.	Designed OPLAN 2020-2021	Completed
6.	Designed the AICTE NITTT Module 8 Rubrics Presentation	Completed
7.	Edited 35 videos of the ATAL FDP on “Blended Learning and Flipped Classroom	Completed
8.	Uploaded 35 videos of the ATAL FDP on “Blended Learning and Flipped Classroom” on NCTEL Youtube Channel.	Completed
9.	Designed Cover Page for the Project Report on “Online Instructional Resources Development”	Completed
10.	Designed welcome slide for the ATAL FDP on “Blended Learning and Flipped Classroom”	Completed
11.	Designed welcome slide for STC on “Developing Creativity and Innovation Culture in Institutions”	Completed
12.	Designed the institute e-Souvenir 2019-2020	Completed
13.	Designed Institute Annual Report Presentation	Completed
14.	Designed the New Institute Annual Report 2019-2020.	Completed
15.	Designed Independent Day Greeting for the institute website	Completed
16.	Designed the Welcome Slide for the Webinar on “Atmanirbhar Bharat: Transmutation from Privation to Exuberance”	Completed
17.	Designed the document on the Summary of Recordings of the Webinar on “Atmanirbhar Bharat: Transmutation from Privation to Exuberance”.	Completed
18.	Prepared a presentation on comparison of various Video and web Conferencing Platforms	Completed
19.	Designed the Detailed Project Report for Grant of deemed to be university under De Novo Category for the Institute	Completed
20.	Designed the Institute Presentation for the DPR	Completed
21.	Designed the Media Engineering Departmental Presentation for UGC meeting	Completed

DESIGNING AND EDITING WORK (contd..)

Sr.No.	Name of the Content	Status
22.	Designed the presentations for the MOOCs on Entrepreneurship Development	Completed
23.	Designed logo for the MOOCs on Educational Video Production	Completed
24.	Designed logo for the MOOCs on Entrepreneurship Development	Completed
25.	Designed the Annual Report (English) 2020-2021	Completed
26.	Designed the Annual Report (Hindi) 2020-2021	Completed
27.	Designed Title Pages for the course material on Development of Self Learning Material.	Completed
28.	Designed the Institute e-Calendar 2021	Completed
29.	Designed the Cover Page of the Making Mentoring Relevant: NEP 2020 PERSPECTIVE Recommendations of the Panel Discussions	Completed
30.	Designed the Title Page of the Guideline Manual on Mentor of the teachers of Higher Education Institutions under UGC	Completed
31.	Edited 18 videos of the Webinar Series on AtamNirbharBharat: Transmutation from Privation to Exuberance.	Completed
32.	Uploaded 18 videos of the Webinar Series on AtamNirbharBharat: Transmutation from Privation to Exuberance on NCTEL YouTube channel	Completed
33.	Prepared & Designed the Summary Sheet of the YouTube links of Webinar Series on AtamNirbharBharat: Transmutation from Privation to Exuberance.	Completed
34.	Modified the old Annual Report with new Information.	Completed
35.	Designed the Cover Page of the Project Report on Online Instructional Resources Development (Task Force-VII)	Completed
36.	Designed the New Institute Annual Report 2019-2020.	Completed
37.	Edited 15 videos of the course on Sustainability and Smart City Concept” held from November 16-20, 2020 organized by Dr. Sanjay Sharma & Dr. Amit Goyal	Completed
38.	Design the Front Page and Back Cover of the Webinar Series on AtamNirbharBharat: Transmutation from Privation to Exuberance	Completed
39.	Edited 10 Videos of the STC on Free and Open Source Software (FOSS) Tools for Effective Teaching-Learning held from 15-19 February 2021	Completed
40.	Uploaded 10 Videos of the STC on Free and Open Source Software (FOSS) Tools for Effective Teaching-Learning held from 15-19 February 2021 on NCTEL channel	Completed
41.	Edited 9 videos of the STC on Repair and Rehabilitation of Structures held from 15-19 March, 2021	Completed
42.	Designed the AtamNirbharBharat NEP 2020 Conference Proceedings	Completed
43.	Designed New header-cum-banner for NITTTR website	Completed
44.	Designed the NITTTR flip and e-Calendar 2021	Completed
45.	Designed the Cover Page and Back Page of the QIP programme Brochure	Completed
46.	Prepared a Summary of YouTube Links of STC on Free and Open Source Software (FOSS) Tools for Effective Teaching-Learning held from 15-19 February 2021.	Completed



“Surely we have a responsibility to leave for future generations a planet that is healthy and habitable by all species.”
– Sir David Attenborough

RURAL DEVELOPMENT DEPARTMENT



Prof. (Dr.) Poonam Syal
Professor

Research Areas - Sustainable Rural Development, Energy Management, Instrumentation for Env't. Engg., Assistive Technologies, Research Methodology



Prof. (Dr.) Upendra Nath Roy
Professor

Research Areas – Watershed Management, Rural Sanitation, Climate Change & Disaster Management, Organic Farming



Dr. Hemant Kumar Vinayak
Joint Associate Professor

Research Areas - Entrepreneurship Development including Technical, Rural, Women Entrepreneurship, Micro, Small and Medium Enterprises (MSME) Start up



Dr. Amit Goyal

Joint Assistant Professor

Research Areas - Structure Dynamics, Masonry Structure, Low Cost Housing

During the year **2020-21**, the department has conducted **10** online short term training programs in ICT Mode, which were attended by **737** teachers from polytechnics and engineering colleges. The Department also conducted **05** workshops with **554** participations. The department faculty published **03** papers in Non-SCI Journals and published/Presented **01** paper in International Conference. The department also developed **02 print material** on Rural Entrepreneurship and Rural Marketing. The faculty of the department attended **01** online training program and **02** In-House training programmes. The department also conducted **02** webinars in which **400** participants attended.

Short Term Programs Conducted (Online)

STAFF DEVELOPMENT THROUGH EDUCATION AND TRAINING

1. Environment and Sustainable Development
2. Climate Change, Disaster and Pandemic Management: Technological Interventions for Sustainable Development
3. Environment and Sustainable Development
4. Role of Teachers and Educational Institutes in Unnat Bharat Abhiyan (UBA)
5. Watershed Management and Organic Farming for Sustainable Development
6. Clean and Green Technologies for Sustainable Development
7. Scope of Traditional and Vernacular Architecture and Rural and Eco Tourism in India
8. Clean Technologies for Sustainable Development
9. Climate Change, Disaster and Pandemic Management
10. Rural Entrepreneurship and Start - up
11. Unnat Bharat Abhiyan and Technology Application
12. Environment, Energy and Sustainable Development

RESEARCH AND DEVELOPMENT

PAPERS PUBLISHED BY THE RURAL DEVELOPMENT FACULTY IN NON-SCI JOURNALS

Sr. No.	Name of the Paper Published & Journal	Author (s) Name
1.	Hybrid image registration methods: A Review International Journal of Advanced Trends in Computer Science and Engineering, DOI: 10.30534/ijatcse/2020/ 36922020, Vol. 9, Issue 2, March-April 2020, Pp. 1134-1142	Taruna Kumari, Poonam Syal, Ashwani K. Aggarwal, Vikrant Guleria

**PAPERS PUBLISHED BY THE RURAL DEVELOPMENT
FACULTY IN NON-SCI JOURNALS (contd..)**

Sr. No.	Name of the Paper Published & Journal	Author (s) Name
2.	Fuzzy logic based optimized irrigation scheduling for improved water management in agriculture Sambodhi Journal. Volume 43, Issue – 3, July-Sept. 2020, Pp. 272-280	Mohit Kumar, Sulata Bhandari, Poonam Syal
3.	Analysis of energy simulation softwares to enhance energy efficiency of new and existing buildings IOSR Journal of Mechanical and Civil Engineering, Vol. 1, Pp. 09-12, Feb. 2021	Aditya Punia, Sanjay Sharma, Poonam Syal

**PAPERS PUBLISHED/PRESENTED IN
INTERNATIONAL CONFERENCES/SEMINARS**

Sr.No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author (s) Name
1.	A review of different charging strategies for electric vehicle International conference on New Frontiers in Energy, Engineering & Science, organised by Rajasthan Technical University, Kota and Arya College of Engineering and IT, Jaipur, 19 & 20 March, 2021	Ravindra Pancharia, Poonam Syal

THESIS GUIDED BY FACULTY

No. of M.E. Thesis Guided	02
No. of Ph.D Thesis Guided	Submitted – 01 In Progress - 01

**TRAINING PROGRAMMES ATTENDED BY THE RURAL
DEVELOPMENT FACULTY/STAFF**

Sr.No.	Title of Training Programme	Period of Training	Venue	Attended by
1.	IEEE workshop on Impact of electric vehicle charging on power grid.	08.12.2020	Lulea Technical University, Sweden and IEEE, Sweden Chapter	Dr. Poonam Syal

IN-HOUSE TRAINING PROGRAMMES ATTENDED BY THE RURAL DEVELOPMENT FACULTY/STAFF

Sr. No.	Title of Training Programme	Period of Training	Attended by
1.	One-week Capacity Building Program on Classroom communication, modes and knowledge dissemination organised by NITTTR, Chandigarh	26-30.05.2020	Dr. Poonam Syal
2.	One-week program on Creativity Innovation and Research organised by NITTTR, Chandigarh	26-30.05.2020	Dr. U.N. Roy

CONSULTANCY PROJECTS

1.	Unnat Bharat Abhiyan (RCI & PI) (SP-19) – Dr. UN Roy / Dr. Poonam Syal /Dr. HK Vinayak; Monitoring and guidance to 75 PIs in Punjab and Chandigarh and Reporting activities of PIs to IIT Delhi. - Grant Received Rs. 10 Lakhs (RCI) and Rs. 0.50 Lakhs (PI) Ongoing Project.
2.	Green Skill Development Program on Sustain and Enhance Technical Knowledge in Solar Energy Systems, organised from 1-25 March 2021, Sponsored by Ministry of Environment, Forest and Climate Change, Rs. 11.70 Lakhs, 21 participants, Coordinators - Prof. Sanjay Sharma & Prof. Poonam Syal.

HINDI CELL

ACTIVITIES OF HINDI CELL OF THE INSTITUTE

संस्थान के कामकाज़ में राजभाषा हिन्दी के उत्तरोत्तर प्रचार-प्रसार एवं विकास के लिए एवं हिन्दी को जन-मानस की भाषा बनाने के उद्देश्य से संस्थान में एक हिन्दी एकक बनाया गया। जिसमें अपने अपने विषय में सुशिक्षित एवं कुशल स्टाफ कार्यरत है। हिन्दी एकक में एक पद वरिष्ठ अनुवादक अधिकारी एवं एक पद कनिष्ठ अधिकारी तथा एक हिन्दी टाइपिस्ट का पद है। इस समय हिन्दी एकक में एक हिन्दी टाइपिस्ट कार्यरत है जिनके कार्य का सर्वेक्षण फैकल्टी प्रभारी प्रशासन द्वारा किया जाता है।

हिन्दी एकक की गतिविधियां निम्नलिखित हैं :

1. संस्थान की वार्षिक रिपोर्ट, तुलन-पत्र, लेखा-परीक्षा एवं अन्य दस्तावेज़ इत्यादि का अनुवाद कार्य एवं टाईप कार्य।
2. संस्थान के विभागों से प्राप्त दस्तावेज को हिन्दी में टाईप करने का कार्य।
3. शिक्षा मंत्रालय एवं नगर राजभाषा कार्यान्वयन समिति-कार्यालय 2, चण्डीगढ़ के साथ पत्राचार।
4. प्रत्येक वर्ष सितम्बर माह में हिन्दी दिवस, हिन्दी सप्ताह एवं हिन्दी माह का आयोजन एवं इस समारोह से संबद्ध प्रतियोगिताओं इत्यादि का आयोजन।
5. हिन्दी कार्यशालाओं का आयोजन।
6. संस्थान की राजभाषा कार्यान्वयन समिति की तिमाही बैठकों का आयोजन करना।
7. संस्थान में हिन्दी के प्रगामी प्रयोग से संबंधित तिमाही/छमाही एवं वार्षिक रिपोर्ट शिक्षा मंत्रालय को डाक द्वारा एवं ऑनलाइन प्रेषित की जाती है।
8. सेवारत स्टाफ के हिन्दी प्रशिक्षण के संदर्भ में हिन्दी रोस्टर का रख-रखाव एवं उन्हें उनके हिन्दी ज्ञान के स्तर के आधार पर प्रशिक्षण दिलवाना।

HINDI CELL

ACTIVITIES OF HINDI CELL OF THE INSTITUTE (contd..)

9. नगर राजभाषा कार्यान्वयन समिति (कार्यालय-2), चण्डीगढ़ की बैठकों में भाग लेना तथा समिति द्वारा आयोजित नगर स्तरीय प्रतियोगिताओं में इच्छुक स्टॉफ को नामित करना ।
10. संस्थान के दैनिक कामकाज़ में प्रयुक्त होने वाले दस्तावेज़/रबड़ की मोहरें इत्यादि द्विभाषी रूप में जारी करना ।
11. संस्थान की मुख्य इमारत एलईडी डिस्प्ले बोर्ड पर ‘आज का शब्द’ द्विभाषी रूप में लिखा जाता है। यह शब्द प्रति कार्य-दिवस पर लिखा जाता है।

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 main campus includes:

- **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), and **Student Centre**.
- **Har Gobind Khorana Guest House** with 11 A/C and fully furnished rooms, a Dining Hall, Conference Hall and Exercise Room.
- **Raman Hall** – Guest House No. 2 with 51 A.C. and fully furnished room with dining 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.

3.1 Land and Constructed Space (contd..)

During 2020-21, the following renovation work was completed:

- Completed renovation of Old Hostel (Chander Shekhar Hall) 108 Rooms with Balconies including bathrooms, corridors and staircase etc. at NITTTR, Sector 26, Chandigarh.
- Renovation work of Type-IV houses (8 houses) in Sector 42, Chandigarh completed.
- Completed renovation work of Conference Hall-II.
- Completed renovation of Central Cutout of the institute.
- Completed renovation of Canteen of the institute

During 2020-21, the following renovation work is in progress:

- Renovation work of Type-III (15 Houses) in Sector 42, Chandigarh by BSNL (Civil) and Electrical Work
- Mother Teresa Hostel
- Advanced Cyber Security Lab
- Artificial Intelligence Lab
- Nano Materials Lab
- AR & VR Lab
- Academic Cell
- Type III Houses, Sector 42, Chandigarh
- Foundation Stone for new Type VI, V and IV
- Digital Bank with ATM facilities
- Seminar Room - I

3.2 Equipment

Equipment worth **₹86.23 lakh** was purchased during the year **2020-21**. The total value of equipment increased to **₹5501.27 lakh as on 31.03.2021**. After providing necessary depreciation on the assets, the net value of the equipment remained at **₹2010.75 lakh as on 31.03.2021**.

3.3 Furniture

Furniture worth ₹10.10 lakh was purchased during the year 2020-21. The total value of furniture increased to ₹388.17 lakh as on 31.03.2021. After providing necessary depreciation under rules, the net value of furniture remained at ₹147.60 lakh as on 31.3.2021.

3.4 Expenditure

An expenditure amounting to ₹3486.87 lakh has been incurred during the financial year 2020-21 under various schemes as indicated below:

Sr. No.	Name of the Scheme	(Rupees in Lakh)
		Expenditure incurred
1.	OH-35 (Capital)	331.81
2.	OH-31 (General)	1026.95
3.	OH-36 (Salary)	2128.11
	Total Expenditure	3486.87

3.5 Library

LIBRARY RESOURCES

S.No	Resources	Numbers
1	Print Books	49537
2.	E-books	578
3.	Theses	715
4.	Indian standards	10043
5.	CD-ROM/DVDs	345
6.	Bound Journals	23173

PERIODICAL RESOURCES

S.No.	Resources	Numbers
1.	Print Journals	23
2.	E-Resources	11
3.	Magazines /Newspapers /Other resources	12

E RESOURCES AVAILABLE IN OUR INSTITUTE LIBRARY

- IEEE Xplore Resources:
 - *IEEE All-Society Periodicals Package - 190 Titles*
 - *IEEE Proceedings Order Plans - 5,30,000+ articles*
- ASCE Journals Online
- ASME Journals Online
- Economic & Political Weekly
- Institute for Studies in Industrial Development (ISID) Database
- JGate Plus (JCCC)
- JSTOR
- Springer Link
- Web of Science Lease Access
- South Asia Archive (SAA)
- Open Access Journals
- Registered for National Digital Library of India: NDL Club Registration ID is: INCHNC4VRUNZUQC
- DELNET-Institutional Membership DELNET 2021(Developing Library Network)

OPEN ACCESS RESOURCES

- NITTTR, Chandigarh Technology Enabled Learning(NCTEL)
- MIT Open CourseWare
- Open Access Journals
- Open Access Books
- Open Access Theses and Dissertations
- MOOCs: Coursera/ SWAYAM/ edX
- NPTEL Resources
- AICTE Online Courses
- INFLIBNET Resources

Audited Accounts

The accounts of the Institute for the year 2020-21 submitted for audit to be duly certified by Accountant General's office are enclosed.

NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH

SECTOR 26, CHANDIGARH

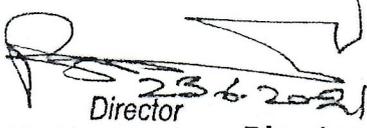
BALANCE SHEET AS AT 31st March, 2021

(Rs. In Lakhs)

SOURCES OF FUNDS	Schedules	Current Year 2020-2021	Previous Year 2019-2020
CAPITAL/CORPUS FUND (UNRESTRICTED FUNDS)			
Corpus Fund	1	8,750.84	8,354.94
General Fund		(2,966.48)	(2,708.01)
DESIGNATED EARMARKED / ENDOWMENT FUNDS	2	2,612.35	2,363.08
CURRENT LIABILITIES & PROVISIONS	3	6,998.14	4,372.37
TOTAL		15,394.85	12,382.37
APPLICATION OF FUNDS	Schedules	Current Year 2020-2021	Previous Year 2019-2020
FIXED ASSETS			
Tangible Assets	4	4,816.90	5,345.01
Intangible Assets			
Capital Work in progress			
INVESTMENTS FROM EARMARKED/ ENDOWMENT FUNDS	5		
Long term		2,503.59	2,183.34
Short term		53.04	83.31
INVESTMENTS-OTHERS	6		
CURRENT ASSETS	7	7,329.92	4,255.13
LOANS, ADVANCES & DEPOSITS	8	691.39	515.59
TOTAL		15,394.85	12,382.37

SIGNIFICANT ACCOUNTING POLICIES 23
CONTINGENT LIABILITIES AND NOTES TO ACCOUNTS 24

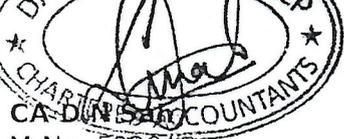

Accounts Officer
 National Institute of Technical Teachers' Training and Research
 Sector-26, Chandigarh-160 019


Director
 National Institute of Technical Teachers' Training and Research
 Sector-26, Chandigarh-160 019

Dated: 15.06.2021

Place: Chandigarh

Compile from Books of Accounts produced before us



M.No. 502015

UDIN:21502015AAAABIT1930

**NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH
SECTOR 26, CHANDIGARH
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2021
(Rs. In Lakhs)**

Particulars	Schedule	Current Year 2020-2021	Previous Year 2019-2020
INCOME			
Academic Receipts	9	118.59	107.71
Grants / Subsidies	10	3,155.06	3,214.93
Income from Investments	11		
Interest Earned	12	223.31	201.55
Other Incomes	13	271.59	219.78
Prior Period Income	14		
TOTAL (A)		3,768.55	3,743.97
EXPENDITURE			
Staff Payments & Benefits(Establishment Expense)	15	3,155.73	3,215.85
Academic Expenses	16	52.89	179.95
Administrative & General Expenses	17	73.09	106.51
Transportation Expenses	18	1.26	4.25
Repairs & maintenance	19	54.59	53.85
Finance Costs	20		
Depreciation	4	623.14	316.81
Other Expenses	21		
Prior Period Expenses	22	21.75	
TOTAL (B)		3,982.45	3,877.21
Balance being excess of income over expenditure (A-B)		(213.90)	(133.24)
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

Rsm
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NITTTR, Chandigarh
National Institute of Technical Teachers'
Training and Research
Sector-26, Chandigarh-160 019

[Signature]
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National Institute of Technical Teachers'
NITTTR, Chandigarh
Training and Research
Sector-26, Chandigarh-160 019

Dated: 15.06.2021
Place: Chandigarh

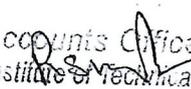
Compile from Books of Accounts produced before us.



UDIN: 21502015AAAABIT1930

**NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH
SECTOR 26, CHANDIGARH
FUNDS DETAIL AS AT 31ST MARCH, 2021**

SCHEDULE 1 - CORPUS FUND/CAPITAL FUND		(Rs. In Lakhs)	
	Particulars	Current Year 2020-2021	Previous Year 2019-2020
1	Balance at the beginning of the year	8354.94	8042.00
2	Add : Contributions towards Corpus	395.91	312.93
3	Add : Fixed Assets under Sponsored Projects/Grants From UGC GOI/State Govt. to the extent utilization for Capital Exp.		
4	Add: Assets Purchased out of Earmarked Funds		
5	Add: Assets Purchased out of Sponsored Projects,Where Ownership vests in the Institution		
6	Add:- Assets Donated /Gifts Received		
7	Add : Prior Fixed Assets under Sponsored Projects		
8	Add: Prior period adjustments		
9	Add: Other Addition		
10	Less : Assets W/off		
11	Less: Contribution to Alympics		
	Balance the the year end	8750.84	8354.94
	<u>GENERAL FUND</u>		
1	Balance at the beginning of the year	-2708.01	-2574.77
2	Add: Overutilised OH 31 transfer to General Fund	-44.57	
3	Deduct : Balance of Net Expenditure account	-213.90	-133.24
	Balance the the year end	-2966.48	-2708.01


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SCHEDULE 2 : DESIGNATED / EARMARKED / ENDOWMENT FUNDS

(Rs. In Lakhs)

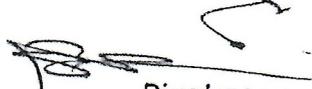
S.No.	Particulars	Fund wise Breakup		Current Year 2020-2021	Previous Year 2019-2020
		New Pension Fund - AAA	GPF/CPF Fund - BBB		
a)	A. Opening Balance of the Funds	3.53	2359.55	2363.08	2256.54
b)	Additions to the Funds :-				
	Donations/grants/ Subscription	157.24	330.39	487.63	428.21
	Income from Investments made on account of Funds		192.87	192.87	167.88
	Accrued Interest on Investments of the Funds	0.00			
	Other Additions (Specify nature)	0.00	-24.69	-24.69	-2.31
	Total (A)	160.77	2858.12	3018.89	2850.32
c)	B. Utilization/Expenditure Towards Objectives of Funds				
	i) Capital Expenditure				
	ii) Revenue Expenditure	157.24	249.30	406.54	487.23
	Total (B)	157.24	249.30	406.54	487.23
	Closing Balance at the Year End (A-B)	3.53	2608.82	2612.35	2363.08

Represented By

a)	Cash and Bank Balance	3.39	53.04	56.43	86.70
b)	Investment		2,503.59	2,503.59	2183.34
c)	Interest Accrued but not due		50.82	50.82	91.35
d)	Amount Receivable	0.14	1.37	1.51	1.70
	Total	3.53	2,608.82	2,612.35	2,363.09




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 Sector-26, Chandigarh-160

NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH
SECTOR 26, CHANDIGARH
SCHEDULE 3 - CURRENT LIABILITIES & PROVISIONS

(Rs. In Lakhs)

S.No.	Particulars	Annexure	Current Year 2020-2021	Previous Year 2019-2020
A.	CURRENT LIABILITIES			
1	Deposits from Staff :- - Staff Welfare fund - Ground Rent from Employees		9.25	8.18
2	Deposits from Students :- - Alumni Association - Examination Fee		9.16 0.02	8.18 0.02
3	Sundry Creditors			
a	For goods & services		7.04	7.04
b	For Fixed Assets		0.34	0.34
c	Others	Annexure - 1	138.14	132.02
4	Deposit-Others (including EMD, Security Deposit)		0.12	0.12
5	Statutory Liabilities (GPF,TDS.WC TAX,CPF, GIS, NPS)			
a	Overdue			
b	Others	Annexure - 2	177.03	11.43
6	Others current liabilities			
a	Salaries			
b	Receipts against sponsored projects	Schedule 3(a)	312.16	328.29
c	Receipts against sponsored fellowship & scholarships			
d	Unutilised Grants (including OH 31,OH 36, and OH 35			
	Unutilised GRANTS OH 36		1619.51	763.62
	Unutilised GRANTS OH 31		624.69	-44.57
e	Unutilised GRANTS OH 35		305.15	171.24
	Add:- Advance to CPWD,,BSNL and Roads		204.18	225.91
f	Grants in advance			
g	Others funds	Annexure - 3	1289.11	439.87
h	Others liabilities			
	TOTAL (A)		4,695.91	2,051.68
B	PROVISIONS			
1	For taxation			
2	Gratuity		1137.03	1137.84
3	Superannuation/pension		52.23	50.80
4	Accumulated leave encashment		930.75	946.80
5	Trade Warranties/claims			
6	Others (specify)			
	- GOI- Restricted Fund - Salary		0.11	0.11
	Expenses payable	Annexure - 4	182.11	185.01
	TOTAL (B)		2,302.23	2,320.68
	TOTAL (A+B)		6,998.14	4,372.37



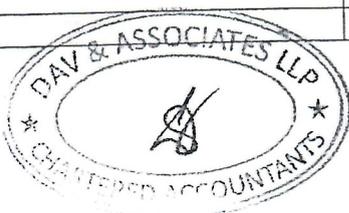

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**NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH
SECTOR 26, CHANDIGARH**

SCHEDULE - 3 (a) SPONSORED PROJECTS FY 2020-21

Name of the Project	Opening		Expenditure during the year	Receipts / Recoveries during the year	Closing	
	Credit	Debit			Credit	Debit
AICTE QIP POLY	1.71		13.66	14.30	2.34	
GOI FUND	24.19				24.19	
GST Tds SP-42				0.10	0.10	
ICTO PDA-2				0.32	0.32	
ICTO SP-1			0.77	0.93	0.16	
ICTO SP-10			0.87	1.61	0.74	
ICTO SP-11			1.04	1.88	0.84	
ICTO SP-12			0.92	0.93	0.01	
ICTO SP-13			0.81	0.93	0.12	
ICTO SP-14(COM)			2.21	2.21	0.00	
ICTO SP-15(Computer)			0.10	1.51	1.41	
ICTO SP-16			0.93	0.93	0.00	
ICTO SP-17			0.93	0.93	0.00	
ICTO SP-18			0.93	0.93	0.00	
ICTO SP-19			0.93	0.93	0.00	
ICTO SP-2			0.87	0.93	0.07	
ICTO SP-20				1.88	1.88	
ICTO SP-21			0.93	0.93	0.00	
ICTO SP-22(Comp)			0.93	0.93	0.00	
ICTO SP-23			0.75	0.75	0.00	
ICTOSP-24			0.93	0.93	0.00	
ICTO SP-25				1.88	1.88	
ICTOSP-26			0.93	0.93	0.00	
ICTO SP-3(C Ramakrishna)			0.93	0.93	0.00	
ICTO SP-4(M Dutta)			0.94	0.94	0.00	
ICTO-SP 5(Srinivasa)			0.92	0.93	0.01	
ICTO SP-6(Ramakrishna)			0.78	0.93	0.15	
ICTO SP-7			0.85	0.93	0.08	
Inspire Fellowship by SC and Tech			7.23	9.60	2.37	
It Bionery Rd Project	1.27				1.27	
MOOCS4	13.93		14.26	0.33	0.00	
Operational Plan	19.66				19.66	
OTHER MISC PROJECT	4.57				4.57	
PDA-08	111.70				111.70	
PDA-1			0.03	0.10	0.07	
PDA-13 CSE	0.07				0.07	
PDA-21(Solar PV System)	7.15			0.27	7.42	
PDA-22		0.14	1.25		0.00	1.39
PDA-2(Electrical)AICTE	2.20		0.04		2.17	0.00
PSCB 13 MECH	4.61				4.61	0.00
RPS - AICTE	1.67				1.67	0.00
SP-04	0.00				0.00	0.00
SP-05	4.96				4.96	0.00
SP-06(ETV)	8.40		1.56	25.50	32.34	0.00
SP-09		3.63			0.00	3.63
SP-10		0.22		0.10	0.00	0.12
SP-11		0.67	4.11	4.78	0.00	0.00



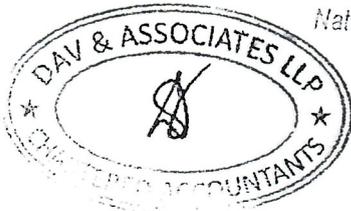
SP-11(EDIC)		0.16		0.10	0.00	0.06
SP-12		0.24		0.10	0.00	0.14
SP-13	0.38			1.25	1.63	0.00
SP-14 MECHANICAL	0.29				0.29	0.00
SP-15	1.94				1.94	0.00
SP-16 (5.17 COMP SC , PWD)	7.58		3.95		3.64	0.00
SP-17 Civil		5.74			0.00	5.74
SP-18(CDC)	1.63				1.63	0.00
SP-19Unat Bharat Abhyian	6.19		4.82	8.01	9.37	0.00
SP-20(Computer)	13.77		11.47		2.30	0.00
SP-21(Computer)	0.32		0.65	0.32	0.00	0.00
SP-23(ETV)	31.75		38.65	20.01	13.11	0.00
SP-25(Computer)	26.77		1.44		25.33	0.00
SP-26(Atal)	0.20				0.20	0.00
SP-27	3.73				3.73	0.00
SP-28(Computer)	3.89		3.89		0.00	0.00
SP-29	0.66		0.04		0.63	0.00
SP-30	0.59		0.04		0.56	0.00
SP-31	8.49		8.49		0.00	0.00
SP-32	0.18		0.04		0.15	0.00
SP-33	0.36		1.33	1.01	0.04	0.00
SP-34	2.11		2.44	0.43	0.10	0.00
SP-35	9.23		9.23		0.00	0.00
SP-37(Computer)				1.00	1.00	0.00
SP-38			2.63	6.75	4.12	0.00
SP-40			1.86	11.70	9.84	0.00
SP-41				1.50	1.50	0.00
SP-42			3.73	4.89	1.15	0.00
SP-43			2.52	3.17	0.65	0.00
SP-7(EDIC())	2.00				2.00	0.00
SP-8 (EDIC)	0.11				0.11	0.00
SP-ICT-50(EDIC) DST		0.80			0.00	0.80
SP-RS 20 (Sanjay Sharma R&D)			0.32	0.32	0.00	
TDS SP 18		0.24				0.24
Grand Total	328.29	11.85	159.87	143.47	312.16	12.12

Rsm

Accounts Officer
NITTR, Chandigarh

[Signature]

Director
NITTR, Chandigarh
National Institute of Technical Teachers'
Training and Research
Sector-26, Chandigarh-160 019



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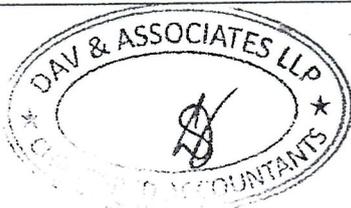
**NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH
SECTOR 26, CHANDIGARH**

**SCHEDULE 3C UNUTILISED GRANTS FROM UGC, GOVERNMENT OF INDIA AND STATE GOVERNMENT
Amount in Lakhs**

S.No	Particulars	Current Year 2020-2021	Previous Year 2019-2020
A	Plan Grants Government of India Balance B/F GRANT OH 36 Add :- Grant Received During the Year Add :- Receipt during the year	763.62 2984.00	9.30 2800.00
	Total (a)	3747.62	2809.30
	Less :- Refunds Less :- Utilised for Revenue Expenditure Less:-Exp. (Salary Staff) under OH 36 for March 2021 Paid in April 2021 Add:- Provision of 2019-20 adjusted in April 2020	2109.79 259.88 278.20	2113.06 382.97 315.59
	Total (b)	2128.11	2045.68
	Unutilised Carried Forwards (a-b)	1619.51	763.62
B	Plan Grants Government of India Balance B/F GRANT OH 31 Add :-Grant Receipt During the Year Add:- Other Receipt During the year	0.00 1627.00 24.64	85.43 1030.00 9.25
	Total (c)	1651.64	1124.68
	Less :- Refunds Less :- Utilised for Revenue Expenditure (Total) Less :- Utilised for Capital Expenditure Less:- Expenditure under OH 31 for March 2021 Paid in April 2021 Add:- Provision of 2019-20 adjusted in April 2020	1026.98 70.97 70.94	1196.18 70.94 44.00
	Total (d)	1026.95	1169.25
	Unutilised Carried Forwards (c-d)	624.69	-44.57
C	GRANT FROM GOVT OF INDIA OH 35 Balance B/F Add :- Receipt During the Year of Advance Add :- Receipt During the Year	171.24 21.73 444.00	58.75 34.97 330.00
	Total (e)	636.97	423.76
	Less :- Refunds Less :- Utilised for Revenue Expenditure Less :- Utilised for Capital Expenditure	331.81	252.53
	Total (f)	331.81	252.53
	Unutilised Carried Forwards (e-f)	305.15	171.24
	UNUTILISED GRANT OF (OH 36+OH 31+OH 35)	2549.36	890.29


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 Sector-26, Chandigarh-160 019



ACCOUNTS OFFICER
 National Institute of Technical Teachers'
 Training and Research
 Sector-26, Chandigarh-160 019

NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH, CHANDIGARH

FIXED ASSETS AS AT 31.3.2021

S.No.	PARTICULARS	Rate %	GROSS BLOCK				DEPRECIATION				NET BLOCK			
			Cost/evaluation as at beginning of the year	Additions before 30.9.2020	Additions after 30.9.2020	Deductions during the year	cost/value at the year end	As at the beginning of the year	On Additions of the year	On Deduction of the year	Depreciation add back prior period	Total at the year end	As at the current year end	As at the previous year end
A	Fixed Assets													
i	Land - Free hold	0	15.68	-	-	-	15.68	-	-	-	-	-	15.68	15.68
ii	Land - Lease hold	0	18.90	-	-	-	18.90	-	-	-	-	-	18.90	15.84
iii	Buildings- Residential	2	1,310.50	-	-	-	1,310.50	26.21	26.21	452.73	3.06	452.73	857.77	883.98
iv	Buildings- Office Block	2	1,680.69	5.02	15.44	-	1,701.14	33.86	33.86	600.31	600.31	1,100.83	1,114.24	1,114.24
v	Buildings- Hostel	2	1,209.72	11.12	40.23	105.34	1,209.72	24.19	24.19	552.71	552.71	657.02	681.21	681.21
vi	Equipments	7.5	5,302.81	-	-	-	5,248.83	391.93	391.93	89.52	3,261.60	1,987.22	2,343.63	2,343.63
vii	Computer	20	598.36	-	-	-	598.36	17.47	17.47	594.48	3.88	3.88	21.35	21.35
viii	Books	10	126.97	-	-	-	126.97	7.36	7.36	126.97	(0.00)	(0.00)	7.36	7.36
ix	Furniture Fixture & Electrical Installation	5	378.07	9.28	0.82	-	388.17	19.38	19.38	240.57	147.60	147.60	156.87	156.87
x	Furniture Fixture	7.5	2.44	-	-	-	2.44	0.18	0.18	1.91	0.53	0.53	0.71	0.71
xi	Vehicle	10	38.72	-	-	-	38.72	3.88	3.88	31.70	7.02	7.02	10.90	10.90
xii	Intangible Assets	40	218.10	23.55	2.54	29.86	214.33	85.22	85.22	202.66	11.67	11.67	76.73	76.73
xiii	Library E- Journal	40	29.31	-	8.79	-	38.11	12.79	13.46	26.25	11.86	11.86	16.53	16.53
	Total - A		10,930.26	48.97	67.82	135.20	10,911.85	5,585.25	623.14	113.45	6,094.95	4,816.90	5,345.01	5,345.01

Ranjit
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NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH, CHANDIGARH
FIXED ASSETS AS AT 31.3.2021
FIXED ASSETS- NET BLOCK - SCHEDULE -4

S.No.	PARTICULARS	Rate %	GROSS BLOCK				DEPRECIATION				NET BLOCK			
			Cost/evaluation as at beginning of the year	Additions before 30.09.2020	Additions after 30.09.2020	Deductions during the year	cost/value at the year end	As at the beginning of the year	On Additions of the year	On Deduction of the year	Depreciation add back prior period	Total at the year end	As at the current year end	As at the previous year end
8	Pb State Co-op bank-13 -Mech Equipments	7.50%	5.85				5.85	0.44	-	0.44	-	5.41	5.85	
i	Computer	20.00%	3.72				3.72	0.74	-	0.74	-	1.00	1.74	
9	IFD-14 Equipments	7.50%	2.02				2.02	0.15	-	0.15	-	1.87	2.02	
i	Computer	20.00%	2.99				2.99	0.60	-	0.60	-	2.09	2.69	
	Total - A		10,764.50	48.97	67.82	135.20	10,746.09	610.73	-	113.45	5,931.47	4,814.62	5,330.31	



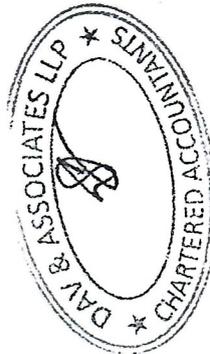

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NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH, CHANDIGARH
FIXED ASSETS UNDER GOI PROJECTS AS AT 31.03.2021

FIXED ASSETS- NET BLOCK AS PER SCHEDULE 4-A

PARTICULARS	Rate %	GROSS BLOCK				DEPRECIATION			NET BLOCK		
		Cost/evaluation as at beginning of the year	Additions before 30.09.2020	Additions after 30.09.2020	Deductions during the year	ccst/value at the year end	As at the beginning of the year	On Additions of the year	Total at the year end	As at the current year end	As at the previous year end
Fixed Assets											
i Equipments	7.5	164.49	-	-	-	164.49	149.98	12.34	162.32	2.17	14.51
ii Furniture	7.5	0.99	-	-	-	0.99	0.81	0.07	0.88	0.11	0.18
iii Books	10	0.21	-	-	-	0.21	0.21	-	0.21	-	-
Gifted equipment	7.5	0.07	-	-	-	0.07	0.07	-	0.07	-	-
Grand Total		165.76	-	-	-	165.76	151.06	12.41	163.47	2.29	14.70




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

SCHEDULE 5 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS

S.No.	Particulars	Current Year 2020-2021	Previous Year 2019-2020
	Long Term		
1	In Central Government Securities		
2	In state Government Securities		
3	Other approved Securities - UTI GILT Fund	361.62	113.61
4	Shares		
5	Debentures and Bonds		
6	Term Deposits with Banks		
	-FDR's GPF/CPF- with Scheduled Bank - Restricted Fund	2141.97	2069.73
7	Others (to be specified)		
	Short Term		
	Others (to be specified)		
	- GPF/CPF- with Scheduled Bank S/A - Earmarked fund	53.04	83.31
	Total	2556.63	2266.65

SCHEDULE 6 INVESTMENTS-OTHERS

S.No.	Particulars	Current Year 2020-2021	Previous Year 2019-2020
1	In Central Government Securities		
2	In state Government Securities		
3	Other approved Securities		
4	Shares		
5	Debentures and Bonds		
6	Others (to be specified)		
	Total		

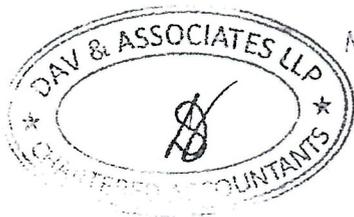


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SCHEDULE 7 - CURRENT ASSETS

S.No.	Particulars	Current Year 2020-2021	Previous Year 2019-2020
1	(a) Stores & Spares (b) Loose tools (c) Publications (d) Laboratory Chemicals, consumables and glass ware (e) Building Material (f) Electrical Material (g) Stationary (h) Water supply material	5.82 5.16	6.96 5.16
2	Sundry debtors a Debts o/s for a period exceeding six months b Others -CPF/GPF - Earmarked Fund	1.37	1.55
3	Cash and Bank balances Cash balances in hand (including cheques/ drafts and earmarked fund or otherwise) Cash & Bank Balances - GOI - Restricted Fund Cash & Bank Balances - TEQIP - Restricted Fund	3.67 0.56	3.71 0.56
a	With Scheduled Banks * in current accounts * in term deposit accounts * in savings accounts	6472.63 840.70	2312.98 1924.20
b	With non- Scheduled bank * in current accounts * in term deposit accounts * in savings accounts		
4	Post Office savings Accounts		
	Total	7,329.92	4,255.13

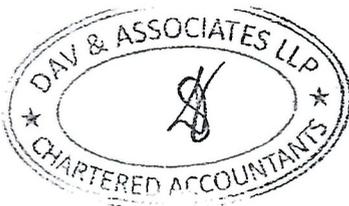


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SCHEDULE 8 - LOANS ,ADVANCES & DEPOSITS

S.No.	Particulars	Current Year 2020-2021	Previous Year 2019-2020
1	Advances to employees (non-interest bearing)		
a	salary	0.01	0.01
b	festival		
c	Medical advance		
d	Others - Advance Loading Money in Cards (Permanent & Temporary Imprest)	0.60	0.60
e	Interest Receivable		
2	Long term advances to employees (interest bearing)		
a	Vehicle loan	2.40	2.82
b	Home loan	0.09	0.19
c	Others	0.47	0.83
3	Advances & other amounts recoverable in cash or in kind or for value to be received.	-0.33	0.65
a	On capital account		
b	suppliers		
c	Others Annexure - 5	454.02	288.56
4	Prepaid expenses		
a	Insurance	0.00	0.10
b	Other expenses		
5	Deposits		
a	Telephone	0.15	0.15
b	Lease rent		
c	Electricity	0.03	0.03
d	AICTE, if applicable		
e	Others (to be specified)	0.53	0.53
6	Income Accrued		
a	On investments from earmarked/endowment funds GPF/CPF	50.82	91.35
b	On investments FDR's	170.47	117.93
c	On Loans and Advances		
d	Others (includes income due unrealized) GOI - Restricted Fund		
7	Other - Current assets receivable from UGC/sponsored Proj		
a	Debit balances in Sponsered projects	12.12	11.85
b	Debit balances in Sponsored Fellowship & scholarship		
c	Grants Receivable		
d	Others receivables from UGC		
8	Claim receivable		
	Total	691.39	515.59



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

Schedule 9 - Academic Receipts

(Rs. In Lakhs)

S.No.	Particulars	Current Year 2020-2021	Previous Year 2019-2020
	FEE FROM STUDENTS		
	Academic		
1	Tuition Fee	118.59	107.71
2	Admission Fee - ME & Phd (C01 ME)		
3	Enrolment Fee		
4	Library Admission fee		
5	Library Fee		
6	Art & Craft fee		
7	Registration fee - under various courses		
8	Syllabus fee		
9	STC Course Fee		
	Total (A)	118.59	107.71
	Examinations		
1	Admission test fee		
2	Annual Examination fee		
3	Mark sheet, certificate fees		
4	Entrance examination fee		
	Total (B)		
	Other fees		
1	Identity card fee		
2	Fine/ Miscellaneous fee		
3	Medical Fee		
4	Transportation fee		
5	Hostel fee		
	Total (C)		
	Sale of publications		
1	Sale of Admission forms		
2	sale of syllabus and question paper, etc		
3	Sale of prospectus including admission forms		
	Total(D)		
	Other Academic Receipts		
	1. Registration fee for workshops, programmes		
	2. Registration fees (Academic Staff College)		
	Total(E)		
	Grand Total (A+B+C+D+E)	118.59	107.71

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[Signature]

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

SCHEDULE - 10 GRANTS & DONATIONS

(Rs. In Lakhs)

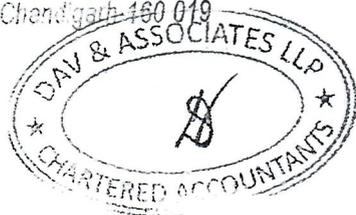
No.	Particulars	Current Year 2020-2021		Previous Year 2019-2020
1	Central Government			
	a) Grant in Aid Capital (OH 35)		1026.95	1169.25
	b) Grant in Aid General(OH31)			
	Opening Balance	0.00		85.43
	Add:- Grant During the Year	1627.00		1030.00
	Add:- Receipt under OH 31	24.64		9.25
	Less :- Unutilised Grant at the end of Year	624.69		-44.57
	c) Grant Salary OH-36		2128.11	2045.68
	Opening Balance	763.62		9.30
	Add:- Grant During the Year	2984.00		2800.00
Less :- Unutilised Grant at the end of Year	1619.51		763.62	
2	State Government(s)			
3	Government Agencies			
4	Institutions/Welfare Bodies			
5	International Organisations			
6	Others (Specify)			
	Total		3,155.06	3,214.93

SCHEDULE 11- INCOME FROM INVESTMENTS

S.No.	Particulars	Earmarked / Endowment		
		Current Year 2020-2021		Previous Year 2019-2020
1	1. Interest			
a	a. On Government Securities			
b	b. Other Bonds/Debentures			
2	2. Interest on Term Deposits		192.87	167.88
3	3. Income accrued but not due on Term Deposits / Interest bearing advances to employees			
4	4. Interest on Savings Bank Accounts			
5	5. Others (Specify)			
	Total		192.87	167.88
	Transferred To Earmarked / Endowment Funds		192.87	167.88
	Balance		0	

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

SCHEDULE 12: INTEREST EARNED

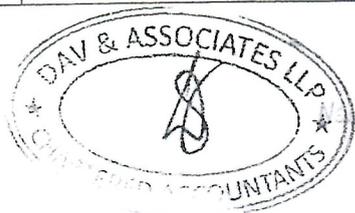
(Rs. In Lakhs)

S.No.	Particulars	Current Year 2020-2021	Previous Year 2019-2020
1	On Savings Accounts with scheduled banks a) On Saving Account b) On Grant PFMS	20.31	19.86
2	On Loans	0.33	2.64
a	Employees/ Staff		
b	Others		
3	On Fixed Deposits	197.53	177.22
4	On Income Tax Refund	5.15	1.83
5	On Debtors and Other Receivables		
	Total	223.31	201.55

SCHEDULE 13 - OTHER INCOME

(Rs. In Lakhs)

S.No.	Particulars	Current Year 2020-2021	Previous Year 2019-2020
A	Income from land & building		
1	Hostel room rent/Ground Rent/Dining Hall Rent/Guest House Rent	8.06	63.18
2	Licence fee - Residential Houses & AICTE		
3	Hire Charges of Auditorium/ Board Room/Conference Hall/Examination Hall Sydicate Room/IT Hall	0.24	3.94
4	Electricity charges recovered		
5	Water charges recovered		
B	Sale of Institute`s publications	0.06	0.09
C	Income from holding events		
1	Gross Receipts from annual function/sports carnival less: Direct expenditure incurred on the annual function/ sports carnival		
2	Gross Receipts from fetes less: Direct expenditure incurred on the fetes		
3	Gross Receipts for educational tours less: direct expenditure incurred on the tours		
4	Others (to be specified and separately disclosed)		
D	Others		
1.	Income from Consultancy (Receipt of Institute Share)	111.99	87.69
2.	RTI fees	0.00	0.01
3.	Income from Royalty		
4.	Sale of application form (recruitment)		
5.	Misc. Receipts (Sale of tender form, waste paper etc.)	152.37	66.27
	Annexure - 7		
6.	Profit on sale/ disposal of Assets a) Owned Assets b) Assets received free of cost		
7.	Grants/ Donations from institution, Welfare Bodies and International Organisations		
8.	Others		
9.	Net Increase In Store	-1.13	-1.39
	GRAND TOTAL (A+B+C+D)	271.59	219.78




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

SCHEDULE 14 - PRIOR PERIOD INCOME

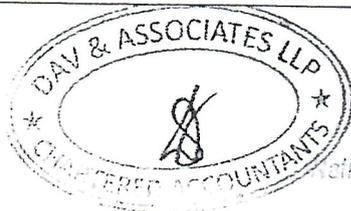
		(Rs. In Lakhs)	
S.No	Particulars	Current Year 2020-2021	Previous Year 2019-2020
1	Academic Receipts		
2	Income from Investments		
3	Interest Earned		
4	Other Income		
	Total		

SCHEDULE 15 - STAFF PAYMENTS AND BENEFITS (ESTABLISHMENT EXPENSES)

		(Rs. In Lakhs)	
S.No	Particulars	Current Year 2020-2021	Previous Year 2019-2020
a	Salaries & wages		
b	Allowances and Bonus	Annexure - 8	2767.00
c	Contribution to Provident Fund		2763.17
d	Contribution to Other fund -		
e	Contribution to CPF	Annexure - 9	254.13
f	Staff Welfare Expenses	5.06	301.58
g	Retirement and Terminal Benefits to Retirees	0.00	5.32
h	LTC facility	4.94	0.00
i	Medical facility	20.18	5.25
j	Children Education Allowance	23.79	10.30
k	Honorarium	13.59	26.82
k	Others (Cont. to Reserve Fund Out of IRG)	2.54	14.87
l	TA/DA expenses	62.56	1.84
		Annexure - 10	1.94
	Total	3155.73	3215.85

SCHEDULE 16 - ACADEMIC EXPENSES

		(Rs. In Lakhs)	
S.No	Particulars	Current Year 2020-2021	Previous Year 2019-2020
a	Laboratory expenses		
b	Field work/ participation in conferences		
c	Expenses on Seminar/Workshop	Annexure - 11	0.69
d	Expenditure on STC	Annexure - 12	9.18
e	Payment to visiting faculty	52.20	170.77
e	Examination (ME students)		
f	Student Welfare Expenses		
g	Admission expenses		
h	Convocation expenses		
i	Publications		
j	Stipend/means- cum-merit scholarship		
k	Subscription expenses		
l	Others (specify)		
	Total	52.89	179.95




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SCHEDULE 17 - ADMINISTRATIVE AND GENERAL EXPENSES

(Rs. In Lakhs)

S.No	Particulars	Current Year 2020-2021	Previous Year 2019-2020
	A. Infrastructure		
a	Electricity and power	31.60	56.70
b	Water charges	0.00	0.00
c	Insurance	0.00	0.00
d	Property Taxes	4.97	5.56
	B. Communication		
e	Postage & stationary	1.01	1.22
f	Telephone, Fax and internet charges	2.94	3.00
	C. Others		
g	Printing & stationary (consumption)	0.00	0.00
h	Travelling and Conveyance Expenses	2.72	8.84
i	Hospitality (Medicine)	0.00	0.00
j	Audit & Legal Fees	0.00	0.10
k	Professional charges	3.35	2.38
l	Advertisement and publicity	0.00	3.04
m	Newspaper and Periodicals	1.06	3.22
n	Loss on sale of assests	0.35	0.02
o	Others (specify) Annexure - 13	25.09	22.41
	Total	73.09	106.51

SCHEDULE 18 - TRANSPORTATION EXPENSES

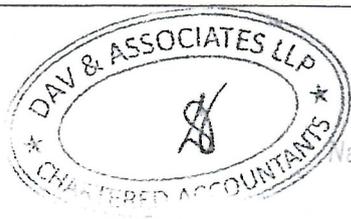
(Rs. In Lakhs)

S.No	Particulars	Current Year 2020-2021	Previous Year 2019-2020
1	Vehicles (owned by educational institution)		
a)	Running expenses		
b)	Repairs & maintenance	1.26	4.25
c)	Insurance expenses		
2	Vehicles taken on rent/lease		
3	Vehicle (Taxi) hiring expenses		
	Total	1.26	4.25

SCHEDULE 19 - REPAIRS & MAINTENANCE

(Rs. In Lakhs)

S.No	Particulars	Current Year 2020-2021	Previous Year 2019-2020
a	Building	32.68	30.41
b	Furniture & fixture	0.31	0.88
c	Plant & Machinery	1.52	1.41
d	Office Equipments	6.49	8.85
e	Computers		
f	Laboratory and Scientific equipments		
g	Audio Visual equipment		
h	Cleaning material & services		
i	Book binding charges		
j	Gardening		
k	Estate maintenance		
l	Others (specify) Annexure - 14	13.59	12.30
	Total	54.59	53.85



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SCHEDULE 20 - FINANCE COSTS

(Rs. In Lakhs)

S.No	Particulars	Current Year 2020-2021	Previous Year 2019-2020
a	Bank charges		
b	Others (specify) Income tax penalty, Late payment TDS etc.		
Total			

SCHEDULE 21 - OTHER EXPENSES

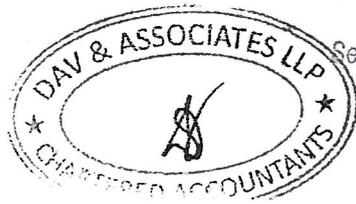
(Rs. In Lakhs)

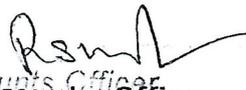
S.No	Particulars	Current Year 2020-2021	Previous Year 2019-2020
a	Provision for Bad & doubtful debts/ advances		
b	Irrecoverable balances written- off		
c	Grants/ subsidies to other institutions/ organizations		
d	Others (consumption of stores and spares)		
Total			

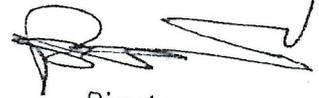
SCHEDULE 22 - PRIOR PERIOD EXPENSES

(Rs. In Lakhs)

S.NO	Particulars	Current Year 2020-2021	Previous Year 2019-2020
1	Establishment expenses		
2	Academic expenses		
3	Administrative expenses		
4	Fixed Assets W/off & Obsolute	21.75	0.00
5	Transportation expenses		
6	Repairs & Maintenance		
6	Other expenses		
Total		21.75	0.00



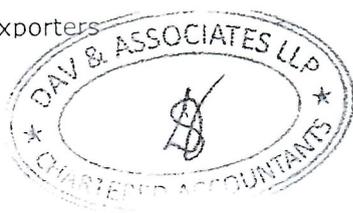

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 Sector-26, Chandigarh-160 019


 Director
 National Institute of Technical Teachers' Training and Research
 NITTTR, Chandigarh
 Sector-26, Chandigarh-160 019

Annexure 1 (Schedule 3)
Sundry Creditors-Others

(Rs. In Lakhs)

Particulars	Current Year 2020-2021	Previous Year 2019-2020
SUNDRY CREDITORS - OTHERS		
DEPOIST OF QIP POLY	2.11	2.11
Sec-Adroitec Information Systems	0.58	0.00
SEC-Advance Tech	0.02	0.02
Sec-Aimco Solutions	0.07	0.07
Sec-Aimil	0.06	0.06
Sec-Ajit Pal Singh	2.28	0.00
Sec-Akadmika Lab Solutions	0.10	0.10
Sec- Amigo Optima	0.31	0.31
Sec- Arup India	0.25	0.25
Sec-Avantech Ennqineering	0.00	0.74
Sec-Bahuchar Traders	0.00	0.17
Sec-Benchmark Electronic	0.02	0.02
Sec- Binder	0.06	0.06
Sec- Blue Star	0.20	0.20
Sec- Broadways Mkt	0.15	0.15
Sec- BSNL	0.02	0.02
Sec- Daksh & Detective	2.83	2.83
Sec- Engineer Group	0.12	0.12
Sec-Fore Solutions	2.68	2.68
Sec-Gigabyte	0.10	0.10
Sec- Golden Eagle	0.41	0.41
Sec-Invas Tech	0.09	0.09
Sec- Kadkraft System Pvt Ltd	0.00	0.46
Sec- Kalra Enterprises	1.17	1.17
Sec- Kamal Kumar Builders	0.42	0.42
Sec- Krishna Stationer	0.05	0.05
Sec- Krishna Washerman	0.04	0.04
Sec- Lakshya Enterprises	0.09	0.09
Sec- Mann Elect	0.10	0.10
Sec-Mapple Outright	0.07	0.07
Sec- ME Students	66.38	58.11
Sec- Metaqear Infra	0.03	0.03
Sec- Metatech Industries	1.48	1.48
Sec- Mohindra Documentation Centre (Lib)	0.01	0.01
Sec- M.O India Ltd	0.02	0.02
Sec- Nand Kishore	0.07	0.07
Sec- National Small Industries	0.15	0.15
Sec- Neotel System and Services	0.00	0.22
Sec- New Generation Technology	0.06	0.06
Sec- Project Associates	0.15	0.15
Sec- Punj	0.25	0.25
Sec- Retention of Vijay Garq	0.96	0.96
Sec- Rohan Educational Solutions	0.47	0.47
Sec- Saini Enterprises	0.21	0.21
Sec- Sanchi	0.03	0.03
Sec- Sanjay Goyal	0.54	0.54
Sec- Satish Aqqarwal	0.14	0.14
Sec-Secure Guard	10.00	10.00
Sec- Sehajta A.C & Elect Enqq	0.23	0.23
Sec- SISL Infotech Pvt Ltd	0.00	0.00
Sec-Sponsored Project	0.07	0.09
Sec- Tech Info Ltd	0.16	0.16
Sec- Teqip Bank Guarantee Jeol	0.00	3.75
Sec- Vijay Garq	36.36	36.36
Sec-V Instruments	0.93	0.93
Sec- V.R Suppliers & Exporters	0.13	0.13
Sec-Zen Exim	0.85	0.85



SERVICE TAX EXAMINATION FEES	0.04	0.04
Sundry Creditors Other -BS	4.03	3.68
Total	138.14	132.02

Annexure 2 (Schedule 3)

Current Liabilities - Statutory Liabilities- others

Particulars	Current Year 2020-2021	Previous Year 2019-2020
Income tax firms (tds)	0.32	0.14
Income tax firms (tds) from experts	0.39	0.24
GST Withheld of BSBL(Renovation)	0.00	4.14
Income tax Staff	2.00	0.66
CGST	1.39	2.46
IGST	170.55	1.36
UTGST	1.39	2.46
Interest IGST	0.00	0.00
TDS -CGST	0.22	-0.04
TDS-IGST	0.54	0.05
TDS-UTGST	0.22	-0.04
Total	177.03	11.43

Annexure 3 (Schedule 3)

**Current liabilities - Other current liabilities
- Other funds**

Particulars	Current Year 2020-2021	Previous Year 2019-2020
Distribution fund	30.66	26.96
CREST Chd- Solar Plant	5.96	3.90
Earnest Money	41.50	46.78
Royalty to Authors	0.45	0.43
Consultancy Projects	1204.23	355.44
Welfare fund ME students	6.20	6.20
Tequip Grant	0.10	0.10
GIS	0.02	0.07
Total	1,289.11	439.87

Annexure 4 (Schedule 3)

Provisions :-

Particulars	Current Year 2020-2021	Previous Year 2019-2020
Maintenance Student Centre/Electrical/Building/Elect & Water Charges	3.66	5.14
Salaries	160.48	162.54
CPF- Employer Share	2.27	1.52
Children Education Allowance	13.59	14.33
Audit Fee & Legal & Professional Charges	2.11	1.55
Total	182.11	185.08



Accounts Officer
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Sector-26, Chandigarh-160 019

Annexure 5 (Schedule 8)
Loans, Advances & Deposits

Particulars	Current Year 2020-2021	Previous Year 2019-2020
A. On Capital Account		
Adv ETV Media Building	0.39	0.39
Staff Qtrs 1995-96	2.23	2.23
Staff Qtrs 1996-97	7.78	7.78
Advance to BSNL	394.96	201.67
Advance to CPWD	13.85	13.85
Sub Total (A)	419.20	225.91
B. Others		
TDS	30.44	48.28
Advance to Firms/Tax Appeal	1.00	1.00
Advance to Firms/Tax 2011-12	0.00	9.98
Recoverable from Bank - Earmarked fund NPS	3.39	3.39
Sub Total (B)	34.83	62.65
Total	454.02	288.56

Rsm
 Accounts Officer
 National Institute of Technical Teachers' Training and Research
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[Signature]
 Director
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 NITTTR, Chandigarh
 Sector-26, Chandigarh-160 019



Annexure 7 (Schedule 13)
Other income - Misc. Receipts

Particulars	(Rs. In Lakhs)	
	Current Year 2020-2021	Previous Year 2019-2020
Misc. Receipt	29.62	29.32
Overhead Charges	69.33	46.10
Recruitment Fee	0.00	(25.49)
Projector Charges	0.00	0.51
Recovery against salary	4.06	4.69
Misc Deduction From Salary	0.06	0.00
Sale of Old Newspaper and Magazine	0.00	0.04
Sale of Old Material	9.36	0.00
Suspension Account	21.32	0.00
STC Regd Fee	18.40	8.48
NC-4(RD)	0.00	0.77
Students Training	0.21	1.84
Total	152.37	66.27

Annexure 8 (Schedule 15)
Staff Payments & benefits - Salaries & Wages

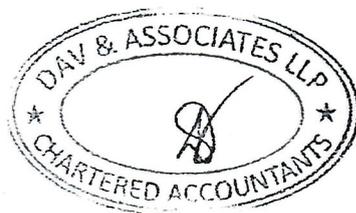
Particulars	(Rs. In Lakhs)	
	Current Year 2020-2021	Previous Year 2019-2020
commutations	42.83	854.85
Pension	736.51	0.00
PDA	2.63	6.27
Faculty	556.54	978.35
Faculty (NPS)	600.68	0.00
Non Faculty	524.56	659.53
Non Faculty (NPS)	64.99	0.00
Outsource Salary	238.28	264.16
Total	2767.00	2763.17

Annexure 9 (Schedule 15)
Contribution to Other fund - NPS, Gratuity, Leave Enc.

Particulars	(Rs. In Lakhs)	
	Current Year 2020-2021	Previous Year 2019-2020
GRATUITY	89.64	85.74
LEAVE ENCASHMENT	47.60	8.55
LEAVE ENCASHMENT TO RETIREES	14.91	140.47
NPS INSTITUTE SHARE	101.97	66.88
NPS	0.00	(0.06)
Total	254.13	301.58

Rsm

Accounts Officer
NITTR, Chandigarh
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 Sector-26, Chandigarh-160 019



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Director
NITTR, Chandigarh
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Annexure 10 (Schedule 15)
Staff Payments & benefits - TA/DA

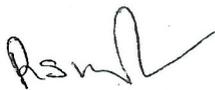
Particulars	Current Year 2020-2021	Previous Year 2019-2020
DA	0.00	15.79
TA	1.94	6.56
Over Time Allowance and Stipend	0.00	0.07
Total	1.94	22.42

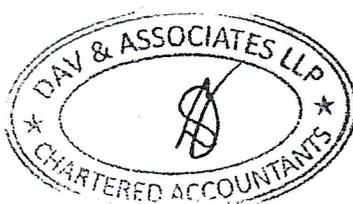
Annexure 11 (Schedule 16)
Academic Expenses - Seminar/Workshop

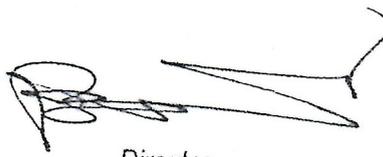
Particulars	Current Year 2020-2021	Previous Year 2019-2020
Annual day/ cultural prog.	0.43	2.48
Annual sports	0.07	5.84
Teacher Day	0.00	0.18
Hindi day	0.18	0.68
Total	0.69	9.18

Annexure- 12 (Schedule 16)
Expenditure on STC/ICT

Particulars	Current Year 2020-2021	Previous Year 2019-2020
TA- Academic	18.48	128.98
Honourium -Academic	33.18	38.61
Academic Contengencies	0.54	3.18
Total	52.20	170.77


Accounts Officer
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Director Director
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 National Institute of Technical Teachers'
 Training and Research
 Sector 26, Chandigarh-160 019

Annexure 13 (Schedule 17)
ADMINISTRATIVE & GENERAL EXPENSES
OTHERS (SPECIFY)

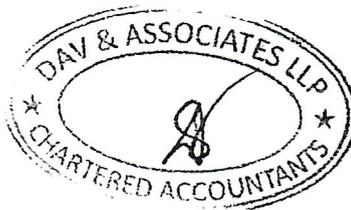
Particulars	Current Year 2020-2021	Previous Year 2019-2020
BOG MEETING	3.60	9.65
EDC Machine Charges(Axis)	0.00	0.62
COVID - 19	1.58	0.00
IFDI A.Cell	0.00	0.10
Liveries	1.18	3.70
Office Contg.	18.74	7.94
Service Charges NPS	0.00	0.06
Lib E-Journals	0.00	0.34
Total	25.09	22.41

Annexure 14 (Schedule 19)
REPAIRS & MAINTANENCE - OTHERS (SPECIFY)

Particulars	Current Year 2020-2021	Previous Year 2019-2020
Mtc Academic Cell	0.13	0.00
Mtc. Applied Science	0.23	0.41
Mtc. Civil	4.68	6.66
Mtc. Computer	2.49	1.90
Mtc ECE	0.54	0.24
Mtc. EDIC	0.05	0.12
Mtc. Electrical	3.43	4.86
Mtc EMGT	0.10	0.07
Mtc ETV	(2.73)	(6.23)
Mtc. IMCO	0.13	0.75
Mtc ISO	0.00	0.24
Mtc Library	0.95	0.00
Mtc. Media	3.17	3.08
Mtc. R/D	0.19	0.08
Mtc. Sports	0.00	0.02
Mtc. CDC	0.23	0.10
Total	13.59	12.30

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Accounts Officer
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Director
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 National Institute of Technical Teachers'
 Training and Research
 Sector-26, Chandigarh-160 019

**NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH
SECTOR-26, CHANDIGARH
BALANCE SHEET GPF/CPF AS AT 31.3.2021**

(Rs In Lakhs)

P.Y	LIABILITIES	C.Y.	P.Y	ASSETS	C.Y.
1907.91	GPF Opening Balance 1907.91 Add: Subscription in the year 337.70 Add: Sub for March Add Interest credited 174.35 Add reconciliation GPF 0.00 Less: Subscription for Less: Advance/ Withdrawal 202.94 Closing Balance 2217.02	2217.02	2183.34	Investment 2503.59 Int. accrued as on 31.03.21 50.82 Subscription due for march GPF CPF UC due to CPF	
214.32	CPF Opening Balance 214.32 Less: Opening Adjustment -15.71 Add: Subscription in the year 3.00 Add: Sub for March 2018 Add Interest credited 11.67 Less: Subscription for March Less: Advance/ Withdrawal 33.28 Closing Balance 179.99	179.99	83.31	Cash at Bank Indian Bank 53.04	
109.25	Institute Contribution (CPF) Opening Balance 109.25 Add: Subscription in the year 5.40 Add: Sub for March 2018 0.00 Add Interest credited 6.85 Add reconciliation CPF 0.00 Less: Adjustment for Advance 0.34 Less: Advance/ Withdrawal 12.74 Closing Balance 108.42	108.42	1.55	Sundry Recoverable 1.37	
0.00	NPS Tier-II Account Opening Balance 0.00 Add: Subscription in the year 0.00 Add: Sub for March 2018 0.00 Add Interest credited 0.00 Less: Subscription 0.00 Less: Advance/ Withdrawal 0.00 Closing Balance 0.00	0.00			
128.07	Interest Reserve Opening Balance 128.07 Add: Reconciliation 15.71 Add: Excess of Income over expenditure -40.38 Closing Balance 103.39 Dead Account 0.00	103.39			
2359.55	Total	2608.82	2359.56	Total	2608.82

Accounts Officer *Rsw*
National Institute of Technical Teachers' Training and Research
NITTTR, Chandigarh.
Sector-26, Chandigarh-160 019



[Signature]
Director
National Institute of Technical Teachers' Training and Research
Sector-26, Chandigarh-160 019

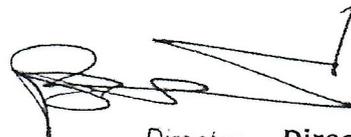
**NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH
SECTOR-26, CHANDIGARH**

**Income And Expenditure Account
For the Year ended 31.03.2021**

(Rs In Lakhs)

P.Y	Expenditure	C.Y	P.Y	Income	C.Y
	Interest Credited to:				
142.69	GPF	174.35	122.36	Interest received on Investment	192.87
16.83	CPF	11.67	91.35	Interest earned on Loan given	-
8.36	University Contribution (CPF)	6.85	0.00	Add: Interest accrued on 31.03.21	50.82
	NPS Tier-II		0.09	Add: Interest accrued on Advance	
	Bank Charges	0.01	-48.24	Add: Tax received on interest-m refund to be obtained	
(2.32)	Excess of Income over expend	(40.38)		Add Interest Accrued from CPF	0.16
				Less: Interest accrued for March	(91.35)
165.56		152.50	165.56		152.50


Accounts Officer
National Institute of Technical Teachers
Training and Research
Sector-26, Chandigarh-160 019


Director
National Institute of Technical Teachers
Training and Research
Sector-26, Chandigarh-160 019



**Receipts and Payments Account
For the Year ended 31.03.2021**

P.Y	Receipts	C.Y	P.Y	Payments	C.Y.
2194.98	Opening Balance	2256.87	364.59	GPF Adv./withdrawal	202.94
	Opening Difference	9.77	2.63	CPF Adv./withdrawal	12.74
	SBI Branch-II			NPS Tier-II Account	
	Bank		8.88	University Contribution	
				Withdrawal	33.28
305.67	GPF Subscription	337.70		Investment	
9.96	CPF Subscription	3.00	2256.87	Bank Charges	0.01
	CPF University Contribution	5.40		Closing Balance;	2556.64
	NPS Tier-II Account			SBI branch-I	
	Investment Encashed			SBI branch-II	
122.36	Interest Received	192.87		Bank	
2632.97		2805.61	2632.97		2805.61

Accounts Officer 
National Institute of Technical Teachers' Training and Research
NITTTR, Chandigarh.
Sector-26, Chandigarh-160 019

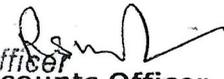

Director
National Institute of Technical Teachers' Training and Research
Sector-26, Chandigarh-160 019

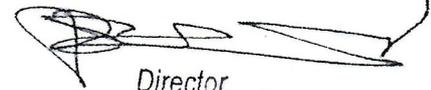


**NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH
SECTOR-26, CHANDIGARH
CASH BOOK ACCOUNT GPF/CPF AS AT 31.3.2021**

(Rs. In Lakhs)

P.Y.	Particulars	C.Y.
2204.76	Openeing Balance as on 01.04.2020	2266.64
	Subscription during the year	
	GPF as per ledger 337.70	
	CPF as per ledger 3.00	
	CPF Instt. Contribution 5.40	
315.63	Investment	346.10
122.36	Add : Intt. On S/A & FDR	192.87
	Less :-	
	GPF Withdrawl 202.94	
	CPF - Employer 33.28	
	CPF - Employee 12.74	
	Bank Charges 0.01	
376.11	Institute share 0.00	
	GPF Loan from Main 0.00	248.97
2266.64	Total	2556.64


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 Director
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 NITTTR, Chandigarh
 Sector-26, Chandigarh-160 019



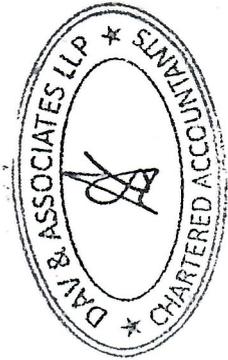
NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH, CHANDIGARH

BALANCE SHEET NEW PENSION SCHEME AS AT 31.03.2021

(Rs. In Lakhs)

LIABILITIES	Current Year 2020-2021	Previous Year 2019-2020	ASSETS (Rupees in lakh)	Current Year 2020-2021	Previous Year 2019-2020
NPS Tier-I			NPS Tier-I		
Opening Balance	(1.76)	(3.21)	Subscription and Contribution due for 31/03/2020		
Less: Sub. for 31/03/18	157.24	112.57	Investment		
Add: Sub + U Contribution	(157.24)	(111.12)	Interest accrued but not due		
Add: Interest Credited	(1.76)	(1.76)	Balance at SBOP		
Less: Transfer to NSDL			Recoverable from Main Account		
Add: Sub. + UC for 31/03/19					
Balance with Main Accounts					
Opening Balance	2.34	2.28			
Add: During the year	0.00	0.06			
	2.34	2.34	Amount Recoverate from bank	3.39	3.39
Excess of Income over Expenditure					
Balance as on 01.04.2018	2.81	2.87			
Add: During the year	0.00	-0.06			
	2.81	2.81			
Total	3.39	3.39	Total	3.39	3.39

Accounts Officer
National Institute of Technical Teachers
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Sector-26, Chandigarh-160019

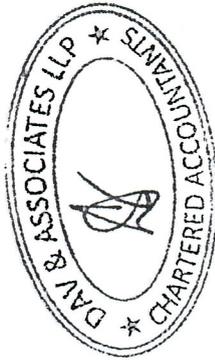


Director
National Institute of Technical Teachers
Training and Research
Sector-26, Chandigarh-160 019

NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH, CHANDIGARH
Income and Expenditure Account
For the Financial Year 2020-2021

		(Rs. In Lakhs)		
	Current Year 2020-2021	Previous Year 2019-2020	Income	Expenditure
Interest Credited to subscribers	0			
Service Charges		0.06		
			Interest earned on Investments	
			Less: Interest accrued	
			Interest accrued but not due	
			Interest earned	
			Excess of Expenditure over Income	(0.06)
Total	-	0.06	Total	(0.06)


Accounts Officer
NITTR, Chandigarh.
 National Institute of Technical Teachers
 Training and Research
 Sector 10, Chandigarh-160 019

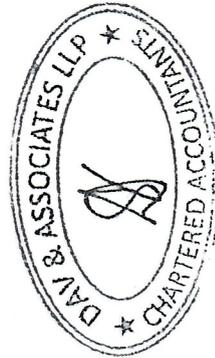



Director
National Institute of Technical Teachers'
Training and Research
 Sector 10, Chandigarh-160 019

NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH, CHANDIGARH
Receipt And Payment Account
For the Financial year 2020-2021

(Rs. In Lakhs)

	Current Year 2020-21	Previous Year 2019-20	Current Year 2020-21	Previous Year 2019-20
Opening balance				
NPS Tier -I A/c				111.12
Own Sbscription	64.38			0.06
University Contribution	92.86			
Refund from NSDL (Tejwant)				1.45
Interest Received on Investment				
Interest on Savings bank Account				
Invstment encashed				
Paid From Main Accounts		0.06		
Total	157.24	112.63	Total	112.63



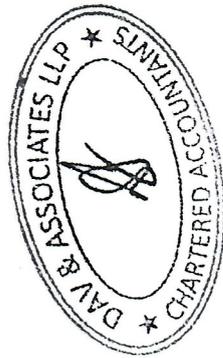
Rsh
Accounts Officer
NITTTR Chandigarh
 National Institute of Technical Teachers' Training and Research
 Sector-26, Chandigarh-160 019

[Signature]
Director
NITTTR Chandigarh
 National Institute of Technical Teachers' Training and Research
 Sector-26, Chandigarh-160 019

NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH, CHANDIGARH

INTEREST ACCOUNT - NPS AS AT 31.03.2021

	Current Year 2020-2021	Previous Year 2019-2020
Opening Balance	3.13	3.07
Interest		0
Less : Service Charges	0	0.06
TOTAL	3.13	3.13



RSW
Accounts Officer
 National Institute of Technical Teachers' Training and Research
 Sector-26, Chandigarh-160 019

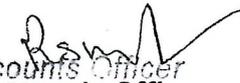
[Signature]
Director
 National Institute of Technical Teachers' Training and Research
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**NATIONAL INSTITUTE OF TECHNICAL TEACHERS' TRAINING AND RESEARCH
SECTOR 26, CHANDIGARH**

**BALANCE SHEET FOR THE PROJECTS SPONSORED BY THE GOVERNMENT
OF INDIA- MHRD, NEW DELHI AS AT 31.3.2021**

PARTICULARS	Rs. In Lakhs	
	CURRENT YEAR	PREVIOUS YEAR
LIABILITIES		
Capital/Corpus Fund	15.15	16.32
Less excess of expenditure over income	(12.40)	(1.17)
Less : Prior Period Salary Expenditure	-	-
Add : Prior Period Intt. Accrued	-	-
Less : Prior Period FDR excess Shown	-	-
Current Liabilities & Provisions	2.75	15.15
Salary Payable	0.11	0.11
TOTAL LIABILITIES	2.86	15.26
ASSETS		
Fixed Assets	2.28	14.69
Current Assets		
Advance payment	-	-
Cash & Bank Balance	0.58	0.57
FDR's	-	-
Interest accrued on FDR	-	-
TOTAL ASSETS	2.86	15.26

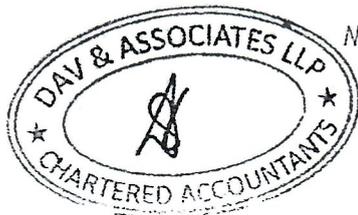


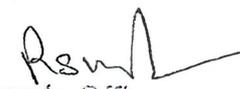

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NITTTR, Chandigarh
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**NATIONAL INSTITUTE OF TECHNICAL TEACHERS' TRAINING AND RESEARCH
SECTOR -26, CHANDIGARH
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31.3.2021
FOR THE PROJECTS SPONSORED BY THE MHRD, GOVT OF INDIA.**

INCOME	Rs. In Lakhs	
	CURRENT YEAR	PREVIOUS YEAR
Grant/subsidies From Government of India	-	-
Interest receipts		
Total	0.02	0.02
EXPENDITURE		
Establishment Expenses	-	-
Contingencies /Consumables	-	-
T.A.	-	-
Honorarium	-	-
Depreciation	-	-
Total	12.41	1.19
Balance being deficit carried over	12.41	1.19
	-12.40	-1.17




 Accounts Officer
 National Institute of Technical Teachers'
 Training and Research
NITTTR, Chandigarh
 Sector-26, Chandigarh-160 019


 Director
 National Institute of Technical Teach
 Training and Research
NITTTR, Chandigarh
 Sector-26, Chandigarh-160 019

**NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH
SECTOR 26, CHANDIGARH
RECEIPTS AND PAYMENTS ACCOUNT FOR THE YEAR ENDED 31.3.2021
FOR THE PROJECTS SPONSORED BY GOVT. OF INDIA, MHRD.**

RECEIPTS	Rs. In Lakhs	
	CURRENT YEAR	PREVIOUS YEAR
Opening Balance	0.57	0.55
Less : Prior period Intt. Accrued	-	-
Advance given received		
Interest receipt	0.02	0.02
Total Receipts	0.58	0.57
PAYMENTS		
Equipments	-	-
Recurring Expenses		
Establishment expenses	0.00	-
Contingencies/Consumables	0.00	-
T.A.	0.00	-
Honorarium	0.00	-
Advance Payment	-	-
Total	0.00	0.00
Cash & Bank Balance :-	0.00	0.00
Deposits (including interest accrued)	-	-
Cash and Bank Balance	0.58	0.57
Total payments	0.58	0.57



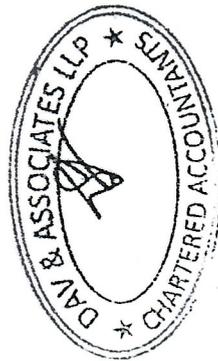

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 Sector-26, Chandigarh-160 019


Director
NITTTR, Chandigarh
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 Sector-26, Chandigarh-160 019

NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH, CHANDIGARH
FIXED ASSETS UNDER GOI PROJECTS AS AT 31.3.2021

FIXED ASSETS- NET BLOCK AS PER SCHEDULE -4-A

PARTICULARS	Rate %	GROSS BLOCK			DEPRECIATION			Rs. In Lakhs		NET BLOCK	
		Cost/evaluation as at beginning of the year	Additions before 30.09.2020	Additions after 30.09.2020	Deductions during the year	cost/value at the year end	As at the beginning of the year	On Additions of the year	Total at the year end	As at the current year end	As at the previous year end
Fixed Assets											
i Equipments	7.50	164.49	-	-	-	164.49	149.98	12.34	162.31	2.18	14.51
ii Furniture	7.50	0.99	-	-	-	0.99	0.82	0.07	0.89	0.10	0.17
iii Books	10.00	0.21	-	-	-	0.21	0.21	-	0.21	-	-
Gifted equipment	7.50	0.07	-	-	-	0.07	0.07	-	0.07	-	-
Grand Total		165.76	-	-	-	165.76	151.07	12.41	163.48	2.28	14.69



Rsw
Accounts Officer
NITTR Chandigarh
National Institute of Technical Teachers
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Director
NITTR, Chandigarh
National Institute of Technical Teachers
Training and Research
Sector-26, Chandigarh-160 019

NATIONAL INSTITUTE OF TECHNICAL TEACHERS' TRAINING AND RESEARCH
Sector - 26, Chandigarh
Receipts and Payment Account for the Period Ended 31.03.2021

A. RECEIPTS

(Rs In Lakhs)				
S.No.	Particulars	Annexure	FY 2020-2021	FY 2019-2020
I	Opening Balance			
	A) Cash Balance		3.71	3.72
	B) Bank Balance			
	- In Current Account			
	- In Deposit Account		2312.98	2594.48
	- In Saving Account		1924.20	342.46
II	Grant Received			
	A) From Government of India	1	5079.64	4169.25
	B) From State Government			
	C) From Other Sources			
III	Academic Receipts	2	174.57	168.38
IV	Receipts against Earmarked Endowment Funds	3	64.09	67.00
V	Receipts against Sponsored Projects / Schemes	4	143.47	323.73
VI	Receipts against Sponsored Fellowships & Scholarships	-		
VII	Income on Investments from			
	A) Earmarked / Endowment Fund	-		
	B) Other Investments			
VIII	Interest Received on			
	A) Bank Deposit	5	170.77	217.83
	B) Loan & Advances			
	C) Savings Bank Accounts			
IX	Investment Encashed	-		
X	Term Deposit with Scheduled Bank Encashed	-		
XI	Other Income (Including Prior Period Income)	6	268.60	216.48
XII	Deposits & Advances	7	1280.77	584.27
XIII	Miscellaneous Receipts including Statutory Receipts	8	989.38	778.85
XIV	Any Other Receipts	9	70.58	74.03
	TOTAL		12482.77	9540.46

Dated **15.06.2021**
Place :- Chandigarh



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Accounts Officer
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Sector-26, Chandigarh-160 019

Director
National Institute of Technical Teacher
Director
NITTTR, Chandigarh
Sector-26, Chandigarh-160 019

B PAYMENTS

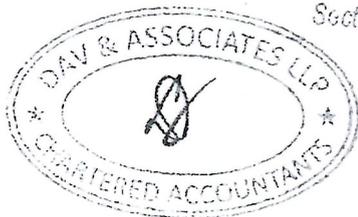
S.No.	Particulars		FY 2020-2021	FY 2019-2020
I	EXPENSES			
	- Establishment Expenses	9	3155.06	3214.93
	- Academic Expenses	10	55.98	60.67
	- Administrative Expenses	11	108.65	131.75
	- Transportation Expenses			
	- Repair & Maintenance	12	88.83	110.43
	- Prior Period Expenses			
II	Payment against Earmarked / Endowment Funds	13	0.00	6.59
III	Payments against Sponsored Project / Scheme	14	159.87	213.12
IV	Payments against Sponsored Fellowships / Scholarships	-	0.00	0.00
V	Investments and Deposit Made	-	0.00	0.00
	A) Out of Earmarked / Endowment Fund			
	B) Out of Own Funds (Investment Other)		0.00	0.00
VI	Term Deposits with Scheduled Bank	-	0.00	0.00
VII	Expenditure on Fixed Assets and Capital Work In Progress	-	0.00	0.00
	A) Fixed Assets	15	310.09	217.55
	B) Capital Work In Progress			
VIII	Other Payments Including Statutory Payments	16	827.97	817.74
IX	Refunds of Grants		0.00	0.00
X	Deposits and Advances	17	396.34	393.32
XI	Other Payments	18	62.98	133.48
XII	Closing Balances			
	A) Cash In Hand		3.67	3.71
	B) Bank Balances			
	- In Current Accounts			
	- In Saving Accounts		840.70	1924.20
	- In Deposits Accounts		6472.63	2312.98
	TOTAL		12482.77	9540.46

Dated **15.06.2021**

Place :- Chandigarh

Rsw
Accounts Officer
 National Institute of Technical Teachers' Training and Research
NITTTR, Chandigarh
 Sector-26, Chandigarh-160 019

[Signature]
Director
 National Institute of Technical Teachers' Training and Research
NITTTR, Chandigarh
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NATIONAL INSTITUTE OF TECHNICAL TEACHERS' TRAINING AND RESEARCH
Sector - 26, Chandigarh

(Rs In Lakhs)

1. Grants Received

Particulars	FY 2020-2021	FY 2019-2020
Grant in Aid Capital OH 35	444.00	330.00
Grant in Aid General (OH31)	1627.00	1030.00
Interest Income on Grant (OH31)	24.64	9.25
Grant Salary OH-36	2984.00	2800.00
	5079.64	4169.25

2. Academic Receipts

Particulars	FY 2020-2021	FY 2019-2020
C01 ME	174.57	168.38
Fees under various courses		
	174.57	168.38

3. Receipts against Earmarked Endowment Funds

Particulars	FY 2020-2021	FY 2019-2020
Corpus Fund	15.64	16.07
Equipment Replacement Fund	17.17	18.79
Faculty Development Fund	15.64	16.07
Maintenance Fund	15.64	16.07
	64.09	67.00

4. Receipts against Sponsored Projects / Schemes

Particulars	FY 2020-2021	FY 2019-2020
As Per Annexure - a	143.47	323.73
	143.47	323.73

Acc.

Rsm

Accounts Officer

National Institute of Technical Teachers' Training and Research
Sector-26, Chandigarh-160 019



[Signature]

Director

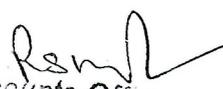
National Institute of Technical Teachers' Training and Research
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8. Miscellaneous Receipts including Statutory Receipts

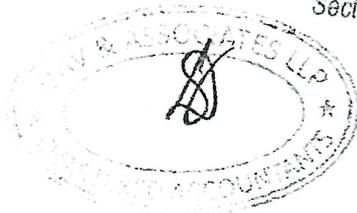
Particulars	FY 2020-2021	FY 2019-2020
Duties & Taxes		
CGST	8.54	28.85
IGST	209.98	42.46
UTGST	8.54	28.85
GST Withheld of BSBL(Renovation)	13.68	4.14
Income Tax Experts	5.11	7.09
Income Tax Firms	3.46	6.85
Income Tax Retirees	52.10	33.18
Income Tax Staff	306.85	262.98
TDS -CGST	3.57	5.86
TDS -SGST	2.81	1.02
TDS-IGST	3.57	5.86
CPF EMPLOYER SHARE	0.76	
GIS	13.56	15.24
GPF	336.70	317.68
LIC	6.79	8.25
R&FW	0.06	0.06
Staff Welfare Fund	13.33	10.48
	989.38	778.85

9. Any Other Receipts

Particulars	FY 2020-2021	FY 2019-2020
Alumini Association	0.99	1.25
Distribution Fund	36.66	26.86
Earnest Money	15.13	24.85
Royalty to Authors	0.02	0.02
Security of Flrms	15.25	19.67
CREST CHD SOLAR PLANT	2.06	0.00
Sundry Creditors	0.47	1.38
	70.58	74.03


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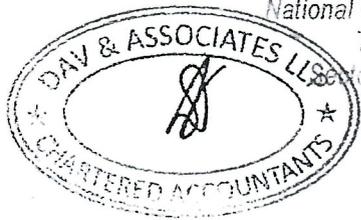


9. Establishment Expenses

Particulars	FY 2020-2021	FY 2019-2020
REVENUE (NON SALARY)		
OH-31 (TRAINING & PENSION)		
Academic Cont	0.54	3.18
Honorarium (Training)	33.18	38.61
TA (Training)	18.48	128.98
Regular Pension	735.10	754.42
Outsource Salary	239.64	244.05
OH-36 (SALARY)		
Commutation	42.83	93.61
Gratuity	90.45	101.61
Leave Encashment to Retirees	30.99	65.92
TA to Retirees	4.94	5.25
SALARY PART-A		
Salary Faculty	1152.32	954.28
Salary Non Faculty	591.01	662.17
DA	0.00	25.20
SALARY PART-B		
Children Education Allowance	14.33	13.50
Leave Encashment	47.60	8.55
LTC	20.18	10.30
Medical	23.79	26.82
NPS both Share	101.97	66.87
PDA	2.63	6.27
CPF Institute share	5.06	5.32
	3155.06	3214.93

10. Academic Expenses

Particulars	FY 2020-2021	FY 2019-2020
C01 ME	55.98	60.67
	55.98	60.67



Asw
 Accounts Officer
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 National Institute of Technical Teachers' Training and Research
 Sector-26, Chandigarh-160 019

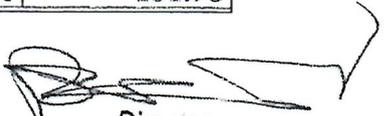
[Signature]
 Director
 Director
 National Institute of Technical Teachers' Training and Research
 Sector-26, Chandigarh-160 019

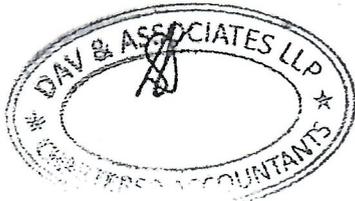
11. Administrative Expenses

Particulars FY 2020-2021 FY 2019-2020

REVENUE (NON SALARY)		
Stipend	0.00	0.07
Contribution to reserve Fund	62.56	64.28
NON SALARY		
Advertisement	1.06	3.22
Annual Day	0.43	2.48
Annual Sports	0.07	5.84
BOG MEETING	3.60	9.65
Covid-19	1.58	0.00
EDC Machine Charges	0.00	0.62
Hindi Day	0.18	0.68
Independence Day	0.00	0.00
Library Journal	0.35	0.34
Livery	1.18	3.70
Medicine	0.00	0.10
Newspaper & Periodicals	0.00	0.02
Office Contingency	18.74	7.94
Postage	1.01	1.22
Property Tax	4.97	5.56
Printing & Stationary	2.72	8.84
TT Charges	2.94	3.00
Professional & Audit Fees	2.78	5.49
Teacher Day	0.00	0.18
Honorarium	2.54	1.84
TA -Non Salary	1.94	6.56
IFDI A CELL	0.00	0.10
	108.65	131.75


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12. Repair & Maintenance

Particulars	FY 2020-2021	FY 2019-2020
Mtc Academic Cell	0.13	0.00
Mtc Applied Sc	0.23	0.41
Mtc Building	21.61	16.38
Mtc Campus	1.35	0.79
Mtc Cdc	0.23	0.10
Mtc Civil	4.68	6.66
Mtc Computer	2.49	1.90
Mtc ECE	0.54	0.24
Mtc EDIC	0.05	0.12
Mtc Electrical	3.43	4.86
Mtc Electrical Lab	0.31	0.91
Mtc EMGT	0.10	0.07
Mtc ETV	-2.73	-6.23
Mtc Furniture	0.31	0.88
Mtc Guest House	9.43	7.51
Mtc Hostel	0.30	5.73
Mtc IMCO	0.13	0.75
Mtc Internet Connectivity	0.00	0.00
Mtc ISO	0.00	0.24
Mtc Lib	0.95	0.00
Mtc Mechanical	1.21	1.41
Mtc Media	3.17	3.08
Mtc R/D	0.19	0.08
Mtc Refrigeration & A.C	5.35	6.76
Mtc Sports	0.00	0.02
Mtc Telephone	1.14	1.18
Mtc Vehicle	1.16	4.25
Mtc Water & Electricity Charges	33.09	52.33
	88.83	110.43

13 Payment against Earmarked / Endowment Funds

Particulars	FY 2020-2021	FY 2019-2020
CORPUS FUND		1.65
Equipment Replacement Fund		1.65
FACULTY DEV FUND		1.65
MAINTENANCE FUND		1.65
	0.00	6.59

14. Payments against Sponsored Project / Scheme

Particulars	FY 2020-2021	FY 2019-2020
SPONSORED PROJECTS		
As Per Annexure - a	159.87	213.12
	159.87	213.12



R. S. M.
Accounts Officer
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[Signature]
Director
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NITTTR, Chandigarh
Sector-26, Chandigarh-160 019

15. Expenditure on Fixed Assets and Capital Work In Progress

Particulars	FY 2020-2021	FY 2019-2020
Equipments		
Equipment -Academic Cell	0.28	0.00
Equipment - Sports	0.25	0.00
Equipment-Applied Sc	12.20	0.00
Equipment-Building	0.54	0.57
Equipment-Campus	0.00	0.38
Equipment-CDC	0.67	0.04
Equipment-Civil	0.99	0.27
Equipment-Computer	8.76	6.94
Equipment-ECE	0.67	0.02
Equipment-EDIC	1.19	0.00
Equipment-Elect Mtc	0.79	0.49
Equipment Electrical Deptt	1.25	0.00
Equipment Hostel	0.12	5.19
Equipment-IMCO	0.00	1.82
Equipment-Mechanical	13.07	4.02
Equipment-Media	0.95	2.24
Equipment-Office	8.82	0.71
Equipment- Ref & Aircondining	0.74	0.24
Equipment Telephone	0.04	0.00
Advance Renovation (BSNL)	-21.73	-34.67
Renovation- Institute Building	20.46	194.97
Renovation Work in Prograss	215.02	0.00
Adv ETV Media Building	0.00	-0.30
Furniture	10.10	0.00
Intangible Assets	0.00	20.22
Applied Sc-Intenqable Assets	3.15	0.00
Comp-Intenqible Assets	22.94	0.00
Library Books	0.01	14.40
Lib E Journal	8.79	0.00
	310.09	217.55

16. Other Payments Includings Statutory Payments

Particulars	FY 2020-2021	FY 2019-2020
CGST	9.61	27.22
IGST	40.79	43.37
UTGST	9.61	27.22
GST Withheld of BSBL(Renovation)	17.81	0.00
Income Tax Experts	4.95	8.11
Income Tax Firms	3.28	7.53
Income Tax Retirees	52.10	33.18
Income Tax Staff	305.52	265.53
TDS-CGST	3.31	6.77
TDS-SGST	2.33	15.27
TDS-IGST	3.31	6.77
Income Tax Receivable	5.96	22.12
GIS	13.61	15.17
GPF	336.70	317.68
LIC	6.79	8.25
R&FW	0.06	0.06
STAFF WELFARE FUND	12.26	13.51
	827.97	817.74



R. S. M. D.
Accounts Officer
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Director
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 Training and Research
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17. Deposits and Advances

Particulars	FY 2020-2021	FY 2019-2020
Consultancy Project (As Per Annexure - b)	374.11	381.91
Temporary Advance	22.23	10.90
Loan for Computer	0.00	0.50
	396.34	393.32

18. Other Payments

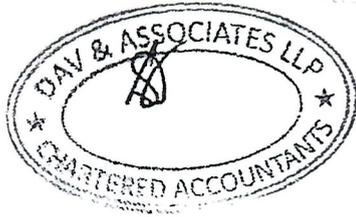
Particulars	FY 2020-2021	FY 2019-2020
DISTRIBUTION FUND	32.97	35.96
EARNEST MONEY	20.41	58.71
WELFARE FUND ME STUDENTS	0.00	1.75
Security of Firms	9.48	36.75
Sundry Creditors	0.13	0.31
	62.98	133.48

Ravinder

Accounts Officer
NITTTR, Chandigarh
Sector-26, Chandigarh-160 019

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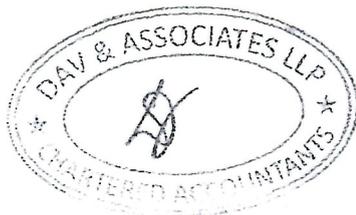
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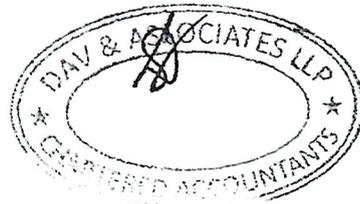
SPONSORED PROJECT FY 2020-21

Annexure - a

Particulars	Transactions	
	Debit	Credit
AICTE QIP POLY	13.66	14.30
GST Tds SP-42		0.10
ICTO PDA-2		0.32
ICTO SP-1	0.77	0.93
ICTO SP-10	0.87	1.61
ICTO SP-11	1.04	1.88
ICTO SP-12	0.92	0.93
ICTO SP-13	0.81	0.93
ICTO SP-14(COM)	2.21	2.21
ICTO SP-15(Computer)	0.10	1.51
ICTO SP-16	0.93	0.93
ICTO SP-17	0.93	0.93
ICTO SP-18	0.93	0.93
ICTO SP-19	0.93	0.93
ICTO SP-2	0.87	0.93
ICTO SP-20		1.88
ICTO SP-21	0.93	0.93
ICTO SP-22(Comp)	0.93	0.93
ICTO SP-23	0.75	0.75
ICTOSP-24	0.93	0.93
ICTO SP-25		1.88
ICTOSP-26	0.93	0.93
ICTO SP-3(C Ramakrishna)	0.93	0.93
ICTO SP-4(M Dutta)	0.94	0.94
ICTO-SP 5(Srinivasa)	0.92	0.93
ICTO SP-6(Ramakrishna)	0.78	0.93
ICTO SP-7	0.85	0.93
Inspire Fellowship by SC and Tech	7.23	9.60
MOOCS4	14.26	0.33
PDA-1	0.03	0.10
PDA-21(Solar PV System)		0.27
PDA-22	1.25	
PDA-2(Electrical)AICTE	0.04	
SP-06(ETV)	1.56	25.50
SP-10		0.10
SP-11	4.11	4.78
SP-11(EDIC)		0.10
SP-12		0.10
SP-13		1.25
SP-16 (5.17 COMP SC , PWD)	3.95	
SP-19Unat Bharat Abhyian	4.82	8.01
SP-20(Computer)	11.47	
SP-21(Computer)	0.65	0.32



SP-23(ETV)	38.65	20.01
SP-25(Computer)	1.44	
SP-28(Computer)	3.89	
SP-29	0.04	
SP-30	0.04	
SP-31	8.49	
SP-32	0.04	
SP-33	1.33	1.01
SP-34	2.44	0.43
SP-35	9.23	
SP-37(Computer)		1.00
SP-38	2.63	6.75
SP-40	1.86	11.70
SP-41		1.50
SP-42	3.73	4.89
SP-43	2.52	3.17
SP-RS 20 (Sanjay Sharma R&D)	0.32	0.32
Total	159.87	143.47



Consultancy Project FY 2020-21

Annexure -b

Particulars	Transactions	
	Debit	Credit
CP-119(TDS)	0.00	1.01
CP-15 TDS	0.00	0.03
CP-1 TDS	0.02	1.88
CP TDS-122	0.06	0.00
CP TDS-125	0.00	0.12
GST TDS-114	0.00	0.62
GST Tds CP-1	0.00	0.37
GST TDS CP-122	0.00	0.06
Gst TDS Icto Cp-8	0.00	0.02
TD-102	0.23	0.00
TDS Cp-114	0.44	0.92
TDS Cp-118	0.92	0.00
TDS GST CP-118	0.18	0.00
TDS Icto Cp-8	0.00	0.10
CP-1	97.99	130.82
CP-102	33.44	0.95
CP-103	40.43	0.49
CP-104(Elect)	0.90	0.90
CP-11	0.00	0.00
CP-113(Elect)	0.00	0.18
CP-114	20.12	3.85
CP-116	5.39	0.00
CP-118	3.85	0.00
CP-119	21.20	13.15
CP-120	20.26	21.49
CP-122	0.50	0.00
CP-123	17.36	26.48
CP-124	0.00	0.14
CP-12(ETV)	0.01	0.00
CP-130	0.93	4.24
CP-131	33.70	33.70
CP-132	5.50	5.50
CP-133	0.00	1.69
CP-134	0.00	0.20
CP-135	2.69	3.30
CP-136	2.89	920.61
CP-136 A(Mech)	0.00	0.50
CP-136(B) (Computer)	2.87	7.23
CP-136(B) TDS	0.00	0.15
CP-13 Mech	0.95	0.36
CP-14 (5.16 Cyber Computer)	0.00	0.00
CP-15 Civil	5.49	6.46
CP-19(Computer)	0.00	0.00
CP-3	0.00	0.03
CP-4	1.85	1.52
CP-62	24.35	0.00
CP-83(ETV)	0.01	0.00
CP-87((Civil)	17.48	13.05
CP-8 COMP CP 5(C)	0.41	0.42
CP-99	7.44	0.00



CP-9 ECE CP 5(D)	0.24	0.35
GST CP-14	0.00	0.05
GST ICTO CP13	0.00	0.04
GST TDS CP-135	0.00	0.08
GST TDS ICTO 9	0.00	0.04
ICTO-CP-02	0.00	0.11
ICTO CP-05	0.00	0.51
ICTO CP-06	0.95	5.34
ICTO CP-1	0.17	0.27
ICTO CP-10	0.24	0.51
ICTO CP-11	0.09	0.20
ICTO CP-12	0.12	0.64
ICTOCP-13	0.21	1.67
ICTO CP-14	0.28	2.27
ICTO CP-15	1.10	1.10
ICTO CP-20(Applied)	0.01	0.09
ICTO CP-21	0.21	1.16
ICTO CP-22	0.02	0.76
ICTO CP-3	0.03	0.22
ICTO CP-4	0.00	0.24
ICTO CP-7	0.18	0.88
ICTO CP-8	0.16	0.88
ICTO CP-9	0.21	1.72
TDS-87(Civil)	0.00	0.25
TDS CP-135	0.00	0.38
TDS ICTO CP-13	0.00	0.19
TDS ICTO CP-14	0.00	0.26
TDS ICTO CP-9	0.00	0.20
Total	374.11	1222.91



**NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH
Sector – 26, Chandigarh**

ACCOUNTING POLICIES

SCHEDULE 23

1. The Accounts have been maintained in the format as prescribed by the Government of India, Ministry of Human Resource Development; vide their letter No. 29-4/2012-FD dated 17th April 2015, issued by the Under Secretary to the Govt of India.

2. The Accounts have been prepared on accrual basis.

3. Depreciation on fixed Assets has been provided on Straight Line Method on the rates specified as per Formats of Financial Statements for Central Higher Educational Institutions of India. Assets, the individual value of each of which is Rs. 2000 or less (except Library Books) are treated as Small Value Assets, 100% depreciation is provided in respect of such assets at the time of their acquisition.

4. The Fixed Assets are stated at cost of acquisition including inward freight, duties and taxes and incidental and direct expenses related to acquisition, installation and commissioning. The fixed assets purchased out of sponsored projects and restricted projects are booked by credit to Capital fund and merged with Fixed Assets of the Institution.

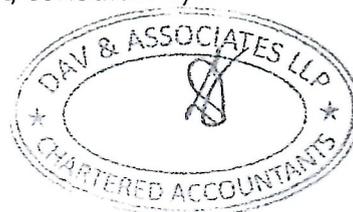
5. Expenditure on purchase of stores is accounted as revenue expenditure, except that the value of closing stock held on 31st March is set up as inventories by reducing the corresponding Revenue Expenditure on the basis of information obtained from Departments. They are valued at cost

6.

(i) The Institute receives grants-in-aid from Government of India under Capital & Revenue schemes to meet the expenditure on salaries of employees, pension to retirees, traveling expenses for training of technical teachers and purchase of store/equipments etc. against Institute's annual budget approved by the Board of Governors. The funds, if remained unutilized at the end of the financial year, are carried over to the following financial year with the approval of the Government of India.

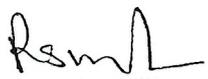
(ii) For specific projects, unspent balance/funds, if any, are refunded to the concerned sponsoring agencies/departments after the completion of the respective Project.

7. Institute receives funds against Sponsored Projects and Consultancy Project which are shown as deposits in Schedule 3a. The Institute recognizes its income on completion of project/consultancy.

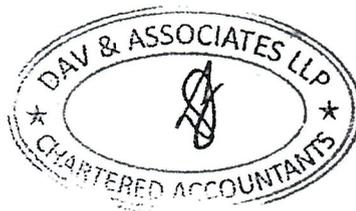


8. Institute makes provision of employee benefits such as Leave Encashment and Gratuity on estimation basis.

9. The Board of Governors delegated powers jointly to the Director and the Accounts Officer of the Institute to approve and sign the Annual Accounts of the Institute before submission to Audit Officer vide Item No. B.4.4.8 in their meeting held on 27.01.2006.


Accounts Officer
National Institute of Technical Teachers'
NITTTR, Chandigarh
Training and Research
Sector-26, Chandigarh-160 019


Director
National Institute of Technical Teachers'
NITTTR, Chandigarh
Training and Research
Sector-26, Chandigarh-160 019



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

NOTES ON ACCOUNTS

SCHEDULE 24

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

2. The details of funds maintained by Institute:

(Amount in Lakhs)

1. Corpus Fund	Current Year	Previous Year
Opening Balance	8354.94	8042.00
Add: Addition in Fund	395.91	312.93
Less: Utilization of Fund	-	-
Closing Balance	8750.84	8354.94

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

2. General Fund

(Amount in Lakhs)

Particulars	Current Year	Previous Year
Opening Balance	(2708.01)	(2574.77)
Add: Overutilised OH31 transfer of previous year	(44.57)	
Less: Utilization of Fund	(213.90)	(133.24)
Closing Balance	(2966.48)	(2708.01)

3. Designated/ Earmarked Fund

(Amount in Lakhs)

Particulars	Current Year	Previous Year
Opening Balance	2363.08	2256.54
Add: Addition in Fund	655.81	593.78
Less: Utilization of Fund	406.54	487.23
Closing Balance	2612.35	2363.08



3. TDS deducted by the various firms as confirmed on website amounting to Rs. 5.45 Lakhs has been given effect in the Balance Sheet.

4. This is to certify that there is an unspent balance of Rs. 2546.35 Lakhs (which includes OH36 – Rs. 1619.51 Lakhs, OH31 - Rs. 624.69 Lakhs and OH35 Rs. 305.15 Lakhs).

5. Institute is in possession of land measuring 17.98 acres out of which 15.00 acres is held as free hold.

6. The Security towards ME students of Rs. 66.38 Lakhs is outstanding as on 31st March 2021.

7. Schedule one to Twenty Four are annexed to and form an integral part of the Balance Sheet as on 31.3.2021.

8. Detail of Capital Work in Progress including capital advance till 31.03.2021 is as follows:

Purpose of Advance	Year	Amount (Rs in Lakhs)
Capital Work in Progress with Chd Admin (ETV Media Building)	2020-21	10.39
Advance for Renovation of Building (CPWD)	2020-21	13.85
Expenditure on Building Work In Progress (BSNL)	2020-21	394.96
	Total	419.20

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

10. Previous years figures have been re-grouped and re arranged wherever considered necessary

Building Account

1. An advance of Rs. 10.69 Lakhs out of the advance amount deposited with Chandigarh Administration for construction of Staff Quarters is awaiting adjustment in Institute Accounts. The work has since been completed and buildings handed over to the Institute. The certificate for having received the final payment from this Institute has been obtained from the Sub Divisional Engineer, W/s Sub Div. -3 Chandigarh. However, accounts in support of this expenditure are awaited from the concerned quarter.

Aswini

Accounts Officer
NITTR, Chandigarh

National Institute of Technical Teachers' Training and Research
Sector-26, Chandigarh-160 019



[Signature]

Director
National Institute of Technical Teachers' Training and Research
NITTR, Chandigarh
Sector-26, Chandigarh-160 019



भारतीय लेखापरीक्षा तथा लेखा विभाग
कार्यालय महानिदेशक लेखापरीक्षा (केन्द्रीय), चण्डीगढ़

Indian Audit & Accounts Department
Office of The Director General of Audit (Central),
Chandigarh



सं/No: डी.जी.ए. (सी)/के. व्यय/SARNITTRC/2020-21/2021-22 /MJS

दि/ Dated: 23/9/2021

सेवा मे,

सचिव,
उच्चतर शिक्षा विभाग,
शिक्षा मंत्रालय,
भारत सरकार,
नई दिल्ली - 110001

Asst
11/10/21
MOD (IMEE)

विषय: National Institute of Technical Teachers Training and Research, Chandigarh के वर्ष 2020-21 के लेखाओं पर पृथक लेखापरीक्षा प्रतिवेदन

महोदय,

कृपया National Institute of Technical Teachers Training and Research, Chandigarh के वर्ष 2020-21 के लेखाओं पर पृथक लेखापरीक्षा प्रतिवेदन (Separate Audit Report) संसद के दोनों सदनों के समक्ष प्रस्तुत करने हेतु सलग्न 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।

भवदीय,

संलग्न: उपरोक्त अनुसार

-हस्ता/-

महानिदेशक

उपरोक्त की प्रतिलिपी वर्ष 2020-21 की पृथक लेखापरीक्षा प्रतिवेदन की प्रति सहित आवश्यक कार्यवाही हेतु Director, National Institute of Technical Teachers Training and Research, Chandigarh, Sector- 26, Chandigarh- 160019 को प्रेषित की जाती है।

Asst
23/9/21
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 2021

We have audited the Balance Sheet of the National Institute of Technical Teachers Training and Research, Chandigarh as on 31 March 2021, 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 2018-19 to 2022-23. 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 check 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.

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

Provisions

Gratuity: ₹ 11.37 crore

Department of Higher Education, Ministry of HRD (now Ministry of Education) vide its letter no F. No. 19-1/2017-IFD dated 12 April 2017 has withdrawn the benefit of Gratuity to the employees of Autonomous Bodies/ organization covered under New Pension scheme (NPS).

However, above included provision for gratuity in respect of employees covered under New Pension Scheme (NPS) amounting to ₹ 2.52 crore, which should have been withdrawn in light of the above notification of MHRD. This has resulted in overstatement of Current Liabilities and Provisions and understatement of Corpus/ Capital Fund by ₹ 2.52 crore.

A.2 Applications of Funds

Loans, Advances and Deposits (Schedule 8)

Advances & other amounts recoverable in cash or in kind or value to be received

On Capital Account

Others (Annexure 5) - Advance to BSNL: ₹ 3.95 crore

A.2.1 It was pointed out vide comment no. A.2.2 included in the Management Letter to the Separate Audit Report for the year 2019-20; that the Institute had capitalised an amount of ₹ 0.39 crore under Buildings-Office block against the work of renovation of old hostel (Chander Shekhar Hall) 100 Rooms with balconies including bathrooms, corridors and staircase at NITTTR Sector 26 Chandigarh, but the work was under progress. In the current year, the work was completed at a total cost of ₹ 2.32 crore and the building is under utilisation by the Institute since February 2021. However, the Institute has not capitalised the balance amount of work amounting to ₹ 1.93 crore. This has resulted in overstatement of Loans, Advances & Deposits by ₹ 1.93 crore, understatement of Buildings by ₹ 1.90 crore, and understatement of depreciation by ₹ 0.03 crore (2.32 x 2 percent – 0.39 x 4 percent already charged for two years).

A.2.2 An observation was included at Sl.no.A.2.1 in the Management Letter to the Separate Audit Report for the year 2019-20; that the Institute had, booked an amount of ₹ 0.54 crore under Buildings-Residential in respect of Renovation work of 8 Nos. Type IV & 15 numbers Type III staff quarters of the Institute at Sector 42, Chandigarh. However, the work was under progress.

An expenditure of ₹ 1.15 crore was incurred on the work upto 31.03.2021 and it was still under progress as on that date, but the Institute has not booked Capital Work in Progress to that extent in its annual accounts. This has resulted in overstatement of Buildings by ₹ 0.52 crore, overstatement of depreciation by ₹ 0.02 crore (53.75 x 2 percent x 2 years), understatement of Capital Work-in-Progress by ₹ 1.15 crore and overstatement of Loans, Advances & Deposits are overstated by ₹ 0.61 crore. Moreover, the Institute has not included the head of Capital Work in Progress in its annual accounts as per the prescribed format.

B. General

B.1 Net impact of Audit comments

Net impact of audit comments on the annual accounts of the Institute for the year ended 31 March 2021 is as under:-

- i Assets overstated by ₹ 0.01 crore;
- ii. Liabilities overstated by ₹ 2.52 crore;
- iii. Corpus/Capital Fund understated by ₹ 2.51 crore, besides the deficit is also understated by ₹ 0.01 crore.

B.2 It was pointed out vide comment no. B.2 included in the Separate Audit Report for the year 2019-20; that as per the format of accounts prescribed by the Ministry of Human Resource Development (MHRD), Government of India and Accounting Standard (AS)-15, provision for retirement benefits is to be made on Actuarial Valuation Method. However, as per Significant Accounting Policy at Sl. No. 8, the Institute is making the provision of employee benefits such as Leave Encashment and Gratuity on estimation basis, which is in contravention of AS-15 and prescribed Format of Accounts. Despite being pointed out in the Separate Audit Report, compliance was not made by the Institute.

B.3 Vide comment no. B.5 (i) included in the Separate Audit Report for the year 2019-20 it was pointed out that the Institute maintains a single cash book for five different saving bank accounts (maintained with State Bank of India, Axis Bank, ICICI Bank, PNB and Indus-Ind Bank. The Institute is also preparing a consolidated

Bank Reconciliation Statement (BRS) in respect of six bank accounts (Canara Bank, State Bank of India, Axis Bank, ICICI Bank, PNB and Indus-Ind Bank). Instead, Institute should have maintained separate cash book and separate BRS for each bank account. Despite being pointed out in the Separate Audit Report, compliance was not made by the Institute.

B.4 Two funds received for different purposes; vis. the fund relating to Government grants and the fund of the project "Establishment of Advanced laboratory for Cyber Security Training to Technical Teachers SP-23 (Computer Science Department)" are being kept in a single saving bank account No. 245210100654. Thus, this bank account has a mixture of Grants and Project funds. This observation was pointed out Vide comment no. C (i) included in the Management Letter to the Separate Audit Report for the year 2019-20, but compliance was not made.

C. Grants in Aid

The position of Grant -in -Aid during the year 2020-21 is detailed as under

Particulars	Amount in ₹ crore			
	OH-31	OH-35	OH-36	Total
Opening Balance	Nil	1.71	7.64	9.35 ¹
Add: Grant received during the year	16.27	4.44	29.84	50.55
Add: Other Receipts on account of recoveries, non-payment etc.	0	0.25	0	0.25
Add: Interest earned on grants	0.21	0	0	0.21
Total Funds Available	16.48	6.40	37.48	60.36
Less : Utilisation during the year	10.27	3.32	21.28	34.87
Unutilised balance at the end of the year	6.21	3.08	16.20	25.49 ²
Add: Total Capital Advances being included in the expenditure of OH-35 in the respective years.	0	2.04	0	2.04
Unutilised balance as on 31.03.2021	6.21 ³	5.12	16.20	27.53

¹ Closing balance as per previous SAR was ₹ 11.61 crore which included capital advances of ₹ 2.26 crore.

² Balance of ₹ 25.49 crore included interest earned on grants ₹ 0.21 crore.

³ Difference of ₹ 0.03 crore is due to taking receipt of ₹ 0.03 crore under OH-31 instead of OH-35.

D. 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.

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 31 March 2021; and
- b. In so far as it relates to Income & Expenditure Account, of the deficit for the year ended on that date.

For and on behalf of the C & AG of India



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

Place: Chandigarh

Date: 28/9/21

**“ Partnering builds Strength
Networking creates Wealth
Empowering leads Progress ”**

**“ United we Work
Together we Achieve
Team we Win ”**

**Prof. S S Pattnaik
Director
NITTTR Chandigarh**





PARTNERING, NETWORKING, DIGITIZING & EMPOWERING FOR QUALITY TECHNICAL EDUCATION

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

(An ISO 9001 : 2015 Certified Institute)

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