

ANNUAL REPORT 2021-22



National Institute of Technical Teachers Training And Research

Sector – 26, Chandigarh –160 019 (India)
(An ISO 9001 : 2015 Certified Institute)

Teaming Together



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2793893

ORGANISATIONAL STRUCTURE OF NITTTR CHANDIGARH

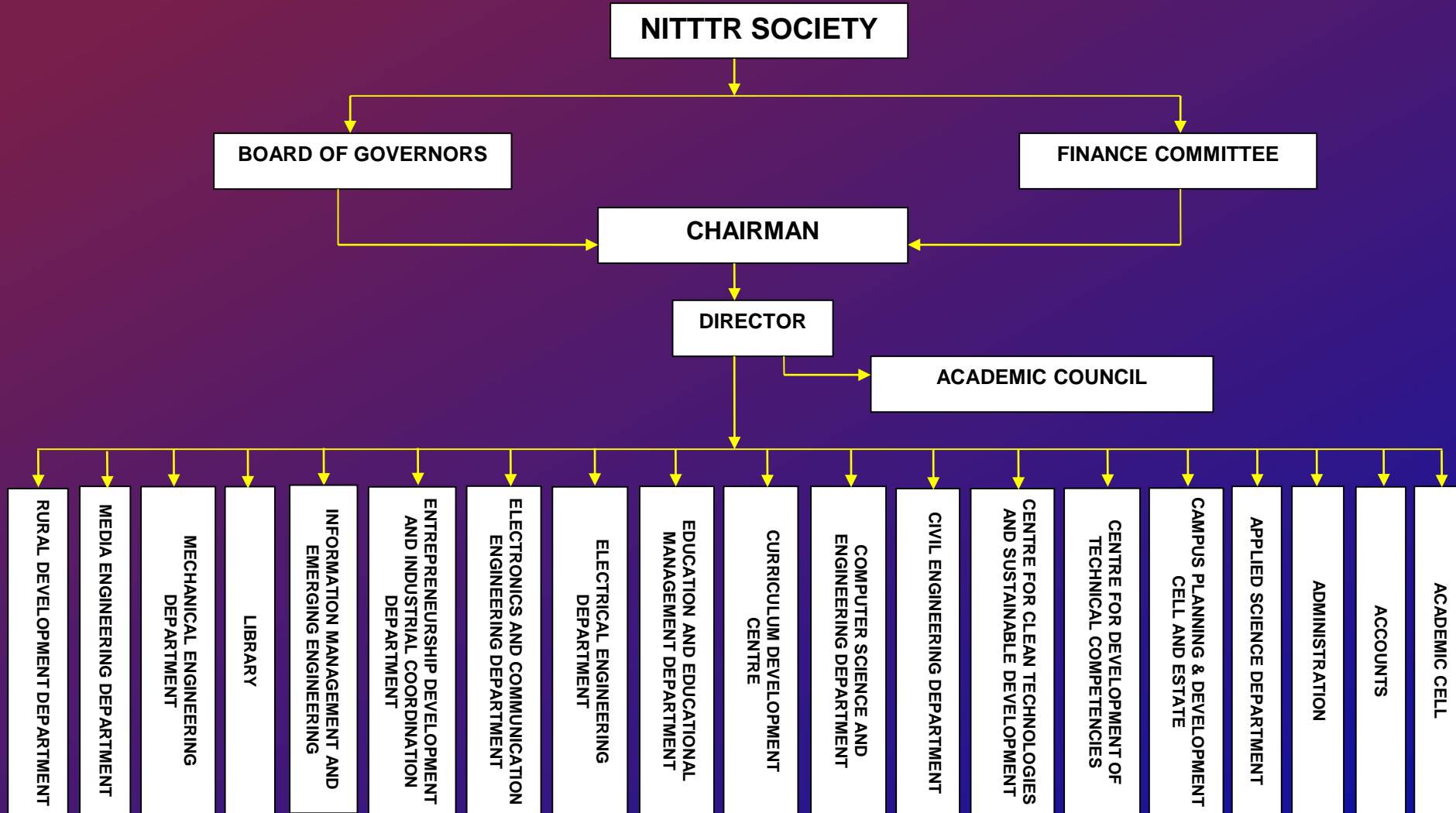




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**LIST OF HON'BLE MEMBERS OF THE NITTTR CHANDIGARH SOCIETY
AS ON 31.3.2022**

Sr. No.	Name and Designation with full address	Status
1.	Hon'ble Chairman	Vacant
2.	Smt. Saumya Gupta, IAS Joint Secretary (NIT) Govt,of India, Department of Higher Education Ministry of Education 2030C, Shastri Bhawan New Delhi-110 001	Member
3.	Mrs. Darshna M Dabral Joint Secretary & Financial Adviser (IFD) Department of Higher Education Ministry of Education Government of India, Shastri Bhawan New Delhi- 110 001	Member
4.	Professor Raj Kumar Hon'ble Vice Chancellor Panjab University Sector 14 Chandigarh- 160 014	Member
5.	Shri Navin Mittal, IAS Commissioner & Director Department of Technical Education, Govt of Telangana 2nd Floor, Vidya Bhavan, Opp. to Latha Talkies, Nampally, Hyderabad 500 001	Member
6.	Dr KK Kataria Director Technical Education, Haryana Bays No.7-12, Sector 4 Panchkula	Member
7.	Shri Sudarshan Kumar, KAS Director Skill Development, J&K Bikram Chowk JAMMU 180 004 (J&K)	Member

8.	Dr. Abhay Wagh Director, Technical Education, Maharashtra, 3, Mahapalika Marg, Elphinstone Technical Institute Campus MUMBAI 400 001	Member
9.	Shri Hari Singh Director Technical Education, Uttarakhand NCC Block, Polytechnic Campus Srinagar (Garhwal) 246 174	Member
10.	Prof. Rajendra B Kakde Adviser-I All India Council for Technical Education Nelson Mandela Marg, Vasant Kunj, NEW DELHI 110 070	Member
11.	Prof. SS Pattnaik Director & Member Secretary NITTTR, Sector 26 Chandigarh	Member Secretary

**LIST OF HON'BLE MEMBERS OF BOARD OF GOVERNORS OF NITTTR, CHANDIGARH AS ON
31.3.2022**

Sr. No.	Name and Designation with full address	Status
1.	Vacant	Hon'ble Chairman
2.	Smt. Saumya Gupta, IAS Joint Secretary (NIT) Govt,of India, Department of Higher Education Ministry of Education 2030C, Shastri Bhawan New Delhi-110 001	Member
3.	Mrs Darshna M Dabral Joint Secretary & Financial Adviser (IFD) Department of Higher Education Ministry of Education Government of India, Shastri Bhawan New Delhi- 110 001	Member
4.	Professor Raj Kumar Hon'ble Vice Chancellor Panjab University Sector 14 Chandigarh- 160 014	Member
5.	Shri Navin Mittal, IAS Commissioner & Director Department of Technical Education, Govt of Telangana 2nd Floor, Vidya Bhavan, Opp. to Latha Talkies, Nampally, Hyderabad 500 001	Member
6.	Dr. KK Kataria Director Technical Education, Haryana Bays No.7-12, Sector 4 Panchkula	Member
7.	Shri Sudarshan Kumar, KAS Director Skill Development, J&K Bikram Chowk JAMMU 180 004 (J&K)	Member

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9.	Shri Hari Singh Director Technical Education, Uttarakhand NCC Block, Polytechnic Campus Srinagar (Garhwal) 246 174	Member
10.	Prof. Rajendra B Kakde Adviser-I All India Council for Technical Education Nelson Mandela Marg, Vasant Kunj, NEW DELHI 110 070	Member
11.	Dr. Sunil Dutt Professor and Head Education & Educational Management NITTTR, Sector 26 CHANDIGARH 160 019	Member
12.	Prof. SS Pattnaik Director & Member Secretary NITTTR, Sector 26 Chandigarh	Member Secretary

**LIST OF HON'BLE MEMBERS OF FINANCE COMMITTEE OF NITTTR, CHANDIGARH AS
ON 31.3.2022**

Sr. No.	Name and Designation with full address	Status
1.	Vacant	Hon'ble Chairman
2.	Smt. Saumya Gupta, IAS Joint Secretary (NIT) Govt,of India, Department of Higher Education Ministry of Education 2030C, Shastri Bhawan New Delhi-110 001	Member
3.	Mrs. Darshna M Dabral Joint Secretary & Financial Adviser (IFD) Department of Higher Education Ministry of Education Government of India, Shastri Bhawan New Delhi- 110 001	Member
4.	Dr. KK Kataria Director Technical Education, Haryana Bays No.7-12, Sector 4 Panchkula	Member
5.	Prof. SS Pattnaik Director & Member Secretary NITTTR, Sector 26 Chandigarh	Member Secretary

**LIST OF HON'BLE MEMBERS OF THE ACADEMIC COUNCIL
AS ON 31.3.2022**

Sr. No.	Name and Designation with full address	Status
1.	Prof. S.S. Pattnaik, Director Academic Council, NITTTR, Sector 26, Chandigarh	Chairman
2.	Prof. D P Agrawal, Former Chairman, UPSC, New Delhi	Expert Member
3.	Shri S P Garnaik, Executive Director, EESL, New Delhi	Expert Member
4.	Shri Supreeth Nagaraju, Head, Education, Adobe Systems India Pvt. Limited, Bangalore	Expert Member
5.	Dr. B S Pabla, Professor, Mechanical Engineering Department, NITTTR Chandigarh	Member
6.	Dr. S.K. Dhameja, Professor and Head EDIC Dept, NITTTR Chandigarh	Member
7.	Dr. AB Gupta, Dean Extension Services and Consultancy, NITTTR Chandigarh	Member
8.	Dr. SS Banwait, Professor, Mechanical Engineering Department, NITTTR Chandigarh	Member
9.	Dr. Sandeep Singh Gill, Professor, Electronics and Communication Engg Dept, NITTTR Chandigarh	Member
10.	Dr. Amod Kumar, Professor, Electronics and Communication Engg Dept, NITTTR Chandigarh	Member

11.	Dr. Sanjay Kumar Sharma, Professor & Head, Civil Engg. Department, NITTTR Chandigarh	Member
12.	Dr. Hemant Sood, Professor, Civil Engineering Department, NITTTR Chandigarh	Member
13.	Dr. Sunil Dutt, Professor & Head, EMGT Department, NITTTR Chandigarh	Member
14.	Dr. BC Choudhary, Professor, Applied Science Dept., NITTTR Chandigarh	Member
15.	Dr. Rakesh Wats, Professor & Head, Media Engineering, NITTTR Chandigarh	Member
16.	Dr. SS Dhami, Professor & Head, Mechanical Engg Department, NITTTR Chandigarh	Member
17.	Dr. C Rama Krishna, Professor, ICSE Dept., NITTTR Chandigarh	Member
18.	Dr. UN Roy, Professor, Rural Development Dept., NITTTR Chandigarh	Member
19.	Dr. Lini Mathew, Professor and Head, Electrical Engg Department, NITTTR Chandigarh	Member
20.	Dr. Poonam Syal, Professor and Head, Rural Development Dept., NITTTR, Chandigarh	Member
21.	Dr. Rajesh Mehra, Professor & Head, CDC, NITTTR Chandigarh	Member
22.	Dr. Srinivasa K G, Professor, ICSE Dept., and I/c Library, NITTTR, Chandigarh	Member

23.	Dr. Pankaj Sharma, Professor and Head, Applied Science Department, NITTTR, Chandigarh	Member
24.	Dr. Piush Verma, Professor, Electrical Engineering, NITTTR, Chandigarh	Member
25.	Dr. Ashok Kumar, Associate Professor, Dept. of Applied Science, NITTTR, Chandigarh	Member
26.	Dr. Balwinder Raj, Associate Professor, Dept. of ECE, NITTTR, Chandigarh	Member
27.	Dr. Shimi S L, Assistant Professor, Electrical Engg Department, NITTTR, Chandigarh	Member
28.	Mr. Amardev Singh, Assistant Professor, Dept. of EDIC, NITTTR, Chandigarh	Member
29.	Dr. S K Gupta, Associate Professor, Dept. of CDC & Hostel Warden, NITTTR, Chandigarh	Member
30.	Dr. Balwinder Singh, Associate Professor, Dept. of ECE, Asst. Coordinator of Academic Cell, NITTTR, Chandigarh	Member
31.	Dr. Maitreyee Dutta, Dean, Academics and R&D and Member Secretary of Academic Cell, NITTTR, Chandigarh	Member

The Institute

National Institute of Technical Teachers Training and Research, Chandigarh, is one of the four such National Institutes in the country with focus on development of technical education in the country. However, being situated in the northern region, 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 Atamnirbhar Bharat and Unnat Bharat 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.*

1.1 BROAD OBJECTIVES OF THE INSTITUTE

To provide professional education and training for teachers of engineering and technology disciplines in technical institutions for advancement of learning towards promoting excellence in technical education and industry.

To strive for continuous improvement in instruction and research in engineering and technology disciplines and research in management of technical education.

To actively support the growth and quality improvement of technical education in the country through involvement in activities at national and state levels.

1.2 Operational Objectives

01

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

02

To arrange for practical training of technical teachers in industries

03

To undertake systematic research to provide research inputs for development of technical education, training systems and its management

04

To undertake action research for development of innovative methods, processes and practices for improvement of teaching learning environment in technical and vocational education institutions

1.2 Operational Objectives (contd..)

05

To design new instructional system and strategies for production of online learning materials

06

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

07

To offer programs for technical teachers through SWAYAM and NCTEL web portal

08

To offer courses/programs for technical and vocational teachers to suit overseas demand especially for SAARC and ASEAN countries

09

To collaborate with community and industry in organising Continuing and Nonformal vocational education programs

10

To undertake consultancy and extension work for industry, technical institutions/organizations

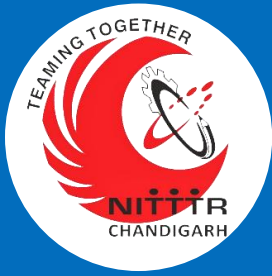
11

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

12

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

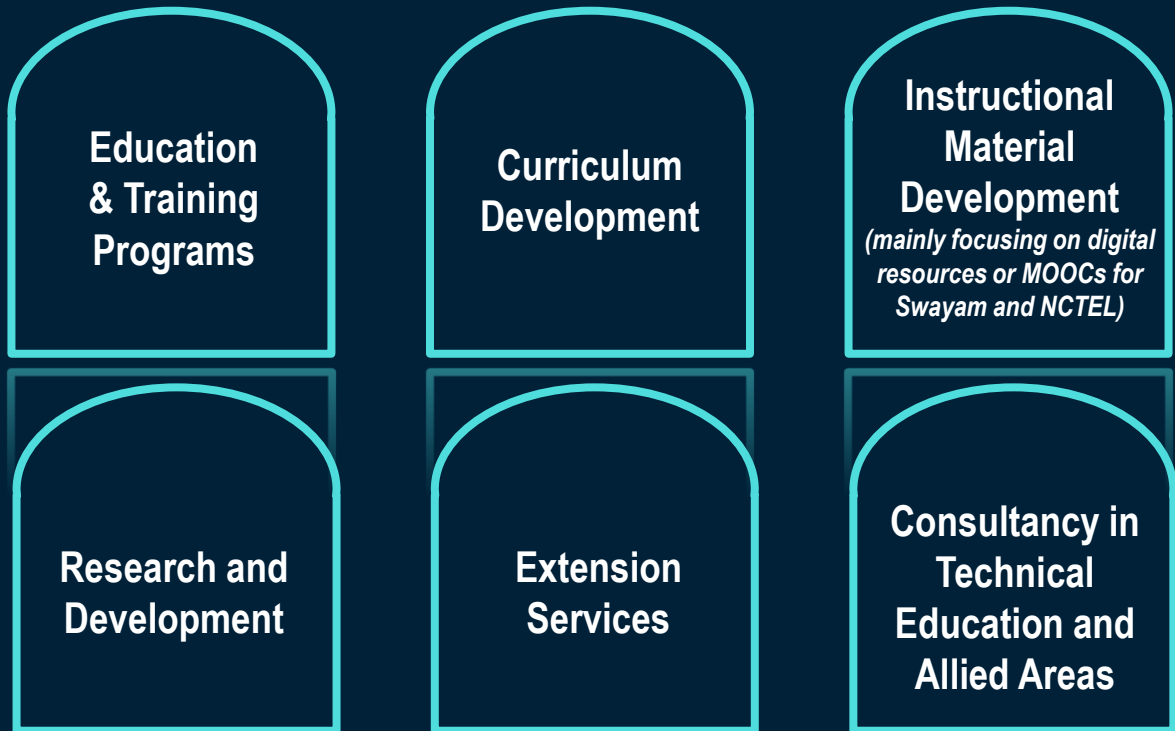
*United we **Work**
Together we **Achieve**
Team we **Win***

”

1.3

PROGRAMS & ACTIVITIES

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

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.

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:

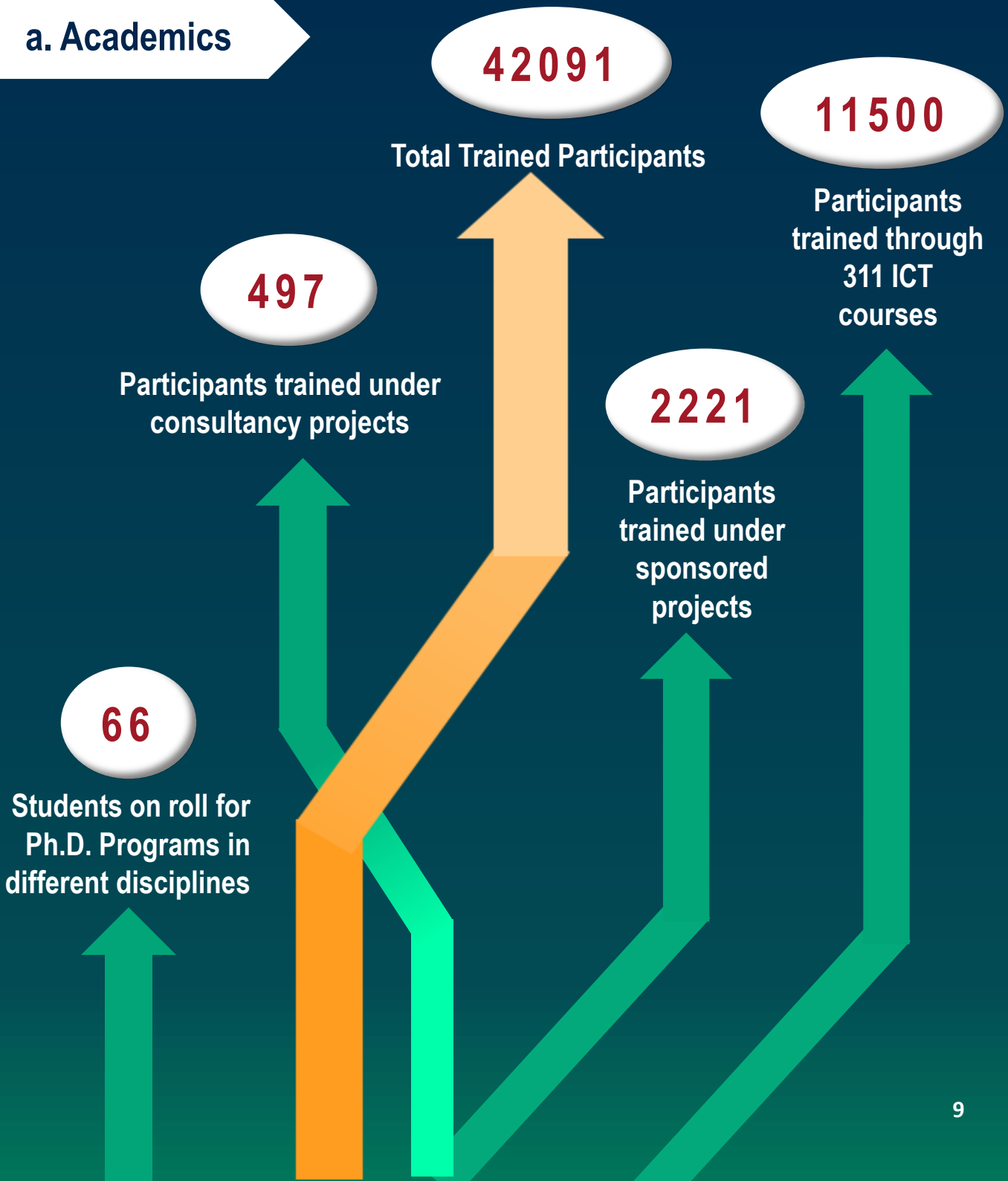
- *Finance Committee*
- *Academic Council*

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

18425

Participation in 12 Re Run MOOCs floated on SWAYAM Portal.

9448

Total participants trained in AICTE-NITTT modules (3,7 and 8)

52

Video Films prepared for MOOCs

126

Video films uploaded on NCTEL Channel

17

Video films other than MOOCs

86 students got admitted in **05** Master's Degree Programs (**Modular**) and **47** students got admitted in **06** Master's Degree Programs (**Regular**).

In addition, **72** Regular and **146** Modular students of previous batches were also on roll as on date (Total Students in PG **351**).

02 International Lectures organized by Institute with total participation of **187**.

4 Mentors Orientation programmes conducted with total participants **313** under mission mentoring/ NITTT- OTP for mentors

10 AICTE-QIP Courses Conducted by the Institute in which **1066** participants trained.

12 Re-run MOOCs on SWAYAM are floated in September, 2021 and **3** Rerun AICTE-NITTT Modules. Total enrolled learners are **27873**

04 AICTE sponsored ATAL programmes were conducted during this period with participation of **499**.

33 students admitted through Centralised Counselling (**CCMT**)

10 Courses Conducted under UKWDP funded by World Bank. **418** Instructors of ITI's trained.

The Institute received Institutional Membership Certificate from the Institutions of Engineers on 5th Oct, 2021.



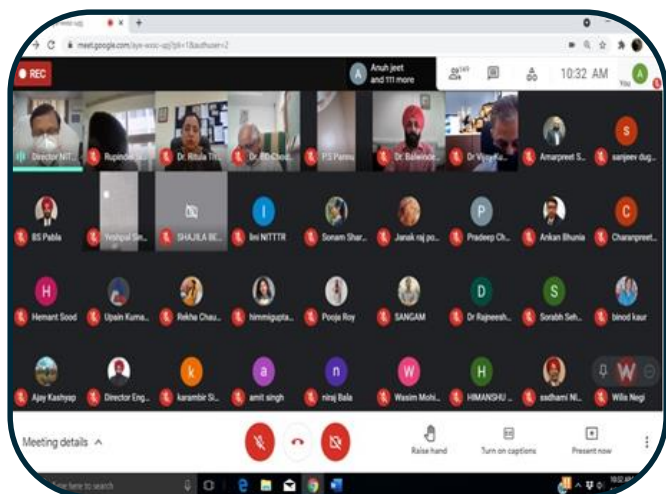
Renovation of Mother Teresa Hostel



Construction of PNB Digital Bank



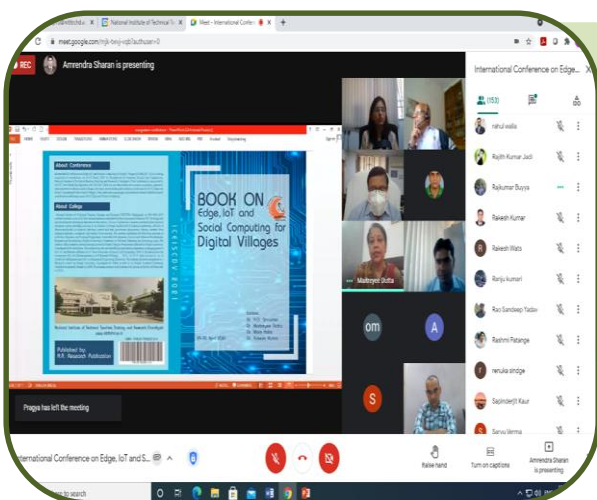
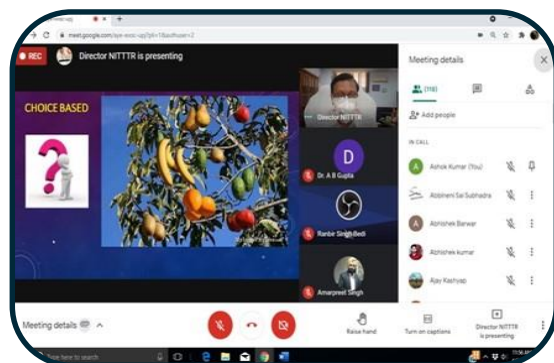
GLIMPSES OF EVENTS



National Workshop on “Implementation of NEP-2020 for Quality Online and Open Distance Learning (ODL) Education” on 28th April, 2021

A One Day National Workshop on “Implementation of NEP-2020 for Quality Online and Open Distance Learning (ODL) Education” was conducted through online mode by National Institute of Technical Teachers Training and Research (NITTTR), Chandigarh on 28th April 2021.

Prof Rajneesh Arora, Former Vice Chancellor, IK Gujral Punjab Technical University, Chandigarh was the chief guest of the Occasion. Prof Siby John, Director (Ad-interim), an expert from Punjab Engineering College Chandigarh highlighted various advantages of Open Distance Learning. Prof Pattnaik, Director, NITTTR, Chandigarh delivered an expert lecture in which he talked about the large exodus of students opting for higher education from several developed countries wherein they spend a huge amount of money on education.

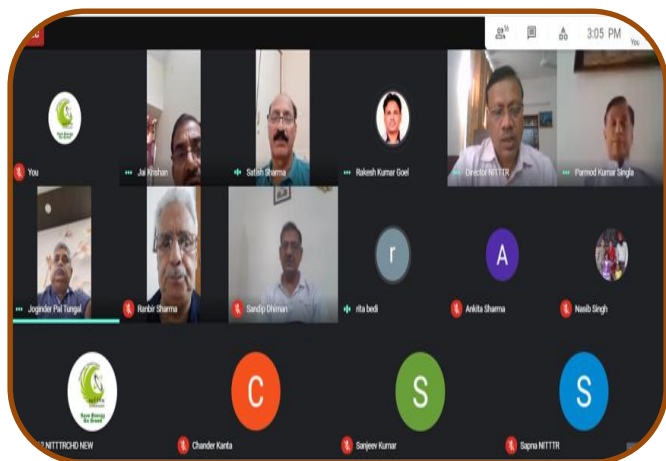


International Conference on Edge, IoT and Social Computing for Digital Villages (29-30th April, 2021)

An “International Conference on Edge, IoT and Social Computing for Digital Villages (ICEISCDV-2021)” was organized by the Department of Computer Science and Engineering in collaboration with Information Management and Emerging Engineering Department, National Institute of Technical Teachers Training & Research (NITTTR), Chandigarh during April 29-30, 2021 sponsored by AICTE, New Delhi.

Prof. Maitreyee Dutta explained the theme of the conference. The conference was jointly inaugurated by Prof. (Dr.) S S Pattnaik, Director, NITTTR Chandigarh and Prof. (Dr.) RajKumar Buyya, Professor and Director of CLOUDS Lab, School of Computing and Information Systems, The University of Melbourne, Australia. The conference hosted keynote addresses by International Speakers Dr. Gabriella Casalino, CILAB Laboratory, Department of Computer Science University of Bari “Aldo Moro”, Italy and Prof. Shivkumar Mathapathi, Adjunct Faculty, Santa Clara University, and UC San Diego Extension, Co-founder of Dew Mobility, USA. 34 technical papers were presented by various researchers and academicians from all over India. This International Conference provided an exposure to the recent advancements and innovations that can be used for enriching digital villages.

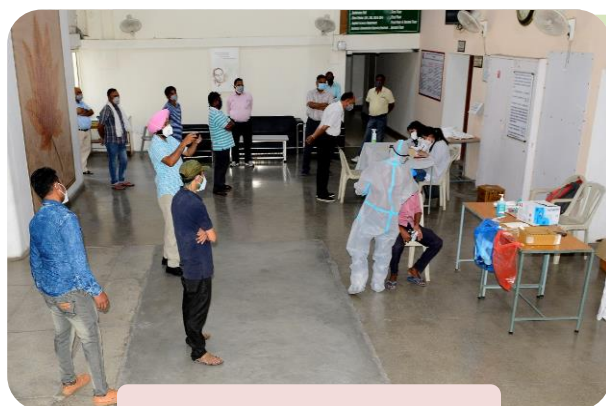
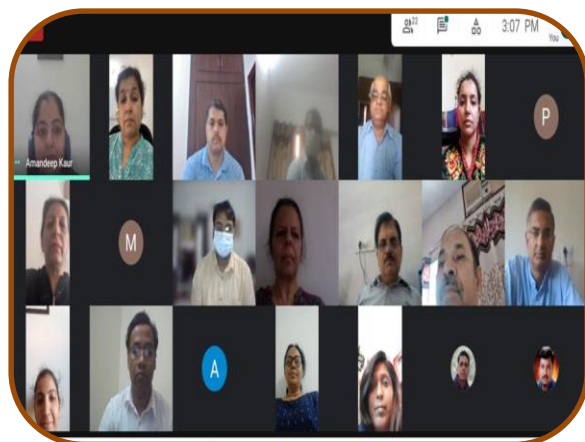
GLIMPSES OF EVENTS



Observance of Anti-Terrorism Day on 21st May, 2021

The Antiterrorism day was celebrated on 21st May, 2021 in the institute by conducting Reading of Pledge in online mode following the guidelines issued in the wake of COVID 19 pandemic. "Reading of Pledge" ceremony was conducted through online mode. Prof. (Dr.) Shyam

Sunder Pattnaik (Director of the institute), Deans, Prof. and Head of the Departments, Faculty and Staff participated in the ceremony and took the pledge. The Pledge was administered to spread the message of Peace, Unity, Harmony and Humanity and to make all the institute employees aware of the anti-social act of terrorism.



27.4.2021 and 28.4.2021



Camps for Covid Test for Institute Employees and their Family



25.5.2021



Director Dr. S.S. Pattnaik took initiative in association with Chandigarh Administration for Covid Testing of all Institute Employees and their family (in Institute on 27-28.4.2021, in Sector 29 Residential Campus on 25.5.2021 and in Institute on 27.5.2021)/

GLIMPSES OF EVENTS



Camps for Covid Test for Institute Employees and their Family



27.5.2021

Teachers Day Celebration, 5th September 2021

The teacher's day was celebrated on 5th September, 2021 through online mode. The Chief Guest for the occasion was Dr. Ajay Kumar Sharma, Professor, NIT Jalandhar (Former Vice Chancellor IKG-Panjab Technical University). Our Director, Prof. Shyam Sunder Pattnaik had welcomed the Chief Guest and gathering with his welcome address. Chief Guest talks focused towards the development of the nation. The talk was well appreciated by the faculty and Students. Total 207 participants attended this event.



International Conference on Emerging Technologies: AI, IoT and CPS for Science & Technology Applications

International Conference on Emerging Technologies: AI, IoT and CPS for Science & Technology Applications is jointly organized by Departments of ECE and EE, NITTTR Chandigarh, during 6-7 Sep 2021. During inaugural of Conference, chief guest Prof. Rajeev Ahuja, Director, IIT Ropar, Guest of Honour Dr. Biplab Sikdar, Vice-Dean & Area Director (Communications & Networks), from National University of Singapore, director NITTTR, Chandigarh Prof. S. S. Pattnaik addressed the gathering. More than 100 delegates had participated in this conference within and outside the country. Artificial Intelligence (AI), Internet of Things (IoT), Cyber Physical System (CPS) are emerging technologies increasingly finding its way into electrical, electronics, computer Science, industrial and manufacturing products.

GLIMPSES OF EVENTS

These technologies provide various current and prospective applications in transportation, energy, agriculture, medical, robotics, smart cities, supply-chains., machine learning, signal processing, and supervisory control systems. The main objective of this conference is to bring together the academicians, scientists, professionals, researcher scholars from the institutions, universities, laboratories and industries to exchange views, experiences, new innovative ideas. This conference provide platform to an international forum to promote, enhance and stimulate international research interactions and collaboration in the fields of Electronics, Electrical, Healthcare, Information Technology and Computer Science Engineering. Conference had Expert talks, and parallel technical

sessions. All presented papers published in Scopus Index Conference proceedings and Selected papers will be published in prestigious book series of Tylors & Francis & Scopus indexed journals. We have received 115 research papers and after rigorous review process we have selected 85 papers for oral presentation in the area of conference theme.



International Conference on Emerging Technologies: AI, IoT and CPS for Science & Technology Applications



Annual Day Programme on 7th September, 2021

NITTTR Chandigarh celebrated its 54th Annual day on September 7, 2021. Honourable Minister of Education, Government of India, Shri Dharmendra Pradhan was the chief guest and addressed the august gathering virtually. He virtually inaugurated the AR/VR lab and laid the foundation stone for the faculty residences

(Type 6, Type 5 and special type 4) in the Sector 42. campus. He congratulated the faculty and staff of the institute, on this auspicious occasion, and for their support and contributions for implementation of NEP, Digital Mission, Unnat Bharat, Atam Nirbhar Bharat, Swachh Bharat etc. Prof. S.S. Pattnaik presented the Annual Report for the year 2020-21 and pointed out that the institute trained 74,337 technical faculty participants, generated 7 crores of IRG, conducted 55 curriculum Workshops, published 269 research publications, awarded 10 students with PhD degrees, filed 4 patents and many more which are remarkable during this pandemic period. Professor Pattnaik dedicated the achievement to the sincerity, team work and commitment of the faculty, staff and students. The Guests of Honour Dr. Ashwani Johar, Member, India Russia Bilateral Council of NITI Ayog, Dr. A.K. Nasa, Member Secretary, NBA and Prof. Rajeev Ahuja, Director, IIT Ropar, while delivering their addresses congratulated the employees for their par excellence performance.

GLIMPSES OF EVENTS

Annual Day Programme on 7th September, 2021

Awards were distributed to three best performing institutions such as (i) Sant Longowal Institute of Engineering and Technology, Sangrur, (ii) Ajay Kumar Garg College of Engineering, Ghaziabad and (iii) Government Polytechnic, Damla in the category of Engineering Colleges and Polytechnics of the northern region. The meritorious ME students and best performing employees were also awarded. The winners of the Digital Poster Competitions were also honoured. The function was concluded by the vote of thanks proposed by Mrs. Himmi Gupta and National Anthem at the end. A cultural function was also arranged in the evening of September 7, 2021 and various items of art and culture, songs, dances and skits were showcased.



Inauguration of 'Nanomaterials Engineering and Devices Laboratory' in Applied Science Department



Director, Indian Institute of Technology, Prof. Rajeev Ahuja, inaugurated 'Nanomaterials Engineering and Devices Laboratory' on Tuesday, September 07, 2021.

Nanomaterials synthesis by varying various parameters like temperature, pH, compositions etc. will be undertaken in this laboratory for various applications like energy storage and energy harvesting devices. Materials for far-infrared applications will also be developed in this laboratory. The lab will cater the training/ research needs of various polytechnic/ engineering teachers/ PhD in the area of nanomaterials engineering and devices fabrication. Prof. Rajeev Ahuja interacted with the applied science faculty and shared his know hows of materials science for carrying out the research.

GLIMPSES OF EVENTS

International Literacy Day on 8th September, 2021



International Literacy Day 2021 Celebration (08 September, 2021)



NATIONAL INSTITUTE OF TECHNICAL TEACHERS
TRAINING AND RESEARCH CHANDIGARH



Prof. (Dr.) S.S. Pattnaik
Director, NITTTR, Chandigarh



Mr. Himanshu Mahapatra,
Data Scientist, UK



Associate Professor,
Gedu College of Business Studies,
Royal University of Bhutan



Mrs. Shama Kataria,
Co-ordinator, Int. Literacy Day,
NITTTR, Chandigarh



Dr. Ashok Kumar
Int. Literacy Day,
NITTTR, Chandigarh

National Institute of Technical Teacher's Training and Research, Chandigarh celebrated International Literacy Day in blended mode on 8th September, 2021.

The Chief Guest for the function was Mr. Himanshu Mahapatra, Data Scientist, UK. The keynote address was given by Dr. Rajnish Ratna, Associate Professor, Gedu College of Business Studies, Royal University of Bhutan. The Director, NITTTR, Chandigarh, Prof. (Dr.) S.S. Pattnaik delivered the inaugural address. He emphasized the need for spreading awareness of Digital Technologies and how digital daan, i.e., sharing of digital devices like mobile phones, laptops etc., can open a new platform of opportunities for learners who are deprived from education due to non-availability of resources. Dr. Rajnish Ratna, invited expert for the event delivered a talk on "Literacy of 21st Century". He presented overview of literacy status in India and its neighboring countries. He talked about how the definition of being literate has been changed over a period of time. The Chief Guest of the function, Mr. Himanshu Mahapatra, shared his pleasing experience on the topic "Value, use and essence of Mahabharata in Information Technology and Industry". He beautifully correlated the teachings and learnings of Mahabharata to succeed in professional and personal life. The programme was attended by approximately 190 participants

राजभाषा पुरस्कार वितरण समारोह

राष्ट्रीय तकनीकी शिक्षक प्रशिक्षण एवं अनुसंधान संस्थान, सेक्टर 26, चण्डीगढ़ जो मानव संसाधन विकास मंत्रालय, भारत सरकार द्वारा स्थापित एक स्वायत्त संस्थान है, में दिनांक 01 सितम्बर, 2021 से 30 सितम्बर 2021 तक हिन्दी माह मनाया जा रहा है एवं दिनांक 27.09.2021 को



वार्षिक राजभाषा पुरस्कार वितरण समारोह का आयोजन किया गया। समारोह की अध्यक्षता संस्थान के निदेशक डा0 एस.एस. पट्टनायक ने की। समारोह का शुभारम्भ दीप प्रज्वलन तथा संस्थान के कुलगीत के साथ किया गया। संस्थान के फैकल्टी प्रभारी (प्रशासन) इंजी0 पी.के. सिंगला ने वर्ष के दौरान संस्थान में किए गए हिन्दी के कार्यों की प्रगति रिपोर्ट एवं शिक्षा मंत्रालय से शिक्षा मंत्री जी का संदेश प्रस्तुत किया। इस माह के दौरान हिन्दी सुलेख, हिन्दी शब्द-ज्ञान, हिन्दी श्रुतलेख, हिन्दी टाइपिंग, हिन्दी नोटिंग, हिन्दी उच्चारण एवं हिन्दी कविता पाठ नामक 07 प्रतियोगिताओं का आयोजन किया गया जिसमें संस्थान के 109 प्रतिभागियों ने बढ़ चढ़ कर हिस्सा लिया ।

GLIMPSES OF EVENTS



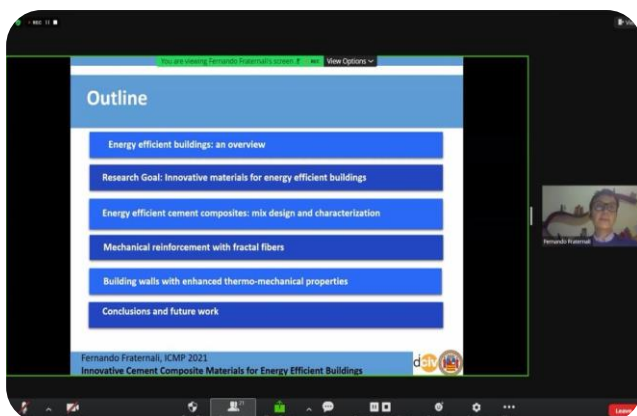
राजभाषा पुरस्कार वितरण समारोह

समारोह के दौरान प्रश्न-मंच का आयोजन भी किया गया जिसमें संस्थान के सभी फैकल्टी स्टाफ/अधिकारियों/कर्मचारियों एवं एमई विद्यार्थियों/पीएचडी करने वाले छात्रों ने भाग लिया। वर्ष के दौरान संस्थान में हिन्दी को बढ़ावा देने के लिए 03 प्रोत्साहन योजनाएं भी होती है।

इन योजनाओं के अन्तर्गत जिन अधिकारियों तथा कर्मचारियों द्वारा वर्ष के दौरान उल्लेखनीय कार्य किया जाता है, मूल रूप से हिन्दी में अधिक से अधिक कार्य करते हैं और हिन्दी में अधिक से अधिक टाइपिंग कार्य करते हैं, एवं जो अधिकारीगण अधिक से अधिक डिक्टेसन हिन्दी में देते हैं, उन्हें भी पुरस्कार दिया गया। अध्यक्ष महोदय ने पुरस्कार विजेताओं को पुरस्कृत किया एवं अपने अध्यक्षीय भाषण में हिन्दी प्रयोग की दिनों दिन बढ़ रही प्रगति की प्रशंसा की और कहा कि हिंदी सिर्फ किसी वर्ग विशेष की भाषा नहीं है परंतु यह भारत के जन-जन की भाषा है। उन्होंने पुरस्कार विजेताओं को बधाई देने के साथ-साथ उन लोगों का भी उत्साहवर्धन किया जिन्होंने हिन्दी प्रतियोगिताओं में भाग लिया। समारोह का समापन राष्ट्रगान के साथ हुआ।

12th International Conference on Materials Processing and Characterization (ICMPC)

12th International Conference on Materials Processing and Characterization (ICMPC) has been conducted in association with GRIET from 06th to 09th Oct, 2021, at NITTTR Chandigarh. This program has been conducted for (4) days in which a total of Eleven (11) Keynote Address and Twenty (20) parallel sessions has been conducted with more than 250 participants.



International Conference Innovative Technologies for Clean and Sustainable Development was conducted by the center for clean technologies and Sustainable Development between 14-15 October, 2021 with more than 100 participants.

GLIMPSES OF EVENTS

Tenth Alumni Meet organized on 6th December, 2021 by NITTTR, Chandigarh



NITTTR, Chandigarh organized the 10th Annual Alumni Meet on 6th December, 2021 through virtual mode. Dr. Mala Kalra welcomed all delegates and alumni of the institute. Dr. S. S. Pattnaik, Director and Patron, Alumni Association presided over the meet which was attended by around eighty alumni and faculty of the institute. In the inaugural address Dr. Pattnaik highlighted the contributions of NITTTR, Chandigarh in emerging areas of technical education and research and development. Stressing on importance of strong bonding of alumni with the institute, he said that the alumni need to have continuous association with alma mater. Prof. B.S. Pabla, and Prof. P.K. Singla expressed that our alumni are a strong pillar and can contribute towards research and development activities of our institute and for placement of our fresh graduates. Dr. P.P. Sharma, Director, Rajiv Gandhi Govt. Engineering College, Kangra, HP, shared his success story as our alumni and praised the commitment and dedication of faculty and state of the art laboratory facilities for research and development work at the institute.

Dr. Poonam Syal, coordinator of the event, interacted with the alumni on future roadmap for next five years in context with New Education Policy, NSQF and evolving ICT as well as digital education scenario. The alumni expressed their viewpoints for enhancing industry academia linkages, interdisciplinary research, active social media presence, building up on core competency of faculty, centre for policy research, strengthening virtual laboratories etc. Prof. Poonam Syal appreciated their valuable inputs and suggestions and presented the concluding remarks covering highlights regarding paradigm shift in technical education and role of NITTTR in near future. The program ended with a formal vote of thanks by Dr. Balwinder Raj.

GLIMPSES OF EVENTS

TechSpardha2k21

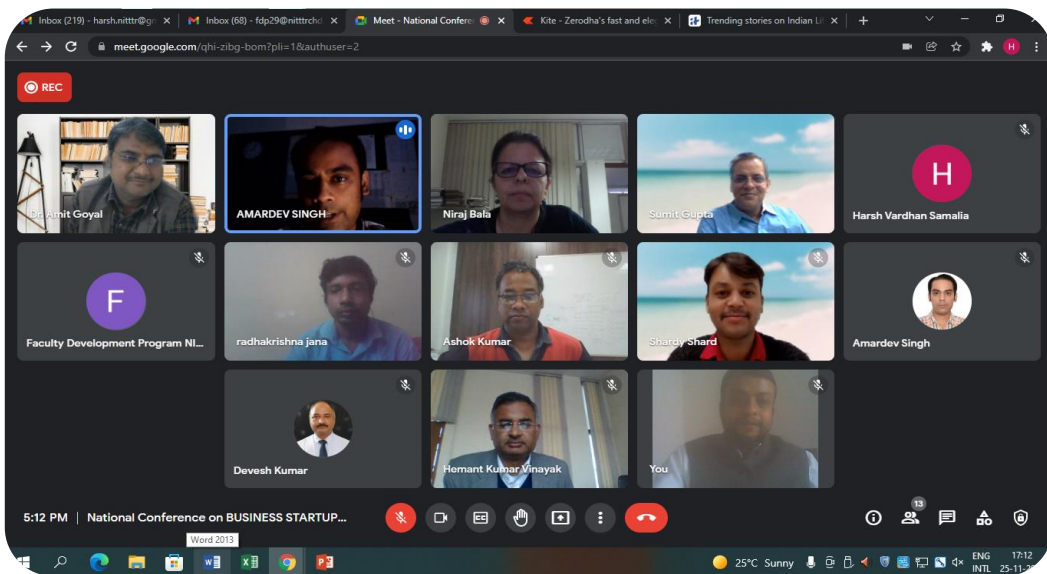


TechSpardha2K21, a National level competition for PG Engineering and PhD students was organised from 10-12 November 2021 by Techno Club, NITTTR, Chandigarh. The event was inaugurated by Dr. B S Pabla, Director Incharge and Professor, Mechanical Engg. on 10 November 2021. This time the event is based on the theme “Technological Independence” and is conducted in hybrid mode. A total of 24 teams initially submitted their prototype development ideas, out of which 11 teams registered for the event and finally 7 teams turned up for participating in the final round of the event. Four teams developed their projects at NITTTR, Chandigarh whereas three teams whose projects were related to additive manufacturing, developed them at their respective Institutes. However they remained connected with us through online mode as well as two senior faculty members visited their institutes for observing the progress of their projects. On the last day of the event, all the teams presented their projects in person before jury members for evaluation. Dr. Sunil Agarwal, Professor, UIET, Panjab University, Chandigarh and Sh. Vijay Meena, Principal Scientist, CSIR-CSIO, Chandigarh were invited as the jury members of this event. Two teams were declared as 1st Winner of TechSpardha2k21. Out of these two teams, one Team was from GNDEC, Ludhiana and other team belonged to NITTTR, Chandigarh. The prizes of winners were sponsored by Gigabyte Networks Pvt. Ltd., Bank of Baroda, Eastman Cast & Forge Limited, Ludhiana.



GLIMPSES OF EVENTS

NATIONAL VIRTUAL CONFERENCE ON BUSINESS STARTUPS, INNOVATION AND ENTREPRENEURSHIP

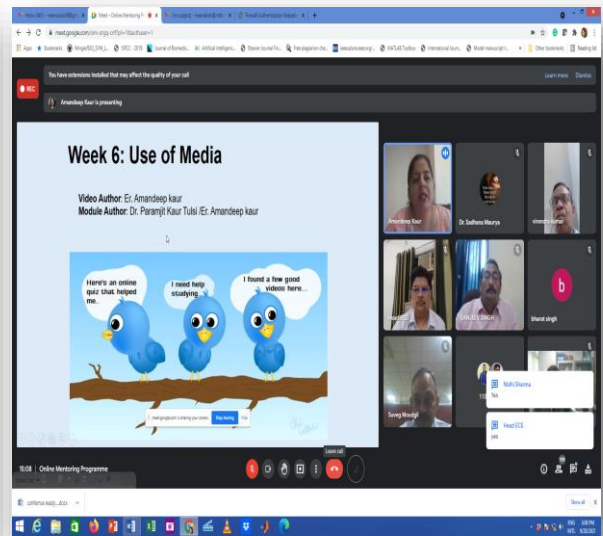
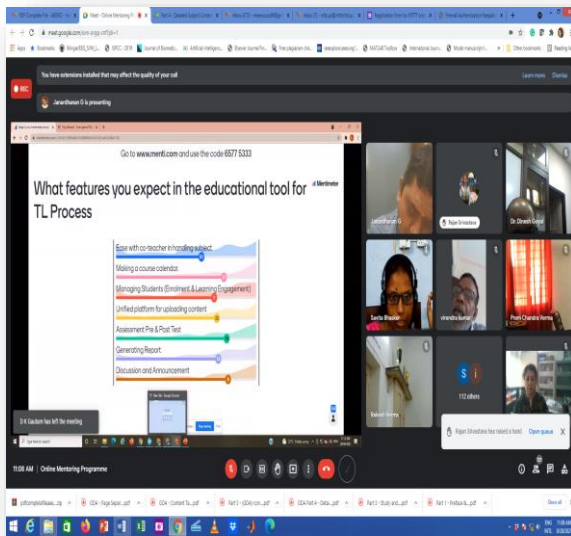


This conference was visualized with an aim to provide an interdisciplinary platform for researchers, practitioners and educators to present and discuss the most recent happenings in the field of business startups, innovation and entrepreneurship and their role in unlocking the true potential of Indian economy.

More than 42 submissions from pan India were received and after due plagiarism and quality check 27 submissions were selected for final presentation in three technical sessions spread over two days i.e. 26th and 27th November, 2021. The themes of three technical session were also kept in sync with the overall theme of the conference. Session one theme was “Organizational Variables and Business Startups” while session 2 and 3 themes were “Harnessing Innovative Opportunities” and “Changing Entrepreneurial Ecosystem” respectively. The keynote address during the conference’s inaugural session was delivered by Prof Sunil Shukla, Director, Entrepreneurship Development Institute of India, Ahmedabad while valedictory address was delivered by Shri H. S. Cheema, Founder and Managing Director of Cheema Boilers Ltd. Punjab. Besides paper presentation each session also witnessed an invited talk from eminent academicians from IITs and IIMs as well as from established industrialists which included Prof Santosh Rangnekar of IIT Roorkee, Prof Naliniprava Tripathy of IIM Shillong and Mr Sumit Gupta of DXC India Ltd (Formerly Computer Sciences Corporation, India Ltd).

GLIMPSES OF EVENTS

Institute Organized 4 AICTE-ATAL Training programmes and trained 499 participants from all over India. Also the institute organized 4 Mentor Orientation Training Programmes and trained 313 participants from all over India



PRODUCTS DEVELOPED

Institute established Waste Management System jointly developed by DROSS Management Systems & Energy Solutions Pvt. Ltd.



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 2021-22, 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

Institute is an approved Research Centre of Panjab University, Chandigarh, I.K. Gujral Punjab Technical University, Kapurthala and H.P. University, Shimla for Ph.D. Program as on March 2022, 66 students are undergoing Ph.D. programs in different disciplines. The Institute is also a Ph.D. Centre under QIP (Poly) Scheme of AICTE.

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

The Institute offers full-time industry-oriented and practice-based Master's Degree Programs of 02 years duration affiliated to Panjab University, Chandigarh and approved by AICTE in the following disciplines:

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

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

Admissions made in these programs during 2021-22 are given below:

LONG TERM PROGRAMMES

ME (Modular) Programme 2021-22							
Sr. No.	Name of the Programme	No. of Participants				Total	State wise breakup
		Poly	EC	Ind.	Gen		
1.	Mechanical Engineering	21	-	-	-	21	BH-7, RJ-6, HP-6, NL-1, TS-1
2.	Civil Engineering (Construction Tech. & Management)	13	-	10	-	23	CH-1, LK-1, TS-3, DL-1, HR-4, UP-2, PB-1, BH-7, WB-1, NL-1, NZ-1
3.	Computer Science and Engineering	5	-	-	-	5	HP-1, BH-1, RJ-2, NL-1
4.	Electrical Engineering (Instrumentation and Control)	14	-	3	-	17	BH-10, HP-2, J&K-2, NL-1, JH-1, PB-1
5.	Electronics and Communication Engineering	20	-	-	-	20	HP-1, Kerla-3, RJ-11, BH-4, JH-1
Total		73	0	13	0	86	

ME (Regular) Programme 2021-22							
Sr. No.	Name of the Programme	No. of Participants				Total	State wise breakup
		Poly	EC	Ind.	Gen		
1.	Mechanical Engineering	3	-	-	4	7	BH-1, HP-3, UP-1, MP-1, PB-1
2.	Mechanical Engineering (Robotics)	-	-	-	1	1	HR-1
3.	Civil Engineering (Construction Tech. & Management)	2	-	-	22	24	HP-7, UP-7, PB-2, HR-3, BH-1, SK-1, RJ-1, CH-2
4.	Computer Science and Engineering	1	-	-	7	8	MP-1, MH-1, CH-1, OD-1, PB-2, HP-1, HR-1
5.	Electrical Engineering (Instrumentation and Control)	-	-	-	4	4	HP-3, MP-1
6.	Electronics and Communication Engineering	-	-	-	3	3	CH-1, UP-2
7.	Electronics and Communication Engineering (Artificial Intelligence)	-	-	-	-	-	
Total		6	-	-	41	47	

**72 (Regular) and 146 (Modular) students of previous batches are also on roll.
Total ME Students on roll –M.E. (Regular)- 119 and M.E. (Modular)- 232 thus, total=351**

PB-Punjab, UP-Uttar Pradesh, HP-Himachal Pradesh, J&K-Jammu & Kashmir, UK-Uttarakhand, HR-Haryana, CH-Chandigarh, MH-Maharashtra, BH-Bihar, NL-Nagaland, DL-Delhi, JH-Jharkhand, RJ-Rajasthan, WB- West Bengal, SK- Sikkim, OD- Odisha,

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

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

The Institute offers need-based and customized short-term courses of one to two weeks duration for faculty/staff of engineering colleges, polytechnics and working professionals from industry. During the year 2021-22, 311 short-term programs were conducted through ICT mode for faculty/staff of engineering colleges and polytechnics which were attended by 11500 teachers from various states of the country. 23 other STCs were conducted by the Institute which are Sponsored by Various Agencies like AICTE, DST etc in which 2221 participants trained. 13 Courses were conducted under Consultancy in which 497 participants trained.

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= 42091 (11500+2221+497+27873)

	Type of Training Programs	No. of Courses/ Programs	No. of Teachers Trained
A)	Short Term Courses		
	ICT Mode	311	11500
	Sponsored Programmes	23	2221
	Consultancy Programmes	13	497
	Total	347	14218
B)	Conferences/Seminars:		
	(i) International	3	435
	(ii) National	4	528
(C)	Number of Training Workshops:	29	2321
	Total	36	3284
D)	Students Training Programs	18	731
E)	Curriculum Development Workshops	91	922

INTERNATIONAL CONFERENCES ORGANIZED ►

S.No.	Title(s)	From	To	No. of Participants
1.	International Conference on Edge, IoT and Social Computing for Digital Villages (ICEISCDV-2021) was organized as e-conference on 29-30 April 2021	29.04.2021	30.04.2021	100
2.	International conference on "Emerging Technology: AI,IOT and CPS and CPS for Science and Technology Application organized jointly by Department of ECE and EE, NITTTR, Chandigarh from 06-07/09/2021 all Faculty of ECE Dept.	06.09.2021	07.09.2021	85
3.	12 th International Conference on Materials Processing and Characterization, October 6 - 9, 2021	06.10.2021	09.10.2021	250

◀ NATIONAL CONFERENCES/ SEMINARS ORGANIZED

Sr.No.	Name of the Seminar/Conference	Total No. of Participants
1.	Organized one-day seminar on Quality Ecosystem Through NEP-2020, Conducted online by Atmanirbhar Bharat Task Force and Bharatiya Shikshan Mandal, Punjab, held on 26 Oct 2021	280
2.	Seminar on Implementation of NEP-2020 in Higher Technical Institutions" Jointly with MRS-PTU Bathinda on 5th April, 2021.	201
3.	National Conference on Business Startups, Innovation and Entrepreneurship	27
4.	National Level Competition TechSpardha2k21 at NITTTR Chandigarh, from 10-12 November 2021	20

WORKSHOPS (OTHER THAN CURRICULUM DEVELOPMENT WORKSHOPS) ►

Sr.No.	Name of the Workshop along with dates and venue	Total No. of Participants
1.	Awareness talk-cum-Eye checkup on 27.10.2021 at NITTTR, Chandigarh.	65
2.	Oral Health workshop online June 2021.	48
3.	Mentoring Workshop for Himachal Pradesh, Punjab, Chandigarh and Uttarakhand (August 2 – 6, 2021) NITTTR Chandigarh	123
4.	O. Plan Workshop- Delhi State (December 29, 2021)	29
5.	O. Plan Workshop- HP State (November 26, 2021)	46
6.	Renewable Energy Materials and Devices 03-04 Feb, 2022	86
7.	Mentoring Workshop for Haryana (21-25 June, 2021)	57
8.	Mentoring Workshop for Rajasthan (25-29 October 2021)	25

◀ WORKSHOPS (OTHER THAN CURRICULUM DEVELOPMENT WORKSHOPS)

Sr.No.	Name of the Workshop along with dates and venue	Total No. of Participants
9.	Workshop on “Nanoscale Characterization and Analysis” from 10-11 March, 2022 at NITTTR, Chandigarh	240
10.	Online Workshop on Industry IOT & AI (31/05/2021 to 04/06/2021)	157
11.	Digital filter Design with MATLAB to on-line	13
12.	Image processing using MATLAB 13.09.2021 to 24.09.2021 (2 weeks)	13
13.	Mentors Training Workshop for UP State at NITTTR, Chandigarh from 27/09/2021 to 01/10/2021	148
14.	One day Seminar on “quality Ecosystem” through NEP 2020	288
15.	Challenges and issues of adopted villages under UBA , 4th June 2021, NITTTR Chandigarh	33
16.	Linking UBA – Punjab Activities with Sambandh Portal of Punjab and Solutions for waste management and pond cleaning’ 24th June 2021, NITTTR Chandigarh	46
17.	Unnat Bharat Abhiyan Arogya Series NITTTR Chandigarh 28th June 2021, NITTTR Chandigarh	212
18.	Plan of action for next 5 year under UBA, 4th August 2021, NITTTR Chandigarh	21
19.	Covid-19 Management and Rural Business Model, 17th August 2021, NITTTR Chandigarh	18
20.	Technology Awareness Program at Haripur Village, Ropar (Punjab) under UBA, 18th November, 2021	105
21.	Technology Awareness Program at Hirdapur village, Ropar (Punjab) under UBA, 30th November, 2021	55
22.	Online Workshop for Preparation of O-Plan for the year 2022-23 for Rajasthan State, 9th December, 2021	118
23.	Online Workshop on Technology Dissemination, 16th December, 2021	17
24.	Organized 10th Annual Alumni Meet Alumni Meet on 06/12/2021	80
25.	Refresher workshop for Training and Placement officers, 09-10 September, 2021	14
26.	Generating Consultancy in Technical Institutions, 07-08 October, 2021	29
27.	Webinar for the faculty, staff students and their families on ‘Healthy Mouth-Healthy Body’ online session on 23rd June, 2021, at 11:00 AM	48
28.	Awareness talk for the faculty, staff, students and their families by Dr. Aditya Sharma (Ophthalmologist) and Dr. Priyanka (Gynaecologist) on “Rise of Eye Health Problem Amidst the Era of Increased Computer Usage” and “Discharge – When I need to Worry”. The programme was held online. on 27th October, 2021 at 3:00 PM in the auditorium.	65
29.	Webinar on “Startup India and Startups in Educational and Research Institutions of India” on 22 September, 2021 from 3.00 pm to 4.00 pm	14
30.	Webinar on Scanning of Environment and Business Opportunity Guidance” on 16th December, 2021	17
31.	Workshop on Outcome based Education and NBA on Oct 30 & 31, 2021	173

During the year 2021-22, 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 MHRD.

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



2 Text Books	6 Text Books Edited	11 Book Chapters
9 Lab Manuals	2 Worksheets	3 Instructional Manual

Text Books

1. Internet of Things for Indoor Air Quality Monitoring, Authors: Saini, Jagriti, Dutta, Maitreyee, Marques, Goncalo <https://www.springer.com/gp/book/9783030822156#aboutBook>
2. Integrating IoT and AI for Indoor Air Quality Assessment. Editors: Jagriti Saini, Maitreyee Dutta, Goncalo Marques, Malka N. Halgamuge. Series: Internet of Things- Technology, Communications and Computing. Springer. <https://link.springer.com/book/9783030964856> (SCOPUS Indexed)

Text Books Edited

1. '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, 2021. Guest Editor for Special issue "3D and 4D Hybrid Printed Functional Prototypes" Materials International Open Access Journal, 2021 (ISSN: 2668-5728) by Rupinder Singh.
2. Materials today: Proceedings for Symposium on Synthesis, Characterization & Processing of Inorganic, Bio and Nano Materials – 2021, (Edited by Jasgurpreet Singh Chohan, Rupinder Singh, Harjot Singh Gill, Raman Kumar), Volume 48, Part 5, 2022, pp 927-1774 (Elsevier).

Text Books Edited (contd..)

3. '4D Printing: Fundamentals and Applications, Elsevier, 2022 (ISBN: 9780128237250) by Rupinder Singh.
4. Advances in Manufacturing Technology: Computational Materials Processing and Characterization, (Co-Editor: S.S.Dhami, B.S.Pabla) CRC Press, Taylor & Francis, 2022
5. Additive Manufacturing for Plastic Recycling: Efforts in Boosting A Circular Economy (Co-Editor Ranvijay Kumar), CRC Press, Taylor & Francis, 2022
6. Bio manufacturing [Ed] published by Springer Switzerland

Book Chapters

1. Arminder Kaur, Pankaj Sharma, Sumit Bhardwaj, Munish Kumar, Indu Sharma, Khalid Mujasam Batoo, Gagan Kumar, A Review on Synthesis and Characterizations of Mixed Nickel-Zinc Ferrites, Materials Research Foundations, Vol. 112, pp 189-217, 2021
2. Gaurav Katoch, Garima Rana, M. Singh, Alberto García-Peñas, Sumit Bhardwaj, Indu Sharma, Pankaj Sharma, Gagan Kumar, Recent Advances in Processing, Characterizations and Biomedical Applications of Spinel Ferrite Nanoparticles, Materials Research Foundations, Vol. 112, pp 62-120, 2021
3. Book Name: "Synthesis and Applications of Semiconductor Nanostructures", Publisher: Bentham Science Publishers, Chapter: "Understanding Synthesis and Characterization of Oxide Semiconductor Nanostructures through the Example of Nanostructured Nickel Doped Hematite, Authors: Ashok Kumar et al. (submitted)
4. Book Name: "Emerging Two Dimensional Materials and Applications, Publisher: CRC Press, Editors, Arun Kumar Singh, Ram Sevak Singh, Anar Singh, Chapter: "2D Materials for Energy Harvesting, Authors: Ashok Kumar et al. (submitted)
5. Pankaj Sharma, Vineet Sharma, Nikhil Thakur, Pawan Kumar, and Ashok Kumar. "Ferrite Materials for Microwave and High Frequency Antenna Applications." In Ferrites and Multiferroics, pp. 107-115. Springer, Singapore, 2021. DOI: 10.1007/978-981-16-7454-9_6
6. Sumit Bhardwaj, Joginder Paul, Gagan Kumar, Pankaj Sharma, and Ravi Kumar. "Multiferroicity in Aurivillius Based Bi₄Ti₃O₁₂ Ceramics: An Overview, Future Prospective and Comparison with Ferrites." Ferrite: Nanostructures with Tunable Properties and Diverse Applications 112 (2021): 311-335. DOI: 10.21741/9781644901595-9
7. Jagriti Saini; Maitreyee Dutta; Gonçalo Marques; "Indoor Air Quality: Impact on Public Health", in Internet of Things for Indoor Air Quality Monitoring, Cham: Springer International Publishing, 2021, pp. 1–14. Doi: 10.1007/978-3-030-82216-3_1.
8. Jagriti Saini; Maitreyee Dutta; Gonçalo Marques; "Internet of Things (IoT): The Futuristic Technology," in Internet of Things for Indoor Air Quality Monitoring, Cham: Springer International Publishing, 2021, pp. 15–31. Doi: 10.1007/978-3-030-82216-3_2.

Book Chapters (contd..)

9. Jagriti Saini; Maitreyee Dutta; Gonçalo Marques; “Indoor Air Quality and Internet of Things: The State of the Art,” in Internet of Things for Indoor Air Quality Monitoring, Cham: Springer International Publishing, 2021, pp. 33–50. Doi: 10.1007/978-3-030-82216-3_3.
10. Jagriti Saini; Maitreyee Dutta; Gonçalo Marques; “Predicting Indoor Air Quality: Integrating IoT with Artificial Intelligence,” in Internet of Things for Indoor Air Quality Monitoring, Cham: Springer International Publishing, 2021, pp. 51–67. Doi: 10.1007/978-3-030-82216-3_4.
11. Jagriti Saini; Maitreyee Dutta; Gonçalo Marques; “Future Directions on IoT and Indoor Air Quality Management,” in Internet of Things for Indoor Air Quality Monitoring, Cham: Springer International Publishing, 2021, pp. 69–82. Doi: 10.1007/978-3-030-82216-3_5.

Lab Manuals

1. Lab Practices on Free and Open Source Software
2. Real Time Simulation and Modeling of Buck Converter
3. Write Protect™ desktop
4. True Imager 4.0
5. Basics of Cyber Forensics
6. XSS
7. Zolertia open notes
8. Intellectual Property Rights
9. Launching and Managing a Business Start-up

Instructional Material

1. Instructional Booklets on “Institutional Management of excellence”
2. Instructional Booklets on “Accreditation for Quality Assurance”
3. Module on Rural Innovation and Entrepreneurship



Video Films – MOOCs - 52

Educational Video Films - 17

Video Films uploaded on NCTEL Channel on Youtube - 126

MOOCs Films- 52 Videos

Sr.No.	Name of the Films	Completed	Remarks
1.	(Unit – 1) Institutional Management for Entrepreneurship (Part-1)	Completed	In house/Studio Recording done and Post-Production work Completed
2.	Part-2 Competencies of Entrepreneur.	Completed	In house/Studio Recording done and Post-Production work Completed
3.	Unit-1 Entrepreneur Competency Mapping and Business Opportunity Identification Part-3 – Opportunity Identification and Product Selection	Completed	In house/Studio Recording done and Post-Production work Completed
4.	Unit-5 Business Startups Part- Various forms of Business Organization (a)	Completed	In house/Studio Recording done and Post-Production work Completed
5.	Unit-5 Business Startups Part- Various forms of Business Organization (b)	Completed	In house/Studio Recording done and Post-Production work Completed
6.	Institutional Management for Entrepreneurship Unit-3 – Intellectual Property Right Technology Transfer and Commercialization Part-1 Intellectual Property Right and Patenting	Completed	In house/Studio Recording done and Post-Production work Completed
7.	Business Startups Part-2 Business Plan Formulation (a)	Completed	In house/Studio Recording done and Post-Production work Completed
8.	Unit-5 – Business Startups Part-2 Business Plan Formulation (a)	Completed	In house/Studio Recording done and Post-Production work Completed
9.	Institutional Management for Entrepreneurship Unit-7 Digital Marketing and Branding Part-1 Intro to Digital Marketing and Branding	Completed	In house/Studio Recording done and Post-Production work Completed
10.	Institutional Management for Entrepreneurship Unit-4 – Intellectual Property Right Technology Transfer and Commercialization Part-2 Technology Transfer, Intellectual Property Landscaping and Freedom to Operation	Completed	In house/Studio Recording done and Post-Production work Completed
11.	Unit-5 Business Startups Part-3 – Industrial Laws in India – 1	Completed	In house/Studio Recording done and Post-Production work Completed
12.	Unit-5 Business Startups Industrial Laws in India – 2	Completed	In house/Studio Recording done and Post-Production work Completed
13.	Unit-5 Business Startups Part-1 – Industrial Laws in India – 3	Completed	In house/Studio Recording done and Post-Production work Completed
14.	Institutional Management for Entrepreneurship Unit-4 – Intellectual Property Right Technology Transfer and Commercialization Part-3 IP Valuation Creating and Management and Commercialization Strategy Patent Generation	Completed	In house/Studio Recording done and Post-Production work Completed

MOOCs Films- 52 Videos (contd..)

Sr.No.	Name of the Films	Completed	Remarks
15.	Institutional Management for Entrepreneurship Business Startups Part-3 – Industrial Laws in India – 4	Completed	In house/Studio Recording done and Post-Production work Completed
16.	Institutional Management for Entrepreneurship Unit-8 Management of Business Enterprises Part-1 Function of Management	Completed	In house/Studio Recording done and Post-Production work Completed
17.	Institutional Management for Entrepreneurship Unit-8 Management of Business Enterprises Part-2 Production Management	Completed	In house/Studio Recording done and Post-Production work Completed
18.	Institutional Management for Entrepreneurship Unit-8 Management of Business Enterprises Part-3 – Financial Management	Completed	In house/Studio Recording done and Post-Production work Completed
19.	Institutional Management for Entrepreneurship Unit- Management of Business Enterprises Part-4 – Human Resource Management	Completed	In house/Studio Recording done and Post-Production work Completed
20.	Institutional Management for Entrepreneurship Unit-8 Management of Business Enterprises Part-5 –Emerging Concept in Management – Blue Ocean Strategy	Completed	In house/Studio Recording done and Post-Production work Completed
21.	Institutional Management for Entrepreneurship Unit-7 Digital Marketing and Branding Part-3 Online Survey and Promotion of Product and Services	Completed	In house/Studio Recording done and Post-Production work Completed
22.	Institutional Management for Entrepreneurship Unit-2 Entrepreneurial Eco-system and Business Incubation Part -1 Entrepreneurial Eco-system Eco-system at National Level	Completed	In house/Studio Recording done and Post-Production work Completed
23.	Institutional Management for Entrepreneurship Unit-2 Entrepreneurial Eco-system and Business Incubation Part -2 Entrepreneurial Eco-system at State and District Level Science Parks and Research Parks	Completed	In house/Studio Recording done and Post-Production work Completed
24.	Institutional Management for Entrepreneurship Unit-2 Entrepreneurial Eco-system and Business Incubation Part-3 Business Incubation	Completed	In house/Studio Recording done and Post-Production work Completed
25.	Institutional Management for Entrepreneurship Unit-6 Rural Centered Entrepreneurship Part-1 Eco-system for Rural Entrepreneurship	Completed	In house/Studio Recording done and Post-Production work Completed
26.	Institutional Management for Entrepreneurship Unit-7 Digital Marketing and Branding Part-4 – Effective Product / Service Communication EFFECTIVE PRODUCT / SERVICE COMMUNICATION	Completed	In house/Studio Recording done and Post-Production work Completed
27.	Unit-7 Digital Marketing and Branding Part-5 – Brand Creation, Development and Management	Completed	In house/Studio Recording done and Post-Production work Completed
28.	Higher Module Rural Centered Entrepreneurship Part-3 Managing Rural Startups	Completed	In house/Studio Recording done and Post-Production work Completed
29.	Virtual Education	Completed	In house/Studio Recording done and Post-Production work Completed
30.	Rural Centered Entrepreneurship	Completed	In house/Studio Recording done and Post-Production work Completed

MOOCs Films- 52 Videos (contd..)

Sr.No.	Name of the Films	Completed	Remarks
31.	Virtual Education	Completed	In house/Studio Recording done and Post-Production work Completed
32.	Virtual Education Need, Concept, Feature and Challenges	Completed	In house/Studio Recording done and Post-Production work Completed
33.	Rise of Global online Education Market	Completed	In house/Studio Recording done and Post-Production work Completed
34.	Rise of Global online Education Market	Completed	In house/Studio Recording done and Post-Production work Completed
35.	Learning outline and Setting & Q. Papers	Completed	In house/Studio Recording done and Post-Production work Completed
36.	Learning outline and Setting & Q. Papers	Completed	In house/Studio Recording done and Post-Production work Completed
37.	HM-5 Institutional Management for Entrepreneurship	Completed	In house/Studio Recording done and Post-Production work Completed
38.	Virtual Education Need, Concept, Feature and Challenges	Completed	In house/Studio Recording done and Post-Production work Completed
39.	Virtual Education Need, Concept, Features guidelines and useful Demos	Completed	In house/Studio Recording done and Post-Production work Completed
40.	Modern Mode & Instructional Delivery	Completed	In house/Studio Recording done and Post-Production work Completed
41.	Modern Mode & Instructional Delivery same useful Demos.	Completed	In house/Studio Recording done and Post-Production work Completed
42.	Continuous Assessment In Virtual Learning	Completed	In house/Studio Recording done and Post-Production work Completed
43.	Student Evaluation and C- Assessment Tools	Completed	In house/Studio Recording done and Post-Production work Completed
44.	Assessment & Extra Curricular Activities	Completed	In house/Studio Recording done and Post-Production work Completed
45.	Introductory video High Module on Institutional Management for Entrepreneurship	Completed	In house/Studio Recording done and Post-Production work Completed
46.	OBS Studio	Completed	In house/Studio Recording done and Post-Production work Completed
47.	How to add PowerPoint in your Video	Completed	In house/Studio Recording done and Post-Production work Completed
48.	Streaming Video	Completed	In house/Studio Recording done and Post-Production work Completed
49.	Excusing Examination Sanctity in Virtual Learning	Completed	In house/Studio Recording done and Post-Production work Completed
50.	Demo & Canvas an cleaning tool	Completed	In house/Studio Recording done and Post-Production work Completed
51.	Assessment : Concept and type	Completed	In house/Studio Recording done and Post-Production work Completed
52.	LO and setting question paper part 1	Completed	In house/Studio Recording done and Post-Production work Completed

Other Video Films- 17 Videos

Sr. No.	Name of the Films	Completed	Remarks
1.	By passing web authentication	Completed	In house Recording done and Post-Production work Completed
2.	A word about Cyber Security	Completed	In house Recording done and Post-Production work Completed
3.	Cyber Security Tips	Completed	In house Recording done and Post-Production work Completed
4.	The core python for Developer Learn by Coding	Completed	In house Recording done and Post-Production work Completed
5.	Narration Recording GRIID	Completed	In house Recording done and Post-Production work Completed
6.	Evaluation & Tech Learning Process	Completed	In house Recording done and Post-Production work Completed
7.	Evaluation & Tech Learning Process	Completed	In house Recording done and Post-Production work Completed
8.	Virtual Lab Approach	Completed	In house Recording done and Post-Production work Completed
9.	Demo	Completed	In house Recording done and Post-Production work Completed
10.	Evaluation & Tech Learning and Process. Demo – A Virtual Lab Approach	Completed	In house Recording done and Post-Production work Completed
11.	IOT and ITS Building Blocks	Completed	In house Recording done and Post-Production work Completed
12.	Redefining Industries of AI and IOT	Completed	In house Recording done and Post-Production work Completed
13.	Rural Development Programme in India	Completed	In house Recording done and Post-Production work Completed
14.	Plan and Pgm in India 1977 (Part ii)	Completed	In house Recording done and Post-Production work Completed
15.	Post 2002 Development Plans (Part iii)	Completed	In house Recording done and Post-Production work Completed
16.	Lab experiments on Optical Fibar	Completed	In house Recording done and Post-Production work Completed
17.	FOTM	Completed	In house Recording done and Post-Production work Completed

NCTEL Uploaded Films- 126 Videos

Sr. no.	Name of the Video uploaded on NCTEL	Completed	Remarks
1.	MIMO Systems	Completed	NCTEL Edited & Uploaded Film
2.	4G and 5G Architecture	Completed	NCTEL Edited & Uploaded Film
3.	Multiple Access Technologies for 5G	Completed	NCTEL Edited & Uploaded Film
4.	MIMO Part 2 and Massive MIMO	Completed	NCTEL Edited & Uploaded Film
5.	Prof Siby John Implementation of NEP 2020 for Quality Online and Open Distance Learning ODL Edu	Completed	NCTEL Edited & Uploaded Film
6.	Prof S S Pattnaik Implementation of NEP 2020 for Quality Online and Open Distance Learning ODL	Completed	NCTEL Edited & Uploaded Film
7.	Prof Rajneesh Arora Implementation of NEP 2020 for Quality Online and Open Distance Learning ODL	Completed	NCTEL Edited & Uploaded Film
8.	Implementation of NEP 2020 for Quality Online and Open Distance Learning ODL Education 28 04 20	Completed	NCTEL Edited & Uploaded Film
9.	Circuit Simulation and Design Tool	Completed	NCTEL Edited & Uploaded Film
10.	Introduction to Signal Conditioning and Sensors	Completed	NCTEL Edited & Uploaded Film
11.	DAY 1 Session 1 Keynote Address on Accreditation by Dr. SS Pattnaik	Completed	NCTEL Edited & Uploaded Film
12.	DAY 1 Session 2 Blooms Taxonomy and Teaching – Learning Processes by Dr.(Ms.) PK Tulsi	Completed	NCTEL Edited & Uploaded Film
13.	DAY 2 Session 1 developing COs and their mapping with POs and PSOs by Dr.PS Grover	Completed	NCTEL Edited & Uploaded Film
14.	DAY 2 Session 2 Student Assessment using Rubrics by Dr.Balwinder S Dhaliwal	Completed	NCTEL Edited & Uploaded Film
15.	DAY 3 Session 1 Attainment of COs, POs and PSOs by Dr.PS Grover	Completed	NCTEL Edited & Uploaded Film
16.	DAY 3 Session 2 Examination Reforms by Dr.Meenakshi Sood	Completed	NCTEL Edited & Uploaded Film
17.	DAY 4 Session 1 Accreditation of Undergraduate Engg Programs (Tier I Institutions) by Dr.SS Gill	Completed	NCTEL Edited & Uploaded Film
18.	DAY 4 Session 2 Applying for NBA Self Assessment Report (SAR) Criteria 5-10 by Dr.Srinivasa KG	Completed	NCTEL Edited & Uploaded Film
19.	DAY 5 Session 1 Documentation and Files Preparation by Dr.Sandeep Grover	Completed	NCTEL Edited & Uploaded Film
20.	DAY 5 Session 2 Evaluation Guidelines and Reports Evaluators Perspective by Dr.C Rama Krishna	Completed	NCTEL Edited & Uploaded Film
21.	IoT and Artificial Intelligence	Completed	NCTEL Edited & Uploaded Film
22.	Introduction to IoT and its Applications	Completed	NCTEL Edited & Uploaded Film
23.	Introduction to Arduinio and GPIO	Completed	NCTEL Edited & Uploaded Film
24.	Zigbee, Bluetooth, GSM, GPS and WiFi interfacing with Arduinio	Completed	NCTEL Edited & Uploaded Film
25.	Face detection and object identification application	Completed	NCTEL Edited & Uploaded Film
26.	Introduction to AI, ML, DL	Completed	NCTEL Edited & Uploaded Film
27.	RaspberryPi Introduction and Practical	Completed	NCTEL Edited & Uploaded Film
28.	Python and its Programming	Completed	NCTEL Edited & Uploaded Film
29.	DAY 1 Session 1 Digital Electronics Lab Using Multisim Live Simulator By Dr. Balwinder Singh	Completed	NCTEL Edited & Uploaded Film
30.	Day 1 Session 2 PCB Design using Dip Trace by Mr. Suminder Singh	Completed	NCTEL Edited & Uploaded Film

NCTEL Uploaded Films- 126 Videos (contd..)

Sr. no.	Name of the Video uploaded on NCTEL	Completed	Remarks
31.	Day 2 Session 1 Basic Electronics Lab using Multisim Live Simulator by Mr. Devender Dhawan	Completed	NCTEL Edited & Uploaded Film
32.	Day 2 Session 2 Tinkercad Simulator for Arduino Programming by Mr. Ajay Godara	Completed	NCTEL Edited & Uploaded Film
33.	Day 3 Session 1 Applied Electronics Lab using Multisim Live Simulator by Mr. Devender Dhawan	Completed	NCTEL Edited & Uploaded Film
34.	Day 3 Session 2 IoT System Development using Node Red Simulator by Mr. Ajay Godara	Completed	NCTEL Edited & Uploaded Film
35.	Day 4 Session 1 OP AMP Lab using Multisim Live Simulator by Mr. Devender Dhawan	Completed	NCTEL Edited & Uploaded Film
36.	Day 4 Session 2 DSP Lab Using Scilab by Dr. Maitreyee Dutta	Completed	NCTEL Edited & Uploaded Film
37.	Day 5 Session 1 Data Visualization and Machine Learning using Orange Software by Dr. Amit Kamra	Completed	NCTEL Edited & Uploaded Film
38.	Day 5 Session 2 WSN Introduction using NS3 by Dr. Bheemappa H	Completed	NCTEL Edited & Uploaded Film
39.	Day 1 Session 1 Types of Defects in RCC Structures - An Overview by Dr. Sanjay Sharma	Completed	NCTEL Edited & Uploaded Film
40.	Day 1 Session 2 Introduction to NDT Equipment by Dr. Amit Goyal	Completed	NCTEL Edited & Uploaded Film
41.	Institute Tour of NITTTR Chandigarh	Completed	NCTEL Edited & Uploaded Film
42.	Day 1 Session 1 QIP Sponsored STC on 4D Printing for Smart Manufacturing 28 June-3 July 2021	Completed	NCTEL Edited & Uploaded Film
43.	Day 1 Session 3 QIP Sponsored STC on 4D Printing for Smart Manufacturing 28 June-3 July 2021	Completed	NCTEL Edited & Uploaded Film
44.	Day 2 Session 1 QIP Sponsored STC on 4D Printing for Smart Manufacturing 28 June-3 July 2021	Completed	NCTEL Edited & Uploaded Film
45.	Day 1 Session 2 QIP Sponsored STC on 4D Printing for Smart Manufacturing 28 June-3 July 2021	Completed	NCTEL Edited & Uploaded Film
46.	Day 2 Session 2 QIP Sponsored STC on 4D Printing for Smart Manufacturing 28 June-3 July 2021	Completed	NCTEL Edited & Uploaded Film
47.	Day 2 Session 3 QIP Sponsored STC on 4D Printing for Smart Manufacturing 28 June-3 July 2021	Completed	NCTEL Edited & Uploaded Film
48.	Day 3 Session 2 QIP Sponsored STC on 4D Printing for Smart Manufacturing 28 June-3 July 2021	Completed	NCTEL Edited & Uploaded Film
49.	Day 3 Session 3 QIP Sponsored STC on 4D Printing for Smart Manufacturing 28 June-3 July 2021	Completed	NCTEL Edited & Uploaded Film
50.	Day 3 Session 1 QIP Sponsored STC on 4D Printing for Smart Manufacturing 28 June-3 July 2021	Completed	NCTEL Edited & Uploaded Film
51.	Day 4 Session 1 QIP Sponsored STC on 4D Printing for Smart Manufacturing 28 June-3 July 2021	Completed	NCTEL Edited & Uploaded Film
52.	Day 4 Session 2 QIP Sponsored STC on 4D Printing for Smart Manufacturing 28 June-3 July 2021	Completed	NCTEL Edited & Uploaded Film
53.	Day 5 Session 1 QIP Sponsored STC on 4D Printing for Smart Manufacturing 28 June-3 July 2021	Completed	NCTEL Edited & Uploaded Film
54.	Day 4 Session 3 QIP Sponsored STC on 4D Printing for Smart Manufacturing 28 June-3 July 2021	Completed	NCTEL Edited & Uploaded Film
55.	Day 5 Session 3 QIP Sponsored STC on 4D Printing for Smart Manufacturing 28 June-3 July 2021	Completed	NCTEL Edited & Uploaded Film
56.	Day 5 Session 2 QIP Sponsored STC on 4D Printing for Smart Manufacturing 28 June-3 July 2021	Completed	NCTEL Edited & Uploaded Film

NCTEL Uploaded Films- 126 Videos (contd..)

Sr. no.	Name of the Video uploaded on NCTEL	Completed	Remarks
57.	Day 6 Session 1 QIP Sponsored STC on 4D Printing for Smart Manufacturing 28 June-3 July 2021	Completed	NCTEL Edited & Uploaded Film
58.	Day 6 Session 2 QIP Sponsored STC on 4D Printing for Smart Manufacturing 28 June-3 July 2021	Completed	NCTEL Edited & Uploaded Film
59.	Practice Session Day 1 Session 1 Structural Design with STAAD PRO 23-27 August 2021	Completed	NCTEL Edited & Uploaded Film
60.	Practice Session Day 1 Session 2 Structural Design with STAAD PRO 23-27 August 2021	Completed	NCTEL Edited & Uploaded Film
61.	Practice Session Day 2 Session 1 Structural Design with STAAD PRO 23-27 August 2021	Completed	NCTEL Edited & Uploaded Film
62.	Practice Session Day 2 Session 2 Structural Design with STAAD PRO 23-27 August 2021	Completed	NCTEL Edited & Uploaded Film
63.	Practice Session Day 3 Session 1 Structural Design with STAAD PRO 23-27 August 2021	Completed	NCTEL Edited & Uploaded Film
64.	Practice Session Day 3 Session 2 Structural Design with STAAD PRO 23-27 August 2021	Completed	NCTEL Edited & Uploaded Film
65.	Practice Session Day 4 Session 1 Structural Design with STAAD PRO 23-27 August 2021	Completed	NCTEL Edited & Uploaded Film
66.	Practice Session Day 4 Session 2 Structural Design with STAAD PRO 23-27 August 2021	Completed	NCTEL Edited & Uploaded Film
67.	Practice Session Day 5 Session 1 Structural Design with STAAD PRO 23-27 August 2021	Completed	NCTEL Edited & Uploaded Film
68.	Practice Session Day 5 Session 2 Structural Design with STAAD PRO 23-27 August 2021	Completed	NCTEL Edited & Uploaded Film
69.	NITTTR Chandigarh 54th Annual Day Celebration	Completed	NCTEL Edited & Uploaded Film
70.	Annual Day 2021	Completed	NCTEL Edited & Uploaded Film
71.	Annual Day Cultural Eve 2021	Completed	NCTEL Edited & Uploaded Film
72.	Large scale grid integration of renewable energy sources	Completed	NCTEL Edited & Uploaded Film
73.	Wide area power system monitoring and control	Completed	NCTEL Edited & Uploaded Film
74.	HIL Simulation of distributed generation sources and microgrid	Completed	NCTEL Edited & Uploaded Film
75.	Impact of distributed generation on microgrid	Completed	NCTEL Edited & Uploaded Film
76.	power quality improvement in solar Integrated system	Completed	NCTEL Edited & Uploaded Film
77.	Next Generation Applications of Wearable and Flexible Antennas By Dr. T Shanmuganathan,	Completed	NCTEL Edited & Uploaded Film
78.	Antenna Radiation & Biomedical Interaction by Prof. S.S. Pattnaik, NITTTR Chandigarh	Completed	NCTEL Edited & Uploaded Film
79.	Flexible Antenna Design for Biotelemetry Applications by Mr. Doondi Kumar, KITS Coimbatore	Completed	NCTEL Edited & Uploaded Film
80.	Textile Based Wearable/Flexible Antennas: Fabrication and Testing Case Studies by Dr. J. G. Joshi	Completed	NCTEL Edited & Uploaded Film
81.	3-D Printing and its application for Non-Textile Wearable Antenna Design by Prof. Rupinder Singh,	Completed	NCTEL Edited & Uploaded Film
82.	Fabrication and Testing of Wearable and Flexible Antennas by Dr. T Shanmuganathan, Pondicherry	Completed	NCTEL Edited & Uploaded Film
83.	Antenna Characterizations and Testing by Dr. Mukesh Kumar Khandelwal JNU, Delhi	Completed	NCTEL Edited & Uploaded Film
84.	Overview of Wearable and Flexible Antennas by Dr. Balwinder S. Dhaliwal, NITTTR Chandigarh	Completed	NCTEL Edited & Uploaded Film
85.	Simulation of Wearable Antennas using HFSS Software by Dr. Garima Saini, NITTTR Chandigarh	Completed	NCTEL Edited & Uploaded Film

NCTEL Uploaded Films- 126 Videos (contd..)

Sr. no.	Name of the Video uploaded on NCTEL	Completed	Remarks
87.	Basics of Machine Learning and AI	Completed	NCTEL Edited & Uploaded Film
88.	Computer learning and ML:DL	Completed	NCTEL Edited & Uploaded Film
89.	Convolutional neural Network	Completed	NCTEL Edited & Uploaded Film
90.	Fuzzy logic Computation	Completed	NCTEL Edited & Uploaded Film
91.	Machine learning at Edge Devices	Completed	NCTEL Edited & Uploaded Film
92.	machine learning	Completed	NCTEL Edited & Uploaded Film
93.	Reinforcement Learning Methods	Completed	NCTEL Edited & Uploaded Film
94.	Deep Reinforcement Learning	Completed	NCTEL Edited & Uploaded Film
95.	ANN ensemble based hybrid Algorithm	Completed	NCTEL Edited & Uploaded Film
96.	Non stationary signal processing	Completed	NCTEL Edited & Uploaded Film
97.	Quality Ecosystem through NEP 2020	Completed	NCTEL Edited & Uploaded Film
98.	Techspardha 2019	Completed	NCTEL Edited & Uploaded Film
99.	Techspardha 2018	Completed	NCTEL Edited & Uploaded Film
100.	Inauguration of Techspardha 2021	Completed	NCTEL Edited & Uploaded Film
101.	Techspardha 2021	Completed	NCTEL Edited & Uploaded Film
102.	Achieving Dreams of Self Reliant India through inculcating Cultural Values	Completed	NCTEL Edited & Uploaded Film
103.	National conference on Business Start up	Completed	NCTEL Edited & Uploaded Film
104.	NR Technology Standard by Dr Garima Saini	Completed	NCTEL Edited & Uploaded Film
105.	Propagation Models for 5g by Dr Garima saini	Completed	NCTEL Edited & Uploaded Film
106.	Multiple Access Tech for 5g and Beyond by Brijesh Khumani	Completed	NCTEL Edited & Uploaded Film
107.	Design Aspect of Next Gen Antenna System by Dr Manoj Sharma	Completed	NCTEL Edited & Uploaded Film
108.	Demystifying Machine Learning by Rishemit Kaur	Completed	NCTEL Edited & Uploaded Film
109.	TaaraNG Numerical software Part i by Swapnil Gaul	Completed	NCTEL Edited & Uploaded Film
110.	TaaraNG Numerical software Part ii by Nihar Kanta Sahoo	Completed	NCTEL Edited & Uploaded Film
111.	5G and Beyond wireless System by Ekant Sharma	Completed	NCTEL Edited & Uploaded Film
112.	5G NR OFDM: MATLAB Implementation by Ekant Sharma	Completed	NCTEL Edited & Uploaded Film
113.	Intelligent Reflecting Surface for future generation wireless communication by Dr Brijesh Kumbhani	Completed	NCTEL Edited & Uploaded Film
114.	Semiconductor Technologies for 5G Communication by Dr Balwinder Raj	Completed	NCTEL Edited & Uploaded Film
115.	Republic Day Celebration at NITTTR Chandigarh	Completed	NCTEL Edited & Uploaded Film
116.	Balidan Diwas 23rd MArch 2022	Completed	NCTEL Edited & Uploaded Film
117.	Expert Lecture on Managing Tools	Completed	NCTEL Edited & Uploaded Film
118.	Online Simulator by Mr Ajay Godara	Completed	NCTEL Edited & Uploaded Film
119.	PCB Design Tools by Dr Payal Bansal	Completed	NCTEL Edited & Uploaded Film
120.	TinkerCAD Simulator by Dr C Padmaja	Completed	NCTEL Edited & Uploaded Film
121.	Reference Management and report writing using Mendeley	Completed	NCTEL Edited & Uploaded Film
122.	Student Evaluation using Hotpotatoes by Dr Devenendra Somwanshi	Completed	NCTEL Edited & Uploaded Film
123.	Multisim Live Simulator by Dr Balwinder Dhaliwal	Completed	NCTEL Edited & Uploaded Film
124.	Online Free tools for Real Time communication in Class By Gaurav Kumar	Completed	NCTEL Edited & Uploaded Film
125.	Google Classroom by Dr Garima Saini	Completed	NCTEL Edited & Uploaded Film
126.	Managing tools for effective teaching learning by Monika Arora	Completed	NCTEL Edited & Uploaded Film



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 2021-22, 38 curricula have been designed. The Institute conducted 91 Curriculum Development Workshops of 1-2 days' duration which were attended by 922 participants. The Institute has taken 04 consultancy projects to design and develop curriculums for various state.

Patent Filed by faculty:

Sr.No.	Name of Patent	Author (s) Name
1.	Customized dental implant assembly (Ref. No. Indian Patent Application No: 202111056440 dated Dec. 06, 2021)	Ashish Jain, V Grover, Rupinder Singh, Ap Singh, S.R Pradhan, Rishab, Satinder Singh
2.	Application Number- 202111031068 "A System For Monitoring Plantation and A Method Thereof" has been published in India Patent Journal on dated 30th July 2021.	Dr. Meenakshi Sood



Research Grants received by faculty

1. Research Grant of Rs 2.25 crore from HP Disaster Management Authority for conducting structural safety audit of hospitals and school buildings in district Chamba, Bilaspur, Solan, Shimla and Una
2. Research Grant of 1 lac from DST Chandigarh
3. Research Grant of Rs. 37 lacs by SERB-DST
4. Received grant of Rs. 3.72 lacs for conducting 4 AICTE ATAL Programmes
5. Received grant of Rs. 17.90 Lacs for developing SWAYAM MOOCS
6. Received grant of Rs. 9.30 lacs from AICTE New Delhi for conducting 10 QIP STCs
7. Received grant of 4.37 lacs from UGC –DAE Consortium
8. Faculty published 81 SCI Papers and 56 in Non SCI Journals and 14 in National Journals. Faculty also published 53 papers in Proceedings in International Conferences and 12 in National Conferences.
9. Margdarshan Scheme: Total funds received - 27 lacs (Ongoing)
10. Received grant of 14.82 lacs for project on SEBOT under RPS of AICTE (Ongoing)

In addition to above, **140** ME Thesis and **10** PhD 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 candidate	Date of Conduct of Viva-voce Examination	TITLE	Supervisors
1.	Balkar Singh (Civil)	30.04.2021	“Development of Design Criteria for Net Zero Energy Building in Composite Climate Zone”	Dr. Poonam Sayal
2.	Jayant B. Khurpade (Mech.)	21.06.2021	“Development and performance analysis of a position control system for tool manipulator”	Dr. S.S Banwait
3.	Amandeep Sharma (Elect.)	01.07.2021	“Online Incipient Faultdiagnosis of Induction Motors Using Motor Electrical Signature Analysis”	Dr. Lini Mathew
4.	Sonone Ravindra Gulabrao (Civil)	05.07.2021	“Investigation on behavior of high performance fiber reinforced composite frames”	Dr. SK Sharma
5.	Gaddam Chandra Mohan (ECE)	28.07.2021	“A Novel Technique for Analysis of Inverse Problem in Electrocardiogram”	Dr. S S Pattnaik
6.	Ghadge Chandra Kant Sukhdev (Mech.)	30.07.2021	“Computer aided process planning in reconfigurable manufacturing system environment”	Dr. B S Pabla
7.	Mamta Ganpat Ramteke (IMEE)	16.11.2021	“Development of Blind Deconvolution Technique For Restoration of Gray Scale Image”	Dr. Maitreyee Dutta
8.	Patil Nilesh Vishwasrao (CSE)	28.12.2021	“Design of Distributed DDoS Detection System”	Dr. C. Rama Krishna
9.	Bhandakkar Anjali Atul (Elect.)	31.12.2021	“Performance Evaluation of Hybrid Power Flow Controller in Comparison to Unified Power Flow Controller”	Dr. Lini Mathew
10.	Chandni (ECE)	11.02.2022	“Modelling and Performance Analysis of Perovskite Solar Cells for Enhanced Efficiency”	Dr. Rajesh Mehra

Policy Planning and Service to Industry and Community

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

Sponsored Research Projects

1. Grant of Rs. 80 lacs received by the Institute under FIST Level O by DST (Ongoing)
2. Grant of Rs 1.00 by DST Chandigarh
3. Research Grant of Rs. 37 lacs by SERB-DST
4. Research Grant of Rs 2.25 crore from HP Disaster Management Authority for conducting structural safety audit of hospitals and school buildings in district Chamba, Bilaspur, Solan, Shimla and Una.
5. The institute received grant of Rs. 3.72 lacs for conducting 4 AICTE ATAL Programmes where 499 participants attended.
6. Received grant of Rs. 17.90 Lacs for developing MOOCS in SWAYAM Portal
7. The institute received grant of Rs. 9.30 lacs from AICTE New Delhi for conducting 10 QIP STCs with total participation of 1066
8. Received grant of 4.37 lacs from UGC –DAE Consortium
9. Margdarshan Scheme: Total funds received - 27 lacs (Ongoing)
10. Received grant of 14.82 lacs for project on SEBOT under RPS of AICTE (Ongoing)

2.5 Extension Services and Consultancy

Sponsored Research Projects

11. Sponsored programme on Efficient Operation of Chemical Recovery and Environmental Management Systems in Indian Pulp & Paper Mills on Sept. 17-18, 2021.
12. AICTE – ISTE Sponsored Induction/Refresher on Free & Open Source ICT Tools for Effective Teaching Learning and Research 3-8 Jan, 2022.
13. Sponsored programme on Relevance of Energy and Environment Audit in Indian Pulp and Paper Industry from 17-18 December, 2021.
14. 07 Research Project Proposals Submitted to various Agencies.

➤ Consultancy Projects

The institute earned consultancy projects of amount Rs. 655 lacs and generated IRG of amount Rs. 572.11 lacs.

Sr.No.	Name of the Consultancy Project	Status of Project
1.	Design and develop of NSQF compliant curriculum of 10 courses for Aarav Educational & Employment Research Organization (AEERO), Delhi,	Completed
2.	Design and develop of NSQF compliant curriculum of 27 diploma courses for HSBTE, Haryana	Completed
3.	Design and develop of NSQF compliant 21 diploma level programmes for PSBTE	Completed
4.	Design of 3 curriculum for Skill Training Programme for Jal Jeevan Mission	Completed
5.	Design of Vocational Diploma & UG Degree (D.Voc & B.Voc) 22 Curriculum Development in Emerging Areas	Completed
6.	Latest Electrical Technologies and Effective Classroom Communication from 21/02/2022 to 04/03/2022 for Instructors/Faculty of Electrician Trade of Govt. ITIs of Himachal Pradesh	Completed
7.	Latest Automobile Technologies and Effective Classroom Communication from 21/02/2022 to 04/03/2022 for Instructors/Faculty of MMV Trade of Govt. ITIs of Himachal Pradesh	Completed
8.	10 Courses under UKWDP	Completed
9.	Preparation of Detailed Project Report (DPR) for development of Integrated Pharmaceutical Industrial Park at Wazirabad, Distt. Fatehgarh Sahib, Punjab – Electrical Works	Completed
10.	Induction training programme for newly recruited faculty for NSUT, Delhi (19-30 July, 2021) CP-21-144	Completed
11.	The Punjab State Cooperative Supply & Marketing Federation Ltd., Chandigarh (MARKFED)	Completed
12.	Pre-Job Training (Finishing School) to MBA Rural Development-3rd Semester on "Sustainable Rural Development Through Technological Interventions.	Completed

SIGNING OF MOUs:

The Institute during 2021-22 signed 05 MoUs with organizations of prominence like Maharaja Ranjit Singh, PTU, Bathinda (Punjab), National Institute of Technology, Hamirpur (Himachal Pradesh), Executive Engineer, Chandigarh-1, Dross Management Systems and Energy Solutions Pvt. Ltd., ULTRATECH Cement Limited, Plot No. 50, Adarsh Mall, Chandigarh.

The broad objectives are to undertake collaborative research activates through participation in Nationally and Internationally funded projects, jointly organize events such as seminars, workshops, conferences and training programmes and support each other's endeavor in delivery of academic programs and research activites besides exchange of scientific and technical information

**Signing of Memorandum of Understanding**

Sr. No.	Organization	Date of Signing	Date of Maturity	Signing Authority
1.	Maharaja Ranjit Singh, PTU, Bathinda (Punjab)	08.06.2021	07.06.2026	Prof. Buta Singh Sidhu, Vice Chancellor
2.	National Institute of Technology, Hamirpur (Himachal Pradesh)	09.12.2021	08.12.2026	Director, NIT Hamirpur
3.	Executive Engineer, Chandigarh-1, CPWD, Sector-7B, Chandigarh	08.03.2022		Er. Gillella Abhishek, Executive Engineer
4.	Dross Management Systems and Energy Solutions Pvt. Ltd., Plot No. 275 First Floor, Phase-9, SAS Nagar, Punjab	14.03.2022	13.03.2027	Amandeep Sharma, Managing Director
5.	ULTRATECH Cement Limited, Plot No. 50, Adarsh Mall, 5 th Floor, Industrial Area, Phase-2, Chandigarh	28.03.2022	27.03.2022	Er. Rahul Goel V.P. Zonal Head, Ultratech Cement

*Applied Science Department
Civil Engineering Department*

*Computer Science and Engineering Department
Curriculum Development Centre*

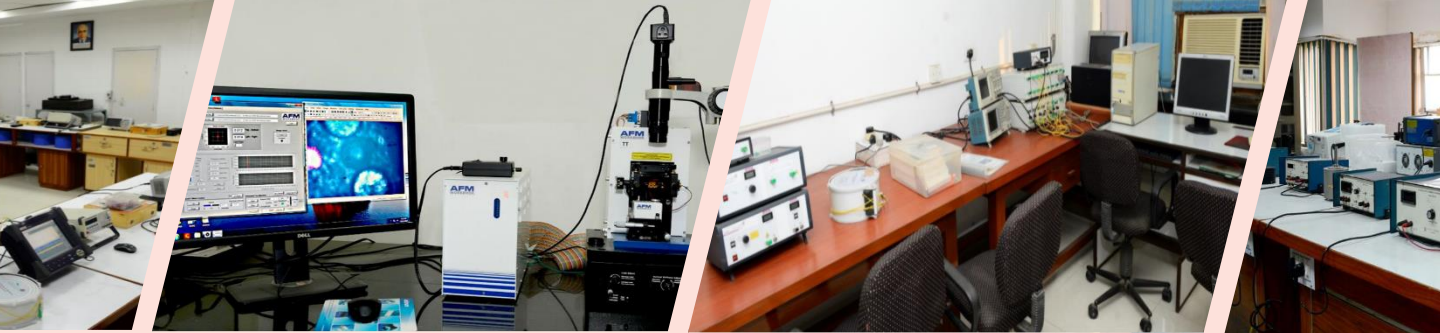
*Electrical Engineering Department
Electronics and Communication Engineering Department*

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

*Information Management and Emerging Engineering
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 **2021-22**, the department has conducted **33** online short term training programs in ICT Mode, which were attended by **1398** teachers from polytechnics and engineering colleges. The Department has conducted **05** workshops with **518** participations. The department also conducted **01** AICTE sponsored ATAL Course in which **61** participants trained, and one AICTE –QIP sponsored Course on Intelligent Nanophotonics in collaboration with Computer Science and Engineering Department in which **99** participants were trained.

The department faculty published **25** papers in SCI/SCIE and **05** papers in **SCOPUS** indexed Journals and **02** papers in proceedings of International Conferences. The department faculty has also published **06** book chapters. The faculty of the department attended online training programs and online webinars during the year. The faculty has also submitted research proposals to various funding agencies, and in currently one proposal on “Engineered novel cobalt-free nanostructured double perovskites for asymmetric energy storage device application” is ongoing. Department is also participating in DST sponsored FIST programme of the institute to work in the area use of agriculture waste for supercapacitor application.

Short Term Programs Conducted (Online)

1. Optimization with MATLAB
2. Nano sensors and Devices
3. Computer technology assisted teaching tools for effective implementation of NEP-2020
4. Green Energy Materials and Technology
5. Multifunctional Nanomaterials and Characterization
6. Spectroscopic Techniques and Instrumentation
7. Advances in OFC Technology
8. Essential Materials Chemistry for Engineers
9. Nanotechnology: Development and Challenges
10. Advances in Laser Technology
11. Trends in Fiber Optics Technology
12. Essential Chemistry for Engineers
13. Smart Materials and Nanotechnologies
14. Operations Research with Engineering Applications
15. Engineering Mathematics with MATHEMATICA
16. Nanomaterials and Thin Films
17. Photonics and Optoelectronic Devices
18. Fiber Optic Testing and Measurements
19. Nanomaterials and their characterization
20. Essential Physics for Engineers
21. Characterization Tools and Techniques.
22. Nanomaterials and their green applications
23. Energy Storages Materials & Devices
24. Energy Harvesting Materials & Devices
25. Differential Equation theory with Engineering Applications

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

26. Quantum and Energy Materials: Potential and Applications
27. Advanced OR with LINGO
28. Applied numerical and statistics
29. Analytical Techniques for Material Characterization
30. Nuclear Radiations & Potential Applications
31. Nuclear Power Technologies: Developments and Future perspectives
32. Essential Materials Physics for Engineers
33. Engineering Mathematics with MATLAB
34. AICTE-QIP Course on Intelligent Nano Photonics

RESEARCH AND DEVELOPMENT

PAPERS PUBLISHED BY THE APPLIED SCIENCE FACULTY IN SCI JOURNALS:

Sr.No.	Name of the Paper Published	Author (s) Name
1.	Effect of annealing on structure and physicochemical properties of (Ge ₂₀ Se ₁₈ Te ₆₂) _{100-x} , where x = 0, 8; Glass Physics and Chemistry , 2021, Vol. 47, No. 3, pp. 245–252	H. H. Hegazy, M. A. Jaafari, and Pankaj Sharma
2.	Structural correlation of GeTeSeGa system by XRD and far-infrared spectroscopy, Applied Physics A (2021) 127, 345	Ekta Sharma, P. B. Barman, Pankaj Sharma
3.	Enhanced sensitivity of graphene nanoribbon gas sensor for detection of oxide of nitrogen using boron and phosphorus co-doped system: A first principle study, Sensors and Actuators A331 (2021)112897	Deji R, BC Choudhary , Rajender Singh, Ramesh K. Sharma
4.	Novel hydrogen cyanide gas sensor: A simulation study of graphene nanoribbon doped with boron and phosphorus, Physica E134 (2021)114844	Deji R, BC Choudhary , Ramesh K. Sharma
5.	Structural, dielectric and magnetic properties of double perovskite-La ₂ CoNiO ₆ ceramics synthesized by wet chemical route, Int J Nanotechnol (SCI) , doi: 10.1504/IJNT.2021.116178 (published online June 21, 2021).	Jashandeep Singh, Amit Kumar, Uttam Kumar Goutam, Ram Janay Choudhary and Ashok Kumar
6.	Optical and mechanical properties of Ag doped thermally evaporated SeTe thin films for optoelectronic applications, Journal of Physics and Chemistry of Solids 159 (2021) 110291. (I.F. 3.995) DOI: 10.1016/j.jpics.2021.110291	A El-Denglawey, Pankaj Sharma , Pawan Kumar, Ekta Sharma, Dinesh C Sati, K. A. Aly, A. Dahshan
7.	DC Conductivity and Threshold Switching in Iodine Doped Ge-Se-Te Glasses, Ceramics International (2021) (I.F. 4.527) DOI: 10.1016/j.ceramint.2021.08.281	H.H. Hegazy, Dinesh C Sati, Pankaj Sharma , M.A. Jaafari,
8.	High refractive index (Dy) doped (GeTe ₂) ₈₀ (In ₂ Te ₃) ₂₀ thin films for sub-THz and millimeter-wave applications, Ceramics International (2021) (I.F. 4.527) DOI: 10.1016/j.ceramint.2021.08.364 .	Sunanda Sharma, Ekta Sharma, K.A. Aly, A Dahshan, Pankaj Sharma

Sr. No.	Name of the Paper Published	Author (s) Name
9.	Defective GaAs nanoribbon- based biosensor for lung cancer biomarkers: a DFT study (Journal of Molecular Modelling – (2021 27:270) DOI: 10.1007/s00894-021-04889-9	Tarun Tarun, Paramjot Singh, Harmandar Kaur, Gurleen Kaur Walia, Deep Kamal Kaur Randhawa, B.C. Choudhary
10.	Nanocrystallite assembled La ₂ CoNiO ₆ nanorods fabricated by facile solvothermal route for electrochemical performance. J Nanopart Res 23, 208 (2021) (I.F. 2.253). https://doi.org/10.1007/s11051-021-05318-x	Jashandeep Singh, Ashok Kumar
11.	"Structural, morphological and temperature dependent electrical traits of Co _{0.9} Zn _{0.1} In _x Fe _{2-x} O ₄ spinel nano-ferrites." <i>Ceramics International</i> 47, no. 21 (2021): 30902-30910.	Ritu Rani, K M Batoo, Pankaj Sharma, Gagan Anand, Gagan Kumar, Sumit Bhardwaj, and M. Singh
12.	"Dark, photo and thermally driven conductivity of Ag-mixed Se ₇₀ Te ₃₀ semiconducting thin films for thermoelectric applications." <i>Journal of Materials Science: Materials in Electronics</i> 32, no. 20 (2021): 25074-25083	A. El-Denglawey, Pankaj Sharma, Pawan Kumar, Ekta Sharma, Dinesh C. Sati, K. A. Aly, and A. Dahshan
13.	"Topological analysis and glass kinetics of Se-Te-Ag lone pair semiconductors." <i>Physica Scripta</i> 96, no. 12 (2021): 125710.	A. El-Denglawey, K. A. Aly, Ekta Sharma, Rajeev Arora, Sunanda Sharda, Pankaj Sharma, and A. Dahshan
14.	"Erbium-doped GeSbSe glassy semiconductors and theoretical analysis of constraint, electronic and thermal properties." <i>Phase Transitions</i> 94, no. 12 (2021): 945-958.	Chandresh Kumari, S. C. Katyal, and Pankaj Sharma
15.	"Hydrogen Sulfide Gas Sensor using Osmium Doped Graphene Nanoribbon: An Insights from DFT Study " <i>Materials Letters Vol</i> 306, 2022, 130986	Deji, BC Choudhary , Ramesh K Sharma
16.	Anion intercalation pseudo-capacitance performance of oxygen-deficient double perovskite prepared via facile wet chemical route, <i>Materials Science in Semiconductor Processing (SCI)</i> doi: 10.1016/j.mssp.2021.106300 (2022)	Amit Kumar Vats, Nitika Sangwan, Jashandeep Singh, Ashok Kumar and Ashavani Kumar
17.	Symmetric/asymmetric energy storage device of reduced graphene oxide assisted LaNi _{0.9} Co _{0.1} O ₃ perovskite nanomaterials, <i>Applied Physics A (SCI)</i> doi: 10.1007/s00339-021-05113-4 (2021).	Amit Kumar Vats, Nitika Sangwan, Ashok Kumar and Ashavani Kumar
18.	Engineered perovskite LaCoO ₃ /rGO nanocomposites for asymmetrical electrochemical supercapacitor application, <i>Journal of Materials Science: Materials in Electronics (SCI)</i> doi: 10.1007/s10854-021-07464-3 (2021).	Amit Kumar Vats, Ashok Kumar , Parasmani Rajput and Ashavani Kumar
19.	On the structural and optical aspects of GeTeSeGa thermally evaporated chalcogenides thin films for infrared applications. <i>Eur. Phys. J. Plus</i> 137, 358 (2022)	E, Sharma, P.B. Barman, & Pankaj Sharma
20.	Structural, electrical, and magnetic studies of Cu ²⁺ substituted MnFe ₂ O ₄ nanoferrites synthesized via solution combustion technique. <i>J Mater Sci: Mater Electron</i> 33, 7528–7542 (2022).	H.R. Sharma, K. M. Batoo, Pankaj Sharma , S. Bhardwaj, P. Kuchhal, R. Jasrotia, I. Sharma & G. Kumar
21.	New insights into NO adsorption on alkali metal and transition metal doped graphene nanoribbon surface: A DFT approach, <i>Journal of Molecular Graphics and Modelling</i> , 111(2022)108109	Deji R Akarsh Verma, B.C. Choudhary and Ramesh K. Sharma

PAPERS PUBLISHED BY THE APPLIED SCIENCE FACULTY IN SCI JOURNALS:

Sr. No.	Name of the Paper Published	Author (s) Name
22.	A simple, low-cost modified drop-casting method to develop high-quality CH ₃ NH ₃ PbI ₃ perovskite thin films, <i>Physica B: Physics of Condensed Matter</i> , January 11, 2022 : 630(2022) 413678	Ashwani Kumar, Mohd. Shkir, K.L. Singh, B. C. Choudhary , S.K. Tripathie
23.	A Theoretical study of HCN adsorption and width effect on co-doped armchair Graphene Nanoribbon, <i>Computational and Theoretical Chemistry</i> , Volume-1209, (2022) 113592	Deji R, Jyoti R, Akarsh Verma, B. C. Choudhar and Ramesh K. Sharma
24.	Adsorption chemistry of co-doped Graphene Nanoribbon and its derivatives towards carbon based gases for gas sensing applications: Quantum DFT investigation; <i>Materials Science in Semi-Conductor Processing</i> 146 (2022) 106670	Deji, B. C. Choudhary , Ramesh K Sharma
25.	DFT Study of a Manganese doped Armchair Graphene Nanoribbon for effective Carbon dioxide gas Sensing; <i>Engineered Science</i> (2022), DOI: 10.30919/eseec8c701	Jyoti Rani, Moomdeep Chauchan, B. C. Choudhary and Ramesh K Sharma

PAPERS PUBLISHED BY THE APPLIED SCIENCE FACULTY IN INTERNATIONAL JOURNAL OTHER THAN SCI JOURNALS

Sr.No.	Name of the Paper Published	Author (s) Name
1.	Role of rare earth on the spectral properties of Chalcogenide glassy semiconductors: A Review, Materials Today: Proceedings , DOI: 10.1016/j.matpr.2021.05.632	Chandresh Kumari, S.C. Katyal, Pankaj Sharma
2.	Facile wet chemical synthesis and electrochemical performance of double perovskite- La ₂ NiMnO ₆ for energy storage application, Materials Today Proc. , doi: 10.1016/j.matpr.2021.05.231	Jashandeep Singh, Amit kumar and Ashok Kumar ,
3.	AIP Conference Proceedings "Carbon Monoxide Sensors using co-doped graphene nanoribbon optimized with DFT" 2369, 020040; 13 September, 2021	Deji, Jyoti, B.C. Choudhary , Ramesh K. Sharma, et al.
4.	AIP Conference Proceedings "Graphene oxide nanoribbons decorated with Cu and CuO as H ₂ S gas sensor optimized with DFT" 2369 020130; 13 September, 2021	R. Jyoti, Deji, B.C Choudhary , Ramesh K. Sharma , et al.
5.	"Alternate Solution Approach for ML-MOLFPP Problems" in <i>Journal of Interdisciplinary Mathematics (JLM)</i> , Vol.25, PP.183-194,2022	V.D. Joshi, Kailash Lachhwani , Jagdev Singh, K Sopyy Misar

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.	Titled "Simplified TOPSIS for MLN-MODM Problems" Presented in International Conference on Computational Intelligence organized by IIIT Pune on 28-29 Dec'2021	Dr. KC Lachhwani

**PAPERS PUBLISHED / PRESENTED BY THE APPLIED SCIENCE
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
2.	Titled "A Comprehensive Review Analysis on PSO and GA techniques for Mathematical Programming Problems" Presented in International Conference on Computational Intelligence organized by IIT Pune on 28-29 Dec'2021	Dr. KC Lachhwani

BOOK CHAPTERS PUBLISHED

1. Published book Chapter on "A Review on Synthesis and Characterizations of Mixed Nickel-Zinc Ferrites, Materials Research Foundations, Vol. 112, pp 189-217, 2021" by Arminster Kaur, Pankaj Sharma, Sumit Bhardwaj, Munish Kumar, Indu Sharma, Khalid Mujasam Batoo, Gagan Kumar.
2. Published book Chapter on "Recent Advances in Processing, Characterizations and Biomedical Applications of Spinel Ferrite Nanoparticles, Materials Research Foundations, Vol. 112, pp 62-120, 2021" by Gaurav Katoch, Garima Rana, M. Singh, Alberto García-Peñas, Sumit Bhardwaj, Indu Sharma, Pankaj Sharma, Gagan Kumar.
3. Synthesis and Applications of Semiconductor Nanostructures", Publisher: Bentham Science Publishers, Chapter: Understanding Synthesis and Characterization of Oxide Semiconductor Nanostructures through the Example of Nanostructured Nickel Doped Hematite, Authors: Ashok Kumar et al.
4. Book Name: Emerging Two Dimensional Materials and Applications, Publisher: CRC Press, Editors, Arun Kumar Singh, Ram Sevak Singh, Anar Singh, Chapter: 2D Materials for Energy Harvesting, Authors: Ashok Kumar et al. (submitted)
5. Published book Chapter on "Ferrite Materials for Microwave and High Frequency Antenna Applications." In Ferrites and Multiferroics, pp. 107-115. Springer, Singapore, 2021. DOI: 10.1007/978-981-16-7454-9_6 by Pankaj Sharma, Vineet Sharma, Nikhil Thakur, Pawan Kumar, and Ashok Kumar.
6. Published book Chapter on "Multiferroicity in Aurivillius Based Bi₄Ti₃O₁₂ Ceramics: An Overview, Future Prospective and Comparison with Ferrites." Ferrite: Nanostructures with Tunable Properties and Diverse Applications 112 (2021): 311-335. DOI: 10.21741/9781644901595-9 by Sumit Bhardwaj, Joginder Paul, Gagan Kumar, Pankaj Sharma, and Ravi Kumar.

**WORKSHOPS CONDUCTED
(OTHER THAN CURRICULUM DEVELOPMENT WORKSHOPS)**

Sr.No.	Name of the Workshop along with dates and venue	Total No. of Participants
1.	Mentoring Workshop for Himachal Pradesh, Punjab, Chandigarh and Uttarakhand (August 2 – 6, 2021) NITTTR Chandigarh	123
2.	O. Plan Workshop- Delhi State (December 29, 2021)	29
3.	O. Plan Workshop- HP State (November 26, 2021)	46
4.	Renewable Energy Materials and Devices 03-04 Feb, 2022	86
5.	Conducted as Co-Coordinator National workshop on "Nanoscale Characterization and Analysis" from 10-11 March, 2022 at NITTTR, Chandigarh	240

Ph.D. THESIS GUIDED

No. of Ph.D. Thesis Guided	In Progress - 13
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RESEARCH AND DEVELOPMENT

Sr. No.	Name of Project	Team	Beneficiary State	Status of Project completed/ In progress	Specific work done during the year	Target date of completion
DEVELOPMENT PROJECTS						
1.	Nanomaterials for high efficiency stable inorganic-organic perovskite-perovskite tandem solar cells	CSIR-PI/Co-PI Dr. Ashok Kumar	-	Ongoing since July 09, 2018, Grant Rs. Rs. 13,41,500/- + salary of one SRF.	Published 10+ SCI papers (Progress during whole project duration).	to be closed w.e.f. 08.07.2021
2.	Engineered novel cobalt-free nanostructured double perovskites for asymmetric energy storage device application	Dr. Ashok Kumar, Dr. Pankaj Sharma (UGC-DAE)		Grant received, Rs 2,43,240/-	-	Ongoing (March 31, 2021)

TRAINING ATTENDED BY THE APPLIED SCIENCE FACULTY/STAFF

Sr.No.	Title of Training Programme	Period of Training	Venue	Attended by
1.	One-day online workshop on 'Implementation of NEP-2020 for Quality Online and Open Distance Learning (ODL) Education'	28-04-2021		Dr Pankaj Sharma, Dr. BC Choudhary Dr. Ashok Kumar Dr. KC Lachhwani
2.	NITTT Mentor's training programme	25 June, 2021	NITTTTR, Chandigarh	Dr Pankaj Sharma
3.	NITTT Mentor's training programme	21-25 June 2021	NITTTTR, Chandigarh	Dr. BC Choudhary
4.	NITTT Mentor's training programme	24 June, 2021	NITTTTR, Chandigarh	Dr. Ashok Kumar
5.	NITTT Mentor's training programme	August 2-6, 2021	NITTTTR, Chandigarh	Dr Pankaj Sharma

IN-HOUSE TRAINING ATTENDED BY THE APPLIED SCIENCE FACULTY/STAFF (contd..)

Sr.No.	Title of Training Programme	Period of Training	Venue	Attended by
6.	NITTT Mentor's training programme	August 2-6, 2021	NITTTTR, Chandigarh	Dr. Ashok Kumar
7.	ATAL FDP on "Mathematical Foundations for Machine Learning"	22 -26 Nov' 2021	Online at Sri Buddha College of Engineering, Alappuzha, Kerala	Dr. KC Lachwani
8.	Online course "TAPAS-PRM"	16 – 20 Dec'2021	Online organized by IIT Guwahati	Dr. KC Lachwani





“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 **2021-22**, the department has conducted **33** online short term training programs which were attended by **1019** teachers from polytechnics and engineering colleges. The department also conducted **03** Student Training Programme and total **50** students participated. The department faculty published **04** papers in Non-SCI Journals. The department also published **02** papers in proceedings of International Conferences and **11** in National Journals.

The department also conducted **04** sponsored programmes in which **341** participants trained. The faculty of the department attended online training programs and online webinars during the year. The faculty also submitted research proposals in various agencies. The department provided design and testing services to industry as consultancy projects of Gross Value more than Rs. **133 Lakhs**.

Short Term Programs Conducted

1. Project Management and Applications of Software
2. Earthquake Risk Management
3. Advanced Construction Materials and Techniques for Roads, Buildings Bridges and Other Civil Engineering Structures
4. Defect free Construction Repair and Maintenance
5. Concrete Lab Practices
6. MATLAB Applications in Civil and Electrical Engineering
7. Bearing Capacity Estimation for Foundations
8. Laboratory Practices in Soil Engineering
9. Disaster Management and Sustainable Development
10. Laboratory Practices in Civil Engineering
11. Sustainable Environmental Management
12. Retrofitting and Rehabilitation of Structures
13. Structural Design with STAAD PRO
14. Construction and Maintenance of Block Top Pavements
15. Innovation in Concrete and Green Materials.
16. Environmental Pollution: Issues and Remedies
17. Innovative Technologies for Village Development
18. Applications of Auto CAD in Engineering
19. Low Cost Housing Techniques and Practices
20. Quality Control of Concrete

Short Term Programs Conducted (contd..)

21. Remote sensing, GPS & GIS in Civil Engineering
22. Applications of Auto CAD in Engineering
23. Innovation in Design Construction and Rehabilitation of Bridges
24. New Generation Concrete Mixes.
25. Programming in Finite Element method and its Applications to Practical problems using ABAQUS
26. Structural Health Monitoring
27. Lab Practices in Highway Engineering
28. Application of NDT for Evaluation of RCC Structures
29. Skill Development and Technological Innovation for Employment Generation in India
30. Limit State Design of Steel Structures, their Construction and Maintenance
31. Smart Cities and Sustainable Development
32. Water Resource Management
33. Sustainable Resilient and Green Infrastructures

RESEARCH AND DEVELOPMENT

PAPERS PUBLISHED BY THE CIVIL ENGINEERING FACULTY IN INTERNATIONAL JOURNAL OTHER THAN SCI JOURNALS

Sr.No.	Name of the Paper Published	Author (s) Name
1.	"Development of Self-Compacting concrete using composite cement with Partial Replacement of potable water with treated wastewater"	Abhishek Kumar/ Sayantan Ghosh/ Dr. Hemant Sood
2.	Development of Self-Compacting concrete of grades M25, M30 and M35 using composite cement"	C.Praneeth Sudharsan/ Sayantan Ghosh/ Dr. Hemant Sood
3.	Study on Utilization of Lime Mud from Paper Industry as a Construction Material	Mayank / Dr. Sanjay Kr. Sharma/ Er. Himmi Gupta
4.	Analytical Investigation of Structural Behaviour of Reinforced Concrete Column using Diamond the configuration under Elevated Temperatures.	Sudesh Kumar, Himmi Gupta

**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.	Development of Correlation between Ultrasonic Pulse Velocity and Rebound Hammer Test Results for Condition Assessment of Concrete Structures for Sustainable Infrastructure Development	Kamakshya Prasad Sahoo, Himmi Gupta, Sanjay Sharma
2.	Structural Behavior of Reinforced Concrete Column Using Diamond Tie Configuration under Elevated Temperatures for Sustainable Performance: A Review	Sudesh Kumar, Himmi Gupta

**PAPERS PUBLISHED BY THE CIVIL ENGINEERING
FACULTY IN NATIONAL JOURNAL**

Sr.No.	Name of the Paper Published	Author (s) Name
1.	A Critical Review on Enhancing Soil Properties Using Cement Kiln Dust and Bamboo Fiber. Published In: Journal of Emerging Technologies and Innovative Research (JETIR), (www.jetir.org) ISSN UGC Approved (Journal No: 63975), Published in Volume 8 Issue 4, April-2021 Date of Publication: 2021-04-28	Tarang Gupta & Er. Vinod Kumar Sonthwal
2.	Assessment of Level of Service Concept in Urban Road of Patna: A Review Journal of Emerging Technologies and Innovative Research(JETIR) 4 April 2019 Volume 6 Issue 4 Published in JETIR (www.JETIR.org) ISSN UGC Approved (Journal No:63975) & 5.87 Impact Factor Paper URL: http://www.jetir.org/papers/JETIR1904T23.pdf	Ajay k.Duggal Imran Ahmad
3.	Experimental Study on using Construction and demolition waste in Bituminous Concrete International Research Journal of Engineering and Technology (IRJET) Volume 08, Issue 04, April 2021 e-ISSN:2395-0056, p-ISSN:2395-0072	Yatinder Sharma Er. Ajay K.Duggal
4.	Repetitive Failures on Flexible Pavement- A Review International Journal of All Research Education and Scientific Methods (IJARESM), ISSN: 2455-6211 Volume 9, Issue 4, April -2021, Impact Factor: 7.429, www.ijaresm.com	Lovish Jain Prof. A.K. Duggal
5.	Lowering production temperature of mastic asphalt and study its effects on engineering properties. Journal of Emerging Technologies and Innovative Research (JETIR) (ISSN-2349-5162) JETIR June 2019, Volume 6, Issue 6, JETIR1908097	Neha Matial, Prof A.K. Duggal
6.	Investigation of Level of Service of NH-503 : A Review Journal Of Emerging Technologies And Innovative Research (JETIR) JETIR June 2019, Volume 6, Issue 6 Www.Jetir.Org (Issn-2349-5162)	Pankaj Kumar, Dr. Ajay Kumar Duggal

**PAPERS PUBLISHED BY THE CIVIL ENGINEERING
FACULTY IN NATIONAL JOURNAL (contd..)**

Sr.No.	Name of the Paper Published	Author (s) Name
7.	To Study the Properties of Self-Compacting Concrete Using Micro-Silica and Fly-Ash RESEARCH PAPER - Journal of Emerging Technologies and Innovative Research (JETIR) , (ISSN-2349-5162) JETIR May 2021, Volume 8, Issue 5, JETIR2105857	Mr. Ram Paul Dr. Sanjay Sharma Dr. Amit Goyal
8.	Properties of concrete comprising of fly ash and rice husk ash for partial substitution of fine aggregates. Journal Of Emerging Technologies And Innovative Research (JETIR) JETIR August 2021, Volume 8, Issue 8 Www.Jetir.Org (Issn-2349-5162)	Narender kumar & Dr Sanjay kumar sharma
9.	Properties of Steel Fiber in Reinforced Concrete with Metakaolin as Admixture Journal Of Emerging Technologies And Innovative Research (JETIR) JETIR July 2021, Volume 8, Issue 7 Www.Jetir.Org (Issn-2349-5162)	Jatinder Singh Kharb Dr. Sanjay Kumar Sharma
10.	Properties of Concrete Comprising of Waste Foundry Sand (WFS) for Partial Substitution of Fine Aggregates (FA) Journal Of Emerging Technologies And Innovative Research (JETIR) JETIR July 2021, Volume 8, Issue 7 Www.Jetir.Org (Issn-2349-5162)	Daljeet Kumar Dr. Sanjay Kumar Sharma
11.	Analysis of solid waste municipal corporation for developing management system in Moradabad- A Review Article, National Journal of Environment and Scientific Research (NJESR). NJESR/September, 2021/Volume - 2 / Issue-9. E-ISSN 2582-5836 www.njesr.com	Rais Ahmad Dr. Sanjay Kumar Sharma

RESEARCH & DEVELOPMENT

No. of M.E. Thesis Guided	31
No. of Ph.D. Thesis Guided	Awarded - 01

SPONSORED PROGRAMS

Sr.No.	Tilte of the Program	Total Number of Participants
1.	QIP sponsored STC on Energy Efficient and Innovative Building Construction Practices from 23 to 28 August, 2021	103
2.	Efficient Operation of Chemical Recovery and Environmental Management Systems in Indian Pulp & Paper Mills on Sept. 17-18, 2021.	55

SPONSORED PROGRAMS (contd..)

Sr.No.	Titile of the Program	Total Number of Participants
3.	QIP Sponsored program on Smart Cities opportunities and challenges from 25-30 October, 2021.	148
4.	Relevance of Energy and Environment Audit in Indian Pulp and Paper Industry from 17-18 December, 2021.	35

STUDENT TRAINING ORGANIZED

Sr.No.	Name of the Course along with dates & place	No. of weeks	Participation		Total No. of Participants
			Poly	Engg.	
1.	Industry collaborated Student Training on “Design of Steel Bridges using Finite Element Method”	06 May, 2021	-	ME Students	19
2.	Industry collaborated Student Training on Design of Steel Bridges on MIDAS Civil Bridge Engineering Software	21 June-2 July,2021	-	ME Students	7
3.	Industry Collaborated Student Training Program on “Design and Analysis of Civil Engineering Structures using Latest Softwares” on 14 th December, 2021.	1 Day	ME Students		24

TRAINING PROGRAMMES ATTENDED BY THE CIVIL ENGINEERING FACULTY/STAFF

Sr.No.	Title of Training Programme	Period of Training	Venue	Attended by
1.	Online Refresher course on “Pre-stressed Concrete for Bridges and Buildings” organized by Indian Association of Structural Engineers	20 March – 01 May, 2021	Online	HG
2.	Two Weeks Faculty Development Programme on Managing Online Classes & Co-creating MOOCS 6.0 from organized by Teaching Learning center, Ramanujan college University of Delhi, Ministry of Education, Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching	05-19 July, 2021	Online	AG
3.	AICTE Training and Learning (ATAL) FDP on Earthquake Analysis and Design using Latest Civil Engineering Software’s	18-22 Oct 2021	CIT, Coimbatore	HG

TRAINING PROGRAMMES ATTENDED BY THE CIVIL ENGINEERING FACULTY/STAFF (contd..)

Sr.No.	Title of Training Programme	Period of Training	Venue	Attended by
4.	TAPAS-PRM: A course on Purposeful Research Methodology	16-20 December 2021	Research for Resurgence Foundation, Nagpur & IIT - Guwahati	HG
5.	Two Weeks Industrial Training Programme on Operation and Maintenance at CPWWD Hamirpur (H.P)	16-28 December 2021	CPWWD Hamirpur (H.P)	AG

WEBINARS/ CONFERENCES ATTENDED BY THE CIVIL ENGINEERING FACULTY/STAFF

Sr.No.	Title of Training Programme	Period of Training	Venue	Attended by
1.	Online workshop on "Implementation of NEP- 2020" for quality online and Open Distance Learning (ODL) Education	28th April, 2021	Online	HG
2.	Online Technocrats' Forum on "Concrete for Energy Efficiency & comfort in Buildings" organized by ICI Chandigarh chapter and UltraTech Cement Ltd.	26 June, 2021	Online	AG
3.	Problems & New Technologies for Rigid Pavements	10 th July, 2021	Online	HG
4.	Lean Construction	12 th July, 2021	Online	HG
5.	Using MATLAB with Python	15 th July, 2021	Online	HG
6.	State Level online program on " PDS-Shodh Shuddhi in Pb, J & K and Ladakh.	16 th July, 2021	Online	HG
7.	Cement Superplasticizers Compatibility	17 th July, 2021	Online	HG
8.	Scope & Aspects of Renewable Energy in Rajasthan	20 th July, 2021	Online	HG
9.	Managing Biomedical waste for Healthy well being.	23 rd July, 2021	Online	HG
10.	Working with High performing concrete at a project	31 st July, 2021	Online	HG
11.	Structural Health Monitoring for rehabilitation of structures in the era of Digitalization	9 th Oct 2021	IASE	HG

WEBINARS/ CONFERENCES ATTENDED BY THE CIVIL ENGINEERING FACULTY/STAFF (contd..)

Sr.No.	Title of Training Programme	Period of Training	Venue	Attended by
12.	International Conference on Innovative technologies for clean and Sustainable Development on organised by Chitkara University and NITTTTR, Chandigarh.	14-15 Oct, 2021	Online	AG
13.	Webinar on Automation and Computational Design of Bridges,	23 rd October,2021	IASE	HG
14.	Webinar on An Icon in Steel:Shiv Dhanush Bridge	11 th December, 2021	Ultratech Cement Ltd & ICI-Ghaziabad Centre	HG
15.	Durability Design of Concrete Structures: Present Provisions and Future Changes in IS 456. Why and How?	25 th Dec 2021	Ultratech Cement Ltd	HG
16.	Capacity Building Training Programme on Energy Efficiency & Conservation in Government Departments of Punjab	27 th Dec 2021	Mahatma Gandhi State Institute of Public Admini., Punjab, Chandigarh	HG





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

COMPUTER SCIENCE AND ENGINEERING DEPARTMENT



Prof. (Dr.) Rama Krishna Challa

Professor

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



Er. Shano Solanki

Assistant Professor

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



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



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

COMPUTER SCIENCE AND ENGINEERING DEPARTMENT



Dr. Rakesh Kumar

(on lien as Associate Professor at CUH, Mahendragarh)

Research Areas - Wireless Sensor Networks, Adhoc Networks, Cloud Computing



Prof. (Dr.) Maitreyee Dutta

Joint Professor

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



Prof. (Dr.) Srinivasa KG

Joint Professor

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

During the year **2021-22**, the department has conducted **28** online short term training programs in ICT Mode, which were attended by **2884** teachers from polytechnics and engineering colleges. Faculty of Department rerun **02** MOOC SWAYAM Courses on Graphics and Animation in which total **6097** participants enrolled. The Department conducted **02** workshops and **01** FDP under Margdarshan scheme. The department conducted **01** International Conference in which **100** participants attended the conference.

The department conducted **02** programmes under ATAL and **01** QIP sponsored programme in which **435** participants were trained. The department faculty published **11** papers in SCI Journals, **07** papers in Non-SCI Journals and **21** papers in proceedings of International Conferences. The Department also completed DST Sponsored Project on IoT and Machine Learning Techniques Enabled Hydroponic Farms on 31st March, 2022. The department conducted **02** programmes for Instructors of ITI of Himachal Pradesh in which **40** participants attended. The faculty of the department also attended training programs and webinars during the year.

Short Term Programs Conducted

1. **Cloud, Fog and Edge Computing**
2. **Machine Learning using Python**
3. **Data Science using Python**
4. **Data Science using R**
5. **Machine Learning and Predictive Analysis using Python**
6. **Open Source Technology**
7. **Free Software and Resources for Technical Education**
8. **Linux for Engineering Applications**
9. **Social Network Analysis**
10. **Computer Network and Hardware Maintenance**
11. **Computer Vision using Open CV**
12. **Cryptography for Network Security**
13. **Machine Learning using Python**
14. **Machine Learning using R**
15. **Data Science using Python**
16. **Secure Website Development**
17. **Designing of Responsive Websites**
18. **Cloud Computing: A Hands on Approach with AWS Cloud**
19. **Docker Programming**
20. **Computer Programming using Python**
21. **Internet of Things**

Short Term Programs Conducted (contd..)

22. Web designing using PHP and My SQL
23. Wireless Networks
24. Deep Learning
25. Open Tools for Research
26. Internet of Things
27. Cyber Vulnerabilities and Safeguards
28. Graphic Designing using open source tools

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.	Bhardwaj A, C. Rama Krishna. "Virtualization in Cloud Computing: Moving from Hypervisor to Containerization—A Survey", Arabian Journal for Science and Engineering. 2021 Apr 13:1-7. [Published, SCI-E, IF: 1.711].	Bhardwaj A and C. Rama Krishna
2.	R. Chhabra, C. Rama Krishna, and S. Verma, "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
3.	Singh, Rajvir, C. Rama Krishna, Rajnish Sharma, and Renu Vig. "Energy efficient fixed-cluster architecture for wireless sensor networks." Journal of Intelligent & Fuzzy Systems 2021 Preprint: 1-14. [Preprint, SCI-E Indexed, IF: 1.637]	Singh, Rajvir, C. Rama Krishna, Rajnish Sharma, and Renu Vig
4.	S. Sharma, C. Rama Krishna, and R. Kumar, "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
5.	"A survey on state-of-the-art road surface monitoring techniques for intelligent transportation systems," Inderscience International Journal of Sensor Networks (Accepted on 16th July 2021), SCI-E, IF: 1.302	R. Chhabra, C. Rama Krishna, and S. Verma
6.	"Augmenting Driver's Situational Awareness using Smartphones in VANETs," Springer Arabian Journal for Science and Engineering, (Accepted on 30th August 2021), SCI-E, IF: 2.334	R. Chhabra, C. Rama Krishna, and S. Verma

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

Sr.No.	Name of the Paper Published	Author (s) Name
7.	Distributed frameworks for detecting distributed denial of service attacks: A comprehensive review, challenges and future directions. Wiley-Concurrency and Computation: Practice and Experience (2021): e6197. SCI-E Impact Factor 1.447	Patil, Nilesh Vishwasrao, C. Rama Krishna, and Krishan Kumar
8.	KS-DDoS: Kafka Streams-based Classification Approach for DDoS Attacks" Springer, The Journal of Supercomputing (2021):. SCI,Impact Factor 2.474	Patil, Nilesh Vishwasrao, C. Rama Krishna, and Krishan Kumar
9.	Cloud-Based Fusion of Residual Exploitation-Based Convolutional Neural Network Models for Image Tampering Detection in Bioinformatics." BioMed Research International 2021 (2021) Impact Factor2.276, SCIE	Doegar, Amit, Srinidhi Hiriyannaiah, G. M. Siddesh, K. G. Srinivasa, and Maitreyee Dutta
10.	Image forgery detection based on fusion of lightweight deep learning models", Available online: 17.03.2021, PDF Last modified on 04.04.2021, DOI: 10.3906/elk-2005-37, SCIE	Amit Doegar, Srinidhi Hiriyannaiah, Siddesh Gaddadevara Matt, Srinivasa Krishnarajanagar Gopaliyengar, Maitreyee Dutta
11.	Breast cancer detection from histopathology images using modified residual neural networks. Biocybernetics and Biomedical Engineering 41, no. 4 (2021): 1272-1287.	Gupta, Varun, Megha Vasudev, Amit Doegar, and Nitigya Sambyal.

PAPERS PUBLISHED BY THE COMPUTER SCIENCE AND ENGINEERING FACULTY IN INTERNATIONAL JOURNALS OTHER THAN SCI JOURNALS

Sr.No.	Name of the Paper Published	Author (s) Name
1.	Data Collection and Processing in Health Care. In: Srinivasa K.G., G. M. S., Sekhar S.R.M. (eds) Artificial Intelligence for Information Management: A Healthcare Perspective. Studies in Big Data, vol 88. Springer, Singapore. https://doi.org/10.1007/978-981-16-0415-7_4 [Book Chapter]	S. R. Mani Sekhar, Tilak Singh, Amit Doegar
2.	An Ensemble Learning Approach for Brain Tumor Classification Using MRI. In: Sharma T.K., Ahn C.W., Verma O.P., Panigrahi B.K. (eds) Soft Computing: Theories and Applications. Advances in Intelligent Systems and Computing, vol 1380. Springer, Singapore. https://doi.org/10.1007/978-981-16-1740-9_53 [Book Chapter]	Kaur R., Doegar A., Upadhyaya G.K.
3.	RansomDroid: Forensic analysis and detection of Android Ransomware using unsupervised machine learning technique, Forensic Science International: Digital Investigation 37, 301168, 2021.	S Sharma, CR Krishna, R Kumar

**PAPERS PUBLISHED BY THE COMPUTER SCIENCE AND ENGINEERING FACULTY
IN INTERNATIONAL JOURNALS OTHER THAN SCI JOURNALS (contd..)**

Sr.No.	Name of the Paper Published	Author (s) Name
4.	A Cost-Efficient Proof-of-Stake-Voting Based Auditable Blockchain e-Voting System IOP Conference Series: Materials Science and Engineering 1099 (1), 012038	T Sharma, CR Krishna, A Bahga
5.	A blockchain based approach for improving transparency and traceability in silk production and marketing, CONSOLIO 2021, Journal of Physics.: Conference Series, IOP Publishing, 2021.	Abhilash Sharma and Mala Kalra
6.	Data Collection and Processing in Health Care. In Artificial Intelligence for Information Management: A Healthcare Perspective, pp. 87-93. Springer, Singapore, 2021.	Sekhar, SR Mani, Tilak Singh, and Amit Doegar`
7.	"Hybrid probabilistic triple encryption approach for data security in cloud computing", Int. J. Advanced Intelligence Paradigms, Vol. 21, No. 1-2, pp. 18-173, 2022 (Scopus indexed)	Kulshrestha Vartika, Verma Seema, Krishna C. Rama

**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.	Grewal, Supreet, and C. Rama Krishna. "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. New Delhi, India, 2021. [Published, Scopus]	Grewal, Supreet, and C. Rama Krishna
2.	"Image Forgery Detection using AlexNet Model and Random Forest Machine Learning Algorithm", Book on Edge, IoT and Social Computing for Digital Villages, pp. 197-206,, ISBN: 978-81-952307-5-4 ICEISCDV-2021, 29-30 April 2021, NITTTR, Chandigarh).	Amit Doegar, Maitreyee Dutta and Gaurav Kumar
3.	"Ensemble Classification Model for the Vehicle Number Plate Recognition", International Conference on Artificial Intelligence and Energy System (ICAIES-2021), 12-13 June, 2021, Jaipur	Gurmeet Banga, Amit Doegar
4.	Data Collection and Processing in Health Care. In: Srinivasa K.G., G. M. S., Sekhar S.R.M. (eds) Artificial Intelligence for Information Management: A Healthcare Perspective. Studies in Big Data, vol 88. Springer, Singapore. https://doi.org/10.1007/978-981-16-0415-7_4 , 21 May 2021	Mani Sekhar S.R., Singh T., Doegar A.

PAPERS PUBLISHED / PRESENTED BY THE COMPUTER SCIENCE & 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.	"Deep Learning Based Hybrid Approach for COVID-19 Prediction", Book on Edge, IoT and Social Computing for Digital Villages, pp. 09-22, ISBN: 978-81-952307-5-4 (ICEISCDV-2021, 29-30 April 2021, NITTTR, Chandigarh).	Om Varma and Mala Kalra
6.	"A Review on Load Balancing Algorithms in Cloud Computing", Book on Edge, IoT and Social Computing for Digital Villages, pp. 100-118, ISBN: 978-81-952307-5-4 (ICEISCDV-2021, 29-30 April 2021, NITTTR, Chandigarh).	Aastha Sood and Mala Kalra
7.	"A Review on Security and Privacy Issues and its Countermeasure Techniques in IoT-Fog Computing Environment", Book on Edge, IoT and Social Computing for Digital Villages, pp. 119-125, ISBN: 978-81-952307-5-4 (ICEISCDV-2021, 29-30 April 2021, NITTTR, Chandigarh).	Jagdish Pandey, Mala Kalra and Nishant Sharma
8.	"A Novel Approach for Optimizing Low Latency of Cloud computing using Fog Computing", Book on Edge, IoT and Social Computing for Digital Villages pp. 126-134, ISBN: 978-81-952307-5-4 (ICEISCDV-2021, 29-30 April 2021, NITTTR, Chandigarh)	Gunjan Thakur and Mala Kalra
9.	"A Novel Approach for Diabetic Prediction Using Attribute Subset Selection, K-Means and Logistic Regression", International Conference on Artificial Intelligence and Energy System (ICAIES 2021), 12-13, June 2021.	Kumar Gaurav Upadhyay, Mala Kalra, Rakesh Kumar
10.	"Diabetic Retinopathy Detection Approach Using Convolution Neural Networks", International Conference on Artificial Intelligence and Energy System (ICAIES 2021), 12-13, June 2021.	Gahendra Singh, Mala Kalra, Rakesh Kumar
11.	"Survey on Social Networks Analysis for Community Detection", International Conference on Edge, IoT and Social Computing for Digital Villages (ICEISCDV-2021) from 29-30 April, 2021. (Published in Book on Edge, IoT and Social Computing for Digital Villages pp. 56-63, ISBN: 978-81-952307-5-4)	Shano Solanki, Mukesh Kumar, Rakesh Kumar
12.	"IOT based Irrigation System for Vertical Farming." in International Conference on Edge, IoT and Social Computing for Digital Villages (ICEISCDV-2021) from 29-30 April, 2021(Published in Book on Edge, IoT and Social Computing for Digital Villages pp. 23-30, ISBN: 978-81-952307-5-4)	Shano Solanki, Talvinder Singh
13.	"Voting Regression Model for the Air Quality Prediction" accepted and presented in International Conference on Artificial Intelligence and Energy System (ICAIES-2021) from 11-12 June, 2021 in Virtual Mode	Sudhir Kumar, Shano Solanki

PAPERS PUBLISHED / PRESENTED BY THE COMPUTER SCIENCE & 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
14.	"Time-Efficient Auditable Blockchain Based Pharma Drug Supply Chain Using Delegated Proof-Of-Stake," International Conference on Emerging Technologies: AI, IoT, and CPS for Science & Technology Applications, NITTTR, Chandigarh, 6-7 September 2021 (Accepted & Presented)	Sakshi Sharma, Arshdeep Bahga, Trishie Sharma and C. Rama Krishna
15.	"Infrared Thermography-Based Facial Classification Using Machine Learning", International Conference on Innovative Computing and Communications, Advances in Intelligent Systems and Computing, Springer Nature Singapore, pp. 275-284, 2021.s	Kumud Rani, Mala Kalra, and Rakesh Kumar
16.	"A Hybrid Machine Learning Model with Feature Selection Approach on Chest X-Ray Images for Covid-19 Detection", International Conference on Advances in Engineering, Science & Management, Institute for Engineering Research & Publication, Bangalore (2021), (Received Best Paper Award)	Kaur Sanveet, C Rama Krishna, Trishie Sharma,
17.	"Recommender System Based On Network Structure Link Analysis Technique Through Community Detection In Social Network To Handle The Cold Start Problem", 2nd International Conference on Information Technology from 03-04 March, 2022. (Theme: Computational Intelligence: Automate your world) (Accepted and presented and to be published in Lecture Notes in Electrical Engineering)	Honey Pasricha, Shano Solanki, Sumit Kumar
18.	"Brain tumor segmentation using deep learning: taxonomy, survey and challenges." In Brain Tumor MRI Image Segmentation Using Deep Learning Techniques, pp. 225-238. Academic Press, 2022.	Kaur, Ranjeet, and Amit Doegar
19.	"Face Spoof Detection Using Ensemble Machine Learning Algorithm" for the International Conference on Recent Advances in Computational Techniques organized by Amity School of Engineering and Technology, Amity University, Mumbai (10-11 March 2022)	Shiwani Agarwal and Amit Doegar
20.	"CNN Based Apple Leaf Disease Detection Using Pre-Trained GoogleNet Model" in the 4th International Conference on Machine Intelligence and Signal Processing (MISP 2022) organized by Department of Computer Science and Engineering, National Institute of Technology Raipur, March 12 - 14, 2022	Sabiya Fatima, Ranjeet Kaur, Amit Doegar and K. G.Srinivasa
21.	"A Review of Security Concerns in Smart Grid", 3rd International Conference on Innovative Data Communication Technologies and Application, Lecture Notes on Data Engineering and Communications Technologies (ICIDCA 2021), vol. 96, Springer, Singapore, pp 125-140, January 2022.	Jagdish Chandra Pandey and Mala Kalra

RESEARCH & DEVELOPMENT

No. of M.E. Thesis Guided	14
No. of Ph.D Thesis Guided	Awarded - 04

INTERNATIONAL CONFERENCES ORGANIZED

Sr.No.	Name of the Seminar/Conference	No. of Participants
1.	International Conference on Edge, IoT and Social Computing for Digital Villages (ICEISCDV-2021) was organized as e-conference on 29-30 April 2021 in Collaboration with IMEE Department	100

WORKSHOPS CONDUCTED (OTHER THAN CURRICULUM DEVELOPMENT WORKSHOPS)

Sr. No.	Name of the Workshop along with dates and venue
1.	Vetting Pre-Qualifiers of UG/Diploma Engineering/MBA Programmes on 23.08.2021 Conducted under AICTE Margdarshan Scheme for Vetting Pre-Qualifiers of Mentee Institutes
2.	Workshop on "Vetting Pre-Qualifiers of MMEC, Mullana" on 30.12.2021 at NITTTR, Chandigarh under AICTE Margdarshan Scheme

MOOCS SWAYAM COURSES

1. Rerun of Graphics and Animation Development (July, 21 Participants enrolled : 3844)
2. Rerun of Graphics and Animation Development (January, 22 Participants enrolled : 2253)

SPONSORED PROGRAMMES

S.No.	Title of the Programme	Total Number of Participants
1.	ATAL FDP on Cyber Security Vulnerabilities & Safeguards from 17-21 May, 2021.	177
2.	ATAL FDP on Cyber Security Vulnerabilities & Safeguards from 12-16 July, 2021.	159
3.	QIP Sponsored program on Intelligent Nano photonics from 04-09 October, 2021.	99

SPONSORED PROGRAMMES (contd..)

S.No.	Title of the Programme	Total Number of Participants
4.	Mentoring Workshop for Haryana and Delhi from 21st June, 2021 to 25th June, 2021 in Collaboration with IMEE Department	57
5.	“Teaching Learning Process to Enhance Program Outcomes” from 29.11.2021 to 03.12.2021 under AICTE Margdarshan Scheme.	20
6.	QIP Course on “Augmented Reality and Virtual Reality” from 06.12.2021 to 11.12.2021 in Collaboration with IMEE Department	30

CONSULTANCY PROGRAMMES

S.No.	Title of the Programme	Total Number of Participants
1.	Latest Electrical Technologies and Effective Classroom Communication from 21/02/2022 to 04/03/2022 for Instructors/Faculty of Electrician Trade of Govt. ITIs of Himachal Pradesh	20
2.	Latest Automobile Technologies and Effective Classroom Communication from 21/02/2022 to 04/03/2022 for Instructors/Faculty of MMV Trade of Govt. ITIs of Himachal Pradesh	20

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

Sr.No.	Title of Training Programme	Period of Training	Attended by
1.	Industrial Training on “AWS Solution Architect” at SPIC, Chandigarh.	28.07.21– 10.08.21	Dr. Mala Kalra
2.	Online course on TAPAS-PRM: A course on purposeful research methodology Organized by Research for Resurgence Foundation, Nagpur in collaboration with IIT Guwahati	16-20.12.2021	Dr. Mala Kalra
3.	Virtual Reality by NIELIT Chandigarh.	1-14.10.2021	Amit Doegar, Shano Solanki, Amrendra Sharan
4.	FDP on Network Science: Theory, Challenges and Applications	23.08.2021 to 27.08.2021	Shano Solanki





*“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 **2021-22**, the department has conducted **14** online short term training programs which were attended by **266** teachers from polytechnics and engineering colleges. The Department has conducted **91** workshops for Curriculum Development with **922** participations and Designed **03** Curricula. The department faculty published **04** papers in SCI Journals and **03** papers in Non-SCI Journals. The faculty of department also filled **01** patent. The department also conducted **02** Workshops in which **113** participant attended the workshop. The department has taken **04** consultancy projects to design and develop curriculums for various state. The faculty of the department attended online training programs and online webinars during the year. The faculty also submitted research proposals in various agencies.

Short Term Programs Conducted (Online)

1. Curriculum Design for developing job related competencies
2. Education 4.0 aligned with industry 4.0
3. Curriculum Development Process
4. Effective Curriculum Implementation
5. Practical Skills in Technical Education
6. Mentoring and Counselling
7. Effective Curriculum Implementation
8. Lab Practices in Free and Open Source Softwares
9. Reform in Examination and Evaluation
10. Planning, Execution and Evaluation of Project Work
11. Effective Curriculum Implementation
12. Skill Development for Industry 4.0
13. Curriculum Development Process

PAPERS PUBLISHED BY THE CURRICULUM DEVELOPMENT CENTRE FACULTY IN SCI JOURNALS

Sr.No.	Name of the Paper Published	Author (s) Name
1.	Transfer learning based robust automatic detection system for diabetic retinopathy grading. Neural Comput & Applic 33, 13999–14019 (May 2021). https://doi.org/10.1007/s00521-021-06042-2 (SCIIF:4.715)	Bhardwaj, C., Jain, S. & Sood, M.
2.	Deep Learning–Based Diabetic Retinopathy Severity Grading System Employing Quadrant Ensemble Model. J Digit Imaging (2021). April https://doi.org/10.1007/s10278-021-00418-5 (SCI indexed, IF: 4.056)	Bhardwaj, C., Jain, S. & Sood, M.

**PAPERS PUBLISHED BY THE CURRICULUM DEVELOPMENT CENTRE
FACULTY IN INTERNATIONAL JOURNAL OTHER THAN SCI JOURNALS**

Sr.No.	Name of the Paper Published	Author (s) Name
1.	BOOK CHAPTER SCOPUS JOURNAL Speech Recognition Employing MFCC and Dynamic Time Warping Algorithm. In: Singh P.K., Polkowski Z., Tanwar S., Pandey S.K., Matei G., Pirvu D. (eds) Innovations in Information and Communication Technologies (IICT-2020). Advances in Science, Technology & Innovation (IEREK Interdisciplinary Series for Sustainable Development). Springer, Cham. (July 2021) https://doi.org/10.1007/978-3-030-66218-9_27 https://link.springer.com/chapter/10.1007/978-3-030-66218-9_27	Sood M., Jain S.

**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.	Optimized Perovskite Solar Cell Design using Suitable Defects in Layers for Enhanced Efficiency," 2021 6th International Conference on Signal Processing, Computing and Control (ISPCC), Oct 2021, pp. 550-555, doi: 10.1109/ISPCC53510.2021.9609485.	K. Shiwani, R. Mehra, S. Malhotra and M. Sood
2.	A Comparison of several HTMs and ETMs to enhance efficiency using MASnI3 as an absorber layer" accepted in IEEE international conference ICIP-2021 (Dated November 26-28, 2021) (Scopus indexed) with paper ID 1570766485.	Simran Malhotra, Rajesh Mehra, Km Shiwani and Dr. Meenakshi Sood

PATENTS/COPYRIGHT

Sr.No.	Name of Patents/Copyright	Author (s) Name
1.	Application Number- 202111031068 "A SYSTEM FOR MONITORING PLANTATION AND A METHOD THEREOF" has been published in India Patent Journal on dated 30th July 2021.	Dr. Meenakshi Sood

RESEARCH AND DEVELOPMENT

No. of M.E. Thesis Guided	02
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CURRICULA DESIGNED

Sr. No.	Title
1.	10 Diploma/Advanced Diploma/PG Diploma/Certificate programmes for AEERO, Delhi.
2.	27 Diploma Programmes (First Year) for HSBTE, Panchkula, Haryana.
3.	1 Advance Diploma Programme (First Year) for HSBTE, Panchkula, Haryana.

CURRICULUM DEVELOPMENT WORKSHOPS CONDUCTED

Sr.No.	Name of Curriculum	Dates	Beneficiary State	No. of participation
1.	Diploma in Fire Technology & Industrial Safety Operations	28.05.2021	Delhi	10
2.	PG Diploma in Fire Technology & Industrial Safety Operations	28.05.2021	Delhi	10
3.	Sub Fire Officer	28.05.2021	Delhi	10
4.	Certificate in Basic Elementary course in Firefighting	28.05.2021	Delhi	10
5.	Certificate in Fireman	28.05.2021	Delhi	10
6.	Advance Diploma in Industrial Safety	31.05.2021	Delhi	16
7.	Electronics & Commn. Engineering	31.05.2021	Haryana	12
8.	Library and Information Science	31.05.2021	Haryana	11
9.	Computer Engineering	02.06.2021	Haryana	13
10.	Electrical Engineering	02.06.2021	Haryana	11
11.	Medical Laboratory Technology	03.06.2021	Haryana	12
12.	Diploma in Health Sanitary Inspector	03.06.2021	Delhi	24
13.	General Duty Assistance	03.06.2021	Delhi	24
14.	Advance Diploma in Industrial Safety	05.06.2021	Delhi	7
15.	Textile Design	07.06.2021	Haryana	15
16.	Textile Processing	07.06.2021	Haryana	15
17.	Textile Technology	07.06.2021	Haryana	15
18.	Diploma in Industrial Safety Management	08.06.2021	Delhi	8
19.	PG Diploma in Industrial Safety Management	08.06.2021	Delhi	7
20.	Instrumentation and Control Engg	09.06.2021	Haryana	10
21.	Finance, Accounts and Auditing	11.06.2021	Haryana	15
22.	Architectural Assistantship	11.06.2021	Haryana	7
23.	Business Management	11.06.2021	Haryana	15
24.	Plastic Engineering	14.06.2021	Haryana	10
25.	Fashion Technology	14.06.2021	Haryana	13
26.	Fashion Design	14.06.2021	Haryana	13

CURRICULUM WORKSHOPS CONDUCTED (contd..)

Sr.No.	Name of Curriculum	Dates	Beneficiary State	No. of participation
27.	Post-Graduation Diploma in Occupational Safety Health and Environment Management	18.06.2021	Delhi	16
28.	Chemical Engineering	21.06.2021	Haryana	13
29.	Chemical Engg.(Pulp & Paper)	21.06.2021	Haryana	13
30.	Mechanical Engg.(Tool & Die)	21.06.2021	Haryana	15
31.	Office Mgt & Comp. Application	22.06.2021	Haryana	13
32.	Mechanical Engineering	23.06.2021	Haryana	17
33.	Medical Electronics	25.06.2021	Haryana	10
34.	Agriculture Engineering	25.06.2021	Haryana	12
35.	Automobile Engineering	25.06.2021	Haryana	12
36.	Civil Engineering	25.06.2021	Haryana	7
37.	Ceramic Engineering	28.06.2021	Haryana	10
38.	English & Commn. Skills	29.06.2021	Haryana	6
39.	Advance Diploma in Tool & Die (Un-aided)	30.06.2021	Haryana	13
40.	Applied Science	01.07.2021	Haryana	17
41.	Post-Graduation Diploma In Occupational Safety Health And Environment Management	03.07.2021	Delhi	9
42.	General workshop practice	16.07.2021	Haryana	10
43.	General Workshop practice	23.07.2021	Haryana	13
44.	Post-Graduation Diploma In Occupational Safety Health And Environment Management	24.07.2021	Delhi	7
45.	Advance Diploma in Industrial Safety	24.07.2021	Delhi	7
46.	Mechanical Engineering	03.08.2021	Haryana	8
47.	Applied Mathematics	05.08.2021	Haryana	10
48.	Diploma in Health Sanitary Inspector	05.08.2021	AEERO, Delhi	3
49.	General Duty Assistant	05.08.2021	AEERO, Delhi	12
50.	Automobile Engineering	06.08.2021	Haryana	4
51.	Computer Engineering	10.08.2021	Haryana	11
52.	Eltx. & Commn. Engineering	12.08.2021	Haryana	9
53.	Instrumentation & Control	17.08.2021	Haryana	8
54.	Fashion Technology	17.08.2021	Haryana	6
55.	Fashion Design	17.08.2021	Haryana	6
56.	Advance Diploma in Tool & Die Making	17.08.2021	Haryana	7
57.	Food Technology	18.08.2021	Haryana	4

CURRICULUM WORKSHOPS CONDUCTED (contd..)

Sr.No.	Name of Curriculum	Dates	Beneficiary State	No. of participation
58.	Office Management and Computer Application	19.08.2021	Haryana	9
59.	Textile Design	19.08.2021	Haryana	12
60.	Textile Processing	19.08.2021	Haryana	12
61.	Textile Technology	19.08.2021	Haryana	12
62.	Chemical Engineering	20.08.2021	Haryana	9
63.	Chemical Engineering (Pulp & Paper)	20.08.2021	Haryana	9
64.	Medical Laboratory Technology	23.08.2021	Haryana	7
65.	Library and Information Science	24.08.2021	Haryana	8
66.	Architectural Assistantship	25.08.2021	Haryana	6
67.	Ceramic Engineering	26.08.2021	Haryana	6
68.	Plastic Engineering	27.08.2021	Haryana	5
69.	Medical Electronics	27.08.2021	Haryana	7
70.	Electrical Engineering	31.08.2021	Haryana	8
71.	Civil Engineering	31.08.2021	Haryana	9
72.	Applied Mathematics	31.08.2021	Haryana	5
73.	Civil Engineering	01.09.2021	Haryana	7
74.	Finance, Accounts & Auditing	01.09.2021	Haryana	11
75.	Business Management	01.09.2021	Haryana	11
76.	Diploma in Fire Technology & Industrial Safety Operations	09.09.2021	AEERO, Delhi	3
77.	Sub Fire Officer	09.09.2021	AEERO, Delhi	3
78.	Certificate in Basic Elementary Course in Firefighting	09.09.2021	AEERO, Delhi	3
79.	Certificate in Fireman	09.09.2021	AEERO, Delhi	3
80.	PG Diploma in Fire Technology & Industrial Safety Operations	09.09.2021	AEERO, Delhi	3
81.	PG diploma in industrial Safety Management	10.09.2021	AEERO, Delhi	10
82.	Diploma in Industrial Safety Management	10.09.2021	AEERO, Delhi	10
83.	Sub Fire Officer	15.09.2021	AEERO, Delhi	3

CURRICULUM WORKSHOPS CONDUCTED (contd..)

Sr.No.	Name of Curriculum	Dates	Beneficiary State	No. of participation
84.	Automation and Robotics	12.11.2021	Haryana	5
85.	Finalizing study scheme and subject contents of 1 st year Civil Engineering (offline)	18.11.2021	Haryana	10
86.	Brainstorming workshop for Design of NSQF aligned curriculum for PSBTE (offline)	02.12.2021	Punjab	6
87.	Workshop for finalizing the NSQF Level-3 Curriculum Design (offline)	17.02.2022	Haryana	8
88.	Orientation workshop for design of NSQF compliant curriculum for PSBTE (offline)	23.02.2022	Punjab	34
89.	Job Role of Plumber (offline)	23.03.2022	Jal Jeevan Mission, Punjab	13
90.	Job Role of Electrician (offline)	24.03.2022	Jal Jeevan Mission, Punjab	14
91.	Job Role of Fitter (offline)	30.03.2022	Jal Jeevan Mission Punjab	10

WORKSHOPS CONDUCTED (OTHER THAN CURRICULUM DEVELOPMENT WORKSHOPS)

Sr.No.	Name of the Workshop alongwith dates and venue	Total No. of participants
1.	Awareness talk-cum-Eye checkup on 27.10.2021 at NITTTR, Chandigarh.	65
2.	Oral Health workshop online June 2021.	48

CONSULTANCY PROJECTS

Sr.No.	Title of the Project	Coordinator	Funding Agency	Status	Details
1.	Design and develop NSQF compliant curriculum of 10 courses for Aarav Educational & Employment Research Organization (AEERO), Delhi,	CDC faculty	AEERO, Delhi	Completed 13,15,700/-	Designing curriculum of various courses

CONSULTANCY PROJECTS (contd..)

Sr.No.	Title of the Project	Coordinator	Funding Agency	Status	Details
2.	Design and develop NSQF compliant curriculum of 27 diploma courses for HSBTE, Haryana	CDC Faculty	HSBTE	In progress 82,00,000	Designing curriculum of various courses
3.	Design and develop of NSQF compliant 21 diploma level programmes for PSBTE	CDC Faculty	PSBTE	In progress 45,50,000 (Approximately)	Designing curriculum of various courses
4.	Design 3 curriculum for Skill Training Programme for Jal Jeevan Mission	CDC Faculty	Punjab Skill Development Mission	Under Process 2,65,000/- (awaiting)	Curriculum for Job role
5.	Design of Vocational Diploma & UG Degree (D.Voc & B.Voc) 22 Curriculum Development in Emerging Areas	CDC Faculty	AICTE	Under Process Rs. 55,00,000/- (awaiting)	D.Voc. & B.Voc

TRAINING PROGRAMMES/WORKSHOPS ATTENDED BY THE CURRICULUM DEVELOPMENT CENTRE FACULTY/STAFF

Sr.No.	Title of Training Programme	Period of Training	Venue	Attended by
1.	Online workshop on “Challenges & Issues of implementating NEP 2020”	28.04.2021	NITTTR, Chd	Dr. AB Gupta Dr. Meenakshi Sood
2.	Colombo Plan Staff College (CPSC), Manila, Philippines	26-30.04.2021	Online	Dr. Meenakshi Sood
3.	Quality Ecosystem through NEP-2020	26.10.2021	NITTTR, Chd	Dr. SK Gupta Dr. Meenakshi Sood
4.	National Workshop on Curriculum Design organized by ASSOCHAM Education Council (Tamil Nadu & Kerala Chapter) and KCLAS are organizing Facilitator: Dr. Shitanshu Mishra, Information Technology Officer, MGIEP, UNESCO & Former Research Scientist, IIT Bombay	29 & 31.10.2021	Online	Dr. Meenakshi Sood

TRAINING PROGRAMMES/WORKSHOPS ATTENDED BY THE CURRICULUM DEVELOPMENT CENTRE FACULTY/STAFF (contd..)

Sr.No.	Title of Training Programme	Period of Training	Venue	Attended by
5.	Effective Office Management and Office Procedures for Executive Secretaries, PA/PS, Stenographers & Office Staff being organized by Systematic Institute of Economic Research & Development	25-27.11. 2021	Goa	Ramesh Gupta

IN-HOUSE TRAINING PROGRAMMES CONDUCTED/ ATTENDED

Sr.No.	Title of Training Programme	Period of Training	Attended by
1.	Mentors' workshop for Haryana-Delhi	21-25 June, 2021	Dr. Meenakshi Sood
2.	Mentor's workshop on Module on Professional Ethics	22.06.2021	Dr. Meenakshi Sood
3.	Mentor's workshop for UP state	27.09.2021 to 01.10.2021	Dr. Meenakshi Sood





"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 **2021-22**, the Department has conducted **39** online short term training programs in which were **1307** teachers from polytechnics and engineering colleges participated. Faculty of the department coordinated an Induction Training programme for **39** Faculty of NSUT, New Delhi and generated **Rs. 4,48,400/-**. The department conducted **01** Student Training Programme of one-week Duration in which **26** students participated and generated **Rs. 92, 040/-**.

The department conducted **10** MOOCS SWAYAM Courses in which **14,420** students participated. The department faculty published **02** paper in Non-SCI Journals and **02** in National journals; **01** paper in proceedings of International Conferences and **01** in National Conferences. The department also published paper in proceedings of International Conferences. The department faculty also published book chapters. The faculty of the department attended online training programs and online webinars during the year. The faculty also submitted research proposals to various agencies.

Short Term Programs Conducted

1. Cooperative & Collaborative Instructional Methods to promote Meaningful Learning
2. Advances in Pharmacy Education
3. Student Evaluation (Theory and Practical Subject)
4. Digital Transformation of Teaching
5. Student –centered Instructional Strategies
6. Evaluation and Setting Question Papers
7. Personality Development
8. Instructional Planning and Delivery
9. Blended Learning and Flipped Classroom
10. Induction Training Programme for Newly Recruited Teachers
11. Team Building, Motivation and Creativity.
12. Action Research for improving Quality of Technical Education System
13. Managing your Ego and Emotions at workplace
14. Project Planning and Management
15. Soft Skills and Classroom Teaching
16. Enhancing Performance at Work Place (for Teachers & Supporting Staff)
17. Happiness and Emotional Well-being
18. Preparing Students for Job Interviews

Short Term Programs Conducted (contd..)

19. Life Skills Development
20. Effective Teaching Learning using Social Media
21. Developing Soft Skills through Classroom Teaching
22. Research Methodology
23. Managerial Skills for Technical Teachers & Administrators
24. Soft Skills and Classroom Teaching
25. Research Methodology
26. Latest Trends in Fashion Design
27. Online Learning and Online Evaluation
28. Developing Employable Skills
29. Guidance, Counselling & Mentoring Skills
30. Stress Management
31. Inter-personal Skills and Relationship Management
32. Developing Values & Ethics
33. Sample test course for beta testing
34. Environment, Ecology and Sustainable Development
35. Induction Training Programme for Newly Recruited Teachers
36. Classroom Communication in Digital Era
37. Innovative Techniques of Organic Farming and Permaculture

RESEARCH AND DEVELOPMENT

PAPERS PUBLISHED BY THE EDUCATION AND EDUCATIONAL MANAGEMENT FACULTY IN INTERNATIONAL JOURNAL OTHER THAN SCI JOURNALS

Sr. No.	Name of the Paper Published	Author (s) Name
1.	Problem Based Learning in Education – Its Need for Sustainable Development; Journal of Engineering Education Transformations; Vol. 34, Issue 4, 58-66p; 2021/4 (A Scopus Indexed Journal)	Dr. Preeti Thakur, Dr. Sunil Dutt and Dr. Abhishek Chauhan
2.	'Online Learning Trends during the Pandemic Period 2020' in International Journal of Multidisciplinary Educational Research (Vol. 10, Issue 12(1), 2021) {Peer Reviewed: UGC Care Approved Journal: 41602}	Dr. Suruchi and Dr. Sunil Dutt

PAPERS PUBLISHED / PRESENTED BY THE EDUCATION AND EDUCATIONAL MANAGEMENT FACULTY 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.	A paper entitled "Technologies for Sustainable Development" in an International online Conference on Advances in Management and Technology for Sustainable Development ICAMTSD21 from Sept 4 – 8 2021 organized by HIPA, Shimla and Satyawati College, New Delhi	Dr. UN Roy, Professor

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

Sr.No.	Name of the Paper Published	Author (s) Name
1.	Book Chapter: Health impacts due to fluoride contamination in water: Current scenario (Accepted in Elsevier publication) in the Book: Contamination of Water Health Risk Assessment and Treatment Strategies (1st Edition), ISBN: 978-0-12-824058-8, Academic Press, Copyright © 2021 Elsevier Inc.	Amandeep Kaur, Ritu Bala, Surinder Singh Bhinder, Sushil Kumar Kansal
2.	'Implementing Flipped Classroom in Higher Educational Institutions- Issues and Challenges" published in Journal of Engineering & Technology Education, Vol.15, No.2, July-December, 2021)	Astha & Dr. Sunil Dutt

PAPERS PUBLISHED / PRESENTED BY THE EDUCATION AND EDUCATIONAL MANAGEMENT FACULTY IN NATIONAL 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.	A paper entitled, "Prospects and Challenges of Eco-system Restoration in India" presented in National Webinar on Eco-system Restoration, on 5th June 2021 organized by Institute of Engineers, Rajasthan Chapter, Jodhpur, Rajasthan	Dr. UN Roy, Professor

MOOCS SWAYAM COURSES

Sr.No.	Title of the Course	Total Number of Participants
1.	Communication Skills, modes and Knowledge Dissemination MOOC Course, SWAYAM ,India (01.09.2021 – 31.10.2021)	1635

MOOCS SWAYAM COURSES (contd..)

Sr.No,	Title of the Course	Total Number of Participants
2.	Communication Skills, modes and Knowledge Dissemination, MOOC Course SWAYAM, India (01.04.2021 – 31.05.2021)	2426
3.	Rerun of Development of Self Learning Material in 30 July – 27 September, 2021	881
4.	Rerun of Development of Self Learning Material in 31 Jan – 18 March, 2022	720
5.	Communication Skills, modes and Knowledge Dissemination, Term I training under NITTT-AICTE, India (31.01.2022 – 31.03.2022)	1827
6.	Communication Skills, modes and Knowledge Dissemination, Term I training under NITTT-AICTE, India (30.07.2021 – 27.09.2021)	2591
7.	Research in Technical Education, 30 July – 01 October, 2021	679
8.	Research in Technical Education, 31 January – 31 March, 2022	513
9.	AICTE-NITTT Module 7: Creative Problem Solving, Innovation & Meaningful R & D (01.04.2021 – 31.05.2021)	1716
10.	AICTE-NITTT Module 7: Creative Problem Solving, Innovation & Meaningful R & D (01 Sept.– 31 October, 2021)	1432

CONSULTANCY PROGRAMMES

Sr.No.	Name of Project	Team	Beneficiary Organization	Status of Project	Specific work done during the year
1.	Induction training programme for newly recruited faculty for NSUT, Delhi (19-30 July, 2021) CP-21-144	SD/AK	NSUT, Delhi	Completed	Programme conducted with 39 faculties (IRG Rs. 4,48,400/-)
2.	Consultancy Project: (MARKFED, Punjab)	SSB/SD/ RKW	Punjab	Completed	Examination/written test held on 30-31 October, 2021
3.	Pre-Job Training (Finishing School) to MBA Rural Development-3rd Semester on "Sustainable Rural Development Through Technological Interventions.	Dr. UN Roy	Institute of Integrate Himalayan Studies (IIHS), HP University, Shimla.	Completed	Programme conducted with 26 Students (IRG Rs.92,040/-)

STUDENT TRAINING ORGANIZED

Sr.No.	Name of the Course along with dates & place	No. of weeks	Participation		Total No. of Participants
			Poly	Engg.	
1.	Pre-Job Training (Finishing School) to MBA Rural Development-3rd Semester on "Sustainable Rural Development Through Technological Interventions"- (21-26 March, 2022)	One Week			26

TRAINING PROGRAMMES ATTENDED BY THE EDUCATION AND EDUCATIONAL MANAGEMENT FACULTY IN NATIONAL JOURNAL

Sr. No.	Title of Training Programme	Period of Training	Venue	Attended by
1.	"TAPAS-PRM" organized by ICT Academy Indian Institute of Technology, Guwahati(IITG)	16/12/2021 to 20/12/2021	Online	Er. Amandeep kaur





*"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 **2021-22**, the department has conducted **22** online short term training programs in ICT Mode, which were attended by **1164** teachers from polytechnics and engineering colleges. The Department has conducted **02** workshops with **50** participations. The Department has conducted International Conference on “Emerging Technologies: AI, IoT and CPS for Science & Technology Applications” during September 06-07, 2021.

The department also conducted 02 Student Training Programmes of **04** Weeks Duration and total **08** students participated. The department faculty published **05** papers in SCI and **09** in Non-SCI Journals. The department also published **14** papers in proceedings of International Conferences. The department also conducted **02** AICTE sponsored QIP courses in which **238** participants attended the courses. The faculty of the department attended online training programs and online webinars during the year. The faculty also submitted research proposals to various agencies.

Short Term Programs Conducted

1. **MATLAB / Simulink and its Hardware Interface**
2. **IoT and Cyber Security**
3. **Mechatronics and Robotics**
4. **Artificial Intelligence and Big Data Analysis for Electrical Engineering (in Collaboration with MathWorks)**
5. **Lab VIEW Programming**
6. **Development of Smart Electric Vehicles as per Indian Scenario (with Typhoon HIL)**
7. **Micro grid Protection (in collaboration with Typhoon)**
8. **Image processing Techniques and Applications**
9. **Real Time Simulation: Roadmap for RE Grid Integration in Micro grid and Smart Grid**
10. **Renewable and Clean Energy**
11. **Real Time Simulations Applications in Cyber Security**
12. **Power Quality and Harmonics (with Lulea Technical University, Sweden and Typhoon HIL)**
13. **Artificial Neural Network and Fuzzy Logic**
14. **Development of Residential Micro grid (in collaboration with Typhoon)**
15. **Electric Vehicle Technology**
16. **FACTS & Smart Grid**
17. **Diagnostic Study of Transformer**
18. **Teaching and Learning for Accreditation in Technical Education**

Short Term Programs Conducted (contd..)

19. **Embedded C Programming of Microcontroller**
20. **Bio Inspired Optimization Techniques.**
21. **Basics of MATLAB and Simulink**
22. **Research Trends in Electrical and Electronics Engineering**

RESEARCH AND DEVELOPMENT

PAPERS PUBLISHED BY THE ELECTRICAL ENGINEERING FACULTY IN SCI JOURNALS

Sr. No.	Name of the Paper Published	Author (s) Name
1.	Fractional Order Controller based Maximum Power Point Tracking Controller for Wind Turbine System, International Journal of Electronics, DOI: 10.1080/00207217.2021.1941296. (SCI IF 0.939).	Shivaji Ganpat Karad, Ritula Thakur
2.	Development of Robotic Rehabilitation Device for Spasticity Treatment of Acute Spinal Cord Injury Patients, IETE Journal of Research, (Taylor & Francis Online), Published online on 28 September 2021, https://doi.org/10.1080/03772063.2021.1977191 (SCI IF 1.24)	Divya Shakti, Ratan Das, Neelesh Kumar, Lini Mathew, Takshima Seth, Chitra Kataria
3.	Diagnosis of Supraharmonics-related problems based on the effects on electrical equipment, Electric Power Systems Research, Vol. 195, 2021, 107179, ISSN 0378-7796, https://doi.org/10.1016/j.epsr.2021.107179 . (SCI)	Ángela Espín-Delgado, Sarah Rönnberg, Shimi Sudha Letha, Math Bollen
4.	Fuzzy-Logic-Based Comparative Analysis of Different Maximum Power Point Tracking Controllers for Hybrid Renewal Energy Systems, Mathematics 2022, 10, 529. https://doi.org/10.3390/math10030529 , Published: 8 February, 2022. (MDPI Publication) (SCI-IF 2.258)	Mohammad Junaid Khan, Lini Mathew, Majed A. Alotaibi, Hasmat Malik, Mohammed E. Nassar
5.	A Novel MDA2LO Technique for Load Flow Analysis with Hybrid Power Flow Controller, Journal of Ambient Intelligence and Humanized Computing, (Springer) Published online on 9 July 2021, https://doi.org/10.1007/s12652-021-03362-y (SCI-IF 7.104)	Anjali Atul Bhandakkar, Lini Mathew

**PAPERS PUBLISHED BY THE ELECTRICAL ENGINEERING FACULTY
IN INTERNATIONAL JOURNAL OTHER THAN SCI JOURNALS**

Sr.No.	Name of the Paper Published	Author (s) Name
1.	Different Automatic Monitoring and Controlling Technique for Mushrooms, Turkish Journal of Computer and Mathematics Education Vol.12 No.11, 2021, pages-3363- 3369. (Scopus Indexed)	P.K.Angral, Ritula Thakur
2.	Review of various techniques used to improve power factor of induction motor drive, International Journal of Electrical Engineering and Technology (IJEET), Volume 12, Issue 6, June 2021, pages- 122-127. (Scopus Indexed)	Wasim Mohiuddin Syed, Ritula Thakur
3.	STATCOM with Fuzzy-Pi Controller for Low Voltage-Ride through Enhancement of DFIG based Wind Farm, International Journal of Multidisciplinary and Current Research, Vol.9, pp. 151-155, April 2021.	Stalin Kumar Samal, Ritula Thakur, Shivaji Ganpat Karad
4.	A Study on Recent Trends for Load Forecasting with Artificial Intelligence, Turkish Online Journal of Qualitative Inquiry, Volume 12, Issue 6, July 2021, pages-5707-5714. (Scopus Indexed)	Deepak Sharma, Ritula Thakur
5.	PV-Grid based Electric Vehicle Charging Station with Modified Interleaved Boost Converter, Australian Journal of Electrical and Electronics Engineering, Taylor & Francis, September 2021, (Scopus Indexed)	Renu Verma; Arshdeep Singh; Anurag Choudhary; Shimi Sudha Letha
6.	Management of Reactive power in industrial installation and economic analysis, published in American Institute of Physics, Vol. 23757, pages 34-42, Impact factor 1.2, (Scopus Indexed)	Raj Kumar Saini, Devender Kumar Saini, Rajeev Gupta, Piush Verma, R.P. Dwivedi, Ashwani Sharma, Pankaj Vaidya
7.	Optimal PMU Allocation by flower pollination with Levy Fitness function, Design Engineering, Issue.7, pages 3294-3305, 2021. (Scopus Indexed)	Shivani Chaudhary, Dr. Ritula Thakur,
8.	Inter Turn Fault detection in Rotor of Hydro Generator using Fuzzy Interface System, Water & Energy International, pages 36-42, Vol 64, Issue 12, March, 2022. (Scopus Indexed)	Atul Chadda and Piush Verma
9.	A Research on Prevention of Hydro Power-Generator Outages due to Pseudo Faults using Artificial Intelligence, Water & Energy International, pages 40-45, Vol 64, Issue 11, February, 2022. (Scopus Indexed)	Deepika Sood, Piush Verma

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

Sr.No.	Title of the Paper Presented/Accepted alongwith Name of the Conference/Seminar (venue, with date)	Author (s) Name
1.	Estimation of Electric Vehicle Hosting Capacity of a Distribution Network Including Ambient Temperature, CIRED 2021 Conference, Geneva, 20 – 23 September 2021.	Shimi Sudha Letha, Math Bollen
2.	LED Life Assessment by Accelerated Test Methods – A review, CIRED 2021 Conference, Geneva, 20 – 23 September 2021.	Shimi Sudha Letha, Math Bollen
3.	Propagation of supraharmonics in a medium-voltage network, CIRED 2021 Conference, Geneva, 20 – 23 September 2021.	Shimi Sudha Letha, Math HJ Bollen, Sarah Rönnerberg, Angela Espin Delgado,
4.	A Review on Demand Side Management Schemes for Optimized Energy Utilization in Smart Grids, International Conference on Emerging Technologies: AI, IoT and CPS for Science and Technology Applications, during 6-7 September 2021 organized by NITTTR, Chandigarh	Ashok Muthria, Lini Mathew
5.	False Data Injection Attack Clearance in Microgrid Load Frequency Control, International Conference on Emerging Technologies: AI, IoT and CPS for Science and Technology Applications, during 6-7 September 2021 organized by NITTTR, Chandigarh	Vikas Pandey, Lini Mathew
6.	A Study on Recent Trends for Load Forecasting with Artificial Intelligence, International Conference on Emerging Technologies: AI, IoT and CPS for Science & Technology Applications, 6-7 September, 2021, NITTTR, Chandigarh	Deepak Sharma, Ritula Thakur
9.	Performance of Three Phase Induction Motor voltage variations- A Review, International Conference on Emerging Technologies: AI, IoT and CPS for Science & Technology Applications, NITTTR, Chandigarh, 6-7 September 2021	Raj K. Saini, Dr.Piush Verma, Devender K. Saini and Rajeev Gupta
10.	Review of Recent Approaches to Eliminate Various Pseudo Fault Outages in Hydro Power Plants, International Conference on Emerging Technologies: AI, IoT and CPS for Science & Technology Applications, NITTTR, Chandigarh, 6-7 September 2021	Deepika Sood and PiushVerma
11.	Review on Rotor Inter Turn Fault Detection in Hydro Generator, International Conference on Emerging Technologies: AI, IoT and CPS for Science & Technology Applications, NITTTR, Chandigarh, 6-7 September 2021 (Scopus)	Atul Chadda and PiushVerma
12.	Review Paper on Diagnostics Study of Dry Transformer, International Conference on Emerging Technologies: AI, IoT and CPS for Science & Technology Applications, NITTTR, Chandigarh, 6-7 September 2021 (Scopus)	Pankaj Kumar and Piush Verma

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

Sr.No.	Title of the Paper Presented/Accepted alongwith Name of the Conference/Seminar (venue, with date)	Author (s) Name
13.	Model for Disturbance Estimation during Transient in an Islanded Microgrid, International Conference on “Recent Trends in Renewable Energy and Advancement in Engineering and Technology (RTREAET-2021)”, Mewat Engineering College, Nuh, Haryana, 28-29 December, 2021.	Yogesh Chauhan, Ritula Thakur, Shivaji Karad, Amir Hussain,
14.	“Arduino Microcontroller and IOT based systems for environment control of mushroom farms”, International Conference on “Recent Trends in Renewable Energy and Advancement in Engineering and Technology (RTREAET-2021)”, Mewat Engineering College, Nuh, Haryana, 28-29 December, 2021.	P.K.Angral, Ritula Thakur

RESEARCH AND DEVELOPMENT

No. of M.E. Thesis Guided	16
No. of Ph.D Thesis Awarded	2

SPONSORED PROGRAMMES

Sr.No.	Title of the Programme	Total Number of Participants
1.	AICTE QIP Course on Distributed Generation and Microgrid from 9–14 August, 2021.	125
2.	AICTE QIP Course on Power Quality Issues and Solutions for Grid Connected Electric Vehicles from 14-19 March, 2022.	113

CONSULTANCY PROGRAMMES

Sr. No.	Name of Project	Team	Beneficiary Organization	Status of Project Completed/in Progress	Specific work done during the year
1.	Preparation of Detailed Project Report (DPR) for development of Integrated Pharmaceutical Industrial Park at Wazirabad, Distt. Fatehgarh Sahib, Punjab – Electrical Works The project amounts to be Rs.5,00,000/-	Dr. Lini Mathew/ Piush Verma	Punjab Small Industries & Export Corporation (PSIEC)	Completed	Design of HT/LT System, Street Light System, Solar System & Solar Blinkers

INTERNATIONAL CONFERENCES ORGANIZED

Sr.No.	Name of the Seminar/Conference	Total
1	International Conference on “Emerging Technologies: AI, IoT and CPS for Science & Technology Applications” during September 06-07, 2021 along with ECE Deptt.	85

WORKSHOPS CONDUCTED (OTHER THAN CURRICULUM DEVELOPMENT WORKSHOPS)

Sr.No.	Name of the Workshop alongwith dates and venue	Total No. of participants
1.	ANSYS Solution for Electric Vehicle organized in collaboration with ARK Infosolution Pvt. Ltd and ANSYS on December 17th, 2021	48
2.	Induction Training for Newly Recruited Technicians during 15th November to 16th December 2021	2

STUDENT TRAINING ORGANIZED

Sr.No.	Name of the Course along with dates & place	No. of weeks	Participation		Total No. of Participants
			Poly	Engg.	
1.	Industrial Project based Training in the areas of Electrical Machines, Power Electronics, Embedded Systems & Hardware-in-Loop	4		2	2
2.	Hands on practice on Electrical Engineering Software Tools	4		6	6

TRAINING PROGRAMMES/ WEBINARS ATTENDED BY THE ELECTRICAL ENGINEERING DEPARTMENT FACULTY/STAFF

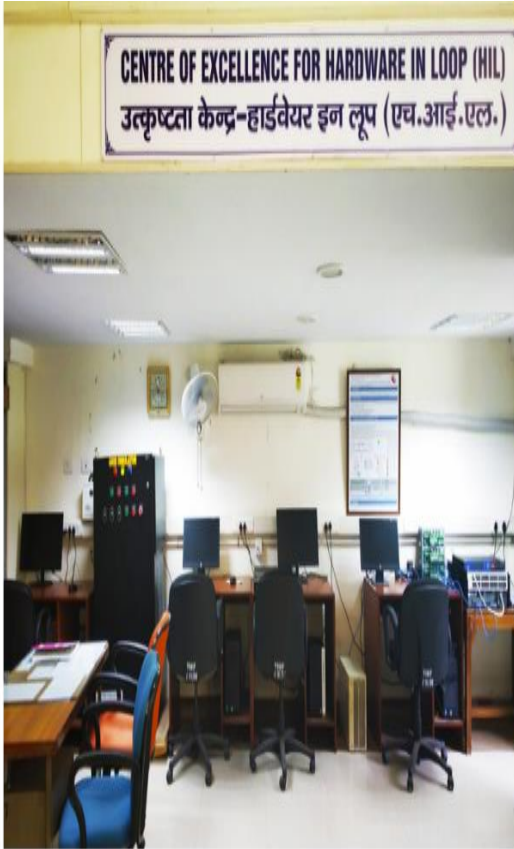
Sr.No.	Title of Training Programme	Period of Training	Venue	Attended by
1.	International Conference on Edge, IoT and Social Computing for Digital Villages (ICEISCDV-2021)	9 - 30 April, 2021	NITTTR, Chandigarh	Dr. Piush Verma
2.	Smart Grid Studies Using Communication Systems	10 June, 2021	IEEE Standards Association (Through Webex)	Dr. Piush Verma
3.	Capacity building training programme for Module IV	21-25 June 2021		Dr. Ritula Thakur
4.	Antenna Technology for 5G Applications	7 July 2021	IEI Webinar	Dr. Piush Verma
5.	National Summit on Skill Based Education (India)	1-4 July 2021	AICTE	Dr. Piush Verma
6.	ICFAI University association with IEEE FDP on Artificial Intelligence & Machine Learning	3-6 August 2021	ICFAI University Jaipur	Dr. Piush Verma
9.	Re-envisioning Higher Education for 21st Century	5 September 2021	International Chamber for Service Industry (ICSI)	Dr. Piush Verma
10.	Designing Formative Assessments for Effective Learning Outcomes (Quality Ecosystem Through NEP-2020 by Turn tin South Asia.	8th October 2021	Webinar	Dr. Piush Verma
11.	Fire Due to Short Circuit and Role of Earthing by Shrig Gopal Kumar Expert Electrical Engg. Director of Cape Electric	30th October 2021	Webinar	Dr. Piush Verma

TRAINING PROGRAMMES/ WEBINARS ATTENDED BY THE ELECTRICAL ENGINEERING DEPARTMENT FACULTY/STAFF (contd..)

Sr.No.	Title of Training Programme	Period of Training	Venue	Attended by
12.	Attended Programme for Education Leaders and Educators to learn about Global trends across the Education Sector Organized by New South Wales Govt. and India Didactics Associations.	14th Dec. 2021	Webinar	Dr. Piush Verma
13.	Haryana Vidyut Prasaran Nigam Limited, Panchkula	25th October, 2021 to 8th November, 2021	220 kV Substation, Madanpur, Panchkula	Dr. Shimi S.L
14.	Energy Efficiency and conservation	27.12.2021	Mahatma Gandhi State Institute, Chandigarh	Dr. Shimi S.L

IN-HOUSE TRAINING PROGRAMMES/ WEBINARS

Sr.No.	Title of Training Programme	Period of Training	Attended by
1.	Online workshop on 'Implementation of NEP-2020 for Quality Online and Open Distance Learning (ODL) Education	28-4-2021.	Dr. Piush Verma
2.	ATAL FDP on Branding of Higher Education Institutions for Enhanced Outcomes	13-17 September, 2021	Dr. Piush Verma, Dr. Ritula Thakur
3.	Refresher Training on Google Workspace Features	24th November 2021 (One day)	Dr. Piush Verma
4.	Workshop on "ANSYS Solution for Electric Vehicle" organized by ARK Info solutions Ltd. at NITTTR, Chandigarh on 17th Dec '2021.	17th December, 2021 (One day)	Dr. Ritula Thakur
5.	Ansys Solution for Electric Vehicle organized in collaboration with ARK Infosolution Pvt. Ltd and Ansys on December 17th, 2021	17th December, 2021 (One day)	Dr. Shimi S.L





*"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



*"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.) SS Pattnaik

**Joint Professor & Currently holding the
Position of Director**

**Research Areas - Soft Computing, Multimedia,
Antenna & Microwave, RF & Bio-medical**



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 **2021-22**, the department has conducted **39** short term training programs in ICT Mode which were attended by **1149** teachers from polytechnics and engineering colleges. The Department has conducted **05** workshops with **619** participations. The department also conducted **02** Student Training Programme of **6** Weeks Duration and total **06** students participated. The department faculty published **11** papers in SCI Journals, **03** papers in Non-SCI Journals and **02** in National Journals.

The department also published **16** papers in proceedings of International Conferences and **03** in National Conference. The department also conducted **01** International Conference and **02** National Conference with **445** participants. The department also conducted **04** Sponsored programmes in which **303** participants were trained. The faculty of the department jointly with IMEE department conducted **10** courses under UKWDP funded by world bank in which **418** instructors of ITI colleges were trained. The faculty of the department attended online training programs and online webinars during the year. The faculty also submitted research proposals in various agencies.

Short Term Programs Conducted (Online)

1. Digital and Analog VLSI Design
2. Image and Embedded Processing
3. 5G and Beyond
4. System Designing with Embedded Processors
5. AI and Soft Computing Algorithms for Antenna Design
6. Low Power VLSI Design
7. Digital Signal Processing using MATLAB
8. Digital Media Tools for Effective Teaching Learning
9. Artificial Intelligent for Engineering Applications
10. IoTs and Sensor Networks
11. Specification to System Development
12. ECE lab Practices for Polytechnic Teachers
13. MATLAB & its Application
14. Industry Oriented STC on VLSI Design Tools
15. Internet of Things (IoT) and its Applications
16. Nanoelectronics Devices and Circuits Design
17. Image and Embedded Processing
18. Applications of Embedded Systems
19. Neural Networks and Deep Learning
20. Emerging Wireless Communication Technologies
21. ECE Lab Practices for Polytechnic Teachers
22. Digital Marketing

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

23. Image Processing using MATLAB
24. Digital Filter Design with MATLAB
25. 5G & Beyond
26. Engineering Applications of Artificial Intelligence and Machine Learning
27. Flexible and Wearable Antennas for Next Generation Applications
28. Natural Language Processing
29. Artificial Neural Networks
30. Basic of MATLAB Programming
31. Biomedical Image and Signal Processing
32. VLSI Physical Design Techniques
33. ECE Virtual Lab Practices using Free Online Simulations
34. Embedded systems and IoTs
35. Recent Technologies for Mobile Broadband Transformation
36. Python programming & IoT Applications
37. Antenna & Wireless Communication Technologies for IoT
38. Nano-electronic : Materials, Devices and Circuits
39. NBA Accreditation and Examination Reforms

RESEARCH AND DEVELOPMENT

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

Sr. No.	Name of the Paper Published	Author (s) Name
1.	Speech Recognition using enhanced features with Deep Belief Network for Real Time application wireless Personal Communication, June 2021	Gurpreet Kaur, Mohit Srivastava, Amod Kumar
2.	Analysis of Wrist Pulse Signal: Emotions and Physical Pain IRBM (Elsevier), June, 20221	N. Garg, A.Kumar, H.S.Ryait
3.	"Comparative Analysis of OFETs Materials and Devices for Sensor Applications", Journal of Silicon, Springer, Accepted in June, 2021 (SCI)	Parminder Kaur, sandeep singh Gill, Balwinder Raj
4.	"Design and simulation of Triple metal Double-gate Germanium on Insulator Vertical Tunnel Field effect Transistor, Microelectronics Journal, Elsevier accepted 20 May 2021) (SCI)	Tulika Chawla, Mamta Khosla, Balwinder Raj
5.	" P-LUET: a prolong lines of uniformity based enhanced threshed algorithm for heterogeneous wireless Sensor Network enabled Internet of things framework in wireless personal communications	Tanvi sood, Kanika Sharma

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

Sr. No.	Name of the Paper Published	Author (s) Name
6.	"Parametric Investigation and Design of Junctionless –Nenowire Tunnel Field-effect Transistor", Journal of Silicon, Springer (Accepted 1 Sep 2021)	Parveen Kumar, Balwinder Raj
7.	Speech-Based Vehicle Movement Control Solution Journal of Telecommunications and Information Technology, (IF=0.79) https://doi.org/10.26636/jtit.2021.149820	Gurpreet Kaur Mohit Srivastava and Amod Kumar
8.	Methods for Integration of III-V Compound and Silicon Multijunction Solar Cell", Journal of Silicon, Springer, (Accepted 18 Dec 2021)	Divya Sharma, Rajesh Mehra and Balwinder Raj
9.	Design of Spintronics based MRAM and Comparative Analysis and MJT and Silicon MOSFET", journal of Silicon, Springer Accepted 05 Feb 2022	Parul Sharma, Sandeep Singh Gill and Balwinder Raj
10.	Design and Comparative Analysis of various Mixed Halide Perovskite Solar Cells involving different Hole Transport Materials to improve Efficiency, Journal of Optical Materials, Elsevier	Divya Sharma, Rajesh Mehra and Balwinder Raj
11.	"Moble Phone Radiations Effect on the synchronization Between Heart and Brain," Wireless Personal Communications, 2022. https://doi.org/10.1007/s11277-022-09509-0	Suman Pattnaik, Balwinder singh Dhaliwal and Shyam Sunder Pattnaik

**PAPERS PUBLISHED BY THE ELECTRONICS AND COMMUNICATION ENGINEERING
FACULTY IN INTERNATIONAL JOURNAL OTHER THAN SCI JOURNALS**

Sr.No.	Name of the Paper Published	Author (s) Name
1.	"High Accuracy Face Recognition system for Biometric Security: A Review, International Journal of Communication and computer Technologies (IJCCTS), May 2021 (Scopus)	Shiwani Vashist, Sandeep Singh Gill, Balwinder Raj
2.	"PAPR Reduction in Filter Bank Multi Carrier Scheme Comparative Analysis for 5G Technology", International Journal of Communication Networks and Information Security (IJCNIS) (Scopus) (Accepted 5 June 2021)	Jagriti Kumari, Sandeep Singh Gill, Balwinder Raj
3.	"Miniaturized Wearable Fractal Patch Antenna for Body Area Network Applications," International Journal of electronics and Telecommunications, Vol. 67, No.2.2021, pp.149-154.DOI:10.24425/ijet.2021.135957	Vikas Jain and Balwinder Singh Dhaliwal

PAPERS PUBLISHED BY THE ELECTRONICS & COMMUNICATION ENGINEERING FACULTY IN NATIONAL JOURNAL

Sr. No.	Name of the Paper Published	Author (s) Name
1.	"PSO based energy efficient clustering protocol for WSNs", journal of engineering & Technology Education, Vol.14, No.2, PP.46-50, July-December,2020 (Accepted on 08-06-2021	Amandeep Kumar, Balwinder Singh Dhaliwal and Damanpreet Singh
2.	Design and Analysis of various Solar Cell Technologies for Improvements in Efficiencies, Indian journal of Engineering and Materials Sciences(IJEMS) Accepted 23 Feb 2022	Divya Sharma, Rajesh Mehra and Balwinder Raj

PAPERS PUBLISHED / PRESENTED BY THE ELECTRONICS AND COMMUNICATION 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.	GSA-EEHC:GSA-based multi-hop routing scheme for EEHC has been accepted by the programme committee of the 7th International Conference on Sensors and Electronics Instrumentation Advances (SEIA' 2021), 22-24 September, 2021	Tanvi Sood, Kanika Sharma
2.	Quantification of pain using EEG and Fuzzy logic: International Conference on Emerging Technologies: AI, IoT and CPS for science and technology applications. Dept. of ECE, NITTTR Chandigarh, 6-7 Sep. 2021	Amit Kumar, Amod Kumar, Kanika Sharma
3.	Comparative Study of Biomedical based Physiological Signals for heart monitoring	Pushparaj, amod Kumar, Garima Saini
4.	"Compact Flexible and Wearable Fractal Patch Antenna for Medical Body Area Network Applications", International Journal of Microwave and Optical Technology, Vol.16 No.5, September 2021, pp.432-440. (Scopus indexed)	Vikas Jain, Balwinder S.Dhaliwal and Jayant G. Joshi
5.	"Design and Crumpling analysis of a wearable antenna for WiMAX applications," 6th IEEE International Conference on Communication and Communication and Electronics Systems (ICCES), 8-10 July 2021, Coimbatre, India, pp. 426- 429, doi:10.1109/ICCES51350.2021.9489259 (IEEE Explore Publication	D.Mandal, I.Bala, S.S. Pattnaik and Balwinder.S. Dhaliwal

**PAPERS PUBLISHED / PRESENTED BY THE ELECTRONICS AND COMMUNICATION
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
6.	"Design & Analysis of a flexible 3D printed ring resonator antenna for Bluetooth applications," International Conference on Emerging Technologies: AI, IoT and CPS for Science & Technology Applications, 6th-7th Sep,2021, NITTTR Chandigarh	Chahat Jain, Balwinder Singh Dhaliwal and Rupinder Singh
7.	"Characterization and Comparison of 3D Printed Substrate with Varying Infill Density for Antenna Design Applications," international Conference on emerging Technologies: AI, IoT and CPS for Science & Technoloty Applications, 6th-7th Sep,2021, NITTTR Chandigarh	Kush Singla, Balwinder Singh Dhaliwal and Garima Saini
8.	A Systematic Review on the Technique for object detection hidder behind the wall	Ashima Kaplesh, Amod Kumar, Garima Saini
9.	Implementation of High-Speed Digital-to-Analog converter for High Bit Resolution two-step Flash Analog-to-Digital Converter Applications	Banoth Krishna, Sandeep Singh Gill, Amod Kumar
10.	Applications of OLEDs for flexible electronics, Biophotonic, Chronic, Optogenetic applications & Different sensors", International Conference on Emerging Technologies: AI, IoT and CPS for science and technology applications. Dept. of ECE, NITTTR Chandigarh, 6-7 Sep. 2021	Bodage Sandip Vasudeo, Sandeep Singh Gill and Balwinder Raj
11.	COMPARATIVE STUDY OF SPINTRONIC BASED STTMRAM", International conference on Emerging Technologies: AI, IoT and CPS for science and technology applications, Department of ECE, NITTTR Chandigarh, 6-7 Sep,2021	Parul Sharma, Sandeep Singh Gill and Balwinder Raj
12.	Drain Current Analysis with Process Parameters Variations of Nanowire TFET", International Conference on Emerging Technologies: AI, IoT and CPS for science and technology applications. Dept. of ECE, NITTTR Chandigarh 6-7 Sep, 2021	Parveen Kumar, Balwant Raj and Balwinder Raj
13.	A paper on GSA-EEHC:GSA-based multi-hop routing scheme for EEHC presented online in the 7th International conference on Sensors Engineering and Electronics Instrumentation Advances (SEIA'2021),22-24 September, 2021 held at Spain by Dr. Kanika Sharma	Tanvi Sood, Kanika Sharma

**PAPERS PUBLISHED / PRESENTED BY THE ELECTRONICS AND COMMUNICATION
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
14.	"Investigation of Impact of Mobile Phone Radiations on EEG/ECG and Modeling of Their Coherence using ANN Ensemble" 3rd International Conference on Sustainable and Innovative solutions for Current Challenges in Engineering & Technology (ICSISCET 2021) 13th -14th November, 2021, Madhav Institute of Technology & Science, Gwalior, India	Suman Pattnaik, Balwinder Singh Dhaliwal and S.S. Pattnaik
15.	"Analysis of the effect of Infill Density of 3D Printed substrate on Rectangular Microstrip Antenna Performance," IEEE Sponsored 'Indian Conference on Antennas and propagation (InCAP 2021), December 13-16, 2021, Malaviya National Institute of Technology, Jaipur.	Balwinder Singh Dhaliwal, Kush Singla and Garima Saini
16.	"Compact Z-Shaped Flexible Microstrip Antenna for UHF ISM Band Application," International Conference on "Recent Trends in Engineering Science, Technology and Management (IC-RTETM-2022), Guru Gobind Singh Polytechnic, Nashik	Mandar P. Joshi, Jayant G. Joshi and Balwinder Singh Dhaliwal

**PAPERS PUBLISHED / PRESENTED BY THE DEPARTMENT 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.	"Flexible Wearable Fractal Antennas: An Overview," National convention of Electronics and Telecommunication Engineers, The Institution of Engineers (India), Bathinda Local Centre, Bathinda December 4-5,2021, PP.1-6, (Published in Proceedings)	Puja Rani, Balwinder S Dhaliwal and Amod Kumar
2.	"Compact Wearable Fractal Patch Antenna and its Performance Analysis for BAN," National Convention of Electronics and Telecommunication Engineers, The Institution of Engineers (India), Bathinda Local Centre, Bathinda, December 4-5,2021, pp.122-130. (Published in Proceedings)	Vikas Jain, Shubhranshu Pattnaik, Balwinder Singh Dhaliwal and Jayant G Joshi
3.	"Design and Analysis of Patch Antenna for Three Substrates Operating at 2.4 GHz," National Conference on Recent Trends in Communication, Computing and IoT (RTCCI-2022), GES's R.H. Sapat College of Engineering, Management Studies and Research, Nashik, 12th February 2022.	Shivam Bansal, Sachin Maithani, Balwinder Singh Dhaliwal, Garima Saini

RESEARCH AND DEVELOPMENT

No. of M.E. Thesis Guided	21
No. of Ph.D Thesis Awarded	2

INTERNATIONAL CONFERENCES ORGANIZED

Sr.No.	Name of the Seminar/Conference	No. of Participants
1.	International conference on “Emerging Technology: AI,IOT and CPS and CPS for Science and Technology Application organized jointly by Department of ECE and EE, NITTTR, Chandigarh from 06-07/09/2021 all Faculty of ECE Dept.	85

NATIONAL CONFERENCES/ SEMINARS ORGANIZED

Sr.No.	Name of the Seminar/Conference	Total No. of Participants
1.	Organized one-day seminar on Quality Ecosystem Through NEP-2020, Conducted online by Atmanirbhar Bharat Task Force and Bharatiya Shikshan Mandal, Punjab, held on 26 Oct 2021	280
2.	Seminar on Implementation of NEP-2020 in Higher Technical Institutions” Jointly with MRS-PTU Bathinda on 5th April, 2021.	201

WORKSHOPS CONDUCTED (OTHER THAN CURRICULUM DEVELOPMENT WORKSHOPS)

Sr.No.	Name of the Workshop along with dates and venue	No. of Participants
1.	Online Workshop on Industry IOT & AI partnered 31/05/2021 to 04/06/2021	157
2.	Digital filter Design with MATLAB to on-line	13
3.	Image processing using MATALB 13.09.2021 to 24.09.2021 (2 weeks) on-line Dr. Amod Kumar	13
4.	Mentors Training Workshop for UP State at NITTTR, Chandigarh from 27/09/2021 to 01/10/2021 Dr. Kanika Sharma	148
5.	One day Seminar on “quality Ecosystem” through NEP 2020 (Dr. Balwinder Singh Dhaliwal & Dr. Balwinder Raj)	288

SPONSORED PROGRAMMES

Sr.No.	Title of the Programme	Total Number of Participants
1.	ATAL FDP on Branding of HEIs for enhanced outcomes from 13-17 September, 2021.	98
2.	QIP Sponsored program on Visual Cognition from 04-09 October, 2021.	109
3.	AICTE – ISTE Sponsored Induction/Refresher on Free & Open Source ICT Tools for Effective Teaching Learning and Research 3-8 Jan, 2022.	56
4.	ATAL FDP on Embedded Artificial Intelligence from 21-26 March, 2022	40

CONSULTANCY PROGRAMMES

Sr. No.	Consultancy Project	Remarks
1.	10 Courses under UKWDP (Jointly with IMEE Department)	418

TRAINING PROGRAMMES ATTENDED BY THE DEPARTMENT FACULTY/STAFF

Sr.No.	Title of Training Programme	Period of Training	Venue	Attended by
1.	Recent advances in Data Science and Computational Intelligence	26-30, April, 2021	Online NIT Jalandhar	Dr. Balwinder Raj
2.	2 Week Industrial Training from Bharat Electronics Limited(BEL)	02 weeks	BEL, Panchkula	Dr. Garima Saini
3.	Attended online 1 st Indo-south Korea Joint Training School/Workshop on “Environmental Cyber Physical Systems”	August 23-27, 2021	Organized by Indo-South Korea Joint Network Center (JNC), Indian Institute of Technology	Dr. Balwinder Raj
4.	Industrial Training Programme attended at GGSSTP, Ropar	2 weeks	GGSSTP	Dr. Kanika Sharma
5.	Industrial Training	2 weeks	Bharat Electronics Limited	Dr. Garima Saini

TRAINING PROGRAMMES ATTENDED BY THE DEPARTMENT FACULTY/STAFF (contd..)

Sr.No.	Title of Training Programme	Period of Training	Venue	Attended by
6.	"Environmental Cyber Physical systems" sponsored by Indo-South Korea Joint Network Center, IIT Indore and IIT (BHU) Varanasi	25-29 October 2021	Online	Dr Balwinder Raj
7.	"INUP-i2i Familiarization Workshop on Nanofabrication Technologies", supported by MeitY, Govt. of India and IISc Bangalore	20 – 22 December 2021	Online	Dr Balwinder Raj
8.	"TAPAS-PRM" A purposeful Research Methodology & Interaction course by RERF & EICT- Guwahati	16/12/2021 to 20/12/2021	Online	Dr. Garima Saini
9.	"TAPAS-PRM" A purposeful Research Methodology & Interaction course by RERF & EICT- Guwahati	16/12/2021 to 20/12/2021	Online	Dr. Kanika Sharma
10.	Internet of things and Human –computer Interaction	25/10/2021 to 29/10/2021 NIT Goa (online)	Dr. Kanika Sharma	Internet of things and Human – computer Interaction
12.	Research Trends in Wireless Sensors Networks	March 07- 16,2022	Online Organized by NIT Warangal	Dr. Kanika Sharma

IN-HOUSE TRAINING PROGRAMMES

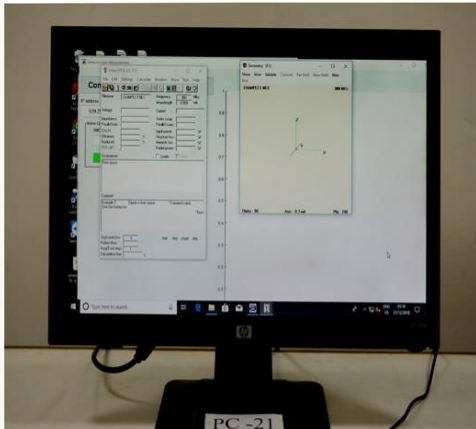
Sr.No.	Title of Training Programme	Period of Training	Attended by
1.	Attended one week Short Term Course on NBA Accreditation through outcome based Education,	21-25 Feb 2022	Dr. Balwinder Raj

STUDENT TRAINING ORGANIZED

Sr.No.	Name of the Course along with dates & place	No. of weeks	Participation		Total No. of Participants
			Poly	Engg.	
1.	Antenna Design & Testing	08	-----	02	02
2.	Embedded and VLSI		-----	04	04

RESEARCH AND DEVELOPMENT

Sr. No..	Name of Project	Team	Beneficiary State	Status of Project completed/ In progress	Specific work done during the year	Target date of completion
A. RESEARCH STUDIES						
1	AICTE RPS project titled "Memristive Non-volatile SRAM Cell Design for AI Applications"	Dr. SS Gill & Balwinder Raj		In progress		





“Thinking is the Capital, Enterprise is the Way, Hard Work is the Solution.”
– Dr. A.P.J. Abdul Kalam

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*



“Thinking is the Capital, Enterprise is the Way, Hard Work is the Solution.”
– Dr. A.P.J. Abdul Kalam

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 **2021-22**, the EDIC department conducted a total of **24** short term training programs in ICT mode, which were attended by **375** teachers from polytechnics and engineering colleges. The department also conducted **03** short term training programs in Contact Mode, which were attended by **111** teachers of polytechnics and engineering colleges. **02** MOOC SWAYAM Courses of the department witnessed rerun in which a total of **2765** participants enrolled themselves.

The Department conducted **01** National Conference which was attended by **27** participants. The department also conducted **01** ATAL sponsored programme in which total of **95** participants were trained. The department faculty published **02** papers in SCI Journals and **05** in Non-SCI Journals and **08** papers in proceedings of various International/ National Conferences. The Department also conducted **03** student training programmes in which a total **382** students got trained. The faculty of the department also attended number of online training programs and online webinars during the year.

Short Term Programs Conducted

1. **Enhancing Research Capabilities for Career Progression of Technical Teachers**
2. **Total Quality Management and ISO 9001:2015**
3. **Interventions for Effective Industry-Institute Partnership**
4. **Total Quality Management and ISO 9001:2015**
5. **Cybercrimes and Cyber laws in Cyberspace**
6. **Harnessing Innovations through Intellectual Property Rights**
7. **Patent Drafting and Filing**
8. **Digital Kinematics of Teaching in Technical Institutions**
9. **CSR and Social Entrepreneurship**
10. **Operation Strategy for Competitive Advantage in Post Covid Era**
11. **Government's Initiatives for Entrepreneurship Promotion " Road Ahead**
12. **Innovation & Incubation for New Start-ups**
13. **Project Management Skills for Managing Business Ventures**
14. **Adroit Thinking " Concept, Methods and Practice**
15. **Skill Development and Rural Technology Innovation**
16. **Fostering Research and Development in Academic Institutions**
17. **Employability Skills for Industry 4.0**
18. **Technology Management in Business**
19. **Strategic Industry Institute Partnership in Technical Education**
20. **Micro Enterprise Promotion and Management**

Short Term Programs Conducted (contd..)

21. Design thinking for technical teachers
22. National Intellectual Property Rights Policy - Creating Roadmap for Implementation
23. Fund Raising for New Business Start-up
24. Strategic Management and SWOT Analysis for Business Excellence
25. Technology and Human Values- Aspects and Prospects (offline)
26. Entrepreneurship Development for Business Startups (offline)
27. Harnessing Innovation through IPR and Entrepreneurship (offline)

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

Sr.No.	Name of the Paper Published	Author (s) Name
1.	Hot corrosion behavior of HVOF-sprayed carbide based composite coatings for boiler steel in Na ₂ SO ₄ -60 % V ₂ O ₅ environment at 900 °C under cyclic conditions, corrosion science, vol. 190, Publisher Elsevier	Gurmail Singh, Niraj Bala, Vikas Chawla, Yogesh Kumar Singla
2.	"Enablers and Inhibitors of Cloud Computing Adoption in Indian Small and Medium sized Enterprises", International Journal of Entrepreneurship and Small Business; DOI: 0.1504/IJESB.2022.10035809 {Scopus Indexed}	Devesh Kumar and Harsh Vardhan Samalia

PAPERS PUBLISHED BY THE ENTREPRENEURSHIP DEVELOPMENT & INDUSTRIAL COORDINATION FACULTY IN INTERNATIONAL JOURNAL OTHER THAN SCI JOURNALS

Sr.No.	Name of the Paper Published	Author (s) Name
1.	"Hilbert transform and spectral kurtosis based approach in identifying the health state of retrofitted old steel truss bridge," World Journal of Engineering, 2021. DOI: 10.1108/WJE-08-2020-0375. (Published – 24th June 2021) Scopus	A. Sharma, P. Kumar, H. K. Vinayak, S. K. Walia and R. K. Patel
2.	"A Review of Modeling and Data Mining Techniques Applied for Analyzing Steel Bridges," International Journal of Software Computing and Testing, vol. 7, no. 1, pp. 1-16, 2021. (Published – 23rd June, 2021)	A. Sharma, P. Kumar, H. K. Vinayak, R. K. Patel, and S. K. Walia

PAPERS PUBLISHED BY THE ENTREPRENEURSHIP DEVELOPMENT & INDUSTRIAL COORDINATION FACULTY IN INTERNATIONAL JOURNAL OTHER THAN SCI JOURNALS (contd..)

Sr.No.	Name of the Paper Published	Author (s) Name
3.	“Condition Evaluation in Steel Truss Bridge with Fused Hilbert Transform, Spectral Kurtosis, and Bandpass Filter,” Structural Durability & Health Monitoring, vol. 15, no. 2, pp. 139–165, 2021. DOI: 10.32604/sdhm. 2021.012316. (Published – 03rd June 2021) Scopus	A. Sharma, P. Kumar, H. K. Vinayak, and S. K. Walia
4.	“Steel truss bridge vibration-based condition monitoring using Savitzky-Golay filter, Hilbert transform, MUSIC and ESPRIT,” Journal of Engineering, Design and Technology, 2021. DOI: 10.1108/JEDT-01-2021-0066. (Published – 19th May 2021) Scopus	A. Sharma, P. Kumar, H. K. Vinayak, R. K. Patel and S. K. Walia
5.	“Resources Driving Export Propensity Under Perceived Competitive Pressures From Informal Firms”, South Asian Journal of Management (SAJM), Vol. 28 (4); pp 120-148; {Category ‘C’ Journal as per ABDC journal ranking}	Deb Rouhin, Harsh Vardhan Samalia, Shankar Purbey and Kuldeep Baishya

PAPERS PUBLISHED / PRESENTED BY THE ENTREPRENEURSHIP DEVELOPMENT & INDUSTRIAL COORDINATION FACULTY 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.	Investigation of UltraSonic Pulse Velocity and Tensile Strength of Polymer Concrete Composite Using Solid Waste Contents, 9th International Conference on Advancements in Engineering and Technology	Rachan, G.Singh and Niraj Bala
2.	Book Chapter Titled “Wear Characterisation of Stir Cast Mg-SiC Composites, in book titled “Recent Trends in Thermal Engineering”, Select Proceedings of ICAST 2020, Publisher Springer.	Avtar Singh, Niraj Bala, and Munish Mehta

PAPERS PUBLISHED / PRESENTED BY THE ENTREPRENEURSHIP DEVELOPMENT & INDUSTRIAL COORDINATION 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.	Factors Affecting Employee Retention In Insurance Sector At Different Career Stages in National Conference on Business Startups, Innovation and Entrepreneurship, November 25 – 26, 2021 at NITTTTR Chandigarh	Ms. Shikha Patheja and Prof. (Dr.) S.K. Dhameja

**PAPERS PUBLISHED / PRESENTED BY THE ENTREPRENEURSHIP
DEVELOPMENT & INDUSTRIAL COORDINATION FACULTY IN
NATIONAL CONFERENCES/SEMINARS (contd..)**

Sr.No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author (s) Name
2.	A study on "Noise of Investors' Attention Mania in the Indian Stock Markets in National Conference on Business Startups, Innovation and Entrepreneurship, November 25 – 26, 2021 at NITTTR Chandigarh	{Ms. Savita and Dr. Suresh K. Dhameja}
3.	Training at Workplace and Job Satisfaction: A Case Study of Bharat Heavy Electrical Ltd. (BHEL) in National Conference on Business Startups, Innovation and Entrepreneurship, November 25 – 26, 2021 at NITTTR Chandigarh	Ms. Madhu Lika and Dr. Suresh K Dhameja}
4.	Transformational Leadership Characteristics of the Faculties in Higher Education: A Study of Selected Universities of Delhi-NCR in National Conference on Business Startups, Innovation and Entrepreneurship, November 25 – 26, 2021 at NITTTR Chandigarh	{Ms. Divya Sharma and Prof. (Dr.) S.K.Dhameja}
5.	Paper titled "Government Initiatives for Promoting Entrepreneurial Ecosystem", NOVEMBER 25 – 26, 2021 in the National Conference on Business Startups, Innovation and Entrepreneurship Organized by ENTREPRENEURSHIP DEVELOPMENT AND INDUSTRIAL COORDINATION DEPARTMENT, NITTTR Chandigarh	Dr Niraj Bala
6.	Paper titled "Rural Innovative Projects for Entrepreneur", NOVEMBER 25 – 26, 2021 in the National Conference on Business Startups, Innovation and Entrepreneurship Organized by ENTREPRENEURSHIP DEVELOPMENT AND INDUSTRIAL COORDINATION DEPARTMENT, NITTTR Chandigarh	Dr. Hemant Kumar Vinayak

RESEARCH AND DEVELOPMENT

No. of M.E. Thesis Guided	01
No. of Ph.D Thesis Awarded	06

MOOCS SWAYAM COURSES

Sr.No.	Title of the Course	Total Number of Participants
1.	Entrepreneurship Development (2 times)	2765

SPONSORED PROGRAMMES

Sr.No.	Title of the Programme	Total Number of Participants
1.	ATAL Sponsored FDP on “Design Thinking”	95

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

Sr. No.	Title of Training Programme	Period of Training	Venue	Attended by
1.	AICTE training to all the Experts to conduct EVC and Scrutiny in a totally online mode through AICTE's portal for the A.Y. 2021-22.	11.5.2021	Online	Dr. SK Dhameja
2.	Attended meeting regarding AICTE-Student Learning Assessment as reviewers and experts.	14.6.2021	Online	Dr. SK Dhameja
3.	“Scaling Techniques and Data Analysis using excel and SPSS” organized by	26 th – 30 th April, 2021	CMS, Jain Deemed to be University Bengaluru.	Dr. Hemant Kumar Vinayak
4.	Attended Hands on Session in drafting and filing procedure of intellectual property rights from organized by	3 rd -7 th May 2021 (10.30 am – 12.30 pm)	[Dept. for promotion of Industry and Internal trade, Ministry of Commerce & Industry, GOI], [Cell for IPR promotion and Management] and [Dept. of Electronics and Communication, Arya College of Engineering & IT Kukas Jaipur]	Dr. Hemant Kumar Vinayak
5.	Online Workshop of Industry-Academia meet titled “Assessment of R&D Needs of Industry”	27 th August 2021 from 3.00 - 5.00 pm	Technology Enabling Centre (TEC) - Panjab University, Chandigarh in collaboration with Department of Science & Technology – Centre for Policy Research (DST-CPR) and Chamber of Industrial & Commercial Undertakings (CICU)	Dr Hemant Kumar Vinayak

TRAINING PROGRAMMES ATTENDED BY THE ENTREPRENEURSHIP DEVELOPMENT & INDUSTRIAL COORDINATION FACULTY/STAFF (contd..)

Sr. No.	Title of Training Programme	Period of Training	Venue	Attended by
6.	Industrial training	1 st - 15 th July 2021	Jal Shakti Vibhag CCDU Dhangsidhar Mandi	Dr. Hemant Kumar Vinayak
7.	Online Workshop of Industry-Academia meet by Technology Enabling Centre (TEC) - Panjab University, Chandigarh in collaboration with (DST-CPR) and (CICU) titled "Assessment of R&D Needs of Industry"	27 th August 2021	Online	Dr. Hemant Kumar Vinayak
8.	Attended Webinar on "DELNET: Resources & Services"	September 6, 2021 2:00 PM - 3:00 PM	Organized jointly by DELNET and NITTR Chandigarh	Dr Niraj Bala
9.	A Purposeful Research Methodology & Interaction Course (Online Mode)	16 - 20 December 2021	Online	Er. Amardev Singh

NATIONAL CONFERENCE ORGANIZED

Sr.No.	Name of the Seminar/Conference	No. of Participants
1.	National Conference on Business Startups, Innovation and Entrepreneurship	27

INSTRUCTIONAL MATERIAL DEVELOPMENT

Sr. No.	Type of Instructional Material Developed	Author(s) / Team	Project Completed In progress	Specific Achievements during the year	Target date of completion
PRINT MATERIAL					
1.	Presentation Slides / Handouts for the sessions engaged in Short Term Training Programmes (STTPs) conducted by EDIC Department during the year 2021-22	Dr. S.K. Dhameja / Dr. Niraj Bala / Dr. Harsh Vardhan Samalia / Dr. Hemant Kumar Vinayak / Er. Amardev Singh	Completed	-NA-	-NA-

INSTRUCTIONAL MATERIAL DEVELOPMENT (contd..)

Sr. No.	Type of Instructional Material Developed	Author(s) / Team	Project Completed In progress	Specific Achievements during the year	Target date of completion
PRINT MATERIAL					
2.	Course / Instructional Material Booklet(s) in respective programme-wise bunches in soft form for the Short Term Training Programmes (STTPs) conducted by EDIC department during the year 2021-22	Dr. S.K. Dhameja / Dr. Niraj Bala / Dr. Harsh Vardhan Samalia / Dr. Hemant Kumar Vinayak / Er. Amardev Singh	Completed	-NA-	-NA-
NON-PRINT MATERIAL					
3.	Higher Module (HM-05) on Institutional Development for Entrepreneurship	Prof SKD/NB/SS Gill/AICTE Experts	Completed	e-content and videos have been prepared. Module has been launched by AICTE/MoE	December 2021
4.	Module on Entrepreneurship Development	Prof SKD	Completed	Module has been launched second time under SWAYAM	October 2021
5.	Videos pertaining to programmes conducted by EDIC Department through ICTO / ICT during 2021-22	Dr. S.K. Dhameja / Dr. Niraj Bala / Dr. Harsh Vardhan Samalia / Dr. Hemant Kumar Vinayak / Er. Amardev Singh			

INSTRUCTIONAL MATERIAL DEVELOPMENT (contd..)

Type of Instructional Material	No. Completed during 2020-21	Remarks (if any)
PRINT :		
Text Books		
Lab. Manuals		
Teachers' Manual		
Modules	<ol style="list-style-type: none"> 1. Re-Launching of SWAYAM MOOCs on Entrepreneurship Development 2. Prepared Draft AICTE Higher module on "Institutional Management for Entrepreneurship" (e-content) 3. E-content of module on "Institutional Management for Entrepreneurship" prepared 	NA
Readers	01	-NA-
Any other (Please specify)	Operational Manual (01)	-NA-

RESEARCH AND DEVELOPMENT

Sr. No.	Name of Project	Team	Beneficiary State	Status of Project completed/ In progress	Specific work done during the year	Target date of completion
A. RESEARCH STUDIES						
DEVELOPMENT PROJECTS:						
1.	Submitted application for subscription to e-resources (ASME, ASCE, Bentham Science, Web of Science and Scopus) under e- Shodh Sindhu Scheme	Dr Niraj Bala and Dr Balwinder Singh Dhaliwal	NITTR Chandigarh	Submitted	NA	NA

RESEARCH AND DEVELOPMENT (contd..)

No. of Ph.D Thesis Guided	Awarded – 6 Completed - 1
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STUDENT TRAINING ORGANIZED

Sr.No.	Name of the Course along with dates & place	No. of weeks	Participation			Total No. of Participants
			Poly	Engg	Others	
1.	Entrepreneurial Career Orientation for Mechanical Engineering and Allied discipline, Online	26-27 August, 2021	32			32
2.	Entrepreneurial Career Orientation for Civil Engineering and Allied Disciplines	28-29 October 2021	175			175
3.	Student Training programme through ICT-cum-contact mode on the topic of "Students grooming for Entrepreneurship"; Engineering Students; Chandigarh; Venue: CCET, Chandigarh	17 & 18 February, 2022	---	175		175
4.	Entrepreneurial Career Orientation for Mechanical Engineering and Allied discipline, , Online	26-27 August, 2021	---	32	---	32
5.	Skill Development and Rural Technology Innovation, 26 – 30 July, 2021, Online	1 week	---	17	06	23
6.	National Intellectual Property Rights Policy – Creating Roadmap for Implementation; 02/08/2021 To 06/08/2021, Online	One Week		02	03	05

EXTENSION SERVICES AND CONSULTANCY

Sr .N o.	Name of Project	Team	Beneficiary Organization	Status of Project Completed/i n Progress	Specific work done during the year
A. EXTENSION SERVICES PROJECTS:					
1.	Technology Entrepreneurship Development Program (TEDP) Sponsored by DST organized by CGC Landran (Punjab) in May-June 2021	Prof. SK Dhameja	All states	completed	Delivered a series of online lectures in the program.
2.	Women Entrepreneurship Development Program (WEDP) Sponsored by DST organized by CGC Landran (Punjab) in May-June 2021	Prof. SK Dhameja	All states	completed	Delivered a series of online lectures in the program.
3.	e-ITec course on Technology, Innovation and Entrepreneurship 25-29 October 2021, by CDAC Mohali	Prof. SK Dhameja	International program Sponsored by MEA, Govt. of India	completed	Delivered a lecture in the program.
4.	Webinar on Entrepreneurship	Prof. SK Dhameja	Amritsar College of Engg. and Technology, Punjab	completed	Delivered lecture in webinar by Amritsar College of Engg and Technology on 8 June 2021
5.	Professional Development Program on "Augmenting Life & Professional Skills of Staff" organized by Maharaja Ranjit Singh Punjab Technical University, Bathinda from 09-23 October, 2021	Prof. SK Dhameja	MRS-PTU Bathinda	completed	Delivered expert lectures on 11th and 12th of October, 2021
6.	EVC and Scrutiny	Prof. SK Dhameja	AICTE	completed	Participated in online training program on 11.5.2021 of AICTE to all the Experts to conduct EVC and Scrutiny in a totally online mode through AICTE's portal for the A.Y. 2021-22.

EXTENSION SERVICES AND CONSULTANCY (contd..)

Sr. No.	Name of Project	Team	Beneficiary Organization	Status of Project Completed/in Progress	Specific work done during the year
A. EXTENSION SERVICES PROJECTS:					
7.	Meeting on AICTE-Student Learning Assessment	Prof. SK Dhameja	AICTE	completed	Attended meeting on 14.6.2021 regarding AICTE-Student Learning Assessment as reviewers and experts.
8.	PhD Thesis on "A study to evaluate the performance of electricity distribution utilities in India"	SKD	GJ University of Science and Technology, Hisar.	Completed	Evaluated the final PhD thesis of PhD scholar. Also Conducted the final viva.
9.	PhD thesis on "Employee attitude towards green HRM practices and employee green behaviour: a study of selected banks in Punjab"	SKD	IKG-PTU Kapurthala	Completed	Evaluated the final PhD thesis of PhD scholar. Also Conducted the final viva.
10.	Event in context of the "Elimination of Single Use Plastic" @ NITTTR, Sector 26, Chandigarh conducted on April 27, 2021	ADS	NITTTR, Chandigarh	Completed	Coordination
B. CONSULTANCY PROJECTS:					
1.	Rehabilitation of Brij Raj Swami Temple at Nurpur The Nurpur Dist. Kangra	HKV	ASI	Completed	Report development

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.	Attended the Inaugural and Two sessions on features and rubrics of Module 06 delivered by Prof Neethi of NITTTR Chennai under the Orientation Training Programme for Mentors [under National Initiative of Technical Teachers Training(NITTT)]	21st and 24st June, 2021	Dr. H.V. Samalia

IN HOUSE TRAINING PROGRAMMES ATTENDED BY THE ENTREPRENEURSHIP DEVELOPMENT & INDUSTRIAL COORDINATION FACULTY/STAFF (contd..)

Sr. No.	Title of Training Programme	Period of Training	Attended by
2.	Attended the Orientation Training Programme for Mentors [under National Initiative of Technical Teachers Training (NITTT)]	24th June 2021	Dr. Hemant Kumar Vinayak
3.	Attended the sessions on features and rubrics of Module 02 delivered by concerned expert under the Orientation Training Programme for Mentors [under National Initiative of Technical Teachers Training (NITTT)]	21 - 25 June, 2021	Er. Amardev Singh
4.	Attended Webinar Series on Data Centres and Cloud Computing for Engineering Applications by Prof. S S Iyengar, the Distinguished University Professor, Ryder Professor of Computer Science and a former Director of the Knight Foundation School of Computing and Information Sciences at Florida International University (FIU), Miami.	6th August, 2021	Prof S.K. Dhameja
5.	Attended the inaugural session of the Orientation Training Programme for Mentors (under National Initiative of Technical Teachers Training (NITTT))	2nd August, 2021	Dr. H.V. Samalia
6.	Attended the two sessions on features and rubrics of Module 06 delivered by Prof Neethi of NITTTTR Chennai under the Orientation Training Programme for Mentors (under National Initiative of Technical Teachers Training (NITTT))	5th August, 2021	Dr. H.V. Samalia
7.	Attended orientation Training Program for Mentor on held from 2nd - 6th August 2021.	5th August, 2021	Dr Hemant Kumar Vinayak
8.	Attended the Inaugural and Two sessions on features and rubrics of Module 06 delivered by Prof Neethi of NITTTTR Chennai under the Orientation Training Programme for Mentors [under National Initiative of Technical Teachers Training(NITTT)]	21st and 24st June, 2021	Dr. H.V. Samalia
9.	Attended the Orientation Training Programme for Mentors [under National Initiative of Technical Teachers Training (NITTT)]	on 24th June 2021 held from 21-25th June 2021.	Dr. Hemant Kumar Vinayak
10.	Attended the sessions on features and rubrics of Module 02 delivered by concerned expert under the Orientation Training Programme for Mentors [under National Initiative of Technical Teachers Training (NITTT)]	During 21 - 25 June, 2021	Er. Amardev Singh
11.	Attended the Inaugural and Two sessions on features and rubrics of Module 01 delivered by Dr. P. Malliga under the Orientation Training Programme for Mentors [under National Initiative of Technical Teachers Training(NITTT)]	21st and 25th June, 2021	Dr Niraj Bala

IN HOUSE TRAINING PROGRAMMES ATTENDED BY THE ENTREPRENEURSHIP DEVELOPMENT & INDUSTRIAL COORDINATION FACULTY/STAFF (contd..)

Sr. No.	Title of Training Programme	Period of Training	Attended by
12.	Attended orientation Training Program for Mentor [under National Initiative of Technical Teachers Training]	5th August 2021	Dr. Hemant Kumar Vinayak
13.	Attended the inauguration and two sessions of the Orientation Training Programme for Mentors (under National Initiative of Technical Teachers Training (NITTT)) held from.	27th September to 01st October, 2021	Dr. H.V. Samalia
14.	Attended the inaugural session of International Conference on Emerging Technologies: AI, IoT and CPS for Science & Technology (ICET-2021)	06th September, 2021	Dr. H.V. Samalia

WORKSHOPS CONDUCTED (OTHER THAN CURRICULUM DEVELOPMENT WORKSHOPS)

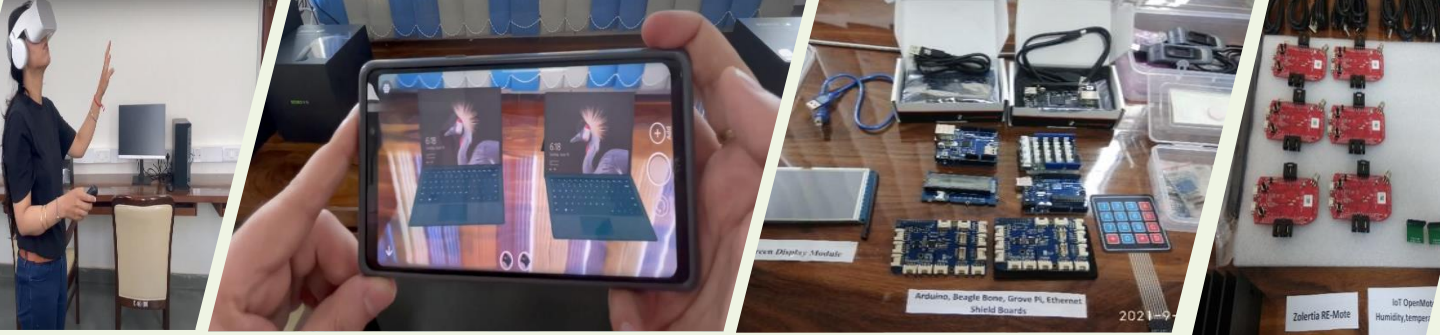
Sr.No.	Name of the Workshop along with dates and venue	Total No. of participants
1.	Refresher workshop for Training and Placement officers, 09-10 September, 2021	14
2.	Generating Consultancy in Technical Institutions, 07-08 October, 2021	29
3.	Coordinated Webinar for the faculty, staff students and their families on 'Healthy Mouth-Healthy Body' online session on 23rd June, 2021, at 11:00 AM	48
4.	Coordinated Awareness talk for the faculty, staff, students and their families by Dr. Aditya Sharma (Ophthalmologist) and Dr. Priyanka (Gynaecologist) on "Rise of Eye Health Problem Amidst the Era of Increased Computer Usage" and "Discharge – When I need to Worry". The programme was held online. on 27th October, 2021 at 3:00 PM in the auditorium.	65
5.	Coordinated a webinar on "Startup India and Startups in Educational and Research Institutions of India" on 22 September, 2021 from 3.00 pm to 4.00 pm	14
6.	Conducted Webinar on Scanning of Environment and Business Opportunity Guidance" on 16th December, 2021	17

CURRICULUM DEVELOPMENT WORKSHOPS

Sr.No.	Name of Curriculum	Number of Subjects/ Course	Beneficiary States	Participation		
				Poly.	Ind.	Other s
1.	Diploma in Finance Accounts & Auditing	Complete Scheme	Haryana State Board of Technical Education (HSBTE), Haryana,	Yes	NA	NA
2.	Diploma in Business Management	Complete Scheme	Haryana State Board of Technical Education (HSBTE), Haryana,	Yes	NA	NA
3.	B.A. (Vocational Studies) Small and Medium Enterprises': Three-Year (6-Semester) CBCS programme through Open and Distance Learning (ODL) system. Prof. SK Dhameja Nominated by IGNOU as a member of the Programme Design Committee for the proposed programme. Participated in online meetings on 8.7.2021 and 30.9.2021 and provided assistance in finalization of the Program.	Complete scheme	IGNOU	NA	Yes	Yes

OTHER ACTIVITIES

- Prof. SK Dhameja prepared complete instructional material for CPSC, Manila In-country Program on "Entrepreneurship for TVET Professionals" to be held in Dhaka, Bangladesh on physical mode from 5-9 December 2021. He was also appointed as the overall coordinator and chief resource person of the program. However, the program was postponed because of COVID-19.
- Prof. SK Dhameja is Member, Board of Governors (UGC Nominee), VR Siddhartha Engineering College, Vijaywada: Attended Meetings of the BoG on 31.7.20221 and 30.9.2021 through online mode.
- Committee of experts for restricting/revamping of the technical teacher training sector and the four NITTTTRs: Prof. SK Dhameja as Chairman of one of the committees prepared draft TOR of No. 3 "to suggest the statutory, administrative and financial model to make NITTTTRs academically and financial autonomous and sustainable" as requested by the committee. He also participated in all UGC review committee meeting online.



"We're not in an information age anymore. We're in the information management age."
 – Chris Hardwick

INFORMATION MANAGEMENT AND EMERGING ENGINEERING DEPARTMENT



Prof. (Dr.) Maitreyee Dutta

Professor

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

Prof. (Dr.) Sandeep Singh Gill

Professor

*Research Areas - VLSI CAD, Soft Computing
Techniques, Engineering Management*



Prof. (Dr.) Srinivasa KG

Professor

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

During the year **2021-22**, the department has conducted **16** online short term training programs which were attended by **451** teachers from polytechnics and engineering colleges. The Department Developed Higher Module MOOC on Virtual Education co-ordinated by Dr. K.G. Srinivasa and Dr. Maitreyee Dutta in which **30** video films and e-content for full course were developed. The department conducted **01** International Conference in which **100** participants attended the conference. The faculty of Department Conducted **10** STC jointly with ECE department under UKWDP funded by world bank in which **418** participants were trained.

The department conducted **01** QIP sponsored programme on Augmented Reality and Virtual Reality Applications in which **30** participants attended. The department also conducted **04** Student Training in which **151** students were trained. The department faculty published **09** papers in SCI and **07** Non-SCI Journals and **02** papers in proceedings of International Conferences. The Department also completed MeitY Sponsored Project "Establishment of Advanced Laboratory for Cyber Security Training to technical teachers". The department conducted **02** Mentor Training Workshops attended by **82** participants. The Faculty developed **5** lab manuals on Write Protect™ desktop, True Imager 4.0, Basics of Cyber Forensics, XSS, Zolertia open notes. The faculty of the department attended online training programs and online webinars during the year.

Short Term Programs Conducted

1. **Cyber Security**
2. **Cyber Threats and Security Measures**
3. **Open Source Cyber Security Tools**
4. **Quantum Computing**
5. **Penetration Testing and Malware Analysis**
6. **MATLAB for Engineering Applications**
7. **Big Data Analytics**
8. **SciLab Programming**
9. **Cyber Crime and Forensic Tools**
10. **Digital Marketing**
11. **Block chain Technology**
12. **Augmented Reality and Virtual Reality**
13. **Digital Signal processing and Image Processing using SciLab**
14. **Cyber Security and Forensics**
15. **Research Methodology using Cross Sectional, Time Series and Panel Data**
16. **Cyber Crime against Women and Cyber Laws**

PAPERS PUBLISHED BY THE IMEE DEPARTMENT FACULTY IN SCI JOURNALS

Sr.No.	Name of the Paper Published	Author (s) Name
1.	"Cloud-Based Fusion of Residual Exploitation-Based Convolutional Neural Network Models for Image Tampering Detection in Bioinformatics." BioMed Research International 2021 (2021) Impact Factor2.276, SCIE	Doegar, Amit, Srinidhi Hiriyannaiah, G. M. Siddesh, K. G. Srinivasa, and Maitreyee Dutta
2.	"Image forgery detection based on fusion of lightweight deep learning models", Available online: 17.03.2021, Last modified on 04.04.2021, DOI: 10.3906/elk-2005-37, SCIE	Amit Doegar, Srinidhi Hiriyannaiah, Siddesh Gaddadevara Matt, Srinivasa Krishnarajanagar Gopaliyengar, Maitreyee Dutta
3.	"Hybrid Meta- heuristic Approach for Workflow Scheduling in IaaS Cloud", Arabian Journal for Science and Engineering. DOI: https://doi.org/10.1007/s13369-021-05774-6 , SCIE	Poonam Singh, Maitreyee Dutta, Naveen Aggarwal
4.	"System Tree with Particle Swarm Optimization and Genetic Algorithm: A Novel Approach for Forecasting", Expert Systems with Applications, https://doi.org/10.1016/j.eswa.2021.115376 , SCIE	Saini J., Dutta M., Marques G
5.	Fuzzy Inference System Tree with Particle Swarm Optimization and Genetic Algorithm : A novel approach for PM10 Forecasting in Expert Systems with Applications, vol 183 (2021), SCIE, IF: 6.954, SCIE	Jagriti Saini, Maitreyee Dutta, Goncalo Marques
6.	"A Novel application of Fuzzy Inference System optimized with Particle Swarm optimization and genetic algorithm for PM10 Prediction", Soft Computing, IF: 3.643, SCIE	Jagriti Saini, Maitreyee Dutta, Goncalo Marques
7.	" IoT-Sentry: A Cross-Layer-Based Intrusion Detection System in Standardized Internet of Things", IEEE SENSORS JOURNAL, VOL. 21, NO. 24, DECEMBER 15, 2021, pp.28066-28076, SCIE	Kamaldeep , Manisha Malik , Maitreyee Dutta, and Jorge Granjal
8.	A multi-level classification and modified PSO clustering based ensemble approach for credit scoring. Applied Soft Computing, 111, 107687.	Singh, I., Kumar, N., Srinivasa, K. G., Maini, S., Ahuja, U., & Jain, S. (2021)
9.	DeepLSGR: Neural collaborative filtering for recommendation systems in smart community. Multimedia Tools and Applications, 1-20.	Hiriyannaiah, S., GM, S., & Srinivasa, K. G. (2022)

**PAPERS PUBLISHED BY THE FACULTY OF IMEE DEPARTMENT
IN INTERNATIONAL JOURNAL OTHER THAN SCI JOURNALS**

Sr.No.	Name of the Paper Published	Author (s) Name
1.	Computer Vision and IoT-Based Automated Hydroponic Farms in Urban Areas: A Soilless Cultivation. International Journal of Social Ecology and Sustainable Development (IJSESD), 13(1), 1-21.	Sowmya, B. J., Seema, S., HR, C. G., Raghu, A., Shastry, A. O., Nikith, O. H., & Srinivasa, K. G. (2022).
2.	Leveraging the fog-based machine learning model for ECG-based coronary disease prediction. International Journal of Business Intelligence and Data Mining, 21(3), 328-353.	Hanumantharaju, R., Shreenath, K. N., Sowmya, B. J., & Srinivasa, K. G. (2022).
3.	Fuzzy Inference-Propelled Sentence Ranking for Extractive Summary Generation. International Journal of Decision Support System Technology (IJDSST), 14(1), 1-14.	Hiriyannaiah, S., Siddesh, G. M., & Srinivasa, K. G. (2022).
4.	Design of Context Cluster and Load Balanced Video Recommendation System in Cloud Computing. International Journal of Information Retrieval Research (IJIRR), 12(1), 1-18.	Hanumantharaju, R., Sowmya, B. J., Aparna, R., Shreenath, K. N., Srinivasa, K. G., & Sharanya, B. S. K. (2022).
5.	Creating a Sustainable Future with Digitalization using Cloud Computing in Online Education. In Digitalization of Higher Education using Cloud Computing (pp. 119-140). Chapman and Hall/CRC.	Kurni, M., & Srinivasa, K. G. (2021).
6.	IoT Solution for Enhancing the Quality of Life of Visually Impaired People. International Journal of Grid and High Performance Computing (IJGHPC), 13(4), 1-23.	Siddesh, G. M., & Srinivasa, K. G. (2021).
7.	Case-Based Classifier for Air Pollution Monitoring and Forecasting. Journal of The Institution of Engineers (India): Series B, 102(3), 447-454.	Siddesh, G. M., Hiriyanniah, S., & Srinivasa, K. G. (2021).

**PAPERS PUBLISHED BY THE FACULTY OF IMEE DEPARTMENT
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.	Image encryption using Wolf Optimizer and DNA encoding", Journal of University of Shanghai for Science and Technology ISSN: 1007-6735 , Volume 23, Issue 7, July – 2021, pp: 172-182, SCOPUS	Alpana , Maitreyee Dutta
2.	"IOT Based Intelligent Air Quality Monitoring and PM2.5 Prediction,"Internationa Conference on edge, IoT and social Computing for Digital Villages,, NITTR Chandigarh, April 2021	Jagriti Saini, Maitreyee Dutta, Goncalo Marques

RESEARCH AND DEVELOPMENT

No. of M.E. Thesis Guided	2
No. of Ph.D Thesis Awarded	1

INTERNATIONAL CONFERENCES ORGANIZED

Sr.No.	Name of the Seminar/Conference	No. of Participants
1.	International Conference on Edge, IoT and Social Computing for Digital Villages (ICEISCDV-2021) from 29.04.2021 to 30.04.2021 In collaboration with CSE Department	100

WORKSHOPS CONDUCTED (OTHER THAN CURRICULUM DEVELOPMENT WORKSHOPS)

Sr.No.	Name of the Workshop along with dates and venue	No. of Participants
1.	Workshop on "Cyber Forensic Tools"	51
2.	Workshop on Ethical Hacking	84
3.	Workshop on Cyber Forensic Tools	21

SPONSORED PROGRAMMES

Sr.No.	Title of the Programme	Number of Participants
1.	AICTE QIP Sponsored STC on Augmented Reality and Virtual Reality Applications from 6-12 December, 2021.	30
2.	Expert talk on Data Centres and Cloud Computing for Engineering Applications on 16.07.2021 by Prof S.S. Iyengar (Florida International University)	110
3.	Mentoring Workshop for Haryana and Delhi from 21st June to 25th June, 2021	57
4.	Mentoring Workshop for Rajasthan from 25th to 29th October, 2021	25

CONSULTANCY PROGRAMMES

Sr.No.	Title of the Programme	Number of Participants
1.	10 Courses under UKWDP (Jointly with ECE Department)	418

STUDENT TRAINING PROGRAMMES

Sr.No.	Title of the Programme	Number of Participants
1.	2-week Online Student Training Programme on Cyber Security and Forensics (18-30 October 2021)	74
2.	Student Training on Networking and cyber Security for Himachal Pradesh	32
3.	2-week Online Student Training Programme on Cyber Security and Forensics (10-23 November 2021)	20
4.	2-week Online Student Training Programme on Network Security and Cyber Forensics (10-21 January 2022)	25

TRAINING PROGRAMMES ATTENDED BY THE IMEE FACULTY/STAFF

Sr.No.	Title of Training Programme	Period of Training	Attended by
1.	Attended two week online FDP on Quantum Computing	September 27 to October 8, 2021	Dr. Maitreyee Dutta

BOOKS PUBLISHED

- Internet of Things for Indoor Air Quality Monitoring, Authors: Saini, Jagriti, Dutta, Maitreyee, Marques, Goncalo <https://www.springer.com/gp/book/9783030822156#aboutBook>
- Integrating IOT and AI for Indoor Air Quality Assessment. Editors: Jagriti Saini, Maitreyee Dutta, Goncalo Marques, Malka N. Halgamuge. Series: Internet of Things- Technology, Communications and Computing. Springer. <https://link.springer.com/book/9783030964856> (SCOPUS Indexed)

1. Jagriti Saini; Maitreyee Dutta; Gonçalo Marques; “Indoor Air Quality: Impact on Public Health”, in Internet of Things for Indoor Air Quality Monitoring, Cham: Springer International Publishing, 2021, pp. 1–14. Doi: 10.1007/978-3-030-82216-3_1.
2. Jagriti Saini; Maitreyee Dutta; Gonçalo Marques; “Internet of Things (IoT): The Futuristic Technology,” in Internet of Things for Indoor Air Quality Monitoring, Cham: Springer International Publishing, 2021, pp. 15–31. Doi: 10.1007/978-3-030-82216-3_2.
3. Jagriti Saini; Maitreyee Dutta; Gonçalo Marques; “Indoor Air Quality and Internet of Things: The State of the Art,” in Internet of Things for Indoor Air Quality Monitoring, Cham: Springer International Publishing, 2021, pp. 33–50. Doi: 10.1007/978-3-030-82216-3_3.
4. Jagriti Saini; Maitreyee Dutta; Gonçalo Marques; “Predicting Indoor Air Quality: Integrating IoT with Artificial Intelligence,” in Internet of Things for Indoor Air Quality Monitoring, Cham: Springer International Publishing, 2021, pp. 51–67. Doi: 10.1007/978-3-030-82216-3_4.
5. Jagriti Saini; Maitreyee Dutta; Gonçalo Marques; “Future Directions on IoT and Indoor Air Quality Management,” in Internet of Things for Indoor Air Quality Monitoring, Cham: Springer International Publishing, 2021, pp. 69–82. Doi: 10.1007/978-3-030-82216-3_5.



"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

Professor

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

During the year **2021-22**, the department has conducted **38** online short term training programs which were attended by **591** teachers from polytechnics and engineering colleges. The Department has conducted **01** International Conference and **01** National Conferences with **270** participations. The Department has conducted **01** workshop with **173** participations. The faculty of department also conducted **02** QIP STCs and trained **299** participants. The department also conducted **01** Student Training Programme of **6** Weeks Duration and **01** student participated.

The department faculty published **14** papers in SCI Journals and **11** in Non-SCI journals. The department also published **02** papers in proceedings of International Conferences. The faculty of department also edited **06** books. The faculty of the department also received **03** sponsored projects of Rs. **83 Lakhs**. The faculty of the department also filled **01** patent. The faculty of the department attended online training programs and online webinars during the year. The faculty also submitted research proposals in various agencies.

Short Term Programs Conducted (Online)

1. **Material Processing Technologies**
2. **Sustainable Manufacturing**
3. **Refresher Course in Mechanical Engineering**
4. **Advances in Manufacturing**
5. **CAD using Solid works**
6. **Industry 4.0**
7. **Engineering Optimization using MATLAB**
8. **Additive Manufacturing for Biomedical Applications**
9. **Mechatronics**
10. **Outcome Based Education in Mechanical Engineering**
11. **Industry 4.0**
12. **Advances in Manufacturing**
13. **CAD using Solid works**
14. **Engineering Optimization using MATLAB**
15. **AutoCAD**
16. **Recent Trends in Automobile Technology**
17. **Mechanical Measurement and Control**
18. **CAD/CAM**
19. **3D and 4D Printing Applications**
20. **Modelling and Simulation using MATLAB**

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

21. Additive Manufacturing
22. Hybrid Machining
23. Advance Material Processing and Characterization
24. Supervisory Development for Workshop Instructors
25. 3D & 4D Printing Applications
26. Green Manufacturing
27. Repair and Maintenance of Machine Tools
28. Recent Trends in Automobile Technology
29. Modeling & Simulation using MATLAB
30. Material Processing Technologies
31. Reverse Engineering
32. Manufacturing 4.0
33. CNC Machine: Operation & Programming.
34. Advanced Auto CAD
35. Automation and Robotics
36. Advanced Auto CAD
37. Sustainable Manufacturing
38. CAD/CAM

RESEARCH AND DEVELOPMENT

PAPERS PUBLISHED BY THE MECHANICAL ENGINEERING FACULTY IN SCI JOURNALS

S. No.	Name of the Paper Published	Author (s) Name
1.	Investigating Process Parameters of Abrasive Water Jet Machine using EN31; Materials and Manufacturing Processes; https://doi.org/10.1080/10426914.2021.1914849 ; April 2021	Ravi Kant and Sukhdeep S. Dhani
2.	On synergistic effect of BaTiO ₃ and graphene reinforcement in PVDF matrix for 4D applications Journal of Mechanical Engineering Science, IMech Part C, Vol. 236 (1), pp 276-292 DOI: 10.1177/09544062211015763, Jan-2022	Ravinder Sharma, Rupinder Singh, Ajay Batish, Nishant Ranjan
3.	On programming of polyvinylidene fluoride–limestone composite for four-dimensional printing applications in heritage structures Journal of Materials: Design and Applications IMech Part L, Vol. 236 (2), pp 319-333 DOI: 10.1177/14644207211044298 (Sage publication), Feb-2022	Vinay Kumar, Rupinder Singh, I.P.S. Ahuja

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

S. No.	Name of the Paper Published	Author (s) Name
4.	On 3D printing of 17-4PH stainless steel with direct metal laser sintering in aircraft structural applications Journal of Materials: Design and Applications IMech Part L, Vol. 236 (2), pp 440-450 DOI: 10.1177/14644207211044804 (Sage publication), Feb-2022	Rupinder Singh, Rishab, Jashanpreet Singh Sidhu
5.	Characterization of in-house developed Mn-ZnO reinforced polyethylene: a sustainable approach for developing fused filament fabrication-based filament Journal of Materials Engineering and Performance, DoI: 10.1007/s11665-021-05801-5, Jul-2021	Ranvijay Kumar, Rupinder Singh, Vinay Kumar, P. Kumar, C. Prakesh, Sunpreet Singh
6.	Three-dimensional printing of innovative intramedullary pin profiles with direct metal laser sintering Journal of Materials Engg. and Performance, DOI: 10.1007/s11665-021-06176-3, Jan-2022	Rupinder Singh, J.S Sidhu, Rishab, B.S.Pabla, Ashwani Kumar
7.	On PVC-PP composite matrix for 4D applications: Flowability, mechanical, thermal, and morphological characterizations, Journal of Thermoplastic Composite Materials, DOI: 10.1177/08927057211059754 (Sage publication), Nov-2021,	Nishant Ranjan, Ranvijay Kumar, Rupinder Singh, Vinay Kumar
8.	On rheological, thermal, mechanical, morphological, piezoelectric properties and one-way programming features of PVDF-CaCO ₃ composites, Journal of Materials Engineering and Performance, DOI: 10.1007/s11665-021-06532-3 (Springer publications), Jan-2022	Vinay Kumar, Rupinder Singh, I.P.S. Ahuja
9.	Predictive Monitoring of Incipient Faults in Rotating Machinery: A Systematic Review from Data Acquisition to Artificial Intelligence; Archives of Computational Methods in Engineering (Springer); doi.org/10.1007/s11831-022-09727-6; March 2022	Kanika; Dharmi, S. S., Vanraj
10.	Machine learning-based fault diagnosis of self-aligning bearings for rotating machinery using infrared thermography, Mathematical Problems in Engineering, Apr-2021, Hindawi	Mehta, Ankush; Goyal, Deepam; Choudhary, Anurag; Pabla, BS; Belghith, Safya
11.	A framework for surface modification by electrical discharge coating using variable density electrodes, E3S Web of Conferences, 309, 2021, EDP Sciences, DOI:10.1051/e3sconf/202130901093	Khan, Mohd Yunus; Rao, PS; Pabla, BS;
12.	PREPARATION AND CHARACTERIZATION OF Sr-DOPED HAp BIOMEDICAL COATINGS ON POLYDOPAMINE-TREATED Ti6Al4V SUBSTRATES, Surface Review and Letters, 2141009, Feb-2022, World Scientific Publishing Company (SCIE)	SINGH, GURMOHAN; SAINI, ABHINEET; PABLA, BS

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

S. No.	Name of the Paper Published	Author (s) Name
13.	3-D Printing Technology: Inclusive Study and Applicability in Different Sectors, Advances in Materials and Mechanical Engineering, 357-366, Springer, Singapore, Jun-2021 (ESCI)	Khan, Mohd; Rao, P Sudhakar; Pabla, BS
14.	An experimental study on magnetic field-assisted-EDM process for Inconel-625, Advances in Materials and Processing Technologies, Feb, 2022, Taylor & Francis (ESCI)	Khan, Mohd Yunus; Rao, P Sudhakar; Pabla, BS;

PAPERS PUBLISHED BY THE MECHANICAL ENGINEERING FACULTY IN INTERNATIONAL JOURNALS OTHER THAN SCI JOURNALS

Sr.No.	Name of the Paper Published	Author (s) Name
1.	On crown fabrication for prosthetic dentistry of veterinary patients: A review Advances in Materials and Processing Technologies, 2021 DoI: 10.1080/2374068X.2021.1970991	S. R. Pradhan, Rupinder Singh, S. S. Banwait
2.	On flexural, wear and morphological properties of 3D printed almond skin powder reinforced PLA matrix Advances in Materials and Processing Technologies, 2021 DOI:10.1080/2374068X.2021.1970992	Rupinder Singh, Ranvijay Kumar, Mohit Singh, Pawanpreet
3.	On shear fracture and morphological features of fused filament fabrication based almond skin powder reinforced PLA structures Advances in Materials and Processing Technologies, 2021 DOI:10.1080/2374068X.2021.1970994	Rupinder Singh, Ranvijay Kumar, Mohit Singh, Pawanpreet
4.	Vibration Response-Based Intelligent Non-Contact Fault Diagnosis of Bearings; Journal of Nondestructive Evaluation, Diagnostics and Prognostics of Engineering Systems, ASME; Vol. 4; pp. 021006-1 to 021006-11; May, 2021 (SCImago)	Deepam Goyal, S. S. Dhami, B. S. Pabla
5.	MODWT and VMD Based Intelligent Gearbox Early Stage Fault Detection Approach; Journal of Failure Analysis and Prevention; Vol. 48; pp. 1821-1837; September, 2021 (Scopus)	Mansi, Saini, Kanika; Dhami, Sukhdeep Singh Dhami, Vanraj
6.	Multi-Response Optimization of Parameters using GRA for Abrasive Water Jet Machining of EN31 Steel; Materials Today: Proceedings, Elsevier; Vol. 47(17); pp. 6141-6146; May, 2021 (Scopus)	Kant, Ravi; Dhami, Sukhdeep S

PAPERS PUBLISHED BY THE MECHANICAL ENGINEERING FACULTY IN INTERNATIONAL JOURNALS OTHER THAN SCI JOURNALS (contd..)

Sr.No.	Name of the Paper Published	Author (s) Name
7.	Comparison of EDM and ECM machined AISI 304 steel: Surface roughness, hardness and morphological characteristics; Materials Today: Proceedings, Elsevier; Vol. 48(5); pp. 965-974; June 2021 (Scopus)	Singh, Rupinder; Dhami, SS; Rajput, Navita
8.	Optimization of friction stir welding process parameters during joining of aluminum alloys of AA6061 and AA6082; Materials Today: Proceedings, Elsevier; Vol. 45(6); pp. 5368-5376; May 2021 (Scopus)	Kumar, Ravi; Dhami, Sukhdeep Singh; Mishra, RS
9.	In-vitro mineralization of bio-coated 3D printed metallic implant under simulated body conditions, Materials Today: Proceedings, 50, 1946-1952, Jan-2022, Elsevier (Scopus)	Singh, Gurmohan; Saini, Abhineet; Pabla, BS;
10.	Comparative study of chemical composition of IN625 through OES and EDX techniques, Materials Today: Proceedings, 52, 1744-1748, Jan-2022, Elsevier (Scopus)	Khan, Mohd Yunus; Pabla, BS; Rao, PS;
11.	Comparative study of chemical composition of IN625 through OES and EDX techniques, Materials Today: Proceedings, Vol. 52, Part 3, Page No. 1744-1748. (Scopus), Materials Today: Proceedings, Jan-2022 (Scopus)	Khan M. Y., Pabla B. S. and Rao P.S.;

PAPERS PUBLISHED BY THE MECHANICAL ENGINEERING FACULTY 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.	A comparative study on investment casting of dental crowns for veterinary dentistry by using ABS patterns with and without wax coating, E3S Web of Conferences 309, 2021 ICMED 2021 901020 Dol:10.1051/e3sconf/202130, pp 01020(1-6) Proceedings of 12th ICMPC, NITTTR Chandigarh, India, Oct. 6-9, 2021	S. R. Pradhan, Rupinder Singh, S.S.Banwait, Mukesh Singh Puhall, S.Singh, Arun Anand
2.	On rheological, mechanical, thermal, wear and morphological properties of melamine formaldehyde reinforced recycled ABS for sustainable manufacturing E3S Web of Conferences 309, 2021 ICMED 2021 901081 Dol:10.1051/e3sconf/202130, pp 01081(1-7) Proceedings of 12th ICMPC, NITTTR Chandigarh, India, Oct. 6-9, 2021	Gulraj Singh, Gurinder Singh Brar, Rupinder Singh

PATENTS/COPYRIGHT

Sr.No.	Name of Patents/Copyright	Author (s) Name
1.	Customized dental implant assembly (Ref. No. Indian Patent Application No: 202111056440 dated Dec. 06, 2021)	Ashish Jain, V Grover, Rupinder Singh, Ap Singh, S.R Pradhan, Rishab, Satinder Singh

RESEARCH AND DEVELOPMENT

No. of M.E. Thesis Guided	24
No. of Ph.D Thesis Awarded	02

INTERNATIONAL CONFERENCE ORGANIZED

Sr.No.	Name of the Seminar/Conference	Total
1.	12th International Conference on Materials Processing and Characterization, October 6 - 9, 2021	250 participants

NATIONAL CONFERENCE ORGANIZED

Sr.No.	Name of the Seminar/Conference	Total
1.	National Level Competition TechSpardha2k21 at NITTTR Chandigarh, from 10-12 November 2021	20

WORKSHOPS CONDUCTED (OTHER THAN CURRICULUM DEVELOPMENT WORKSHOPS)

Sr.No.	Name of the Workshop alongwith dates and venue	Total No. of participants
1.	Workshop on outcome based Education and NBA procure On Oct 30 & 31, 2021	173

STUDENT TRAINING ORGANIZED

Sr.No.	Name of the Course Alongwith dates & place	No. of weeks	Participation		Total No. of Participants
			Poly	Engg.	
1.	Six-Weeks B.Tech. Student Training Date- 12.09.2021 to 22.10.2021	6 weeks	-----	University	One

CONSULTANCY PROJECTS

Consultancy Project	Gross Value	Net IRG	Remarks	Coordinator
B & R Research Laboratory, UT, Chandigarh	38,64,094/-		Completed	Dr. S. S. Banwait
Subordinate Services Selection Board, Punjab	53,70,720/-		Completed	Dr. S. S. Banwait
The Punjab State Cooperative Supply & Marketing Federation Ltd., Chandigarh (MARKFED)	1,19,33,330/-		Completed	Dr. S. S. Banwait

SPONSORED PROJECTS

Project Title	Funding Agency	Amount (Rs. In lakh)	Period	Status	Coordinator
FIST (Level - 0) project	DST	80.0	Sept. 2021 to August 2024	In- progress	Dr. B. S. Pabla, Dr. Rupinder Singh, Dr. S. S. Dhami, Dr. Balwinder Raj, Dr. Ashok Kumar
Development of 3D Printed Energy Storage Device	DST Chandigarh	1.50	July 2021 to Dec 2022	In- progress	Dr. Rupinder Singh Prof. BS Pabla
Development of Digital Twin of an Articulated Robotic Arm	ARTPARK, Bengaluru	1.50	August 2021 to July 2022	Comple ted	Dr. S. S. Dhami

SPONSORED PROGRAMMES

Sr.No.	Name of the Programme along with dates	Total No. of participants
1.	AICTE-QIP FDP on 4D Printing for Smart Manufacturing from June 9 -14, 2021	113
2.	AICTE-QIP FDP on Industrial IoT and Robotics from November 22 - 27, 2021	186

BOOKS EDITED

1. 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, 2021. Guest Editor for Special issue "3D and 4D Hybrid Printed Functional Prototypes" Materials International Open Access Journal, 2021 (ISSN: 2668-5728) by Rupinder Singh.
2. Editor for Materials today: Proceedings for Symposium on Synthesis, Characterization & Processing of Inorganic, Bio and Nano Materials – 2021, (Edited by Jasgurpreet Singh Chohan, Rupinder Singh, Harjot Singh Gill, Raman Kumar), Volume 48, Part 5, 2022, pp 927-1774 (Elsevier).
3. Editor for book on '4D Printing: Fundamentals and Applications, Elsevier, 2022 (ISBN: 9780128237250) by Rupinder Singh.
4. Editor for book on Advances in Manufacturing Technology: Computational Materials Processing and Characterization, (Co-Editor: S.S.Dhami, B.S.Pabla) CRC Press, Taylor & Francis, 2022
5. Editor for book on Additive Manufacturing for Plastic Recycling: Efforts in Boosting A Circular Economy (Co-Editor Ranvijay Kumar), CRC Press, Taylor & Francis, 2022
6. Bio manufacturing [Ed] published by Springer Switzerland

WEBINAR ATTENDED BY THE THE MECHANICAL ENGINEERING FACULTY/STAFF

Sr.No.	Title of Training Programme	Period of Training	Venue	Attended by
1.	Webinar on Materials Information Technology	10-06-2021	Online	Dr. S. S. Dhami

IN-HOUSE TRAINING PROGRAMMES

Sr.No.	Title of Training Programme	Period of Training	Attended by
1.	Training on Digital Twin Setup	October 11 -13, 2021	Dr. S. S. Dhami, Dr. B. S. Pabla





*"Whoever controls the media, controls the mind."
– Jim Morrison*

MEDIA ENGINEERING DEPARTMENT



Prof. (Dr.) Rakesh Wats

Professor

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



Prof. (Dr.) SS Pattnaik

***Joint Professor & Currently holding the
Position of Director***

***Research Areas - Soft Computing, Multimedia,
Antenna & Microwave, RF & Bio-medical***

During the year 2021-22, the department conducted 12 online short term training programs which were attended by 371 teachers from polytechnics and engineering colleges. The department has also developed and edited 69 videos. The department provided technical coordination for the smooth conduct of 190 online courses of various departments. The department also technically supported 06 on-line conferences and 16 miscellaneous programmes like Workshops, Annual day, Board meetings and Departmental meetings with Director. In addition, 120 videos developed by the department were uploaded on NCTEL Portal. The department was also actively involved in the design of various types of animated & graphical content for 39 modules.

Short Term Programs Conducted

1. Institutional Management for Excellence
2. Faculty Development: Planning and Management
3. Video Editing Techniques
4. Graphics and Animation for Instructional Material Development
5. Digital Publication & Marketing
6. Use of Camera for e-Content Generation
7. Technical Teachers Self Esteem, Motivation and Professionalism Development
8. Accreditation for Quality Assurance (NBA and NAAC Guidelines)
9. NBA Accreditation Through Outcome based Education.
10. Strategic Management and SWOT Analysis for Institutional Excellence
11. Video Production Techniques for MOOCs Development
12. Managing Your Self

**PAPER PUBLISHED BY THE MEDIA ENGINEERING FACULTY
IN INTERNATIONAL JOURNAL OTHER THAN SCI JOURNALS**

Sr.No.	Name of the Paper Published	Author (s) Name
1.	Recreating efficient framework for resource constrained Environment : HR analytics and its trends for society 5.0; Data Science and Innovation for intelligent systems: Computational excellence for society 5.0; CRS Press , Taylor & Francis , 2021 eISBN : 9781003132080	Dr. Rakesh K Wats , Kamakshi Malik

PAPER PUBLISHED BY THE MEDIA ENGINEERING FACULTY IN NATIONAL JOURNAL

Sr.No.	Name of the Paper Published	Author (s) Name
1.	Demystifying the relation between workforce demographics, Job satisfaction and Perceived customer satisfaction in Indian Banking Industry, Ymer, 2021,ISSN No. 0044-0477	Dr.Rakesh K Wats , Kamakshi Malik

INSTRUCTIONAL MATERIAL DEVELOPED

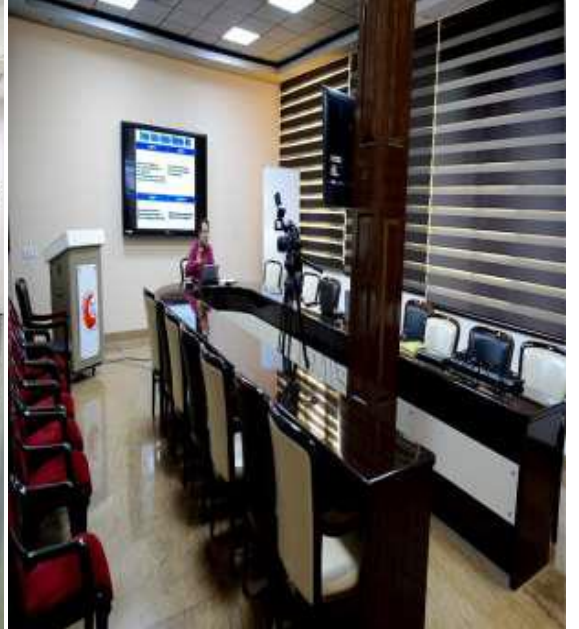
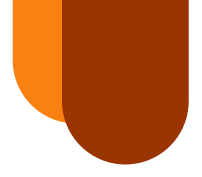
- 2 Instructional Booklets on “Institutional Management of excellence” and “Accreditation for Quality Assurance”

INTERNATIONAL CONFERENCES ORGANIZED

Sr.No.	Name of the Seminar/Conference	No. of Participants
1.	Clean technologies for Sustainable Development in collaboration with Center of Clean Technologies & Sustainable Development (Civil Engineering Department) (13-14 October 2021)	100

IN-HOUSE TRAINING PROGRAMMES

Sr.No.	Title of Training Programme	Period of Training	Attended by
1.	Technical Coordination of ICT Programmes for Technicians through contact mode	Two days (29-30 November 2021)	9 New Technicians of different Departments





“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 **2021-22**, the department has conducted **10** online short term training programs which were attended by **414** teachers from polytechnics and engineering colleges. The Department has conducted **09** workshops with **625** participations. The department also conducted **01** Student Training Programme and total **55** students participated. The department faculty published **01** paper in SCI and **02** in Non-SCI Journals. The department also published **04** papers in proceedings of International Conferences. The faculty of the department attended online training programs and online webinars during the year. The faculty also submitted research proposals in various agencies.

Short Term Programs Conducted

1. Integrated Village Development under Unnat Bharat Abhiyan
2. Emerging Areas of Innovation and Research in Science & Technology
3. Appropriate Technologies for Sustainable Rural Development
4. Sustainable Rural Development and Unnat Bharat Abhiyan
5. Environmental Protection and Pollution Mitigation for Sustainable Development
6. Green Energy Sources and Clean Technologies
7. Atma Nirbhar Bharat Aspects and Prospects
8. Innovative Techniques Organic Farming and Permaculture
9. Innovative Technologies Application through Unnat Bharat Abhiyan
10. Rural Entrepreneurship for Village Transformation

RESEARCH AND DEVELOPMENT

PAPERS PUBLISHED BY THE RURAL DEVELOPMENT FACULTY IN SCI JOURNALS

Sr. No.	Name of the Paper Published & Journal	Author (s) Name
1.	Seismic Performance assessment of two-stories light gauge steel frame structure "Natural Hazards: I-22, ISSN - 15730840, 0921030X https://doi.org/ 10.1007/ s11069-022-05206-0 4th February, 2022. SCIE	Shashidhara , Hemant Kumar Vinayak

PAPERS PUBLISHED BY THE RURAL DEVELOPMENT FACULTY IN FACULTY IN INTERNATIONAL JOURNAL OTHER THAN SCI JOURNALS

Sr.No.	Name of the Paper Published	Author (s) Name
1.	International Research Journal on Advanced Science Hub, " A review on solar powered boat design, " Volume 3, Issue 5, May 2021, pp.1-10	Kashish Sharma Poonam Syal
2.	International Journal of Engineering Trends and Technology "An improved current control charging scheme using Neuro-Fuzzy and FOPID based MPPT system for EV charging" Volume 69, Issue 10, October, 2021, pp. 251-257 (Scopus Indexed)	Ravindra Pancharia, Poonam Syal

PAPERS PUBLISHED/PRESENTED BY THE RURAL DEVELOPMENT 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.	PIDPlus Controller over WirelessHART Network for Cyber-Physical Process Automation International Conference on Emerging Technologies : AI, IoT and CPS for Science & Technology Applications from 6 & 7 September 2021 organised by NITTTTR, Chandigarh	Shivaji G. Thube and Poonam Syal
2.	Dynamic PIDPlus Controller for Wireless Closed Loop Control of Lag and Dead Time Dominant Slower Processes IEEE Technical Sponsored 2021 International Symposium of Asian Control Association on Intelligent Robotics And Industrial Automation (IRIA) from 20-22 September,2021organized by IIT, Goa	Shivaji G. Thube and Poonam Syal
3.	A Feature cum Intensity based SSIM Optimised Hybrid Image Registration Technique IEEE-International Conference on Computing, Communication and Green Engineering (CCGE21) from 23-25 September,2021 organised by JSPM'S Rajarshi Shahu College of Engineering, Pune	Taruna Kumari , Vikrant Guleria Poonam Syal, Ashwani K. Aggarwal
4.	International Conference on Innovative Technologies for Clean and Sustainable Development (ICITCSD – 2021) "Cost Benefit Analysis of Retrofitting for Existing Building as Net Zero Energy Building: A Case Study in Composite Climate Zone" October 14-15, 2021, organized by Chitkara University, Himachal Pradesh and NITTTTR, Chandigarh.	Aditya Punia, Sanjay Kumar Sharma, Poonam Syal

WORKSHOPS CONDUCTED (OTHER THAN CURRICULUM DEVELOPMENT WORKSHOPS)

Sr.No.	Name of the Online Workshop alongwith dates and venue	No. of Participants
1.	Challenges and issues of adopted villages under UBA , 4th June 2021, NITTTTR Chandigarh	33
2.	Linking UBA – Punjab Activities with Sambandh Portal of Punjab and Solutions for waste management and pond cleaning’ 24th June 2021, NITTTTR Chandigarh	46
3.	Unnat Bharat Abhiyan Arogya Series NITTTTR Chandigarh 28th June 2021, NITTTTR Chandigarh	212
4.	Plan of action for next 5 year under UBA, 4th August 2021, NITTTTR Chandigarh	21
5.	Covid-19 Management and Rural Business Model, 17th August 2021, NITTTTR Chandigarh	18
6.	Technology Awareness Program at Haripur Village, Ropar (Punjab) under UBA, 18th November, 2021	105
7.	Technology Awareness Program at Hirdapur village, Ropar (Punjab) under UBA, 30th November, 2021	55
8.	Online Workshop for Preparation of O-Plan for the year 2022-23 for Rajasthan State, 9th December, 2021	118
9.	Online Workshop on Technology Dissemination, 16th December, 2021	17
10.	Organized 10th Annual Alumni Meet Alumni Meet on 06/12/2021	80

CONSULTANCY PROGRAMMES

Sr.No.	Name of Project	Team	Beneficiary Organization	Status of Project Completed/ In Progress	Specific work done during the year
1.	Preparation of DPR for Landslide Mitigation (Total Project Cost– Rs 14,16,000/- Received First Installment – Rs 5,66,400/-)	HKV/ AKD/VS	Himachal Pradesh Public Works Department	In progress	Allocation of testing work

STUDENT TRAINING ORGANIZED

Sr.No.	Name of the Course along with dates & place	No. of weeks	Participation		Total No. of Participants
			Poly	Engg.	
1.	Employability Skills for Students, 2-3 March,2022, at Govt. Polytechnic, Morni, Panchkula (Hya) (ST-16)	02 days	55	-	55

WORKSHOPS / WEBINARS ATTENDED BY THE RURAL DEPARTMENT FACULTY/STAFF

Sr.No.	Title of Training Programme	Period of Training	Venue	Attended by
1.	UBA - NCI IITD special webinar for Tribal Week, "Understanding Various Modes Of Tribal Development Protecting their Indigenous Culture from External Influence" Role of Unnat Bharat Abhiyan". YouTube Link: https:// youtube/wmZ0dJ6hoD4	24 th November 2021.	Online	Dr. Hemant Kumar Vinayak
2.	National level workshop on "Engagement of Higher Education Institutions in UBA	2-3 December 2021	NIRD, Hyderabad,	Dr. Hemant Kumar Vinayak
3.	UBA - NCI IITD special webinar for Tribal Week, "Understanding Various Modes Of Tribal Development Protecting their Indigenous Culture from External Influence" Role of Unnat Bharat Abhiyan". YouTube Link: https://youtu.be/wmZ0dJ6hoD4	24 th November 2021.	Online	Dr. Hemant Kumar Vinayak
4.	National level workshop on "Engagement of Higher Education Institutions in	2-3 December 2021	Rural Development" NIRDPR, Hyderabad,	Dr. Hemant Kumar Vinayak

IN-HOUSE TRAINING PROGRAMMES

Sr.No.	Title of Training Program	Period of Training	Attended by
1.	Training on Google Workspace for Education Plus for Educators by Harsimran Singh	24 th Nov, 2021,	Dr . Hemant Kumar Vinayak

DEVELOPMENT PROJECTS

DEVELOPMENT PROJECTS						
	Unnat Bharat Abhiyan (RCI and PI)	Dr. HK Vinayak/ Dr. Poonam Syal/ Dr. Amit Goyal	Punjab and Chandigarh	Under Progress	Organised 6 Workshops & 2 Technology Awareness Programs , Poster and Video Competition at RCI level Punjab	March,2026

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।

3.1 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 2021-22, the following renovation work was completed:

- Mother Teresa Hostel
- Artificial Intelligence Lab
- AR/VR Lab
- Nano Materials Lab
- Digital Bank and ATM facilities

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

- Renovation Work of Type III (15 houses) in sector 42, Chandigarh
- Renovation of houses Type VI, V and IV

3.2 Equipment

Equipment worth ₹177.84 lakh was purchased during the year 2021-22. The total value of equipment increased to ₹5679.11 lakh as on 31.03.2022. After providing necessary depreciation on the assets, the net value of the equipment remained at ₹1998.89 lakh as on 31.03.2022.

3.3 Furniture

Furniture worth ₹15.90 lakh was purchased during the year 2021-22. The total value of furniture increased to ₹404.07 lakh as on 31.03.2022. After providing necessary depreciation under rules, the net value of furniture remained at ₹147.60 lakh as on 31.3.2022.

3.4 Expenditure

An expenditure amounting to ₹3851.84 lakh has been incurred during the financial year 2021-22 under various schemes as indicated below:

Sr. No.	Name of the Scheme	(Rupees in Lakh)
		Expenditure incurred
1.	OH-35 (Capital)	467.41
2.	OH-31 (General)	1038.45
3.	OH-36 (Salary)	2345.98
	Total Expenditure	3851.84

3.5 Library

LIBRARY RESOURCES

S.No	Resources	Numbers
1	Print Books	49789
2.	E-books	578
3.	Theses	735
4.	Indian standards	10043
5.	CD-ROM/DVDs	355
6.	Bound Journals	4051

PERIODICAL RESOURCES

S.No.	Resources	Numbers
1.	Print Journals	19
2.	E-Resources	11
3.	Magazines /Newspapers /Other resources	18



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

- NITTTT, 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

RECRUITMENTS

The following persons joined the institute during the year:

- Dr. Minakshi Sharma, Institute Health Officer
- Shri DS Malik, Senior Administrative Officer
- Shri SK Rathore, Estate Assistant
- Shri Kamaldeep, Senior Production Assistant
- Ms. Monika Arora, Senior Production Assistant
- Shri Kaveesh Nayak, Senior Production Assistant
- Shri Chandan, Technician
- Shri Raj Kumar, Technician
- Ms. Ranjeet Kaur, Technician
- Shri Gopal, Technician
- Shri Anil Kumar Nagar, Technician
- Shri Rajput Jyoti Prakash, Technician
- Shri Puneet Kumar, Technician
- Shri Jatin Kumar, Technician
- Ms. Komal, Pharmacist

PROMOTIONS

The following persons were given promotion during the year:

- Shri Ashok Kumar, Senior Technical Assistant
- Shri Kuldeep Singh, Senior Secretariat Assistant
- Mrs. Neelam Kumari, Assistant Section Officer
- Shri JP Tungal, Section Officer
- Mrs. Satinder Kaur, Section Officer
- Mrs. Japjot Kaur Dua, Assistant Section Officer
- Karamjeet Kaur Sachdeva, Assistant Section Officer

Audited Accounts

The accounts of the Institute for the year 2021-22 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, 2022


(Rs. In Lakhs)

SOURCES OF FUNDS	Schedules	Current Year 2021-2022	Previous Year 2020-2021
CAPITAL/CORPUS FUND (UNRESTRICTED FUNDS)			
Corpus Fund	1	8926.43	8,750.84
General Fund		(2811.01)	(2,966.48)
DESIGNATED EARMARKED / ENDOWMENT FUNDS	2	2,819.08	2,612.35
CURRENT LIABILITIES & PROVISIONS	3	5,555.99	6,998.14
TOTAL		14,490.49	15,394.85

APPLICATION OF FUNDS	Schedules	Current Year 2021-2022	Previous Year 2020-2021
FIXED ASSETS			
Tangible Assets	4	4589.35	4,816.90
Intangible Assets			
Capital Work in progress			
INVESTMENTS FROM EARMARKED/ ENDOWMENT FUNDS	5		
Long term		2562.81	2,503.59
Short term		135.40	53.04
INVESTMENTS-OTHERS	6		
CURRENT ASSETS	7	6,245.51	7,329.92
LOANS, ADVANCES & DEPOSITS	8	957.42	691.39
TOTAL		14,490.49	15,394.85

SIGNIFICANT ACCOUNTING POLICIES 23
CONTINGENT LIABILITIES AND NOTES TO ACCOUNTS 24

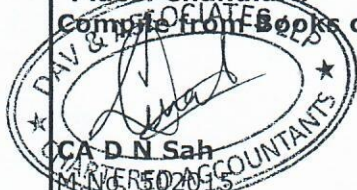

Accounts Officer
NITTTR, Chandigarh


Director
NITTTR, Chandigarh

Dated: 06/06/2022

Place: Chandigarh

Complete from Books of Accounts produced before us



UDIN: 22502015AKYJR02451

**NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH
SECTOR 26, CHANDIGARH
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2022
(Rs. In Lakhs)**

Particulars	Schedule	Current Year 2021-2022	Previous Year 2020-2021
INCOME			
Academic Receipts	9	146.96	118.59
Grants / Subsidies	10	3,384.43	3,155.06
Income from Investments	11		
Interest Earned	12	259.53	223.31
Other Incomes	13	207.66	271.59
Prior Period Income	14		
TOTAL (A)		3,998.58	3,768.55
EXPENDITURE			
Staff Payments & Benefits(Establishment Expense)	15	3118.53	3,155.73
Academic Expenses	16	41.86	52.89
Administrative & General Expenses	17	84.83	73.09
Transportation Expenses	18	1.75	1.26
Repairs & maintenance	19	45.66	54.59
Finance Costs	20		
Depreciation	4	550.49	623.14
Other Expenses	21		
Prior Period Expenses	22	0	21.75
TOTAL (B)		3,843.10	3,982.45
Balance being excess of income over expenditure (A-B)		155.48	(213.90)
Transfer To / From Designated Fund			
Building Fund			
Others (specify)			
Balance Being Surplus / (Deficit)Carried to Capital Fund			

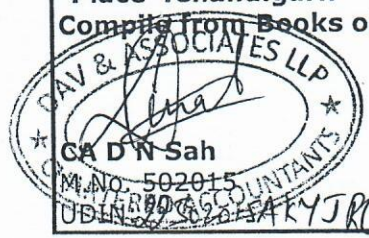
SIGNIFICANT ACCOUNTING POLICIES 23
CONTINGENT LIABILITIES AND NOTES TO ACCOUNTS 24

Rsm
Accounts Officer
NITTR, Chandigarh

R. Bal
Director
NITTR, Chandigarh
 21/6/22

Dated: 06/06/2022
 Place :Chandigarh

Complied from Books of Accounts produced before us

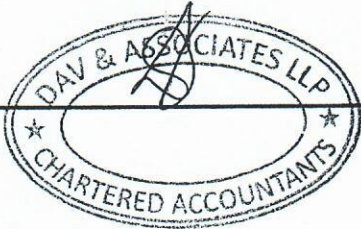


**NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH
SECTOR 26, CHANDIGARH
FUNDS DETAIL AS AT 31ST MARCH, 2022**

SCHEDULE 1 - CORPUS FUND/CAPITAL FUND

(Rs. In Lakhs)

	Particulars	Current Year 2021-2022	Previous Year 2020- 2021
1	Balance at the beginning of the year	8750.84	8354.94
2	Add : Contributions towards Corpus	175.59	395.91
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 Aolympics		
	Balance the the year end	8926.43	8750.84
	GENERAL FUND		
1	Balance at the beginning of the year	-2966.48	-2708.01
2	Add: Overutilised OH 31 transfer to General Fund		-44.57
3	Deduct : Balance of Net Expenditure account	155.48	-213.90
	Balance the the year end	-2811.01	-2966.48



RswL
Accounts Officer
NITTTR, Chandigarh

[Signature]
Director
NITTTR, Chandigarh

SCHEDULE 2 : DESIGNATED / EARMARKED / ENDOWMENT FUNDS						
		Fund wise Breakup			(Rs. In Lakhs)	(Rs. In Lakhs)
S.No.	Particulars	New Pension Fund - AAA	GPF/CPF Fund - BBB	Current Year 2021-2022	Previous Year 2020-2021	
	A.					
a)	Opening Balance of the Funds	3.53	2608.83	2612.36	2363.08	
b)	Additions to the Funds :-					
	Donations/grants/ Subscription	171.57	342.24	513.81	487.63	
	Income from Investments made on account of Funds		128.37	128.37	192.87	
	Accrued Interest on Investments of the Funds	0.00		0.00		
	Other Additions (Specify nature)	0.00	0.00	0.00	-24.69	
	Total (A)	175.10	3079.44	3254.54	3018.89	
	B.					
c)	Utilization/Expenditure Towards Objectives of Funds					
	i) Capital Expenditure					
	ii) Revenue Expenditure	171.57	263.89	435.46	406.54	
	Total (B)	171.57	263.89	435.46	406.54	
	Closing Balance at the Year End (A-B)	3.53	2815.55	2819.08	2612.35	
Represented By						
a)	Cash and Bank Balance	3.39	135.40	138.79	56.43	
b)	Investment		2,562.81	2,562.81	2,503.59	
c)	Interest Accrued but not due		117.34	117.34	50.82	
d)	Amount Receivable	0.14	-	0.14	1.51	
	Total	3.53	2,815.55	2,819.08	2,612.35	



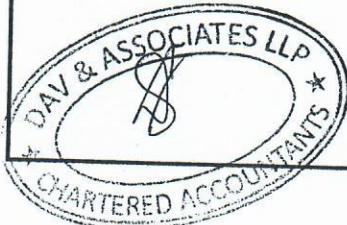
Rsw
Accounts Officer
NITTR, Chandigarh

Rsw
Director
NITTR, Chandigarh

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

(Rs. In Lakhs)

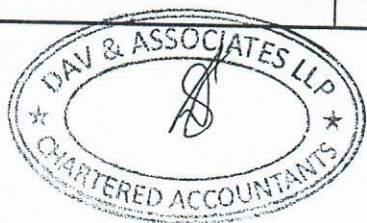
S.No.	Particulars	Annexure	Current Year 2021-2022	Previous Year 2020-2021
A.	CURRENT LIABILITIES			
1	Deposits from Staff :- - Staff Welfare fund - Ground Rent from Employees		4.04	9.25
2	Deposits from Students :- - Alumni Association - Examination Fee		10.18 0.02	9.16 0.02
3	Sundry Creditors			
a	For goods & services		7.04	7.04
b	For Fixed Assets		0.34	0.34
c	Others	Annexure - 1	149.67	138.14
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	22.29	177.03
6	Others current liabilities			
a	Salaries			
b	Receipts against sponsored projects	Schedule 3(a)	283.62	312.16
c	Receipts against sponsored fellowship & scholarships			
d	Unutilised Grants (including OH 31, OH 36, and OH 35)			
	Unutilised GRANTS OH 36		873.54	1619.51
	Unutilised GRANTS OH 31		741.23	624.69
e	Unutilised GRANTS OH 35		340.79	305.15
	Add:- Advance to CPWD,, BSNL and Roads		563.64	204.18
f	Grants in advance			
g	Others funds	Annexure - 3	565.62	1289.11
h	Others liabilities			
	TOTAL (A)		3,562.13	4,695.91
B	PROVISIONS			
1	For taxation			
2	Gratuity			
3	Superannuation/pension		760.52	1137.03
4	Accumulated leave encashment		61.80	52.23
5	Trade Warranties/claims		965.39	930.75
6	Others (specify)			
	- GOI- Restricted Fund - Salary		0.11	0.11
	Expenses payable	Annexure - 4	206.04	182.11
	TOTAL (B)		1,993.86	2,302.23
	TOTAL (A+B)		5,555.99	6,998.14



Renu
Accounts Officer
NITTTR, Chandigarh

Renu
Director
NITTTR, Chandigarh
21/6/22

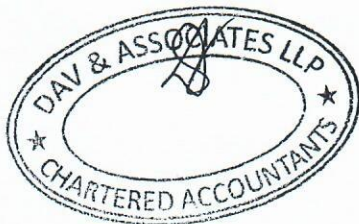
NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH						
SECTOR 26, CHANDIGARH						
SCHEDULE - 3 (a) SPONSORED PROJECTS FY 2021-22						
Name of the Project	Opening		Expenditure during the year	Receipts / Recoveries during the year	Closing	
	Credit	Debit			Credit	Debit
AICTE QIP POLY	2.34		3.05	11.32	10.62	
GOI FUND	24.19		0.00	0.04	24.23	
GST SP-39	0.00		0.00	0.25	0.25	
GST Tds SP-42	0.10		0.00	0.00	0.10	
ICTO PDA-2	0.32		0.00	0.00	0.32	
ICTO SP-1	0.16		0.16	0.00	0.00	
ICTO SP-10	0.74		0.00	0.00	0.74	
ICTO SP-11	0.84		0.00	0.00	0.84	
ICTO SP-12	0.01		0.01	0.00	0.00	
ICTO SP-13	0.12		0.12	0.00	0.00	
ICTO SP-15(Computer)	1.41		1.48	0.07	0.00	
ICTO SP-2	0.07		0.07	0.00	0.00	
ICTO SP-20	1.88		1.88	0.00	0.00	
ICTO SP-25	1.88		1.92	0.00	0.00	0.05
ICTO SP-3(C Ramakrishna)	0.00		0.00	0.00	0.00	0.00
ICTO SP-49	0.00		0.74	0.00	0.00	0.74
ICTO-SP 5(Srinivasa)	0.01		0.01	0.00	0.00	0.00
ICTO SP-6(Ramakrishna)	0.15		0.15	0.00	0.00	0.00
ICTO SP-7	0.08		0.08	0.00	0.00	0.00
Inspire Fellowship by SC and Tech	2.37		4.14	5.63	3.85	0.00
It Bionery Rd Project	1.27		0.00	0.00	1.27	0.00
Operational Plan	19.66		0.00	0.00	19.66	0.00
OTHER MISC PROJECT	4.57		0.00	0.00	4.57	0.00
PDA-08	111.70		33.87	0.00	77.82	0.00
PDA-1	0.07		0.00	0.01	0.08	0.00
PDA-13 CSE	0.07		0.00	0.00	0.07	0.00
PDA-21(Solar PV System)	7.42		0.00	0.00	7.42	0.00
PDA-22	0.00	1.39	0.00	0.00	0.00	1.39
PDA-2(Electrical)AICTE	2.17	0.00	0.00	0.00	2.17	0.00
PSCB 13 MECH	4.61	0.00	0.00	0.00	4.61	0.00
RPS - AICTE	1.67	0.00	0.00	0.00	1.67	0.00
SP-04	0.00	0.00	0.00	0.00	0.00	0.00
SP-05	4.96	0.00	2.02	0.01	2.94	0.00
SP-06(ETV)	32.34	0.00	28.67	17.90	21.57	0.00
SP-09	0.00	3.63	0.00	0.00	0.00	3.63
SP-10	0.00	0.12	0.00	0.00	0.00	0.12
SP-11(EDIC)	0.00	0.06	0.00	0.00	0.00	0.06
SP-12	0.00	0.14	0.00	0.00	0.00	0.14
SP-13	1.63	0.00	0.00	0.00	1.63	0.00
SP-14 MECHANICAL	0.29	0.00	0.00	0.00	0.29	0.00
SP-15	1.94	0.00	0.00	0.00	1.94	0.00
SP-16 (5.17 COMP SC , PWD)	3.64	0.00	3.64	0.00	0.00	0.00
SP-17 Civil	0.00	5.74	0.00	0.00	0.00	5.74
SP-18(CDC)	1.63	0.00	0.00	0.00	1.63	0.00
SP-19Unat Bharat Abhyian	9.37	0.00	8.29	0.01	1.09	0.00
SP-20(Computer)	2.30	0.00	1.75	0.00	0.54	0.00
SP-23(ETV)	13.11	0.00	15.93	0.17	0.00	2.65
SP-25(Computer)	25.33	0.00	0.56	0.05	24.82	0.00
SP-26(Atal)	0.20	0.00	0.20	0.00	0.00	0.00
SP-27	3.73	0.00	0.00	0.00	3.73	0.00
SP-29	0.63	0.00	0.63	0.00	0.00	0.00
SP-30	0.56	0.00	0.56	0.00	0.00	0.00
SP-32	0.15	0.00	0.15	0.00	0.00	0.00



SP-33	0.04	0.00	0.04	0.98	0.98	0.00
SP-34	0.10	0.00	0.00	0.00	0.10	0.00
SP-35	0.00	0.00	0.00	47.15	47.15	0.00
SP-37(Computer)	1.00	0.00	1.00	0.00	0.00	0.00
SP-38	4.12	0.00	6.56	2.44	0.00	0.00
SP-39	0.00	0.00	3.12	3.50	0.38	0.00
SP-40	9.84	0.00	9.23	0.00	0.61	0.00
SP-41	1.50	0.00	0.76	0.00	0.74	0.00
SP-42	1.15	0.00	1.15	0.00	0.00	0.00
SP-43	0.65	0.00	0.58	0.00	0.06	0.00
SP-45	0.00	0.00	10.93	10.93	0.00	0.00
SP-46	0.00	0.00	0.93	0.93	0.00	0.00
SP-47	0.00	0.00	0.93	0.93	0.00	0.00
SP-48	0.00	0.00	0.93	0.93	0.00	0.00
SP-49	0.00	0.00	0.39	0.00	0.00	0.39
SP-50	0.00	0.00	11.58	11.58	0.00	0.00
SP-51	0.00	0.00	0.79	0.00	0.00	0.79
SP-52	0.00	0.00	0.93	0.93	0.00	0.00
SP-53	0.00	0.00	1.32	1.84	0.52	0.00
SP-55	0.00	0.00	0.77	0.77	0.00	0.00
SP-58	0.00	0.00	0.85	0.86	0.01	0.00
SP-6	0.00	0.00	1.90	0.00	0.00	1.90
SP-60	0.00	0.00	1.09	1.78	0.69	0.00
SP-61	0.00	0.00	0.93	0.93	0.00	0.00
SP-62	0.00	0.00	0.01	1.96	1.95	0.00
SP-63	0.00	0.00	0.47	5.84	5.37	0.00
SP-64	0.00	0.00	0.00	0.77	0.77	0.00
SP-7(EDIC)	2.00	0.00	0.00	0.00	2.00	0.00
SP-8 (EDIC)	0.11	0.00	0.00	0.00	0.11	0.00
SP-ICT-50(EDIC) DST	0.00	0.80	0.00	0.00	0.00	0.80
SP-RS 51	0.00	0.00	0.00	1.00	1.00	0.00
TDS SP 18	0.00	0.24	0.00	0.00	0.00	0.24
TDS SP-39	0.00		0.17	0.42	0.25	0.00
TDS SP-45	0.00		0.00	0.22	0.22	0.00
TDS SP-50	0.00		0.00	0.23	0.23	0.00
Total	312.16	12.12	167.43	132.37	283.62	18.64

Rsm
Accounts Officer
NITTTTR, Chandigarh

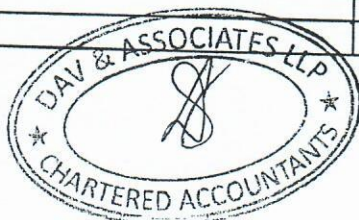
R. Sanyal
Director 21/6/22
NITTTTR, Chandigarh




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

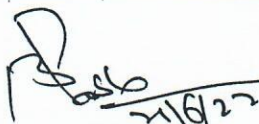
SCHEDULE - 3 (a) SPONSORED PROJECTS FY 2020-21

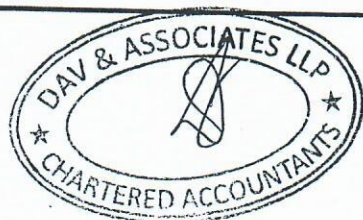
Name of the Project	Opening		Expenditure during the year	Receipts / Recoveries during the year	Closing	
	Credit	Debit			Credit	Debit
AICTE QIP POLY	1.71		13.66	14.30	2.34	
GOI FUND	24.19				24.19	
GST Tds SP-42				0.10	0.10	
ICTO PDA-2				0.32	0.32	
ICTO SP-1			0.77	0.93	0.16	
ICTO SP-10			0.87	1.61	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


Accounts Officer
NITTTR, Chandigarh


Director
NITTTR, Chandigarh




**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 2021-2022	Previous Year 2020-2021
A	Plan Grants Government of India Balance B/F GRANT OH 36 Add :- Grant Received During the Year Add :- Receipt during the year	1619.51 1600.00	763.62 2984.00
	Total (a)	3219.51	3747.62
	Less :- Refunds Less :- Utilised for Revenue Expenditure Less :- Exp. (Salary Staff) under OH 36 for March 2022 Paid in April 2022 Add :- Provision of 2020-21 adjusted in April 2021	2027.74 -58.36 259.88	2109.79 259.88 278.20
	Total (b)	2345.97	2128.11
	Unutilised Carried Forwards (a-b)	873.54	1619.51
B	Plan Grants Government of India Balance B/F GRANT OH 31 Add :- Grant Receipt During the Year Add :- Other Receipt During the year	624.69 1100.00 58.00	0.00 1627.00 24.64
	Total (c)	1782.69	1651.64
	Less :- Last Year wrong entry, now rectify Less :- Utilised for Revenue Expenditure (Total) Less :- Utilised for Capital Expenditure Less :- Expenditure under OH 31 for March 2022 Paid in April 2022 Add :- Provision of 2020-21 adjusted in April 2021	3.01 1048.48 81.00 70.97	1026.98 70.97 70.94
	Total (d)	1041.46	1026.95
	Unutilised Carried Forwards (c-d)	741.23	624.69
C	GRANT FROM GOVT OF INDIA OH 35 Balance B/F Add :- Last Year wrong entry, now rectify Add :- Receipt During the Year of Advance Add :- Receipt During the Year	305.15 3.01 69.94 500.00	171.24 21.73 444.00
	Total (e)	878.10	636.97
	Less :- Refund Less :- Utilised for Revenue Expenditure Less :- Utilised for Capital Expenditure	0.00 0.00 537.31	331.81
	Total (f)	537.31	331.81
	Unutilised Carried Forwards (e-f)	340.79	305.15
	UNUTILISED GRANT OF (OH 36+OH 31+OH 35)	1955.56	2549.36




 Accounts Officer
 NITTR, Chandigarh


 Director
 NITTR, Chandigarh

NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH, CHANDIGARH															
FIXED ASSETS AS AT 31.3.2022															
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	
ii	Land - Lease hold	0	18.90							18.90	0.52			15.32	
iii	Buildings- Residential	2	1,310.50							452.73	26.21			831.56	
iv	Buildings- Office Block	2	1,701.14	16.48	25.55					600.31	34.86			1,108.00	
v	Buildings- Hostel	2	1,209.72	83.36	51.82					552.71	25.86			714.51	
vi	Equipments	7.5	5,248.83			0.16				3,261.60	391.62			1,987.22	
vii	Computer	20	598.36							594.48	1.94			1.94	
viii	Books	10	126.97		1.91	0.12				126.97	0.18			1.61	
ix	Furniture Fixture & Electrical Installation	5	388.17	0.12	15.78					240.57	20.20			143.29	
x	Furniture Fixture	7.5	2.44							1.91	0.18			0.35	
xi	Vehicle	10	38.72							31.70	3.88			3.14	
xii	Intangible Assets	40	214.33	7.11	56.35					202.66	35.82			39.31	
xiii	Library E- Journal	40	38.11	2.17						26.25	9.22			4.81	
	Total - A		10,911.85	161.06	162.15	0.28				11,234.78	6,094.95	550.49		4,589.35	4,816.90



R. S. Singh
Accounts Officer
NITTTR, Chandigarh

R. S. Singh
- 24/09/22
NITTTR, Chandigarh

NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH, CHANDIGARH
FIXED ASSETS AS AT 31.3.2022
FIXED ASSETS-NET BLOCK - SCHEDULE -4

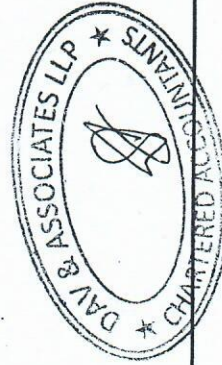
S.No.	PARTICULARS	Rate %	GROSS BLOCK				DEPRECIATION				NET BLOCK			
			Cost/evaluation as at beginning of the year	Additions before 30.09.2021	Additions after 30.09.2021	Deductions during the year	cost/value at the year end	As at the beginning of the year	On Additions of the year	On Deduction of the 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													
1	Institute Account	0	15.68							15.68				15.68
i	Land - Free hold	0	18.90							18.90				18.90
ii	Land - Lease hold	2%	1,310.50							1,310.50				1,310.50
iii	Buildings- Residential	2%	1,701.14	16.48	25.55					1,743.17				1,743.17
iv	Buildings- Office Block	2%	1,209.72	83.36	62.56					1,293.08				1,293.08
v	Buildings- Hostel	8%	5,023.04	51.82		0.16				5,137.26				5,137.26
vi	Equipments	20%	588.66							588.66				588.66
vii	Computer	10%	125.49			0.12				125.49				125.49
viii	Books	100%	-							-				-
ix	Technical Journals	5%	388.17	0.12	15.78					404.06				404.06
x	Furniture Fixture & Electrical Installation	10%	31.96							31.96				31.96
xi	Vehicle	40%	214.33	7.11	56.35					277.79				277.79
xii	Intangible Assets	40%	38.04	2.17						40.21				40.21
xiii	Library E Journal	8%	4.40							4.40				4.40
2	Continuation Education	7.50%	12.63							12.63				12.63
i	Equipments	10.00%	6.76							6.76				6.76
3	Sponsored Projects													
i	Equipments													
ii	Vehicle													
4	Assets under OBC-OSC													
i	Equipments													
ii	Furniture													
iii	Books													
5	RPS AICTE													
i	Equipments													
6	Assets under 5.16 Comp. Sc.													
i	Equipments													
ii	Furniture													
iii	Computer													
7	Customised AICTE													
i	Equipments													



NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH, CHANDIGARH
FIXED ASSETS AS AT 31.3.2022
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 30.09.2021	Additions after 30.09.2021	Deductions during 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	-	0.88	4.97	5.41
	Computer	20.00%	3.72				3.72	0.74	-	3.46	0.26	1.00
9	IFD-14 Equipments	7.50%	2.02				2.02	0.15	-	0.30	1.72	1.87
	Computer	20.00%	2.99				2.99	0.60	-	1.50	1.49	2.09
	Total - A		10,746.09	161.06	162.15	0.28	11,069.02	548.25	-	6,479.72	4,589.30	4,814.62

322.93



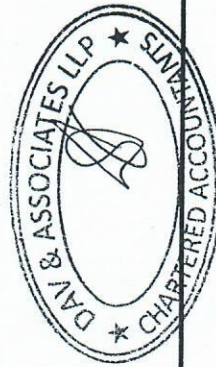
Renuk
 Accounts Officer
 NITTTR, Chandigarh

Rony
 21/8/22
 Director
 NITTTR, Chandigarh

**NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH, CHANDIGARH
FIXED ASSETS UNDER GOI PROJECTS AS AT 31.03.2022**

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 30.09.2021	Additions after 30.09.2021	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	7.5	164.49	-	-	-	164.49	162.32	2.17	164.49	0.00	2.17
ii Furniture	7.5	0.99	-	-	-	0.99	0.88	0.07	0.95	0.04	0.11
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	163.47	2.24	165.71	0.05	2.29



[Signature]
Accounts Officer
NITTTR, Chandigarh

[Signature]
Director
NITTTR, Chandigarh

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


SCHEDULE 5 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS

		(Rs In Lakhs)	
S.No.	Particulars	Current Year 2021-2022	Previous Year 2020-2021
	<u>Long Term</u>		
1	In Central Government Securities		
2	In state Government Securities		
3	Other approved Securities - UTI GILT Fund		
4	Shares	361.62	361.6
5	Debentures and Bonds		
6	<u>Term Deposits with Banks</u>		
	-FDR's GPF/CPF- with Scheduled Bank - Restricted Fund	2201.19	2141.9
7	Others (to be specified)		
	<u>Short Term</u>		
	Others (to be specified)		
	- GPF/CPF- with Scheduled Bank S/A - Earmarked fund	135.40	53.0
	Total	2698.21	2556.6

SCHEDULE 6 INVESTMENTS-OTHERS

S.No.	Particulars	Current Year 2021-2022	Previous Year 2020-2021
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		




Accounts Officer
NITTTR, Chandigarh


 21/6/22
Director
NITTTR, Chandigarh

SCHEDULE 7 - CURRENT ASSETS

S.No.	Particulars	Current Year 2021-2022	Previous Year 2020-202
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	6.25 5.16	5.8 5.10
2	Sundry debtors a Debts o/s for a period exceeding six months b Others -CPF/GPF - Earmarked Fund	0.00	1.37
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	3.56 0.60	3.67 0.56
a	With Scheduled Banks * in current accounts * in term deposit accounts * in savings accounts	4860.05 1369.89	6472.63 840.70
b	With non- Scheduled bank * in current accounts * in term deposit accounts * in savings accounts		
4	Post Office savings Accounts		
	Total	6,245.51	7,329.92



RsmL
Accounts Officer
NITTTR, Chandigarh

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21/6/22
Director
NITTTR, Chandigarh

SCHEDULE 8 - LOANS ,ADVANCES & DEPOSITS

S.No.	Particulars	Current Year 2021-2022	Previous Year 2020-2021
1	Advances to employees (non-interest bearing)		
a	salary		
b	festival	0.01	0.01
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	1.99	2.40
b	Home loan	0.02	0.09
c	Others	0.21	0.47
3	Advances & other amounts recoverable in cash or in kind or for value to be received.	1.23	-0.33
a	On capital account		
b	suppliers		
c	Others Annexure - 5	603.68	454.02
4	Prepaid expenses		
a	Insurance		0.00
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	117.34	50.82
b	On investments FDR's	213.00	170.47
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	18.64	12.12
b	Debit balances in Sponsored Fellowship & scholarship		
c	Grants Receivable		
d	Others receivables from UGC		
8	Claim receivable		
	Total	957.42	691.39



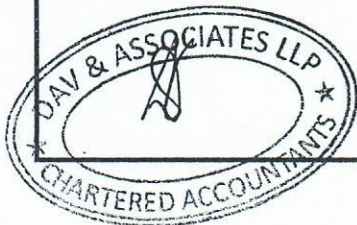
Rsm
Accounts Officer
NITTR, Chandigarh


R. S. Sanyal
Director
NITTR, Chandigarh
 21/6/22

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

Schedule 9 - Academic Receipts

S.No.	Particulars	Current Year 2021-2022	Previous Year 2020-2021
	FEE FROM STUDENTS		
	Academic		
1	Tuition Fee		
2	Admission Fee - ME & Phd (C01 ME)	146.96	118.59
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)	146.96	118.59
	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)	146.96	118.59




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

SCHEDULE - 10 GRANTS & DONATIONS


(Rs. In Lakhs)

S.No.	Particulars		Current Year 2021-2022		Previous Year 2020-2021
1	Central Government				
	a) Grant In Aid Capital (OH 35)				
	b) Grant in Aid General(OH31)		1038.45		1026.95
	Opening Balance	624.69		0.00	
	Add:- Grant During the Year	1100.00		1627.00	
	Add:- Receipt under OH 31	58.00		24.64	
	Less :- Last Year Adjustment	3.01			
	Less :- Unutilised Grant at the end of Year	741.23		624.69	
	c) Grant Salary OH-36		2345.97		2128.11
	Opening Balance	1619.51		763.62	
	Add:- Grant During the Year	1600.00		2984.00	
	Less :- Unutilised Grant at the end of Year	873.54		1619.51	
2	State Government(s)				
3	Government Agencies				
4	Institutions/Welfare Bodies				
5	International Organisations				
6	Others (Specify)				
	Total		3,384.43		3,155.06

SCHEDULE 11- INCOME FROM INVESTMENTS

S.No.	Particulars		Earmarked / Endowment	
			Current Year 2021-2022	Previous Year 2020-2021
1	1. Interest			
	a. On Government Securities			
	b. Other Bonds/Debentures			
2	2. Interest on Term Deposits		61.85	192.87
3	3. Income accrued but not due on Term Deposits			
4	/ Interest bearing advances to employees			
5	4. Interest on Savings Bank Accounts			
	5. Others (Specify)			
	Total		61.85	192.87
	Transferred To Earmarked / Endowment Funds		61.85	192.87
	Balance			0




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Director
NITTTR, Chandigarh

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

SCHEDULE 12: INTEREST EARNED

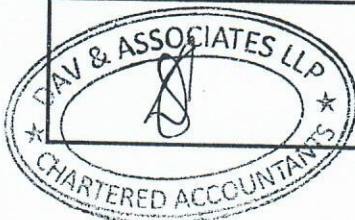
(Rs. In Lakhs)

S.No.	Particulars	Current Year 2021-2022	Previous Year 2020-2021
1	On Savings Accounts with scheduled banks a) On Saving Account b) On Grant PFMS	17.57	20.31
2	On Loans		
a	Employees/ Staff	0.28	0.33
b	Others		
3	On Fixed Deposits	239.06	197.53
4	On Income Tax Refund	2.62	5.15
5	On Debtors and Other Receivables		
	Total	259.53	223.31

SCHEDULE 13 - OTHER INCOME

(Rs. In Lakhs)

S.No.	Particulars	Current Year 2021-2022	Previous Year 2020-2021
A	Income from land & building		
	Hostel room rent/Ground Rent/Dining Hall Rent/Guest		
1	House Rent	32.60	8.06
2	Licence fee - Residential Houses & AICTE		
3	Hire Charges of Auditorium/ Board Room/Conference		
4	Hall/Examination Hall Sydicate Room/IT Hall	0.17	0.24
5	Electricity charges recovered		
	Water charges recovered		
B	Sale of Institute`s publications	0.32	0.06
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 incuured on the tours		
4	Others (to be specified and separately disclosed)		
D	Others		
	1. Income from Consultancy (Receipt of Institute Share)	98.57	111.99
	2. RTI fees	0.00	0.00
	3. Income from Royalty		
	4. Sale of application form (recruitment)		
	5. Misc. Receipts (Sale of tender form, waste paper etc.) Annexure - 7	75.58	152.37
	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	0.42	-1.13
	GRAND TOTAL (A+B+C+D)	207.66	271.59



Rsm
Accounts Officer
NITTTR, Chandigarh

R. Singh
Director
NITTTR, Chandigarh
21/6/22

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

SCHEDULE 14 - PRIOR PERIOD INCOME

(Rs. In Lakhs)			
S.No	Particulars	Current Year 2021-2022	Previous Year 2020-2021
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 2021-2022	Previous Year 2020-2021
a	Salaries & wages		
b	Allowances and Bonus	Annexure - 8	3050.03
c	Contribution to Provident Fund		2767.00
d	Contribution to Other fund -		
e	Contribution to CPF	Annexure - 9	-82.40
f	Staff Welfare Expenses		254.13
g	Retirement and Terminal Benefits to Retirees		2.54
h	LTC facility		5.06
i	Medical facility		0.00
j	Children Education Allowance		0.83
k	Honorarium		4.94
k	Others (Cont. to Reserve Fund Out of IRG)		8.39
l	TA/DA expenses		35.31
			14.20
			5.33
			67.68
			62.56
			16.61
			1.94
Total		3118.53	3155.73

SCHEDULE 16 - ACADEMIC EXPENSES

(Rs. In Lakhs)			
S.No	Particulars	Current Year 2021-2022	Previous Year 2020-2021
a	Laboratory expenses		
b	Field work/ participation in conferences		
c	Expenses on Seminar/Workshop	Annexure - 11	6.21
d	Expenditure on STC	Annexure - 12	0.69
e	Payment to visiting faculty		52.20
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		41.86	52.89



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NITTTR, Chandigarh

R. Sanyal
21/6/22
Director
NITTTR, Chandigarh

SCHEDULE 17 - ADMINISTRATIVE AND GENERAL EXPENSES

(Rs. In Lakhs)

S.No	Particulars	Current Year 2021-2022	Previous Year 2020-2021
	A. Infrastructure		
a	Electricity and power	35.24	31.60
b	Water charges		0.00
c	Insurance		0.00
d	Property Taxes	4.24	4.97
	B. Communication		0.00
e	Postage & stationary	0.37	1.01
f	Telephone, Fax and internet charges	2.55	2.94
	C. Others		0.00
g	Printing & stationary (consumption)	6.55	2.72
h	Travelling and Conveyance Expenses		0.00
i	Hospitality (Medicine)	0.10	0.00
j	Audit & Legal Fees	7.24	3.35
k	Professional charges		0.00
l	Advertisement and publicity	5.28	1.06
m	Newspaper and Periodicals	0.01	0.35
n	Loss on sale of assests		
o	Others (specify) Annexure - 13	23.25	25.09
	Total	84.83	73.09

SCHEDULE 18 - TRANSPORTATION EXPENSES

(Rs. In Lakhs)

S.No	Particulars	Current Year 2021-2022	Previous Year 2020-2021
1	Vehicles (owned by educational institution)		
a	Running expenses		
b	Repairs & maintenance	1.75	1.26
c	Insurance expenses		
2	Vehicles taken on rent/lease		
3	Vehicle (Taxi) hiring expenses		
	Total	1.75	1.26

SCHEDULE 19 - REPAIRS & MAINTENANCE

(Rs. In Lakhs)

S.No	Particulars	Current Year 2021-2022	Previous Year 2020-2021
a	Building	15.84	32.68
b	Furniture & fixture	0.87	0.31
c	Plant & Machinery	3.26	1.52
d	Office Equipments	7.65	6.49
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	18.03	13.59
	Total	45.66	54.59



Rsm
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NITTR, Chandigarh

R. Das
21/6/22
Director
NITTR, Chandigarh

SCHEDULE 20 - FINANCE COSTS

(Rs. In Lakhs)			
S.No	Particulars	Current Year 2021-2022	Previous Year 2020-2021
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 2021-2022	Previous Year 2020-2021
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 2021-2022	Previous Year 2020-2021
1	Establishment expenses		
2	Academic expenses		
3	Administrative expenses		
4	Fixed Assets W/off & Obsolute		
4	Transportation expenses	0.00	21.75
5	Repairs & Maintenance		
6	Other expenses		
Total		0.00	21.75




 Accounts Officer
 NITTTR, Chandigarh


 Director
 NITTTR, Chandigarh

Annexure 1 (Schedule 3)
Sundry Creditors-Others

Particulars	(Rs. In Lakhs)	
	Current Year 2021-2022	Previous Year 2020-2021
SUNDRY CREDITORS - OTHERS		
DEPOIST OF QIP POLY	2.11	2.11
Sec-Adroitec Information Systems	0.58	0.58
SEC-Advance Tech	0.02	0.02
Sec-Alleron	0.53	
Sec-Aimco Solutions	0.07	0.07
Sec-Aimil	0.06	0.06
Sec-Ajit Pal Singh	2.28	2.28
Sec-Akadmika Lab Solutions	0.10	0.10
Sec- Amigo Optima	0.31	0.31
Sec- ARK	0.42	
Sec- Arup India	0.25	0.25
Sec-Avantech Enngineering	0.00	0.00
Sec-Bahuchar Traders	0.00	0.00
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- Cadre Design System	0.57	
Sec- Daksh & Detective	2.83	2.83
Sec- Design Tech	0.97	
Sec- Engineer Group	0.12	0.12
Sec- Ensonic Computech	0.05	
Sec-Fore Solutions	2.53	2.68
Sec-Gigabyte	0	0.10
Sec- Golden Eagle	0.41	0.41
Sec- Innovative Systel	0.31	
Sec-Invas Tech	0.09	0.09
Sec- Kadkraft System Pvt Ltd	0	0.00
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	74.60	66.38
Sec- Metaqear Infra	0.03	0.03
Sec- Metatech Industries	1.48	1.48
Sec- MI Interior	0.04	
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	0.00
Sec- New Generation Technology	0.06	0.06
Sec- Phadke Instruments	0.06	
Sec- Pixaarnext	0.04	
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 Aggarwal	0.14	0.14
Sec-Secure Guard	10.00	10.00
Sec- Sehajta A.C & Elect Enqq	0.23	0.23
Sec- Sharda Info Solutions	0.12	
Sec- Sipcon Instrument	0.12	
Sec- SISL Infotech Pvt Ltd	0.00	0.00
Sec-Sponsored Project	0.06	0.07
Sec- Tech Info Ltd	0.16	0.16
Sec- Techser Power	0.08	0.00
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	4.28	4.03
Total	149.67	138.14



Annexure 2 (Schedule 3)**Current Liabilities - Statutory Liabilities- others**

Particulars	Current Year 2021-2022	Previous Year 2020-2021
Income tax firms (tds)	0.92	0.32
Income tax firms (tds) from experts	0.65	0.39
Reverse GST	0.50	0.00
Income tax Staff	3.16	2.00
CGST	4.83	1.39
IGST	6.82	170.55
UTGST	4.83	1.39
Interest IGST	0.00	0.00
TDS -CGST	-0.29	0.22
TDS-IGST	1.16	0.54
TDS-UTGST	-0.29	0.22
Total	22.29	177.03

Annexure 3 (Schedule 3)**Current liabilities - Other current liabilities****- Other funds**

Particulars	Current Year 2021-2022	Previous Year 2020-2021
Distribution fund	13.37	30.66
CREST Chd- Solar Plant	38.14	5.96
Earnest Money	36.90	41.50
Royalty to Authors	0.46	0.45
Consultancy Projects	470.46	1204.23
Welfare fund ME students	6.20	6.20
Tequip Grant	0.10	0.10
GIS		0.02
Total	565.62	1,289.11

Annexure 4 (Schedule 3)**Provisions :-**

Particulars	Current Year 2021-2022	Previous Year 2020-2021
Maintenance Student Centre/Electrical/Building/Elect & Water Charges	2.58	3.66
Salaries	184.51	160.48
CPF- Employer Share	2.27	2.27
Children Education Allowance	13.66	13.59
Audit Fee & Legal & Professional Charges	3.02	2.11
Total	206.04	182.11



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Annexure 5 (Schedule 8)
Loans, Advances & Deposits

Particulars	Current Year 2021-2022	Previous Year 2020-2021
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	325.02	394.96
Advance to CPWD	228.23	13.85
Sub Total (A)	563.64	419.20
B. Others		
TDS	36.65	30.44
Advance to Firms/Tax Appeal	0.00	1.00
Advance to Firms/Tax 2011-12	0.00	0.00
Recoverable from Bank - Earmarked fund NPS	3.39	3.39
Sub Total (B)	40.03	34.83
Total	603.68	454.02

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


Particulars	(Rs. In Lakhs)	
	Current Year 2021-2022	Previous Year 2020-2021
Misc. Receipt		
Overhead Charges	(1.28)	29.62
Recruitment Fee	57.79	69.33
Projector Charges	0.55	0.00
Recovery against salary		0.00
Misc Deduction From Salary		4.06
Sale of Old Newspaper and Magazine		0.06
Sale of Old Material		0.00
Suspension Account	6.75	9.36
STC Regd Fee		21.32
NC-4(RD)	10.18	18.40
PNB Rent		0.00
Students Training	1.60	0.21
Total	75.58	152.37

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

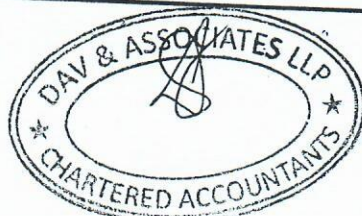
Particulars	(Rs. In Lakhs)	
	Current Year 2021-2022	Previous Year 2020-2021
Commutations		
Pension	63.74	42.83
PDA	744.04	736.51
Faculty	3.52	2.63
Faculty (NPS)	634.89	556.54
Non Faculty	710.04	600.68
Non Faculty (NPS)	548.43	524.56
Misc Deduction From Salary	77.19	64.99
Outsource Salary	(3.88)	
	272.05	238.28
Total	3050.03	2767.00

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

Particulars	(Rs. In Lakhs)	
	Current Year 2021-2022	Previous Year 2020-2021
GRATUITY		
LEAVE ENCASHMENT	(283.83)	89.64
LEAVE ENCASHMENT TO RETIREES	7.23	47.60
NPS INSTITUTE SHARE	94.55	14.91
NPS SERVICE CHARGE	99.65	101.97
	0.00	0.00
Total	(82.40)	254.13


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Annexure 10 (Schedule 15)
Staff Payments & benefits - TA/DA


Particulars	Current Year 2021-2022	Previous Year 2020-2021
DA	13.74	0.00
TA	2.88	1.94
Over Time Allowance and Stipend	0.00	0.00
Total	16.61	1.94


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

Particulars	Current Year 2021-2022	Previous Year 2020-2021
Annual day/ cultural prog.	2.08	0.43
Annual sports	1.55	0.07
Teacher Day	0.00	0.00
Independence Day	0.62	
PDA	1.02	
Republic Day	0.05	
Hindi day	0.88	0.18
Total	6.21	0.69

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

Particulars	Current Year 2021-2022	Previous Year 2020-2021
TA- Academic	3.95	18.48
Honourium -Academic	31.65	33.18
Academic Contengencies	0.04	0.54
Total	35.65	52.20


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

Particulars	Current Year 2021-2022	Previous Year 2020-2021
BOG MEETING		3.60
EDC Machine Charges(Axis)	3.33	0.00
COVID - 19		1.58
IFDI A.Cell	0.99	0.00
Liveries		1.18
Office Contg.	1.08	18.74
Service Charges NPS	16.52	0.00
Lib E-Journals	0.12	0.00
Income Tax Appeal		
Loss Due Write of Capital Assests	1.00	
Loss of Books Library	0.09	
	0.12	
Total	23.25	25.09

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

Particulars	Current Year 2021-2022	Previous Year 2020-2021
Mtc Academic Cell		0.13
Mtc. Applied Science	0.52	0.23
Mtc. CDC	0.55	0.23
Mtc. Civil	0.54	4.68
Mtc. Computer	4.42	2.49
Mtc ECE	1.22	0.54
Mtc. EDIC	0.97	0.05
Mtc. Electrical	0.20	3.43
Mtc EMGT	1.95	0.10
Mtc ETV	0.32	(2.73)
Mtc. IMCO	0.00	0.13
Mtc ISO	0.49	0.00
Mtc Library	0.78	0.95
Mtc. Media	1.16	3.17
Mtc. R/D	4.72	0.19
Mtc. Sports	0.18	0.00
	0.00	
Total	18.03	13.59


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NATIONAL INSTITUTE OF TECHNICAL TEACHERS' TRAINING AND RESEARCH
Sector - 26, Chandigarh
Receipts and Payment Account for the Period Ended 31.03.2022

A. RECEIPTS		(Rs In Lakhs)		
S.No.	Particulars	Annexure	FY 2021-2022	FY 2020-2021
I	Opening Balance			
	A) Cash Balance		3.67	3.71
	B) Bank Balance			
	- In Current Account		6472.63	2312.98
	- In Deposit Account		840.70	1924.20
	- In Saving Account			
II	Grant Received			
	A) From Government of India	1	3258.00	5079.64
	B) From State Government			
	C) From Other Sources			
III	Academic Receipts	2	202.88	174.57
IV	Receipts against Earmarked Endowment Funds	3	67.68	64.09
V	Receipts against Sponsored Projects / Schemes	4	132.33	143.47
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	217.01	170.77
	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	207.24	268.60
XII	Deposits & Advances	7	703.09	1280.77
XIII	Miscellaneous Receipts including Statutory Receipts	8	941.83	989.38
XIV	Any Other Receipts	9	81.76	70.58
	TOTAL		13128.82	12482.77

Dated 06/06/2022
Place :- Chandigarh

RSW
Accounts Officer
NITTTR, Chandigarh

R. Singh
Director 21/6/22
NITTTR, Chandigarh



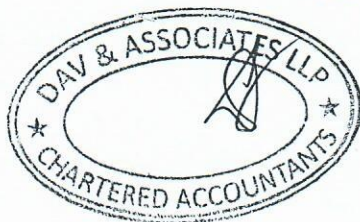
B PAYMENTS

S.No.	Particulars		FY 2021-2022	FY 2020-2021
I	EXPENSES			
	- Establishment Expenses	9	3384.43	3155.06
	- Academic Expenses	10	55.91	55.98
	- Administrative Expenses	11	132.83	108.65
	- Transportation Expenses			
	- Repair & Maintenance	12	83.73	88.83
	- Prior Period Expenses			
II	Payment against Earmarked / Endowment Funds	13	0.00	0.00
III	Payments against Sponsored Project / Scheme	14	167.43	159.87
IV	Payments against Sponsored Fellowships / Scholarships	-		0.00
V	Investments and Deposit Made	-		0.00
	A) Out of Earmarked / Endowment Fund			
	B) Out of Own Funds (Investment Other)			0.00
VI	Term Deposits with Scheduled Bank	-		0.00
VII	Expenditure on Fixed Assets and Capital Work In Progress	-		0.00
	A) Fixed Assets	15	467.37	310.09
	B) Capital Work In Progress			
VIII	Other Payments Includings Statutory Payments	16	1140.79	827.97
IX	Refunds of Grants			0.00
X	Deposits and Advances	17	1403.89	396.34
XI	Other Payments	18	58.92	62.98
XII	Closing Balances			
	A) Cash In Hand		3.56	3.67
	B) Bank Balances			
	- In Current Accounts			
	- In Saving Accounts		1369.89	840.70
	- In Deposits Accounts		4860.05	6472.63
	TOTAL		13128.82	12482.77

Dated 06/06/2022
Place :- Chandigarh

RSW
Accounts Officer
NITTTR, Chandigarh

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Director
21.6.22
NITTTR, Chandigarh



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

(Rs In Lakhs)

1. Grants Received

Particulars	FY 2021-2022		FY 2020-2021	
Grant in Aid Capital OH 35	500.00		444.00	
Grant in Aid General (OH31)	1100.00		1627.00	
Interest Income on Grant (OH31)	58.00		24.64	
Grant Salary OH-36	1600.00		2984.00	
	3258.00		5079.64	

2. Academic Receipts

Particulars	FY 2021-2022		FY 2020-2021	
C01 ME	202.88		174.57	
	202.88		174.57	

3. Receipts against Earmarked Endowment Funds

Particulars	FY 2021-2022		FY 2020-2021	
Corpus Fund	16.92		15.64	
Equipment Replacement Fund	16.92		17.17	
Faculty Development Fund	16.92		15.64	
Maintenance Fund	16.92		15.64	
	67.68		64.09	

4. Receipts against Sponsored Projects / Schemes

Particulars	FY 2021-2022		FY 2020-2021	
As Per Annexure - a	132.33		143.47	
	132.33		143.47	



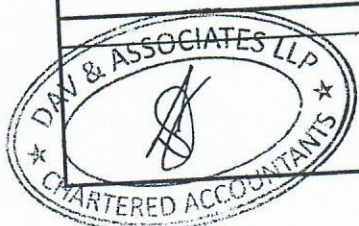
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NITTTR, Chandigarh

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Director
NITTTR, Chandigarh

5. Interest Received on		
Particulars	FY 2021-2022	FY 2020-2021
A. Bank Deposits	214.10	165.30
Interest From Bank		
B. Loan & Advances	0.28	0.33
Interest on Advances		
C. Loan & Advances - Others	2.62	5.15
Grant Interest PFMS		
Interest on Refunds		
	217.01	170.77

6. Other Income (Including Prior Period Income)		
Particulars	FY 2021-2022	FY 2020-2021
BOOKING OF AUDITORIUM	0.17	0.24
Booking of Board Room	0.00	0.00
Booking of Conference Hall	0.00	0.00
Rent From Dinning Hall	0.06	0.09
BOOKING OF EXAMINATION HALL	0.00	0.00
Booking of Syndicate Room	32.97	27.93
HRR	98.57	111.99
Receipt of Institute Share	0.00	0.00
NC-4(RD)	0.32	0.06
Sale of Publication	-1.28	29.62
Misc Receipt	57.79	69.33
Overhead Charges	0.00	0.00
Projector Charges	0.55	0.00
Recruitment Fee	-4.56	-6.20
Rent From Guest House	4.07	-13.76
Rent From Hostel Rooms	0.06	0.00
Rent From Mess/Canteen	0.00	0.00
RTI	0.00	0.00
Sale of Old Newspaper and Magazine	6.75	9.36
Sale of Old Material	10.18	18.40
STC Reqd Fee	0.00	0.21
Students Training	1.60	0.00
PNB Rent	0.00	21.32
Suspension Account		
	207.24	268.60

7. Deposits & Advances		
Particulars	FY 2021-2022	FY 2020-2021
Consultancy Projects	655.08	1222.91
(As Per Annexure - b)		
Temporary Advance	13.49	23.21
Festival Advance	0.41	0.00
Loan for Car	0.26	0.41
Loan for Computer	0.07	0.36
Loan for HBA	0.00	0.10
Loan for Scooter	0.00	0.00
Advance to Firms Tax 2011-12	1.00	9.98
Income Tax Receivable	32.79	23.81
	703.09	1280.77



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8. Miscellaneous Receipts including Statutory Receipts

Particulars	FY 2021-2022	FY 2020-2021
Duties & Taxes	21.44	8.54
CGST	75.35	209.98
IGST	0.50	
Reverse GST	21.44	8.54
UTGST		13.68
GST Withheld of BSBL(Renovation)	8.26	5.11
Income Tax Experts	13.82	3.46
Income Tax Firms	33.55	52.10
Income Tax Retirees	374.50	306.85
Income Tax Staff	4.11	3.57
TDS -CGST	4.11	2.81
TDS -SGST	16.19	3.57
TDS-IGST		0.76
CPF EMPLOYER SHARE	11.44	13.56
GIS	339.70	336.70
GPF	5.81	6.79
LIC	0.06	0.06
R&FW	11.55	13.33
Staff Welfare Fund		
	941.83	989.38

9. Any Other Receipts

Particulars	FY 2021-2022	FY 2020-2021
Alumini Association	1.02	0.99
Distribution Fund	27.11	36.66
Earnest Money	6.05	15.13
Royalty to Authors	0.01	0.02
Security of Firms	15.08	15.25
CREST CHD SOLAR PLANT	32.18	2.06
Sundry Creditors	0.32	0.47
	81.76	70.58

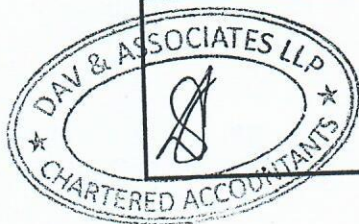


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9. Establishment Expenses		
Particulars	FY 2021-2022	FY 2020-2021
REVENUE (NON SALARY)		
OH-31 (TRAINING & PENSION)		
Academic Cont	0.04	0.54
Honorarium (Training)	31.65	33.18
TA (Training)	0.69	18.48
Regular Pension	734.47	735.10
Outsource Salary	271.59	239.64
OH-36 (SALARY)		
Commutation	63.74	42.83
Gratuity	92.68	90.45
Leave Encashment to Retirees	59.91	30.99
TA to Retirees	0.83	4.94
SALARY PART-A		
Salary Faculty	1325.22	1152.32
Salary Non Faculty	617.89	591.01
DA	13.74	0.00
SALARY PART-B		
Children Education Allowance	14.13	14.33
Leave Encashment	7.23	47.60
LTC	8.39	20.18
Medical	35.31	23.79
NPS both Share	99.65	101.97
PDA	3.52	2.63
Liveries -MSA	1.08	0.00
NPS Service Charges	0.12	0.00
CPF Institute share	2.54	5.06
	3384.43	3155.06

10. Academic Expenses		
Particulars	FY 2021-2022	FY 2020-2021
C01 ME	55.91	55.98
	55.91	55.98

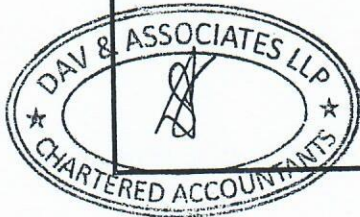


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Director
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11. Administrative Expenses

Particulars	FY 2021-2022	FY 2020-2021
REVENUE (NON SALARY)	67.68	62.56
Contribution to reserve Fund		
NON SALARY	5.28	1.06
Advertisement	2.08	0.43
Annual Day	1.55	0.07
Annual Sports	3.33	3.60
BOG MEETING	0.99	1.58
Covid-19	0.88	0.18
Hindi Day	0.62	0.00
Independence Day	0.00	0.35
Library Journal	0.00	1.18
Livery	0.10	0.00
Medicine	0.01	0.00
Newspaper & Periodicals	16.52	18.74
Office Contingency	0.37	1.01
Postage	4.24	4.97
Property Tax	6.55	2.72
Printing & Stationary	2.55	2.94
TT Charges	6.33	2.78
Professional & Audit Fees	0.05	0.00
Republic Day	5.33	2.54
Honorarium	1.02	0.00
PDA	2.88	1.94
TA -Non Salary	1.00	0.00
Income Tax Appeal	0.09	0.00
Loss Due Write of Capital Assests	0.12	0.00
Loss of Books Library	3.26	0.00
Training Non Faculty		
IFDI A CELL		
	132.83	108.65



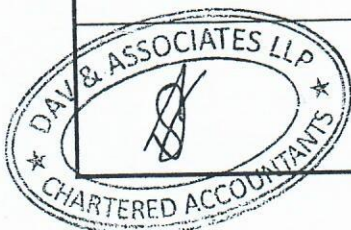
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21.6.22
Director
NITTTR, Chandigarh

12. Repair & Maintenance		
Particulars	FY 2021-2022	FY 2020-2021
Mtc Academic Cell	0.52	0.13
Mtc Applied Sc	0.55	0.23
Mtc Building	9.06	21.61
Mtc Campus	1.30	1.35
Mtc Cdc	0.54	0.23
Mtc Civil	4.42	4.68
Mtc Computer	1.22	2.49
Mtc ECE	0.97	0.54
Mtc EDIC	0.20	0.05
Mtc Electrical	1.95	3.43
Mtc Electrical Lab	0.87	0.31
Mtc EMGT	0.32	0.10
Mtc ETV	0.00	-2.73
Mtc Furniture	0.87	0.31
Mtc Guest House	0.93	9.43
Mtc Hostel	4.56	0.30
Mtc IMCO	0.49	0.13
Mtc Internet Connectivity	0.00	0.00
Mtc ISO	0.78	0.00
Mtc Lib	1.16	0.95
Mtc Mechanical	2.39	1.21
Mtc Media	4.72	3.17
Mtc R/D	0.18	0.19
Mtc Refrigeration & A.C	6.33	5.35
Mtc Sports	0.00	0.00
Mtc Telephone	1.33	1.14
Mtc Vehicle	1.75	1.16
Mtc Water & Electricity Charges	36.32	33.09
	83.73	88.83

13 Payment against Earmarked / Endowment Funds		
Particulars	FY 2021-2022	FY 2020-2021
CORPUS FUND		
Equipment Replacement Fund		
FACULTY DEV FUND		
MAINTENANCE FUND		
	0.00	0.00

14. Payments against Sponsored Project / Scheme		
Particulars	FY 2021-2022	FY 2020-2021
SPONSORED PROJECTS		
As Per Annexure - a	167.43	159.87
	167.43	159.87

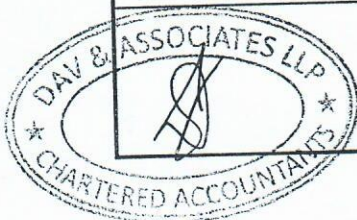


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21.6.22
Director
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15. Expenditure on Fixed Assets and Capital Work In Progress		
Particulars	FY 2021-2022	FY 2020-2021
Equipments	2.94	0.28
Equipment -Academic Cell	0.00	0.25
Equipment - Sports	0.00	12.20
Equipment-Applied Sc	0.08	0.54
Equipment-Building	0.01	0.67
Equipment-CDC	17.64	0.99
Equipment-Civil	23.28	8.76
Equipment-Computer	1.71	0.67
Equipment-ECE	0.12	1.19
Equipment-EDIC	0.01	0.79
Equipment-Elect Mtc	6.96	1.25
Equipment Electrical Deptt	20.62	0.00
Equipment ESC	2.15	0.00
Equipment Estate Office	0.95	0.12
Equipment Hostel	13.38	0.00
Equipment-IMCO	19.65	13.07
Equipment-Mechanical	3.92	0.95
Equipment-Media	0.66	8.82
Equipment-Office	0.00	0.74
Equipment- Ref & Aircondining	0.30	0.04
Equipment Telephone	-69.94	-21.73
Advance Renovation (BSNL)	214.38	0.00
Advance to CPWD	125.39	20.46
Renovation- Institute Building	0.00	215.02
Renovation Work in Progress	15.90	10.10
Furniture	2.49	3.15
Applied Sc-Intengable Assets	5.90	0.00
Civil-Intengable Assets	39.75	22.94
Comp-Intengible Assets	6.49	0.00
IMEE-Intengible Assests	8.83	0.00
Library-Intengible	1.91	0.01
Library Books	-0.28	0.00
Capital Equipment/Library Book	2.17	8.79
Lib E Journal		
	467.37	310.09

16. Other Payments Includings Statutory Payments		
Particulars	FY 2021-2022	FY 2020-2021
CGST	18.00	9.61
IGST	239.08	40.79
UTGST	18.00	9.61
GST Withheld of BSBL(Renovation)	0.00	17.81
Income Tax Experts	8.00	4.95
Income Tax Firms	13.22	3.28
Income Tax Retirees	33.55	52.10
Income Tax Staff	373.34	305.52
TDS-CGST	4.63	3.31
TDS-SGST	4.63	2.33
TDS-IGST	15.56	3.31
Income Tax Receivable	26.68	5.96
TDS on FDR	12.32	0.00
GIS	11.46	13.61
GPF	339.70	336.70
LIC	5.81	6.79
R&FW	0.06	0.06
STAFF WELFARE FUND	16.76	12.26
	1140.79	827.97



RswL
Accounts Officer
NITTR, Chandigarh

Roy
Director
NITTR, Chandigarh

17. Deposits and Advances		
Particulars	FY 2021-2022	FY 2020-2021
Consultancy Project	1388.85	374.11
(As Per Annexure - b)	15.04	22.23
Temporary Advance	0.00	0.00
Loan for Computer		
	1403.89	396.34

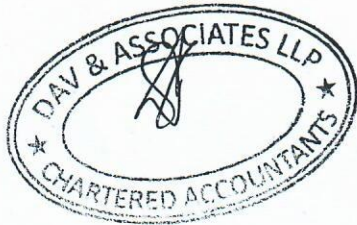
18. Other Payments		
Particulars	FY 2021-2022	FY 2020-2021
DISTRIBUTION FUND	44.40	32.97
EARNEST MONEY	10.65	20.41
WELFARE FUND ME STUDENTS	0.00	0.00
Security of Firms	3.80	9.48
Sundry Creditors	0.06	0.13
	58.92	62.98

Rsm

Accounts Officer
NITTTR, Chandigarh

R. Bal
21.6.22

Director
NITTTR, Chandigarh




NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH, CHANDIGARH

BALANCE SHEET NEW PENSION SCHEME AS AT 31.03.2022

		(Rs. In Lakhs)			
LIABILITIES	Current Year 2021-2022	Previous Year 2020-2021	ASSETS (Rupees in lakh)	Current Year 2021-2022	Previous Year 2020-2021
NPS Tier-I			NPS Tier-I		
Opening Balance	(1.76)	(1.76)	Subscription and Contribution due for 31/03/2020		
Less: Sub. for 31/03/18			Investment		
Add: Sub + U Contribution	171.57	157.24	Interest accrued but not due		
Add: Interest Credited	(171.57)	(157.24)	Balance at SBOP		
Less: Transfer to NSDL			Recoverable from Main Account		
Add: Sub. + UC for 31/03/19	(1.76)	(1.76)			
Balance with Main Accounts					
Opening Balance	2.34	2.34			
Add: During the year	0	0.00			
	2.34	2.34	Amount Recoverale from bank	3.39	3.39
Excess of Income over Expenditure					
Balance as on 01.04.2018	2.81	2.81			
Add: During the year	0.00	0.00			
	2.81	2.81			
Total	3.39	3.39	Total	3.39	3.39




Accounts Officer
NITTTTR, Chandigarh.

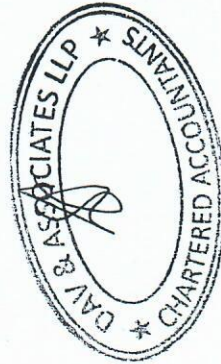

Director
NITTTTR, Chandigarh

NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH, CHANDIGARH

**Receipt And Payment Account
For the Financial year 2021-22**

(Rs. In Lakhs)

Receipts	Current Year 2021-2022	Previous Year 2020-2021	Payments	Current Year 2021-2022	Previous Year 2020-2021
Opening balance			Investments		
NPS Tier -I A/c			Withdrawals	171.57	157.24
Own Sbscription	72.01	64.38	Service Charges		
University Contribution	99.56	92.86	Paid to Tejwant		
Refund from NSDL (Tejwant)			Closing Balance		
Interest Received on Investment					
Interest on Savings bank Account					
Invstment encashed					
Paid From Main Accounts					
Total	171.57	157.24	Total	171.57	157.24



Renuk
Accounts Officer
NITTR, Chandigarh.

Renuk
Director 21.6.22
NITTR, Chandigarh

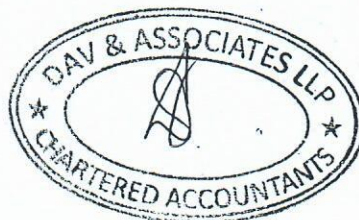
**NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH
SECTOR-26, CHANDIGARH
BALANCE SHEET GPF/CPF AS AT 31.3.2022**

(Rs In Lakhs)

P.Y	LIABILITIES	C.Y.	P.Y	ASSETS	C.Y.
	GPF		2503.59	Investment	2562.81
	Opening Balance	2217.02	50.82	Int. accrued as on 31.03.22	117.34
	Add: Subscription in the year	336.70		Subscription due for march	
	Add: Sub for March			GPF	
	Add Interest credited	41.38		CPF	
	Add reconciliation GPF	0.00		UC due to CPF	
	Less: Subscription for			NPS-II	
	Less: Advance/ Withdrawal	260.16		Tax recoverd from interest on	
2217.02	Closing Balance			Investments pending refund	
		2334.95		Income Tax Department	
	CPF			Cash at Bank	
	Opening Balance	179.99		Indian Bank	135.40
	Less: Opening Adjustment	0.00			
	Add: Subscription in the year	3.00			
	Add: Sub for March 2018		53.04		
	Add Interest credited	12.77		Sundry Recoverable	0.00
	Less: Subscription for March				
	Less: Advance/ Withdrawal	0.00	1.37		
179.99	Closing Balance				
		195.75			
	Institute Contribution (CPF)				
	Opening Balance	108.42			
	Add: Subscription in the year	2.54			
	Add: Sub for March 2018	0.00			
	Add Interest credited	7.70			
	Add reconciliation CPF	0.00			
	Less: Adjustment for Advance	0.00			
	Less: Advance/ Withdrawal	3.73			
108.42	Closing Balance				
		114.93			
	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			
0.00	Closing Balance				
		0.00			
	Interest Reserve				
	Opening Balance	103.39			
	Add: Reconciliation	0.02			
	Add: Excess of Income over				
	expenditure	66.51			
	Closing Balance				
103.39	Dead Account				
		169.91			
		0.00			
2608.82	Total	2815.55	2608.83	Total	2815.55

Rsw
Accounts Officer
NITTR, Chandigarh.

Rsw
21.6.22
Director
NITTR, Chandigarh



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

**Income And Expenditure Account
For the Year ended 31.03.2022**

(Rs In Lakhs)

P.Y	Expenditure	C.Y	P.Y	Income	C.Y
174.35	Interest Credited to: GPF	41.38	192.87	Interest received on Investment	61.85
			-	Interest earned on Loan given	-
11.67	CPF	12.77	50.82	Add: Interest accrued on 31.03.22	117.34
6.85	University Contribution (CPF)	7.70	0.00	Add: Interest accrued on Advance	
	NPS Tier-II		0.16	Add: Tax recoeved on interest-m refund to be obtained	
0.01	Bank Charges	0.00	-91.35	Add Interest Accrued from CPF	0.00
(40.38)	Excess of Income over expend	66.51		Less: Interest accrued for March	(50.82)
152.50		128.37	152.50		128.37

Ram

**Accounts Officer
NITTTR, Chandigarh.**

Raj
21.6.22

**Director
NITTTR, Chandigarh**



**Receipts and Payments Account
For the Year ended 31.03.2022**

P.Y	Receipts	C.Y	P.Y	Payments	C.Y.
2256.87	Opening Balance	2556.64	202.94	GPF Adv./withdrawal	260.16
9.77	Opening Difference SBI Branch-II	0.00	12.74	CPF Adv./withdrawal	2.36
	Bank		33.28	NPS Tier-II Account University Contribution	
				Withdrawal	0.00
337.70	GPF Subscription	336.70	0.01	Investment	0.01
3.00	CPF Subscription	3.00	2556.64	Bank Charges	2698.20
5.40	CPF University Contribution	2.54		Closing Balance:	
	NPS Tier-II Account			SBI branch-I	
	Investment Encashed			SBI branch-II	
192.87	Interest Received	61.85		Bank	
2805.61		2960.74	2805.61		2960.74

Rswal

Accounts Officer
NITTTR, Chandigarh.

[Signature]
21.6.22

Director
NITTTR, Chandigarh



**NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH
SECTOR-26, CHANDIGARH
CASH BOOK ACCOUNT GPF/CPF AS AT 31.3.2022**

(Rs. In Lakhs)

P.Y.	Particulars	C.Y.
2266.64	Opeining Balance as on 01.04.2021	2556.64
	Subscription during the year	
	GPF as per ledger	336.70
	CPF as per ledger	3.00
	CPF Instt. Contribution	2.54
346.10	Investment	342.24
192.87	Add : Intt. On S/A & FDR	61.85
	Less :-	
	GPF Withdrawl	260.16
	CPF - Employer	0.00
	CPF - Employee	2.36
	Bank Charges	0.01
248.97	Institute share	0.00
	GPF Loan from Main	0.00
2556.64	Total	2698.20

Rambh

**Accounts Officer
NITTR, Chandigarh.**

Rambh
21.6.22

**Director
NITTR, Chandigarh**



45

**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 31.3.2022**

Rs. In Lakhs

PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
LIABILITIES		
Capital/Corpus Fund	2.75	15.15
Less excess of expenditure over income	(2.24)	(12.40)
Less : Prior Period Salary Expenditure	-	-
Add : Prior Period Intt. Accrued	-	-
Less : Prior Period FDR excess Shown	-	-
	0.51	2.75
Current Liabilities & Provisions		
Salary Payable	0.11	0.11
TOTAL LIABILITIES	0.62	2.86
ASSETS		
Fixed Assets	0.02	2.28
Cuurent Assets		
Advance payment	-	-
Cash & Bank Balance	0.60	0.58
FDR's	-	-
Interest accrued on FDR	-	-
TOTAL ASSETS	0.62	2.86

Rsm

Accounts Officer,
NITTTR, Chandigarh

R. Ray 21.6.22

Director,
NITTTR, Chandigarh



**NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH
SECTOR -26, CHANDIGARH
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31.3.2022
FOR THE PROJECTS SPONSORED BY THE MHRD, GOVT OF INDIA.**

Rs. In Lakhs

INCOME	CURRENT YEAR	PREVIOUS YEAR
	Grant/subsidies From Government of India	-
Interest receipts	0.02	0.01
Total	0.02	0.01
EXPENDITURE		
Establishment Expenses	-	-
Contingencies /Consumables	-	-
T.A.	-	-
Honorarium	2.25	12.41
Depreciation	2.25	12.41
Total	2.25	12.41
Balance being deficit carried over	-2.24	-12.40



Rswal
Accounts Officer
NITTTR, Chandigarh

R...
21.6.22
Director,
NITTTR, Chandigarh

**NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH
SECTOR 26, CHANDIGARH
RECEIPTS AND PAYMENTS ACCOUNT FOR THE YEAR ENDED 31.3.2022
FOR THE PROJECTS SPONSORED BY GOVT. OF INDIA, MHRD.**

	Rs. In Lakhs	
RECEIPTS	CURRENT YEAR	PREVIOUS YEAR
Opening Balance	0.58	0.57
Less : Prior period Intt. Accrued	-	-
Advance given received	0.02	0.01
Interest receipt		
Total Receipts	0.60	0.58
PAYMENTS		
Equipments	-	-
Recurring Expenses		
Establishment expenses	0.00	-
Contingencies/Consumables	0.00	-
T.A.	0.00	-
Honorarium	-	-
Advance Payment	-	-
Total	0.00	0.00
Cash & Bank Balance :-		
Deposits (including interest accrued)	-	-
Cash and Bank Balance	0.60	0.58
Total payments	0.60	0.58



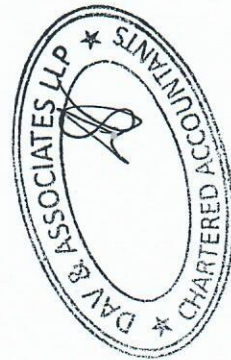
RSW
**Accounts Officer
NITTTR, Chandigarh**

R. Bhatia
21.6.22
**Director,
NITTTR, Chandigarh**

**NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH, CHANDIGARH
FIXED ASSETS UNDER GOI PROJECTS AS AT 31.3.2022**

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	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	2.18	164.49	(0.00)	2.18	2.18
ii Furniture	7.50	0.99	-	-	-	0.99	0.07	0.97	0.02	0.10	0.10
iii Books	10.00	0.21	-	-	-	0.21	-	0.21	-	-	-
Gifted equipment	7.50	0.07	-	-	-	0.07	0.07	0.07	-	-	-
Grand Total		165.76	-	-	-	165.76	2.25	163.48	0.02	2.28	2.28



R. Singh
Accounts Officer
NITTTR, Chandigarh

R. Singh
21.6.22
Director
NITTTR, Chandigarh

**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.

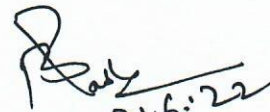


8. Institute makes provision of employee benefits such as Leave Encashment and Gratuity on estimation basis.

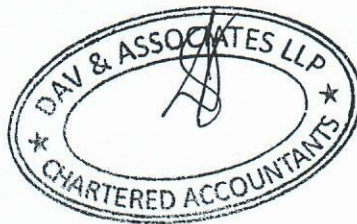
9. The Board of Governors delegated powers jointly to the Director and the Accounts Officer of the Institute to approve and sign the Annual Accounts of the Institute before submission to Audit Officer vide Item No. B.4.4.8 in their meeting held on 27.01.2006.



Accounts Officer
NITTTR, Chandigarh



Director
NITTTR, Chandigarh



**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:

1. Corpus Fund

(Amount in Lakhs)

Particulars	Current Year	Previous Year
Opening Balance	8750.84	8354.94
Add: Addition in Fund	175.59	395.91
Less: Utilization of Fund	-	-
Closing Balance	8926.43	8750.84

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	(2966.48)	(2708.01)
Add: Overutilised OH31 transfer of previous year	0.00	(44.57)
Less: Utilization of Fund	155.48	(213.90)
Closing Balance	(2811.01)	(2966.48)

3. Designated/ Earmarked Fund

(Amount in Lakhs)

Particulars	Current Year	Previous Year
Opening Balance	2612.35	2363.08
Add: Addition in Fund	642.18	655.81
Less: Utilization of Fund	435.46	406.54
Closing Balance	2819.08	2612.35



4. This is to certify that there is an unspent balance of Rs. 1955.56 Lakhs (which includes OH36 – Rs. 873.54 Lakhs, OH31 - Rs. 741.23 Lakhs and OH35 Rs. 340.79 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. 74.60 Lakhs is outstanding as on 31st March 2022.

7. Schedule one to Twenty Four are annexed to and form an integral part of the Balance Sheet as on 31.3.2022.

8. Detail of Capital Work in Progress including capital advance till 31.03.2022 is as follows:

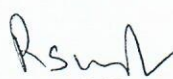
Purpose of Advance	Year	Amount (Rs in Lakhs)
Capital Work in Progress with Chd Admin (ETV Media Building)	2021-22	10.39
Advance for Renovation of Building (CPWD)	2021-22	228.23
Expenditure on Building Work In Progress (BSNL)	2021-22	325.02
	Total	563.64

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

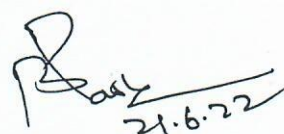
10. Previous year's figures have been re-grouped and re arranged wherever considered necessary

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.


Accounts Officer
NITTTR, Chandigarh




21.6.22
Director
NITTTR, Chandigarh

**“ 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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