

# ANNUAL REPORT 2023-24

## National Institute of Technical Teachers Training and Research (Ministry of Education, Government of India)

Sector - 26, Chandigarh - 160 019 (India)

www.nitttrchd.ac.in

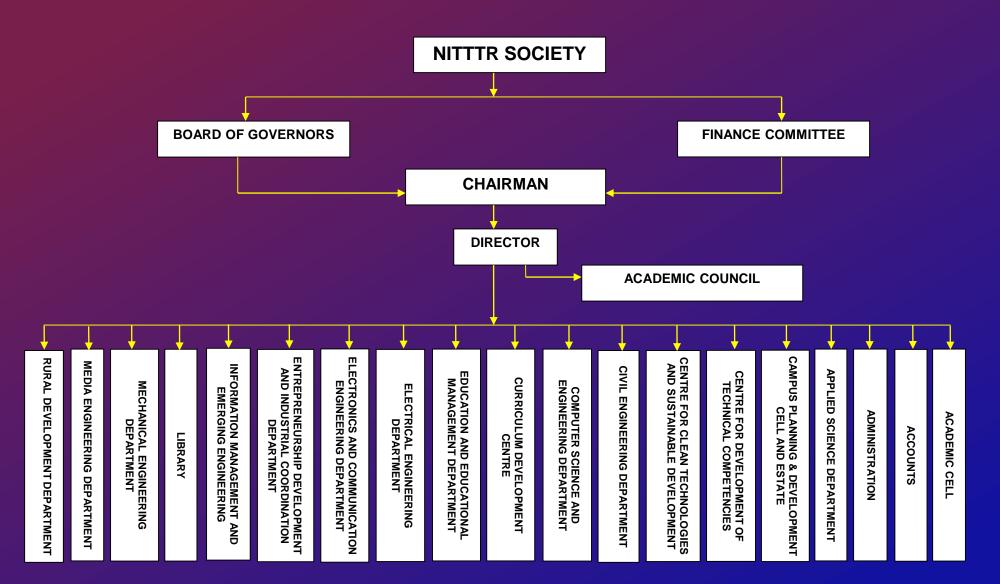
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## **ORGANISATIONAL STRUCTURE OF NITTR CHANDIGARH**





## **Organizational Structure**

	Members	of NITTTR	Chandigarh Society	i
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- Members of Board of Governors ii
- Members of Finance Committee iii
- Members of Academic Council iv

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## LIST OF HON'BLE MEMBERS OF THE NITTTR CHANDIGARH SOCIETY AS ON 31.3.2024

Sr. No.	Constituency	Name
1.	Hon'ble Chairman	Prof. V G Talawar
2.	JS (TEL) Govt. of India Ministry of Education	Shri Govind Jaiswal, IAS
3.	Joint Secretary and Financial Adviser (IFD) Govt. of India Ministry of Education	Shri Sanjog Kapoor
4.	Vice Chancellor, Panjab University	Prof. (Dr.) Renu Vig
5.	AICTE Representative	Prof. R.B. Kakde
6.	Member Secretary	Prof. (Dr.) Bhola Ram Gurjar



## LIST OF HON'BLE MEMBERS OF BOARD OF GOVERNOR MEMBERS OF NITTR, CHANDIGARH AS ON 31.03.2024

Sr. No.	Constituency	Name
1.	Hon'ble Chairman	Prof. V G Talawar
2.	JS (TEL) Govt. of India Ministry of Education	Shri Govind Jaiswal, IAS
3.	Joint Secretary and Financial Adviser (IFD) Govt. of India Ministry of Education	Shri Sanjog Kapoor
4.	Vice Chancellor, Panjab University	Prof. Renu Vig
5.	AICTE Representative	Prof. R.B. Kakde
6.	Faculty Member	Dr. B. C. Choudhary
7.	Member Secretary	Prof. Bhola Ram Gurjar



## LIST OF HON'BLE MEMBERS OF FINANCE COMMITTEE OF NITTTR, CHANDIGARH AS ON 31.03.2024

Sr. No.	Constituency	Name
1.	Hon'ble Chairman	Prof. V G Talawar
2.	JS (TEL) Govt. of India Ministry of Education	Shri Govind Jaiswal, IAS
3.	Joint Secretary and Financial Adviser (IFD) Govt. of India Ministry of Education	Shri Sanjog Kapoor
4.	Member Secretary	Prof. Bhola Ram Gurjar



Sr. No.	Name and Designation with full address	Status
1.	<b>Prof. Gurjar, Bhola Ram</b> Director NITTTR, Chandigarh	Chairman
	External Members	
1.	<b>Dr. Binod Kumar Kanaujia</b> Director, Dr. B R Ambedkar NIT, Jalandhar	Member
2.	<b>Dr. Mani Madhukar</b> Programme Manager, CSR for Academia, IBM India Pvt. Ltd. Sector 62, Noida	Member
	Internal Members	
1.	<b>Prof. Bala, Niraj</b> Professor & Head EDIC Department NITTTR, Chandigarh	Member
2.	<b>Prof. Banwait, S.S.</b> Professor Mechanical Engineering Department NITTTR, Chandigarh	Member
3.	<b>Er. Chhabra, Rama</b> Associate Dean (Academics & Students), Associate Professor, EMGT Department, NITTTR, Chandigarh	Member
4.	<b>Prof. Choudhary, B.C.</b> Professor & Head, Applied Science Department NITTTR Chandigarh	Member
5.	<b>Prof. Dhameja , S.K.</b> Professor EDIC Department NITTTR, Chandigarh	Member



Sr. No.	Name and Designation with full address	Status
6.	Prof. Dhami, Sukhdeep Singh Chief Vigilance Officer, Professor, Mechanical Engineering Department & Head, Electronics and Communication Engineering Department, NITTTR, Chandigarh	Member
7.	<b>Prof. Dutta, Maitreyee</b> Professor and Head IMEE Department NITTTR Chandigarh	Member
8.	<b>Prof. Gill, Sandeep Singh</b> Professor IMEE Department NITTTR Chandigarh	Member
9.	<b>Er. Gupta, Himmi</b> Assistant Professor, Civil Engineering Department NITTTR, Chandigarh	Member
10.	<b>Er. Jassal, Sunil D</b> Associate Professor, Mechanical Engineering Department, NITTTR, Chandigarh	Member
11.	<b>Dr. Kalra, Mala</b> Assistant Professor Computer Science & Engineering Department NITTTR Chandigarh	Member
12.	<b>Prof. Mathew, Lini</b> Professor and Head Electrical Engineering Department NITTTR, Chandigarh	Member
13.	<b>Prof. Mehra, Rajesh</b> Professor and Head Curriculum Development Centre NITTTR, Chandigarh	Member



Sr. No.	Name and Designation with full address	Status
14.	<b>Prof. Pattnaik, S.S.</b> Professor and Head Media Engineering Department NITTTR, Chandigarh	Member
15.	<b>Prof. Rama Krishna, C.</b> Dean (Administration & Finance) Professor & Head, CSE Department NITTTR, Chandigarh	Member
16.	<b>Prof. Roy, U.N.</b> Professor & Head Rural Development Department NITTTR, Chandigarh	Member
17.	<b>Prof. Sharma, Pankaj</b> Professor Applied Science Department NITTTR Chandigarh	Member
18.	<b>Dr. Samalia, Harsh Vardhan</b> Associate Dean (Outreach and Resource Generation) Associate Professor, EDIC Department NITTTR, Chandigarh	Member
19.	<b>Prof. Sharma, Sanjay</b> Professor, Civil Engineering Department NITTTR, Chandigarh	Member
20.	<b>Prof. Singh, Rupinder</b> Professor & Head Mechanical Engineering Department NITTTR Chandigarh	Member
21.	<b>Er. Sonthwal, Vinod</b> Associate Dean (Faculty & Staff), Associate Professor, Civil Engineering Department NITTTR, Chandigarh	Member



Sr. No.	Name and Designation with full address	Status
22.	<b>Prof. Sood, Hemant</b> Professor & Head, Civil Engineering Department NITTTR, Chandigarh	Member
23.	<b>Prof. Syal, Poonam</b> Professor Electrical Engineering Department NITTTR, Chandigarh	Member
24.	<b>Dr. Thakur, Ritula</b> Associate Professor, Electrical Engineering Department NITTTR Chandigarh	Member
25.	<b>Prof. Wats, Rakesh</b> Professor Media Engineering NITTTR, Chandigarh	Member
26.	<b>Prof. Gupta, AB</b> Professor and Head Curriculum Development Centre NITTTR, Chandigarh	Member Secretary



# 1.0 The Institute



National Institute of Technical Teachers Training and Research, Chandigarh, is one of the four such national institutes in the country with focus on development of technical education in the country. However, being situated in the northern region, the main attention of the institute is focusing on the states of Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Uttar Pradesh, Uttarakhand, Delhi and Union Territory of Chandigarh. Presently, the outreach of the programs and activities of the institute for the technical education system providing services to its clientele covering faculty/staff of technical institutions, officials of directorates/boards of technical education, central and state government departments, industry, students from technical institutes, community and trainees from overseas. NITTTR, Chandigarh is an ISO 9001- 2015 certified organisation.

The institute is an autonomous organisation registered under the Societies Registration Act 1860 with Director as the executive head and managed by a Board of Governors. The institute is situated in a well-developed campus in Sector 26, Chandigarh covering an area of over 6.85 hectares housing the academic buildings, hostels, guest house and residential accommodation for faculty and staff. The institute also has residential campus in sectors 29 and 42 of Chandigarh. The institute is about 10 kms from Inter State Bus Terminus (ISBT) in Sector 43 and 05 kms each from Chandigarh Railway Station and ISBT, Sector 17. The clean campus with innovative digital approach makes the institute unique not only in city but also in the country.





# Vision and 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**

To act as a centre for offering quality training programs for teachers as per need of the system, covering the entire gamut of technical education including polytechnics, engineering colleges, vocational and management education at national level

To arrange for practical training of technical teachers in industries

02

01

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

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

04

03



# **1.2 Operational Objectives (contd..)**

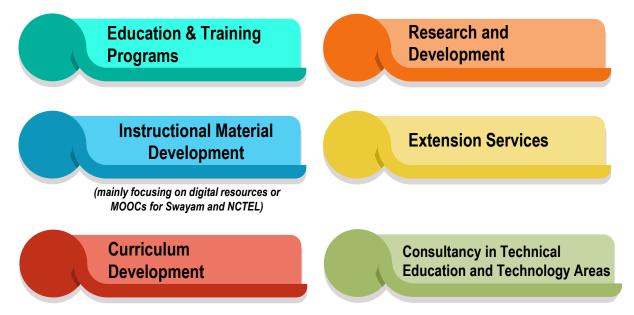
To design new instructional system and strategies for production 05 of online learning materials To develop and disseminate learning resources like Text books, Laboratory Manuals, Video Programs, Computer Assisted 06 Instructional Multimedia Packages to technical and vocational institutions and other organisations To offer programs for technical teachers through SWAYAM and 07 NCTEL web portal To offer courses/programs for technical and vocational teachers to 80 suit overseas demand especially for SAARC and ASEAN countries To collaborate with community and industry in organising 09 Continuing and Nonformal vocational education programs To undertake consultancy and extension work for industry, 10 technical institutions/organizations To provide support services to Government of India schemes 11 related to technical and vocational education system and as entrusted by MHRD, Government of India, from time to time To cooperate with educational or other institutions in any part of the world having objectives wholly or partly similar to those of the 12 institute by exchange of teachers and scholars and generally in such manner as may be conducive to their common objectives

The Institute is continually striving to achieve its stated objectives and remain in the forefront in all its functional areas.



# **1.3** Programs & 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.
- Continuing Education for Working Engineers/ Technicians/ Managers

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



# 1.4 Management

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

- Academic Council
- Finance Committee



**Director of the Institute is the Chairman of the Academic Council** 





## **Total participants trained**

174 ICT based courses - 27650 participants
161 Contact based courses - 3032 participants
14 Consultancy based courses - 536 participants
04 Sponsored Courses - 377 participants
04 New MOOCs, 06 Rerun MOOCs and 03 NITTT Modules in Swayam
Portal - 23945 participants

14 students got admitted in 02 Master's Degree Programs (Regular)

and **57** students got admitted in **05** Master's Degree Programs (Modular).

# **115** Video films **175** Video films

produced

MOUs

Edited & uploaded on NCTEL

signed in this period with various Institutes and Industries like IIIT Una, MNIT Japiur and IBM etc.

NITTTR, Chandigarh received Lol as Awarding Body (Dual) from NCVET, New Delhi for Creditization of Training Programmes. One Qualification on Data Science Practitioner has been submitted for approval.

Institute jointly organized a 05 days Innovation, Design and Entrepreneurship (IDE) Bootcamp from 22<sup>nd</sup> - 26<sup>th</sup> June 2023 with AICTE and MIC under Atma Nirbhar Bharat Abhiyan.

An International Regional Programme on "Industry Academia Integration and Sustainable Entrepreneurship" was organized in collaboration with CPSC Manila from 4<sup>th</sup> to 8<sup>th</sup> September, 2023 to increase the international collaboration





## **Academics**

Dr. Subhas Sarkar, Hon'ble Union Minister of State for Education, Govt. of India visited the Institute on 5<sup>th</sup> October, 2023.

15<sup>th</sup> Tribal Youth Exchange Programme was held from 10<sup>th</sup> to 16<sup>th</sup> October, 2023 in collaboration with Nehru Yuva Kendra, Chandigarh. 220 tribal students from Orissa, Maharashtra, Andhra Pradesh and Jharkhand attended the programme.

Mr. Shaurya Doval, Director, India Foundation, delivered a thought- provoking talk on "India's Vision 2047: Economic Achievements and the Role of NEP 2020" on 28<sup>th</sup> July 2023, which was attended by all faculty, staff and students of the Institute.

A NSDC International Skill Centre was established in which 32 nurses from all over India have been trained by 04 German faculty and have gone to Germany.

NITTTR Chandigarh, redesigned website was by the technical staff of Computer Science and Engineering Department.

Prof. V.G. Talawar, Hon'ble Chairman, BoG and visited the campus on 30.10.2023.

The Institute organized the 14<sup>th</sup> Inter NITTTR Sports Meet from 20<sup>th</sup> - 23<sup>rd</sup> February, 2024. NITTTR, Chandigarh won the Overall trophy in the Inter-NITTTR Sports Meet.

One-day symposium on "Emerging Avenues for Indian MSMEs and Business Start-ups in-line with NEP" on 1<sup>st</sup> December, 2023 was conducted.

Under the mission mode recruitment, 45 new recruitees joined NITTTR on different posts.



## **Glimpses of Events**

#### **Global Climate Clock Assembly and Display Event**

On April 22<sup>nd</sup>, Earth Day, a monumental event is set to unfold The World's Largest Global Climate Clock Assembly and Display. The initiative has been organized by Energy Swaraj in collaboration with ATAL Innovation Mission (NITI Aayog) & AICTE.

6 students (Ankit, Apoorva, Nisha, Mitali, Milan, Sharvendra) and two faculty members (Dr. Amit Goyal and Dr. Poonam Syal) from NITTTR Chandigarh participated in the event.



The students prepared the climate clock which counts down the time remaining until the world reaches the critical threshold of 1.5°C of global warming, a threshold beyond which the impacts of climate change are predicted to become catastrophic and irreversible.



## Labour Day Celebration

May Day is a day to celebrate the hard work and contributions of workers around the world. It recognizes their dedication and sacrifices to improve their lives and those of their families. May Day has its roots in the labour movement of the late 19th century, where workers fought for better working conditions and fair wages. It is a reminder of the struggles and sacrifices of the workers who came before us. NITTTR Chandigarh celebrated Labour Day on 01<sup>st</sup> May 2023. The Director, Prof. B.R. Gurjar inaugurated the labour day celebrations and motivated all faculty and staff to participate in the sports events organized during this occasion to encourage a healthy work environment and sportsman spirit.

Col. B. M. Sabhlok (Retired Army Officer) delivered an expert talk during the occasion.

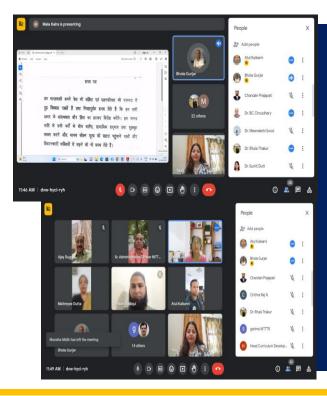




## **Glimpses of Events**



NITTTR Chandigarh is organizing a cricket tournament NITTTR Premier League since 2012. In 2023-24, 12<sup>th</sup> NITTTR Premier League (NPL) was organized. There were 5 teams whose owners were from the different departments of the institute. The owners bought the players in auction which was held on 21<sup>st</sup> April 2023 to 3<sup>rd</sup> May, 2023. NITTTR students and staff members participated in this event.



#### **Observance of Anti Terrorism Day**

Anti-terrorism day is observed to spread the message of peace and humanity. Terrorism is increasing at a rapid pace in the 21<sup>st</sup> century and fighting against it requires various measures that needs to be adopted by the government as well as individuals. One such way is to celebrate and take oath on the anti-terrorism day whereby all citizens of India shall abide by oath of not indulging into any form of terrorism activity. For this, National Institute of Technical Teachers' Training and Research, Chandigarh, observed Anti- Terrorism day on 21<sup>st</sup> May, 2023. Observing the importance of the day, Honourable Director of the institute, Dr. Bhola Ram Gurjar administered the pledge for all the Deans, Professors, Faculty and Staff members to fight the forces of disruption threatening human lives and values.



## **Glimpses of Events**



#### **Conduct of Free Homeopathic Medical Camp**

Doctors from the Homeopathic Medical College, Sector 26 Chandigarh, visited the Institute campus on 25<sup>th</sup> May, 2023. Many employees were benefitted with this health check up.







#### Celebration of World Environment Day

The NITTTR, Chandigarh, showcased a captivating Nukkad Natak (street play) at Sukhna Lake on June 3<sup>rd</sup>, 2023 on the occasion of World Environment Day. The event witnessed an enthusiastic gathering of students, faculty members, and local residents who were eager to witness the talent and creativity of the performers. The event was organized to not only entertain the audience but also raise awareness and promote meaningful discussions on environmental issues. The stage was set against the picturesque backdrop of Sukhna Lake, enhancing the overall ambience and capturing the attention of onlookers. The performers from various colleges across the city displayed exceptional acting skills, captivating the audience with their powerful performances and engaging storytelling. Also the institute organized Poster Competition and Scrap to Wonders competition on 31st May, 2023 on the occasion of World Environment Day.



#### **Cycling Competition**

NITTTR Chandigarh organized Cycling Competition on 5th June, 2023 on the occasion pf World Cycle Day.

Approx. 45 participants including faculty, staff and students participated the competition.

Total 6 categories were constituted among Male, Female and Children depending on their age.





## **Glimpses of Events**

#### Gender Sensitization Workshop by Internal Complaint Committee

NITTTR Chandigarh maintains a safe gender-sensitive workplace, eliminating the underlying causes of a hostile working atmosphere for women. Under this, Internal Complaints Committee is constituted in the Institute to inquire into the complaints of Sexual Harassment of women at work place. Gender sensitization workshop was conducted for the faculty, staff and students on 6<sup>th</sup> June 2023 by External expert of ICC Ms Jyoti Choudhary, Advocate Punjab and

Haryana High Court in the Conference Hall-II, JC Bose Administrative Block, NITTTR Chandigarh. Around 85 participants attended the workshop and benefitted from the workshop.







National Institute of Technical Teachers Training and Research (NITTTR), Chandigarh hosted a 5-days residential Innovation, Design and Entrepreneurship (IDE) Bootcamp from 22-26 June 2023 jointly organized by All-India Council for Technical Education (AICTE) and the Ministry of Education's Innovation Cell (MIC). The bootcamp was inaugurated by Shri Dharmendra Pradhan, Hon'ble Education Minister, Govt. of India on 22 June, 2023 at 3 PM in virtual mode. He encouraged the participants to wholeheartedly embrace their innate abilities, and unleash their potential as wealth creators.



National Institute of Technical Teachers Training and Research, Chandigarh (Ministry of Education, Government of India)

National Institute of Technical Teachers Training and Research, Chandigarh (Ministry of Education, Government of India



## **Glimpses of Events**

#### Innovation, Design and Entrepreneurship (IDE) Bootcamp



Speaking during the inaugural session, Prof. BR Gurjar, Director, NITTTR Chandigarh welcomed the participants and the dignitaries from the MIC, AICTE, and Wadhwani Foundation. He highlighted that NITTTR Chandigarh was proud to be part of this bootcamp to promote entrepreneurial culture in the country.

He emphasized that the innovative mindset of entrepreneurs enable them to explore opportunities in adversities and accentuated that leaders and change makers don't do different things but they do things differently. The inaugural session was also graced by Mr. Abhishek Ranjan, Innovation Officer, MIC and Dr. R Sujatha from Wadhwani Foundations.



#### Expert Lecture by Sh. Shaurya Doval, Director, India Foundation



Sh. Shaurya Doval, Director, India Foundation delivered a thought-provoking talk on "India's Vision 2047: Economic Achievements and the Role of NEP 2020" on 28th July 2023, which was attended by all faculty, staff and students of the Institute.

## **Glimpses of Events**

3<sup>rd</sup> Anniversary of the implementation of the National Education Policy 2020 on 29<sup>th</sup> July, 2023

On the occasion of the 3<sup>rd</sup> anniversary of the implementation of the National Education Policy 2020, the live streaming of 'Akhil Bhartiya Shiksha Samagam', was done in the NITTTR auditorium. All members of the NITTTR family, including faculty, staff, and students were present in the auditorium when Prime Minister Shri Narendra Modi ji inaugurated the programme at Pragati Maidan and addressed the nation on this occasion.



NITTTR Chandigarh faculty and students of Yuva Sangam participated in celebration of 3<sup>rd</sup> year NEP implementation at Pragati Maidan, New Delhi





#### Sadbhavana Diwas on 21st August, 2023

National Institute of Technical Teachers Training and Research, Sector-26, Chandigarh celebrated Sadbhavana Diwas on 21<sup>st</sup> August, 2023. All the employees of the institute took Sadbhavana Diwas pledge in the presence of Deans, Department Heads and Section Incharges. Faculty, staff and Ph.D. students of various departments were apprised of the importance of celebration of this day i.e. to promote national integration and communal harmony among people of all religions, languages and regions.

### हिन्दी माह

संस्थान में दिनांक 🛛 सितम्बर 2023 से 30 सितम्बर 2023 तक हिन्दी माह मनाया गया एवं दिनांक 27.9.2023 को वार्षिक राजभाषा पुरस्कार वितरण समारोह का आयोजन किया गया। समारोह की अध्यक्षता संस्थान के कार्यवाहक निदेशक डा0 बी.एस. पाबला द्वारा की गई।





## **Glimpses of Events**

## हिन्दी माह

समारोह का शुभारंभ संस्थान की सहायक अनुभाग अधिकारी श्रीमती सुदेश शर्मा द्वारा माननीय केन्द्रीय गृहमंत्री श्री अमित शाह जी के संदेश को पढ़ कर किया गया एवं हिंदी अनुवादक सुश्री सिमरन अपरेजा द्वारा संस्थान में किए गए हिन्दी के कार्यों की वार्षिक प्रगति रिपोर्ट प्रस्तुत की गई। सितम्बर माह के दौरान हिन्दी सुलेख, हिन्दी शब्द-ज्ञान, हिन्दी नोटिंग/ड्राफ्टिंग, हिन्दी टाइपिंग, हिन्दी श्रुतलेख, हिन्दी उच्चारण एवं हिन्दी कविता पाठ नामतः 07 प्रतियोगिताओं का आयोजन किया गया जिसमें संस्थान के 123 प्रतिभागियों ने बढ-चढ़ कर भाग लिया।



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 सक्रिय रूप से भाग लिया। वर्ष के दौरान संस्थान में हिन्दी को बढ़ावा देने के लिए 03 प्रोत्साहन योजनाएं भी हैं। इन योजनाओं के अन्तर्गत जिन अधिकारियों तथा कर्मचारियों द्वारा वर्ष के दौरान उल्लेखनीय कार्य किया जाता है। जो मूल रूप से हिन्दी में अधिक से अधिक कार्य करते हैं और हिन्दी में अधिक से अधिक टंकण कार्य करते हैं. एवं जो अधिकारीगण अधिक से अधिक डिक्टेशन हिन्दी में देते हैं. उन्हें भी पुरस्कार से सम्मानित किया गया। कार्यवाहक निदेशक महोदय ने पुरस्कार विजेताओं को पुरस्कृत किया एवं अपने भाषण में हिन्दी प्रयोग की दिनों दिन बढ़ रही प्रगति की प्रशंसा की और कहा कि हिंदी केवल किसी वर्ग विशेष की भाषा नहीं है अपितु संपूर्ण भारत की मातृभाषा है।

#### Celebration of Teachers Day on 5th September, 2023

The students of NITTTR Chandigarh celebrated Teachers' Day on 5<sup>th</sup> September, 2023 for the faculty members of the Institute. The students organized competition, fun filled games and other activities for the teachers.





## **Glimpses of Events**

Seminar on Industry 4.0, Innovation and 21st Century Skills



NITTTR Chandigarh organized a seminar on Industry 4.0, Innovation and 21st Century Skills on 5<sup>th</sup> September, 2023. The seminar had 05 broad sessions (across all disciplines) on Cybersecurity skills (Hands-on session), AR Across Industries: Successful Augmented Reality Implementations (Hands-on sessions), Startups in Academic Institutions, and Self-sustainable Startup Eco-System for Academia (in line with NEP 2020) to update the Policymakers, faculty, Research scholars for the 21<sup>st</sup> - century skills.

#### Establishment of NSDC International Skill Centre

NITTTR Chandigarh established an International Skill Centre in collaboration with NSDC, New Delhi on 5<sup>th</sup> September, 2023. Faculty from Germany have come to impart training to health workers to the participants from various states. A group of 33 health workers are being trained on German Language in NITTTR Chandigarh



## **Glimpses of Events**

### 56th Annual Day of NITTTR, Chandigarh

National Institute of Technical Teachers Training and Research(NITTTR), Chandigarh celebrated its 56<sup>th</sup> Annual Day on September 7, 2023.

Banwarilal Purohit, Governor of Punjab & Administrator of UT, Chandigarh was the Chief Guest on this occasion, Prof. (Dr.) GLD Wickramasinghe, Director-General, CPSC Manila, Philippines and Prof. (Dr.) MP Poonia, Professor MNIT, Jaipur and Former Vice Chairman, AICTE, New Delhi were the Guests of Honour, during the event. Sh Banwarilal Purohit, Hon'ble Governor of Punjab & Administrator of UT, Chandigarh distributed the awards to the best performing Polytechnics and Engineering Colleges of Northern Region. During his address he highlighted the achievements of the India, especially in the area of Science and Technology, Space exploration, IT pharmaceutical and Non-Conventional Source of Energy. He also emphasized on achieving the excellence and India becoming the world leader in all spheres. He shared his vision of India becoming a developed nation by 2047 i.e. 100<sup>th</sup> year of independence of the country. He advised the teaching community to be a role model for bringing the change and expressed his appreciation for the good work being done by the NITTTR, Chandigarh.



Prof. (Dr.) GLD Wickramasinghe, Director-General, CPSC Manila, Philippines, distributed the academic awards to the meritorious students of M. Tech. (Modular and Regular) students of the institute. During his address Prof. (Dr.) GLD Wickramasinghe highlighted the Significant contribution of CPSC Manila, Philippines in the area of Technical and Vocational Education and Training (TVET) and assured Continuous collaboration and support to NITTTR, Chandigarh in the International Programmes on various Themes. The Governor launched the educational video Film produced by NITTTR, Chandigarh in Hindi. Prof. (Dr.) MP Poonia, Professor, MNIT, Jaipur and Former Vice Chairman, AICTE, New Delhi, appreciated the contribution of the employees who were given Awards for their best performance during year 2022-23 He highlighted the role of NITTTR system in effective Implementation of NEP-2020, especially in the area of developing the curriculum and instructional material in the local languages so that students can understand and apply the concepts in the problem-solving and develop higher orders critical thinking .



## **Glimpses of Events**

### 56th Annual Day of NITTTR, Chandigarh



Prof. (Dr.) BR Gurjar, Director of the Institute presented Annual Report of the institute for the year 2022-23 highlighting the outstanding achievements made by the institute in the areas of (1) Human Resource Development, (2) Curriculum Development, (3) Instructional Material, (4) Research and Consultancy, and (5) Extension services. He appreciated the contribution made by the faculty and staff of the institute for the outstanding achievements On 56<sup>th</sup> Annual Day of NITTTR, Chandigarh, Governor advised teaching community to be a role model for bringing the change. Prof. (Dr.) Niraj Bala, Professor & Head, EDIC Department anchored the programme and Dr. Meenakshi Sood, Associate Professor, CDC proposed the formal vote of thanks. Institute also organized a cultural programme on the eve of Annual Day.

#### Poster Competition of Successful Landing of Chandrayaan-3

National Institute of Technical Teachers' Training and Research, organized a poster competition for celebrating the success of India's third lunar mission, Chandrayaan-3, on September 8<sup>th</sup>, 2023. Faculty members, staff and students created beautiful posters to commemorate Chandrayaan 3,

India's third lunar mission, which landed successfully.

The invited judge Ms. Parveen Sinha, Art and Cultural coordinator at Mount Carmel School and Director Chayya School of Art Chandigarh selected the three best posters on the basis of creativity, slogan used, poster design and completeness. The first three position holders got cash prizes. Prof. (Dr.) Maitreyee dutta (overall coordinator) motivated the Faculty, Staff and students to participate in the event.





## **Glimpses of Events**

Poster Competition of Successful Landing of Chandrayaan-3



The institute also prepared a selfie point to take photographs with Chadrayaan-3.

International Regional Programme on "Industry Academia Integration and Sustainable Entrepreneurship" in collaboration with CPSC Manila from 4<sup>th</sup> to 8<sup>th</sup> September, 2023

NITTTR Chandigarh organized an International Regional Programme on "Industry Academia Integration and Sustainable Entrepreneurship" in collaboration with CPSC Manila from 4<sup>th</sup> to 8<sup>th</sup> September, 2023. Total 15 participants attended from various countries





## **Glimpses of Events**

One Day International Colloquium on Industry Academia Integration and Sustainable Development

NITTTR, Chandigarh in collaboration with Colombo Plan Staff College (CPSC), Philippines and IIT Roorkee organized a one day International Colloquium on Industry Academia Integration and Sustainable Development on Sep. 06, 2023 at Chandigarh. The Colloquium attracted 15 international delegates from 10 countries of Asia Pacific region who made country paper presentations on the broad topics of Industry academia integration and sustainable entrepreneurship. In addition, 13 Industry representatives of the region participated in the event including representatives of Chandigarh and Mohali Industries Association. Prominent industries to participate were: Ultra Tech Cement, InterSolar, Covalence Pvt Ltd, Tech-Mahindra, Advanced Technology Solution, Exigo Recycling Pvt and others. 60 top academicians including 6 Deans, Associate Deans and HoDs from IIT Roorkee; Senior Professors and Deans from NITTTR Chandigarh; and Principals and HoDs of selected Engineering and Polytechnic Colleges of Northern region also participated in the Colloquium. This Colloquium focussed on having in-depth deliberations with industry personnel, trying to understand their issues, problems and challenges which can be taken up as research/consultancy projects by the academia. The focus was on collaborative projects with a view to have a win-win and give and take approach.

The International Colloquium was inaugurated by Prof. GLD Wickramasinghe, Director-General, CPSC, Philippines in the presence of Prof. Bhola ram Gurjar, Director, NITTTR Chandigarh and Prof. Akshay Dvivedi, Dean, SRIC, IIT Roorkee

#### Visit of Dr. Subhas Sarkar, Hon'ble Union Minister of State for Education





On the 5<sup>th</sup> October 2023, Dr. Subhas Sarkar, Hon'ble Union Minister of State for Education, Government of India, visited National Institute of Technical Teachers Training and Research (NITTTR), Chandigarh. He chaired a review meeting with the Director, Senior Professors and other officials regarding the best practices of NITTTR. Prof. Bhola Ram Gurjar, Director, NITTTR, Chandigarh, welcomed the esteemed Guest and gave a presentation regarding the genesis of the Institute as TTTI in 1967, its upgradation to national status as NITTTR in 2003, and the accomplishments over the years in consonance with its vision and mission under the five pillars viz. Education & Training Programmes, Curriculum Development, Instructional Material Development, Research & Development, Consultancy & Extension Services. He also apprised the Hon'ble Minister regarding major contributions in policy formulation at national level by NITTTR Chandigarh over the years.



## **Glimpses of Events**



200 youth from 9 tribal districts of Orissa, Maharashtra, Andhra Pradesh and Jharkhand participated in the program.

#### 15<sup>th</sup> Tribal Exchange Programme

The 15<sup>th</sup> Tribal Youth Exchange Program was organized by Nehru Yuva Kendra Sangathan at NITTTR Chandigarh from 10 to 16 October, 2023. This event was supported by NITTTR Chandigarh



The 15<sup>th</sup> Tribal Youth Exchange Program was inaugurated on 10<sup>th</sup> October, 2023. Shri Dharam Pal, IAS, Advisor to the Administrator UT was the Chief Guest of the Program. Mrs. Meeta Rajivlochan, IAS, Secretary, Ministry of Youth Affairs and Sports was the Guest of Honor of this event.

Hon'ble Governor of Haryana Sh. Bandaru Dattatreya said that we should learn the preservation and promotion of culture and traditions from the tribal society. He said that today the tribal society has a very glorious history. We all must read this glorious history of theirs. Mrs. Meeta Rajivlochan, IAS, Secretary, Ministry of Youth Affairs and Sports said that various programs are being run by the department so that the youth of the tribal community get more and more opportunities to move forward. She said that such programs develop the feeling of nationalism in us. Program ended with Vote of Thanks by Paramjit Singh, Director, Nehru Yuva Kendra Sangathan.

#### **Amrit Kalash Yatra**

In response to the call made by our Hon'ble Prime Minister, Shree Narendra Modi, NITTTR Chandigarh collected Maati from students and faculty and kept in Amrit Kalash during 1<sup>st</sup> to 13<sup>th</sup> October, 2023.

The primary objective of this event was to pay homage to the brave martyrs of our nation. During this period, the Institute supported Nehru Yuva Kendra, Chandigarh to organize 15<sup>th</sup> Tribal Exchange Programme at the Institute Auditorium.





# **Glimpses of Events**

Appointment of Hon'ble Chairman, BoG and visit of Chairman at NITTTR Chandigarh on 30.10.2023



Prof. (Retd) V.G. Talawar, Former Vice Chancellor, Mysore University was appointed as Hon'ble Chairman, BoG of NITTTR Chandigarh who visited the institute on 30.10.2023

## Observance of Vigilance Awareness Week





The Vigilance Awareness Week was observed in the institute from 30<sup>th</sup> October to 5<sup>th</sup> November 2023 with the theme 'Say No to Corruption, Commit to the Nation'. Many activities like Awareness about theme of the VAW to Ph.D./M.E students, Poster making competition, Essay writing contest, Debate

competition, Quiz competition on the topic of corruption prevention, followed by Expert Lecture were carried out in the institute during the vigilance awareness week. There was an overwhelming response, both by the institute staff and students, to the various activities carried out during the Vigilance Awareness Week.

#### 14th FICCI Global Skills Summit 2023

Prof. B. R. Gurjar, Director, NITTTR Chandigarh, was one of the panelists in the final session of day 01 of 14<sup>th</sup> FICCI Global Skills Summit 2023, "Empowering TVET Leadership & Practitioners" addressed vital issues in handling system-level change.





## **Glimpses of Events**

#### 14th FICCI Global Skills Summit 2023

It explored raising awareness and building capacities among TVET professionals to support transitions in green practices, Industry 4.0, and global skills. Discussions also revolved around effective collaboration between TVET leaders and practitioners to comprehend market demands, business models. and economic structures. Additionally, it stressed fostering systemic and social dialogues to nurture entrepreneurial capacities.



Deliberations during the session also underscored the imperative of ensuring access to high-quality Technical and Vocational Education and Training (TVET) opportunities, including expanding workbased learning, embracing digital environments, and promoting eco-friendly transitions to enhance our country's skilling landscape. To achieve this, discussions were also held to develop strategies for building TVET leaders' and professionals' capacity.

#### **G20 University Connect Finale Programme**

On 26-09-2023, NITTTR Chandigarh arranged the screening of the live programme of G20 University Connect Finale Programme which was held at the Bharat Mandapam, Pragati Maidan, New Delhi. Total 55 faculty, staff and students attended this event in the Conference Hall of the institute. Honourable Prime Minister Shri Narendra Modi Ji released 4 publications on the occasion namely The Grand Success of G20 Bharat Presidency: Visionary Leadership, Inclusive Approach; India's G20 Presidency: Vasudhaiva Kutumbakam; Compendium of G20 University Connect Programme; and Showcasing Indian Culture at G20 followed by a memorable address to the youth. The G20 University Connect initiative was undertaken with the aim to build an understanding of India's youth and enhance their participation in various G20 programmes, which has been very successful. Shri Modi said that India is becoming a happening place. He also recalled the success of Chandryaan-3 that entire country witnessed on 23<sup>rd</sup> August, 2023.







## **Glimpses of Events**

#### Signing of MOU with IBM India Pvt. Ltd.

Shri Dharmendra Pradhan, Hon'ble Minister of Education presided over the signing of MoUs with IBM on digital skilling and skilling in emerging technologies on 27<sup>th</sup> September, 2023. On this occasion NITTTR Chandigarh also signed an MOU with IBM India Pvt. Ltd.



#### Bharatiya Bhasha Utsav

Prof. Pankaj Sharma and Dr. KC Lachhwani from NITTTR Chandigarh attended the two davs Technology & Bharatiya Bhasha summit from September 30 to October 1, 2023 at New Delhi. Technology & Bharatiya Bhasha Utsav was inaugurated by Shri Dharmendra Pradhan Ji, Hon'ble Minister of Education, Government of Bharat. The summit aimed to explore and promote the integration of technology in the development and enrichment of Bharatiya languages, in line with the vision of the National Education Policy (NEP) 2020. This summit envisaged critical insights and discussions on the integration of technology to promote Bharatiya languages.









## **Glimpses of Events**

#### Rashtriya Ekta Diwas

On the occasion of birth anniversary of Late Sardar Vallabhbhai Patel, Rashtriya Ekta Diwas ("National Unity Day") was observed at NITTTR, Chandigarh on 31<sup>st</sup> October 2023. As a part of the celebrations, the faculty, staff, students and employees of National Institute of Technical Teachers Training and Research (NITTTR), Chandigarh took part in the celebrations. Director, NITTTR Chandigarh; Prof. B. R. Gurjar administered the 'Rashtriya Ekta Diwas Pledge' corroborating the institute's commitment towards the National Unity and Integrity and spreading this message among the countrymen. A Run for Unity was also organized in the institute which was flagged off by the Director in which the institute participated actively with the passion of promoting peace and harmony in the nation. About 100 faculty, staff, students and employees of the institute took part in the celebrations.



### One-Day Symposium on Emerging Avenues for Indian MSMEs and Business Start-ups in-line with NEP



NITTTR Chandigarh was honoured to host Dr. Suvrokamal Dutta as Keynote Speaker in the One-Day Symposium on Emerging Avenues for Indian MSMEs and Business Start-ups in-line with NEP on 1<sup>st</sup> December 2023. Dr. Suvrokamal Dutta delivered expert talks on "New Initiatives and Schemes of Government of India for MSMEs" for Industry Professionals and on "Business Start-ups Opportunities for Teachers in-line with NEP" for Academia at NITTTR Chandigarh.

#### 7<sup>th</sup> National School Education Summit held on 1<sup>st</sup> December 2023 at New Delhi

Prof. (Dr.) Bhola Ram Gurjar, Director, NITTTR Chandigarh, delivered a special address during the inaugural session of the 7<sup>th</sup> National School Education Summit held on 1<sup>st</sup> December 2023 at New Delhi.





## **Glimpses of Events**

#### 7<sup>th</sup> National School Education Summit held on 1<sup>st</sup> December 2023 at New Delhi



This summit was jointly organized by the Ministry of Education and CII, New Delhi. Through insightful anecdotes, Prof. Gurjar, illustrated the importance of inculcating moral and life values in children in addition to academic training.

#### Bhartiya Bhasha Utsav

Bhartiya Bhasha Utsav was celebrated on 11<sup>th</sup> December, 2023 to mark the birthday of poet and freedom fighter Subramania Bharathi. In this context, the institute organized the following activities:

- "<u>My Signature in My Mother Tongue Campaign</u>" A canvas was installed during 8<sup>th</sup> - 11<sup>th</sup> December, 2023 in front of the auditorium, wherein all faculty, staff and students put their signatures in the script of their respective mother tongues.
- 2. "Short Film on Small Bites in different languages on Slogan- Bhashaayein Anek, Bhaav Ek, Mera Bharat Mahaan"



All faculty and staff were invited to record a small video, translating "Bhashaayein Anek, Bhaav Ek, Mera Bharat Mahaan" in their respective mother tongue. Some faculty and staff recorded using their mobile. A short film was prepared with all bites and sent to ministry for record. The film was uploaded in institute web site also.

## Launching of 4 new MOOC courses in SWAYAM portal in January 2024

The institute launched 4 new MOOC courses in SWAYAM portal in January 2024.

- 1. Institutional Management for Entrepreneurship
- 2. Internet of Things- Design Concepts and Use Cases
- 3. PLC and Microcontroller (in Hindi)
- 4. Virtual Education





# **Glimpses of Events**



#### 14th Inter NITTTR Sports Meet

14<sup>th</sup> Inter NITTTR Sports Meet was held at NITTTR Chandigarh from 20-23 February, 2024, filled with sportsmanship and healthy competition. Faculty and Staff members of all NITTTRs participated in this Inter NITTTR Sports Meet. Ms. Chahat Deep Kaur, International Rifle Shooter, India for gracing the inauguration was the Chief Guest in the inauguration. Competitions of both Indoor and Outdoor games were held during these three days. All participants took the part with sportsman spirit.

NITTTR Chandigarh won the overall Champion Shield. In the valediction this programme, Prof. B R Gurjar, Director, NITTTR Chandigarh congratulated all the winners and thanked to all the participants for their passion, determination, and positive spirit in making this event a true celebration of sports. He addressed that as we bid farewell to the 14<sup>th</sup> Inter NITTTR Sports Meet, let's carry the lessons learned, the friendships gained, and the unforgettable moments. Until next time, let the echoes of cheers and victories linger in our hearts.

#### NITTTR Chandigarh has been granted the "Deemed to be University" status

Thrilled to announce that NITTTR Chandigarh has been granted the "Deemed to be University" status! This is a significant milestone in our journey towards academic excellence. The institute's commitment to providing quality education has been recognized, and all are proud to embark on this new chapter. Our heartfelt gratitude to the Ministry of Education for recognising our services to the technical education community. Congratulations to all dedicated faculty, staff, and students for this incredible achievement. The institute looks forward to continuing our mission of shaping bright minds and making a positive impact on the education landscape.





# **Glimpses of Events**

#### 8th National Conference on "Advances in Manufacturing Technology"

Inauguration of 8<sup>th</sup> National Conference on "Advances in Manufacturing Technology" was held on 29<sup>th</sup> February, 2024. Many researchers presented their papers in this National Conference.



#### Amrit Kaal Vimarsh Viksit Bharat @2047

NITTTR Chandigarh hosted the "Amrit Kaal Vimarsh Viksit Bharat @2047" on 13 February 2024 in association with the Ministry of Education. Government of India and AICTE. Shri. Vinod Malhotra (Retd. IAS), Senior Advisor & Head, Samarthya Teacher Training Academy of Research (STTAR) was the Chief guest and speaker in this occasion. He delivered the expert talk on "Driving Disruptions". In his development dialogue, Shri Vinod Malhotra emphasized on the importance of spiritual quotient in the making of Viksit Bharat and the role of selfintrospection for the spiritual growth of human beings along with the quest to know oneself both from outside and inside. His words of wisdom had a lasting effect on the intellectual pursuits of the audience, leaving an indelible impression. Many students, faculty and staff of the institute attended his lecture.







# **Glimpses of Events**



In continuation of the Voter Awareness Campaign, NITTTR Chandigarh organized a Seminar on "Value of Voting and Understanding the Electoral Processes" on 5 March 2024. The seminar was delivered by Mr. Prerak Mittal, Institute employee currently on Duty in the Election Commission of India (ECI). The seminar highlighted various apps such as Voter Helpline App, Saksham app for PwDs, and cVigil App and also about the EVM and VVPAT systems so that the voters are assured that their votes have gone to the candidate of their choice only.

#### **International Women's Day**

To infuse the celebration of international Women's Day, an array of fun-filled games were organized for the participants. Tambola, with its traditional charm, brought smiles and cheers as numbers were called out and lucky winners claimed their prizes. The lively rounds of Passing the Parcel added an element of spontaneity and anticipation, fostering bonds of friendship and camaraderie among the participants. Dumb Charades brought out the creative prowess of the attendees, eliciting laughter and applause as teams enacted their favourite movies and songs with animated gestures and expressions. In addition to the exhilarating games, tokens of appreciation were bestowed upon all attendees as a gesture of gratitude for their invaluable contributions and unwavering dedication. Prizes were awarded to the winners, adding an extra layer of excitement and delight to the proceedings.



# **Glimpses of Events**

#### Bharatiya Nyaya Sanhita (BNS) awareness campaign at NITTTR Chandigarh

The Government of India has brought in a transformative judicial reform replacing British era laws and making them in tune with contemporary realities, based on victim centric approach, providing witness protection and aiming at fast and speedy delivery of justice with the use of technology etc.

As part of this change, The Bharatiya Nyaya Sanhita (BNS) replaces the Indian Penal Code, 1860; the Bharatiya Sakshya Adhiniyam (BSA) replaces the Indian Evidence Act, 1872; and the Bharatiya Nagarik Suraksha Sanhita (BNSS) replaces the Code of Criminal Procedure, 1898.

In order to sensitize its faculty and students about the BNS and its implications for ensuring timely justice, NITTTR conducted a set of activities to publicize these laws.



- 1. Social Media campaign has been carried out on Twitter/X, Facebook, Linkedin, Instagram etc. publicizing these laws.
- An online awareness session on Overview of Bhartiya Nyaya Sanhita (BNS- 2023) was conducted on 26<sup>th</sup> March 2024. The resource person was Prof. Devender Singh, Chairman, Faculty of Law, Panjab University, Chandigarh. Special emphasis was given in making women and children aware of the various provisions pertaining to their wellbeing.
- 3. A campaign was conducted by way of displays through standees, distributing flyers, and preparing a write-up for dissemination amongst the students, faculty and staff to create awareness about these laws. Standees in both English and Hindi, bringing out the salient aspects of the BNS 2023 have been displayed at all prominent places on the campus.



# **Glimpses of Events**

#### **SPIC MACAY Programmes**

Institute signed an MOU with SPIC MACAY as per the order of the Ministry of Education, GoI, New Delhi and conducted two programmes.

- 1. First Programme with Pt. Ronu Majumdar on 17th October, 2023
- 2. Second Programme with Smt. Sujata Mahapatra on 21st February, 2024



#### Health Camp for Faculty and Staff

Institute took care of health of faculty and staff by organizing Yoga Day, Health Camps, visit of doctors, Games, Fit India movement etc. The faculty and staffs were informed about launching of Toll free number for Mental Health Issues (Tele MANAS) are 14416 and 18008914416 by the Government of India. the information has been uploaded in the Institute Website also.



Doctors from Homeopathic Medical College for medical check Up



Yoga Day Celebration



# 2.1 Staff Development

The institute continued to grow in terms of academic activities, both qualitatively and quantitatively. The qualitative dimensions covered related to continued improvements by way of increased emphasis on applications, case studies and industrial exposure in training programs besides more efficient and effective use of multi-media in teaching-learning process. During 2023-24, 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 2024, 53 students are undergoing Ph.D. programs in different disciplines. The Institute is also the coordinator of Ph.D. QIP (Poly) Scheme of AICTE.

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

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

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

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



#### Admissions made in these programs during 2023-24 are given below:

Staff Development through Education and Training

#### LONG TERM PROGRAMMES

	SESSION:2023-24						
ME (Modular) Programme 2023-24							
On Ma		Ň	No. of Participants			Total	State wise breakup
Sr. No.	Name of the Programme	Poly	EC	Ind.	Gen		
1.	Mechanical Engineering	14	01	-	01	16	RJ-11,HP-02, PB- 01,CHD-01,WB-01
2.	Civil Engineering (Construction Tech. & Management)	06	02	01	03	12	RJ-04,HR-02, WB-03, PB-01 NAGALAND- 01, ARUNACHAL PRADESH-01
3.	Computer Science and Engineering	05	-	02	-	07	RJ-04, PB-01,CHD-01
4.	Electrical Engineering (Instrumentation and Control)	16	-	-	02	18	RJ-16,BIHAR-01, UP- 01
5.	Electronics and Communication Engineering	02	-	-	02	04	RJ-01, CHD-01,PB- 01, AP-01
Total		43	03	03	08	57	
		ME (Reg	gular) P	rogram	nme 2023	3-24	
Sr. No.	Name of the Programme		No. of	Particip	oants	Total	State wise breakup
		Poly	EC	Inc	l. Ge	n	
1.	Mechanical Engineering	-	-	-	01	-	HP-01
2.	Mechanical Engineering (Robotics)	-	-	-	-	-	
3.	Civil Engineering (Construction Tech. & Management)	-	01	-	12	2 12	HP-07, NAGALAND- 01, HR-02, J&K-01, BIHAR-01, UP-01
4.	Computer Science and Engineering	-	-	-	-	-	
5.	Electrical Engineering (Instrumentation and Control)	-	-	-	-	-	
5. 6.	(Instrumentation and Control) Electronics and Communication Engineering	-	-	-	-	-	
	(Instrumentation and Control) Electronics and	-	-	-		-	

Regular: 14 (Batch 2023) and Modular: 57 (Batch-2023) M.E. (Modular & Regular) Total= 71



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

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

The Institute offers need-based and customized short-term courses of one to two weeks' duration for faculty/staff of engineering colleges, polytechnics and working professionals from industry. During the year 2023-24, 353 short-term programs were conducted through contact and ICT mode for faculty/staff of engineering colleges and polytechnics which were attended by 31595 teachers from various states of the country. Besides this, 23945 participants were trained through MOOCs/ NITTT Modules.

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

	Type of Training Programs	No. of Courses/ Programs	No. of Teachers Trained
A)	Short Term Courses		
	Contact Mode	161	3032
	ICT Mode	174	27650
	Consultancy programmes	04	377
	Sponsored Programmes	14	536
	Total:	353	31595
B)	Conferences/Seminars:		
	(i) International	02	99
	(ii) National	02	217
(C)	Training Workshops	35	2305
	Total:		
D)	Students Training Programs	11	298
E)	Curriculum Development Workshops	38	281

#### INTERNATIONAL CONFERENCES ORGANIZED

Sr. No.	Name of the Seminar/Conference	No. of Participants
1.	CPSC-NITTTR-IIT Roorkee collaborative International Colloquium on Industry Academia Integration and Sustainable Development on 6th September, 2023	84



#### INTERNATIONAL CONFERENCES ORGANIZED

Sr. No.	Name of the Seminar/Conference	No. of Participants
2.	CPSC-NITTTR collaborative International Regional Training Program on Role of Business Incubators in Encapsulating Sustainable Development: A TVET Perspective from 4-8 September 2023 at NITTTR Chandigarh.	15

#### NATIONAL CONFERENCES/ SEMINARS ORGANIZED

Sr. No.	Name of the Seminar/Conference	No. of Participants
1.	One day symposium on "Emerging Avenues for Indian MSMEs and Business Start-ups in-line with NEP" on 1 <sup>st</sup> December, 2024	47
2.	National Seminar on "Promotion of Farming, Processing, Marketing and Exports of Organic, Natural and Herbal Products for Viksit Bharat through Cooperatives and Unnat Bharat Abhiyan Institutions" 20- 21 March, 2024	170

#### WORKSHOPS CONDUCTED (OTHER THAN CURRICULUM DEVELOPMENT WORKSHOPS):

Sr. No.	Name of the Workshop along with dates and venue	No. of Participants
1.	Workshop on Pedagogical Skill Enhancement among Technical Teachers in Context of NEP 2020 on 21 <sup>st</sup> April, 2023	125
2.	One Day online Workshop on UBA Action Plan for the Year 2023 -24 on 10.05.2023 at NITTTR, Chandigarh	27
3.	Review workshop on Implementation of CDTP Scheme 12.05.2023 at NITTTR, Chandigarh	40
4.	Review workshop on Implementation of CDTP Scheme 15.05.2023 at NITTTR, Chandigarh	35
5.	Online Workshop on "Vetting NBA SAR Proposal of UG Programme in CSE" under AICTE Margdarshan Scheme on 15 <sup>th</sup> May 2023 for MMEC, Mullana.	16
6.	Online Workshop on "Vetting NBA SAR Proposal of UG Programme in Civil Engg." under AICTE Margdarshan Scheme on 16 <sup>th</sup> May 2023 for MMEC, Mullana.	16
7.	One Day Workshop on Water Conservation and Management (वर्षा जल संरक्षण एबं बाढ़ त्रासदी प्रबंधन) 17.05.2023 at NITTTR, Chandigarh	320
8.	Online Workshop on "Vetting NBA SAR Proposal of MBA Programme" under AICTE Margdarshan Scheme on 17 <sup>th</sup> May 2023 for MMEC, Mullana.	13
9.	Review workshop on Implementation of CDTP Scheme 18.05.2023 at NITTTR, Chandigarh	74
10.	Review workshop on Implementation of CDTP Scheme 19.05.2023 at NITTTR, Chandigarh	66



#### WORKSHOPS CONDUCTED (OTHER THAN CURRICULUM DEVELOPMENT WORKSHOPS):

Sr. No.	Name of the Workshop along with dates and venue	No. of Participants
11.	Workshop on "Vetting Pre-qualifiers of UG Programmes of JMIT, Radaur" under AICTE Margdarshan Scheme on 7 <sup>th</sup> June 2023 at NITTTR, Chandigarh.	4
12.	How to Plan for Start-up and legal and Ethical Steps on 12 <sup>th</sup> June, 2023	2
13.	Indian Knowledge System for Technical, Economic, Historical and Policy Aspects during 29-30 July, 2023 at NITTTR, Chandigarh	46
14.	Workshop on "Preparing CSE and Civil Engg. Departments for NBA Visit" under AICTE Margdarshan Scheme on 5 <sup>th</sup> August 2023 at MMEC, Mullana	21
15.	One-day workshop on Science Teacher Empowerment Meet (STEM) in "Contribution of Scientist and Scientific Institutions in Indian Freedom Struggle: Prof. S.N. Bose" dated 19.08.2023 at Sobhasaria Engg. College, Sikar (Rajasthan)	350
16.	Workshop on "ChatGPT and its usage as Teaching-Learning Tool" on 31 <sup>st</sup> August 2023 at NITTTR Chandigarh	31
17.	Poster Competition on "Successful Landing of Chandrayaan-3" in context of the success of Chandrayaan-3 and Viksit Bharat Abhiyaan held on 8 <sup>th</sup> September, 2023	12
18.	Two days Workshop on Evaluation and setting of question paper from 21 to 22 Sept, 2023	48
19.	National Education Policy-2020 and Indian Knowledge System at NITTTR, Chandigarh on 24 <sup>th</sup> September 2023	25
20.	Workshop on 'Pedagogical Practices' for Faculty of the institute on 31 October, 2023 and 02-03 November, 2023	20
21.	Workshop on "National Entrepreneurship Day" on 9th November, 2023	10
22.	Two Days Training Programme on Teaching Pedagogy for Faculty Members of IIIT, Una from 14-15 November, 2023	38
23.	One day Industry - academia workshop on 16 <sup>th</sup> November, 2023 for finalizing new programmes to be offered by EDIC department in view of the NITTTR Chandigarh getting the deemed to be University status.	10
24.	Promotion of Medical Plant Cultivation Creation of Model Herbal Gardens "Two Days Regional Workshop 20 to 21 Nov, 23	81
25.	Orientation cum Review workshop under UBA 1st Dec, 23	27
26.	Creating Awareness of 'Sexual Harassment at Workplace (Prevention, Prohibition and Redressal) Act, 2013 of POSH ACT on 8 <sup>th</sup> December, 2024.	19
27.	Workshop for Newly Recruited Non-teaching staff of the institute from 14 – 15 December, 2023	16



#### WORKSHOPS CONDUCTED (OTHER THAN CURRICULUM DEVELOPMENT WORKSHOPS):

Sr. No.	Name of the Workshop along with dates and venue	No. of Participants
28.	Two days Online workshop for 'Identification of the training needs of the faculty of Uttar Pradesh state polytechnic colleges' in collaboration with Rural Development Department on 14-15 December, 2023	105
29.	Workshop on Sensitization of POSH Act 2013 on 8th January, 2024	42
30.	Workshop on Entrepreneurship and Rural Development Conclave for School Principal on 31 <sup>st</sup> January, 2024	131
31.	Promotion of Herbal Plants Cultivation and Business in India 31 to 01 Feb 24	36
32.	Workshop on Entrepreneurship and Rural Development Conclave for NSS Members and Village Sarpanchans on 1 <sup>st</sup> February, 2024	61
33.	Workshop on Entrepreneurship and Rural Development Conclave for College Principal on 2 <sup>nd</sup> February, 2024	97
34.	NEP2020: Model Curriculum and contents in Physics- Vision towards Vishvaguru through Bharatiya Languages at NITTTR Chandigarh, 8-9 February 2024	43
35.	Viksit Bharat 2047: Role of Science and Technology in NEP-2020 NITTTR Chandigarh 23-24 March 2024.	58



# 2.2 Instructional Material Development

During the year 2032-24, 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:

#### **Print Material**

Type of Instructional Material	No. Completed during 2023-24
Edited Text Books	05
Book Chapters	86
Laboratory Manuals	03
Readers	02

#### **Text Books**

Sr. No.	Title	Authors
1.	Book: Engineered Ferrites and Their Applications.2023 eds. Springer, <u>https://doi.org/10.1007/978-981-99-2583-4</u>	Pankaj Sharma, Gagan Kumar Bhargava, Sumit Bhardwaj, and Indu Sharma,
2.	Fractal Antenna Design using Bio- inspired computing algorithm ISBN: 978-981-5136-36-4 Bentham Science	Balwinder Singh Dhaliwal, Suman Pattnaik, Shyam S Pattnaik
3.	AI for Big Data-Based Engineering Applications from Security Perspectives. 10.1201/9781003230113 (2023)	Raj, Balwinder & Gupta, Brij B & Yamaguchi, Shingo & gill, sandeep
4.	3D Printing of Sensors, Actuators, and Antennas for Low-Cost Product Manufacturing, CRC Press, Taylor & Francis, 2023	B.S. Dhaliwal, S.S. Pattnaik & Rupinder Singh
5.	Polymer, Metal and Gel Based Additive Manufacturing, (Published in the Series: Advanced Mechanical Engineering, ISBN 978-3-11-108061-1) DE GRUYTER, Berlin, Germany, 2024	Ranvijay Kumar, Vinay Kumar, J P Davim & Rupinder Singh



#### **Book Chapters**

Sr. No.	Title	Authors
1.	Two-Dimensional inorganic Materials for Energy Storage Applications. In Age of MXenes, Volume 3. Applications in energy Storage: Batteries and Super capacitors, pp1025. American Chemical Society, 2023	Nikhil Thakur, Pawan Kumar, and Pankaj Sharma
2.	Emerging materials in advanced oxidation processes for micro- pollutant treatment process: Invited chapter in the book: Recent trends in advanced oxidation processes for micro-pollutant removal edited by Mohammad Khalid, Yuri Park, Rama Rao Karri, Rashmi Walvekar (CRC Press, 2024 Florida, USA, ISBN 9781032162911) Chapter 7, pp. 191-223	Anup Singh, Jashandeep Singh, Ajay asishth, Shashank Priya, Ashok Kumar and Shyam Sundar Pattnaik
3.	Understanding synthesis and characterization of oxide semiconductor nanostructures through the example of nanostructured nickel doped hematite. Invited chapter in the book 'Synthesis and applications of semiconductor nanostructures' edited by Karamjit Singh Dhaliwal (Bentham Science Publishers; Netherlands) Chapter 8, pp. 148-167	Sharmila Kumari Arodhiya, Jaspreet Kocher, Jiri Pechousek, Shashank Priya, Ashok Kumar and Shyam Sundar Pattnaik
4.	Future Applications and Perspective of ZnO." ZnO and Their Hybrid Nano-Structures: Potential Candidates for Diverse Applications 146 (2023): 294-322.	Pawan Kumar, Nikhil Thakur, Pankaj Sharma, Raman Kumar
5.	Potential applications of transition and rare-earth metal substituted magnesium nanoferrites." In Magnetic Nanoferrites and their Composites, pp. 141-164. Woodhead Publishing, 2023.	Jyoti Prakash, Nisha Kumari, Pankaj Sharma, Sachin Kumar Godara, Gagan Kumar
6.	Role of annealing in oxide semiconductors", Defect-Induced Magnetism in Oxide Semiconductors (2023): 247. Woodhead Publishing.	D. C. Sati, Pankaj Sharma
7.	Role of Graphene-Based Materials in Gas Sensing Applications: From Synthesis to Device Fabrication, Handbook of Porous Carbon Materials; Material Horizons: From Nature to Nanomaterials, Springer (2023) P 493-518 (ISBN 978-981-19- 7187-7).	R. Deji, Rahul, B. C. Choudhary, and Ramesh K. Sharma
8.	Introduction to 3D Printing of Sensors, Actuators and Antenna for Low-Cost product manufacturing	Jayant G Joshi, Mandar P Joshi, Balwinder S Dhaliwal, Shyam S Pattnaik
9.	Metamaterial- Based Electrically Small Antennas (ESAs) A Review	Jayant G Joshi and Shyam S Pattnaik
10.	Emerging Materials in Advanced oxidation processes for Micro Pollutant Treatment process	A Singh, J Singh, A Vasishth, A Kumar, SS Pattnaik
11.	Description of Microstrip Meta Material Split Ring Resonator	V Sharma, SS Pattnaik, T Garg, S Devi



Sr. No.	Title	Authors
12.	Al-Based ECG Signal Monitoring System for Arrhythmia Detection Using IoMT in Book: Al for Big Data-Based Engineering Applications from Security Perspectives June 2023	Pushparaj, Amod Kumar and Garima Saini
13.	Design of Permanent Magnet Synchronous Motor for Efficient Solar Pumping System. In: Gabbouj, M., Pandey, S.S., Garg, H.K., Hazra, R. (eds) Emerging Electronics and Automation. E2A 2022. Lecture Notes in Electrical Engineering, vol 1088. pp 427–438, Springer, Singapore. https://doi.org/10.1007/978- 981-99-6855-8_33 Feb. 2024	Harjyot Kalyan, Poonam Syal
14.	Preliminary Response of Transient Electromagnetic Survey System for Buried Metal Detection from Aerial Platform. In: Gabbouj, M., Pandey, S.S., Garg, H.K., Hazra, R. (eds) Emerging Electronics and Automation. E2A 2022. Lecture Notes in Electrical Engineering, vol 1088. pp 547–561, Springer, Singapore. <u>https://doi.org/10.1007/978-981-99-6855-</u> <u>8_42</u> Feb. 2024	Mayank Alaria, Siddhartha Sarkar, Vishal Shrivastava, Poonam Syal, Ashish Gaurav, Ripul Ghosh, Satish Kumar
15.	System Cost Analysis for the Designed Permanent Magnet Synchronous Motor for Solar Pumping System. In: Bhardwaj, A., Pandey, P.M., Misra, A. (eds) Optimization of Production and Industrial Systems. CPIE 2023. Lecture Notes in Mechanical Engineering. Springer, Singapore. pp 393–401 <u>https://doi.org/10.1007/978-981-99-8343-8_36</u> , Feb. 2024.	Harjyot Kalyan, Poonam Syal
16.	Smart indoor air quality monitoring for enhanced living environments and ambient assisted living, Advances in Computers, SCI indexed Book, Elsevier, 2023, ISSN 0065- 2458, <u>https://doi.org/10.1016/bs.adcom.2023.10.008</u>	Jagriti Saini, Maitreyee Dutta, Gonçalo Marques
17.	Artificial Intelligence-Empowered 3D Bioprinting," Al Big Data- Based Eng. Appl. from Secur. Perspect., pp. 1–20, May 2023, doi: 10.1201/9781003230113-1	N. Bhardwaj, M. Sood, and S. S. Gill
18.	Data Pre-processing Techniques for Brain Tumor Classification," Lect. Notes Electr. Eng., vol. 1095, pp. 195– 204, Springer, Singapore, 2024. doi: 10.1007/978-981-99- 7077-3_20. January 2024	N. Bhardwaj, M. Sood, and S. S. Gill
19.	Design and Performance Analysis of InSb/InGaAs/InAIAs High Electron Mobility Transistor for High-Frequency Applications. In: Jha, P.K., Tripathi, B., Natarajan, E., Sharma, H. (eds) Proceedings of Congress on Control, Robotics, and Mechatronics. CRM 2023. Smart Innovation, Systems and Technologies, vol 364. Springer, Singapore. https://doi.org/10.1007/978-981-99-5180-2_11	Rohela, P., Gill, S.S., Raj, B



Sr. No.	Title	Authors
20.	Design of Enhanced Magnitude and Phase Response FIR Fractional-Order Digital Differentiator Using Lightning Attachment Procedure Optimization Algorithm. Manufacturing Technologies and Production Systems: Principles and Practices. 10.1201/9781003367161-32	Bansal, Puneet & Gill, Sandeep
21.	Spintronic Technology Applications for Artificial Intelligence. 10.1201/9781003230113-3 (2023)	Sharma, Parul & Gill, Sandeep & Raj, Balwinder
22.	Integration of 4D Imaging with 4D Printing in book on '4D Imaging to 4D Printing Biomedical Applications' Chapter 1 2023, pp 1-25 DOI: 10.1201/9781003205531-1 CRC Press 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, FL 33487-2742	KS Boparai, Abhishek Kumar, Rupinder Singh
23.	Use of Open-Source 4D Imaging Tools for Biomedical Application in book on '4D Imaging to 4D Printing Biomedical Applications' Chapter 2 2023, pp 27-39 DOI: 10.1201/9781003205531-2 CRC Press 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, FL 33487-2742	Abhishek Kumar, Abhishek Barwar, Rupinder Singh
24.	Orthopedic and Dental 4D Requirements for Veterinary Patients in book on '4D Imaging to 4D Printing Biomedical Applications' Chapter 3 2023, pp 41-51 DOI: 10.1201/9781003205531-3 CRC Press 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, FL 33487-2742	Ranvijay Kumar, Rupinder Singh
25.	A Case Study for Dentistry Application Using Medical Imaging in book on '4D Imaging to 4D Printing Biomedical Applications' Chapter 4 2023, pp 53-65 DOI: 10.1201/9781003205531-4 CRC Press 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, FL 33487-2742	Abhishek Kumar, Smruti Ranjan Pradhan, Rupinder Singh, Vaibhav Sahani
26.	Low-Cost, Indigenous, Lab-Scale Solutions for Various Biomedical Applications of Veterinary Patients: Clinical Dentistry and Orthopedic in book on '4D Imaging to 4D Printing Biomedical Applications' Chapter 5 2023, pp 67-83 DOI: 10.1201/9781003205531-5 CRC Press 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, FL 33487-2742	Anish Das, Abhishek Kumar, Rupinder Singh
27.	In-house Development of Smart Materials for 4D Printing in book on '4D Imaging to 4D Printing Biomedical Applications' Chapter 6 2023, pp 85-101 DOI: 10.1201/9781003205531-6 CRC Press 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, FL 33487-2742	Vinay Kumar, Rupinder Singh, Inderpreet Singh Ahuja

Sr. No.	Title	Authors
28.	A Case Study on the Use of In-house Prepared Filaments for 4D Printing Applications in Orthopedics in book on '4D Imaging to 4D Printing Biomedical Applications' Chapter 7 2023, pp 103- 118 DOI: 10.1201/9781003205531-7 CRC Press 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, FL 33487-2742	Rupinder Singh, Abhishek Barwar
29.	A Case Study of 4D-Imaging-Assisted 4D Printing for Clinical Dentistry for Canines in book on '4D Imaging to 4D Printing Biomedical Applications' Chapter 8 2023, pp 119-136 DOI: 10.1201/9781003205531-8 CRC Press 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, FL 33487-2742	Smruti Ranjan Pradhan, Minhaz Husain, Rupinder Singh, Sukhwant Singh Banwait
30.	3D Printing of Sensors, Actuators, and Antennas: Materials and Processes in book on '3D Printing of Sensors, Actuators, and Antennas for Low-Cost Product Manufacturing' Chapter 2 2023, pp 13-29 DOI: 10.1201/9781003194224 CRC Press 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, FL 33487- 2742	Chahat Jain, Balwinder S. Dhaliwal, Rupinder Singh
31.	Lab-Scale Solutions for Sensors, Actuators, and Antennas: Economic and Environmental Justification in book on '3D Printing of Sensors, Actuators, and Antennas for Low-Cost Product Manufacturing' Chapter 5 2023, pp 87-106 DOI: 10.1201/9781003194224 CRC Press 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, FL 33487-2742	Rupinder Singh, Abhishek Barwar, Anish Das
32.	Flexible and Wearable Patch Antenna Using Additive Manufacturing for Modern Wireless Applications in book on '3D Printing of Sensors, Actuators, and Antennas for Low-Cost Product Manufacturing' Chapter 6 2023, pp 107-121 DOI: 10.1201/9781003194224 CRC Press 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, FL 33487-2742	Sanjeev Kumar, Rupinder Singh, Amrinder Pal Singh, Yang Wei
33.	4D Printed Smart Sensor, Actuators, and Antennas in book on '3D Printing of Sensors, Actuators, and Antennas for Low-Cost Product Manufacturing' Chapter 7 2023, pp 123-135 DOI: 10.1201/9781003194224 CRC Press 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, FL 33487-2742	Vinay Kumar, Rupinder Singh, Inderpreet Singh Ahuja, Sanjeev Kumar
34.	Case Study on the Development of Polymer Composite for Sensors, Actuators, and Antennas in book on '3D Printing of Sensors, Actuators, and Antennas for Low-Cost Product Manufacturing' Chapter 8 2023, pp 137-154 DOI: 10.1201/9781003194224 CRC Press 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, FL 33487-2742	Rupinder Singh, Abhishek Barwar
35.	Rapid tooling fabrication using 3D printing 2023, Dol:10.1016/B978-0-323-96020-5.00061-3 Comprehensive Materials Processing, 2e (Elsevier)	Kamaljit Singh Boparai, Rupinder Singh



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36.	Wear Analysis of LDPE Composite Parts Fabricated by FDM 2023,Dol:10.1016/B978-0-323-96020-5.00068-6 Comprehensive Materials Processing, 2e (Elsevier)	Kamaljit Singh Boparai, Rupinder Singh
37.	Dental crown fabrication for canine using DMLS 2023, Dol:10.1016/B978-0-323-96020-5.00073-X Comprehensive Materials Processing, 2e (Elsevier)	S R Pradhan, Rupinder Singh, S S.Banwait
38.	Orthopedic implant fabrication for canine using DMLS: A case study 2023, Dol: 10.1016/B978-0-323-96020-5.00078-9 1 Comprehensive Materials Processing, 2e (Elsevier)	Rupinder Singh, Minhaz Husain
39.	Bone model studies for DMLS-based 3D printed intramedullary pin 2023, Dol: 10.1016/B978-0-323-96020-5.00079-0 1 Comprehensive Materials Processing, 2e (Elsevier)	Rupinder Singh, Minhaz Husain
40.	Shape memory as 4D property in ABS-PLA-Al composite 2023, Dol: 10.1016/B978-0-323-96020-5.00064-9 Comprehensive Materials Processing, 2e (Elsevier)	Vinay Kumar, Rupinder Singh
41.	Multi-material 3D printing using DMLS 2023, Dol:10.1016/B978- 0-323-96020-5.00082-0 Comprehensive Materials Processing, 2e (Elsevier)	Rupinder Singh, Minhaz Husain, Sahil Mehra
42.	Smart biosensor fabrication for online health monitoring 2023, Dol:10.1016/B978-0-323-96020-5.00083-2 Comprehensive Materials Processing, 2e (Elsevier)	Rupinder Singh, Arvind Kumar
43.	Metal 3D printing of smart implants 2023, In-Press Dol:10.1016/B978-0-323-96020-5.00097-2 Comprehensive Materials Processing, 2e (Elsevier)	Rupinder Singh, Shubham Kumar, SS Banwait
44.	Fabrication of biocompatible dental implants for strategic teeth of veterinary patients using metal printing 2023, Dol: <u>https://doi.org/10.1016/B978-0-323-96020-5.00108-4</u> Comprehensive Materials Processing, 2e (Elsevier)	S R Pradhan, Rupinder Singh, S.S Banwait
45.	Bone model studies for DMLS based 3D printed innovative dental implant 2023, In-Press Dol:10.1016/B978-0-323-96020- 5.00111-4 Comprehensive Materials Processing, 2e	Rupinder Singh, Minhaz Husain



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46.	Multi-piece innovative dental implants for human dentistry using powder bed fusion 2023, Dol:10.1016/B978-0-323-96020-5.00109-6 1 Comprehensive Materials Processing, 2e (Elsevier)	S R Pradhan, Rupinder Singh, Vaibhav Sahni
47.	Innovative multi-material bio-sensor fabrication for veterinary patients 2023, In-Press Dol:10.1016/B978-0-323-96020- 5.00110-2 Comprehensive Materials Processing, 2e (Elsevier)	Rupinder Singh, Arvind Kumar
48.	Pre-and post-processing effects on the fabrication of PLA composite-based scaffolds 2023, In-Press Dol:10.1016/B978-0-323-96020-5.00115-1 Comprehensive Materials Processing, 2e (Elsevier)	Kamaljit Singh, Rupinder Singh, Ranvijay Kumar
49.	PLA-PCL nanofibers-based porous structures 2023, In-Press Dol:10.1016/B978-0-323-96020-5.00113-8 Comprehensive Materials Processing, 2e (Elsevier)	Ranvijay Kumar, Rupinder Singh, Nishant Ranjan, Vinay Kumar
50.	Effect of chemical-assisted friction stir welding of thermoplastics 2023, In-Press Dol:10.1016/B978-0-323-96020-5.00116-3 Comprehensive Materials Processing, 2e (Elsevier)	Ranvijay Kumar <sup>1</sup> , Rupinder Singh², Minhaz Husain²
51.	Single Screw Extrusion for Recycling of Biomedical Scaffolds 2023, In-Press Dol:10.1016/B978-0-323-96020-5.00114-X Comprehensive Materials Processing, 2e (Elsevier)	Nishant Ranjan, Ranvijay Kumar, Rupinder Singh
52.	Friction stir welding of ABS-carbon fiber sandwich structure 2023, In-Press Dol:10.1016/B978-0-323-96020-5.00125-4 Comprehensive Materials Processing, 2e (Elsevier)	Vinay Kumar, Ranvijay Kumar, Rupinder Singh, Nishant Ranjan
53.	Co-relation matrix for 4D printing of PVDF-graphene-Mn-ZnO composite for non-structural applications 2023, In-Press DoI:10.1016/B978-0-323-96020-5.00128-X Comprehensive Materials Processing, 2e (Elsevier)	Vinay Kumar, Rupinder Singh, IPS Ahuja
54.	Comprehensive Review on 4D printing using powder bed fusion 2023, In-Press Dol:10.1016/B978-0-323-96020-5.00127-8 1 Comprehensive Materials Processing, 2e (Elsevier)	G. Singh, Vinay Kumar, Rupinder Singh
55.	4D printing of dental implants using powder bed fusion technique 2023, In-Press Dol:10.1016/B978-0-323-96020-5.00126-6 1 Comprehensive Materials Processing, 2e (Elsevier)	SR Pradhan, Rupinder Singh, Arvind Kumar



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56.	Multi-material (fabric and thermoplastic) printed substrate for 4D applications 2023, In-Press Comprehensive Materials Processing, 2e (Elsevier)	Sanjeev Kumar, Rupinder Singh, AP Singh
57.	One-way/two-way programming of fabric thermoplastic substrate for sensor applications 2023, In-Press Comprehensive Materials Processing, 2e (Elsevier)	Sanjeev Kumar, Rupinder Singh, Shubham Kumar, AP Singh
58.	On effect of dielectric properties for RF characterization using extrusion printed PLA substrate with gel printed PLA via bio- printing 2023, In-Press Dol:10.1016/B978-0-323-96020- 5.00138-2 1 Comprehensive Materials Processing, 2e (Elsevier)	Rupinder Singh, Minhaz Husain, Ankush Mehta
59.	Multi-material printing of thermoplastics using bio-printers 2023, In-Press Dol:10.1016/B978-0-323-96020-5.00137-0 1 Comprehensive Materials Processing, 2e (Elsevier)	Ankush Mehta, Rupinder Singh, B.S. Pabla
60.	Co-relation matrix for 4D properties of PVDF-CaCO3 composite for non-structural applications 2023, In-Press DoI:10.1016/B978-0-323-96020-5.00139-4 Comprehensive Materials Processing, 2e (Elsevier)	Vinay Kumar, Rupinder Singh, IPS Ahuja
61.	Meta structure-based 3D printing: A statistical analysis 2023, In- Press Dol:10.1016/B978-0-323-96020-5.00144-8 Comprehensive Materials Processing, 2e (Elsevier)	Minhaz Husain, Vinay Kumar, G. Singh, Rupinder Singh, IPS Ahuja
62.	Pre and post-processing effects on the fabrication of PLA composite-based filaments 2023, In-Press Dol: 10.1016/B978- 0-323-96020-5.00150-3 Comprehensive Materials Processing, 2e (Elsevier)	Nishant Ranjan, Ranvijay Kumar, Rupinder Singh
63.	Primary, Secondary, and tertiary recycling of PLA composite- based bio-medical scaffolds 2023, In-Press Dol:10.1016/B978- 0-323-96020-5.00149-7 1 Comprehensive Materials Processing, 2e (Elsevier)	Ankush Mehta, Rupinder Singh, BS Pabla
64.	Multi-material 3D printing of smart composites 2023, In-Press Dol:10.1016/B978-0-323-96020-5.00146-1 Comprehensive Materials Processing, 2e (Elsevier)	Nishant Ranjan, Vinay Kumar, Ranvijay Kumar, Rupinder Singh
65.	PVDF composite-based smart sensor 2023, In-Press Dol:10.1016/B978-0-323-96020-5.00148-5 1 Comprehensive Materials Processing, 2e (Elsevier)	Minhaz Husain, Rupinder Singh, Bahadur Singh Pabla, Vinay Kumar



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66.	Flame retardant, recyclable 3D printed thermoplastic composite-based energy storage device 2023, In-Press Dol:10.1016/B978-0-323-96020-5.00147-3 Comprehensive Materials Processing, 2e (Elsevier)	Nishant Ranjan, Vinay Kumar, Ranvijay Kumar, Rupinder Singh
67.	On 3D printing of Salix alba reinforced thermoplastic composite for biomedical application 2023, In-Press Dol:10.1016/B978-0- 323-96020-5.00165-5 Comprehensive Materials Processing, 2e (Elsevier)	Minhaz Husain, Rupinder Singh, Ranvijay Kumar, Seema R
68.	4D capabilities of PVDF-graphene-based substrates: mechanical, rheological, and RF characterization 2023, In- Press Dol:10.1016/B978-0-323-96020-5.00164-3 Comprehensive Materials Processing, 2e (Elsevier)	Vinay Kumar, Rupinder Singh
69.	An overview of 3D bio-printers for fabrication of bio-sensors 2023, In-Press Dol: 10.1016/B978-0-323-96020-5.00163-1 Comprehensive Materials Processing, 2e (Elsevier)	Ankush Mehta, Rupinder Singh, B S Pabla, Kamaljit Singh Boparai
70.	Co-relation matrix for fabrication of PVDF-based energy storage devices 2023, In-Press Dol:10.1016/B978-0-323-96020-5.00169-2 Comprehensive Materials Processing, 2e (Elsevier)	Vinay Kumar, Rupinder Singh
71.	Bio-printing on the thermoplastic substrate for functionally graded materials with improved dielectric properties 2023, In- Press Dol:10.1016/B978-0-323-96020-5.00168-0 Comprehensive Materials Processing, 2e (Elsevier)	Ankush Mehta, Rupinder Singh, B S Pabla, Kamaljit Singh Boparai
72.	Characterization of magnesium-based surface composite fabricated for friction stir processing 2023, In-Press Dol:10.1016/B978-0-323-96020-5.00173-4, Comprehensive Materials Processing, 2e (Elsevier)	RanvijayKumar, Vinay Kumar, Rupinder Singh, N.Ranjan
73.	On extrusion of PLA-salix alba feedstock filament for scaffolding applications 2023, In-Press Dol:10.1016/B978-0-323-96020-5.00174-6 Comprehensive Materials Processing, 2e (Elsevier)	N. Ranjan, R. Kumar, Rupinder Singh, Seema Ramniwas
74.	Mechanical and morphological characterization of gel and extrusion printed PLA matrix 2023, In-Press Dol:10.1016/B978- 0-323-96020-5.00172-2 Comprehensive Materials Processing, 2e (Elsevier)	Ankush Mehta, Rupinder Singh, B S Pabla, K.S. Boparai
75.	3D-printed smart functional prototypes as sensors and actuators for robotic applications 2024, pp 1-16 Dol: 10.1515/9783111081632-001 Book Title: 3D printing, Walter de Gruyter GmbH, Genthiner Str. 13, 10785 Berlin, Deutschland	Abhishek Barwar, Prateek Kala, Rupinder Singh

Sr. No.	Title	Authors
76.	Biomimetic-based 3D-printed smart implants 2024, pp 17-35 Dol: 10.1515/9783111081632-002 Book Title: 3D printing, Walter de Gruyter GmbH, Genthiner Str. 13, 10785 Berlin, Deutschland	Minhaz Husain, Rupinder Singh, Bahadur Singh Pabla, Seema Ramniwas, Ranvijay Kumar
77.	3D-printed self-energized energy storage device for biomedical applications 2024, pp 37-55 Dol: 10.1515/9783111081632-003 Book Title: 3D printing, Walter de Gruyter GmbH, Genthiner Str. 13, 10785 Berlin, Deutschland	Minhaz Husain, Rupinder Singh, Bahadur Singh Pabla
78.	4D printing of smart thermoplastic composites for online health monitoring 2024, pp 57-75 Dol: 10.1515/9783111081632-004 Book Title: 3D printing, Walter de Gruyter GmbH, Genthiner Str. 13, 10785 Berlin, Deutschland	Vinay Kumar, N.Ranjan, Rupinder Singh, IPS Ahuja
79.	Development of 3D metal-printed smart dental implants 2024, pp 77-99 Dol: 10.1515/9783111081632-005 Book Title: 3D printing, Walter de Gruyter GmbH, Genthiner Str. 13, 10785 Berlin, Deutschland	Bharat Kalia, Rupinder Singh, J. P.Davim
80.	3D metal printing of partially absorbable smart orthopedic implant 2024, pp 101-122 Dol: 10.1515/9783111081632-006 Book Title: 3D printing, Walter de Gruyter GmbH, Genthiner Str. 13, 10785 Berlin, Deutschland	G.Singh, Rupinder Singh, Minhaz Husain, V.Kumar
81.	Metastructure-based metal 3D printing for innovative application 2024, pp 123-139 Dol: 10.1515/9783111081632-007 Book Title: 3D printing, Walter de Gruyter GmbH, Genthiner Str. 13, 10785 Berlin, Deutschland	Minhaz Husain, Rupinder Singh, Arvind Kumar, J. Paulo Davim
82.	Partially absorbable 3D-printed implant for health monitoring 2024, pp 141-154 Dol: 10.1515/9783111081632-008 Book Title: 3D printing, Walter de Gruyter GmbH, Genthiner Str. 13, 10785 Berlin, Deutschland	G. Singh, Rupinder Singh, Minhaz Husain , Vinay Kumar, J. Paulo Davim
83.	Smart foot sensors by 3D bioprinting 2024, pp 155-166 Dol: 10.1515/9783111081632-009 Book Title: 3D printing, Walter de Gruyter GmbH, Genthiner Str. 13, 10785 Berlin, Deutschland	Ankush Mehta, Rupinder Singh, Bahadur Singh Pabla
84.	3D-printed stockings for controlled drug delivery 2024, pp 167- 179 Dol: 10.1515/9783111081632-010 Book Title: 3D printing, Walter de Gruyter GmbH, Genthiner Str. 13, 10785 Berlin, Deutschland	Ranvijay Kumar, Rupinder Singh, Vishal Thakur , Deepika Kathuria, Seema Ramniwas
85.	3D printing-based smart solutions to boost the circular economy 2024, pp 181-197 Dol: 10.1515/9783111081632-011 Book Title: 3D printing, Walter de Gruyter GmbH, Genthiner Str. 13, 10785 Berlin, Deutschland	Vishal Thakur, Ranvijay Kumar, Rupinder Singh



Sr. No.	Title	Authors
86.	Life cycle analysis for economic and environmental justification of 3D-printed smart functional prototypes 2024, pp 199-224 Dol: 10.1515/9783111081632-012 Book Title: 3D printing, Walter de Gruyter GmbH, Genthiner Str. 13, 10785 Berlin, Deutschland	Kanwer Ajit Singh , Amrinder Pal Singh, Rupinder Singh, Yang Wei

#### Lab Manual

Sr. No.	Title	Authors
1.	Design of Embedded system using PICSIM LAB simulator and MP LAB	Dr. Kanika Sharma
2.	'Step by step modeling using Pro/E'	Dr. P. S. Rao
3.	'Step by step manufacturing using Pro/CAM'	Dr. P. S. Rao

#### **Reader**

Sr. No.	Title	Authors	
1.	'CNC machining and programming'	Dr. P. S. Rao	
2.	'Reverse Engineering'	Dr. P. S. Rao	

#### Non Print Material (Digital Resources)

115

No. of Video Films Produced





Number of Video Films edited and uploaded in NCTEL Youtube channel

The information regarding the instructional material developed has been disseminated to the technical institutions of the region and outside to enable them to use the same.



# List of Produced Films (April 2023- March 2024)

Sr. No.	Title of the Video
1.	Microcontroller 8051 Part I by Dr. Ritula Thakur
2.	Micro controllers 8051 Part II by Dr. Ritula Thakur
3.	Embedded – C Programming by Dr. Ritula Thakur
4.	Illumination Control using SCR by Dr. Simi SL
5.	PLC Microcontrollers Embedded C pgm & microcontroller by Dr. Ritula Thakur
6.	Embedded C programming of microcontroller by Dr. Ritula Thakur
7.	Microcontroller Series Timer Program of 8051 by Dr. Ritula Thakur
8.	Microcontroller Series Timer Program Part 2 of 8051 by Dr. Ritula Thakur
9.	Semiconductor ki pratirodhakta ko mapna by Dr. Pankaj Sharma
10.	Creating Hexfile using Keil Compiler by Dr. Ritula Thakur
11.	IOT- Characteristics and Applications by Dr. Maitreyee Dutta
12.	IOT- History and Architecture of IoT by Dr. Maitreyee Dutta
13.	Security and Privacy in IOT by Dr. Maitreyee Dutta
14.	Introduction to ARDUINO by Dr. Maitreyee Dutta
15.	Introduction to ARDUINO IDE Part-1 by Dr. Jagriti
16.	Introduction to ARDUINO IDE Part-2 by Dr. Jagriti
17.	Pin Diagram ARDUINO by Dr. Maitreyee Dutta
18.	LED and Switch Interfacing ARDUINO – Part II by Dr. Jagriti
19.	LED and Switch Interfacing with ARDUINO by Dr. Jagriti
20.	Interfacing LCD using ARDUINO by Dr. Jagriti
21.	Interfacing MQ7 Sensor (Carbon Monoxide)with Arduino and LCD by Dr. Jagriti
22.	Sensor and Actuators by Dr. M Dutta
23.	Interfacing Sound sensor and LED with ARDUINO by Dr. Jagriti
24.	Designing LED Bar Graph with ARDUINO by Dr. Jagriti
25.	Interfacing DHTH (Tempt + Humidity Sensor )with ARDUINO by Dr. M Dutta
26.	Interfacing Water Level Sensor by Dr. M Dutta
27.	LDR and LED Interfacing with ARDUINO by Dr. Jagiriti
28.	Interfacing Heartbeat Sensor with ARDUINO by Dr. Jagriti
29.	Interfacing Fire Detection/ Flame Detection using Buzzer and ARDUINO UNO by Dr. Jagriti
30.	Interfacing Soil- Moisture Sensor with ARDUINO by Dr. M Dutta
31.	Interfacing IR Sensor and Sensor Motor with ARDUINO UNO by Dr. Jagriti
32.	Case Study Designing Hardware System for IAQ Motor by Dr. Jagriti
33.	NEP की समझ (Students Bite) by Anvesha
34.	NEP की समझ (Students Bite) by Pankaj

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# List of Produced Films (April 2023- March 2024) (contd..)

Sr. No.	Title of the Video
35.	NEP की समझ (Students Bite) by Rahul
36.	NEP की समझ (Students Bite) by Ravi
37.	NEP की समझ (Students Bites) by Hansraj
38.	NEP की समझ (Students Bites) by Ankit
39.	Ek Bharat Shreshth Bharat by (Dr. Manisha + Students)
40.	PLC Block Diagram Narration by Dr. Ritula Thakur
41. 42.	3D Metal Printer invision and Narration by Prof Rupinder Singh punjabi 3D Metal Printer invision and Narration by Prof Rupinder Singh hindi
42.	3D Metal Printer invision and Narration by Prof Rupinder Singh english
44.	Narration Recording for Institute Film by Nirmohi ji
45.	Digital electronic intro MOOC Punjabi Dr Balwinder Dhaliwal
46.	Digital electronic intro MOOC English Dr Balwinder Dhaliwal
47.	Digital electronic intro concepts English Dr Balwinder Dhaliwal
48.	Digital electronic intro concepts ( unjabi) Dr Balwinder Dhaliwal
49.	Joyful Learning- Ms Jyothi N Belwadi St joseph school 45 (CBSE)
50.	Number System(Punjabi) Dr.BS Dhaliwal
51.	Number System(English) Dr.BS Dhaliwal
52.	Evolution from 1G to 5G(Hindi) Dr. Garima Saini
53.	Introductory video PLC and Microcontroller shrankhla Ritula thakur
54.	Intro IoT Design Concept and Use Cases
55.	Arduino Based Hardware Design for Agriculture Application
56.	IoT System for Agri Application
57.	Indoor Air Quality Monitoring System
58.	Interfacing ESP 8266 with Arduino Uno
59.	Artificial Intelligence in IoT by Dr. SS Gill
60.	Signature Video (Meri Bhasha Mera Desh )
61.	Introductory Video of Virtual Education Dr Maitreyee Dutta
62.	Higher module on Institutional management Dr S K Dhameja
63.	Binary Number System (Punjabi)



# List of Produced Films (April 2023- March 2024) (contd..)

Sr. No.	Title of the Video		
64.	Communication protocol part 1 by Dr. Kamaldeep		
65.	Communication protocol part 2 by Dr. Kamaldeep		
66.	Octal number (PB) Dr Dhaliwal		
67.	Hexadecimal Number System		
68.	Thermodynamics (Punjabi) by Dr Neeraj Bala		
69.	Contiki OS Part1 Dr. Manisha		
70.	Contiki OS Part 2 (Software)- Dr. Manisha		
71.	Thermodynamics part 2 dr neeraj bala		
72.	PTU Video on Foundation course on Holistic Human Health		
73.	Chandrayaan Success video		
74.	Press Conference on NEP		
75.	India's vision 2047 by Shaurya Doval		
76.	Institute Video in Hindi		
77.	Philosophy and Concept of Entrepreneurship		
78.	Competencies of an Entrepreneur		
79.	Opportunity Identification and Product Selection		
80.	Entrepreneurial Ecosystem, Ecosystem at National Level		
81.	Ecosystem at State and District Level, Science Park and Research Park		
82.	Business Incubation		
83.	Entrepreneurial Ecosystem and Business Incubation: Case Study		
84.	Features and Processes		
85.	Technology Development Models		
86.	New Product Technology and System Development		
87.	Innovation Processes and Models		
88.	Creativity Innovation & Future of TechDev		
89.	IPR and Patenting by Dr Niraj Bala		
90.	Technology Transfer, IPR Landscaping by Dr Niraj Bala		

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# List of Produced Films (April 2023- March 2024) (contd..)

Sr. No.	Title of the Video		
91.	IP Evaluation, Creating and Managing by Dr Niraj Bala		
92.	Various form of Business Org Part 1		
93.	Various form of Business org Part 2		
94.	Business Plan Formulation Part 1		
95.	Business Plan Formulation Part 2		
96.	Industrial Laws in India – I by Dr SK Dhameja		
97.	Industrial Laws in India – II by Dr SK Dhameja		
98.	Industrial Laws in India – III by Dr SK Dhameja		
99.	Industrial Laws in India – IV by Dr SK Dhameja		
100.	Ecosystem for Rural Entrepreneurship by Dr Niraj Bala		
101.	Rural Marketing by Dr Niraj Bala		
102.	Managing Rural Startups by Dr SS Gill		
103.	Agri based Business by Dr SS Gill		
104.	Introduction to Digital Marketing and Branding		
105.	Digital Marketing Strategy		
106.	Online Survey and Promotion of Products and Services		
107.	Effective Product /Service Comm.		
108.	Brand Creation, Development Management		
109.	Functions of Management		
110.	Production Management		
111.	Financial Management		
112.	Human Resource Management		
113.	Blue Ocean Strategy		
114.	Meditation for Self Awareness by Anuradha Chawla		
115.	Morning Meditation Intentions by Anuradha Chawla		



Sr. No.	Title of the Video	
1.	Goals & Time Management by Dr Shilpa Suri	
2.	Performance Management for achieving Vision And Mission by Dr Bimal Anjum	
3. Emerging Media for Academic Administration by dr Suniti Dutt		
4. Building Creativity for change Management by Ms Manjula Sularia		
5.	Academic Leadership and excellence in Institutional Management by Dr SS Pattnaik	
6.	Organizational communication by dr Manjula Sularia	
7.	Strategic planning for Future growth and Development by Dr Ashish Sahajpal	
8.	Student Assessment and evaluation for effective performance by Dr Sunil Dutt	
9.	Institutional Management and Academic Administration by Dr RK Wats	
10.	Academic Leadership for excellence in Institutional Management Societal and ethical Ramifications by Dr Sanjeev Sharma	
11.	Effective Curriculum Administration and Management by Er. PK Singla	
12.	Building Excellence in technical Institution by Dr JS Saini	
13.	Air pollution, Health Effects & Remediation Technology by Dr Indramani Dhada	
14.	Biofuel and its Production by Dr Surendra Singh Kacchwaha	
15.	Wind Power Generation by Dr AV Ravi Teja	
16.	Energy Efficient and affordable Building construction by Dr Amit Goyal	
17.	IoT and its application by Dr Garima Saini	
18.	Open AI Platform & Guidelines for NEP 2020	
19. Basics of Video Production by Dr Kamaldeep		
20.	Visual Learning & MOOC Development Part I by Dr Kamaldeep	
21.	Visual Learning & MOOC Development Part I by Dr Kamaldeep	
22.	Immersive Learning through Virtual Reality by Mr. Prerak Mittal	
23.	Empowering Learning through Augmented Reality by Dr Suniti Dutt	
24.	Empowering Learning through Augmented Reality Advance Level by Dr Manisha Malik	
25.	Technology for Feedback Analysis and Corrective Action Part I by Dr Gaurav Kumar	
26.	Technology for Feedback Analysis and Corrective Action Part II by Dr Gaurav Kumar	
27.	NEP-2020: Verticals & Salient Features Part I by Dr SS Pattnaik	
28.	NEP-2020: Verticals & Salient Features Part II by Dr SS Pattnaik	
29.	Virtual Labs by Dr Manisha Malik	
30.	Creating and Running a Channel by Er. Monika Arora	
31.	Live streaming using OBS by Er. Monika Arora	
32.	Cyber Laws by Dr. Suniti Dutt	
33.	Web Password Sniffing and Cracking by Dr. Shweta Sharma	
34.	Safe Online/ Mobile Banking by Dr. Manisha Malik	



Sr. No.	Title of the Video	
35.	Protecting yourself over Social Media: Do's and Dont's by Er. Monika Arora	
36.	Intellectual Property Rights in terms of print learning material by Er. Amardev Singh	
37. Android App security Audit and Vulnerability Analytics by Dr Gaurav Kumar		
38.	Active Learning Strategies for Developing Team Spirit by Er. Amandeep Kaur	
39.	Coaching and Mentoring Team by Prof. (Dr.) Sanjeev K. Sharma	
40.	Creativity: Concept and Process by Prof. (Dr.) Rakesh K Wats	
41.	Developing Creativity by Er. Amandeep Kaur	
42.	Developing Interpersonal Relations by Prof. (Dr.) Vidhu Mohan	
43.	Effective Communication by Prof. (Dr.) Sunil Dutt	
44.	Motivating Oneself and Others by Dr. Shilpa Suri	
45.	Conflict Management Strategies by Dr. Manjula Sularia	
46.	Motivating Students by Prof. (Dr.) Sunil Dutt	
47.	Motivation: Concept, Types and Theories by Dr. Manjula Sularia	
48.	Team Building: Concept, Stages and Creating High Performance Teams by Er. Rama Chhabra	
49.	Strategic Planning and Management by Prof. (Dr.) S K Dhameja	
50.	Success Mindset for Leaders by Dr. Shilpa Suri	
51.5C Steps in Strategic Planning Process by Prof. (Dr.) S K Dhameja52.Leadership Qualities for Strategic Management by Ms. Jyoti Solaria		
		53.
54.	Critical Thinking and Problem Solving by Ms. Anuradha Chawla	
55.	Performance Appraisal by Shri Hitesh Kumar Gulati	
56.	Conflict Management by Prof. (Dr.) Sanjeev Chaddha	
57.	Emotional Intelligence by Ms. Manisha Gupta	
58.	SWOT Analysis including a Case Study of Transmission Organization by Prof. S Rangnekar	
59.	Attitude is Altitude by Ms. Anuradha Chawla	
60.	Tips for Making a Power Point by Dr. Mala Kalra	
61.	Resume Building and Writing by Ms. Suditi Jindal	
62.	Instructional Strategies by Prof. (Dr.) Sunil Dutt	
63.	Self-Grooming Etiquette and Manners by Ms. Anuradha Gupta Chawla	
64.	Enhancing Students' Motivation during Instructions by Dr. Shilpa Suri	
65.	Power of Non-verbal Communication by Dr. Shilpa Suri	
66.	Online Learning –Concept, Significance and Characteristics by Er. Amandeep Kaur	
67.	Writing Learning Outcomes by Dr. P K Tulsi	
68.	Flipped Classroom: Concept, Features/Implications for Teaching-Learning by Dr. Sunil Dutt	



Sr. No.	Title of the Video		
69.	Communicating Online: Creating Blogs; Online Discussion Forums by Dr. Suditi Jindal		
70.	Blended Learning by Er. Amandeep Kaur		
71.	Social Media based Platforms for Academics by Dr. Gaurav Kumar		
72.	<ul> <li>Al based tools for Content Generation and Editing by Dr. Gaurav Kumar</li> <li>Effective Use of Google Classrooms by Dr. Jagriti Saini</li> <li>Assessment of Student Performance: Concept, Method and Characteristics by Dr. P K T</li> </ul>		
73.			
74.			
75.			
76.	Online Evaluation Tools by Dr. Gaurav Kumar		
77.	Designing Rubrics for Classroom Assessment by Er. Amandeep Kaur		
78.	Augmented Reality and Virtual Reality Integrated Teaching Sessions by Dr. Jagriti Saini		
79.	Effective Classroom Communication by Dr. Suditi Jindal		
80.	Cooperative and Collaborative Teaching Methods by Er. Amandeep Kaur		
81.	Effective Teaching Learning Using Social Media by Er. Rama Chhabra		
82.	Systematic Approach to Instruction by Prof. (Dr.) Sunil Dutt		
83.	Integrating Social Media for Teaching by Dr. Suditi Jindal		
84.         Learner Centered Instruction Methods Case Study Seminar Group Discussion by Pro P K Tulsi           85.         Writing Learning Outcomes by Prof. (Dr.) P K Tulsi           86.         Role of Teachers in Promotion of Govt Missions for Sustainable Development by Pro U N Roy			
		87.	Understanding Learning and Learners by Prof. (Dr.) U N Roy
		88.	Assessment of Student Performance by Prof. (Dr.) P K Tulsi
89.	Design of Rubrics by Er. Amandeep Kaur		
90.	Design of Various Online Evaluation Tools by Dr. Jagriti Saini		
91.	Motivating Students by Prof. (Dr.) Sunil Dutt		
92.	NEP 2020 Improvising Ecosystem of HEIs by Dr. R K Dubey		
93.	Planning and Organization of Practical Project Work by Er. P K Singla		
94.	Research Methodology by Prof. (Dr.) Sunil Dutt		
95.	Setting Question Paper by Prof. (Dr.) P K Tulsi		
96.	Writing Test Items by Prof. (Dr.) Sunil Dutt		
97.	Outcome Based Education by Dr. Meenakshi Sood		
98.	Outcome Based Education-Curriculum Design by Dr. Sanjeev Sofat		
99.	Industry Academia Linkage by Prof. JS Saini		
100.	Blooms Taxonomy by Mr. P K Singla		
101.	Formulation and Articulation of Learning Outcomes by Prof. PS Grover		
102.	Setting of Question Papers as OBE by Prof. PK Tulsi		



Sr. No.	Title of the Video	
103.	Online Evaluation Tools by Dr. Gaurav Kumar	
104.	Optimal Learning Environment and Support by Ms. Anuradha Chawla	
105. Key Insights of NEP 2020 for Curriculum Design by Dr. Meenakshi Sood		
106.		
107.	Curriculum design Process by Dr Meenakshi Sood	
108.		
109.	Quality Assurance in Higher Education by Prof SS Pattnaik	
110.	SAR Format by Prof. SS Pattnaik	
111.	NAAC Processes by Prof SS Pattnaik	
112.	Smartphone fingerprinting and Vulnerability analysis by Dr Gaurav Kumar	
113.	Implementing Outcome Based framework by Dr Meenakshi Sood	
114.	Instructional Strategies for OBE by Dr Amandeep Kaur	
115.	Academic Audit and SWOT Analysis by Dr Rakesh Wats	
116.	Academic Audit and SWOT Analysis Part II by Dr Rakesh Wats	
117.	Interplay of Technology and Education by Dr. Jyotirmoy Dutta	
118. Moodle LMS Part I by Dr Gaurav Kumar		
119. Program Educational Objectives by Dr. Meenakshi Sood		
120. Moodle LMS Part II by Dr Gaurav Kumar		
121. Visual Learning and Effective Presentation by Dr Kamaldeep		
122.	Fish Bone Diagram by Dr SS Pattnaik	
123.	Interactive Immersive Media by Dr. Suniti Dutt	
124.	Creating online Feedback System by Dr Gaurav Kumar	
125.	Deliberating on Quality aspects of NAAC by Prof Ved Vyas Dwivedi	
126.	Writing test Item Supply Type by Dr Sunil Dutt	
127.	Writing test Item Selection Type by Er. Amandeep Kaur	
128.	Writing Learning Outcomes by Er. Amandeep Kaur	
129.	Setting of question Paper and Designing marking scheme by Dr. Sunil Dutt	
130.	Open Source Platforms for Paper Setting by Er. Gaurav Kumar	
131.	Online Evaluation Tools by Er. Gaurav Kumar	
132.	Mapping Leraning Outcomes with Test Item by Dr. Meenakshi Sood	
133.	Evaluation Concept Purpose Type Validity and Reliability by Dr Sunil Dutt	
134.	Evaluating Practical and Project Work by Er. PK Singla	
135.	Design of Rubrics by Er. Amandeep Kaur	
136.	Inauguration of Workshop on NCrF	
137.	Social Entrepreneurship by Prof SK Dhameja	

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Sr. No.	Title of the Video	
138.	Social Entrepreneurship and Resilience by Hitesh Kumar Gulati	
139.	Social Entrepreneurs of India by Performance Coach Anuradha	
140.		
141.		
142.	Writing Learning Outcomes by Er. Amandeep Kaur	
143.		
144.	Creating e-Content LMS Moodles for Teaching Learning by Dr. Gaurav Kumar	
145.	Blended Learning by Er. Amandeep Kaur	
146.	Project & Problem Based Learning by Dr. Sunil Dutt	
147.	Understanding Learner by Dr. Shilpa Suri	
148.	Case Study Brainstorming Methods of Teaching by Dr. Vidhu	
149.	NEP2020 Planning for Implementation by Dr. Meenakshi Sood	
150.	Design and Development of AR VR Integrated Teach Sessions by Dr. Jagriti Saini	
151.	Design Thinking by Dr. Vaishali Sahu	
152.	Use of Online Evaluation Tools for Assessment by Dr. Gaurav	
153.	Curriculum Design and Implementation by Dr. SK Gupta	
154. History of Education Policies of India by Dr. Meenakshi Sood		
155. Optimal Learning Environment & Support for Holistic		
156. Key insights of NEP 2020 by Dr. Meenakshi Sood		
157. Online and Digital Education Ensuring Equitable Use of Technology by Prof. K G S		
158.	Curriculum Design Process and Blooms Taxonomy by Prof. PS Grover	
159.	Educational Implications of NEP 2020 and Fostering Employability Skills by Prof. PS Grover	
160.	Transforming the Regulatory System of Higher Education by Prof. Jatin Patra	
161.	Academic Industry Linkage for Curriculum Structuring by Dr. Harsh Vardhan Samalia	
162.	Education 4.0 : Innovation in Curriculum with NEP by Dr. Meenakshi Sood	
163.	Decision Making by Dr. Amandeep Kaur	
164.	Time Management by Er. Rama Chhabra	
165.	Conflict Management and Trust Building by Dr. Vidhu Mohan	
166.	Significance of Different Aspects of Communication Skills by Er. PK Singla	
167.	Emotional Intelligence by Er. Amandeep Kaur	
168.	Design Thinking Skills by Dr. Harsh Vardhan Samalia	
169.	Industry 4.0 by Dr. Niraj Bala	
170.	Gamification in Education by Dr. Roopesh Jindal	
171.	Finance- Legal and Management Perspective by Dr. YV Ramana Murthy	
172.	Imbibing Transformative Leadership by Dr. Sanjeev Chaddha	
173.	Motivating Self and Others by Dr. Sunil Dutt	
174.	AI Skills in Edtech Domain by Er. Ajit Kumar	
175.	Decoding Cloud Computing: A Boon for Metaverse	



# 2.3 Curriculum Development



The institute continued to undertake curriculum development activities including the design and review of curricula for courses in engineering and non-engineering areas through a scientific approach, which has been considerably internalised by the polytechnic system enabling them to take up similar projects by themselves with some guidance from this institute. During the year 2023-24, 24 curricula have been designed for PSBTE. The department conducted 38 Curriculum Development Workshops of 1-2 days' duration which were attended by 281 participants.

#### **CURRICULA DESIGNED/REVISED**

- 1. Curriculum Design of 24 Diploma Programmes of PSBTE: Submitted
- 2. Curriculum Design of 30 Diploma Programmes of HSBTE: In Progress

# **2.4** Research and Development

Research and development activities in technology and technical education form an important aspect of the institute's programme. During the year 2023-24, **09 Ph.D.** and **70 ME thesis** were completed under the guidance of institute faculty.

Sr. No.	Name of Candidate	Date of conduct of Viva-voce Examination	Title	Supervisor
1.	Mr. Santosh Kumar Yadav (CSE Dept.)	8 <sup>th</sup> May 2023	"An Efficient and Scalable Framework for Mobile Cloud Computing Environment"	Dr. Rakesh Kumar
2.	Mr. Navdeep Mor	31 <sup>st</sup> May, 2023	"Macro Model for Prediction of Road Accidents in Selected Northern States in India"	Prof. Hemant Sood
3.	Ms. Manisha Malik	25 <sup>th</sup> May, 2023	"Development of Lightweight Cryptographic Primitives for Secure Communication in the Internet"	Prof. Maitreyee Dutta
4.	Ms. Divya Sharma 16 <sup>th</sup> August, 2023 "Augmented Perovskite Solar Cell Model Employing Viable Materials To Improve Efficiency".		Prof. Rajesh Mehra	
5.	Mr. Kamaldeep 01 <sup>st</sup> September , 2023 "Development of Lightweight Intrusion Detection and Prevention System for the Internet of Things".		Prof. Maitreyee Dutta	
6.	Mr. Gaurav Gupta	13 <sup>th</sup> October, 2023	· · · · · · · · · · · · · · · · · · ·	
7.	Mr. Karad Shivaji Ganpat	L DOUDIV Fed Induction Generator Based Wind		Dr. Ritula Thakur
8.	Mr. Mohd. Yunus Khan 31 <sup>st</sup> January, 2024 "An Experimental Investigation on Magnetic Field Assisted EDM Process for Inconel 625 Using Bio- Dielectric Fluid".		Dr. P Sudhakar Rao	
9.	Mr. Siddheshwari Dutt Mishra 12 <sup>th</sup> March, 2024 "Feature Extraction and Coalescence of Medical Imaging Modalities of Alzheimer's Diseases Using Deep Learning".		Dr. Maitreyee Dutta	



## Patents

Sr. No.	Name of Patent	Author (s) Name	
1.	Patent on "A copper iodide and tin oxide based efficient perovskite Solar Cell device", patent No. 2023060815193100DE, published on June 2023, Federal Republic of Germany.	Srishtee Chaudhary, Rajesh Mehra	
2.	Patent on "Household Waste Heat Harvesting System for Energy Generation", patent gets published. 202311047900, August 11, 2023	Shruti Jain, Meenakshi Sood, and Pramod Kumar	
3.	Earthquake Resistant Visco-elastic energy dissipater Link elements (Patent No. 430618) on 28th April, 2023.	Dr. Amit Goyal, Dr. Pankaj Agrawal	
4.	"Friction Damper for Beam-Column Joints of Building for improved Seismic Response and Method of use" in the Application no. 202311051848 A, Published. 02.08.2023.	Goyal, Amit, Kushal Chauhan, Bharati., Nagendra Dhooper	
5.	Composition of High compressive strength, low calcium fly ash based Geopolymer Concrete incorporating Alccofine	Sanjay Sharma, Bharat Bhushan	
6.	Multilevel Inverter, Patent No. 515819, Application No. 202011003964, Granted on 27-02-2024	Rohit Kumar, Shimi Sudha Letha	
7.	Patent titled "A System for Wirelessly Monitoring Water Level in a water tank and method thereof" granted on 22 March 2024 with Patent No. 529897	M. Ahsan Siddiqui, Dr. Mala Kalra, Dr. Rama Krishna Challa, Dr. Syed M. Shoaib and Dr. M. Nizamuddin	
8.	Mitigating Chromium Poisoning Effect in La2CrMnO6/rGO Composite Electrode for Excellent Electrochemical Performance, 2023, IN Patent Filed App. 202,311,063,467	Ashok Kumar, Anup Singh Deeksha Nagpal and Ajay Vasishth	
9.	Multi-rooted dental implant for veterinary patients, Patent No. 510265, Date of Grant: 13-02-2024 Brief: Application No: 202211010074, Journal Number- 39/2022, Journal Date: 30/09/2022,	Rupinder Singh	
10.	Patent on an artificial intelligence-based blind spot detection and warning system and method for improved road safety	Dr. Meenakshi Dr. B. Singh Dhaliwal Dr. Garima Saini	

# **Copyrights**

Sr. No.	Name of Copyright	Author (s) Name
1.	Bhay Ka Manovigyaan Aur Prabhaav (In Hindi Language, copyright number L-127909/2023)	Ashok Kumar
2.	Break Fear & Win (copyright number L-128280/2023)	Ashok Kumar



#### **Intellectual Property Rights**

	Sr. No.	Name of Intellectual Property Rights	Author (s) Name	
1.       of Technical Teachers Training and Re         No. 202411018668, dated: 14 <sup>th</sup> March, 1         "Construction Material with Sewage S         2.       Institute of Technical Teachers Train		"Construction Material with Pond Ash" in the name of National Institute of Technical Teachers Training and Research, Chandigarh, Application No. 202411018668, dated: 14 <sup>th</sup> March, 2024.	Godara, Mohit., Goyal, Amit	
		"Construction Material with Sewage Sludge" in the name of National Institute of Technical Teachers Training and Research, Chandigarh, Application No. 202411011501, dated: 19 <sup>th</sup> Feb 2024.	Kumar, Rahul, Goyal, Amit, Sharma Sanjay	

Faculty published 145 SCI Papers and 65 in Non SCI Journals and 10 in National Journals. Faculty also published 40 papers in Proceedings in International Conferences and 11 in National Conferences.

#### **Research Grants received by Institute Faculty**

- 1. <u>Research Grant of Rs. 2.25 crore from HP Disaster Management Authority</u>
- 2. <u>Institute received joint sponsored project titled Chip to Startup (C2S) by MIETY amount 94</u> Lakhs.
- 3. <u>Research Grant of Rs. 37 lacs by SERB-DST</u>
- 4. Research Grant of Rs. 18.30 lakhs from DST-TARE scheme
- 5. <u>Received grant of 9.98 lacs from AICTE under RPS scheme</u>
- 6. <u>Received grant of 4.37 lacs from UGC DAE Consortium</u>
- 7. <u>Institute received Sponsored Project titled</u> "AR/VR Integrated Immersive Multi-Lingual Videos on Water-Borne and Vector –Borne Diseases for Enhancing Awareness" by DST, Chandigarh amount 1.00 Lakh
- 8. <u>Received grant of Rs 0.5 Lakh for IPR Activities from PSCST</u>



# **2.5** Extension Services and Consultancy

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. The Institute earned consultancy Projects of amount Rs. 489.28 Lakhs.

Sr.No.	Programme Title	Status
1.	Two Days Finishing School Workshop for Enhancing the Entrepreneurial and Employability Skills of Engineering Students	Completed
2.	Six Days Training Programme on Hydraulic Controls for Ocean Engineering International Services Ltd. from 8-13 May, 2023	Completed
3.	Two STCs under PMKVY4.0- a flagship Skill Development Scheme of Govt. of India	Completed
4.	DPR for Land Slide Mitigation for Bagchal Bridge	Completed
5.	Conduct of Third Party Audit under RTI Act on Institute Consultancy Mode	Completed
6.	Five Day capacity enhancement programmes programme on CNC machining from 22-26 Aug, 2023 and 28-1 Sept, 2023.	Completed
7.	Two Months Training Programme for Health Care Workers from 1 <sup>st</sup> September, 2023.	Completed
8.	Capacity Building programme under STRIVE Project for Rajasthan state from 11-15 September, 2023	Completed
9.	STC on "Bridge Designing Software, MIDAS- Civil" from 4 <sup>th</sup> to 6 <sup>th</sup> October, 2023	Completed
10.	4 Days Training on "NABL Accreditation as per ISO/IEC 17025: 2017"from 25-28 September, 2023	Completed
11.	Capacity Building programme under STRIVE Project for Rajasthan state from 09-13 October, 2023	Completed
12.	Capacity Building programme under STRIVE Project for Rajasthan state from 16-20 October, 2023	Completed
13.	Awareness, Sensitization and Hand Holding Program For NAAC Accreditation Procedures from 26-28 July, 2023 at NSUT Dwarka	Completed



Sr.No.	Programme Title	Status	
14.	Two days' Workshop on Evaluation and setting of question paper from 21 to 22 Sept, 2023	ion paper Completed	
15.	STC on IoT and Data Analysis of Sensors data from 8 <sup>th</sup> to 12 <sup>th</sup> January, 2024 at Dronacharya Engineering College, Gurugram	Completed	
16.	Student Training for Students of Govt. Polytechnic Rehan, H.P.	Completed	
17.	Capacity Building programme under STRIVE Project for Rajasthan state from 26-01 January, 2024 Completed		
18.	18.Seminar on Promotion of Farming, Processing Marketing and Exports of Organic, Natural and Herbal Products for Viksit BharatComplete		

# Signing of Memorandum of Understanding

Sr. No.	Organisation	Date of Signing	Date of Maturity	Signing Authority	
1.	MDS Indo Can Inc.	05.04.2023	04.04.2028	Mohua Dutta MDS IndoCan Inc	
2.	Innovante Water Solutions Pvt Ltd	06.06.2023		Dr. Nayan Sharma	
3.	IIT, Roorkee	09.06.2023	08.06.2028	Director, IIT Roorkee	
4.	Indira Gandhi National Centre for the Arts (IGNCA), Janpath New Delhi	13.07.2023	12.07.2026	Dr. Priyanka Mishra, IPS, Director (Admn.) IGNCA	
5.	Malaviya National Institute of Technology, Jaipur	24.07.2023	23.07.2028	Prof. N.P. Padhy Director, MNIT Jaipur	
6.	Teachers Training Centre (TTC), Jodhpur, Rajasthan	27.07.2023	26.07.2028	Joint Director (TTC & LRDC, Rajasthan)	
7.	IBM India Private Limited, 12, Subarmanya Arcade, Bangalore	26.09.2023	31.12.2024	Pooja Khakhar	
8.	Society for Promotion of Indian Classical Music and Culture Amongst Youth (SPIC MACAY), 41/42 Lucknow Road, Delhi	13.09.2023		Uday Partap Singh, SPIC MACAY	
9.	Indian Institute of Information Technology, Una (H.P.)	16.10.2023	15.10.2028	S. Selakumar, Director, IIIT, Una	
10.	NSDC International Limited, 5th Floor Kaushal Bhawan, New Moti Bagh Sarojini Nagar, Delhi	27.01.2024	26.01.2026	Sh. Ajay Kumar Raina, Director & Chief operating Officer, NSDC International	
11.	Central University of Rajasthan, Ajmer, Rajasthan	28.02.2024	27.02.2029	Vice Chancellor, Central University of Rajasthan	



# 2.6

# Academic Achievements of the Departments

Applied Science Department Civil Engineering Department

Computer Science and Engineering Department Curriculum Development Centre

*Electrical Engineering Department Electronics and Communication Engineering Department* 

Entrepreneurship Development & Industrial Coordination Department Education and Educational Management Department

Information Management and Emerging Engineering Mechanical Engineering Department

Media Engineering Department Rural Development Department



# **APPLIED SCIENCE DEPARTMENT**





# Prof. (Dr.) B. C. Choudhary

**Professor** Research Areas - Fiber Optics, Radiation Physics

#### Prof. (Dr.) Pankaj Sharma

Professor



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



#### 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



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# **APPLIED SCIENCE DEPARTMENT**

During the year 2023-24, the department has conducted 24 short term training programs in ICT and Contact Mode, which were attended by 1909 teachers (2135 Man weeks) from polytechnics and engineering colleges. The Department has conducted 05 workshops with 522 participations. The Department faculty published 27 papers in SCI Journals and 06 papers in Non-SCI Journals (Scopus). The Department also presented/published 04 papers in proceedings of International Conferences, awarded 01 Ph.D., Published 01 Book (Edited) and contributed 07 Book chapters in edited books. The faculty of the Department attended 05 training programs outside and 02 inhouse training programs. The Department faculty also filed 01 IN Patent and got 02 copyrights on articles.

Sr. No.	Short Term Programmes Conducted
1.	Applications of Technology in Environmental Sustainability
2.	Applied mathematics for technical teachers
3.	MATLAB for Engineering and Science Teachers
4.	Green Energy Materials and Technology
5.	Characterization of Nano-Materials and Applications
6.	MATHEMATICA For Engineering and Science Teachers
7.	Materials Characterization Techniques
8.	Newer Experiments in Applied Physics
9.	Applications of Technology in Environmental Sustainability
10.	Green Energy Materials and Technology
11.	STEM Teaching
12.	MATLAB Techniques for solving Engineering Problems
13.	Smart Materials and Nanotechnology
14.	Professional Ethics and Plagiarism
15.	Characterization of Nano-Materials and Applications
16.	Vedic vs Classical Mathematics: Applications for Real world problems
17.	Nuclear Radiations for Societal Applications
18.	Fibre Optics: Communication and Sensing Applications
19.	Refresher Course in Engineering Physics
20.	Essential Physics for Polytechnic Teachers
21.	Refresher Course in Nanoscience and Instrumentation
22.	Industrial Chemistry for Engineers
23.	Optimization with Neutrosophic set theory
24.	Materials Characterization Techniques

# **RESEARCH AND DEVELOPMENT**

# Patents/Copyright

Sr. No.	Name of Patents/Copyright	Author (s) Name
1.	Mitigating Chromium Poisoning Effect in La2CrMnO6/rGO Composite Electrode for Excellent Electrochemical Performance, 2023, IN Patent Filed App. 202,311,063,467	Ashok Kumar, Anup Singh Deeksha Nagpal and Ajay Vasishth
2.	Bhay Ka Manovigyaan Aur Prabhaav (In Hindi Language,copyright number L-127909/2023)	Ashok Kumar
3.	Break Fear & Win (copyright number L-128280/2023)	Ashok Kumar

# Papers published by the Applied Science Department Faculty in SCI Journals

Sr. No.	Name of the Paper Published	Author (s) Name	
1.	Transition metal (Ni, Pd and Pt)- embedded graphitic carbon nitride (gCN) monomlayer as an acetone sensor: a computational and experimental study Sci: Mater Electron34 (2023) 1005.	Nihal, Rahul Sharma, Navjot Kaur, Mamta Sharma, BC Choudhary and JK Goswamy, J Mater	
2.	Computational investigation of Zn doped graphitic carbon nitride (gCN) monolayer for CO2 sensing Materials Today: Proceedings (May 2023) Elsevier Publisher. DOI: <u>10.1016/j.matpr.2023.05.200</u>	Nihal, Rahul Sharma, Navjot Kaur, Mamta Sharma, B.C. Choudhary and J.K. Goswamy	
3.	Enhanced Acetone Sensing Based on Group-11 Metal (Cu, AG and Au) nanoparticles embedded in graphitic carbon nitride (gCN), Atoms 2023, 11, 78.	Nihal, Rahul Sharma, Navjot Kaur, Mamta Sharma, B.C. Choudhary and J.K. Goswamy	
4.	Improved room temperature ethanol vapors sensing using silver nanoparticles decorated graphitic carbon nitride (Ag-gCN) nanocomposites Materials Letters 342(2023) 134343.	Nihal, Rahul Sharma, Navjot Kaur, Mamta Sharma, B.C. Choudhary and J.K. Goswamy	
5.	A new insight into transition metal doped graphene nanoribbon for hydrogen sulfide gas adsorption: First principle investigation Surfaces and Interfaces 40 (2023) 103154.	Jyoti R, Deji R, Navjot Kaur, B.C. Choudhary and RameshK Sharma,	
6.	Atomic ordered doping leads to enhanced sensitivity of Phosgene gas detection in Graphene Nanoribbon: A Quantum DFT approach Physica Scripta 99 (2024) 035931, DOI 10.1088/1402-4896/ad25b0.	R Sardana, GN Nagy, BC Choudhary, Ramesh k Sharma, Manish K. Kashyap and M Upadhyay Kahaly	
7.	Recent advances in BaZrS3 perovskites: synthesis, properties, and future trends, Journal of Alloys and Compounds 957 (2023): 170457	Thakur,Nikhil,K.A.Aly, M.Mohery, M.M. Ebrahium, Pawan Kumar, and Pankaj Sharma	



# Papers published by the Applied Science Department Faculty in SCI Journals (contd..)

Sr. No.	Name of the Paper Published	Author (s) Name
8.	Pb-additive Se-Te-in Nano-chalcogenide thin films: preparation, morphological, optical analysis and material perspective for phase- change memory devices, Journal of Materials Science: Materials in Electronics 34 no. 26 (2023): 1833.	Anjali, Balbir Singh Patial, Pankaj Sharma, and Nagesh Thakur
9.	Effect of rare earth dopant on the ac conductivity and dielectric study of GeSbSe chalcogenides glasses, Journal of Non-Crystalline Solids 616 (2023): 122439.	Chandresh, Kumari, Sandeep Chhoker, and Pankaj Sharma
10.	Optical and optoelectronic properties of (Ge2S8) 100-xTexthin films for IR optical device fabrication." Surfaces and Interfaces 39 (2023): 102995.	Dinesh C. Sati, A. Dathshan, H.H. Hegazy, K.A. Aly, and Pankaj Sharma
11.	Citrate precursor route for Y3+ substituted M-type Ba- hexaferrite: Synthesis, the effect of doping on structural, optical, magnetic and anti- bacterial properties, Materials Chemistry and Physics 302 (2023): 127664.	Indu Sharma, Tamnna Kumari, Neha Thakur, Pankaj Sharma, Khalid Mujasam Batoo, and Ritesh Verma
12.	Electrospun Y3+-modified BaFe12O19hexaferrite-based nano-fibers with enhanced magnetic behavior for magnetic memory devices and permanent magnets, Journal of Materials Science: Materials in Electronics 34, no. 33(2023) 2180,	Indu Sharma, N. Thakur, M. Mahajan, R. Jasrotia, G. Anand, R. Neffati, A. Dahshan, HI Elsaeedy, Pankaj Sharma, G.Kumar
13.	Silver and nickel modified cobalt-zinc nanostructured ferrites for potential applications; Physica Scripta, 98, no.11 (2023) 115936.	N. Kumari, Himanshi, R. Jasrotia, L WY Liu, A Jahangeer, AA Hossain, A.Henaish, S. Thakur, V.P. Singh, S. K Godara, R. Aggarwal, A. Kandwal, Pankaj Sharma
14.	Advancements in doping strategies for enhancing applications of M-type hexaferrites: A comprehensive review; Progress in Solid State Chemistry 72 (2023) 1100427.	R. Jasrotia, J. Prakash, Himanshi, N. Thakur, K. Raj, A. Kandwal, PankajSharma
15.	A review of Z-type hexaferrite based magnetic nanomaterials: Structure, synthesis, properties, and potential applications." Progress in Solid State Chemistry 70 (2023): 100404.	Kirti Singha, Rohit Jasrotia, Louis WY Liu, Jyoti Prakash, Ankit Verma, Pawan Kumar, Sachin Kumar Godara, Pankaj Sharma, et al.
16.	Optical and dispersion studies of thin S35-xGe15SnxTe50 films: assessment of some physical parameters of samples." Physica Scripta 98, no. 4 (2023): 045911.	Ahmed Saeed Hassanien, Ishu Sharma, and Pankaj Sharma
17.	Design and simulation of chalcogenide perovskite BaZr (S, Se) 3 compositions for photovoltaic applications." Physica Scripta 98, no. 6 (2023): 065921.	Nikhil Thakur, Pawan Kumar, R. Neffati, and Pankaj Sharma.



# Papers published by the Applied Science Department Faculty in SCI Journals (contd..)

Sr. No.	Name of the Paper Published	Author (s) Name			
18.	Inference of Sn addition on optical properties of the novel thermally evaporated thin a-Ge15Te50S35-xSnx films and some physical properties of their glasses." Materials Chemistry and Physics 293 (2023): 126887.	Ahmed Saeed Hassanien, Ishu Sharma, and Pankaj Sharma.			
19.	Improvement in the structural, dielectric, and magnetic properties of CFO-doped KNNS-BKT ceramics." Journal of Materials Science: Materials in Electronics 34, no. 4 (2023): 311.	Priyanka Thakur, Kritika Gupta, Prashant Thakur, Ajith S. Kumar, Vivek Sudarsanan, Pankaj Sharma, and Madan Lal.			
20.	Rietveld refined structural, dielectric, and impedance properties of lead- free 1- x (K0. 4Na0. 6Nb0. 96Sb0. 04O3)-x (Bi0. 5K0. 5TiO3) ( $0.00 \le x \le 0.07$ ) composites." Journal of Materials Science: Materials in Electronics 34, no. 15 (2023): 1188.	Madan Lal, Priyanka Thakur, Prashant Thakur, Navdeep Sharma, Pankaj Sharma, and Anoop Kumar Shukla.			
21.	Improvement in the structural, magnetic and electromagnetic behaviour of barium hexaferrites with yttrium doping for EMI shielding." Journal of Alloys and Compounds 976 (2024): 173042.	Neha Thakur, Indu Sharma,Prashant Thakur, Munisha Mahajan, Sumit Bhardwaj, Rohit Jasrotia, A. Dahshan,Pankaj Sharma, et al			
22.	Thermal stability and crystallization kinetics of Er-doped Ge–Sb–Se chalcogenide: A DSC study." Applied PhysicsA 130, no. 3 (2024): 164.	Chandresh Kumari, Sandeep Chhoker, and Pankaj Sharma.			
23.	Superparamagnetic Dy modified ZnFe2O4 magnetic nanophotocatalysts for the photocatalytic degradation of crystal violet pollutant. Applied Physics A 130, no. 4 (2024): 258.	Sanjay Kumar, Rohit Jasrotia, Ankit Verma, Abhishek Kandwal, Jahangeer Ahmed, Saad M. Alshehri, Swati Kumari, Sachin Kumar Godara, and Pankaj Sharma.			
24.	Hydrothermal synthesis and electrochemical performance of mesoporous La2CrMnO6 double perovskite for energy storage applications, Physica Status Solidi A, 220(15) (2023) 2300198 doi: 10.1002/pssa.202300198	Anup Singh, Ajay Vasishth and Ashok Kumar.			
25.	Low temperature synthesis of BiNi0. 6Mn0. 4O3 nanostructures via citric acid and ethylene glycol assisted hydrothermal process for energy storage applications, Nano Express 4(4) 045005 (2023) doi: 10.1088/2632-959X/ad0661	Deeksha Nagpal, Anup Singh, Ajay Vasishth, Manju Devi, Ved Prakash Nayyar, Bhagwat Prasad Maurya and Ashok Kumar.			
26.	Effect of redox additive in aqueous electrolyte for electrochemical energy storage applications of A and B site ordered LaCaCoCrO6 double perovskite, Physica Status Solidi A 220(21), 2300495 (2023) doi:10.1002/pssa.202300495	Deeksha Nagpal, Anu Singh, Ajay Vasishth, Ranbi Singh and Ashok Kumar.			
27.	Synergistic effect of reduced graphene oxide and BaLaMnFeO6 in BaLaMnFeO6/rGO composite on electrochemical behavior, Physica Status Solidi A, 221(6),2300638 (2024) doi:10.1002/pssa.202300638	Renu Dhahiya, Neetika Chauhan and Ashok Kumar			



#### Papers published by the Applied Science Department Faculty in International Journal other than SCI Journals

Sr. No.	Name of the Paper Published	Author (s) Name
1.	Electrochemical Energy Storage Properties of Sm2FeCuO6 Double Perovskite Synthesized via Sol-Gel Route, ECS Adv. 2 (2023) 034001, DOI 10.1149/2754-2734/ace120	Manju Devi, Irina Rogge, Jashandeep Singh, Amit L Sharma, Ashavani Kumar and Ashok Kumar
2.	An improved solution for fully Neutrosophic Multi-level Linear Programming problem based on Laplace transform; OPSEARCH, 2023. Springer (Scopus indexed), DOI: <u>10.1007/s12597-023-00715-3</u>	Dr. KC Lachhwani
3.	Solving Non-linear Neutrosophic Linear Programming Problems, Neutrosophic Sets and Systems, Vol.60, (2023),pp.6-20.	Dr. KC Lachhwani
4.	Interval-valued trapezoidal neutrosophic bi-level multiobjective linear programming numbers: algorithm and its application to pharmaceutical production planning problem; International Journal of System Assurance and Reliability Engineering, Springer (Scopus Indexed) March 2024. DOI 10.1007/s13198-024-02292-0	Dr. KC Lachhwani
5.	Tailored TiO2 nanostructures for designing of highly efficient dye sensitized solar cells: A review, Nano- Structures and Nano-Objects, (2023), SCOPUS Indexed: DOI: 10.1016/j.nanoso.2023.101056	G. Kaur, P. Negi, RJ Konwar, H Kumar, N Devi, G Kaur, Himani, M Kaur, R. Sharma, PC Sati, V Kumar, Pankaj Sharma, JP Singh, AN Yadav
6.	Photocatalytic activity of quaternary chalcogenide for methylene blue degradation." AIP Conference Proceedings, vol. 2995, (2024) 20066.	Chandresh Kumari, Pankaj Sharma, and Sandeep Chhoker.

#### Papers published / presented by the Applied Science Department 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.	Supercharge with Supercapacitors: Advancements and Applications", 2024 AAPT Winter Meeting, American Association of Physics Teachers, January 6-9, 2024, New Orleans, LA, USA	Dr. Ashok Kumar	
2.	Electrochemical evaluation of mesoporous B site ordered double perovskite for energy storage applications, International Conference on Molecules and Materials Technology (MMT-2023), National Institute of Technology, Kurukshetra, 21-22 April, 2023, India	Anup Singh, Ajay Vasishth and Ashok Kumar	
3.	Electrochemical analysis of BiNi0.6Mn0.4O3 nanostructuressynthesized via hydrothermal process for energy storage applications, International Conference on Molecules and	Deeksha Nagpal, Ajay Vasishth and Ashok Kumar	



#### Papers published / presented by the Applied Science Department Faculty in International Conferences/Seminars (contd..)

Sr. No.	Title of the Paper Presented/Accepted along with a Name of the Conference/Seminar (venue, with date)	Author (s) Name
4.	A noval approach for Generalized Decagonal Neutrosophic Linear Programming Problem; presented in 12 <sup>th</sup> International Conference on soft computing for problem solving (SocPros- 2023) held at IIT Roorkee from 11-13 Aug 2023.	Dr. KC Lachhwani

#### **Research and Development**

No. of Ph.D Thesis Awarded

01

#### Training Programmes attended by the Applied Science Department Faculty/Staff

Sr. No.	Title of Training Programme	Period of Training	Venue	Attended by
1.	Two days' workshop on Technology and Bharatiya Bhashasummit.	30.09.2023 - 01.10.2023	Dr. Ambedkar International Centre, Janpath, New Delhi	Dr. Pankaj Sharma & Dr. KC Lachhwani
2.	Two weeks Refresher course on "Mathematical insight for realproblems" by UOR, Jaipur	11-23 December 2023	Online/UOR, Jaipur	Dr. KC Lachhwani
3.	Six days face-to-face Training Course on "Indian KnowledgeSystem"	16-21 October 2023	CPDHE, University of Delhi, Delhi	Dr. Pankaj Sharma & Dr.Ashok Kumar
4.	Six days Training on Master Trainer for "Indian Knowledge System"	26.02.2024 02.03.2024	Central Sanskrit University, Bhopal	Dr. Pankaj Sharma & Dr. Ashok Kumar
5.	Two week industrial Training on "Mathematical Computing with Industrial Applications"	22.05.2023 - 02.06.2023	SASE, DRDO, Chandigarh	Dr. KC Lachhwani

#### In-House Training Programmes attended by the Faculty/Staff

Sr. No.	Title of Training Programme	Period of Training	Attended by
1.	"International Colloquium on (Industry Academia Integration and Sustainable Development on 6 September 2023" In Collaboration with CPSC, Manila, Philippines organized by NITTTR Chandigarh	4-8 <sup>th</sup> September 2023	Dr. KC Lachhwani
2.	Three days FDP on "Pedagogical Practices" organized by EMGT Department, NITTTR, Chandigarh	31 <sup>st</sup> October 2023 & 2-3 November 2023	Dr. KC Lachhwani







# **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



# **CIVIL ENGINEERING DEPARTMENT**



# Er. Vinod Kumar Sonthwal

Associate Professor

Research Areas - Geo-technical Engineering, Construction Management, Soil Mechanics





Er. Himmi Gupta

#### **Assistant Professor**

Research Areas - Structural Engineering, Bridge Engineering, Project Management

Dr. Amit Goyal

Joint Assistant Professor Research Areas - Structure Dynamics, Masonry Structure, Low Cost Housing



# **CIVIL ENGINEERING DEPARTMENT**

During the year 2023-24, the Department has conducted 33 short term training programs in ICT and Contact Mode, which were attended by 1485 teachers from polytechnics and engineering colleges. The department faculty published 8 papers in SCI Journals 11 papers in Non-SCI Journals and 1 in National Journal. The Department also published 3 paper in proceedings of International Conferences and 6 in National 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.

Sr. No.	Short Term Programmes Conducted
1.	Lab Practices in Highway Engineering
2.	Resilient Infrastructure – Engineering and Management
3.	Alternate Technologies in Road Construction
4.	Bearing Capacity Estimation for Foundations
5.	Non Destructive Techniques in Civil Engineering
6.	Concrete Mix Design – New Directions
7.	Concrete Lab Practices
8.	Testing of Latest Civil Engineering Materials
9.	Yoga and Meditation
10.	Structural Design with STAAD PRO
11.	Construction Management
12.	Artificial Intelligence – Concepts and Practices for Civil Engineers
13.	Energy Efficient and Innovative Building Construction Practices
14.	Finite Element Analysis using ABAQUS, TOSCA, ISIGHT
15.	Laboratory Practices in Soil Engineering
16.	Innovative Technologies for Village Development
17.	Application of Auto CAD in Engineering
18.	Application of Auto CAD in Engineering
19.	Defect free Construction Repair and Maintenance
20.	Concrete Mix Design – New Directions
21.	Innovation and Latest trends in Construction Materials and Techniques
22.	Testing of Latest Civil Engineering Materials
23.	Innovation in Construction and Green Building Materials
24.	Approaching Zero Waste Cities
25.	Construction Management
26.	Quality Control of Concrete
27.	Remote Sensing, GPS and GIS in Civil Engineering
28.	Affordable Housing in Disaster Prone Areas
29.	Sustainable Cities and Communities



Sr. No.	Short Term Programmes Conducted (contd)	
30.	Laboratory Practices in Soil Engineering	
31.	Affordable Housing Techniques and Practices	
32.	Integrated Water Resource Management	
33.	Environmental Pollution and it's control	

# **RESEARCH AND DEVELOPMENT**

# Patents/Copyright

Sr. No.	Name of Patents/Copyright	Author (s) Name
1.	Earthquake Resistant Visco-elastic energy dissipater Link elements (Patent No. 430618) on 28 <sup>th</sup> April, 2023.	Dr. Amit Goyal, Dr. Pankaj Agrawal
2.	"Friction Damper for Beam-Column Joints of Building forimproved Seismic Response and Method of use" in the Application no. 202311051848 A, Published. 02.08.2023.	Goyal, Amit, Kushal Chauhan, Bharati., Nagendra Dhooper
3.	Composition of High compressive strength, low calcium fly ash based Geopolymer Concrete incorporating Alccofine	Sanjay Sharma, Bharat Bhushan

## Papers published by the Civil Engineering Department Faculty in SCI Journals

Sr. No.	Name of the Paper Published	Author (s) Name	
1.	"Comparative Study on physical characterization of Reclaimed Asphalt pavement and Natural aggregate in flexible Pavement" E3S Web of Conferences, EDP Sciences, Scopus, 15-16 June 2023, DY Patil University, Maharashtra https://doi.org/10.1051/e3sconf/202340504041	Mohit Nandal, HemantSood, Pardeep Kumar Gupta	
2.	"A review study on sustainable utilization of waste in bituminous layers of flexible pavement" in Journal of Case Studies in Construction Materials published by ELSEVIER open access available online 2-10-2023 https://doi.org/10.1016/j.cscm.2023.e02525		
3.	"Taguchi-optimized triple-aluminosilicate Geopolymer bricks with recycled sand: A sustainable construction solution" in Elsevier Journal Case Studies in Construction Materials openaccess available online 11-12 2023 https://doi.org/10.1016/j.cscm.2023.e027280	Sood Rajesh Kumar	
4.	<ul> <li>"Economic and Environmental Assessment of RBI Grade 81- Stabilized and Polyester Fibre-Reinforced Soil Subgrades: A Comparative Study of Experimental and Theoretical Approaches" in Indian Geotechnical Journal published bySpringer open access available online 07-02-2024 <u>https://doi.org/10.1007/s40098-024-00889-7</u></li> </ul>		
5.	"Economic and Environmental Assessment of Industrial wastes stabilized clay and sand soil subgrades using experimental and theoretical Approaches" in Construction and Building Materials published by Elsevier available online 18- 03-2024 <u>https://doi.org/10.1006/j.conbuildmat.2004.135787</u>	Gaurav Gupta, HemantSood, Pardeep Kumar Gupta	



#### Papers published by the Civil Engineering Department Faculty in SCI Journals (contd..)

Sr. No.	Name of the Paper Published	Author (s) Name
6.	"Sustainable Geopolymers from Polyethylene terephthalate waste and industrial by-products: A comprehensive characterization and performance predictions" in Springer Journal of material Science open access available online 26- 02-2024, volume 59, pages 3858-3889, (2024) https://doi.org/10.1007/s10853-024-09447-1	Md. Zia Ul Haq, Hemant Sood, Rajesh Kumar, Laura Ricciotti
7.	Air Pollution trend in Chandigarh during 2019-2022: status and influence of meteorological factors. Environmental Monitoring and Assessment, Vol. 196, Issue II, February 2024	Debendra Dalai, RupaliJandrotia, Sanjay Sharma, Varinder Kanwar, Jyotsna Kaushal
8.	Development of low-carbon recycled aggregate concrete using carbonation treatment and alccofine Energy Ecology and Environment, Issue : DOI: 10.1007/s40974-023-00299-0, November, 2023	Himanshu Sharma, Deepankar Kumar Ashish, Sanjay Sharma

## Papers published by the Civil Engineering Department Faculty in International Journals other than SCI Journals

Sr. No.	Name of the Paper Published	Author (s) Nam
1.	"Performance Assessment of M35 and M40 grades of concrete prepared using Construction and Demolition Waste" International Journal for Research in Applied Science & Engineering Technology (IJRASET) Volume11, Issue VI June 2023, Impact factor 7.429, ISSN: 2321-9653	Dev Pandey, Hemant Sood
2.	"A study on Effect of Mustard Husk Ash on Properties of Porous Concrete" International Journal for Research in Applied Science and Engineering Technology (IJRASET) Volume 11, Issue VI June 2023, Impact factor 7.429, ISSN: 2321-9653	
3.	"Study on Development of M20 and M25 grades of Self Curing Concrete using Formaldehyde and Sodium Polyacrylate" International Journal for Research in Applied Science & Engineering Technology (IJRASET) Volume 11,Issue IX, September 2023 Impact factor 7.429, ISSN: 2321-9653	Shubham Sharma, Hemant Sood
4.	Analytical Investigation for Optimization of Diagrid Structural System for Sustainable Structural performance of High-Rise Buildings International journal for Research in Applied Science & Engineering Technology, Vol. 11, Issue VI, June 2023, ISSN: 2321-9653 p3560-3565	Mohit Bhangalia, Himmi Gupta
5.	Waste Management for Zero Liquid and Soild Waste in Campus Buildings International journal for Research in Applied Science & Engineering Technology, Vol. 11, Issue VI, June 2023, ISSN: 2321-9653 p 4547-4551	Yogesh Bedi, Himmi Gupta, Dr. Sanjay Sharma
6.	Water Scarcity Zonation Mapping of Household in DistrictSoreng West Sikkim by MCDM Method Using RS & GIS Research Paper - International Journal for Research inApplied Sciences and Engineering Technology (IJRASET) ISSN : 2321-9653; IC Value : 45.98; SJ Impact Factor : 7.538 Volume 11, Issue VI, June 2023 (www.ijraset.com)	Devendra Sharma, Vinod Kumar Sonthwal



#### Papers published by the Civil Engineering Department Faculty in International Journals other than SCI Journals (contd..)

Sr. No.	Name of the Paper Published	Author (s) Nam
7.	Stabilization of Soil Using Concrete Slush Waste and Polyester Fibres International Journal for Research in Applied Science & Engineering Technology (IJRASET) ISSN: 2321- 9653; IC Value: 45.98; SJ Impact Factor: 7.538 Volume 11 Issue VI June 2023- <u>www.ijraset.com</u>	Hansraj Kumawat, Vinod Kumar Sonthwal, Ajay Kumar Duggal
8.	"Study on Development of M20 and M25 grades of Self Curing Concrete using Formaldehyde and Sodium Polyacrylate" International Journal for Research in Applied Science & Engineering Technology (IJRASET) Volume 11, Issue IX, September 2023, Impact Factor 7.429, ISSN:2321-9653	Shubham Sharma,Hemant Sood
9.	"Formulation of Rating System for Existing Highways in India for their Sustainable Performance" International Journal for Research in Applied Science and Engineering Technology (IJRASET) Volume 11, Issue IX, September 2023, Impact Factor 7.538, ISSN: 2321-9653	Mohit Singh, Himmi Gupta, Ajay K Duggal
10.	"A Review on Utilization of Steel Slag in Bituminous Concrete" International Journal for Research in Applied Science & Engineering Technology (IJRASET) Volume 11,Issue IX, September2023, Impact Factor: 7.538,ISSN: 2321-9653	Abhishek, Ajay Kumar Duggal
11.	Stabilization of Soil Using Guar Gum Biopolymer Research Paper - International Journal For Research in Applied Sciences and Engineering Technology (IJRASET) ISSN : 2321-9653; IC Value : 45.98; SJ Impact Factor : 7.538 Volume 11 Issue IX Sep 2023(www.ijraset.com)	Krishna Chandra Yogeshwar, Vinod Kumar Sonthwal

# Papers published by the Civil Engineering Department Faculty in National Journal

Sr. No.	Name of the Paper Published	Author (s) Nam
1.	"Performance Based Design of Irregular High-Rise Buildings and Optimization of Storey Levels For Seismic Zones" Journal of emerging technologies and innovative Research (JETIR) © 2023 JETIR August 2023, Volume 10, Issue 8, ISSN-2349-5162	

#### Papers published/presented by the Civil Engineering Department Faculty in International Conferences/Seminars

Sr.No.	Title of the Paper Presented/Accepted along with the Name of the Conference/Seminar (venue, with date)	Author (s) Name
1.	Effect of Building Orientation and Window-to-Wall Ratio on HVAC and Energy Loads for Different Climate Zones in India. 5 <sup>th</sup> International Conference on Recent innovations in Science & Technology (RIST 2023), Holy Grace Academy of Engineering Kerala in Association with ISET Research India on 7-8 April 2023, ISBN: 978-81-954872-2-6	Priyanka Tyagi, Himmi Gupta



#### Papers published/presented by the Civil Engineering Department Faculty in International Conferences/Seminars (contd..)

Sr.No.	Title of the Paper Presented/Accepted along with the Name of the Conference/Seminar (venue, with date)	Author (s) Name
1.	Comparative Study on physical Characterization of Reclaimed Asphalt pavement and Natural aggregate in flexible pavement E3S Web of Conferences, EDP Sciences, Scopus in International Conference on Sustainable Technologies in Civil and Environmental Engineering on 15-16 June, 2023 held at DYPatil University, Maharashtra	Mohit Nandal, Hemant Sood, Pardeep Kumar Gupta
2.	Reassessing smart city components: An overview of the dynamic nature of smart city concept IOP Conference Series: Earth and Environmental Science (CITIES 2022) at Surabaya, Indonesia. Volume: 1186, June 2023	Charul Sharma, Sanjay Sharma, Dharmendra Gill

#### Papers published/presented by the Civil Engineering Department Faculty in National Conferences/Seminars

Sr.No.	Title of the Paper Presented/Accepted along with the Name of the Conference/Seminar (venue, with date)	Author (s) Name
1.	Maximizing Sustainability and Cost Efficiency in Smart Cities: A Life Cycle Cost Assessment of Recycled Aggregate Usage National Conference on Sustainable Development of Smart Cities Infrastructure, SDSCI-2023 by NIT, Kurukshetra on 27-28 May 2023	Mohit Nandal, Hemant Sood, Pardeep Kumar Gupta
2.	Impact Resistance of UHPFRC: A Review Proceedings on National Conference on Sustainable Development of Smart Cities Infrastructure, SDSCI-2023 by NIT, Kurukshetra on 27- 28 May 2023Aditya Punia, Hari Krishan Sharma, Sanja Sharma	
3.	The Environmental Impacts of Steel production: A Life Cycle Assessment Study National Conference on Sustainable Development of Smart Cities Infrastructure, SDSCI-2023 by NIT, Kurukshetra on 27-28 May 2023, ISBN Gupta 978-93-90951- 65-9 p 20-24, Vol. 1	
4.	Behaviour of High Performance Slurry Infiltrated Fibrous Concrete in Anchorage Zone of Post Tensioned Prestressed Girders National Conference on Sustainable Development of Smart Cities Infra., SDSCI-2023 by NIT, Kurukshetra on 27- 28 May 2023, ISBN 978-93-90951-65-9 p 280-283, Vol.1	
5.	Nitrogen Oxides Prediction Using Machine Learning for Effective Air Pollution Control and Management National Conference on Sustainable Development of Smart Cities Infrastructure, SDSCI-2023 by NIT, Kurukshetra on 27-28 May 2023, ISBN 978-93-90951-65-9 p 11-17, Vol. 2	
6.	6. A Study of Risk Management Approaches in Construction Projects in Bihar International Journal for Research in Applied Science & Engineering Technology (IJRASET) ISSN: 2321- 9653; IC Value: 45.98; SJ Impact Hemant Sood Factor: 7.538 Volume 11 Issue VI Jun 2023- www.ijraset.com	



## **Research and Development**

No. of M.E. Thesis Completed	19
No. of Ph.D Thesis Awarded	01

#### **Consultancy Programmes**

Sr. No.	Consultancy Project	Gross Value	Net IRG	Remarks
1.	Testing of Materials, Design, Quality Control	47,09,590.00	39,91,172.00	Dr. HS/ Dr. SKS/ Er. AKD/Er. VKS / Er.HG
2.	Third Party Audit of Quality Control InspectionStability of Structure	53,46,353.00	45,30,808.00	Dr. HS/ Dr. SKS/ Er. AKD/Er. VKS / Er.HG
	Total	1,00,55,943.00	85,21,980.00	

### Training Programmes attended by the Civil Engineering Department Faculty/Staff

Sr. No.	Title of Training Programme	Period of Training	Venue	Attended by
1.	Linear & Non-Linear FiniteElement Analysis with Programming	3-7 July, 2023	BITS Pilani, Hyderabad Campus	Himmi Gupta
2.	Design & Construction of Concrete Bridges	18-19 August, 2023	ICI, Chennai	Himmi Gupta
3.	NITTTR Modules	September, 2023 onwards	Swayam Portal	Himmi Gupta

# In-House Training Programmes attended by the Faculty/Staff

Sr. No.	Title of Training Programme	Period of Training	Attended by
1.	Seminar on Industry 4.0 Innovation & 21st Century Structures	5 <sup>th</sup> September, 2023	Himmi Gupta







# **COMPUTER SCIENCE AND ENGINEERING DEPARTMENT**





#### Prof. (Dr.) Rama Krishna Challa

#### Professor

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

#### Er. Shano Solanki

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





#### Dr. Amit Doegar

#### Associate Professor

Research Areas – Networking, Image Processing, Open Source Technologies

#### Dr. Mala Kalra

Assistant Professor Research Areas - Cloud Computing, Information Retrieval, Swarm Intelligence



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# **COMPUTER SCIENCE AND ENGINEERING DEPARTMENT**

During the year 2023-24, the Department has conducted 28 short term training programs in ICT and Contact Mode, which were attended by 7360 teachers from polytechnics and engineering colleges. The Department has conducted 6 workshops under AICTE Sponsored Margdarshan Scheme with 101 participants. The Department also conducted 4 Student Training Programmes of 6 Weeks Duration and a total of 62 students have been trained. The Department faculty published 4 papers in SCI and 2 in Non-SCI Journals. The Department also published 10 papers in proceedings of International Conferences. The Faculty of the Department also got 1 patent and completed 1 AICTE sponsored project. The faculty of the department attended 6 training programs, 1 workshop and 1 online webinar during the year. The faculty also submitted research proposals in various agencies.

Sr. No.	Short Term Programmes Conducted
1.	Open Source Technologies
2.	Cyber Crime and Forensic Tools
3.	Open Source Tools for Research
4.	Data Science using R
5.	Computer Vision using Opencv
6.	AI/ML and Data Science for Industry 4.0 (Basic Level)
7.	Cloud, Fog and Edge Computing
8.	Deep Learning
9.	Machine Learning using Python
10.	Linux Applications in Engineering Education
11.	Machine Learning and Predictive Analysis using Python
12.	Complex Networks Analysis using Python
13.	AI/ML and Data Science for Industry 4.0 (Intermediate Level)
14.	Cloud Computing: A Hands on Approach with AWS Cloud
15.	Wireless Networks
16.	Data Science using Python
17.	AI/ML and Data Science for Industry 4.0 (Advanced Level)
18.	Data Science using Python
19.	MATLAB for Engineering Applications
20.	Data Science using Python
21.	Cyber Vulnerabilities and Safeguards
22.	Computer Programming using Python
23.	Open Source Technologies
24.	Machine Learning using Python
25.	Cryptography and Network Security
26.	AWS Cloud
27.	Artificial Intelligence and Cognitive Learning
28.	Machine Learning using Python



# **RESEARCH AND DEVELOPMENT**

# Patents/Copyright

Sr. No.	Name of Patents/Copyright	Author (s) Name	
1.	"A System for Wirelessly Monitoring Water Level in a water tank and method thereof" granted on 22 March 2024 with Patent No. 529897	Mohammad Ahsan Siddiqui, Dr. Mala Kalra, Dr. Rama Krishna Challa, Dr. Syed Mohammad Shoaib and Dr. M. Nizamuddin	

#### Papers published by the Computer Science and Engineering Department Faculty in SCI Journals

Sr. No.	Name of the Paper Published	Author (s) Name
1.	"EloT-DDoS: Embedded classification approach for IoTtraffic-based DDoS attacks", Cluster Computing, Springer, 2023.	Praveen Shukla · C. Rama Krishna · Nilesh Vishwasrao Patil
2.	"COVID-19: A systematic review of prediction and classification techniques", International Journal of Imaging Systems and Technology, pp. 1–29, May 2023.	Om Ramakisan Varma, MalaKalra and Sheeraz Kirmani
3.	"K-DDoS-SDN: A Distributed DDoS Attacks Detection Approach for Protecting SDN Environment" Concurrency and Computation: Practice and Experience, pp-1-19, 2023.	Amandeep Kaur, C. Rama Krishna, and Nilesh Vishwasrao Patil
4.	ADSBAN: Anomaly detection system for body areanetworks utilizing IoT and machine learning, Concurrency and Computation: Practice and Experience, Volume 36,Issue 13, Wiley, e8075, 2024.	Mohd Ahsan Siddiqui, Mala Kalra, C. Rama Krishna

#### Papers published by the Computer Science and Engineering Department Faculty in International Journals other than SCI Journals

Sr. No.	Name of the Paper Published	Author (s) Name
1.	Comparative Analysis of Different Deep Learning Models for COVID-19 Detection Using X-Ray Images, Research Cell: An International Journal of Engineering Sciences (2023): 192-211.	Aggarwal,Aastha, Maitreyee Dutta, and Amit Doegar
2.	Underwater Image Enhancement Model based on Termite Alate Optimization Algorithm, <u>European Chemical Bulletin</u> ,2023,12(10), 9238-9248 doi: <u>10.48047/ecb/2022.12.10.6562023.02/08/2023</u>	Kavita Saini, Amit Doegar



### Papers published/presented by the Computer Science and Engineering Department 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.	"Human Body Poses Detection and Estimation Using Convolution Neural Network" in 4th International Conference on Data Analytics & Management (ICDAM- 2023), 23 - 24 June, 2023 (Accepted for publication)	Jitendra Kumar Baroliya and Amit Doegar
2.	"Advancements in Breast Cancer Detection: A Comprehensive Review of Deep Learning Techniques for Mammogram Analysis", IEEE, International Conference on Circuits, Power, and Intelligent Systems (CCPIS) 2023 organized by Silicon Institute of Technology, Bhubaneswar from 1 to 3 September, 2023.	Vandana Saini, Meenu Khurana, and Rama Krishna Challa
3.	Anomaly Detection for IoT-Enabled Kitchen Area Network", International Conference on MAchine inTelligence for Research & Innovations (MaiTRI-2023), LNNS Book Series, pp. 195-209, vol. 832, Springer.	Mohd Ahsan Siddiqui, Mala Kalra, C. Rama Krishna
4.	On Real-Time Object Recognition by Single Image Dehazing Method Using Deep Learning Approach. In 2023 3rd International Conference on Advancement in Electronics & Communication Engineering (AECE) (pp. 476-479). IEEE.	Shruti Pathak. And Amit Doegar
5.	COVID-19 Classification of CT Lung Images Using Intelligent Wolf Optimization Based Deep Convolutional Neural Network, International Conference on MAchine inTelligence for Research & Innovations (MaiTRI- 2023), LNNS Book Series, pp. 245-261, vol. 832, Springer.	Om Ramakisan Varma, Mala Kalra
6.	Cost-Deadline Constrained Robust Scheduling of Workflows Using Hybrid Instances in IaaS Cloud, ICAIoT 2023, CCIS Book Series, pp 227–240, vol. 1929. Springer.	Urvashi Nag, Amrendra Sharan, Mala Kalra
7.	Citrus Plant Leaves Disease Detection Using CNN And LVQ Algorithm in 4thInternational Conference on Data Analytics and Management (ICDAM-2023), organized jointly by London Metropolitan University, London, UK in association with the Karkonosze University of Applied Sciences, Jelenia Gora, Poland, Europe, Politécnico de Portalegre, Portugal, Europe and BPIT, GGSIPU, Delhi on 23 <sup>rd</sup> – 24 <sup>th</sup> June 2023.	Roop Singh Meena, Shano Solanki
8.	Comparative Analysis of Structural Characteristics of Social Networks and their Relevance in Community Detection, ICAIoT 2023, CCIS Book Series, pp 196-217, vol. 1929. Springer.	Shano Solanki, Mukesh Kuamr, Rakesh Kumar
9.	IoT based smart agriculture for crop water and nutrition management in international conference on artificial intelligence, computing, iot and data analytics (AICTA) 2023, December 18-20, 2023, at PEC, Chandigarh.	Talvinder Singh, Shano Solanki
10.	Enhancing the Accuracy of Automatic Bone Age Estimation using Optimized CNN Model on X-Ray Images," in International Conference on Machine LearningAlgorithms from 23-24 Feb, 2024 at Chitkara University	Nivedita, Shano Solanki



## **Research and Development**

# Sponsored Programmes

Sr. No.	Title of the Programme	Status
1.	AICTE Sponsored Project on Share and Mentor Institutions (September 2019 - August 2023)	Completed

### Training Programmes attended by the Computer Science and Engineering Department Faculty/Staff

Sr. No.	Title of Training Programme	Period of Training	Venue	Attended by
1.	Industrial Training on Cloud Computing	18.04.2023 to 01.05.2023	CloudThat TechnologiesPvt. Ltd., Bengaluru	Dr. Mala Kalra
2.	Online STC on Machine Learning for Data Analytics using Python: Hands-on Approach	30.05.2023 to 03.05.2023	NIT Jalandhar	Dr. Amit Doegar
3.	Online FDP on "Deep Learning Applications in Healthcare & Technology"	26.06.2023 to 01.07.2023	EICT Academy, IIT Roorkee	Dr. Amit Doegar
4.	SERB-DST sponsored one week hands-on Workshop on "Convergence of Explainable Artificial Intelligence & the Internet of Things (IoTs) in Smart Solution"	19.02.2024 to 25.02.2024	Thapar University, Patiala	Dr. Amit Doegar
5.	Completed NITTT Modules 1 to 8 available on Swayam portal.	Feb 2024	Online	Dr. Mala Kalra

## In-House Training Programmes attended by Faculty/Staff

Sr. No.	Title of Training Programme	Period of Training	Attended by
1.	FDP on "Pedagogical Practices" organizedby EMGT Dept		Dr. Amit Doegar, Er. Shano Solanki,Dr. Mala Kalra

Sr. No.	Name of the Course along with dates & place	No. of weeks	Participation		Total No. of	Coordinator
			Poly	Engg.	Participants	Coordinator
1.	Student Training on Python Programming (CP8-A) from 15-June to 26-July 2023 at NITTTR Chandigarh	6 weeks		4	4	Dr. Rama Krishna Challa Er. Amrendra Sharan
2.	Student Training on App. Dev. & Security using Open Source (CP8-B) from 15- June to 26-July 2023 at NITTTR Chandigarh	6 weeks		15	15	Dr. Rama Krishna Challa Er. Amrendra Sharan
3.	Student Training on Data Science (CP8-C) from 15- June to 26-July 2023 and 10-July to 18-Aug 2023 at NITTTR Chandigarh	6 weeks		28	28	Dr. Rama Krishna Challa Er. Amrendra Sharan
4.	Student Training on App Dev. Using Java (CP8-D) from 10-July to 18-Aug 2023 at NITTTR Chandigarh	6 weeks		15	15	Dr. Rama Krishna Challa Er. Amrendra Sharan

## Student Training/ Internship/ Apprenticeship organized

## **Any Other Activities**

- 1. MOOCS COURSE ON GRAPHICS AND ANIMATION DEVELOPMENT Re-run 01.08.2023 to 31.10.2023 (Er. Shano Solanki) Participants trained: 1671
- 2. MOOCS COURSE ON GRAPHICS AND ANIMATION DEVELOPMENT Re-run 29.01.2024 to 30.04.2024 (Er. Shano Solanki) Participants trained: 2674







# **CURRICULUM DEVELOPMENT CENTRE**



Prof. (Dr.) Rajesh Mehra

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



#### Dr. 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





# **CURRICULUM DEVELOPMENT CENTRE**

During the year 2023-24, the CDC Department has conducted 29 short term training programs in ICT and Contact Mode, which were attended by 2379 teachers from polytechnics and engineering colleges. The Department has conducted 38 workshops with 281 participations. Faculty published 02 papers in SCI Journals, 01 paper in Non-SCI Journals and 01 in National Journal. 2 patents were also awarded during the year to a faculty member of department.

Sr. No.	Short Term Programmes Conducted
1.	Curriculum Development in light of NEP 2020 in HEI
2.	Curriculum Design and Evaluation
3.	Curriculum Development Processes
4.	Planning and Execution of Project Work
5.	Effective Curriculum Implementation
6.	Outcome based Curriculum and Accreditation Criteria
7.	Outcome based Curriculum Development
8.	NSQF Aligned Curriculum Design and Implementation
9.	CAD for Outcome based Education
10.	Curriculum Implementation
11.	NSQF Aligned Curriculum Design and Implementation
12.	Curriculum Design for Developing Job related Competencies
13.	Effective Curriculum Implementation Using FOSS
14.	Curriculum Design and Evaluation
15.	Outcome Based Curriculum Development
16.	NSQF Aligned Skill Development
17.	Effective Curriculum Design and Evaluation
18.	Curriculum Development Processes
19.	Outcome Based Curriculum Development
20.	Outcome Based Curriculum Design
21.	Developing Healthy Work Culture
22.	NSQF Aligned Skill Development
23.	Developing academic and administrative leadership
24.	Curriculum Development Processes
25.	Curriculum Design for Developing Job Related Competencies
26.	Outcome Based Curriculum and Accreditation Criteria
27.	NSQF Aligned Curriculum Design and Implementation
28.	Curriculum Implementation
29.	NSQF Aligned Skill Development

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### **RESEARCH AND DEVELOPMENT**

#### Patents/Copyright

Sr. No.	Name of Patents/Copyright	Author (s) Name
1.	A copper iodide and tin oxide based efficient perovskiteSolar Cell device, patent No. 2023060815193100DE, published on June 2023, Federal Republic of Germany.	Srishtee Chaudhary, RajeshMehra
2.	Household Waste Heat Harvesting System for Energy Generation, patent gets published. 202311047900, August 11, 2023	Shruti Jain, Meenakshi Sood, and Pramod Kumar

#### Papers published by the Curriculum Development Centre Faculty in SCI Journals

Sr. No.	Name of the Paper Published	Author (s) Name
1.	Design and simulation of power efficient carbon nanotube field effect transistor based active notch filters for nano electronic applications, Springer International Journal of Information Technology, March 2024. DOI: https://doi.org/10.1007/s41870-024-01749-6	Mehmood ul Hussan, M. Nizamuddin, Rajesh Mehra
2.	Enhancement in Efficiency of Methyl Ammonium Tin Iodide-Based Pervoskite Solar Cell Using SCAPS-1D, NANO: Brief Reports and Reviews, Vol. 18, No. 14, 2350109, December 2023. DOI: https://doi.org/10.1142/S1793292023501096	Divya Sharma, Rajesh Mehra, Balwinder Raj

#### 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.	Lung Cancer Detection and Classification Model Using Inception V3 Algorithm" Proceedings of Data Analytics and Management ICDAM 2023, Volume 3, November 2023 DOI: <u>10.1007/978-981-99-6550-2_32</u>		

# Papers published by the Curriculum Development Centre Faculty in National Journal

Sr. No.	Name of the Paper Published	Author (s) Name
1.	"A Computational and Comparative Analysis of Medical Image Fusion Using Different Transform Domain Techniques" 6 <sup>th</sup> International Conference on Mathematical Modelling, Applied Analysis and Computation-2023 (ICMMAAC-23) 03-05 August 2023 organized by the Department of Mathematics, School of Science, JECRC University Jaipur	Nirdesh Shukla, Meenakshi Sood, Amod Kumar, Gaurav Choudhary



#### **Research and Development**

No. of M.E. Thesis Guided	02
No. of Ph.D. Thesis Awarded	01

#### **Consultancy Programmes**

Sr. No.	Consultancy Project	Consultancy Amount (Rs. in lacs)	Remarks
1.	PSBTE Curriculum Design Project	57.23	Completed
2.	HSBTE Curriculum Design Project	88.50	In progress

#### Training Programmes attended by the Curriculum Development Centre Faculty/Staff

Sr. No.	Title of Training Programme	Period of Training	Venue	Attended by
1.	Training Program on "National Credit Framework"	23 <sup>rd</sup> May, 2023	NCVET, Karol Bagh,New Delhi	Dr. AB Gupta
2.	AICTE Approved Offline '3-day Face-to- Face UHV FDP'	January 9-11, 2024	Panjab University, Chandigarh	Prof. P.K. Singla

#### In House Training Programmes attended by the Curriculum Development Centre Faculty/Staff

Sr. No.	Title of Training Programme	Period of Training	Attended by
1.	Online Training Programme on GEM	02 <sup>nd</sup> May 2023	Dr. Meenakshi Sood
2.	Training on NATS Apprenticeship Scheme conducted by Representatives of Board of Apprenticeship Training from Kanpur	07 <sup>th</sup> June, 2023	Dr. AB Gupta
3.	Pedagogical Practices	31 Oct and 2-3 Nov 2023	Dr. Meenakshi Sood
4.	Pedagogical Practices	31 Oct and 2-3 Nov 2023	Dr. SK Gupta

#### **Curricula Designed/Revised**

- 1. Curriculum Design of 24 Diploma Programmes of PSBTE: Submitted
- 2. Curriculum Design of 30 Diploma Programmes of HSBTE: In Progress



# **EDUCATION AND EDUCATIONAL MANAGEMENT DEPARTMENT**





Prof. (Dr.) A B Gupta

**Professor** Research Areas - Curriculum Development, Curriculum Implementation

#### Prof. (Dr.) Sunil Dutt

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





#### Prof. (Dr.) Upendra Nath Roy

Joint Professor

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



# **EDUCATION AND EDUCATIONAL MANAGEMENT DEPARTMENT**



Er. Parmod Kumar Singla Associate Professor Research Areas: Curriculum, Communication Skills, Management, Appropriate Technology for Rural Development, Entrepreneurship Development





Er. Rama Chhabra

Associate Professor Research Areas – Chemical Engineering, Information Management

Er. Amandeep Kaur Sandhu

**Assistant Professor** 

Research Areas - Educational Management, Educational Technology





# EDUCATION AND EDUCATIONAL MANAGEMENT DEPARTMENT

During the year 2023-24, the Department has conducted 43 short term training programs in ICT and Contact Mode, which were attended by 4672 teachers from polytechnics and engineering colleges. The Department has conducted 5 workshops with 247 participants. The Department faculty published 02 papers in SCI Journals and 01 paper published in other International Journal. The Department published 01 paper in proceedings of International Conference.

Sr. No.	Short Term Programmes Conducted
1.	Faculty Induction Training Programme for Newly Recruited Teachers
2.	Life Skills Management
3.	Evaluation and Setting of Question Papers
4.	Developing Employability Skills
5.	Pedagogical Practices in Mechanical Engg.
6.	Micro Teaching: Pedagogical Practices in Computer Science and Engineering
7.	Enhancing Performance at Workplace for Technical and Supporting Staff
8.	Induction Training Programme for Newly Recruited Teachers
9.	Wellness and Meditation
10.	Soft Skills and Classroom Teaching
11.	Faculty Induction Training Programme for Newly Recruited Teachers
12.	Leadership, Motivation and Decision Making
13.	Institutional Management, Quality Training and Placement
14.	Research Methodology and ethics in research publication
15.	Pedagogical Practices in Civil Engineering
16.	Learner Centred Teaching Methodology
17.	Stress Management
18.	Developing Soft Skills
19.	Faculty Induction Training Programme for Newly Recruited Teachers
20.	Developing Life Skills Among Students
21.	Research Methodology and ethics in research publication
22.	Presentation Skills for Effective Instruction Delivery
23.	Evaluation and Setting of Question Papers
24.	Effective Teaching Learning using Social Media
25.	Aspects of learning and evaluation in online environment
26.	Communicating at Work
27.	Preparing Students for the Placements – Resume, GD and Interview

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Sr. No.	Short Term Programmes Conducted (contd)
28.	Micro Teaching: Pedagogical Practices in Computer Science and Engineering
29.	Systematic plan of instruction and Delivery
30.	Universal Values and Ethics
31.	Managerial Skills for Technical Teachers and Administrators
32.	Managing Your Ego and Emotions at Work Place
33.	Blended Learning and Flipped Classroom
34.	Research Methodologies for Science, Management and Engineering Projects
35.	Soft Skills and Classroom Teaching
36.	Outcome Based Education
37.	Advanced instructional methods for teaching learning
38.	Leadership, Motivation and Decision Making
39.	Institutional Management, Quality Training and Placement
40.	Pedagogical Practices in Civil Engineering
41.	Stress Management
42.	Developing Soft Skills
43.	Project Planning & Management

# **RESEARCH AND DEVELOPMENT**

#### Papers published by the Education and Educational Management Department Faculty in SCI Journals

Sr. No.	Name of the Paper Published	Author (s) Name	
1.	Effect of superficially applied MnO2 and Al2O3 oxide inhibitors in Rachna Chau enhancing high temperature corrosion of T22 boiler steel; High temperature corrosion of materials; Springer. https;//doi.org/10.1007/s11085-024-10240-3.		
2.	Flower shaped Bi2O2.33/Bi2WO6 composite: An efficient photocatalyst for degradation of methylene blue from aqueous solution in direct solar light, Chemosphere, 349 (2024) 140862.	Amandeep Kaur, Sushil Kumar Kansal	

#### Papers published by the Education and Educational Management Department Faculty in International Journals other than SCI Journals

Sr. No.	Name of the Paper Published	Author (s) Name
1.	I International Journal for Research Publication and Seminar' Vol. 14	Priyanka Sharma and Dr. Sunil Dutt



#### Papers published/presented by the Education and Educational Management Department 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.	'Perception of Prospective Educators' Learning through Flipped Classroom Approach' in the International Conference in Humanities & Social Sciences, Management and Educational Technology (ENTENTE 2023) held on 30 November - 02 December, 2023 at NIIT University, Neemrana (Rajasthan) in Hybrid Mode	Astha Arora & Prof.Sunil Dutt

# Workshops Conducted (other Than Curriculum Development Workshops)

Sr. No.	Name of the Workshop along with dates and venue	Number of Participants attended
1.	Workshop on Pedagogical Skill Enhancement among Technical Teachers in Context of NEP 2020 on 21st April, 2023	125
2.	Workshop 'Pedagogical Practices' for Faculty of the institute on 31 October, 2023 and 02-03 November, 2023	20
3.	Workshop for Newly Recruited Non-teaching staff of the institute from 14 – 15 December, 2023	16
4.	Two days Workshop on Evaluation and setting of question paper from 21 to 2248Sept, 2023	
5.	Two Days Training Programme on Teaching Pedagogy for Faculty Members of IIIT, Una from 14-15 November, 2023	38

# **Consultancy Programmes**

Sr. No.	Consultancy Programme	Number of Participants attended	
1.	Third Party Transparency Audit of 8 Organizations (under RTI Act, 2005) of Central University of Haryana; IIT, Bhilai, Raipur (CG); IIITDM, Kurnool; Dept. of Higher Education,MoE; Dept. of Home_MoHome; Labour Bureau; CBSE, New; Dept. of School Edu &L, New Delhi	Conducted and IRG	



# **Other Activities**

#### MOOCs SWAYAM COURSES

Sr. No.	Programme Title	Duration	Coordinator	No. of Participants
1.	SWAYAM COURSE "Communication skills, modes and knowledge dissemination"	Aug 2023- Oct 2023	Amandeep Kaur	1246
2.	SWAYAM COURSE "Communication skills, modes and knowledge dissemination"	Jan 2024-April 2024	Amandeep Kaur	(2188) Ongoing
3.	MOOC COURSE –under AICTE NITTT Policy Module 3	Oct. 2023-Nov. 2023	Amandeep Kaur	1630
4.	MOOC COURSE –under AICTE NITTT Policy Module 8	April 2023 - May, 2023	Paramjit Kaur (Retd. Prof. EMGT)	2222



## **ELECTRICAL ENGINEERING DEPARTMENT**





Prof. (Dr.) Lini Mathew

Professor

Research Areas - Digital Signal Processing, ANN and Fuzzy Logic, Virtual Instrumentation

#### Prof. (Dr.) Poonam Syal



**Professor** Research Areas - Sustainable Rural Development, Energy Management, Instrumentation for Envt. Engg., Assistive Technologies, Research Methodology



Dr. Ritula Thakur

Associate Professor

Research Areas - Power System, Microcontroller & Micro Processor, PLC and SCADA

## **ELECTRICAL ENGINEERING DEPARTMENT**

During the year 2023-24, the Department has conducted 20 short term training programs in ICT and Contact Mode, which were attended by 1963 teachers from polytechnics and engineering colleges. The Department faculty published 03 papers in SCI Journals, 11 papers in Non-SCI Journals and 03 Book Chapters. The department also published 09 papers in proceedings of International Conferences. One patent was also awarded to the faculty of the department. The faculty of the department attended online training programs and online webinars during the year. The faculty also submitted research proposals in various agencies.

Sr. No.	Short Term Programmes Conducted
1.	Microgrid Protection and Control
2.	MATLAB/SIMULINK for Engineers
3.	Hands on Practices on LabVIEW
4.	Village Entrepreneurship and Technology Interventions for Sustainable RuralDevelopment
5.	Embedded C Programming of Microcontrollers
6.	Basics of Hardware in Loop Simulation
7.	Implementation of IoT using Arduino and R-Pi
8.	Raspberry Pi and its Interfacing
9.	Soft Computing Techniques using MATLAB
10.	Natural Resource Management for Sustainable Development
11.	Hands on Practices in Control of Electric Machines
12.	IoT Applications using Arduino and ESP 8266
13.	Women Entrepreneurship and Empowerment for Inclusive Development
14.	Unnat Bharat Abhiyan and Role of Technical Institutions
15.	Energy Efficient and Decarbonisation Technologies
16.	ANSYS-EM for Electrical Engineering Application
17.	Sustainable Development Goals: Challenges and Opportunities
18.	Smart Grid and Integration of Distributed Generation
19.	Big Data Analytics in Smart Grid
20.	Energy Efficiency Measures in Buildings

#### **RESEARCH AND DEVELOPMENT**

#### Patents/Copyright

Sr. No.	Name of Patents/Copyright	Author (s) Name
1.	Multilevel Inverter, Patent No. 515819, Application No. 202011003964, Granted on 27-02-2024	Rohit Kumar, Shimi Sudha Letha



#### Papers published by the Electrical Engineering Department Faculty in SCI Journals

Sr. No.	Name of the Paper Published	Author (s) Name	
1.	Comprehensive Review of Electric Vehicle Technology and Its Impacts: Detailed Investigation of Charging Infrastructure, Power Management, and Control Techniques, Applied Sciences. 2023; 13(15):8919. https://doi.org/10.3390/app13158919	Madhav Kumar, Kaibalya Prasad Panda, Ramaswamy, Ritula Thakur, Gayadhar Panda	
2.	Optimal Design of Fractional Order Vector Controller Using Hardware-in- Loop (HIL) and Opal RT for Wind Energy System, IEEE Access, Vol.12, pp. 35033-35047, 2024, doi: 10.1109/ACCESS.2024.3357504.	Shivaji Ganpat Karad; Ritula Thakur; Majed A. Alotaibi; Mohammad Junaid Khan; Hasmat Malik; Fausto Pedro García Márquez,	
3.	A Critical Analysis of Quadratic Boost Based High-Gain Converters for Electric Vehicle Applications: A Review, Sensors, Volume 24, Issue 7, 2186, 2024. https://doi.org/ 10.3390/s24072186.	Kumar, Madhav, Kaibalya Prasad Panda, Ramasamy Naayagi, Ritula Thakur, Gayadhar Panda	

### Papers published by the Electrical Engineering Department Faculty in International Journal other than SCI Journals

Sr.No.	Name of the Paper Published	Author (s) Name
1.	Electric Vehicle Controllers for Sustainable Energy Management: Recommendations and Challenges, Journal of Environment, Development and Sustainability, 2023. doi.org/10.1007/s10668-023-03561-x (Scopus Indexed Springer)	Mohini Gunjal, Lini Mathew, Shimi Sudha Letha
2.	Bimodal-Shared Control Interface for Assisted MobilityApplication, International Journal of Electrical and Electronics Research (IJEER), Volume 11, Issue 2, Pages334-338, 2023. e-ISSN: 2347-470X	Preeti Kumari, Lini Mathew, Neelesh Kumar
3.	Combining Biosignals with RFID to develop a multimodal-shared control interface, Journal of Engineering and AppliedScience (JEAS), Volume 70, Article No.119, 2023. doi.org/10.1186/s44147-023-00291-9 (Scopus Indexed Springer)	Preeti Kumari, Lini Mathew, Neelesh Kumar
4.	Various Types of Voltage Stability Control Techniques of DC Micro-grid: A Comparative Analysis, International Journal of Research in Applied Science and Engineering Technology, Volume 11, Pages 1336-1342, July 2023	Ankan Bhunia,Lini Mathew, Shimi S L
5.	A Review of Various Optimization Strategies for Handling Optimal PMU Placement Problems, International Journal for Research in Applied Science & Engineering Technology (IJRASET), Volume 11 Issue 6, pp. 4414- 4424, June 2023	Wilis Negi, Ritula Thakur
6.	Power Quality Improvement through Hybrid Controller-Integrated MICRO- GRID UPQC, Vol. 53, No.10 (VII), July - December 2023	Gaurav Agrawal,Ritula Thakur
7.	Airborne Electromagnetism Systems for Landmine Detection: A Critical Review, International Journal of Management and Applied Science (IJMAS), Volume-9,Issue-5, pp. 14-20, 2023	Mayank Alaria, Poonam Syal, Siddhartha Sarkar



#### Papers published by the Electrical Engineering Department Faculty in International Journal other than SCI Journals (contd..)

Sr.No.	Name of the Paper Published	Author (s) Name
8.	Power Quality Improvement through Hybrid Controller-Integrated MICRO- GRID UPQC, Vol. 53, No.10 (VII), July - December 2023.	Gaurav Agrawal, RitulaThakur,
9.	Performance Analysis of Various Types of Controllers for Multi-Tank System, International Journal of All Research Education & Scientific Methods, Vol.11 Issue 10, pageNo.854-860, 2023. doi.org/10.56025/ IJARESM.2023.111023860.	Ashutosh, Lini Mathew
10.	Advance Robust Nonlinear Control Algorithm for Quadrotor Applications, Journal of Emerging Technologies and Innovative Research, ISSN:2349-5162, Vol.10, Issue 11, page No. ppe164-e174, November 2023.	G.Praveen Kumar,Lini Mathew, Shimi S L, Sandeep Gupta
11.	11. Vision Based Motion Control Design for Autonomous Vertical Infrastructure monitoring through mini drone" International Journal of Research and Analytical Reviews, E-ISSN 2348-1269, P- ISSN 2349-5138, Volume.10, Issue 4, Page No pp.749-756, November 2023.	

#### Papers published / presented by the Electrical Engineering Department 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.	Optimizing the Design of Permanent Magnet Halbach Array BLDC Motor for 35W Fan using FEA Analysis, Proceedings of the International Conference on Science, Engineering & Technology, (ICSET - 23), Kolkata, India, October 2023.	Rajendra Kumar, Lini Mathew
2.	Optimisation of DG using Enhanced Elephant Herding Optimization in Distribution Network, 4 <sup>th</sup> IEEE International Conference on Computing, Communication, and Intelligent Systems, Uttar Pradesh, India, 3-4 November 2023.	Vinod Chauhan, Ritula Thakur
3.	Zeta Converter Optimized with Fractional Order PID, First International Conference on Intelligent Computation and Analytics on Sustainable Energy and Environment (ICICASEE 2023), GKCIET, Kolkata, India, September 2023.	Sumit Kumar, Shimi.S.L, Lini Mathew, Prakash Dwivedi
4.	Performance Improvement of Waste to Energy Plant by Stepped Cyclic Operation of RAM Feeder, International Conference on Resources and Environmental Research, Hong Kong, China, December, 2023	Vivek Kumar Srivastava, PoonamSyal
5.	Airborne Electromagnetism Systems for Landmine Detection: A Critical Review, International Research Conference on Science Technology, Engineering andManagement, 14 and 15 April, 2023	Mayank Alaria, Poonam Syal, Siddhartha Sarkar



#### Papers published / presented by the Electrical Engineering Department 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
6.	Motors used for the Development of Solar Pumping System : A Systematic Review, IEEE sponsored 5 <sup>th</sup> International conference on Energy, Power and Environment : Towards Flexible Green Energy Technologies, Poonam Syal organised by NITMeghalaya, Sillong, 15 to 17 June, 2023	
7.	Recent Advancements of Thermal Imaging in Induction Motor: A Review, IEEE sponsored 5th International conference on Energy, Power and Environment : TowardsFlexible Green Energy Technologies, organised by NIT Meghalaya, Sillong, 15 to 17 June, 2023	Gurbhej Singh Kalyan, PoonamSyal
8.	Solar PV based DC-DC Converter for Battery Charging, International Conference on Sustainable Power and Energy Research, 1 to 3 March,2024 at NIT, Warangal	Kawal Preet Singh, Poonam Syal, Sourav Bose
9.	Modification and Real Time Implementation in PLC based Control System to Enhance Energy Efficiency of the Rolling Mill, International Conference on Renewable Power held on 28 and 29 March, 2024 at MAIT, Delhi	Gobind Kumar Saini, Poonam Syal

#### **Research and Development**

No. of M.E. Thesis Guided	14
No. of Ph.D. Thesis Awarded	01

#### Training Programmes attended by the Electrical Engineering Department Faculty/Staff

Sr. No.	Title of Training Programme	Period of Training	Venue	Attended by
1.	Universal Human Values conducted	18-12-2023 to	Online	Dr. Ritula
	by AICTE	22-12-2023	Mode	Thakur

#### In House Training Programmes attended by the Electrical Engineering Department Faculty/Staff

Sr. No.	Title of Training Programme	Period of Training	Attended by
1.	Attended in-house workshop on NcrF	03-10-2023	Prof. Lini Mathew, Dr. Ritula Thakur
2.	Attended workshop on ChatGPT	31.08.2023	Prof. Poonam Syal



#### In House Training Programmes attended by the Electrical Engineering Department Faculty/Staff (contd..)

Sr. No.	Title of Training Programme	Period of Training	Attended by
3.	Seminar on Industry 4.0 Innovation and 21 <sup>st</sup> Century Skills	05-09-2023	Dr. Poonam Syal Dr. Ritula Thakur
4.	Faculty Development Programme on "Pedagogical Practices"	31-10-2023 to 02-11- 2023	Dr. Ritula Thakur
5.	"Noting and Drafting" Online Training	04-12-2023 to 05-12- 2023	Mr. Kartik Sharma
6.	Workshop on "Communication Skills"	15-12-2023	Mr. Kartik Sharma

### **Research Project Submitted**

Sr. No.	Name of Project	Funding Agencies	Team
1.	Hybrid electric energy storage solutions for grid support and charging infrastructure	Horizon, Europe	Dr. Ritula Thakur





## **ELECTRONICS & COMMUNICATION ENGINEERING DEPARTMENT**





Prof. (Dr.) Sukhdeep Singh Dhami

**Professor** Research Areas – Mechatronics, Automation & Control System, Modeling & Simulation

#### Prof. (Dr.) Amod Kumar

**Professor** Research Areas - Artificial Intelligence, Biomedical Engineering





Dr. Balwinder Raj

Associate Professor (on lien to NIT Jalandhar) Research Areas - Nanoelectronic Devices and Circuits, VLSI & Embedded System Design, Modeling and Simulation, FPGA Based Design



## **ELECTRONICS & COMMUNICATION ENGINEERING DEPARTMENT**





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

Dr. Kanika Sharma

#### Assistant Professor

Research Areas – Embedded System Design, Digital System Design, Wireless Sensor Network



Dr. Garima Saini

#### **Assistant Professor**

Research Areas - Advanced Digital Communication, Wireless & Mobile Communication, Antenna



### **ELECTRONICS AND COMMUNICATION ENGINEERING DEPARTMENT**

During the year 2023-24, the department faculty took 36 courses for Regular and Modular M.E. programmes. Department conducted 29 short-term training programs in Contact and ICT Mode, which were attended by 3172 teachers from polytechnics and engineering colleges. The Department has conducted 01 workshop with 10 participations. The Department also conducted 02 Student Training Programmes of 4 Weeks Duration with total of 54 student's participation. The Department faculty published 02 papers in SCI Journals, 05 in other International Journals and 03 in National Journals. The Department published 05 papers in proceedings of International Conferences and 03 in National Conferences. The faculty of the department Edited 01 Text book and 01 book chapter was published. The faculty of the department attended online training programs and online webinars during the year. The faculty also submitted research proposals to various funding agencies.

Sr. No.	Short Term Programmes Conducted	
1.	Digital Image Processing Techniques	
2.	IoT applications using Tinker CAD and Arduino	
3.	Free ICT Tools for Teaching-Learning and Research	
4.	Scilab Programming for Beginners	
5.	Antenna Design Techniques and Tools	
6.	FPGA based System Designing – A Practical Approach	
7.	ECE Lab Practices using Multisim Live Online Simulator	
8.	Networked Embedded Systems	
9.	5G and Beyond	
10.	Arduino based system design using Tinker CAD Free Simulator	
11.	Free Simulators for ECE Lab Practices	
12.	Recent Trends in Wireless Communication	
13.	Artificial Embedded Systems	
14.	Scilab Programming for Beginners	
15.	OBE and NBA Accreditation	
16.	Latest Wireless Technologies	
17.	Advanced Embedded Systems	
18.	Neural Networks and Fuzzy Logic	
19.	Antenna Design Techniques and Tools	
20.	Recent Trends in Embedded Systems and IOTs	
21.	Soft Computing Algorithms: Basics and Applications	



Sr. No.	Short Term Programmes Conducted (contd)	
22.	IoTs and Sensor Networks	
23.	Emerging Antenna and Wireless Technologies	
24.	IoT and its Applications	
25.	ECE Lab Practices using Multisim Live Online Simulator	
26.	IoTs and Embedded Systems	
27.	5G and Beyond	
28.	Arduino based system design using Tinker CAD Free Simulator	
29.	Free Simulators for ECE Lab Practices	

### RESEARCH AND DEVELOPMENT

#### Patents/Copyright

Sr. No.	Name of Patents/Copyright	Submitted/Granted	Author (s) Name
1.	Patent on an artificial intelligence- based blindspot detection and warning system and method for improved road safety	Submitted	Dr. Meenakshi Dr. B. Singh DhaliwalDr. Garima Saini

#### Papers published by the Electronics and Communication Engineering Department Faculty in SCI Journals

Sr. No.	Name of the Paper Published	Author (s) Name
1.	"Real time cloud based Fault Detection and Alert for Antenna Array using CNN" IETE Journal of Research DOI: 10:1080/03772063.2023.2195848, Published online April 2023	Atul M. Kulkarni, Garima Saini & Shyam S. Pattnaik
2.	On 3D Printed Flexible and Wearable Sensors from Primary Recycled PVDF,' National Academy Science Letters, 2023 <u>https://doi.org/10.1007/s40009-023-01322-y</u> (Published online: 30 June 2023)	Chahat Jain,Balwinder Singh Dhaliwal, Rupinder Singh, and Suman Pattnaik

#### Papers published by the Electronics and Communication Engineering Department Faculty in International Journal other than SCI Journals

Sr. No.	Name of the Paper Published	Author (s) Name	
1.	"Design and Analysis of Graphene Based Tunnel Field Effect Transistor with Various Ambipolar Reducing Techniques" International Journal Computers, Materials & Continua(CMC) vol.76, no.1, June 2023	Puneet Kumar Mishra, Amrita Rai, Nitin Sharma Kanika Sharma	



#### Papers published by the Electronics and Communication Engineering Department Faculty in International Journal other than SCI Journals (contd...)

Sr. No.	Name of the Paper Published	Author (s) Name	
2.	"Contention Window based MAC Protocol in WSN", Journal of Harbin Engineering University, Vol.44, no. 11, pp.495-503, Nov.2023A. Rana and K.Sha		
3.	"Energy Efficient Techniques of WSN: A review", Journalof Materials Engineering, Vol.5, no. 2, pp.709-716, July 2023	A. Rana and K.Sharma,	
4.	"Design of High Speed Low-Power SRAM cell using FinFET in the Stack Method for medical applications" WEAS transactions on Biology and Biomedicine (Special Issue in memoriam Stamatis Vassiliadis)	Monika Sharma, Sandeep S.Gill and Kanika Sharma, Banoth Krishna	
5.	"Enhanced DV-Hop Localization Algorithm for Wireless Sensor Networks" International Journal of Trend in Scientific Research and Development (IJTSRD), Vol 7, Issue - 3 (May-Jun 2023)	Jamal Kutty, Kanika Sharma	

#### Papers published by the Electronics and Communication Engineering Department Faculty in National Journal

Sr. No.	Name of the Paper Published	Author (s) Name	
1.	Permittivity-customizable Low-cost Laminated PET Sheet Multi layer Substrate to Design Flexible and Conformal Planar Inverted F Antenna, November 2023, Recent Advances in Electrical & Electronic Engineering, 16(7):717-725, DOI: 10.2174/2352096516666230503150934, Publisher-Bentham Science Publishers, DOP-Published on: 03 July, 2023	Sachin Maithani, Shivam Bansal, Garima Saini, Balwinder Singh Dhaliwal	
2.	Contactless Methods to Acquire Heart and RespiratorySignals Journal of Autonomous Intelligence, Vol. 6, Issue 1, 2023 DOI 10.32629/jai.v6i1.715	Pushparaj Pal, Amod Kumar and Garima Saini,	
3.	Multidisciplinary Research Approach in Advancement ofScience and Technology Journal of Autonomous Intelligence, Vol. 6, Issue 2, 2023. DOI10.32629/jai.v6i2.742	Pushparaj Pal, Amod Kumar and Garima Saini,	

#### Papers published / presented by the Electronics and Communication Engineering Department 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.	A Conformal, Planar Inverted F Antenna using Low-Cost Multilayer PET Sheet for Vehicular Application," Wireless, Antenna & Microwave Symposium, 07-10 June, 2023, Gandhinagar, India	Sachin Maithani, Garima Saini, Balwinder Singh Dhaliwal , Ravi Kumar Gangwar



#### Papers published / presented by the Electronics and Communication Engineering Department 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.	Design and Analysis of Flexible Patch Antenna on Transparent PVC Material Substrate," 2nd International Conference on Advances in Computing, Communication and Security (13CS-2023) 01-03 June, 2023, NIT Kurukshetra,India. (Best Paper Award)	Puja Rani, Balwinder Singh Dhaliwal and Amod Kumar
3.	Antenna Array Fault Detection Using Logistic Regression Technique, Springer book series-Communications in Computer and Information Science (CCIS), volume 1930, pp. 13-29, Dec. 2023, DOI: 10.1007/978-3- 031-48781-1_2.	A. M. Kulkarni, S. S. Pattnaik and G. Saini,
4.	Antenna Array Fault Diagnosis Using Particle Swarm Optimized CNN, 2023 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON), Ahmedabad, India, 2023, pp. 1-6, doi: 10.1109/MAPCON58678.2023.10464080.	Atul M Kulkarni; Garima Saini; Shyam S Pattnaik, Shubhranshu Pattnaik
5.	Design of Miniaturized Antenna Array on 3D Printed PLA Substrate with Fractal Ground," 2023 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON), Ahmedabad, India, 2023 pp. 1-5, doi: 10.1109/MAPCON58678.2023.10463825.	A. M. Kulkarni, G. Saini an S. S. Pattnaik

#### Papers published / presented by the Electronics and Communication Engineering 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.	Precision Measurements in Healthcare Systems and DeviceIn book: Handbook of Metrology and Applications_Springer, April 2023	Ravinder Agarwal Amod Kumar and SanjayYadav
2.	Assessment and Elimination of Surgeon Hand Tremor during Robotic Surgery In book: Handbook of Metrology and Applications Springer, April 2023	Amod Kumar Sanjeev Kumar and Akhlesh Kumar
3.	"Analysis of 3-D Printed Meta-structure substrate for Microstrip Patch", 8th National Conference on Advances inManufacturing Technology, Feb. 29 – March 01, 2024, NITTTR Chandigarh, pp.1 – 6.	Puja Rani, Balwinder Singh Dhaliwal, and Amod Kumar

#### **Consultancy Programmes**

Sr. No.	Consultancy Programme	Number of Participants attended
1.	Summer Training on "Antenna Design, Simulation & Fabrication" from 05-06-2023 to 14-07-2023	06
2.	Pradhan Mantri Kaushal Vikas Yojana (PMKVY) a flagship outcome-based skill training scheme of the Ministry of Skill Development & Entrepreneurship (MSDE) under PMKVY Scheme from July 2023 onwards	20
3.	Student Training on Arduino & IoT, University of Kashmir	28



# Training Programmes attended by the Electronics and Communication Engineering Department Faculty/Staff

Sr. No.	Title of Training Programme	Period of Training	Venue	Attended by
1.	VLSI Design in development	22 to 26 May, 2023	SCL, Mohali	Dr. Kanika Sharma
2.	Atal FDP on Digital transformation for IT enabled supply chain: Importance and Applications	12 to 17 Feb, 2024	PEC, Chandigarh	Dr. Kanik a Sharm a
3.	Regional Training Programme on Shodh Shuddhi/ PDS	28 Nov. 2023	P.U., Chandigarh	Dr. Kanika Sharma
4.	Pedagogical Practices	31.10.2023 to 02.11.2023	NITTTR, Chandigarh	Dr. Kanika Sharma
5.	NCrF Workshop attended	03.10.2023	NITTTR, Chandigarh	Dr. Kanika Sharma
6.	Artificial Intelligence and Cognitive Learning	15-19 January 2024	NITTTR, Chandigarh	Dr. Balwinder Singh Dhaliwal
7.	Memory and In-Memory Computing using SCL 180nm PDK	18-22 March, 2024	IIT, Indore	Dr. Balwinder Singh Dhaliwal







## ENTREPRENEURSHIP DEVELOPMENT & INDUSTRIAL COORDINATION DEPARTMENT





#### Prof. (Dr.) Niraj Bala

#### Professor

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

#### Prof. (Dr.) Suresh Kumar Dhameja

#### Professor

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





#### Dr. Harsh Vardhan Samalia

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

#### Er. Amardev Singh

**Assistant Professor** 

Research Areas – Entrepreneurship Development, IPR, Technology Adoption and Mgmt



# ENTREPRENEURSHIP DEVELOPMENT & INDUSTRIAL COORDINATION DEPARTMENT

During the year 2023-24, EDIC department had conducted a total of twenty-eight (28) short term training programs in either ICT or Contact Mode, which were attended by around 2195 faculty and staff members of various polytechnics and engineering colleges from across the country. The Department conducted one International regional training program at NITTTR Chandigarh on the topic of "Role of Business Incubators in Encapsulating Sustainable Development: A TVET Perspective" from 4 – 8 September, 2023 in collaboration with Colombo Plan Staff College, Philippines in which members from 10 different countries successfully participated. The Department also conducted one International Colloquium on "Industry Academia Integration and Sustainable Development" on 6th September, 2023 in collaboration with CPSC Philippines and IIT, Roorkee which was attended by 84 participants. The Department also conducted 01 Student Training Programme in which a total of 120 students participated. In the year 2023-24 faculty members of EDIC department published 01 paper in SCI Journals, 06 papers in Non-SCI Journals and 01 paper in National Journal.

Sr. No.	Short Term Programmes Conducted
1.	Project Management for Entrepreneurship
2.	Skill Development for Start-ups
3.	IPR and Patenting
4.	Start Art for Business Start-ups
5.	Augmenting Entrepreneurial and Life Skills for Academicians
6.	Entrepreneurial Opportunity Identification and Business Plan Formulation
7.	Developing Thinking Skills for Creativity and Innovation Promotion
8.	Project Management Skills for Technical Professionals
9.	Fostering Critical Thinking for Innovation Management
10.	Setting up a Business Start-up in Information Technology and Electronics Engineering
11.	Project Management for Businesses
12.	Skill Development for Employability
13.	Setting up a Business Start-up in Mechanical Engineering and allied areas
14.	Entrepreneurial Motivation, Guidance and Counselling
15.	Atam Nirbhar Bharat through Entrepreneurial Start-ups
16.	Design Thinking for Business Start-ups
17.	Business Opportunity Identification and IPRs
18.	Developing Entrepreneurship Skills in line with NEP2020



Sr. No.	Short Term Programmes Conducted (contd)	
19.	Strategic Planning & Management	
20.	Marketing in the "METAVERSE" Era	
21.	Funding Opportunities in Engineering	
22.	Marketing in the "METAVERSE" Era	
23.	Employability Skills for Industry 4.0	
24.	Social Entrepreneurship	
25.	Enhancing Research Capabilities for Academic Career Progression	
26.	Innovation Management and Intellectual Property Rights	
27.	Management Skills for Professional Teacher Excellence	
28.	Nurturing Intent, Initiative and Innovation for Business Startups	

#### **RESEARCH AND DEVELOPMENT**

#### Papers published by the Entrepreneurship Development & Industrial Coordination Department Faculty in SCI Journals

Sr. No.	Name of the Paper Published	Author (s) Name
1.	Effect of Superficially Applied $MnO_2$ and $Al_2O_3$ Oxide Inhibitors in Enhancing High-Temperature Corrosion of T22 Boiler Steel, High Temperature Corrosion of Materials.	

#### Papers published by the Entrepreneurship Development & Industrial Coordination Department Faculty in International Journal other than SCI Journals

Sr. No.	Name of the Paper Published	Author (s) Name	
1.	Optimization of Machining Variables of Inconel 800 Alloy in CNC Face1.Milling Using TiAIN and TiAIN-TiN Coated Inserts, Advanced MaterialsResearch, Vol. 1176, pp 139- 150.		
2.	2. "Enablers and Inhibitors of Cloud Computing Adoption in Indian Small and Medium sized Enterprises", International Journal of Entrepreneurship and Small Business; (July, 2023); DOI: 0.1504/IJESB.2022.10035809; Vol. 49, No. 2, pp 228–245 {Scopus Indexed}		
3.	"Experimental Investigations on Wear and Mechanical Properties of Post Heat Treated AM 17-4 PH SS Parts" International Journal for Research in Applied Science & Engineering Technology, Volume 11 Issue VI, June 2023.	Gunjan Chauhan, Niraj Bala and S.S. Dhami	



#### Papers published by the Entrepreneurship Development & Industrial Coordination Department Faculty in International Journal other than SCI Journals (contd..)

Sr. No.	Name of the Paper Published	Author (s) Name
4.	"Circular economy: An industrial perspective for sustainable future. Book titles as "Circular Economy", ISBN: 9781032217260. Published by Taylor & Francis.	Amandeep Kaur, Sandeep Singh, Niraj Bala and Sushil Kumar Kansal
5.	Electrophoretic Deposition of Hydroxyapatite Incorporated Composite Coatings on Metallic Substrates: A Review of the Fundamentals published in 'Advances in Material Research and Technology Series', <u>https://doi.org/10.1007/978-3-031-43918-6.</u>	Sandeep Singh,Gurpreet Singh, and Niraj Bala
6.	Industry 4.0: Its Evolution and Future, Kant, R. and Gurung, H. (Eds.). (2023). Industry 4.0: Concepts, Processes and Systems (1st ed.). CRC Press. <u>https://doi.org/10.1201/9781003246466</u>	Sandeep Singh and Niraj Bala

#### Papers published by the Entrepreneurship Development & Industrial Coordination Department Faculty in National Journals

Sr. No.	Name of the Paper Published	Author (s) Name
1.	17-4 PH SS utilization in metal additive manufacturing: a review. Paper presented in 8th National Conference on Advances in Manufacturing Technology, 29 February - 1 March, 2024	Kanta Chaudhary, Sheetal Meena, Niraj Bala, Amandeep Kaur and Sushil Kumar Kansal

#### **Research and Development**

No. of M.E. Thesis Guided

03

#### **Sponsored Programmes**

Sr. No.	Title of the Programme	Total Number of Participants
1.	CPSC-NITTTR collaborative International Regional Training Program on Role of Business Incubators in Encapsulating Sustainable Development: A TVET Perspective from 4-8 September 2023 at NITTTR Chandigarh.	15
2.	Innovation, Design and Entrepreneurship Bootcamp organised by Innovation cell of MoE and AICTE at NITTTR from 22-26 June 2023.	260



#### Workshops conducted by the Entrepreneurship Development & Industrial Coordination Department (other than Curriculum Development Workshops)

Sr. No.	Name of the Workshop along with dates and venue	Total Number of Participants
1.	How to Plan for Start-up and legal and Ethical Steps on 12 <sup>th</sup> June, 2023.	2
2.	Workshop on "National Entrepreneurship Day" on 9th November, 2023	10
3.	One day Industry - academia workshop on 16 <sup>th</sup> November, 2023 for finalizing new programmes to be offered by EDIC department in view of the NITTTR Chandigarh getting the deemed to be University status.	10
4.	Creating Awareness of 'Sexual Harassment at Workplace (Prevention, Prohibition and Redressal) Act, 2013 of POSH ACT on 8 <sup>th</sup> December, 2023.	19
5.	Two days Online workshop for 'Identification of the training needs of the faculty of Uttar Pradesh state polytechnic colleges' in collaboration with Rural Development Department on 14 <sup>th</sup> and 15 <sup>th</sup> December, 2023.	105
6.	Workshop on Sensitization of POSH Act 2013 on 8 <sup>th</sup> January, 2024.	42

#### Student Training/Internship/ Apprenticeship organized

Sr. No.	Name of the Course along with dates & place	No. of weeks	Total No. of Participants
1.	"Awareness cum Motivational Training Programme on Entrepreneurship and Startups" 30 <sup>th</sup> May, 2023 at Govt. Polytechnic, Panchkula		120

#### Training Programmes attended by the Entrepreneurship Development & Industrial Coordination Department Faculty/Staff

Sr. No.	Title of Training Programme	Period of Training	Venue	Attended by
1 1	Explore the network of Investors /Industries / Partner and Startups	4 – 5 April, 2023	CII Chandigarh	Prof. S.K. Dhameja and Prof. Niraj Bala
2.	NDLI Club Awareness Session	6 July, 2023	NITTTR Chandigarh	Er. Amardev Singh



#### Training Programmes attended by the Entrepreneurship Development & Industrial Coordination Department Faculty/Staff

Sr. No.	Title of Training Programme	Period of Training	Venue	Attended by
3.	'Akhil Bharatiya ShikshaSamagam', coinciding with the 3 <sup>rd</sup> anniversary of the NationalEducation Policy 2020	29 July, 2023	NITTTR Chandigarh	Er. Amardev Singh
4.	ChatGPT and its usage as Teaching-Learning Tool, a state-of- the-art language model developed by OpenAI	31 August, 2023	NITTTR Chandigarh	Dr. Niraj Bala and Er. Amardev Singh
5.	One-day Awareness Workshop on National Credit Framework	3 October, 2023	Online	Dr. Niraj Bala, Prof.S.K. Dhameja and Dr. Harsh Vardhan Samalia
6.	Faculty Development Programmeon 'Pedagogical Practices'	31 October - 2 November, 2023	NITTTR Chandigarh	Dr. Harsh Vardhan Samalia
7.	Government-e-Marketplace	9 – 10 November, 2023	Online at ISTM, New Delhi	Miss Muskan Saha
8.	Leadership Development Programme	24 November, 2023	Panjab University	Dr. Niraj Bala
9.	Setting up of new Intellectual Property (IP) Cells in Universities & Research Institutions of Punjab	30 November, 2023	Online at PSCST Chandigarh	Dr. Niraj Bala
10.	Noting and Drafting	4 – 5 December, 2023	Online at ISTM, New Delhi	Miss Muskan Saha
11.	One day Workshop on Punjab "Samvad" (Shikhsha Samridhi Aur Swastha)	5 December, 2023	IIT Ropar	Dr. Harsh Vardhan Samalia
12.	Universal Human Values	9 – 11 January, 2024	Panjab University, Chandigarh	Dr. Niraj Bala
13.	Session in context of INDIA@2047	13 February, 2024	NITTTR Chandigarh	Er. Amardev Singh
14.	One day Online Training Programme on 'Right to Information – Appellate Authority Course' organized by ISTM, New Delhi	5 March, 2024	Online at ISTM, New Delhi	Dr. Niraj Bala



## 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 (on lien to IIIT Raipur, Chhattisgarh)** Research Areas - High Performance Computing, Cloud Computing, Data Science, IoT, Digital Pedagogy

## INFORMATION MANAGEMENT AND EMERGING ENGINEERING DEPARTMENT

During the year 2023-24, the Department has conducted 11 short term training programs in ICT and Contact Mode, which were attended by 895 teachers from polytechnics and engineering colleges. The Department has also conducted 08 programmes under consultancy projects in which 329 participants were trained. The Department has conducted 06 workshops with 427 participations. The Department faculty published 04 papers in SCI Journals and 01 paper in Non- SCI Journals (Scopus). The Department also presented/published 05 papers in proceedings of International Conferences. Published 01 Book (Edited) and contributed 06 Book chapters in edited books. The faculty of Department received 01 Sponsored Project from MeitY of Rupees 94 Lakhs on Chip to Startups (C2S). 03 Ph.D. awarded under the guidance of Department faculty. The faculty of the Department attended 03 training programs outside and 02 in-house training programs.

Sr. No.	Short Term Programmes Conducted
1.	Training for Lab Development and Preparing Manuals
2.	Application of AI in Analysing Cyber Attacks and Malwares in Indian Scenario
3.	How to Teach Emerging Engineering topics in Digital Era
4.	Applications of IOT – Project Based programme
5.	Academic Leadership for Building Quality Campus
6.	IOT Basics
7.	Scilab Programme for Engineering Application
8.	OBE Based Curriculum and Accreditation
9.	Protection from Cyber Attacks
10.	Branding of HEIs for Institutional Excellence
11.	Scilab Programming for Scientific Applications

#### **RESEARCH AND DEVELOPMENT**

#### Papers published by the Information Management and Emerging Engineering Department Faculty in SCI Journals

Sr. No.	Name of the Paper Published	Author (s) Name
1.	'SuperVidConform: Conformation Detail-preserving Network (CDPN) for Video Super-resolution'. 1 Jan. 2024 : 1 – 12, Journal of Intelligent & Fuzzy Systems, DOI: 10.3233/JIFS-219393	Sindge RenukaSambhaji, Dutta Maitreyee and Saini Jagriti



#### Papers published by the Information Management and Emerging Engineering Department Faculty in SCI Journals (contd..)

Sr. No.	Name of the Paper Published	Author (s) Name
2.	Design and Development of Hypertuned Deep Learning Frameworks for Detection and Severity Grading of Brain Tumor using Medical Brain MR images," Current. Medical Imaging, vol. 20, pp. 1–17,2024, doi: 10.2174/0115734056288248240309044616. March 2024	N. Bhardwaj, M. Sood, and S. S. Gill
3.	Design and performance analysis of pentacene organic field effect transistor with high-K dielectric materials, Optoelectronics and Advanced Materials - Rapid Communications, 17, 7-8, July-August 2023, pp.335-343 (2023)	Y. Thakur, B. Raj, S. S. Gill
4.	A new representation in 3D VLSI floorplan: 3D O-Tree. Genetic Programming and Evolvable Machines. 25. 10.1007/s10710-024- 09485-3	Gupta, Rohin & Gill, Sandeep

#### Papers published by the the Information Management and Emerging Engineering Department Faculty in International Journal other than SCI Journals

Sr. No.	Name of the Paper Published	Author (s) Name
1.	Review on Machine Learning based Visual Inspection System. International Journal of Microsystems and IoT, 1(3), 141– 148. https://doi.org/10.5281/zenodo.8320731	Badal Nishant, S.S.Gill, & Balwinder Raj

#### Papers published / presented by the Information Management and Emerging Engineering Department 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.	"Comparative Analysis of Different Deep Learning Models for COVID-19 detection using X-ray Images",1 <sup>st</sup> International Conference on Machine Learning & Human Computer Interaction",27-28 April, 2023 at DAV university, Jalandhar	Aastha Aggarwal,Dr. Maitreyee Dutta
2.	"SuperVidConform: Conformation Detail- Preserving Network (CDPN) for Video Super- Resolution", Seventh International Symposium on Intelligent Systems Technologies and applications (ISTA 23) organized by PES University, Bangaluru, India held on Dec 18-20, 2023	Renuka Sindge, Maitreyee Dutta,Jagriti Saini
3.	"Review of LoRaWAN Enabled Air Quality Assessment Systems for Smart Building Applications," International Conference on Advances in Computation, Communication and Information Technology (ICAICCIT – 2023). Faridabad, India. 23-24 November, 2023. pp.1094-1098, doi: 10.1109/ICAICCIT60255.2023.10465958	Jagriti Saini; Maitreyee Dutta; Gonçalo Marques



#### Papers published / presented by the Information Management and Emerging Engineering Department 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
4.	"Comparative Analysis of Low-Noise Power efficient instrumentation amplifier for Bio-Medical Applications", 4th International Conference on Information Technology" InCITe-2024, 6-7 March 2024, Amity University, UP., Springer	Ravi Bamnavat, Sandeep Singh Gill,Balwinder Raj, Banoth Krishna
5.	Improving Quality Assurance: Automated Defect Detection in Soap Bar Packaging Using YOLO-V5," 2023 International Conference on Electrical, Electronics, Communication and Computers (ELEXCOM), Roorkee, India, 2023, pp. 1-6, doi: 10.1109/ELEXCOM58812.2023.10370109. IEEExplore	B. Nishant, S. S. Gilland B. Raj

### **Research and Development**

No. of M.E. Thesis Guided	04
No. of Ph.D. Thesis Awarded	03

### Workshops Conducted (Other Than Curriculum Development Workshops)

Sr. No.	Name of the Workshop along with dates and venue	Number of Participants attended
1.	Workshop on NCrF from 13.07.2023 to 14.07.2023	63
2.	Press Meet on 24.07.2023	28
3.	Vetting of Technical Specifications of Equipment on 19th October, 2023	40
4.	Two Days Training Programme on Teaching Pedagogy for Faculty Members of IIIT, Una from 04.11.2023 to 05.11.2023 at IIIT, Una	38
5.	Workshop on Viksit Bharat @2047 on 13.02.2024	118
6.	Training Programme on Teaching Pedagogy for faculty of VariousIIITs from 09.03.2024 to 10.03.2024	140



## **Sponsored Programmes**

Sr. No.	Title of the Programme	Total Number of Participants
1.	Sponsored Programme on Child Protection and Child Rights in Disaster and Emergency in collaboration with NIDM, Delhi from 16.01.2024 to 18.01.2024	68

## **Consultancy Programmes**

Sr. No.	Title of the Programme	Total Number of Participants
1.	Awareness, Sensitization and Hand Holding Program For NAAC Accreditation Procedures from 26-28 July, 2023 at NSUT, Dwarka	120
2.	Two Five Days capacity enhancement programmes programme onCNC machining from 22-26 Aug, 2023 and 28-1 Sept, 2023.	61
3.	Capacity Building programme under STRIVE Project for Rajasthanstate from 11-15 September, 2023	30
4.	Capacity Building programme under STRIVE Project for Rajasthanstate from 09-13 October, 2023	31
5.	Capacity Building programme under STRIVE Project for Rajasthanstate from 16-20 October, 2023	25
6.	Capacity Building programme under STRIVE Project for Rajasthanstate from 26-01 January, 2024	32
7.	STC on IoT and Data Analysis of Sensors data from 8 <sup>th</sup> Jan to 12 <sup>th</sup> Jan, 2024 at Dronacharya College of Engineering, Gurugram	30

## **Student Training Programmes**

Sr. No.	Title of the Programme	Total Number of Participants
1.	Student Training on IOT for Students of Govt. Polytechnic Rehan, H.P. from 10 <sup>th</sup> Jan to 6 <sup>th</sup> Feb, 2024	24



#### Training Programmes attended by the Information Management and Emerging Engineering Department Faculty/Staff

Sr. No.	Title of Training Programme	Period of Training	Attended by
1.	One week CPSC-BFIC Face-to-Face Collaborative Regional Program on "2023 Busan Global Training Program: Digital and Infrastructure Transformation on Engineering, Design, and Pedagogy in TVET: Smart City Transportation with ITS Model in Busan"	May 29, 2023 to June 2, 2023	Prof. Maitreyee Dutta
2.	Online FDP on "People Analytics" organized by IIM Mumbai	28th to 31st August, 2023	Prof. Maitreyee Dutta
3.	ASIC Digital Design using 180nm PDK at ChipIN Centre, CDAC Bangalore	12-16 February, 2024	Prof. S.S. Gill



## **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.



## **MECHANICAL ENGINEERING DEPARTMENT**



Prof. (Dr.) Sukhdeep Singh Dhami

Professor Research Areas – Mechatronics, Automation & Control System, Modeling & Simulation





Er. Sunil D Jassal

**Associate Professor** 

**Research Areas - Thermal Engineering** 

Dr. P Sudhakar Rao

**Assistant Professor** 

Research Areas - CAD/CAM, Manufacturing Technology





## **MECHANICAL ENGINEERING DEPARTMENT**

During the year 2023-24, the Department has conducted 45 short term training programs in ICT and Contact Mode, which were attended by 1479 teachers from polytechnics and engineering colleges. The Department faculty published 90 papers in SCI Journals and 20 papers in International Journals. The Department also published 04 paper in proceedings of International Conferences. The faculty of the Department also conducted 01 Consultancy programme for Oceaneering International Services Ltd., Chandigarh. The faculty of the Department also submitted 03 Research projects to various funding agencies. The faculty of the Department also submitted research proposals in various agencies.

Sr. No.	Short Term Programmes Conducted
1.	Sustainable Manufacturing for circular economy
2.	Additive Manufacturing for Biomedical Applications
3.	CAD/CAM
4.	Manufacturing 4.0
5.	Refresher Course in Mechanical Engineering
6.	Mechatronics Fundamentals and Applications
7.	AutoCAD
8.	Repair and Maintenance of Machine Tools
9.	Additive Manufacturing
10.	Hybrid Machining
11.	CAD using SolidWorks
12.	Product Development using Reverse Engineering
13.	Supervisory development for workshop instructors
14.	Advanced Auto CAD
15.	Industrial Optimization with MATLAB
16.	Industry 4.0 Technologies
17.	Production Management
18.	Enterprise Resource Planning
19.	Mechanical Measurements and Control
20.	Applications of VR/AR in Manufacturing
21.	Modelling and Simulation using MATLAB/ Scilab
22.	Advance Material Processing and Characterization
23.	Advanced AutoCAD
24.	CAD/CAM
25.	Green Manufacturing



Sr. No.	Short Term Programmes Conducted (contd)
26.	Digital twinning of material processing technologies
27.	Advances in Automotive Technologies
28.	CNC Machines: Operation and Programming
29.	FEA using ANSYS
30.	AutoCAD
31.	CAD using SolidWorks
32.	Product Development using Reverse Engineering
33.	Ergonomic Product Design
34.	OBE for NEP Implementation
35.	Industrial Optimization with MATLAB
36.	Advanced Auto CAD
37.	Industry 4.0 Technologies
38.	Enterprise Resource Planning
39.	Applications of VR/AR in manufacturing
40.	Modelling and Simulation using MATLAB/ Scilab
41.	Advanced Auto CAD
42.	Green Manufacturing
43.	Digital Twinning of Material Processing Technologies
44.	Designing for Consumer
45.	Advances in Automotive Technologies

#### **RESEARCH AND DEVELOPMENT**

### Patents/Copyright Granted

Sr. No.	Name of Patents/Copyright	Author (s) Name
1.	Multi-rooted dental implant for veterinary patients, Patent No. 510265, Date of Grant: 13-02-2024 Brief: Application No: 202211010074, Journal Number- 39/2022, Journal Date: 30/09/2022,	Rupinder Singh

Sr. No.	Name of the Paper Published	Author (s) Name
1.	On secondary recycled PVDF-limestone composite in 4D printing applications for heritage structures: rheological, thermal, mechanical, spectroscopic, and morphological analysis Journal of Process Mechanical Engineering, IMech Part E, Vol. 237, No. 2, 2023DOI: 10.1177/09544089221104771Sage publication)	Vinay Kumar, Rupinder Singh, I.P.S.Ahuja



Sr. No.	Name of the Paper Published	Author (s) Name
2.	On PVDF composite as partially absorbable smart implant Journal of Engineering in Medicine (IMech Part H), Vol. 237, No. 4, 2023DOI: 10.1177/09544119231159816(Sage publication)	Minhaz Husain,Rupinder Singh, BS Pabla
3.	On polyvinyl chloride-polypropylene composite matrix for 4D applications: Flowability, mechanical, thermal and morphological characterizations Journal of Thermoplastic Composite Materials, Vol. 36, No.4, 2023DOI: 10.1177/08927057211059754(Sage publication)	N. Ranjan, Ranvijay Kumar, Rupinder Singh, Vinay Kumar
4.	On twin screw extrusion parametric optimization using hybrid approach of ANOVA and TOPSIS for 3D printing applications Advances in Materials and Processing Technologies, Vol. 9, No. 1, 2023 DOI:10.1080/2374068X.2022.2087844	Sudhir Kumar, Rupinder Singh, T.P Singh, A. Batish
5.	On failure analysis of 3D printed functionally graded material prepared by DMLS Journal of Materials: Design and Applications MechE Part L, Vol. 237, No. 3, 2023DOI: 10.1177/14644207221121985(Sage publications)	Rupinder Singh, Md Mujahid Khan, S R Pradhan, Vinay Kumar
6.	Investigations on 3D printed primary recycled ABS for one-way programming Advances in Materials and Processing Technologies, Vol. 9, No. 3, 2023 DOI: 10.1080/2374068X.2022.2109641	Chahat Jain, B S Dhaliwal, Rupinder Singh, V. Kumar
7.	On electro spun PLA nanofibers for bio-sensing applications Manufacturing Letters, Vol. 37, 2023 DOI: 10.1016/j.mfglet.2023.05.001 (Elsevier publication)	R. Kumar, RupinderSingh
8.	ABS-PLA-AI composite for digital twinning of heritage buildings Materials Letters, Vol. 346, 2023DOI: 10.1016/j.matlet.2023.134536 (Elsevier publication)	V Kumar, Rupinder Singh, R Kumar, NRanjan, M Husain
9.	Innovative thermoplastic slit profiles for electrochemical machining International Journal on Interactive Design and Manufacturing, Vol.17, 2023 DOI: 10.1007/s12008-022-01174-8(Springer publication)	Rupinder Singh,Arundutt Sharma
10.	On pre- and post-processing of 3D printed ABS thermoplastic sacrificial pattern for strategic dog teeth Progress in additive manufacturing, Vol. 8, 2023 DOI: 10.1007/s40964-022-00326-2 (Springer Publication)	S. R. Pradhan, Rupinder Singh, S. S. Banwait, S.Singh, A. Anand
11.	Mechanical investigations on secondary recycled ABS-based composite multi-layered tensile and flexural specimens prepared by fused filament fabrication Progress in additive manufacturing, Vol. 8, 2023DOI: 10.1007/s40964-022-00393-5Springer publications)	K. Chawla, JaspreetSingh, Rupinder Singh



Sr. No.	Name of the Paper Published	Author (s) Name
12.	On chemical assisted blending of secondary recycled ABS with bakelite and wood dust for fused filament fabrication Advances in Materials and Processing Technologies, Vol. 9, No.1, 2023 DOI:10.1080/2374068X.2022.2085955	K Chawla, J.Singh, Rupinder Singh
13.	On meta-structure inspired 3D printing of dual alloys using DMLSNational Academy of Science Letters, Vol. 46, 2023DOI: 10.1007/s40009-022-01181-z (Springer publications)	Rupinder Singh, MdMujahid Khan, S R Pradhan, Vinay Kumar
14.	Three-dimensional printed thermoplastic polyurethane on fabric as wearable smart sensors Journal of Materials: Design and Applications IMech Part L, Vol. 237, No. 7, 2023DOI: 10.1177/14644207221149693(Sage publication)	S. Kumar, Rupinder Singh, Amrinder Pal Singh, Yang Wei
15.	3D printed flame retardant, ABS-C4H8N6O composite as energystorage device Arabian Journal for Science and Engineering, Vol. 48, 2023 DOI: 10.1007/s13369-022-07106-8 (Springer publication)	Rupinder Singh, Suraj Prakash, Vinay Kumar, B. S. Pabla
16.	3D printing assisted investment casting of dental crowns for recycling of DMLS waste Arabian Journal for Science and Engineering, Vol. 48, 2023DOI: 10.1007/s13369-022-07155-z(Springer publication)	S. R. Pradhan, Rupinder Singh, S. S. Banwait
17.	On tribological and in-vitro analysis of meta-structure-based 3D printed horse hoof strap National Academy of Science Letters, Vol. 46, 2023DOI: 10.1007/s40009-023-01203-4(Springer publications)	K.S.Boparai, Rupinder Singh A.Kumar, S Ranjan Pradhan, Md.M Khan
18.	3D printed meta-structure inspired sensors of PVDF-graphene-Mn- doped ZnO for heritage structures National Academy of Science Letters, Vol. 46, 2023 DOI: 10.1007/s40009-023-01216-z (Springer publications)	V Kumar, Rupinder Singh, I.P.S. Ahuja, A Barwar
19.	On 3D printing of customized multi-root dental implants for the strategic tooth of canine by direct metal laser sintering Rapid prototyping Journal, Vol. 29, No. 3, 2023 DOI: 10.1108/RPJ-04- 2022-0112(Emerald publications)	Rupinder Singh, Anish Das, A Anand
20.	On Dy <sup>+3</sup> nobbled ZnO reinforced PVDF for flexible optical sensorJol. of Institution of Engineers (India) Part C, Vol. 104, 2023DOI: 10.1007/s40032-023-00920-5(Springer publication)	R Kumar, Rupinder Singh, V Kumar, P Kumar, N Ranjan
21.	On comparison of 3D printed ABS and PVDF based sensors for bodycentric utility Arabian Journal for Science and Engineering, Vol. 48, 2023 DOI: 10.1007/s13369-023-07658-3(Springer publications)	Chahat Jain, B.S. Dhaliwal, Rupinder Singh, S Pattnaik



Sr. No.	Name of the Paper Published	Author (s) Name
22.	On mechanical, thermal, morphological, and 4D capabilities of PVDF nanocomposites: effect of mechanical and chemical assisted mechanical blending Journal of Materials Engineering and Performance, Vol. 32, 2023DOI:10.1007/s11665-022-07199- 0(Springer publications)	R Sharma, Rupinder Singh, Ajay Batish, Nishant Ranjan
23.	3D printed thermoplastic composite based innovative solutions for heritage structures: Technology to application Jol. of Institution of Engineers (India) Part C, Vol. 104, 2023(Springer Publications)DOI: 10.1007/s40032-023-00981-6	Vinay Kumar, Rupinder Singh, IPS Ahuja
24.	On Multi-layered PVDF composites-based 3D printed solution for repair of non-structural cracks in heritage buildings National Academy of Science Letters, Vol. 46, 2023DOI: 10.1007/s40009-023-01266-3(Springer publications)	Vinay Kumar, Rupinder Singh, I.P.S.Ahuja
25.	On 3D printing of architected PLA-PLA nanofiber-based biomedicalscaffolds National Academy of Science Letters, Vol. 46, 2023 Dol: 10.1007/s40009-023-01261-8(Springer publications)	Ranvijay Kumar,Rupinder Singh
26.	On 3D printed sandwich strips of PLA-PLA nanofibers for one-way programming National Academy of Science Letters, Vol. 46, 2023 Dol: 10.1007/s40009-023-01269-0 (Springer publications)	Ranvijay Kumar,Rupinder Singh
27.	Investigation on 3D printed PVDF-SiC composites for phagocytosis sensor application National Academy of Science Letters, Vol. 46, 2023Dol: 10.1007/s40009-023-01277-0(Springer publications)	Vinay Kumar,Rupinder Singh
28.	A review on 3D printing of partially absorbable implants Jol. of Institution of Engineers (India) Part C, Vol. 104, 2023DOI: 10.1007/s40032-023-00980-7 Springer Publications)	Minhaz Husain, Rupinder Singh, BS Pabla
29.	Multi-material printing of PVDF composites: A customized solution for maintenance of heritage structures Part L: Journal of Materials: Design and Applications, Vol. 237, No. 3, 2023 DOI: 10.1177/14644207221118748	Vinay Kumar, Rupinder Singh, I.P.S.Ahuja
30.	PVDF composite as the 4D solution for heritage structures Jol. of Institution of Engineers (India) Part C, Vol. 104, 2023DOI: 10.1007/s40032-023-00991-4 (Springer Publications)	V Kumar, RupinderSingh, I.P.S. Ahuja
31.	On morphological and dimensional characteristics of modified electrochemical machining Jol. of Institution of Engineers (India) Part C, Vol. 104, 2023 DOI: 10.1007/s40032-023-00990-5Springer Publications)	Gurwinder Singh, Rupinder Singh, P.S. Rao, Vinay Kumar



Sr. No.	Name of the Paper Published	Author (s) Name
32.	On 3D printing of primary recycled PVDF-based miniaturized, flexible, and wearable sensor Journal of Materials Engineering and Performance, Vol. 32, 2023 DOI: 10.1007/s11665-023-07911-8(Springer publications)	Chahat Jain, B.S. Dhaliwal, RupinderSingh
33.	On 3D printed intelligent diaphragmatic hernia sensor RapidPrototyping Journal, Vol. 30, No. 2, 2024DOI: 10.1108/RPJ-05-2023-0179	Rupinder Singh,Gurwinder Singh, Arun Anand
34.	On 3D printed thermoresponsive PCL-PLA nanofibers based architected smart nanoporous scaffolds for tissue reconstruction Journal of Manufacturing Processes, 119, 2024	Ranvijay Kumar, Rupinder Singh, Vinay Kumar, Nishant Ranjan, Jeena Gupta, Nancy Bhura
35.	On the recycling of PVDF-reinforced graphite by using 3D gel printing Materials Letters,366,2024Dol:10.1016/j.matlet.2024.136536	Ankush Mehta,Rupinder Singh, B. S. Pabla, Ranvijay Kumar
36.	On comparison of sensing capabilities of 3D printed wearable sensors Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications, Vol. 238, No. 4,2024DOI: 10.1177/14644207231198708	S. Kumar, Rupinder Singh, AP Singh, Jessica Stanley, YangWei
37.	On 3D Printing of PVDF Composite- based sensors for biomedical applications National Academy of Science Letters, Vol. 47, 2024DOI: 10.1007/s40009-023-01312-0(Springer publications)	M.Husain, RupinderSingh, BS Pabla
38.	On secondary recycling of the domestic thermoplastic waste with reinforcement of aluminum powder National Academy of Science Letters, Vol. 47, 2024DOI: 10.1007/s40009-023-01337-5(Springer publications)	V Kumar, Rupinder Singh, N. Ranjan, R.Kumar
39.	Tertiary recycling of polyvinylidene fluoride composites by 3Dgel printing Journal of Energy and Environmental Sustainability, Vol. 15, 2024	A Mehta, Rupinder Singh, B S Pabla, B.R. Gurjar
40.	3D printed conformal sensors for health monitoring of bovine post diaphragmatic hernia surgery: A Review Rapid Prototyping Journal, Vol. 30, No.5, 2024 Dol:10.1108/RPJ-09-2023-0332	A. Barwar, PrateekKala, Rupinder Singh
41.	On fused filament fabrication of PLA nanofiber reinforced PCL matrix- based smart porous scaffolds Materials Letters, Vol. 367, 2024	Ranvijay Kumar, Rupinder Singh, Ankush Mehta, Nishant Ranjan, Vinay Kumar



Sr. No.	Name of the Paper Published	Author (s) Name
42.	Bio-materials for Intramedullary Pin Application in Canine Femur: A Comparative Analysis Explor BioMat-X., 2024, 1, https://doi.org/10.37349/ebmx.2024.00013	Minhaz Husain, Rupinder Singh, B. S. Pabla, G. Singh, J.P. Davim
43.	On 3D Printed PVDF-based smart energy storage devices Journal of Thermoplastic Composite Materials, Vol. 37, No. 6, 2024 DOI: <u>10.1177/08927057231208133(Sage publications)</u>	Ankush Mehta,Rupinder Singh, B. S. Pabla, Vinay Kumar
44.	On compressive properties of 3D printed PVDF composite forimplant applications Journal of Thermoplastic Composite Materials, Vol. 37, No. 7, 2024 DOI: <u>10.1177/08927057231200005</u>	Minhaz Husain,Rupinder Singh, BS Pabla
45.	National Academy of Science Letters, Vo. 47, No. 2, 2024 DOI: 10.1007/s40009-023-01322-y(Springer publications)	C. Jain, BS. Dhaliwal, Rupinder Singh, S. Pattnaik
46.	On fracture mechanism of 3D printed nanofiber reinforced PLA matrix National Academy of Science Letters, Vol. 47, No. 2, 2024 DOI: 10.1007/s40009-023-01330-y (Springer publications)	Ranvijay Kumar,Rupinder Singh
47.	On tertiary recycling of PVDF with reinforcement of waste dry cell components National Academy of Science Letters, Vol. 47, No. 3, 2024DOI: 10.1007/s40009-023-01352-6 (Springer publications)	Ankush Mehta,Rupinder Singh, BS Pabla
48.	On digital twinning of tensile properties of PVDF composite by fused filament fabrication Journal of Thermoplastic Composite Materials,2023 Dol: <u>10.1177/08927057231211221</u> (Sage publications)	Minhaz Husain, Rupinder Singh, BSPabla
49.	On secondary recycling of PVDF for 3D printing of functionalsensors: Mechanical, flow, thermal, and dielectric properties National Academy of Science Letters, 2023DOI: 10.1007/s40009-023-01364-2(Springer publications)	Minhaz Husain, Rupinder Singh, BS Pabla
50.	On 3D printing of canine femur bone models International Journal on Interactive Design and Manufacturing, 2023 DOI: 10.1007/s12008- 023-01623-y(Springer publications)	K.S. Boparai, A.Kumar, Rupinder Singh
51.	Investigating the torsional characteristics of 3D printed PVDFcomposite Journal of Thermoplastic Composite Materials, 2023 DOI: <u>10.1177/08927057231216746</u>	Minhaz Husain,Rupinder Singh, BS Pabla



Sr. No.	Name of the Paper Published	Author (s) Name
52.	On novel 3D printed diaphragmatic hernia solution for Bubalusbubalis Journal of Materials Engineering and Performance, 2023 DOI:10.1007/s11665-023-08817-1 (Springer publications)	Rupinder Singh,Gurwinder Singh Arun Anand
53.	Effect of autoclaving on the dimensional stability and surface characteristics of 3D printed PVDF composite-based implants Journal of Thermoplastic Composite Materials, 2023 DOI: <u>10.1177/08927057231222843</u>	Minhaz Husain, Rupinder Singh, BS Pabla
54.	On 3D printed novel stifle prosthesis for canines Part C: Journal of Mechanical Engineering Science, 2024 DOI: 10.1177/09544062241228390	Rupinder Singh, AKumar, Ranvijay Kumar, Arun Anand
55.	Effect of meta-structure on mechanical properties of polyvinylidenefluoride composite-based 3D printed intramedullary pins Journal of Thermoplastic Composite Materials	Minhaz Husain,Rupinder Singh, B. S. Pabla
56.	On mechanical properties of 3D printed secondary recycled ABS composite for silencer application in short-range gun Journal of Materials Engineering and Performance, 2023DOI: 10.1007/s11665-023-08684-w(Springer publications)	Gulraj Singh, G S Brar, Rupinder Singh
57.	Proceedings of Institutions of Mechanical Engineering, Part E:Journal of Process Mechanical Engineering, 2023 DOI: 10.1177/09544089231206045(Sage publications)	M. Husain, Rupinder Singh, BS Pabla
58.	On the use of recycled blended metallic powder in the direct metallaser sintering Jol. of Institution of Engineers (India) Part C, 2024, Dol: 10.1007/s40032-024-01039-x(Springer publications	Rupinder Singh,Shubham Kumar, SS Banwait
59.	On comparison of conventional and modified electrochemicalmachining Jol. of Institution of Engineers (India) Part C, 2024, Dol: 10.1007/s40032-024-01043-1	Gurwinder Singh,Rupinder Singh, P.S. Rao
60.	On the modified electrochemical machining process with a partially insulating cathode Jol. of Institution of Engineers (India) Part C, 2024 DOI : 10.1007/s40032-024-01037-z	Gurwinder Singh,Rupinder Singh, P.S. Rao
61.	On 3D printing of thermoplastic polyurethane over woven fabric for Wearable sensors Advances in Materials and ProcessingTechnologies, 2023 DOI:10.1080/2374068X.2023.2269667	Sanjeev Kumar, Rupinder Singh, AP Singh, Yang Wei



## Papers published by the Mechanical Engineering Department Faculty in SCI Journals (contd..)

Sr. No.	Name of the Paper Published	Author (s) Name
62.	Investigations and predictions for mechanical and surface properties of FFF prints using DOE, ML and FEA Advances in Materials and Processing Technologies, 2023 DOI: 10.1080/2374068X.2023.2201089	Abhishek Kumar, K.S. Boparai, J.S. Chohan, Rupinder Singh
63.	On 3D printing of functionally graded implants using two differentmetallic powder-based alloys National Academy of Science Letters, 2023 DOI:10.1007/s40009-023-01357-1 (Springer publications)	Rupinder Singh,Minhaz Husain, Sahil Mehra
64.	On direct metal laser sintering of functionally graded material with virgin and mixed powder Arabian Journal for Science and Engineering, 2023DOI:10.1007/s13369-023-08347-x (Springer publications)	Bharat Kalia, Rupinder Singh, B.S. Pabla, Mrityunjay Dureja
65.	Journal of Materials Engineering and Performance, 2024Dol: 10.1007/s11665-024-09797-6	Minhaz Husain, Rupinder Singh, BSPabla
66.	On electrochemical machining with an interelectrode slit for apartially insulating cathode Journal of Process Mechanical Engineering, 2024	Gurwinder Singh,Rupinder Singh, P.S. Rao
67.	On the use of 17-4 precipitate hardened stainless steel waste powder for 3D printing of implants with tuneable stress shielding capabilities Journal of Materials Engineering and Performance, 2024	Bharat Kalia, Minhaz Husain, Rupinder Singh, BS Pabla
68.	Effect of pre-processing temperature on the recycling of waste direct metal laser sintering powder Transactions of Indian Institute of Metals Springer publications)	Rupinder Singh,Shubham Kumar, S.S. Banwait, MaheepVikram Singh
69.	On fused filament fabrication of novel tape bandages as phagocytosis sensor: Effect of SiC particle size in PLA matrix Jol. of Institution of Engineers (India) Part C, 2024Dol: 10.1007/s40032-024-01075-7	Minhaz Husain, Rupinder Singh, B.S. Pabla, AP Singh, Mankirat Singh
70.	On processing of waste polyethylene terephthalate glycol for sensory applications Jol. of Institution of Engineers (India) Part C Dol:10.1007/s40032-024-01078 4	Kanwerajit Singh,Rupinder Singh, A P Singh
71.	Mechanical investigations on secondary recycled ABS- based composite multi-layered tensile and flexural specimens prepared by fused filament fabrication	Prashant Jindal, Jogendra Bharti, Vipin Gupta, SS Dhami



## Papers published by the Mechanical Engineering Department Faculty in SCI Journals (contd..)

Sr. No.	Name of the Paper Published	Author (s) Name	
72.	On chemical assisted blending of secondary recycled ABS with bakelite and wood dust for fused filament fabrication	Anurag Harsh, SS Dhami	
73.	A review of modeling and simulation techniques in EDM process, Materials Today: Proceedings, https://doi.org/10.1016/j.matpr.2023.03.609.	Jogendra Bharti, Sukhdeep SinghDhami	
74.	Effects of cryogenic treatment on the performance of coated tungsten carbide inserts during milling of EN24 steel, Materials Today: Proceedings, https://doi.org/10.1016/j.matpr.2023.03.449.	Arvind Kumar, NirajBala, Sukhdeep Singh Dhami, Sudhir Kumar	
75.	"On electrochemical machining with an interelectrode slit for apartially insulating cathode", Journal of Process Mechanical Engineering JPME (SCI), 2023	Gurwinder P S Rao, Rupinder Singh	
76.	"On Comparison of Conventional and Modified ElectrochemicalMachining", journal of Inst of enginers series C,2023 https://doi.org/10.1007/s40032-024- 01043-1 (SCI)	Gurwinder Singh, P. S. Rao, Rupinder Singh	
77.	Investigation of Surface Characteristics of Inconel-625 by EDM with Used Cooking Oil-Based Biodiesel as Dielectric Fluid 2023 Journal Archives of Metallurgy and Materials Pages 1225-1232 Publisher Institute of Metallurgy and Materials Science of Polish Academy of Sciences	Mohd Yunus Khan,P Sudhakar Rao, BS Pabla	
78.	On morphological and dimensional characteristics of modified electrochemical machining, Jol. of Institution of Engineers (India) Part C, 2023 DOI: 10.1007/s40032-023-00990-5 (Springer Publications)	Gurwinder Singh, P.S. Rao, Rupinder Singh, Vinay Kumar	
79.	Electrochemical Machining Process Using Different Electrolytes for Improved Process Efficiency, 2023 Journal of E3S Web ofConferences Volume 391 Pages 01168 Publisher EDP Sciences	Gurwinder Singh, P Sudhakar Rao, Rupinder Singh	
80.	On the use of Copper Tool developed by Atomic Diffusion Additive Manufacturing (ADAM) Process for Electrical Discharge Machining, 2023 Journal E3S Web of Conferences Volume 455 Pages 02014 Publisher EDP Sciences	Mohd Yunus Khan, PS Rao, BS Pabla	
81.	On mechanical properties of 3D printed secondary recycled ABS composite for silencer application in short-range gun Journal of Materials Engineering and Performance, 2023 DOI: 10.1007/s11665- 023-08684-w (Springer publications)	Gulraj Singh, G S Brar, Rupinder Singh	



## Papers published by the Mechanical Engineering Department Faculty in SCI Journals (contd..)

Sr. No.	Name of the Paper Published	Author (s) Name	
82.	On comparison of sensing capabilities of 3D printed wearable sensorsPart L: Journal of Materials: Design and Applications, 2023	Sanjeev Kumar, Rupinder Singh, Amrinder Pal Singh, Jessica Stanley, Yang Wei	
83.	On tertiary recycling of PVDF with reinforcement of waste dry cell components National Academy of Science Letters, 2023 DOI: 10.1007/s40009-023-01352-6 (Springer publications)	Ankush Mehta,Rupinder Singh, BS Pabla	
84.	On 3D printing of functionally graded material with direct metal laser sintering with virgin and mixed powder Arabian Journal for Science and Engineering, 2023 DOI:10.1007/s13369-023-08347-x (Springer publications)	Bharat Kalia, Rupinder Singh, B.S. Pabla, Mrityunjay Dureja	
85.	On 3D printing of functionally graded implants using two differentmetallic powder-based alloys National Academy of Science Letters, 2023 DOI:10.1007/s40009-023-01357-1 (Springer publications)	Rupinder Singh, Minhaz Husain, Sahil Mehra	
86.	On biodegradability of 3D Printed PVDF composites Proceedings of Institutions of Mechanical Engineering, Part E: Journal of Process Mechanical Engineering, 2023 DOI: 10.1177/09544089231206045 (Sage publications)	M. Husain, RupinderSingh, BS Pabla	
87.	On novel 3D printed diaphragmatic hernia solution for Bubalusbubalis Journal of Materials Engineering and Performance DOI:10.1007/s11665-023-08817-1 (Springer publications)	Rupinder Singh,Gurwinder Singh, Arun Anand	
88.	On 3D Printed PVDF-based smart energy storage devices Journal of Materials Engineering and Performance DOI:10.1007/s11665-023- 08817-1 (Springer publications)	Ankush Mehta,Rupinder Singh, B.S.Pabla, Vinay Kumar	
89.	On digital twinning of tensile properties of PVDF composite by fusedfilament fabrication Journal of Thermoplastic Composite Materials (Sage publications)	Minhaz Husain,Rupinder Singh, BS Pabla	
90.	On secondary recycling of PVDF for 3D printing of functional sensors: Mechanical, flow, thermal, and dielectric properties National Academy of Science Letters, 2023 (Springer publications)	Minhaz Husain, Rupinder Singh, BS Pabla	



### Papers published by the Mechanical Engineering Department Faculty in International Journals other than SCI Journals

Sr. No.	Name of the Paper Published	Author (s) Name
1.	Mechanical behaviour of reconstructed defected skull with custom PEEK implant and Titanium fixture plates under dynamic loading conditions using FEM, Journal of the Mechanical Behavior of Biomedical Materials, https://doi.org/10.1016/j.jmbbm.2023.106063	Prashant Jindal, Jogendra Bharti, Vipin Gupta, S S Dhami
2.	Development of mobile smart material-handling system, Materials Today: Proceedings, https://doi.org/10.1016/j.matpr.2023.07.247	Anurag Harsh, SS Dhami
3.	A review of modeling and simulation techniques in EDM process,Materials Today: Proceedings, https://doi.org/10.1016/j.matpr.2023.03.609.	Jogendra Bharti,Sukhdeep Singh Dhami
4.	Effects of cryogenic treatment on the performance of coatedtungsten carbide inserts during milling of EN24 steel, Materials Today: Proceedings, https://doi.org/10.1016/j.matpr.2023.03.449.	Arvind Kumar, Niraj Bala, Sukhdeep Singh Dhami, Sudhir Kumar
5.	"On the use of different electrolytes in modified electrochemical machining with a partially insulating cathode" Journal of The Institution of Engineers (India): Series C. 2023	Gurwinder Singh, P. S. Rao, Rupinder Singh
6.	Electrochemical machining of metallic substrates using an inter- electrode slit - A framework, Scopus book chapter, 1 <sup>st</sup> Global Summit on Implementation of SDGs,	Gurwinder Singh, P. Sudhakar Rao, Rupinder Singh,
7.	Effect of Inter-Electrode Gap on Surface Characteristics inConventional Electrochemical Machining 2023	Gurwinder Singh, P. Sudhakar Rao, Rupinder Singh,
8.	Electrochemical Machining of Cu Substrate with Cu Tool: A CaseStudy pp 89 Chapter 11, Adv in Mfg technology Elsevier publications 2023	Gurwinder Singh,Rupinder Singh, and P. Sudhakar Rao
9.	Machining performance and optimization of process parameters of Incoloy alloy A-286 using EDM process 2023/3/4 Journal MaterialsToday: Proceedings Publisher Elsevier 2023	P Sudhakar Rao, Mohd Yunus Khan,Anjaiah Madarapu
10.	CNC milling of EN24 steel for assessment of the processparameters using OFAT technique: A preliminary investigation 2023/6/12 Pages 1- 10 Journal Materials Today: Proceedings 2023Issue 4th International Conference on ICCAME ICCAME 2023	G. Anjaiah Shashwath , P. Sudhakar Rao, M.S. Prabhudev, Vishaldutt Kohir



### Papers published by the Mechanical Engineering Department Faculty in International Journals other than SCI Journals (contd..)

Sr. No.	Name of the Paper Published	Author (s) Name
11.	CNC milling of EN24 steel for assessment of the processparameters using OFAT technique: A preliminary investigation 2023/6/12 Journal Materials Today: Proceedings Publisher Elsevier	P Sudhakar Rao, MS Prabhudev, Vishaldutt Kohir, G Anjaiah
12.	A comprehensive study of electrochemical machining of monel-400 alloy with different electrolytes: Research challenges 2023/6/29 journal Materials Today: Proceedings Publisher Elsevier	Akhilesh Sinha, P Sudhakar Rao, MohdYunus Khan, Gurwinder Singh
13.	Investigations on the use of different electrolytes in modified electrochemical machining journal Research square,2023/7/182023	Gurwinder Singh, Rupinder Singh, PS Rao, Vinay Kumar,
14.	Effect of inter electrode gap on surface characteristics in conventional electrochemical machining 2023/11/4 Journal Materials Today: Proceedings, Publisher Elsevier	Gurwinder Singh, PSRao, Rupinder Singh
15.	On morphological and dimensional characteristics of modified electrochemical machining, 2023/12, Journal of The Institution of Engineers (India): Series C Volume 104 Issue 6 Pages 1299-1302 Publisher Springer India	Gurwinder Singh, Rupinder Singh, PS Rao, Vinay Kumar
16.	Electro-Chemical Machining of Titanium Alloys and Various Composites for Efficient Machining Process: A Critical Review 2024, Fabrication Techniques and Machining Methods of Advanced Composite Materials journal, Pages 68-81 Publisher CRC Press	P Sudhakar Rao, Vikas Sharma, Harish Kumar, Sri Phani Sushma
17.	Optimization of surface roughness in milling of EN 24 steel with WC- Coated inserts using response surface methodology: analysis using surface integrity microstructural, 2024/3/7 JournalFrontiers in Materials Volume 11 Pages 1269608, Publisher Frontiers Media SA journal	Shashwath Patil, Thanikodi Sathish, PS Rao, MS Prabhudev
18.	On the Modified Electrochemical Machining Process with aPartially Insulating Cathode, 2024/4/27 Journal of The Institution of Engineers (India): Series C Pages 1-8 Publisher Springer India	Gurwinder Singh,Rupinder Singh, PS Rao
19.	On Comparison of Conventional and Modified Electrochemical Machining, 2024/4/27, Journal of The Institution of Engineers (India): Series C Pages 1-6 Publisher Springer India	Gurwinder Singh,Rupinder Singh, PS Rao
20.	Electro-Chemical Machining of Titanium Alloys and Various Composites for Efficient Machining Process, 2024/5/2 Journal Fabrication Techniques and Machining Methods of Advanced Composite Materials, Volume 9 Pages 68 Publisher CRC Press	P Sudhakar Rao, Vikas Sharma, Harish Kumar, Sri Phani Sushma



#### Papers published / presented by the Mechanical Engineering Department 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.	Optimization of machining process on coated tungston carbide elctrodre tool and titanium alloy workpiece using EDM : A critical Review (in ICRAMDM-2023 conference duiting 23-24 Dec 2023 at AMU Aligarh UP)	P S Rao, Newton singh Saidaiah
2.	Research progress towards the machining of Titanium alloy using CNC Milling: A technical Review (in ICRAMDM-2023 conference duiting 23-24 Dec 2023 at AMU Aligarh UP)	P S Rao, Mithun kumar
3.	Configuration and Performance issues of RMS-Reconfigurabule Manufacturing System (in ICRAMDM-2023 conference duiting 23-24 Dec 2023 at AMU Aligarh UP)	P S Rao, Kamal Mittal, Sri Sai Phani sharma, Abhinandan singh
4.	A comprehensive exploration of the hybrid electro chemical discharge machining (ECDM) processes(in ICRAMDM-2023 conference duiting 23-24 Dec 2023 at AMU Aligarh UP)	Yunus khan, P S Rao, Kunal, Gurwindr Singh

#### **Research and Development**

No. of M.E. Thesis Guided	21	
No. of Ph.D. Thesis Awarded	04	

### Training Programmes attended by the Mechanical Engineering Department Faculty/Staff

Sr. No.	Title of Training Programme	Period of Training	Venue	Attended by
1.	One-day workshop on National credit framework jointly organized by 4 NITTTRs at NITTTR Chandigarh	03 October 2023	NITTTR, CHD	Rupinder Singh, SS Banwait, P S Rao
2.	Attended one week online stc on "AICTE Incorporating Universal Human Values (UHV) in Education (An AICTE Initiative)".	18-22 Dec 24	Online AICTE NEW DELHI	P S Rao
3.	Attended two day workshop on the Prediction of Thermodynamic and Kinetic Properties of New Metallic Alloys (O-Plan W-2) in the department	28 and 29.03.2023	NITTTR CHD	Rupinder Singh, SS Banwait, SS Dhami, P S Rao



## Training Programmes attended by the Mechanical Engineering Department Faculty/Staff (contd..)

Sr. No.	Title of Training Programme	Period of Training	Venue	Attended by
4.	Attended 2 weeks Industrial training programme on "Finite Element Analysis and its Industrial applications using ANSYS" from 19- 30 June, 2023 at Netaji Subhas University of Technology, NSUT, NEW DELHI	19-30 June 2023	Netaji Subhas University of Technology NSUT, NEW DELHI	PS Rao
5.	STC on Additive Manufacturing at CITD Central Inst of Tool Design Vijayavada AP	4-8 March 2023	CITD Central Inst of Tool Design Vijayavada AP	PS Rao

## **Research Project In Progress**

Sr. No.	Name of Project	Funding Agencies	Team
1.	FIST Level 0 Project, Running in 3rd Year, Cost: 79 Lacs	DST	Rupinder Singh
2.	Research Grant of Rs 18.30 Lac only for the year 2021-24, for the project "Teachers Associateship for Research Excellence (TARE). (Mechanical & Manufacturing Engineering & Robotics)" to Dr. Jasgurpreet Singh Chohan, Chandigarh University, Gharuan, Mohali, Chandigarh, Punjab-140413- under the mentorship of Dr. Rupinder Singh, at National Institute of Technical Teachers Training and Research, Chandigarh by SERB.	SERB	Dr. Jasgurpreet Singh Chohan, CU, Gharuan, Mohali, Chandigarh, Punjab- under the mentorship of Dr. RupinderSingh
3.	Research Grant of Rs 18.30 Lac only for the year 2021-24, for the project, "Teachers Associateship for Research Excellence (TARE). (Mechanical & Manufacturing Engineering & Robotics)" to Dr. Ranvijay Kumar, CU, Gharuan, Mohali, Punjab- under the mentorship of Dr. Rupinder Singh, at National Institute of Technical Teachers Training and Research, Chandigarh by SERB	SERB	Dr. Ranvijay Kumar, CU, Gharuan, Mohali, Chandigarh, Punjab- under the mentorship of Dr. R. Singh
4.	Research Grant of Rs 18.30 Lac only for the year 2021-24, for the project, "Teachers Associateship for Research Excellence (TARE). (Mechanical & Manufacturing Engineering & Robotics)" to Dr. Prashant Jindal, Panjab University, Chandigarh University, under the mentorship of Dr. S.S.Dhami	SERB	Dr. Prashant Jindal, Panjab University, CU, under the mentorship of Dr. S.S.Dhami



## Research Project Submitted

Sr. No.	Name of Project	Funding Agencies	Team
1.	Promotion of University Research and Scientific Excellence (PURSE), Cost: 12 Crore	DST	Rupinder Singh, S.S.Dhami
2.	ASEAN-India Collaborative R&D Broad Area : MaterialScience Cost: 43.30 Lacs	ASEAN-India Collaborative Fund - DST	PI: Rupinder Singh
3.	Study on the use of 3D printed smart cerclage strip formedicinal monitoring of comminuted fractures post-surgery, Cost: 1.25 Lacs	DST & Chandigarh Administration	PI: Rupinder Singh

## Extension Services and Consultancy

S. No.	Program	Beneficiary Organization	Team
1.	Training Program on Hydraulic Controls conducted for Design Engineers during May 8 – 13, 2023, Amount: Rs. 2 lakh	Oceaneering International Services Ltd., Chandigarh	Dr. S. S. Dhami, Dr. B. S. Pabla, Er. Raj Kumar
2.	Committee for developing curriculum in "Robotics and Automation" August 2022 – January 2024	Haryana State Board of Technical Education	Dr. S. S. Dhami
3.	Technical Education in India: Past, Present and Future	AICTE	RKW / SSB / SSG / PS
4.	Recruitment of Junior Engineers (Electrical) (From April 2023 to March 2024)	Engineering Department Electrical Circle I, Chandigarh Administration	Dr. S.S.Banwait
5.	Recruitment of JBTs (From April 2023 to March 2024)	Samagra Shiksha,School Education, Chandigarh Administration	Dr. S.S.Banwait
6.	Recruitment of TGTs (From April 2023 to March 2024)	Samagra Shiksha,School Education, Chandigarh Administration	Dr. S.S.Banwait
7.	Conduct of written test for Recruitment of Excise and Taxation Inspectors (From April 2023 to Dec 2023)	SSSB, Punjab	Dr. S.S.Banwait
8.	Recruitment of Patwaris, Booking Clerk and Ziladars (From April 2023 to March 2024)	SSSB, Punjab	Dr. S.S.Banwait
9.	Execution of confidential project (From April 2023 to Jan 2024)	Haryana Public Service Commission	Dr. S.S.Banwait







## **MEDIA ENGINEERING DEPARTMENT**





Prof. (Dr.) SS Pattnaik

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

Prof. (Dr.) Rakesh Wats

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



## MEDIA ENGINEERING DEPARTMENT

During the year 2023-24, the Department has conducted 35 short term training programs inclusive of ICT and Contact Mode, which were attended by 2578 teachers from polytechnics and engineering colleges. The Department faculty and staff published 02 papers in SCI Journals, 01 paper in International Journal and 02 International Book Chapters. The faculty/ staff of the Department attended 03 online training programs and online webinars during the year. The faculty of the Department coordinated the NITTT MOOC programme on Institutional Management and Administrative Procedures 2 times in the year in which about 2500 faculty members from Engineering Institutions in the country participated.

Sr. No.	Short Term Programmes Conducted
1.	Institutional Management and Academic Administration
2.	SAR, OBE and NBA
3.	Protecting Yourself over the web
4.	Technology Integration and NEP 2020
5.	Academic Audit and Institutional Ranking
6.	Digital Tools for Teaching and Learning
7.	NAAC and Internal Quality Assurance
8.	Interactive Media Design
9.	Management Skills for Professional Teacher Excellence
10.	SAR,OBE and NBA
11.	Empowering Digital Learning through AI Powered tools
12.	Institutional Governance and Leadership
13.	Animation and Graphics for Gamification
14.	AR VR Applications
15.	NAAC and Internal Quality Assurance
16.	Sustainable Creativity and Innovation Management in Institutions
17.	AR VR Applications
18.	Digital Tools for Teaching and Learning
19.	Institutional Management and Academic Administration
20.	SAR, OBE and NBA
21.	Protecting Yourself over the web
22.	Technology Integration and NEP 2020
23.	Academic Audit and Institutional Ranking
24.	Empowering Faculty with Innovative Pedagogy and Quality through Technology Integration
25.	Interactive Media Design

Sr. No.	Short Term Programmes Conducted
26.	Management Skills for Professional Teacher Excellence
27.	SAR, OBE and NBA
28.	Empowering Digital Learning through AI Powered tools
29.	Sustainable Creativity and Innovation Management in Institutions
30.	AR VR Applications
31.	Digital Tools for Teaching and Learning
32.	Institutional Governance and Leadership
33.	NAAC and Internal Quality Assurance
34.	Animation and Graphics for Gamification

#### **RESEARCH AND DEVELOPMENT**

#### Papers published by the Media Engineering Department Faculty/Staff in SCI Journals

Sr. No.	Name of the Paper Published	Author (s) Name
1.	"Real Time Cloud Based Fault Detection and Alert forAntenna Array using CNN", IETE Journal of Research (Taylor and Francis) doi: https://doi.org/10.1080/03772063.2023.2195848	Atul M. Kulkarni, Garima Saini, Shyam S. Pattnaik
2.	"Polyester based wearable Band pass micro strip fitter"Microwave and Optical Technology Letters, Volume 65, Issue 12, pp. 3069-3075, July, 2023	Jayant G. Joshi, S. Raghavan and Shyam S. Pattnaik

#### Papers published by the Media Engineering Department Faculty/Staff in International Journal other than SCI Journal

Sr. No.	Name of the Paper Published	Author (s) Name
1.	"Embroidered Dual Band Wearable Microstrip PatchAntenna", Transactions on Electromagnetic Spectrum, 3(1), 51–58.	Joshi, J.G., Joshi, M.P., & Pattnaik, S. S.

#### Papers published / presented by the Media Engineering Department Faculty in International Conferences/Seminars

Sr. No.	Name of the Paper Published	Author (s) Name
1.	Genetic- CNN Based Fault Diagnosis in Antenna Array accepted in IEEE ISAP-2023 30 October – 2 November at Kuala Lumpur, Malaysia	Atul Manitrao Kulkarni, Shyam S. Pattnaik, Garima Saini



#### Papers published / presented by the Media Engineering Department Faculty in International Conferences/Seminars (contd..)

Sr. No.	Name of the Paper Published	Author (s) Name
2.	IEEE MAPCON 2023: "Antenna Array Fault DiagnosisUsing Particle Swarm Optimized CNN"	Atul M Kulkarni, Garima Saini, Shyam S Pattnaik and Shubhranshu Pattnaik
3.	IEEE MAPCON 2023 "Design of Miniaturized Antenna Array on 3D Printed PLA Substrate with Fractal Ground"	Atul M Kulkarni, Garima Saini and Shyam S Pattnaik

#### **Research Project In Progress**

Sr. No.	Name of Project	Funding Agencies	Team
1.	Technical Education in India: Past, Present and Future	-	AICTE and Prof. Rakesh K Wats, Prof. Sunil Dutt, Prof S.S. Gill, Prof. Pankaj Sharma, Dr. Harsh Vardhan Samalia, Dr. Suniti Dutt, Dr. Manisha Malik, Dr. Kamaldeep, Er. Monika Arora
2.	AR/VR Integrated Immersive Multi- Lingual Videos on Water-Borne and Vector-Borne Diseases for Enhancing Awareness	DST & Renewable Energy, U.T, Chandigarh	Dr. Suniti Dutt and Prof. S.S. Pattnaik and Dr. Kamaldeep

#### Training Programmes attended by the Media Engineering Department Faculty/Staff

Sr. No.	Title of Training Programme	Period of Training	Venue	Attended by
1.	Online GeM training	2 May 2023	Online training by Gem trainers fromGovt.	Savita Bhanot, Kamaldeep, Dr. Manisha Malik, Dr. Suniti Dutt, Monika Arora, Prerak Mittal
2.	VR, Video Wall andHolographic Film	17 May 2023	Indian Air Force Heritage Centre, Sector 18, Chandigarh	Kamaldeep, Dr. Manisha Malik, Dr. Suniti Dutt, Prerak Mittal, Monika Arora
3.	Unfold the Future withUnreal Engine	1 June 2023	Online by NITTTR Chennai	Dr. Manisha Malik Kamaldeep, Monika Arora,Prerak Mittal



## Worksheets

Sr. No.	Title
	Brochures/Reports Designed (110 + 44 = 154):
	1. 110 Course Brochures of the STC courses conducted by the institute
	2. Institute Annual Report 2022-23 (English & Hindi)
	3. Institute Diary
	4. Pradhan Mantri Kaushal Vikas Yojana (PMKVY) Course Brochure
	5. Technology Integration and NEP-2020 Course Brochure
	6. National Credit Framework Proposal for Training Programmes of NITTTRs Document
	7. Brochure for the Workshop on Indian Mathematics in NEP 2020
	8. Development Dialogue by Shri Malhotra (IAS) in Amrit Kaal Vimarsh
	9. Banner and Standee of Amrit Kaal Vimarsh
	10. Vasant Panchmi Greetings Leaflet
	11. Hindi Matribhasha Greetings Leaflet
	12. Ram Lalla Pran Pratishtha Greetings Leaflet
	13. NEP ki Samajh Brochure
	14. IDE Bootcamp – 22-26 June 2023
	15. 9th International Yoga Day Banner 17-21 June 2023
	16. M.E. Admissions 2023 Brochure
	17. NEP Banner - Strategic Action Plan for Implementing NEP 2020
	18. Banner for Live Telecast of Akhil Bharatiya Shiksha Samagam
	19. NEP 2020 Press Conference Banner, Standee and Document for press release
	20. NAAC Awareness Workshop Banner and Certificate
	21. Shaurya Doval Visit Standee and Banner
	22. Independence Day Standee, Backdrop and Banner
1.	23. Annual Day Invitation Card 2023
	24. Banner for Workshop for Primary heads in context with NEP 2020 in collaboration with Vidya Bharti
	North zone held from 18-20 August 2023
	<ol> <li>One Hour of Shram Dan for Swachtha Poster</li> <li>Dr. Subhas Sarkar Welcome Banner and Standee</li> </ol>
	<ol> <li>Dr. Subhas Sarkar Welcome Banner and Standee</li> <li>Meri Maati Mera Desh Banner</li> </ol>
	<ol> <li>Diwali Greeting Card Wishes by Director</li> <li>Bhartiya Bhasha Utsav Title Slide</li> </ol>
	30. Republic Day wishes by Director
	31. Social Media Brochure Design to announce deemed to be university status
	32. Institute Flyer
	33. Independence Day Standee & Backdrop
	34. Meri Maati Mera Desh Banner
	35. Welcome Banner for Dr. Subhas Sarkar
	36. ITEC Scheme Brochure
	37. Mahashivratri Greetings Leaflet
	38. Womens day Greetings Leaflet
	39. Holika Dahan Greetings Leaflet
	40. Holi Greetings Leaflet
	41. Dr. Subhas Sarkar Welcome Banner and Standee
	42. Researchers Required brochure for MeiTY Project
	43. Common Banner for Viksit Bharat@2047
	44. One-Day Symposium on Emerging Avenues for Indian MSMEs and Business Start- ups in-line with
	NEP



#### **Instructional Manual**

Sr. No.	Title
1.	Total Video Films Recorded: 91 Total Video Films Edited: 115 Total video coverage of Events: 58 Other Video films Edited: 28
2.	Total ICT based video films Edited and uploaded on NCTEL: 175 Total no. of Films Uploaded on NITTTRCHD MOOC Channel: 109

#### **Any Other Activities**

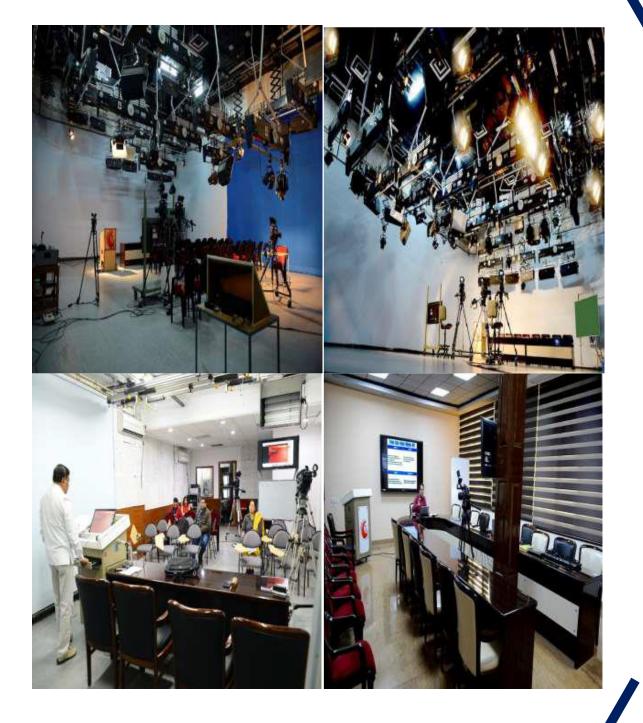
- 1. Technical Coordination of /ICT based Courses /Online Workshops/ Institute Meetings and conferences of various departments of the Institute = 110 events
- 2. Graphics and Animation Designing in following MOOC/ Non-MOOC Presentations (43):
  - 1. Embedded C Programming (Hindi)
  - 2. Four Probe Method
  - 3. Internet of Things: Characteristics and Applications
  - 4. Introduction to Arduino
  - 5. Pin Diagram of Arduino
  - 6. LED, LDR and Arduino
  - 7. History and Architecture of IoT
  - 8. Introductory Slide of MOOC on Internet of Things: Design Concepts and Use Cases
  - 9. Designing LED Bar Graph with Arduino
  - 10. 8051 Timer Programming in C
  - 11. Case Study: Designing Hardware System for IAQ Monitoring
  - 12. A Foundation Course on Holistic Human Health
  - 13. Title Slide of Block Diagram
  - 14. Security and Privacy Concerns in IoT
  - 15. Sensors and Actuators
  - 16. Artificial Intelligence in Internet of Things
  - 17. Interfacing DHT11 (Temp + Hum) Sensor with Arduino
  - 18. Interfacing Soil Moisture Sensor with Arduino
  - 19. Interfacing Water Level Sensor with Arduino
  - 20. Virtual Education (Three Minute Video)
  - 21. Binary Number System (Punjabi)



#### Any Other Activities (contd..)

- 22. Communication Protocols in the Internet of Things Part I
- 23. Octal Number System (Punjabi)
- 24. Communication Protocols in the Internet of Things Part II
- 25. Practical Demonstration of Communication Protocols in IoT using Contiki OS I
- 26. Indoor Air Quality System
- 27. IoT System for Agriculture Application
- 28. Hexadecimal Number System (Punjabi)
- 29. 1G to 5G (Hindi)
- 30. Binary Codes (Punjabi)
- 31. Three Minute Video on Internet of Things- Design Concepts and Use Cases
- 32. Three Minute Video of Higher Module on Institutional Management for Entrepreneurship
- 33. Three Minute Video on 1G to 5G (Hindi)
- 34. Marshall Stability Test
- 35. Introduction to Arduino IDE
- 36. Interfacing Hearbeat Sensor with Arduino
- 37. Interfacing LCD through I2C Module with Arduino
- 38. Interfacing LDR and LED with Arduino
- 39. Interfacing LED with Arduino
- 40. Interfacing MQ-7 Sensor (CO) with Arduino and LCD
- 41. Interfacing Sound Sensor & LED with Arduino Uno
- 42. Interfacing Fire Detector/Flame Detector using buzzer and Arduino Uno
- 43. Interfacing IR sensor and Servo Motor with Arduino
- 3. AR VR Projects (01):
  - Developed the Augmented Reality (AR) application on Four Stroke Engine with zoom and rotate functionality
- 4. Newsletter Designing: 03







## **RURAL DEVELOPMENT DEPARTMENT**





## Prof. (Dr.) Upendra Nath Roy

#### Professor

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

Dr. Hemant Kumar Vinayak Associate Professor (on lien to NIT Hamirpur)

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





Dr. Amit Goyal

**Assistant Professor** Research Areas - Structure Dynamics, Masonry Structure, Low Cost Housing



## RURAL DEVELOPMENT DEPARTMENT

During the year **2023-24**, the department conducted **14** faculty development programs both in ICT and Contact Mode in which **595** teachers from polytechnics, engineering colleges and universities participated. The Department conducted **09** workshops in which **706** persons participated. One National Seminar was organized in which **170** persons participated. Apart from it two student training programmes were organized for one week and two week duration respectively in which **38** students from Himachal Pradesh and Punjab doing Master in Business Administration and Agriculture participated. The faculty of the Department participated in a one day International Colloquium on Industry Academia Integration and Sustainable Development organized by NITTTR Chandigarh with CPSC Philippines and IIT Roorkee on 6<sup>th</sup> September, 2023. The Department has been running two sponsored research projects one from HP Government of worth Rs. **2.75 crore** and Unnat Bharat Abhiyan of Rs. **10.00 Lakh per annum**.

Sr. No.	Short Term Programmes Conducted
1.	Micro and Small Rural Incubation in Technical Institutions
2.	Role of Technical Institutions in Rural Infrastructure Development
3.	Climate Change, Pandemic and Disaster Management
4.	Earthquake Risk Management (Cluster Program with Civil EngineeringDepartment)
5.	Unnat Bharat Abhiyan: Micro Enterprises and Rural Development Projects
6.	Govt. Initiatives for Rural Development
7.	Revamping CDTP Scheme for Integrated Village Development
8.	Skill Development and Employment Generation in India
9.	Climate Change, Pandemic and Disaster Management
10.	Self Help Group Development through Technical Interventions
11.	Unnat Bharat Abhiyan: Micro Enterprises and Rural Development Projects
12.	Revamping CDTP Scheme for Integrated Village Development
13.	Appropriate Technologies Interventions for Rural Development
14.	Organic Farming, Sweet Revolution and Permaculture

### **RESEARCH AND DEVELOPMENT**

#### **Patents/Copyright**

Sr. No.	Name of Patents/Copyright	Author (s) Name
1.	"Construction Material with Pond Ash" in the name of National Institute of Technical Teachers Training and Research, Chandigarh, Application No. 202411018668, dated: 14 <sup>th</sup> March, 2024.	Godara, Mohit; Goyal, Amit



## Patents/Copyright (contd..)

S	Sr. No.	Name of Patents/Copyright	Author (s) Name
	2.	"Construction Material with Sewage Sludge" in the name of National Institute of Technical Teachers Training and Research, Chandigarh, Application No. 202411011501, dated: 19 <sup>th</sup> Feb 2024.	Kumar, Rahul, Goyal, Amit, Sharma Sanjay

#### Papers published / presented by the Rural Development Department 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 dedicated green corridor for storm water Management, "International Conference on Sustainable Built Environment (ICSBE 2024) on 16 <sup>th</sup> March, 2024 at RICS School of Built Environment, Amity University, Noida.	Kamal, Ankur; Goyal,Amit
2.	Earthquake Resistant Interlinked Block Masonry System with Visco-Elastic Link Elements; "International Conference on Industry Focused Research (TEC 2023) from 12 <sup>th</sup> to 13 <sup>th</sup> October, 2023 at CII Northern Region Headquarters, Sec. 31, Chandigarh, India.	Goyal, Amit; Agarwal, Pankaj
3.	A Review Report on Passive type Seismic Damper for Energy Dissipation", "International Conference on Natural Disaster: Risk Analysis, Management and Mitigation from 23 <sup>rd</sup> to 24 <sup>th</sup> March, 2024 at NIT Silchar in Hybrid Mode.	Dhupar, Nagendera; Goyal, Amit; Vinayak .K, Hemant

#### Papers published / presented by the Rural Development 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.	Utilization of sewage sludge for Developing construction, material by using polymers, 8 <sup>th</sup> National Conferenceon "Advances in Manufacturing Technology" from Feb 29 to Mar 01, 2024 at NITTTR, Chandigarh, India	Kumar, Rahul, Goyal,Amit., Sharma Sanjay
2.	Development of organic biocides using citrus fruits to treat grey water/domestic waste water, "National Conference on Sustainable Solutions through Technology and Indigenous Knowledge (ESC-2023) from 09 <sup>th</sup> to 10 <sup>th</sup> October, 2023 organised by Rajasthan Technical University, Kota in collaboration with Paryavaran Sanrakshan Gatividhi	Goyal, Amit., Shivalik, Yatin



	Student Training	
Sr.No.	Name of the Training along with dates and venue	Total number of Participants
1.	Students Training HPU from 8 to 19 Jan 2024	24
2.	Enterprises and Village Development 8 to 12 Jan 2024	14



## हिंदी प्रकोष्ठ के कार्यों की सूची 2023-24

संस्थान के काम काज़ में राजभाषा हिंदी के उत्तरोत्तर विकास के लिए एवं हिंदी को जन—मानस की भाषा बनाने के उद्देश्य से संस्थान में एक हिंदी प्रकोष्ठ बनाया गया, जिसमें इस विषय क्षेत्र में सुशिक्षित एवं निपुण कर्मचारी कार्यरत हैं। हिंदी प्रकोष्ठ में एक पद वरिष्ठ अनुवाद अधिकारी एवं कनिष्ठ अनुवाद अधिकारी तथा एक हिंदी टंकक का पद है। वर्तमान में हिंदी प्रकोष्ठ में दिनांक 14.07.2023 से कनिष्ठ अनुवाद अधिकारी एवं एक हिंदी टंकक हैं, जो डीन (प्रशासन एवं वित्त) के अंतर्गत कार्यरत हैं। हिंदी प्रकोष्ठ की गतिविधियां निम्नलिखित है :

- भारत सरकार, गृह मंत्रालय द्वारा जारी वार्षिक कार्यक्रम के निर्धारित लक्ष्यों की पूर्ति हेतु संस्थान में समय–समय पर परिपत्र जारी किए जाते हैं।
- शिक्षा मंत्रालय एवं नगर राजभाषा कार्यान्वयन समिति–कार्यालय 2, चण्डीगढ़ के साथ पत्राचार करना उचित कार्यवाही कर संप्रेषण स्थापित किया जाता है।
- संस्थान की वार्षिक रिपोर्ट 2022–23, तुलन–पत्र, लेखा–परीक्षा एवं अन्य दस्तावेज़ इत्यादि का अनुवाद कार्य एवं टंकण कार्य किया गया।
- 4. संस्थान के विभिन्न विभागों से प्राप्त विभिन्न दस्तावेज़ का हिंदी अनुवाद किया जाता है।
- 5. संस्थान के विभिन्न विभागों के लिए द्विभाषी प्रारूप पत्र तैयार किया जाता है।
- 6. संस्थान में हिंदी माह का आयोजन किया जाता है। 01 सितम्बर से 30 सितम्बर, 2023 तक हिंदी माह के रूप में मनाते हुए हिंदी सुलेख, हिंदी शब्द ज्ञान, हिंदी श्रुतलेख, हिंदी टंकण, हिंदी मसौदा लेखन, हिंदी उच्चारण एवं हिंदी कविता पाठ नामतः सात प्रतियोगिताएं आयोजित की गईं। राजभाषा पुरस्कार वितरण समारोह आयोजित करना एवं इस अवसर पर एक प्रश्न–मंच का आयोजन कार्य किया गया।
- 7. राजभाषा पुरस्कार वितरण समारोह की सूचना तैयार करके प्रकाशन हेतु संबंधित अधिकारी को प्रेषित की जाती है।
- संस्थान में हिंदी कार्यशाला आयोजित करना। कार्यशालाओं के लिए विषय विशेषज्ञों की पहचान कर उन्हें आमंत्रित किया जाता है।
- सेवारत कर्मचारियों के हिंदी प्रशिक्षण के संदर्भ में हिंदी रोस्टर का रख–रखाव एवं उनके हिंदी ज्ञान के स्तर के आधार पर प्रशिक्षण दिलवाना सुनिश्चित की जाती है।
- 10. संस्थान में राजभाषा कार्यावयन समिति की तिमाही बैठक का आयोजन 28.03.2024 एवं 05.07.2024 को किया गया।
- 11. संस्थान में हिंदी के प्रगामी प्रयोग से संबंधित तिमाही / छमाही एवं वार्षिक प्रतिवेदन शिक्षा मंत्रालय को प्रेषित करना एवं इन प्रतिवेदनों को ऑनलाइन प्रेषित किया गया। तिमाही प्रतिवेदनः

- 12. संस्थान के रोजमर्रा के कामकाज़ में प्रयुक्त होने वाले दस्तावेज़ / रबड़ की मोहरें इत्यादि द्विभाषी रूप में जारी की गईं।
- 13. नगर राजभाषा कार्यान्वयन समिति–कार्यालय 2, चण्डीगढ़ को छमाही प्रतिवेदन प्रेषित की जाती ळें
- 14. नगर राजभाषा कार्यान्वयन समिति, चण्डीगढ़–कार्यालय 2 की बैठकों में भाग लेना एवं गुगल मीट के माध्यम से छमाही बैठक मे भाग लेना सुनिश्चित किया जाता है।



## हिंदी प्रकोष्ठ

## हिंदी प्रकोष्ठ के कार्यों की सूची 2023-24

- 15. नगर राजभाषा कार्यान्वयन समिति, चण्डीगढ़–कार्यालय 2 द्वारा आयोजित नगर स्तरीय प्रतियोगिताओं में इच्छुक कर्मचारियों को नामित किया जाता है।
- 16. राजभाषा विभाग उत्तरी क्षेत्रीय कार्यान्वयन कार्यलय–1 नई दिल्ली द्वारा आयोजित सम्मेलनों में शामिल होने हेतु संस्थान के इच्छुक अधिकारियों को नामित किया गया।
- 17. हिंदी पर्यायों का संस्थान के सभी अधिकारियों / कर्मचारियों एवं आगन्तुकों को सहज ज्ञान हो, इस उद्देश्य से संस्थान की मुख्य इमारत में लगाए गए एल ई डी डिस्प्ले बोर्ड पर प्रतिकार्य दिवस पर' आज का शब्द' लिखा जाता है।
- 18. संस्थान के विभिन्न विभागों की वीडियो प्रशिक्षण सामग्री का हिंदी अनुवाद किया गया।
- 19. संस्थान के सभी नाम पटटों को त्रिभाषी रुप में अर्थात सर्वप्रथम प्रादेशिक भाषा, इसके उपरांत हिंदी भाषा व अंत में अंग्रेजी भाषा में अनुवाद किया गया।
- 20. संस्थान के पुस्तकालय में हिंदी पुस्तक खरीद की अनुपालना हेतु पुस्तकों की सूची उपलब्ध कराई गई।
- 21. प्राप्त आर.टी.आई. का यथावत समय सीमा में उत्तर दिया गया।
- 22. समाचार पत्रिका में हिंदी की प्रगति हेतु की जाने वाली गतिविधियां एवं कार्यशाला की जानकारी प्रदान की गई।
- 23. संसदीय राजभाषा समिति के निरीक्षण हेतु प्रशनावली तैयार करना व निरीक्षण 07.03.2024 में दिए गए आश्वासनों की अनुपालना सुनिश्चित की जा रही है।
- 24. संस्थान द्वारा निरंतर रूप से कार्यशालाएं आयोजित की जाती हैं।

#### कार्यशाला 2023-2024

क्रम सं.	दिनांक	विषय
1.	24.03.2023	मानद देवनागरी
2.	29.08.2023	ई टूल्स का प्रयोग
3.	18.12.2023	पारिभाषिक शब्दावली
4.	22.03.2024	हिंदी का स्वरूप
5.	27.06.2024	तिमाही रिपोर्ट लेखन, क्षेत्रीय वर्गीकरण

- 25. राजभाषा विभाग गृह मंत्रालय के नियमानुसार संस्थान के सभी कर्मचारियों का हिंदी में कार्यसाधक ज्ञान टंकण व आशुलिपि प्रशिक्षण हेतु जानकारी केंद्रीय हिंदी प्रशिक्षण संस्थान को प्रदान की गई।
- 26. संस्थान की वेबसाइट पटल पर राजभाषा विभाग द्वारा जारी निर्देशों को उपलब्ध कराया गया।
- 27. संस्थान के वार्षिक पंचांग का हिंदी अनुवाद व प्रकाशन किया गया।
- 28. संस्थान द्वारा जारी विज्ञापनों का हिंदी अनुवाद किया गया।

## 3.0 INSTITUTIONAL INFRASTRUCTURE

## 3.1 Land and Constructed Space

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

- **Homi Bhabha Academic Block** housing the departments of Applied Science, Civil Engineering, Electrical Engineering, Electronics Service Centre, Electronics and Communication Engineering, Mechanical Engineering and Rural Development.
- Ramanujan Centre for Computer Science and Educational Television housing the departments of Computer Science and Engineering, Educational Television Centre, Media Centre and Information Management and Coordination Department.
- Sir J C Bose Academic and Administrative Block housing the Director's Office, Administrative and Accounts Section, Institute's Library and the departments of Curriculum Development, Education and Educational Management and Entrepreneurship Development and Industrial Coordination.
- Visvesvaraya Lecture Hall Complex includes 08 numbers of Hi-tech Lecture Halls.
- Chandrasekhar Hall, Mother Teresa Hall, Amartya Hall and Tagore Hall (hostel for men and women), and Student Centre.
- Har Gobind Khorana Guest House with 11 A/C and fully furnished rooms, a Dining Hall, Conference Hall and Exercise Room.
- Raman Hall Guest House No. 2 with 51 A.C. and fully furnished room with dining room.
- Faculty and Staff Residences.
  - Besides the main campus in Sector 26, there are additional residential campuses in Sectors 29 and 42 with eighty houses for residential accommodation for staff and faculty. The total built up area is **39325 sqm**. The institute also has a children park in Sector-29 campus and a gym-cum-meditation centre in Sector – 42 Campus.

#### During 2023-24, the following renovation work was completed:

- Renovation work completed of Type-III and Type-IV in Sector 42, Chandigarh.
- Renovation work is in progress of Amartya & Tagore Hall Ground Floor 40 rooms with attached toilet.



### **3.2 Equipment**

Equipment worth ₹499.70 lakh was purchased during the year 2023-24. The total value of equipment increased to ₹6566.44 lakh as on 31.03.2024. After providing necessary depreciation on the assets, the net value of the equipment remained at ₹1449.40 lakh as on 31.03.2024.

## **3.3 Furniture**

Furniture worth ₹3.06 lakh was purchased during the year 2023-24. The total value of furniture increased to ₹418.60 lakh as on 31.03.2024. After providing necessary depreciation under rules, the net value of furniture remained at ₹103.44 lakh as on 31.3.2024.

#### **3.4 Expenditure**

An expenditure amounting to **₹4814.61 lakh** has been incurred during the financial year **2023-24** under various schemes as indicated below:

Sr No	Name of the Scheme	(Rupees in Lakh)
Sr. No.	Name of the Scheme	Expenditure incurred
1.	OH-35 (Capital)	663.96
2.	OH-31 (General)	1343.09
3.	OH-36 (Salary)	2807.55
	Total Expenditure	4814.61



## **3.5 Library Resources**

#### Library Resources:

S.No.	Resources	Numbers
1.	Print Books	50086
2.	E-books	578
3.	Theses	746
4.	Indian standards	10043
5.	CD-ROM/DVDs	355
6.	Bound Journals	4051

#### **Periodical Resources:**

S.No.	Resources	Numbers
1.	Print Journals	21
2.	E-Resources	11
3.	Magazines /Newspapers /Other resources	15

#### 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)



#### 3.5 Library Resources (contd..)

#### E Resources available in our Institute Library (contd..):

- Open Access Journals
- Registered for National Digital Library of India: NDL Club Registration ID is: INCHNC4VRUNZUQC
- DELNET-Institutional Membership DELNET 2021(Developing Library Network)

#### **Open Access Resources**

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

## **Recruitments**

#### **Appointment of Non-Teaching Staff**

- Estate Officer 01
- Junior System Engineer 01
- Senior Production Assistant 01
- Stenographer Grade II and PA 07
- Junior Translation Officer 01
- Technician 02
- Junior Secretariat Assistant (JSA) 13
- Multi Tasking Staff (MTS) 19



## 4.0 AUDITED ACCOUNTS

# **Audited Accounts**

The accounts of the Institute for the year 2023-24 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, 2024

			(Rs. In Lakhs)
SOURCES OF FUNDS	Schdules	Current Year 2023-2024	Previous Year 2022-2023
CAPITAL/CORPUS FUND (UNRESTRICTED FUNDS) Corpus Fund	1	9944.21	9525.10
General Fund	-	-3191.28	-3225.13
DESIGNATED EARMARKED / ENDOWMENT FUNDS	2	2918.35	2831.70
CURRENT LIABILITIES & PROVISIONS	3	5713.04	7942.56
TOTAL		15384.31	17074.23
APPLICATION OF FUNDS	Schdules	Current Year 2023-2024	Previous Year 2022-2023
FIXED ASSETS	4	4551.73	4556.00
Tangible Assets Intangible Assets	4	4551.75	4556.00
Capital Work in progress			
INVESTMENTS FROM EARMARKED/ ENDOWMENT FUNDS	5		
Long term	J	2407.61	2760.62
Short term		42.57	37.40
INVESTMENTS-OTHERS	6	0.00	0.00
CURRENT ASSETS	7	7552.41	9010.64
LOANS, ADVANCES & DEPOSITS	8	829.99	709.57
TOTAL		15384.31	17074.23

SIGNIFICANT ACCOUNTING POLICIES CONTIGENT LIABILITIES AND NOTES TO ACCOUNTS 23

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Accounts Officer NITTTR, Chandigarh

Director

NITTTR, Chandigarh

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#### NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH SECTOR 26, CHANDIGARH INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2024

		Current Year	Previous Year
Particulars	Schedule	2023-2024	2022-2023
INCOME			
Academic Receipts	9	126.21	147.00
Grants / Subsidies	10	4140.64	3825.75
Income from Investments	11	0.00	0.00
Interest Earned	12	341.88	304.83
Other Incomes	13	567.16	330.67
Prior Period Income	14	0.00	0.00
TOTAL (A)		5175.89	4608.24
EXPENDITURE			
Staff Payments & Benefits (Establishment Expenses)	15	4045.44	4187.43
Academic Expenses	16	168.10	117.16
Administrative & General Expenses	17	138.11	97.16
Transportation Expenses	18	5.95	5.00
Repairs & maintanenance	19	88.21	60.63
Finance Costs	20	0.00	0.00
Depreciation	4	695.94	554.98
Other Expenses	21	0.00	0.00
Prior Period Expenses	22	0.00	0.00
TOTAL (B)		5141.75	5022.36
Balance being excess of income over		34.14	-414.12
expenditure (A-B)			
Transfer To / From Designated Fund			
Building Fund			
Others (specify)			
Balance Being Surplus / (Deficit )Carried to Cap	ital Fund		

SIGNIFICANT ACCOUNTING POLICIES CONTIGENT LIABILITIES AND NOTES TO ACCOUNTS

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UDIN: 24502015BKALDG2203

Director NITTTR, Chandigarh

#### NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH SECTOR 26, CHANDIGARH FUNDS DETAIL AS AT 31ST MARCH, 2024

(Rs. In Lakhs)

	Particulars	Current Year 2023-2024	Previous Year 2022-2023
		0004 70	
1	Balance at the beginning of the year	9231.79	8926.43
2	Add : Contributions towards Corpus	712.43	598.67
3	Add : Fixed Assets under Sponspored Projects/Grants From UGC GOI/State Govt. to the extent utlization 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 Sponspored Projects		
8	Add: Prior period adjustments		
9	Add: Other Addition		
10	Less : Assets W/off		
11	Less: Contribution to Ablympics		
-	Balance the the year end	9944.21	9525.10
	GENERAL FUND		
1	Balance at the beginning of the year	-3225.13	-2811.01
2	Add: Overutilised OH 31 transfer to General Fund		
3	Less: Adjustment Entry	-0.30	
4	Deduct : Balance of Net Expenditure account	34.14	-414.12
-	Balance the the year end	-3191.28	-3225.13

Last year Corpus Fund Rs. 9525.10 lakhs includes Earmarked/Endowment Fund of Rs. 293.31 Lakhs (Equipment Replacement Fund Rs. 100.88 Lakhs, Faculty Development Fund Rs. 95.90 Lakhs and Maintenance Fund Rs. 96.53 Lakhs) In Current FY, same is shown under Schedule 2: Designated/Earmarked/Endowment Fund

**Accounts Officer** 

NITTTR, Chandigarh

Director

NITTTR, Chandigarh



#### SCHEDULE 2 : DESIGNATED / EARMARKED / ENDOWMENT FUNDS

		Fund wise	e Breakup			(Rs. In Lakhs)
		New Pension	GPF/CPF	Endowment	Current Year	Previous Yea
S.No.		Fund - AAA	Fund - BBB	Fund	2023-2024	2022-2023
a)	A. Opening Balance of the Funds	3.53	2828.17	293.31	3125.01	2819.0
b)	Additions to the Funds :- Donations/grants/ Subscription Income from Investments made	212.36	276.26	62.25	550.87	534.0
	on account of Funds Accrued Interest on Investments	0.00	123.21	0.00	123.21	123.2
	of the Funds Other Additions (Specify nature)	0.00	0.00 0.00	0.00 0.00	0.00	0.0 0.0
	Total (A)	215.90	3227.64	355.56	3799.09	3476.34
c)	B. Utilization/Expenditure Towrards Objectives of Funds i) Capital Expenditure ii) Revenue Expenditure	0.00 212.36	0.00 668.38	0.00 0.00	0.00 880.74	0.0 644.6
	Total (B)	212.36	668.38	0.00	880.74	644.64
	Closing Balance at the Year End (A-B)	3.53	2559.26	355.56	2918.35	2831.7
	Represented By					
a)	Cash and Bank Balance	3.39	42.57	0.00	45.96	40.79
) :)	Investment Inerest Accured but not due	0.00	2407.61 109.08	0.00 0.00	2407.61 109.08	2760.62 30.1
l) :)	Amount Receoverable Fund Value	0.14 0.00	0.00 0.00	0.00 355.56	0.14 355.56	0.14
	Total	3.53	2559.26	355.56	2918.35	2831.70

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Accounts Officer NITTTR, Chandigarh



Director NITTTR, Chandigarh



#### NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH SECTOR 26, CHANDIGARH <u>SCHEDULE 3 - CURRENT LIABILITIES & PROVISIONS</u>

S.No.	Particulars	Annexure	Current Year 2023-2024	Previous Year 2022-2023
A	CURRENT LIABILITIES			
1	Deposits from Staff :-			
	- Staff Welfare fund		4.49	4.79
2	Deposits from Students :-			
	<ul> <li>Alumni Association</li> </ul>		13.25	12.10
	- Examination Fee		0.02	0.02
3	Sundry Creditors			
а	For goods & services		7.04	7.04
b	For Fixed Assets		0.34	0.34
С	Others	Annexure-1	143.16	142.66
	Deposit-Others (including EMD,			
4	Security Deposit)		1.32	0.12
	Statutory Liabilties (GPF,TDS.WC			
5	TAX,CPF, GIS, NPS)			
а	Others	Annexure-2	9.44	71.94
6	Others current liabilities			
а	Reciepts against sponsered projects	Sch 3(a)	290.44	357.11
	Reciepts against sponsered fellowship			
b	& scholarships			
	Unutilised Grants (including OH			
с	31,OH 36 & OH 35)			
	Unutilised GRANTs OH 36		561.03	708.58
	Unutilised GRANTs OH 31		157.71	1150.81
	Unutilised GRANTs OH 35		888.63	1552.60
	Add:- Advance to CPWD,,BSNL			
d	and Roads		102.50	130.21
е	Grants in advance			
f	Others funds	Annexure-3	1141.33	1373.67
g	Sponsored Project	Annexure-15	59.37	59.83
1	TOTAL (A)		7200.06	
	TOTAL (A)	3380.06	5571.79	
B	PROVISIONS			
	For taxation			
	Gratuity		846.72	943.4
	Superannuation/pension		79.32	
	Accumulated leave encashment		1186.61	1149.68
5	Others (specify)			
	- ADVANCE C01 (ME Fees)		2.05	0.00
	- GOI- Restricted Fund - Salary	-	0.11	0.1
	- Expenses payable	Annexure-4	218.16	211.37
	TOTAL (B)	2332.97	2370.7	



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#### NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH SECTOR 26, CHANDIGARH SCHEDULE - 3 (a) SPONSORED PROJECTS FY 2023-24

	Open				Closi	ng
Name of the Project	Credit	Debit	Expenditure during the year	Receipts / Recoveries during the vear	Credit	Debit
AICTE QIP POLY	7.00		0.25		6.75	
GOI FUND	24.24				24.24	
GST SP-39	0.25			11	0.25	
GST Tds SP-42	0.10				0.10	
GST TDS Sp-70	0.05				0.05	181 H
IC22-2	2.28		3.55	1.28	0.00	
ICTO PDA-2	0.32				0.32	
ICTO SP-10	0.74			I STOM SHOT FOR US OF	0.74	
ICTO SP-11	0.84				0.84	
ICTO SP-20	1.92				1.92	
ICTO SP-25	1.83			· · · · · · · · · · · · · · · · · · ·	1.83	
It Bionery Rd Project	1.27				1.03	
Operational Plan	19.66				19.66	
OTHER MISC PROJECT	4.57				4.57	
PDA-08	10.20		· · · · · · · · · · · · · · · · · · ·		10.20	
PDA-1	10120	0.01		0.04	0.03	
PDA-13 CSE	0.07	0.01		0.04	0.03	
PDA-21(Solar PV System)	7.42		4.45		2.97	V 91 0
PDA-22	7.72	1.39	4.45		2.97	1.20
PDA-2(Electrical)AICTE	2.17	1.39			2.17	1.39
PSCB 13 MECH	4.61				2.17	
RPS - AICTE	1.67		0.02		4.61	
SP-04			0.82		0.86	
SP-05	0.00	-			0.00	-
SP-06(ETV)	2.94				2.94	
SP-09	19.67	0.00			19.67	
		3.63				3.63
SP-10		0.12				0.12
SP-11(EDIC)		0.06				0.06
SP-12		0.14				0.14
SP-13	1.63				1.63	
SP-14 MECHANICAL	0.29				0.29	
SP-15	1.94				1.94	
SP-17 Civil		5.74				5.74
SP-19Unat Bharat Abhyian	1.09				1.09	
SP-20(Computer)	0.49		0.09		0.40	
SP-23(ETV)		2.72				2.72
SP-25(Computer)	21.87		21.90	0.03		
SP-27	3.73				3.73	10-1
SP-33	0.98				0.98	
SP-34	0.04				0.04	
SP-35	149.30		19.66	0.02	129.66	
SP-39	0.38				0.38	
SP-40	0.00				0.00	
SP-43					0.06	

ARTERED ACCOUN

Grand Total	357.11	14.85	132.68	66.02	290.44	14.84
TDS SP-70	0.23				0.23	
TDS SP-50	0.23				0.23	
TDS SP-45	0.22				0.22	
TDS SP-39	0.25				0.25	
TDS SP 18		0.24				0.24
SP-RS 51	0.53		0.34		0.19	
SP-ICT-50(EDIC) DST		0.80				0.80
SP-CO8(Academic Cell)	0.22				0.22	
SP CO-11			1.06	10.00	8.94	
SP-84	0 1			2.04	2.04	
SP-82 (SP-W-33)			1.42	4.00	2.58	
SP-7(EDIC()	2.00				2.00	28 10 - 00
SP-78			0.08	0.08		
SP-77			23.02	23.02		
SP-76	50.40		50.40	2.03	2.03	
SP-75	0.36				0.36	1
SP-74		in the second seco	0.91	3.01	2.10	
SP-71	1.26		3.37	2.43	0.33	1
SP-68	0.17			Ell	0.17	
SP-64	0.90				0.90	1.11
SP-63	1.93		1.08	0.04	0.89	
SP-60	0.69				0.69	
SP-6				18.00	18.00	
SP-59	0.26				0.26	
SP-57	0.41		0.11		0.30	· · · · ·
SP-56	0.00	2	-1		0.00	
SP-55	0.00				0.00	
Sp 54 Mangolian Teachers	0.24			·····	0.24	
SP-53	0.52				0.52	V
SP-51	0.01				0.01	
SP-49(A)	0.14				0.14	
SP-49	0.54		0.17		0.37	_

Accounts Officer

NITTTR, Chandigarh

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Director NITTTR, Chandigarh



#### SCHEDULE - 3 (b) SPONSORED FELLOWSHIP AND SCHOLARSHIPS

S.No	Name of Project	Balance		Receipts/ Recoveries during the	Expenditure during the year	Closing Balance	
		Credit	Debit			Credit	Debit
1	<b>University Grants Commission</b>	and the second		0	0	0.00	0.00
2	Ministry			0	0	0.00	0.00
3	Others (Specify Individually)			0.00	0.00	0.00	0.00
						0.00	0.00

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NITTTR, Chandigarh



# SCHEDULE 3C UNUTILISED GRANTS FROM UGC, GOVERNMENT OF INDIA AND **STATE GOVERNMENT**

			(Rs. In Lakhs)
S.No	Particulars	Current Year 2023-2024	Previous Year 2022-2023
Â	Plan Grants Government of India		
	Balance B/F GRANT OH 36	708.58	873,54
	Add :- Grant Received During the Year	2660.00	2500.00
	Add :- Receipt during the year		
	Total (a)	3368.58	3373.54
	Less :- Refunds		
	Less :-Utilised for Revenue Expenditure Less:-Exp. (Salary Staff) under OH 36 for March	2751.80	3033.73
	2024 Paid in April 2024	254.67	310.4
	Add:- Provision of 2022-23 adjusted in April 2023	310.41	-58.30
_	Total (b)	2807.55	2664.96
	Unutilised Carried Forwards (a-b)	561.03	708.58
В	Plan Grants Government of India		
	Balance B/F GRANT OH 31	1150.81	741.23
	Add :-Grant Receipt During the Year	350.00	1650.00
	Add:- Other Receipt During the year		
	Total (c)	1500.81	2391.23
	Less :- Last Year wrong entry, now rectify Less :- Utilised for Revenue Expenditure (Total)	1361.30	1247.46
	Less :- Utilised for Capital Expenditure Less:- Expenditure under OH 31 for March 2024		
	Paid in April 2024	106.24	88.03
	Add:- Provision of 2022-23 adjusted in April 2023	88.03	81.00
	Total (d)	1343.09	1240.42
	Unutilised Carried Forwards (c-d)	157.71	1150.81
С	GRANT FROM GOVT OF INDIA OH 35		
	Balance B/F*	1552.60	555.17
	Add :- Last Year wrong entry, now rectify		
	Add :- Receipt During the Year of Advance	0.00	74.26
	Add :- Receipt During the Year	0.00	1300.00
	Total (e)	1552.60	1929.43
	Less :- Refund		
	Less :- Utilised for Revenue Expenditure		
-	Less :- Utilised for Capital Expenditure	663.97	376.83
	Total (f)	663.97	376.83
	Unutilised Carried Forwards (e-f)	888.63	1552.60
	UNUTILISED GRANT OF (OH 36+OH 31+OH 35)	1607.37	3411.98

\*Cheque of Rs. 214.38 lakhs issued but later on Cancelled in FY 2022-23

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Director NITTTR, Chandigarh

NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH, CHANDIGARH FIXED ASSETS AS AT 31.3.2024

1.80 0.20 51.09 0.61 15.68 14.80 934.36 61.54 2.72 1,152.83 832.79 1,355.33 4,556 132.04 As at the previous year end (Rs. In Lakhs) NET BLOCK 15.68 14.28 903.37 1,164.98 803.99 91.99 60.0 0.06 1.62 1,282.52 166.87 2.92 103.35 4,551.73 As at the /ear end current 368.18 38.72 4.62 709.13 127.86 0.18 2.35 40.52 7,896.36 636.17 4,462.17 654.88 312.81 On Additions On Deduction Depreciation Total at of the year of the year add back the year end prior period , DEPRECIATION 0.18 0.20 97.88 0.55 28.80 409.76 0.39 0.11 0.52 30.99 37.40 57.41 31.75 695.94 ŧ 507.79 2.24 38.52 270.30 39.97 671.73 4.10 607.37 597.47 7,200.42 4,052.40 281.06 127.47 of the year beginning As at the 2.44 38.72 15.68 18.90 ,442.16 1.80 40.58 -,440.16 416.16 460.16 12,448.09 L,874.12 5,744.69 821.75 130.78 during the at the year Additions Additions Deductions cost/value end ŧ 15 J. 1 30.9.2023 30.9.2023 year **GROSS BLOCK** 0.59 129.55 49.56 287.78 162.74 2.26 632.47 î 1 after 49.18 9.23 0.79 59.20 h. i before 15.68 18.90 1,824.56 1.80 2.44 38.72 321.39 5,407.73 659.01 l,442.16 1,440.16 40.58 11,756.41 Rate Cost/ecvaluation 130.19 413.11 as at beginning of the year 0 2 20 10 7.5 10 40 40 7.5 ~ % Buildings- Office Block Buildings- Residential Electrical Installation PARTICULARS Furniture Fixture & Library E- Journal Land - Lease hold Intangible Assets Furniture Fixture Land - Free hold Buildings- Hostel **Fixed Assets** Equipments Total - A Computer Fittings Vehicle Books S.No. x xii xix xi = = ≥ > 5 5 5 < × ×



NITTTR, Chandigarh Accounts Officer

Director 0

NITTTR, Chandigarh

IATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH, CHANDIGARH FIXED ASSETS AS AT 31.3.2024
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<b>_</b>				GRO	<b>GROSS BLOCK</b>					DEPRECIATION			NET BLOCK	LOCK
	N PARTICULARS	Rate %	Cost/ecvaluation as at beginning of the year	Additions Additions before after 30.09.23 30.09.23		Deductions during the year	cost/value at the year end	As at the beginning of the year	On Additions of the year	On Additions On Deduction of the year 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	5												
	1 Institute Account	C	15.68				15.68	0.00				0.00	15.68	15.68
-	ii Land - Lease hold	0					18.90					4.62	14.28	14.80
_		2%	14				1442.16	507.79	30.99			538.78	903.37	934.36
-	_	2%	1824.56		49.56		1874.12	671.73		E		709.13	1164.98	1152.83
-	_	2%					1440.16					636.17	803.99	832.79
-		7.50%		49.18	287.78		5518.90	103	406.74			4247.79	1271.10	1340.89
	_	20%			162.74		812.05					645.47	166.58	0.00
- 2		10%			0.59		129.30					126.38	2.92	2.72
-	ix Technicai Journais	100%												
-		7.50%	4	0.79	2.26		416.16	281.06	31.75			312.81	103.35	132.04
	xi Electrical Installation	5%					1.80					9T.U		
**	xii Vehicle	10%					31.96					31.90		ì
~	xiii Intangible Assets	40%		9.23	129.55		460.16					368.18	<i>.</i> ,	60.TC
100	~	40%	40.51				40.51	39.90	0.55			40.45	on.u	T0'N
-	2 Continuation Education											07 7	00 0	
		7.50%	4.40				4.40	4.40				4.40		2
	3 Sponsored Projects											17 63	0.00	00.0
-	i Equipments	7.50%					50.2T	-				00.91		00.0
	II Vehicle	10.00%	6.76				6.76	6.50	0.20			0/.0		5
	4 Assets under OBC-OSC													
_		7.50%					3.96					3.96		
	ii Furniture	7.50%					1.45		0.11			1.36		n7'n
	III Books	10.00%	1.27				1.27	1.27			_	1.2/	0.00	5
_														
							12 94	10.02	79.0			10.99	1.95	2.92
-	Equipments	%nc./					10.71							
	6 Assets under 5.16 Comp. Sc.	7 5002	17 64				17.64	13.66	1.32			14.98	2.66	3.98
_	I Equipritence	%05.7												
		20.00%	2.99				2.99	2.99				2.99	0.00	00.0
-	7 Cutomised AICTE													
and the second		7.50%	1.86				1.86	0.42	0.14			ac.u	1.30	T.44
SOCIA	m	7.50%	5.85				5.85		0.44			1.76	4.09	4.53
-	i Computer	20.00%					3./2	3.12				2/.0	0.0	5
	<b>•</b> - ·	7.50%	2.02				2.02	0.45	0.15			0.60	1.42	1.57 0.89
_	ii Computer	%nn.nz	-				7.99			-				

CHARTERED ACCOUNTANT

# NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH, CHANDIGARH FIXED ASSETS AS AT 31.3.2024 FIXED ASSETS- NET BLOCK - SCHEDULE -4

			GRO	<b>GROSS BLOCK</b>	~			Ō	DEPRECIATION	7		NET B	NET BLOCK
DADTICILI ADS	Date 0/	Cost/ecvaluation Additions A	Additions	Additions	Deductions	cost/value	As at the	On Additions	Additions Deductions cost/value As at the On Additions On Deduction Depreciation Total at As at the As at the	Depreciation	Total at	As at the	As at the
		as at beginning t	before	fter	during the	at the year	beginning	of the year	during the lat the year beginning of the year of the year add back	add back	the year current		previous
		of the year	30.09.23	30.09.23 year	year	end	of the year			prior period end		year end year end	year end
Total - A		11590.65	11590.65 59.20	632.47		12282.33	7034.66	0.00 12282.33 7034.66 695.94			7730.60	7730.60 4551.73 4493.55	4493.55

Building- Office Block is overstated by Air Conditioner amounting Rs. 1.98 lakh and Ceiling Fan amounting Rs. 1.80 lakh in last FY 2022-23, correction is to be done for the same and Depreciation is 1 also reversed Rs. (1.98+1.80)\*2%=0.08 lakh from Building and charged to respective Asset as per correct rates Notes:

Equipment Block is overstated by Computer amounting Rs. 60.65 lakh, Intangible Asset (Software) amounting Rs. 30.57 lakh and UPS/ Inverters amounting Rs. 5.23 lakh in last FY 2022-23, 2 correction is done for the same in Current FY 2023-24 and Depreciation is also reversed Rs. (60.65+30.57+5.23)\*7.5% = 7.23 lakh and charged from respective Asset as per correct rates 3 Short Charged depreciation amounting Rs. 2.15 in Building Residential Block of Previous FY's is also charged in Current FY 2023-24

NITTTR, Chandigarh Accounts Officer

NITTTR, Chandigarh Directo

NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH, CHANDIGARH FIXED ASSETS UNDER GOI PROJECTS AS AT 31.03.2024

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

			GROSS	<b>DSS BLOCK</b>				DEPRECIATION	Z	NET	NET BLOCK
		Cost/ecvaluation Additions		Additions	Deductions	Deductions cost/value	As at the	On Additions Total at	Total at	As at the	As at the As at the
C	Rate		before	after	during the	during the at the year beginning		of the year	the year	current	previous
PARTICULARS	%		30.09.2023	30.09.2023 30.09.2023 year	year	end			end	year end	year end
Fixed Assets											
i Equipments	7.5	164.49	л	1		164.49	164.49	9	164.49	1	8
ii Furniture	7.5		1		i	0.99	0.99		0.99	ĩ	ł
iii Books	10	0.21		ĩ	Â	0.21	0.21	I	0.21	Ķ	ĸ
Gifted equipment	7.5	0.07	ï	1	1	0.07	0.07	<u>n</u>	0.07		3
Grand Total		165.76		1	Ŀ	165.76	165.76	3	165.76		a



Accounts Officer NITTTR, Chandigarh Muly

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# SCHEDULE 5 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS

_			(Rs. In Lakhs)
S.No.	Particulars	Current Year 2023-2024	Previous Year 2022-2023
1 2 3	Long Term Other approved Securities- GILT Fund Shares Debentures and Bonds	761.60	761.60
4	Term Deposits with Banks -FDR's GPF/CPF- with Scheduled Bank - Restricted Fund	1646.01	1999.02
	Short Term -GPF/CPF- with Scheduled Bank S/A - Earmarked fund	42.57	37.40
	Total	2450.18	2798.02

# SCHEDULE 6 INVESTMENTS-OTHERS

S.No.	Particulars	Current Year 2023-2024	(Rs. In Lakhs) Previous Year 2022-2023
1	In Central Government Securities	0.00	0.00
2	In state Government Securities	0.00	0.00
3	Other approved Securities	0.00	0.00
4	Shares	0.00	0.00
5	Debentures and Bonds	0.00	0.00
6	Others (to be specified)	0.00	0.00
	Total	0.00	0.00

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Accounts Officer NITTTR, Chandigarh

Director

NITTTR, Chandigarh



# SCHEDULE 7 - CURRENT ASSETS

(Rs. In Lakhs)

S.No.	Particulars	Current Year 2023-2024	Previous Year 2022-2023
1	(a) Stores & Spares (c) Publications	11.68 5.16	7.44 5.16
2 a b	Sundry debtors Debts o/s for a period exceeding six months Others	0.00 0.00	0.00 0.00
3	-CPF/GPF - Earmarked Fund <b>Cash and Bank balances</b> Cash balances in hand (including cheques/ drafts and earmarked fund or otherwise) Bank Balance of Sponsored Project Annexure-15	2.39 59.37	2.48 59.83
а	With Scheduled Banks * in current accounts * in term deposit accounts * in savings accounts	6369.79 1104.02	7102.48 1833.25
	Total	7552.41	9010.64

Note: Annexure 7A shows the details of Bank Accounts

# SCHEDULE 8 - LOANS , ADVANCES & DEPOSITS

S.N	10.	Particulars	Current Year 2023-2024	Previous Year 2022-2023
1		Advances to employees (non-interest bearing)		
-	а	Festival	0.01	0.01
2	u	Long term advances to employees (interest bearing)		
2	а	Vehicle loan	0.74	1.58
	-	Others	0.09	0.14
	0	Advances & other amounts recoverable in cash		
3		or in kind or for value to be received.	0.00	-1.73
	а	Others Annexure - 5	398.22	405.53
4	u	Deposits		
	а	Telephone	0.15	0.15
	b	Electricity	0.03	
	c	Others (to be specified)	0.53	0.53
5	Ū	Income Accrued		
-	а	On investments from earmarked/endowment funds GPF/CPF	109.08	
	b	FDR's	306.29	258.34
6	-	Other - Current aasets receivable from UGC/sponsored Project		
-	а	Debit balances in Sponsered projects Schedule (3a)	14.84	14.85
		Total	829.99	709.57



Accounts Officer NITTTR, Chandigarh

Director NITTTR, Chandigarh

# Annexure 7A (Schedule 7)

20		Amount In Rs.
1	Saving Bank Accounts	
1	Grants A/c	528.07
2	University Receipts A/c	
3	Scholarship A/c	
4	Academic Fee Receipt A/c	450.96
5	Development (Plan) A/c	
6	Combined Entrance Exams (CBT) A/c	
7	UCG Plan Fellowship A/c	
8	Corpus Fund A/c (EMF)	
9	Consulatancy Project Fund A/c	124.98
10	Sponsored Fellowship A/c	
11	Endowment & Chair A/c (EMF)	
12	UGC JRF Fellowship A/c (EMF)	
13	HBA Fund A/c (EMF)	
14	Conveyance A/c (EMF)	
15	UGC Rajiv Gandhi National Fellowship A/c (EMF)	
16	Academic Development Fund A/c (EMF)	
17	Deposit A/c	
18	Student Fund A/c	
19	Student Aid Fund A/c	
20	Plan Grants for Specific Schemes	
	Total	1104.02
11.	Current Account	
III.	Term Deposits with Schedule Banks	6369.79
	Total	7473.81

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Accounts Officer NITTTR, Chandigarh

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NITTTR, Chandigarh



Schedule 9 - Academic Receipts

	_			(Rs. In Lakhs)
S.No	0.	Particulars	Current Year 2023-2024	Previous Year 2022-2023
A	1	FEE FROM STUDENTS Academic Tuition Fee		
	3 4 5	Admission Fee - ME & Phd (C01 ME) Enrolment Fee Library Admission fee Library Fee Art & Craft fee	126.21 0.00 0.00 0.00	147.00 0.00 0.00 0.00
	7 8	Registration fee - under various courses Syllabus fee STC Course Fee	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
		Total (A)	126.21	147.00
:	2 3	<b>Examinations</b> Admission test fee Annual Examination fee Mark sheet, certificate fees Entrance examination fee	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
		Total (B)	0.00	0.00
	2 3 4	Other fees Identity card fee Fine/ Miscellaneous fee Medical Fee Transportation fee Hostel fee	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
		Total ( C )	0.00	0.00
2	1   2	<u>Sale of publications</u> Sale of Admission forms Sale of syllabus and question paper, etc Sale of prospectus including admission forms	0.00 0.00 0.00	0.00 0.00 0.00
	[	Total(D)	. 0.00	0.00
E	1	Other Academic Receipts Registeration fee forworkshops,programmes Registeration fees(Academic Staff College)	0.00 0.00	0.00
	ſ	Total(E)	0.00	0.00
_		Grand Total (A+B+C+D+E)	126.21	147.00



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# **SCHEDULE - 10 GRANTS & DONATIONS**

S.No.	Particulars		Current Year 2023-2024		Previous Year 2022-2023
1	Central Government		2 2 2 2		
а	Grant in Aid Capital (OH 35)		0.00		. 0.00
b	Grant in Aid General(OH31)		1333.09		1160.79
	Opening Balance	1150.81	1000100	741.23	1100.75
	Add:-Grant During the Year	350.00		1650.00	
	Add:-Receipt under OH 31	000100		1050.00	
	Less:-Last Year Adjustment	10.00			
	Less:-Unutilised Grant at the end of Year	157.71		1230.44	
с	Grant Salary OH-36	137.71	2807.55	1230.44	2004.00
	Opening Balance	708.58	2007.55	873.54	2664.96
	Add:-Grant During the Year	2660.00			
	Less:-Unutilised Grant at the end of Year			2500.00	
2	State Government(s)	561.03		708.58	
2 3		0.00		0.00	
	Government Agencies	0.00		0.00	
4 5	Institutions/Welfare Bodies	0.00		0.00	
	International Organisations	0.00		0.00	
6	Others (Specify)	0.00		0.00	
	Total		4140.64		3825.75

# SCHEDULE 11- INCOME FROM INVESTMENTS

_					(Rs. In Lakhs)
S.No.			Current Year 2023-2024		Previous Year 2022-2023
1	Interest		0.00		0.00
а	On Government Securities	0.00		0.00	
b	Other Bonds/Debentures	0.00		0.00	
2	Interest on Term Deposits Income accrued but not due on Term Deposits /		44.28		210.44
3	Interest bearing advances to employees		0.00		0.00
4	Interest on Savings Bank Accounts		0.00		0.00
5	Others (Specify)		0.00		0.00
	Total		44.28		210.44
	Transferred To Earmarked / Endowment Funds		44.28	Ì	210,44
	Balance				



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**Accounts Officer** NITTTR, Chandigarh

NITTTR, Chandigarh

# SCHEDULE 12: INTEREST EARNED

_			(Rs. In Lakhs)
S.No.	Particulars	Current Year 2023-2024	Previous Year 2022-2023
A B 1 C D	On Savings Accounts with scheduled banks a) On Saving Account On Loans Employees/ Staff On Fixed Deposits On Income Tax Refund	43.71 2.09 296.08 0.00	50.75 1.43 251.88 0.76
_	Total	341.88	304.83

# **SCHEDULE 13 - OTHER INCOME**

	_			(Rs. In Lakhs)
S.N	lo.	Particulars	Current Year 2023-2024	Previous Yea 2022-2023
Α		Income from land & building		
		Hostel room rent/Ground Rent/Dining Hall Rent/Guest		
	1	House Rent/Canteen Rent	78.77	54.16
		Hire Charges of Auditorium/ Board Room/Conference		
_	2	Hall/Examination Hall Sydicate Room/IT Hall	6.66	14.80
B		Sale of Institute`s publications		
C D		Income from holding events		
U		Others		
		Income from Consultancy (Receipt of Institute Share)	183.50	129.55
		RTI fees	0.00	0.00
	2	Misc. Receipts (Sale of tender form, waste paper etc.)		
		Annexure-7	293.99	130.97
	4	Net Increase In Store	4.24	1.19
		GRAND TOTAL (A+B+C+D)	567.16	330,67

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Accounts Officer NITTTR, Chandigarh

Director

NITTTR, Chandigarh



# SCHEDULE 14 - PRIOR PERIOD INCOME

			(KS. IN Lakns)
S	Particulars	Current Year	Previous Year
No		2023-2024	2022-2023
1	Academic Receipts	0.00	0.00
2	Income from Investments	0.00	0.00
3	Interest Earned	0.00	0.00
4	Other Income	0.00	0.00
	Total	0.00	0.00

# SCHEDULE 15 - STAFF PAYMENTS AND BENEFITS (ESTABLISHMENT EXPENSES)

	(Rs. In Lakhs)				
S No	Particulars	1	Current Year 2023-2024	Previous Year 2022-2023	
а	Salaries & wages	Annexure-8	3414.07	3177.57	
	Contribution to Other fund	Annexure-9	451.77	835.92	
с	Contribution to CPF		2.54	2.54	
d	Retirement and Terminal Benefits	s to Retirees	3.22	2.98	
	LTC facility		12.91	11.68	
f	Medical facility		29.19	31.57	
g	Children Education Allowance		10.50	11.59	
	Leave Salary Contributiion	•	0.25	0.00	
i	Honorarium		1.45	2.15	
i	Training Non Faculty		1.49	2.41	
k	Others (Cont. to Reserve Fund O	ut of IRG)	83.00	77.04	
Î	TA/DA expenses	Annexure-10	35.06	31.98	
	Total		4045.44	4187.43	

# SCHEDULE 16 - ACADEMIC EXPENSES

				(Rs. In Lakhs)
S No	Particulars		Current Year 2023-2024	Previous Year 2022-2023
а	Expenses on Seminar/Workshop Expenditure on STC	Annexure-11 Annexure-12	20.46 147.64	14.02 103.14
10	Total		168.10	117.16

Accounts Officer NITTR, Chandigarh

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Director NITTTR, Chandigarh



# SCHEDULE 17 - ADMINISTRATIVE AND GENERAL EXPENSES

	(RS. IN LAKNS)			
S No	Particulars		Current Year 2023-2024	Previous Year 2022-2023
-	A. Infrastructure			28
a	Electricity and power		53.30	52.61
b	Property Taxes		1.60	5.36
	B. Communication			
a	Postage & stationary		0.76	0.50
b	Telephone, Fax and internet charges		2.48	2.84
Ĩ	C. Others			
а	Printing & stationary (consumption)		8.54	5.24
b	Hospitality (Medicine)		0.24	0.15
c	Audit & Legal Fees		2.28	0.21
d	Professional charges		4.75	2.28
e	Advertisement and publicity		0.00	1.80
F F	Newspaoper and Periodicials		0.39	0.44
g	Others (specify)	Annexure-13	63.76	25.72
	Total		138.11	97.16

# SCHEDULE 18 - TRANSPORTATION EXPENSES

	SCHEDULE 18 - TRANSPORTATION EXPENSES		(Rs. In Lakhs)
S No	Particulars	Current Year 2023-2024	Previous Year 2022-2023
1	Vehicles (owned by educational institution) a) Repairs & maintenance	5.95	5.00
	Total	5.95	5.00

# SCHEDULE 19 - REPAIRS & MAINTENANCE

	(Rs. In Lakhs)				
S No	Particulars		Current Year 2023-2024	Previous Year 2022-2023	
b	Building Furniture & fixture Plant & Machinery Office Equipments Others (specify)	Annexure-14	46.02 0.89 10.32 11.05 19.93	20.37 0.77 2.72 8.02 28.76	
	Тс	otal	88.21	60.63	

Accounts Officer NITTTR, Chandigarh

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Director NITTTR, Chandigarh



# SCHEDULE 20 - FINANCE COSTS

**Previous Year Current Year** S Particulars 2022-2023 2023-2024 No 0.00 0.00 Bank charges а Others (specify) Income tax penalty, Late payment TDS 0.00 0.00 etc. b 0.00 0.00 Total

# SCHEDULE 21 - OTHER EXPENSES

**Previous Year Current Year** S Particulars 2022-2023 2023-2024 No 0.00 0.00 Provision for Bad & doubtful debts/ advances а 0.00 0.00 Irrecoverable balances written- off b 0.00 Grants/ subsidies to other institutions/ organizations 0.00 Ç 0.00 0.00 Others (consumption of stores and spares) d 0.00 0.00 Total

# SCHEDULE 22 - PRIOR PERIOD EXPENSES

			(Rs. In Lakns)
S No	Particulars	Current Year 2023-2024	Previous Year 2022-2023
1	Establishment expenses	0.00	0.00
2	Academic expenses	0.00	0.00
3	Administrative expenses	0.00	0.00
4	Fixed Assets W/off & Obsolute	0.00	0.00
5	Transportation expenses	0.00	0.00
	Repairs & Maintenance	0.00	0.00
67	Other expenses	0.00	0.00
	Total	0.00	0.00

Accounts Officer NITTTR, Chandigarh

NITTTR, Chandigarh

OAN & ASSOCIATES \* CHARTERED ACCOUNT

(Rs. In Lakhs)

(D. T. Lakka)

(Rs. In Lakhs)

# Annexure 1 (Schedule 3) Sundry Creditors-Others

(Rs. In Lakhs)

Particulars	Current Year 2023-2024	Previous Year 2022-2023	
SUNDRY CREDITORS - OTHERS	*		
DEPOIST OF OIP POLY	2.11	2.11	
Sec-Adroitec Information Systems	0.00	0.58	
SEC-Advance Tech	0.02	0.02	
Sec-Alieron	0.17	0.17	
Sec-Aimco Solutions	0.07	0.07	
Sec-Aimil	0.06	0.06	
Sec-Ajit Pal Singh	0.00	0.00	
Sec-Akadmika Lab Solutions	0.10	0.10	
Sec- Amigo Optima	0.31	0.31	
Sec- ARK	0.42	0.42	
Sec- Arup India	0.25	0.25	
Sec-Benchmark Electronic	0.02	0.02	
Sec-Bharat Electronics	1.57	1.57	
Sec-Binder	0.06	0.06	
Sec- Blue Star	0.20	0.20	
	0.15	0.1	
Sec- Broadways Mkt	0.03	0.0	
Sec- BSNL	0.57	0.5	
Sec- Cadre Design System	2.83	2.8	
Sec- Daksh & Detective	0.00	0.00	
Sec- Design Tech	0.12	0.12	
Sec- Engineer Group	0.12	0.0	
Sec- Ensonic Computech	0.03	0.4	
Sec-Fore Solutions	0.43	0.4	
Sec- Golden Eagle	0.41	0.3	
Sec- Innovative Systel	0.09	0.0	
Sec-Invas Tech	1.17	1.1	
Sec- Kalra Enterprises		0.42	
Sec- Kamal Kumar Builders	0.42		
Sec- Krishna Stationer	0.05	0.0	
Sec- Krishna Washerman	0.04	0.04	
Sec- Lakshya Enterprises	0.09	0.0	
Sec- Mann Elect	0.10	0.1	
Sec-Mapple Outright	0.07	0.0	
Sec- ME Students	69.88	72.3	
Sec- Metagear Infra	0.03	0.0	
Sec- Metatech Industries	0.00	0.0	
Sec-Mickado Industries	0.00	0.0	
Sec- MI Interiors	0.04	0.0	
Sec- Mohindra Documentation Centre (Lib)	0.01	0.0	
Sec- M.O India Ltd	0.02	0.0	
Sec- Nand Kishore	0.07	0.0	
Sec- National Small Industries	0.15	0.1	
Sec- New Generation Technology	0.06	0.0	
Sec-Phadke Instruments	0.06		
Sec-Pixaarnext	0.04	0.0	
Sec- Project Associates	0.15	0.1	
Sec- Punj	0.25	0.2	
Sec- Retention of Vijay Garg	0.96	0.9	
Sec- Rohan Educational Solutions	0.47		
Sec- Saini Enterprises	0.21	0.3	
Sec- Sanchi	0.03	0.0	
Sec- Sanjay Goyal	0.54	0.5	
AN & ASSOCIATES	•	52	

GHARTERED ACCOUNTANT

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Total	143.16		142.66
Sundry Creditors	5.02		2.19
END-Design Tech System	0.00		1.96 2.19
Sundry Creditors Other -BS			
SERVICE TAX EXAMINATION FEES	2.25		2,25
Sec-Zen Exim	0.00		0.00 0.04
Sec-VVDN Tech	0.29	74	0.29
Sec- V.R Suppliers & Exporters	0.13		0.13
Sec-V Instruments	4.19		0.00
Sec- Vijay Garg	36.36		36.36
Sec-Techser Power	0.08		0.08
Sec- Tech Info Ltd	0.16		0.16
Sec-Sponsored Project	0.03		0.03
SEC- SPL INFO PATHWAY	0.47		0.00
Sec- SISL Infotech Pvt Ltd	0.00		0.00
Sec-Sipcon Instrument	0.00		0.12
Sec-Shivalik Gas Agency	0.38		0.00
Sec-Sharda Info Solutions	0.12		0.12
Sec- Sehajta A.C & Elect Engg	0.23		0.23
Sec-Secure Guard	10.00		10.00
Sec- Satish Aggarwal	0.14		0.14

# Annexure 2 (Schedule 3)

Current Liabilities - Statutory Liabilities- others		<u>(Rs. In Lakhs)</u>
Particulars	Current Year 2023-2024	Previous Year 2022-2023
Income tax firms (tds)	2.63	1.68
Income tax firms (tds) from experts	1.21	0.49
Income tax Staff	0.00	-0.01
CGST	0.96	7.20
IGST	2.94	76.23
UTGST	0.96	7.20
Interest IGST	0.00	0.00
TDS -CGST	0.36	-1.68
TDS-IGST	0.00	-17.49
TDS-UTGST	0.36	-1.68
Total	9.44	71.94

Accounts Officer NITTR, Chandigarh

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### Annexure 3 (Schedule 3) Current liabilties - Other current liabilities - Other funds

- Other funds (Rs. In Lak		(Rs. In Lakhs)
Particulars	Current Year 2023-2024	Previous Year 2022-2023
Distribution fund	23.83	19.48
CREST Chd- Solar Plant	47.16	38.42
Earnest Money	34.00	34.40
Royalty to Authors	0.57	0.49
Consultancy Projects	896.22	1223.00
Welfare fund ME students	6.20	6.20
	0.10	0.10
Tequip Grant Interest on Grant 31 Payable Advances & other amounts recoverable in cash	132.71	51.58
or in kind or for value to be received.	0.53	0.00
Total	1141.33	1373.67

# Annexure 4 (Schedule 3)

Provisions :- (Rs. In L		(Rs. In Lakhs)
Particulars	Current Year 2023-2024	Previous Year 2022-2023
Maintenance Student Centre/ Electrical/Building/ Elect & Water Charges Salaries CPF- Employer Share Children Education Allowance Audit Fee & Legal & Professional Charges	2.12 200.99 2.27 10.50 2.28	4.15 190.80 2.27 11.59 2.56
Total	218.16	211.37

# Annexure 5 (Schedule 8)

Annexure 5 (Schedule 8) Loans, Advances & Deposits		(Rs. In Lakhs)
Particulars	Current Year 2023-2024	Previous Year 2022-2023
A. On Capital Account		0.00
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	1.01	35.74
Advance to CPWD	85.18	78.17
Advance OH-35 Capital	5.91	5.91
Sub Total (A)	102.50	130.21
B. Others		
TDS	279.25	239.47
Income tax Staff	0.00	0.00
TDS -CGST	0.00	0.00
TDS-IGST	3.01	0.00
TDS-UTGST	0.00	0.00
Recoverable from Bank - Earmarked fund NPS	3.39	3.39
Debit Balance of Consultancy Projects	10.07	32.47
Sub Total (B)	295.72	
Total	398.22	405.53

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Director NITTTR, Chandigarh

Accounts Officer NITTTR, Chandigarh

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

### (Rs. In Lakhs)

Particulars	Current Year 2023-2024	Previous Year 2022-2023
Misc. Receipt	34.61	7.80
Overhead Charges	222.59	106.68
Recruuitment Fee	0.00	-2.71
Sale of Old Material	0.15	2.37
STC Regd Fee	33.47	13.40
PNB Rent	2.03	3.20
	0.23	0.23
TDS-Rent PNB	0.08	0.00
Ground Rent	0.02	0.00
IFD 1 / PDA-1	0.82	0.00
Misc Deduction From Salary		130.97
Tota	293.99	130.97

# Annexure 8 (Schedule 15)

Staff Payments & benefits - Salaries & Wages		(Rs. In Lakhs)
Particulars	Current Year 2023-2024	Previous Year 2022-2023
Commutations	167.40	102.20
Pension	904.70	799.88
PDA	12.22	3.90
Faculty	657.06	629.53
Faculty (NPS)	749.49	728.75
Non Faculty	438.92	512.67
Non Faculty (NPS)	185.70	136.96
		-1.13
Misc Deduction From Salary Outsource Salary	298.59	264.81
Total	3414.07	3177.57

# Annexure 9 (Schedule 15)

Contribution to Other fund - NPS, Gratuity, Leave Enc.		(Rs. In Lakhs)
Particulars	Current Year 2023-2024	Previous Year 2022-2023
GRATUITY	111.19	445.17
LEAVE ENCASHMENT	11.32	24.61
LEAVE ENCASHMENT TO RETIREES	205.01	250.69
NPS INSTITUTE SHARE	124.25	115.46
Total	451.77	835.92

# Annexure 10 (Schedule 15)

<u>Staff Payments &amp; benefits - TA/DA</u> Particulars	Current Year 2023-2024	Previous Year 2022-2023
DA	31.39	24.49
TA	3.67	7.49
Total	35.06	31.98



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**Accounts Officer** NITTTR, Chandigarh

24 Director

NITTTR, Chandigarh

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

(Rs. In Lakhs)

Particulars	Current Year 2023-2024	Previous Year 2022-2023
Annual day/ cultural prog.	3.40	3.04
Annual sports	15.04	5.42
Independence Day	0.00	1.16
PDA	1.05	2.72
Republic Day	0.08	0.67
Hindi day	0.90	1.02
Total	20.46	14.02

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

xpenditure on STC/ICT (Rs. In L		(Rs. In Lakhs)
Particulars	Current Year 2023-2024	Previous Year 2022-2023
TA- Training	73.58	28.25
Honourium -Academic	63.04	73.23
Academic Contengencies	6.52	1.67
Fellowship and Scholarship	2.97	0.00
IC-1 (International Confr. (EDIC)	0.30	0.00
SP-79	1.23	0.00
Total	147.64	103.14

# Annexure 13 (Schedule 17) ADMINISTRATIVE & GENERAL EXPENSES

DTHERS (SPECIFY) (Rs. In La		(Rs. In Lakhs)
Particulars	Current Year 2023-2024	Previous Year 2022-2023
BOG MEETING	4.54	3.19
COVID - 19	0.00	-0.49
IFDI A.Cell	0.00	-0.05
Liveries	0.00	0.00
Office Contg.	17.31	21.72
Golden Jublee(RD)	0.00	0.55
Ground Rent	0.00	0.73
Service Charges NPS	0.08	0.07
Income Tax Appeal	0.00	0.00
Loss Due Write of Capital Assests	0.00	0.00
Loss of Books Library	0.00	0.00
Recruuitment Fee	41.83	0.00
Total	63.76	25.72



**Accounts Officer** NITTTR, Chandigarh

Director **NITTTR, Chandigarh** 

REPAIRS & MAINTANENCE - OTHERS (SPECIFY)		(Rs. In Lakhs)
Particulars	Current Year 2023-2024	Previous Year 2022-2023
Mtc Academic Cell	0.02	0.27
Mtc. Applied Science	0.48	2.38
Mtc. CDC	0.16	0.46
Mtc. Civil Mtc. Computer	2.16 1.36	5.03 1.48
Mtc ECE	1.59	2.18
Mtc. EDIC	0.54	0.38
Mtc. Electrical	7.08	4.89
Mtc Electrical Lab	0.55	0.00
Mtc EMGT	0.09	0.18
Mtc. IMCO	0.75	1.12
Mtc ISO	0.25	0.00
Mtc Library	0.86	1.74
Mtc. Media	3.88	8.56
Mtc. R/D	0.14	0.10
Total	19.93	28.76

# Accounts Officer NITTR, Chandigarh

Director NITTTR, Chandigarh



### Annexure 14 (Schedule 19)

S	onsored Pr	roject Balance I	Sponsored Project Balance Details as on 31.03.2024	10.24					
NZ.	S. No Plan No.	Bank Name	Accounts No.	Opening Balance 01.04.2023	Receipts Amounts 2023-24	Total Amounts	Expenditure for the year 2023-24	Bank Balance as on 31.03.2024	Name of Coordinator and Remarks
	1 (SP-71)	PNB-26	3249000103070131	3249000103070131 Rs.243240 (Inst) Rs.965	292947	536445	332674	203771	Dr. Ashok Kumar
2	1	PNB-26	3249000103071334	3249000103071334 Rs.248953 (Inst) Rs.5563	135000	389516	103642	285874	Dr. Rupinder Singh
l m	3 (SP-66)	PNB-26	3249000103071307	3249000103071307 Rs.215574 (Inst) Rs.5642		221216	178440	39176	Dr. Rupinder Singh
4	4 SP-73	PNB -26	3249000103071467	3249000103071467 Rs.335992 (Inst) Rs.7405		343397	210296	133101	Dr. SS Dhami
-l •o	5 SP-72	PNB-26	3249000103071343	3249000103071343 Rs.157506 (Inst) Rs.4308		161814	Nil	161814	Dr. Balwinder Raj
9	(SP-44)	h-26		Rs.4608061 (Inst) Rs.104842		4713003	Nil	4713003	4713003 Dr. B S Pabla
	(IC-02)	Axis Bank-26	921010019909870			399905	Nil	399905	Dr. Sanjay Sharma
						Total		5936644	
					Ban	<b>Bank Balance in Lakhs</b>	n Lakhs	59.37	



Accounts Officer NITTTR, Chandigarh

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Annexure 15

# NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH SECTOR 26, CHANDIGARH CONSULTANCY PROJECTS 2023-24

	Openi	ng	Expenditure during the	Receipts / Recoveries during the	Closing B	alance
Particulars	Credit	Debit	year	during the year	Credit	Debit
Consultancy TDS	104.88		0.05	15.19	120.01	14.14
CP-1	1.49				1.49	
CP-104(Elect)	0.65				0.65	
CP-108(ETV)	0.18				0.18	
CP-10 CP-5 (E)	0.20				0.20	
CP-11		0.00				0.00
CP-110	0.39				0.39	
CP-112		0.07				0.07
CP-124	4.20				4.20	
CP-128	0.73			0.01	0.74	
CP-12(ETV)		0.01				0.01
CP-133	1.69		1.69			
CP-135	3.09		3.09			
CP-136	306.56		183.93		122.62	
CP-136(B) TDS	0.15				0.15	
CP-13 Mech	0.12				0.12	
CP-141		23.62	107.45	131.07		
CP-14 (5.16 Cyber Computer)	0.01				0.01	
CP-15 Civil	1.30				1.30	
CP-17	1.27				1.27	_
CP-177-22			2.21	4.77	2.56	
CP-18	0.12				0.12	
CP-19(Computer)	0.23				0.23	
CP-2	0.95				0.95	
CP-201/23			0.68	1.98	1.30	
CP-202/23(PMKY ECS)			0.61	0.61		
CP-203/23				6.00		
CP-204/23				1.45		
CP-205/23			0.34	0.37	0.03	
CP-206/23			0.37	0.34	-	0.03
CP-207/23			2.58	7.36	4.77	
CP-209/23			0.66	2.88	3 2.22	
CP-210/23			0.04	0.60	0.56	
CP-211/23				1.85		
CP-21-143	34.44		1.17	12.60	45.87	
CP-21/147	0.24		1.		0.24	
CP-21-154	18.70		2.31	L 12.01	28.41	
CP-21/155	1.28		1.48	4.57	4.38	
CP-21/161	1.97				1.97	
CP-21/162	2.22				2.22	
CP-21/166			1.8	5 1.40	D	0.4
CP-212/23			0.56	5 3.65	5 3.09	
CP213/23 ASSOCIATES				5.38	3 5.38	-

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CP-215/23			0.40	1.20	0.80	
CP-216/23			0.86	0.86		
CP-217/23	1.522		0.08	0.75	0.67	
CP-22/166	2.34				2.34	
CP-22/100 CP-22/168	2.00				2.00	
CP-22/100	3.59		3.59		0.00	
CP-22 171	237.26		318.60	81.34		
CP-22/174	1.30		1.30			
CP-22/174 CP-22/176	2.48		1.55		0.92	
CP-22/178		7.19	36.61	43.80		
CP-22/179	36.39		36.39			
CP-22/179 CP-22/180	3.27		0.10		3.17	
CP-22/180	1.50		0.14		1.36	
CP-22/181 CP-22/182	0.63				0.63	
	0.79		0.02		0.78	
CP-22/187	0.50				0.50	
CP-22/189	1.48		8.39	0.42		6.49
CP22/190	3.46		3.46			
CP-22/ 191	5.40		5.10	1.35	1.35	
CP-22-192	6.49	1000		1100	6.49	
CP22-193					0.24	
CP 22-194	0.24		4.88	3.43	0121	1.45
CP22/195			1.97	3.43	1.45	1.10
CP22/196			0.48	5,45	1,15	
CP-22/197	0.48			2.98	0.87	
CP22/198			2.11	0.98	0.64	
CP-23	0.54		0.88		9.25	
CP-23/208			4.77	14.03	0.09	
CP-3	0.07			0.02	0.09	_
CP-33, 34	0.57					
CP-35	0.81			0.50	0.81	
CP-4	4.74		4.63	0.50	0.61	0.00
CP-47		0.00				
CP-49		1.28			0.70	1.28
CP-5	0.72				0.72	
CP-50	0.91				0.91	0.00
CP-51		0.03				0.03
CP-58	0.22				0.22	
CP-6	0.13				0.13	
CP-64	4.16				4.16	_
CP-69	0.02				0.02	
CP-74	0.10				0.10	_
CP-78	0.76				0.76	
CP-8			0.06	1.92	1.86	
CP-81		0.12				0.12
CP-83(ETV)	1.15				1.15	
CP-84	4.00				4.00	
CP-87((Civil)	109.94		11.54	34.58	132.98	
CP-8 A COMP	1.60		0.08	0.24	1.76	
CP-8 B COMP	0.80		0.16	0.90	1.54	-
CP-8 C COMP	1.31		0.41	1.68	2.58	
CP-8 COMP CP 5(C)	1.01				1.01	



CP-8 D COMP			0.18	0.90	0.72	
CP-9	0.72		1.34	1.97	1.34	
CP-90(ETV)	0.20				0.20	
CP-94 TDS	0.10				0.10	
CP-98 (ECE Deptt)	0.93		0.15		0.78	
CP-9 ECE CP 5(D)	0.47				0.47	
CP-LC-4 (B)	0.06		0.08	1.80	1.77	-
CP TDS 142	17.91				17.91	
CP Tds-87	2.98			0.38	3.36	
GDST TDS-163	0.04				0.04	
GST CP-136	23.86				23.86	
GST CP-14	0.05				0.05	
GST CP-154	0.64			0.27	0.91	
GST CP-164	0.13				0.13	
GST CP-165	0.19				0.19	
Gst Cp-167	0.08				0.08	
GST CP-170	0.09				0.09	
GST ICTO CP13	0.04				0.04	
GST KC-3(A)	0.20				0.20	
GST LC-4	0.00				0.00	
GST TDS 142	3.58				3.58	
GST TDS 150	0.03				0.03	
GST TDS-151	0.05				0.05	
GST TDS 151	0.06				0.06	
GST TDS CP-130	0.91		-		0.91	
GST TDS CP-135	0.33	- PK			0.33	
GST TDS CP-140	2.39				2.39	
GST TDS CP-141	2.97			2.98	5.95	
GST TDS CP-16	0.06				0.06	
GST TDS CP-21-144	0.08				0.08	
GST TDS ICTO 9	0.04				0.04	
IC-01 COMP SC.	0.52				0.52	
IC-1	13.84		15.48	23.76	22.12	
IC-2(A)	1.05				1.05	
IC-2(B)	0.20				0.20	
IC-2(C)	0.45				0.45	
IC-2(D)	0.20		_		0.20	
IC-2(D)	28.32		43.41	39.95	24.86	
	0.09		10112		0.09	
IC TDS-3 ICTO CP-11	0.03				0.11	
ICTO CP-12	0.52				0.52	
ICTO CP-12 ICTO CP-14	0.52	0.00				0.00
ICTO CP-14 ICTO CP-3	0.19	0.00			0.19	
	0.25		0.25			
KC-4	3.96		3.59	14.60	14.97	
LC-1	5.90	0.09	0.00			0.09
LC-1(V)	5.53	0.09	8.25	5.44	2.71	2.00
LC-2-21	2.07		3.13	7.55	6.49	
LC-3	2.07	0.01	5,15	7.05		0.01
LC-4/21-22/10		0.01				0.04
P-122 SERVICE CHARGES OF DINNIN	IG HAI 0.19	0.04			0.19	

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	1223.00	32.47	830.41	526.03	896.22	10.07
XYZ	1.62	V1			1.62	
W-26 NBA	1.56				1.56	
TEQIP-II 1.3.7		0.00				0.00
TDS LC-3-22/23	0.01				0.01	
TDS LC-3	0.96			0.03	0.99	
TDS ICTO CP-9	0.20				0.20	
TDS ICTO CP-19	0.29				0.29	
TDS ICTO CP-16	0.28				0.28	
TDS ICTO CP-14	0.26				0.26	
TDS ICTO CP-13	0.19				0.19	
TDS GST ICTO CP-19	0.06				0.06	
TDS GST Icto Cp-17	0.06				0.06	
Tds Gst Cp-97	1.64				1.64	
Tds Gst CP-103	0.69				0.69	
TDSgstCP-102	0.49				0.49	
TDS CP Icto 17	0.28				0.28	
TDS CP-IC-3	1.59			1.53	3.11	
TDS CP-21/156	0.12				0.12	
TDS-CP 21/150	0.13				0.13	
TDS CP-21-144	0.18			1000	0.18	
TDS CP-172	0.04				0.04	
TDS-CP 170	0.97				0.97	
TDS Cp-167	0.38				0.38	
TDS CP-165	0.95				0.95	
TDS CP-164	0.66				0.66	
TDS CP-163	0.18				0.18	
TDS CP-161	1.28	-			1.28	
TDS Cp-160	0.20				0.20	1. 1. 1.
TDS CP-154	3.19			1.37	4.55	
TDS CP-152	0.32				0.32	
TDS CP-151	0.23	4			0.23	1.11
TDS CP-148 TDS CP-149	1.75				1.75	
TDS CP-141 TDS CP-148	0.17			14.05	0.17	
TDS CP-140	14.85			14.89	29.74	
TDS CP-136	119.30				11.93	
TDS CP-135	119.30				119.30	···· · · ·
TDS-CP-130	1.65				1.65	
TDS Cp-107	0.18				4.55	
TDS Cp-106	0.18				0.18	
TDS CP-103	6.58				0.18	
TDS-87(Civil)	1.10			0.11	1.21	
TDS 85	0.25			0.11	0.25	(4)
TDS-101	0.10				0.10	



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Accounts Officer NITTTR, Chandigarh

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Director NITTTR, Chandigarh

# NATIONAL INSTITUTE OF TECHNICAL TEAHCERS' TRAINING AND RESEARCH Sector - 26, Chandigarh Receipts and Payment Account for the Period Ended 31.03.2024

S.No.	Particulars	Annexure	FY 2023-2024	FY 2022-2023
I	Opening Balance		2.48	3.56
	A) Cash Balance B) Bank Balance			
	- In Current Account		7102.48	4860.05
	- In Deposit Account		1833.25	1369.89
	- In Saving Account		1000110	
II	Grant Received		2010.00	5450.00
	A) From Government of India	1	3010.00	5450.00
	B) From State Government			
	C) From Other Sources			
III	Academic Receipts	2	159.27	200.36
	Receipts against Earmarked		02.00	77.04
IV	Endowment Funds	3	83.00	//.04
V	Receipts against Sponsored Projects /	4	66.02	226.80
	Schemes			
	Receipts against Sponsored	2		
VI	Fellowships & Scholarships			
VII	Income on Investments from	-		
VII	A) Earmarked / Endownmwent Fund			
	B) Other Investments			
	Interest Received on	5	257.05	259.48
VIII	A) Bank Deposit			
	B) Loan & Advances			
	C) Savings Bank Accounts			
IX	Investment Encashed	-		
17				
х	Term Depsoit with Scheduled Bank	-		
~	Encashed			
	Other Income (Including Prior Period	6	562.00	329.48
XI	Income)	Ű	3	
XII	Deposits & Advances	7	544.40	1506.39
XII				
XIII	Miscellaneous Receipts including	8	913.39	1115.04
~	Statutory Receipts			
XIV	Any Other Receipts	9	230.65	104.2
			14763.98	15502.3
	TOTAL		14/03.98	10002.0

Dated:-Place:- Chandigarh

Accounts Officer

NITTTR, Chandigarh

Director

NITTTR, Chandigarh



III       Scheme       IV         IV       Payments against Sponsored Fellowships / Scholarships       -         V       Investments and Deposit Made A) Out of Earmarked / Endowment Fund       -         B) Out of Own Funds (Investment Other)       -       -         VI       Term Deposits with Scheduled Bank       -         VII       Expenditure on Fixed Assets and Capital Work In Progress       -         A) Fixed Assets       16       663.97         B) Capital Work In Progress       16       663.97         VIII       Other Payments Includings Statutory Payments       17       1018.89       1278.         IX       Refunds of Grants       -       -       -         XI       Deposits and Advances       18       847.04       770.         XII       Closing Balances - In Current Accounts - In Current Accounts - In Current Accounts - In Deposits Accounts       1104.02       1833.         - In Deposits Accounts       1104.02       1833.	5.No.	Particulars	Annexure	FY 2023-2024	FY 2022-2023
Academic Expenses1133.0653.3Academic Expenses12152.88148.0Academic Expenses12152.88148.0Transporation Expenses13149.49116.6Prior Period Expenses140.300.0IIIPayment against Earmarked / Endowment Funds140.300.0IIIPayments against Sponsored Project / Scheme15132.68149.5IVPayments against Sponsored Project / Fellowships / Scholarships15132.68149.5VInvestments and Deposit Made A) Out of Earmarked / Endowment FundVITerm Deposits with Scheduled BankVIITerm Deposits with Scheduled BankVIITerm Deposits with Scheduled BankVIIICapital Work In Progress16663.9788.D Capital Work In Progress16663.9788.VIIIOther Payments Includings Statutory Payments171018.891278.IXRefunds of GrantsXIOther Payments19138.8453XIIClosing Balances - - In Current Accounts1104.021833 In Deposits Accounts1104.021833 In Deposits Accounts104.021833 In Deposits Accounts104.021833 <tr< td=""><td>I</td><td>EXPENSES</td><td></td><td></td><td></td></tr<>	I	EXPENSES			
Administrative Expenses12152.88148.0- Transporation Expenses13149.49116.6- Transporation Expenses13149.49116.6- Prior Period Expenses140.300.0IIIPayment against Earmarked / Endowment Funds140.300.0IIIPayments against Sponsored Project / Scheme15132.68149.5IVPayments against Sponsored Fellowships / ScholarshipsVA) Out of Earmarked / Endowment FundVITerm Deposits with Scheduled Bank Other ?VIIExpenditure on Fixed Assets and Capital Work In Progress16663.9788.IXRefunds of Grants 		- Establishment Expenses			
Animatical PropertiesImage: ProperiesImage: PropertiesImage: ProperiesImage: ProperiesImage: ProperiesImage: ProperiesImage: ProperiesImage: Properity ProperiesImage: Properies					
- Repair & Maintenance13149.49116.6IIPayment against Earmarked / Endowment Funds140.300.0IIIPayments against Sponsored Project / Scheme15132.68149.5IVPayments against Sponsored Fellowships / Scholarships-15132.68149.5VPayments against Sponsored Fellowships / ScholarshipsVPayments against Sponsored Fellowships / ScholarshipsVInvestments and Deposit Made A) Out of Earmarked / Endowment FundVITerm Deposits with Scheduled Bank Capital Work In ProgressVIIExpenditure on Fixed Assets and Capital Work In Progress16663.9788VIIIOther Payments Includings Statutory Payments171018.891278XIDeposits and Advances18847.04770XIIClosing Balances A) Cash In Hand B) Bank Balances19138.8453XIIClosing Balances - In Current Accounts - In Deposits Accounts1104.021833. - 7102.1104.021833.		- Administrative Expenses	12	152.88	148.0
Report Prior Period ExpensesIIIIPayment against Earmarked / Endowment Funds140.30IIIPayments against Sponsored Project / Scheme15132.68IVPayments against Sponsored Fellowships / Scholarships-VInvestments and Deposit Made A) Out of Earmarked / Endowment Fund-B) Out of Own Funds (Investment Other)-VITerm Deposits with Scheduled Bank Capital Work In Progress-VIIExpenditure on Fixed Assets and Capital Work In Progress-VIIIOther Payments Includings Statutory Payments171018.89IXRefunds of Grants B) Capital Work In Progress18847.04XIOther Payments19138.8453.XIIClosing Balances B) Bank Balances - In Current Accounts - In Current Accounts1104.021833. - 7102.		- Transporation Expenses	10	140.40	116 6
IIPayment against Earmarked / Endowment Funds140.300.0IIIPayments against Sponsored Project / Scheme15132.68149.5IVPayments against Sponsored Fellowships / Scholarships-15132.68149.5IVPayments against Sponsored Fellowships / Scholarships15132.68149.5VInvestments and Deposit Made A) Out of Earmarked / Endowment Fund1516			13	149.49	110.0
II       Endowment Funds       III       Art       0.000       0.000         III       Payments against Sponsored Project / Scheme       15       132.68       149.5         IV       Payments against Sponsored Fellowships / Scholarships       -       15       132.68       149.5         IV       Payments against Sponsored Fellowships / Scholarships       -       -       -       -         V       Investments and Deposit Made A) Out of Earmarked / Endowment Fund       -       -       -       -         B) Out of Own Funds (Investment Other)       -       -       -       -       -       -         VII       Term Deposits with Scheduled Bank -       - </td <td></td> <td>- Prior Period Expenses</td> <td></td> <td></td> <td></td>		- Prior Period Expenses			
II       Endowment Funds       III       Art       0.000       0.000         III       Payments against Sponsored Project / Scheme       15       132.68       149.5         IV       Payments against Sponsored Fellowships / Scholarships       -       15       132.68       149.5         IV       Payments against Sponsored Fellowships / Scholarships       -       -       -       -         V       Investments and Deposit Made A) Out of Earmarked / Endowment Fund       -       -       -       -         B) Out of Own Funds (Investment Other)       -       -       -       -       -       -         VII       Term Deposits with Scheduled Bank -       - </td <td></td> <td>Payment against Earmarked /</td> <td>14</td> <td>0.30</td> <td>0.0</td>		Payment against Earmarked /	14	0.30	0.0
IIISchemeISISTIVPayments against Sponsored Fellowships / Scholarships-VInvestments and Deposit Made A) Out of Earmarked / Endowment Fund-B) Out of Own Funds (Investment Other)-VITerm Deposits with Scheduled Bank Capital Work In Progress-VIIExpenditure on Fixed Assets and Capital Work In Progress-VIIIDeposits and the Progress16B) Capital Work In Progress16B) Capital Work In Progress17VIIIOther Payments Includings Statutory Payments17IXRefunds of GrantsXDeposits and Advances18XIIOther Payments19IX8AlancesA) Cash In Hand B) Bank Balances - In Current Accounts - In Saving Accounts2.39Z.1104.02A) Cash S Accounts1104.02IN Bank Balances - In Deposits Accounts1104.02IN Bank Balances - In Deposits Accounts1104.02IN Bank Balances1104.02IN Bank Balances	II		14	0.50	0.0
IIISchemeISISTIVPayments against Sponsored Fellowships / Scholarships-VInvestments and Deposit Made A) Out of Earmarked / Endowment Fund-B) Out of Own Funds (Investment Other)-VITerm Deposits with Scheduled Bank Capital Work In Progress-VIIExpenditure on Fixed Assets and Capital Work In Progress-VIIIDeposits and the Progress16B) Capital Work In Progress16B) Capital Work In Progress17VIIIOther Payments Includings Statutory Payments17IXRefunds of GrantsXDeposits and Advances18XIIOther Payments19IX8AlancesA) Cash In Hand B) Bank Balances - In Current Accounts - In Saving Accounts2.39Z.1104.02A) Cash S Accounts1104.02IN Bank Balances - In Deposits Accounts1104.02IN Bank Balances - In Deposits Accounts1104.02IN Bank Balances1104.02IN Bank Balances					
IVPayments against Sponsored Fellowships / Scholarships-VInvestments and Deposit Made A) Out of Earmarked / Endowment Fund-B) Out of Own Funds (Investment Other)-VITerm Deposits with Scheduled Bank-VIIExpenditure on Fixed Assets and Capital Work In Progress-A) Fixed Assets B) Capital Work In Progress16663.97VIIIOther Payments Includings Statutory Payments171018.89VIIIOther Payments Includings Statutory Payments171018.89XDeposits and Advances18847.04XIOther Payments19138.8453.XIIClosing Balances A) Cash In Hand B Bank Balances - In Current Accounts - In Saving Accounts1104.021833. 1104.02	III		15	132.68	149.5
IV       Fellowships / Scholarships         V       Investments and Deposit Made A) Out of Earmarked / Endowment Fund         B) Out of Own Funds (Investment Other)         VI       Term Deposits with Scheduled Bank         VII       Expenditure on Fixed Assets and Capital Work In Progress         A) Fixed Assets B) Capital Work In Progress       16         VIII       Other Payments Includings Statutory Payments       17         IX       Refunds of Grants         X       Deposits and Advances         XI       Other Payments         IX       Refunds of Grants         XI       Closing Balances A) Cash In Hand B) Bank Balances         A) Cash In Hand B) Bank Balances       2.39         III       Closing Balances A) Cash In Hand B) Bank Balances         III       Deposits Accounts         III       Distabalances A) Cash In Hand B) Bank Balances         III       Distabalances A) Cash In Hand B) Bank Balances A) Cash In Hand B) Bank Balances		Scheme			
IV       Fellowships / Scholarships         V       Investments and Deposit Made A) Out of Earmarked / Endowment Fund         B) Out of Own Funds (Investment Other)         VI       Term Deposits with Scheduled Bank         VII       Expenditure on Fixed Assets and Capital Work In Progress         A) Fixed Assets B) Capital Work In Progress       16         VIII       Other Payments Includings Statutory Payments       17         IX       Refunds of Grants         X       Deposits and Advances         XI       Other Payments         IX       Refunds of Grants         XI       Closing Balances A) Cash In Hand B) Bank Balances         A) Cash In Hand B) Bank Balances       2.39         III       Closing Balances A) Cash In Hand B) Bank Balances         III       Deposits Accounts         III       Distabalances A) Cash In Hand B) Bank Balances         III       Distabalances A) Cash In Hand B) Bank Balances A) Cash In Hand B) Bank Balances		Payments against Sponsored			
A) Out of Earmarked / Endowment FundA) Out of Comment FundB) Out of Own Funds (Investment Other)B) Out of Own Funds (Investment Other)VITerm Deposits with Scheduled Bank-VIIExpenditure on Fixed Assets and Capital Work In Progress-A) Fixed Assets B) Capital Work In Progress16663.97VIIIOther Payments Includings Statutory Payments171018.89IXRefunds of Grants-XDeposits and Advances18847.04XIOther Payments19138.84XIClosing Balances A) Cash In Hand B) Bank Balances1104.021833. 6369.79XIDeposits Accounts1104.021833. 7102.	IV				
A) Out of Earmarked / Endowment FundA) Out of Comment FundB) Out of Own Funds (Investment Other)B) Out of Own Funds (Investment Other)VITerm Deposits with Scheduled Bank-VIIExpenditure on Fixed Assets and Capital Work In Progress-A) Fixed Assets B) Capital Work In Progress16663.97VIIIOther Payments Includings Statutory Payments171018.89IXRefunds of Grants-XDeposits and Advances18847.04XIOther Payments19138.84XIClosing Balances A) Cash In Hand B) Bank Balances1104.021833. 6369.79XIDeposits Accounts1104.021833. 7102.		Investments and Deposit Made			
FundFundB) Out of Own Funds (Investment Other)Image: Second Secon	V	(A) Out of Farmarked / Endowment	-		
B) Out of Own Funds (Investment Other)IIVITerm Deposits with Scheduled Bank-VIIExpenditure on Fixed Assets and Capital Work In Progress-A) Fixed Assets B) Capital Work In Progress16663.97VIIIOther Payments Includings Statutory Payments171018.89VIIIOther Payments Includings Statutory Payments171018.89XDeposits and Advances18847.04XIOther Payments19138.84XIClosing Balances A) Cash In Hand B) Bank Balances - In Current Accounts - In Saving Accounts1104.02 - 1104.021833. - 7102.			1		
Other)Image: Constraint of the second se					P
VITerm Deposits with Scheduled Bank Expenditure on Fixed Assets and Capital Work In Progress-VIIExpenditure on Fixed Assets and Capital Work In Progress-A) Fixed Assets B) Capital Work In Progress16663.97VIIIOther Payments Includings Statutory Payments171018.89IXRefunds of Grants-XDeposits and Advances18847.04XIOther Payments19138.84XIIClosing Balances A) Cash In Hand B) Bank Balances - In Current Accounts - In Saving Accounts2.392.INIn Deposits Accounts - In Current Accounts1104.02 - 7102.1833.					
VIIExpenditure on Fixed Assets and Capital Work In Progress-A) Fixed Assets B) Capital Work In Progress16663.97VIIIOther Payments Includings Statutory Payments171018.89IXRefunds of Grants-XDeposits and Advances18847.04XIOther Payments19138.84XIClosing Balances - In Current Accounts - In Deposits Accounts1104.02 - 1104.021833. - 7102.		Other)			
VIIExpenditure on Fixed Assets and Capital Work In Progress-A) Fixed Assets B) Capital Work In Progress16663.97VIIIOther Payments Includings Statutory Payments171018.89IXRefunds of Grants-XDeposits and Advances18847.04XIOther Payments19138.84XIClosing Balances - In Current Accounts - In Deposits Accounts1104.02 - 1104.021833. - 7102.	VT	Term Deposits with Scheduled Bank	-		
VIICapital Work In Progress16663.9788.A) Fixed Assets B) Capital Work In Progress16663.9788.VIIIOther Payments Includings Statutory Payments171018.891278.IXRefunds of Grants171018.891278.XDeposits and Advances18847.04770.XIOther Payments19138.8453.XIIClosing Balances A) Cash In Hand B) Bank Balances - In Current Accounts - In Saving Accounts1104.02 6369.791833. 7102.	VI	Term Deposito with beneation paint			
Capital Work In Progress16663.9788.A) Fixed Assets B) Capital Work In Progress16663.9788.VIIIOther Payments Includings Statutory Payments171018.891278.IXRefunds of Grants171018.891278.XDeposits and Advances18847.04770.XIOther Payments19138.8453.XIIClosing Balances B) Bank Balances - In Current Accounts - In Saving Accounts1104.021833. 6369.791833.		Expenditure on Fixed Assets and			
A) Fixed Assets10B) Capital Work In Progress10VIIIOther Payments Includings Statutory Payments17IXRefunds of GrantsXDeposits and Advances18XIOther Payments19138.8453.XIIClosing Balances A) Cash In Hand B) Bank Balances - In Current Accounts - In Deposits Accounts2.392.392.1104.021833.1104.021833.1104.021104.021104.021104.02	VII	Capital Work In Progress	_		
A) Fixed Assets10B) Capital Work In Progress10VIIIOther Payments Includings Statutory Payments17IXRefunds of GrantsXDeposits and Advances18XIOther Payments19138.8453.XIIClosing Balances A) Cash In Hand B) Bank Balances - In Current Accounts - In Deposits Accounts2.392.392.1104.021833.1104.021833.1104.021104.021104.021104.02		A) Fixed Accests	16	663 97	88.1
VIIIOther Payments Includings Statutory Payments171018.891278.IXRefunds of GrantsXDeposits and Advances18847.04770.XIOther Payments19138.8453.XII <b>Closing Balances</b> A) Cash In Hand B) Bank Balances - In Current Accounts - In Saving Accounts1104.02 - 1104.021833. - 6369.79VIIIDeposits Accounts		A) Fixed Assets	10	005.57	001.
VIIIPayments171010100117IXRefunds of Grants1110101001010100XDeposits and Advances18847.04770.XIOther Payments19138.8453.XIIClosing Balances19138.8453.XIIClosing Balances2.392.A) Cash In Hand2.392.B) Bank Balances1104.021833 In Current Accounts1104.021833 In Deposits Accounts6369.797102.		B) Capital Work In Frogress		1	
VIIIPayments171010.00117IXRefunds of Grants111010.001010.00XDeposits and Advances18847.04770.XIOther Payments19138.8453.XIIClosing Balances19138.8453.XIIClosing Balances2.392.A) Cash In Hand2.392.B) Bank Balances1104.021833 In Current Accounts1104.021833 In Deposits Accounts6369.797102.		Other Payments Includings Statutory	17	1018 80	1278 3
XDeposits and Advances18847.04770.XIOther Payments19138.8453.XIIClosing Balances A) Cash In Hand B) Bank Balances - In Current Accounts - In Saving Accounts2.392.1104.021833 In Deposits Accounts1104.021833 In Deposits Accounts- 1000000000000000000000000000000000000	VIII		1/	1010.05	127010
XDeposits and Advances18847.04770.XIOther Payments19138.8453.XIIClosing Balances A) Cash In Hand B) Bank Balances - In Current Accounts - In Saving Accounts2.392.1104.021833 In Deposits Accounts1104.021833 In Deposits Accounts	-	Defende of Create			
XIOther Payments19138.8453.XIIClosing Balances A) Cash In Hand B) Bank Balances - In Current Accounts - In Saving Accounts - In Deposits Accounts19138.8453.XIIClosing Balances - 2.392.392.392.Minimum Series - 10 Current Accounts - 10 Deposits Accounts1104.021833.Minimum Series - 10 Deposits Accounts1104.021833.	IX	Refunds of Grants			
XIOther Payments19138.8453.XIIClosing Balances A) Cash In Hand B) Bank Balances - In Current Accounts - In Saving Accounts - In Deposits Accounts19138.8453.XIIClosing Balances - 2.392.392.392.1104.02 - 6369.791104.02 7102.1833.	х	Deposits and Advances	18	847.04	770.7
XIClosing BalancesXIIClosing BalancesA) Cash In Hand2.39B) Bank Balances- In Current Accounts- In Saving Accounts- In Deposits Accounts- In Deposits Accounts				100.04	F.2. (
A) Cash In Hand2.392.B) Bank Balances-In Current Accounts1104.021833 In Saving Accounts1104.021833.6369.797102 In Deposits Accounts In Deposits Accounts<	XI	Other Payments	19	138.84	55.0
A) Cash In Hand2.392.B) Bank Balances-In Current Accounts1104.021833 In Saving Accounts1104.021833.6369.797102 In Deposits Accounts In Deposits Accounts<	XII	Closing Balances			
B) Bank Balances - In Current Accounts - In Saving Accounts - In Deposits Accounts - In Deposits - In Deposits Accounts	~			2.39	2.4
- In Current Accounts - In Saving Accounts - In Deposits Accounts - In Deposits - In Deposits Accounts - In Deposits - In Deposits Accounts - I			1		
- In Saving Accounts         1104.02         1833.           - In Deposits Accounts         6369.79         7102.					
- In Deposits Accounts 6369.79 7102.					
15502				6369.79	7102.
		TOTAL		14763.98	15502.3

Dated:-Place:- Chandigarh Accounts Officer NITTTR, Chandigarh

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NITTTR, Chandigarh



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

1. Grants Received	the second s	(Rs In Lakhs)
Particulars	FY 2023-2024	FY 2022-2023
Grant in Aid Capital OH 35	0.00	1300.00
Grant in Aid General (OH31) Grant Salary OH-36	350.00 2660.00	1650.00 2500.00
	3010.00	5450.00
2. Academic Receipts		
Particulars	FY 2023-2024	FY 2022-2023
C01 ME	159.27	200.36
	159.27	200.36
3. Receipts against Earmarked Endow	ment Funds	
3. Receipts against Earmarked Endow	ment Funds	
3. Receipts against Earmarked Endow Particulars	rment Funds FY 2023-2024	FY 2022-2023
Particulars Corpus Fund	<b>FY 2023-2024</b> 20.75	19.26
Particulars Corpus Fund	<b>FY 2023-2024</b> 20.75 20.75 20.75	19.26 19.26 19.26
Particulars Corpus Fund Equipment Replacement Fund Faculty Devlopment Fund	<b>FY 2023-2024</b> 20.75 20.75	19.26 19.26 19.26
<b>Particulars</b> Corpus Fund Equipment Replacement Fund	<b>FY 2023-2024</b> 20.75 20.75 20.75 20.75	FY 2022-2023 19.26 19.26 19.26 19.26 77.04
Particulars Corpus Fund Equipment Replacement Fund Faculty Devlopment Fund Maintenance Fund	FY 2023-2024 20.75 20.75 20.75 20.75 20.75 83.00	19.26 19.26 19.26 19.26
Particulars Corpus Fund Equipment Replacement Fund Faculty Devlopment Fund Maintenance Fund	FY 2023-2024 20.75 20.75 20.75 20.75 20.75 83.00	19.26 19.26 19.26 19.26 <b>77.0</b> 4
Particulars Corpus Fund Equipment Replacement Fund Faculty Devlopment Fund Maintenance Fund 4. Receipts against Sponsored Project	FY 2023-2024         20.75         20.75         20.75         20.75         20.75         20.75         20.75         20.75         20.75         20.75         20.75         20.75         20.75         20.75         20.75         20.75	19.26 19.26 19.26 19.26

Accounts Officer NITTTR, Chandigarh

Director NITTTR, Chandigarh



### 5. Interest Received on

Particulars	FY 2023-2024	FY 2022-2023
<b>A. Bank Deposits</b> Interest From Bank	254.96	257.29
B. Loan & Advances Interest on Advances	2.09	1.43
<b>C. Loan &amp; Advances - Others</b> Grant Interest PFMS Interest on Refunds	0.00	0.76
	257.05	259.48

Particulars	FY 2023-2024	FY 2022-2023
BOOKING OF AUDITORIUM	3.62	12.71
Booking Committee Room	0.04	1.09
Booking of Conference Hall	0.42	0.99
Rent From Dinning Hall	2.58	2.78
BOOKING OF EXAMINATION HALL	0.04	0.00
HRR	23.24	26.97
Receipt of Institute Share	183.50	129.55
Misc Receipt	34.61	7.80
Overhead Charges	222.59	106.68
Recruuitment Fee	0.00	-2.71
Rent From Guest House	22.37	20.12
Rent From Hostel Rooms	32.95	4.08
Rent From Mess/Canteen	0.16	0.20
RTI	0.00	0.00
Sale of Old Material	0.15	2.37
STC Regd Fee	33.47	13.40
PNB Rent	2.25	3.43

### 7. Deposits & Advances

Particulars	FY 2023-2024	FY 2022-2023
Consultancy Projects (As Per Annexure - b)	526.03	1477.70
Temporary Advance	15.43	16.08
Loan for Car	0.84	0.41
Loan for Computer	0.05	0.07
Loan for HBA	0.00	0.02
Income Tax Receivable	0.00	10.91
Advance Loading Money in C.Cards	0.00	0.60
Cash & Bank Balance GOI Restricted Fund	0.00	0.60
Advance C01 (ME Fees)	2.05	0.00
	544,40	1506.39

562.00



Accounts Officer NITTTR, Chandigarh

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329.48



# 8. Miscellaneous Receipts including Statutory Receipts

Particulars	FY 2023-2024	FY 2022-2023
Duties & Taxes		
CGST	13.11	25.30
IGST	78.74	208.60
UTGST	13.11	25.30
Income Tax Experts	9.61	11.39
Income Tax Firms	10.86	6.17
Income Tax Retirees	25.13	40.39
Income Tax Staff	401.65	395.44
TDS -CGST	6.28	4.70
TDS -SGST	6.28	4.70
TDS-IGST	28.59	23.89
GIS	22.38	15.18
GPF	273.72	333.82
LIC	3.90	4.89
R&FW	0.05	0.06
Staff Welfare Fund	19.87	15.22
Ground Rent	0.08	0.00
IFD 1 / PDA-1	0.02	0.00
	913.39	1115.04

# 9. Any Other Receipts

Particulars	FY 2023-2024	FY 2022-2023	
Interest on Grant 31 Payable	169.59	51.58	
Alumini Association	1.16	1.92	
Distributation Fund	41.82	36.79	
Earnest Money	2.20	4.16	
Royalty to Authors	0.08	0.03	
Security of Firms	6.23	9.31	
Sundry Creditors	0.84	0.16	
CREST CHD SOLAR PLANT	8.74	0.29	
	230.65	104.24	

Accounts Officer NITTTR, Chandigarh

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NITTTR, Chandigarh



10. Establishment Expenses		(Rs In Lakhs)	
Particulars	FY 2023-2024	FY 2022-2023	
REVENUE (NON SALARY)	125		
OH-31 (TRAINING & PENSION)	6.50	1 (7	
Academic Cont	6.52	1.67	
Honorarium (Training)	63.04	73.23 28.25	
TA (Training)	73.58	0.00	
TA Domestic(Non-Teaching)		795.52	
Regular Pension	891.53	262.13	
Outsource Salary	293.55 0.00	79.63	
Interest Paid on Grants	2.97	0.00	
Fellowship and Scholarship	0.30	0.00	
IC-1 (International Confr. (EDIC)	1.23	0.00	
SP-79	10.00	0.00	
OH-31 Grant	10.00	0.00	
OH-36 (SALARY) Commutation	167.40	102.20	
	207.91	262.24	
Gratuity TA to Retirees	3.22	2.98	
	0.08	0.07	
NPS Service Charges Leave Encashment to Retirees	168.09	66.39	
SALARY PART-A	108.09	00.55	
Salary Faculty	1406.85	1351.36	
Salary Non Faculty	618.35	651.81	
DA	31.39	24.49	
SALARY PART-B	51105		
Children Education Allowance	11.59	13.66	
Leave Encashment	11.32	24.61	
LTC	12.91	11.68	
Medical	29.19	31.57	
NPS both Share	124.25	115.46	
CPF Institute share	2.54	2.54	
PDA	12.22	3.90	

# **11. Academic Expenses**

Leave Salary Contributiion

Particulars	FY 2023-2024	FY 2022-2023
C01 ME	33.06	53.36
	33.06	53.36

4150.64

0.25

Accounts **Öfficer** NITTTR, Chandigarh

DAN & ASSOCIATES \* CHARTERED ACCOUNT

Ь Director NITTTR, Chandigarh

0.00

3905.38

# 12. Administrative Expenses

Particulars	FY 2023-2024	FY 2022-2023	
REVENUE (NON SALARY)			
Contribution to reserve Fund	83.00	77.04	
NON SALARY			
Advertisement	0.00	1,80	
Annual Day	3.40	3.04	
Annual Sports	15.04	5,42	
BOG MEETING	4.54	3.19	
Covid-19	0.00	-0.49	
Golden Jublee(RD)	0.00	0.55	
Ground Rent	0.00	0.73	
Hindi Day	0.90	1.02	
IFD 1 / PDA-1	0.00	-0.05	
Independence Day	0.00	1.16	
Library Journal	0.39	0.44	
Medicine	0.24	0.15	
Office Contingency	17.31	21.72	
Postage	0.76	0.50	
Property Tax	1.60	5.36	
Printing & Stationary	8.54	5.24	
TT Charges	2.48	2.84	
Professional & Audit Fees	7.31	2.95	
Republic Day	0.08	0.67	
PDA	1.05	2.72	
Honorarium	1.45	2.15	
TA -Non Salary	3.67	7.49	
Training Non Faculty	1.12	2.41	
	152.88	148.05	

Accounts Officer NITTR, Chandigarh

mon Director

NITTTR, Chandigarh



# 13. Repair & Maintenance

Particulars	FY 2023-2024	FY 2022-2023	
Mtc Academic Cell	0.02	0.27	
Mtc Applied Sc	0.48	2.38	
Mtc Building	29.53	9.92	
Mtc Campus	7.44	2.36	
Mtc Cdc	0.16	0.46	
Mtc Civil	2.16	5.03	
Mtc Computer	1,36	1.48	
Mtc ECE	1.59	2.18	
Mtc EDIC	0.54	0.38	
Mtc Electrical	7.08	4.89	
Mtc Electrical Lab	0.55	0.64	
Mtc EMGT	0.09	0.18	
Mtc ETV	0.00	0.00	
Mtc Furniture	0.89	0.77	
Mtc Guest House	2.34	3.04	
Mtc Hostel	6.71	5.05	
Mtc IMCO	0.75	1.12	
Mtc ISO	0.25	0.00	
Mtc Lib	0.86	1.74	
Mtc Mechanical	10.32	2.08	
Mtc Media	3.88	8.56	
Mtc R/D	0.14	0.10	
Mtc Refrigeration & A.C	9.22	6.64	
Mtc Telephone	1.83	1.38	
Mtc Vehicle	5.95	5.00	
Mtc Water & Electricity Charges	55.32	51.04	
	149.49	116.67	

# 14. Payment against Earmarked / Endowment Funds

Particulars	FY 2023-2024	FY 2022-2023
CORPUS FUND	0.00	0.00
Equipment Replacement Fund FACULTY DEV FUND	0.00	0.00 0.00
MAINTENANCE FUND	0.00	0.00
GENERAL FUND- Adjustment	0.30	0.00
	0.30	0.00

# 15. Payments against Sponsored Project / Scheme

Particulars	FY 2023-2024	FY 2022-2023	
SPONSORED PROJECTS As Per Annexure - a	132.68	149.52	
	132.68	149.52	

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Accounts Officer NITTTR, Chandigarh

MM2+16/24 Director

NITTTR, Chandigarh

# 16. Expenditure on Fixed Assets and Capital Work In Progress

Particulars	FY 2023-2024	FY 2022-2023	
Equipments (OH-35 Capital)	· · · · · · · · · · · · · · · · · · ·		
Centre of Excelence Various Deptt	129.82	0.00	
Equipment -Academic Cell	0.00	0.20	
Equipment - Sports	0.44	0.00	
Equipment-Applied Sc	0.00	1.98	
Equipment-Building	0.38	3.08	
Equipment-Campus	0.23	0.00	
Equipment-CDC	0.03	1.66	
Equipment-Civil	0.90	1.75	
Equipment-Computer	162.74	57.54	
Equipment-ECE	14.25	5.00	
Equipment-EDIC	0.00	0.55	
Equipment-Elect Mtc	0.98	0.39	
Equipment Electrical Deptt	100.08	47.01	
Equipment Estate Office	0.35	0.02	
	2.11	0.04	
Equipment-Guest House	1.22	2.60	
Equipment-Lib	4.93	2.00	
Equipment Hostel	9.24	8.23	
Equipment-IMCO		2.39	
Equipment-Mechnical	37.58		
Equipment-Media	28.30	5.41	
Equipment-Office	0.38	1.06	
Equipment- RD	0.02	0.00	
Equipment- Ref & Aircondining	3.81	0.00	
Equipments	1.68	0.00	
Equipment Telephone	0.22	0.00	
Advance Renovation (BSNL)	-34.72	-74.26	
Advance to CPWD	7.02	-150.06	
Renovation of 42 Campus Quarters	0.00	63.71	
Renovation- Institute Building	49.56	85.17	
Furniture	0.00	1.83	
Furniutre Fixture and Fittings	3.06	0.00	
Intangible Assets	0.00	0.00	
Civil-Intengable Assets	36.74	0.00	
Comp-Intengible Assets	8.71	2.99	
ECE- INTEGIBLE ASSEST	37.44	0.00	
Electrical Intengible Assets	11.60	0.00	
	33.41	0.00	
Mech-Intangible Assets	0.00	0.15	
Offfice-Intengiable Assets	10.88	9.89	
Libary-Intengible	0.59	1.43	
Library Books			
Lib E Journal	0.00	0.30	
ADVANCE -OH 35 CAPITAL	0.00	5.91	
	663.97	88.19	

Accounts Officer NITTR, Chandigarh

DAN & ASSOCIATES

\* CHARTERED ACCOUNTR

mon Albhy Director

NITTTR, Chandigarh

# **17. Other Payments Includings Statutory Payments**

Particulars	FY 2023-2024	FY 2022-2023	
CGST	19.34	22.93	
IGST	152.03	139.19	
UTGST	19.34	22.93	
Income Tax Experts	8.89	11.55	
Income Tax Firms	9.91	5.41	
Income Tax Retirees	25.13	40.39	
Income Tax Staff	401.64	398.61	
TDS-CGST	4.24	6.09	
TDS-SGST	4.24	6.09	
TDS-IGST	14.11	42.55	
Income Tax Receivable	32.18	211.07	
TDS on FDR	7.61	2.66	
GIS	22.38	15.18	
GPF	273.72	333.82	
LIC	3.90	4.89	
R&FW	0.05	0.06	
STAFF WELFARE FUND	20.17	14.47	
	1018.89	1278.37	

# **18. Deposits and Advances**

Particulars	FY 2023-2024	FY 2022-2023	
Consultancy Project (As Per Annexure - b)	830.41	757.63	
Temporary Advance	16.63	13.12	
	847.04	770.75	

# **19. Other Payments**

Particulars	FY 2023-2024	FY 2022-2023	
Interest on Grant 31 Payable DISTRIBUTION FUND EARNEST MONEY Security of Firms Recruuitment Fee	51.58 37.47 1.40 6.56 41.83	0.00 30.67 4.70 18.44 0.00	
	138.84	53.82	

Accounts Officer NITTTR, Chandigarh



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NITTTR, Chandigarh

# SPONSORED PROJECT

Annexure - a

(Rs. In Lakhs)

	2023-2	024	2022-2	023
Particulars	Transactions		Transactions	
	Debit	Credit	Debit	Credit
AICTE QIP POLY	0.25		21.43	17.81
GST TDS Sp-70	<b></b>	- <u> </u>	**************************************	0.05
IC22-2	3.55	1.28	0.27	2.55
ICTO SP-20	5.55			1.92
ICTO SP-25				1.88
ICTO SP-49				0.74
Inspire Fellowship by SC and Tech			3.85	
MOOCS4	and the second second		1.20	1.20
PDA-08			67.63	1.20
PDA-1		0.04	0.09	
PDA-21(Solar PV System)	4.45	0.04	0.05	
RPS - AICTE	0.82			
SP-06(ETV)	0.02	- 10	5.20	3.30
SP-18(CDC)			1.63	5.50
SP-10(CDC) SP-20(Computer)	0.09		0.05	
SP-23(ETV)	0.09		0.03	e na <del>la con</del> tra
SP-25(Computer)	21.90	0.03	2.95	
SP-34	21.90	0.05	0.06	
SP-35	10.00	0.02	15.81	117.96
SP-40	19.66	0.02	0.61	117.90
			1.41	0.67
SP-41 SP-49	0.17		1.41	0.87
SP-49 SP-49(A)	0.17		0.70	0.93
SP-49(A) SP-51			0.79	
			0.13	0.93
Sp 54 Mangolian Teachers			0.69	0.93
SP-55			0.93	0.93
SP-56			0.93	0.93
SP-57	0.11		0.52	0.93
SP-58			0.06	0.05
SP-59			0.67	0.93
SP-6		18.00		1.90
SP-62			2.30	0.36
SP-63	1.08	0.04	3.45	0.02
SP-64			0.80	0.93
SP-68	4		0.76	0.93
SP-70			1.98	1.98
SP-71	3.37	2.43	1.19	2.45
SP-72			9.99	9.99
SP-74	0.91	3.01		_
SP-75				0.3
SP-76	50.40	2.03		50.4
SP-77	23.02	23.02		
SP-78	0.08	0.08		
SP-8 (EDIC)			0.11	

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Grand Total	132.68	66.02	149.52	226.80
TDS SP-70				0.23
SP-RS 51	0.34		0.47	
SP-CO8(Academic Cell)			1.50	1.72
SP CO-11	1.06	10.00		
SP-84		2.04		
SP-82 (SP-W-33)	1.42	4.00		

Konfr Accounts Officer

NITTTR, Chandigarh

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NITTTR, Chandigarh



# Consultany Project Annexure -b

(Rs. In Lakhs)

	2023-20	the second se	2022-20	Charles and the second s
Particulars	Transacti		Transact	
	Debit	Credit	Debit	Credit
Consultancy TDS	0.05	15.19	0.09	58.75
CP-1			0.52	0.24
CP-10 CP-5 (E)			0.32	0.24
CP-113(Elect)			0.30	0.12
CP-124			0.21	
CP-128		0.01		0.73
CP-130			16.97	16.73
CP-133	1.69			
CP-135	3.09			0.79
CP-136	183.93		2.83	185.56
CP-13 Mech				0.06
CP-140			32.53	
CP-141	107.45	131.07	159.14	135.52
CP-142			141.93	157.58
CP-15 Civil			4.41	1.78
CP-177-22	2.21	4.77		
CP-201/23	0.68	1.98		
CP-202/23(PMKY ECS)	0.61	0.61		
CP-203/23		6.00		
CP-204/23		1.45		
CP-205/23	0.34	0.37		
CP-206/23	0.37	0.34		
CP-207/23	2.58	7.36		
CP-209/23	0.66	2.88		
CP-210/23	0.04	0.60		
CP-211/23		1.85		
CP-21-143	1.17	12.60	1.96	15.00
CP-21/149			28.38	25.13
CP-21/150			0.83	
CP-21/151			1.70	
CP-21/152			2.84	
CP-21-154	2.31	12.01	9.29	1
CP-21/155	1.48	4.57	3.52	
CP-21/161	1.10		2.49	1
CP-21/162			2.25	
CP21/163			1.58	
CP-21/164			5.81	5.81
CP-21/165			8.63	8.63
CP-21/166	1.85	1.40	0.05	0.00
CP-212/23	0.56	3.65		
CP212/23	0.50	5.38		
CP-215/23	0.40			
	0.40	1.20		
CP-216/23	0.86	0.86		
CP-217/23	0.08	0.75	1.04	2.63
CP-22/166			1.04	2.6.

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			a acl	0.00
Cp-22/167			3.32	3.32
CP-22/168			6.05	8.05
CP-22/170	3.59		8.73	12.32
CP-22 171	318.60	81.34		237.26
CP-22/172			0.36	0.36
CP-22/174	1.30		1.53	2.83
CP-22/176	1.55		1.08	3.56
CP-22/178	36.61	43.80	27.64	20.44
CP-22/179	36.39		52.92	89.31
CP-22/180	0.10		1.96	5.23
CP-22/181	0.14		0.90	2.41
CP-22/182			0.38	1.00
CP-22/183			1.09	1.09
CP-22/187	0.02		0.21	1.00
CP-22/188			0.36	0.36
CP-22/189			0.14	0.64
CP22/190	8.39	0.42	2.67	4.14
CP-22/ 191	3.46		0.07	3.52
CP-22-192		1.35		
CP22-193				6.49
CP 22-194			0.62	0.86
CP22/195	4.88	3.43		
CP22/196	1.97	3.43		
CP-22/197	0.48		0.03	0.50
CP22/198	2.11	2.98	1	
CP-23	0.88	0.98		
CP-23/208	4.77	14.03		
CP-3		0.02		0.05
CP-38			0.39	
CP-4	4.63	0.50	0.13	4.88
CP-66			4.58	
CP-8	0.06	1.92	4.32	4.32
CP-82			9.80	
CP-87((Civil)	11.54	34.58	40.89	121.21
CP-8 A COMP	0.08	0.24	0.21	1.80
CP-8 B COMP	0.16	0.90	0.16	0.96
CP-8 C COMP	0.41	1.68	0.25	1.56
CP-8 D COMP	0.18	0.90	0.110	
CP-9	1.34	1.97		0.72
CP-98 (ECE Deptt)	0.15	1.57		
CP-9 ECE CP 5(D)	0.15		0.08	0.30
CP-LC-4 (B)	0.08	1.80	0.00	0.06
CP-Secret Project	0.08	1.80	15.30	15.30
CP TDS 142			13.30	17.91
		0.20		2.43
CP Tds-87		0.38		
GST CP-136		0.07		23.80
GST CP-154		0.27		0.1
GST CP-164				0.1
GST CP-165	1.ccocu			0.1

Gst Cp-167				0.08
GST CP-170				0.09
GST ICTO CP13				0.01
GST LC-4				0.00
GST TDS 142				3.58
GST TDS CP-130				0.38
GST TDS CP-141		2.98		2.97
IC-1	15.48	23.76	15.15	28.96
IC-3	43.41	39.95	26.24	54.56
IC TDS-3				0.09
ICTO CP-18			0.37	
KC-4	0.25			0.25
LC-1	3.59	14.60	14.06	17.32
LC-2-21	8.25	5.44	8.18	5.39
LC-3	3.13	7.55	77.84	6.32
LC-4/21-22/10			0.01	
TDS-87(Civil)		0.11		
TDS-CP-130				1.90
TDS CP-136				119.30
TDS CP-141		14.89		14.85
TDS CP-149				1.32
TDS CP-154		1.37		
TDS CP-164				0.66
TDS CP-165				0.95
TDS Cp-167				0.38
TDS-CP 170				0.97
TDS CP-172				0.04
TDS CP-IC-3		1.53	0.06	1.64
TDS LC-3		0.03		0.28
Grand Total	830.41	526.03	757.63	1477.70

Accounts Officer NITTTR, Chandigarh

Director

NITTTR, Chandigarh



NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH, CHANDIGARH

					(Rs. In Lakhs)
LIABILITIES	Current Year 2023-2024	Previous Year 2022-2023	ASSETS	Current Year 2023-2024	Previous Year 2022-2023
<b>NPS Tier-L</b> Opening Balance Less: Sub. for 31/03/18 Add: Sub + U Contribtion Add: Interest Credited Less: Transfer to NSDL Add: Sub. + UC for 31/03/19	(1.76) 212.36 (212.36) <b>(1.76)</b>	(1.76) 197.65 (197.65) <b>(1.76)</b>	<ul> <li>(Rupees in lakh)</li> <li>(1.76) Subscription and Contribution due for 31/03/2020</li> <li>197.65 Investment</li> <li>(197.65) Interest accrued but not due Balance at SBOP</li> <li>(1.76) Recoverable from Main Account</li> </ul>		
Balance with Main Accounts Opening Balance Add: During the year Excess of Income over Expenditure Opening Balance Add: During the year	2.34 0 <b>2.34</b> 2.81 0.00	2.34 0.00 <b>2.34</b> 2.81 0.00	2.34 0.00 <b>2.34</b> Amount Recoverale from bank 0.00 0.00	3.39	3.39
Total	3.39	3.39	Total	3.39	3.39

**BALANCE SHEET NEW PENSION SCHEME AS AT 31.03.2023** 

Director Director NITTTR, Chandigarh

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Accounts Officer NITTTR, Chandigarh

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NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH, CHANDIGARH **Receipt And Payment Account** 

For the Financial year 2023-24

(Rs. In Lakhs)

2022-2023 **Previous Year** 197.65 197.65 **Current Year** 2023-2024 212.36 212.36 Service Charges Closing Balance Paid to Tejwant Investments Withdrawls 2022-2023 Payments 197.65 Total **Previous Year** 82.35 115.29 **Current Year** 2023-2024 88.54 123.82 212.36 Interest on Savings bank Account Interest Received on Investment Refund from NSDL (Tejwant) Paid From Main Accounts University Contribution Invstment encashed Opening balance Own Sbscription NPS Tier -I A/c Receipts Total

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Accounts Officer NITTTR, Chandigarh

9460 NITTTR, Chandigarh Director

#### NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH SECTOR-26, CHANDIGARH BALANCE SHEET GPF/CPF AS AT 31.3.2024

P.Y	LIABILITIES	C.Y.		P.Y	ASSETS	C.Y.
	GPF				Investment	2407.6
	Opening Balance	2427.36		30.15	Int. accrued as on 31.03.23	109.0
	Add: Subscription in the year	270.72			Subscription due for march	
	Add: Sub for March	0.00			GPF	
	Add: Sub for March	22.05			CPF	
	Add: Reconciliation GPF	0.00				
		0.00			UC due to CPF	
	Less: Subscription for					
	Less: Advance/ Withdrawal	624.27	2095.86		NPS-II	1
2427.36	Closing Balance		2095.80		Tax recoverd from interest on	
	CPF				Investments pending refund	
	Opening Balance	198.75			Income Tax Department	
	Less: Opening Adjustment	0.00				
	Add: Subscription in the year	3.00				
	Add: Sub for March 2024	0.00			Cash at Bank	
	Add Interest credited	13.77		37.40	Indian Bank	42.5
	Less: Subscription for March	0.00				
	Less: Advance/ Withdrawal	16.30				
	Closing Balance		199.23	0.00	Sundry Recoverable	0.0
	Institute Contribution(CPF)					
	Opening Balance	119.11				
	Add: Subscription in the year	2.54				
	Add: Sub for March 2024	0.00				
	Add: Interest credited	8.46				
	Add: Reconciliation CPF	0.00				
		0.00				
	Less: Adjustment for Advance	27.81				
110 11	Less: Advance/ Withdrawal Closing Balance	27.01	102.30			
119.11			102.50			
	NPS Tier-II Account					
	Opening Balance	0.00		-		
	Add: Subscription in the year	0.00				
	Add: Sub for March 2024	0.00				
	Add: Interest credited	0.00				
	Less: Subscription	0.00				
	Less: Advance/ Withdrawal	0.00		1	1	
0.00	Closing Balance		0.00			
	Interest Reserve					
	Opening Balance	82.95				
	Add: Reconcilation	0.00				1.1.1
	Add: Excess of Income over				×	
	expenditure	78.93				
82.95	Closing Balance		161.88			
	Dead Account		0.00		1	
828.17	Total		2559.26	2828.1	7 Total	2559.

Accounts Officer NITTR, Chandigarh.



Director

NITTTR, Chandigarh

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

Income And Expenditure Account For the Year ended 31.03.2024

l					
P.Y	Expenditure	C.Y	Р.Ү	Income	C.Y
				*>	
	Interest Credited to:		210.44	210.44 Interest received on Investment	44.28
189.03 GPF	GPF	22.05	0.00	0.00 Interest earned on Loan given	0.00
			30.15	30.15 Add: Interest accrued on 31.03.24	109.08
13.65 CPF	CPF	13.77		Add: Interest accrued on Advance	15
				Add: Tax recoeved on interest-m	
7.76	7.76 University Contribution (CPF)	8.46		refund to be obtained	
	NPS Tier-II		00.00	0.00 Add: Interest Accrued from CPF	00.00
0.04	0.04 Bank Charges	00.00	-117.34	-117.34 Less: Interest accrued for March	-30.15
-87.23	-87.23 Excess of Income over expenditure	78.93			
123.25		123.21	123.25		123.21

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Accounts Officer NITTTR, Chandigarh.

Director NITTTR, Chandigarh



NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH Receipts and Payments Account For the Year ended 31.03.2024 SECTOR-26, CHANDIGARH

3118.56		3245.01	3118.56		3245.00
			44.28	210.44 Interest Received	210.44
	Bank			Investment Encashed	
	SBI branch-II			NPS Tier-II Account	
	SBI branch-I		2.54	2.54 CPF University Contribution	2.54
2450.18	2798.02 Closing Balance:	2798.02	3.00	3.00 CPF Subscription	3.00
00.00	0.04 Bank Charges	0.04	270.72	330.82 GPF Subscription	330.82
	Investment				
27.81	5.86 Withdrawal	5.86		Bank	
	University Contribution				
	NPS Tier-II Account			SBI Branch-II	8
16.30	13.66 CPF Adv./withdrawal	13.66	00.00	0.00 Opening Difference	00.00
624.27	427.43 GPF Adv./withdrawal	427.43	2798.02	2698.20 Opening Balance	2698.20
	P.Y Payments	P.4	ť	P.Y Receipts	Р.Ч

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Accounts Officér NITTTR, Chandigarh.

man Helvy Director **NITTTR, Chandigarh** 

NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH SECTOR-26, CHANDIGARH CASH BOOK ACCOUNT GPF/CPF AS AT 31.3.2024

P.Y.	Particulars		C.Y.
2698.22	2698.22 Opeining Balance as on 01.04.2022		2798.02
	Subscription during the year		
	GPF as per ledger	270.72	
	CPF as per ledger	3.00	
	CPF Instt. Contribution	2.54	
336.36	336.36 Investment	0.00	276.26
210.44	210.44 Add: Intt. On S/A & FDR		44.28
	Less:		
	GPF Withdrawl	624.27	
	CPF - Employer	27.81	
	CPF - Employee	16.30	
	Bank Charges	0.00	
	Institute share	0.00	
446.99	446.99 GPF Loan from Main	0.00	668.38
2798.02 Total	Total		2450.18

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Accounts Officer NITTTR, Chandigarh. Burly



# 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 17<sup>th</sup> 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 31<sup>st</sup> 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 Acturial 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.

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Accounts Officer NITTTR, Chandigarh

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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

borpao rana	(4	Amount in Lakhs
Particulars	Current Year	Previous Year
Opening Balance	9525.10-293.31= 9231.79	8926.43
Add: Addition in Fund	712.43	598.67
Less: Utilization of Fund		-
Closing Balance	9944.21	9525.10

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

\*Last year Corpus Fund Rs. 9525.10 lakhs includes Earmarked/Endowment Fund of Rs. 293.31 Lakhs (which includes Equipment Replacement Fund Rs. 100.88 Lakhs, Faculty Development Fund Rs. 95.90 Lakhs and Maintenance Fund Rs. 96.53 Lakhs) which in Designated/Earmarked Fund in Current FY 2023-2024

### 2. General Fund

		(Amount in Lakhs
Particulars	Current Year	Previous Year
Opening Balance	(3225.13)	(2811.01)
Add: Overutilised OH31 transfer of previous year	0.00	0.00
Less: Utilization of Fund	161.18	(414.12)
Closing Balance	(3063.95)	(3225.13)

## 3. Designated/ Earmarked Fund

Particulars	Current Year	Previous Year
Opening Balance	2831.70+293.31= 3125.01	2819.08
Add: Addition in Fund	611.83+62.25= 674.08	657.26
Less: Utilization of Fund	880.74	644.64
Closing Balance	2918.35	2831.70

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- This is to certify that there is an unspent balance of Rs. 1607.37 Lakhs (which includes OH36 – Rs. 561.03 Lakhs, OH31 - Rs. 157.71 Lakhs and OH35 Rs. 888.63 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. 6.20 Lakhs is outstanding as on 31<sup>st</sup> March 2024.
- **7.** Schedule one to Twenty Four are annexed to and form an integral part of the Balance Sheet as on 31.3.2024.
- **8.** Detail of Capital Work in Progress including capital advance till 31.03.2024 is as follows:

Purpose of Advance	Year	Amount (Rs in Lakhs)		
Capital Work in Progress with Chd Admin (ETV Media Building)	2022-23	10.39		
Advance for Renovation of Building (CPWD)	2022-23	85.18		
Expenditure on Building Work In Progress (BSNL)	2022-23	1.01		
Advance OH-35 Capital	2022-23	5.91		
	Total	102.50		

- **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
- **11.** The credit bifurcation of the Crest CHD solar plant ledger is currently awaited, specifically in relation to subsidy allocation and refund.
- **12.** Following are the Assets that are acquired under running sponsored projects:

			(Amount in Lakins
Sr. No.	Particular of Asset	Cost of Asset	Remarks
1.	25 KW Power Micro System	4.45	Rural Dept. (PDA 21)
2.	A Customised setup for testing of Caranival Implants	0.95	Media Dept. (SP-73)
3.	Sandwitch type visco elastic pads Customised spring type dampers	0.25	Mech. Dept. (SP-73)
	Total	5.65	



**13.** Details of Court Cases of the Institute In which Union of India is respondent till 31.03.2024

Sr no	CWP Nos.	Petitioner s	Prayer	Writ status	No of he ari ng	Next date of hearing
1	8293/19 96	Raksha Devi Vs Uol & other	Up-graduation of pay scale of Rs 1640-2900 (Pre revised stenographer pay scales	Admitted	3	18.11.24
2	17905/2 000	TTTI chandigarh Vs TTTI Union	Various demand of Union regarding recognition of union	Admitted		-
3	3432/20 03&1038 3/2003	TTTI Vs Prem kumar	Challenge of Labour court Award	Admitted		-
4	17537/2 007	Bakshish Singh Vs Uol & other	Retirement benefits	Admitted		-
5	11052/2 011	Dr. (Ms) PK Tulsi Vs NITITR & others	Rotational Headship	Admitted		
6	22422/2 014	Dr. PK Tulsi Vs Uol & others	To relase seniority list of faculity	Regular hearing	21	23.09.24
7	6492/20 17	BS Malik Vs NITTTR chd. & Uol	Financial up graduation under MACP Scheme	Regular Hearing	21	25.07.24
8	17218/2 017	Vinod kumar & Other Vs NITTTR & others	Increment under on CAS promotion	Regular hearing	13	23.07.24
9	27184/2 017	Rama Chhabra & other Vs NITTTR & other	Increment under on CAS promotion	Regular hearing	12	29.05.24
10	LPA 1940/20 17	Dr. S Chatterji & other Vs Uol & other	LPA on CWP No. 941/2013	Regular hearing	13	20.05.24
11	LPA 2124/20 17	Uol Vs BC Choudhary & other	LPA on CWP No. 4391/2000	Regular hearing	4	25.07.24
12	5376/20 19	KL Singla Vs Uol &	Higher rate of annual increment	Admitted	2	02.07.24



		other				
13	6705/20 19	Balwinder Singh Vs NITTTR & other	Selection of Professor in Media Center and Rural development	Regular hearing	12	14.05.24
14	11337/2 019	Dr. KC Lachhawani Vs Uol & other	Promotion under CAS	Regular hearing	10	18.07.24
15	23237/2 019	Manmohan Singh Vs Uol & other	To extend superannuation age librarian upon 65 years	Regular hearing	13	20.05.24
16	COCP 1582/20 20	Rita Singh Vs Dr. SS Pattnaik	Contempt petition	Regular hearing	21	23.07.24
17	12907/2 022	Robin Babit Vs Uol & others	Challenge the advertisement	Reply yet to be filled	3	15.05.24
18	21123/2 015	Jaspal Singh Vs Uol & others	To give appointment on the post of Technician Electrical	Reply yet to be filled	4	16.07.24
19	6541/20 24	Baljit Singh Vs Uol & ORS	Status quo regarding accommodation for residing	Reply yet to be filled		23.05.24

14. Details of court cases before Hon'ble Lower/District Court

Sr. No	Case	Petitioners	Prayer	No. of Hearing	Writ status	Next Date
01	CS/CJ /823/ 2015	Bhuvan sharma Vs Viddotama Sharma NITTTR Chd.	Marriage & legal heirs Certificate	67	Regular hearing	13.05.24



### **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.

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Accounts Officer NITTTR, Chandigarh

Director

NITTTR, Chandigarh



# भारतीय लेखापरीक्षा तथा लेखा विभाग कार्यालय प्रधान निदेशक लेखापरीक्षा (केन्द्रीय), चण्डीगढ़



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

स०/No: पी.डी.ए.(सी)/के. व्यय/SAR-NITTTR-2023-24/ 625

Ro/Dated: 30-10-2024

सेवा मे,

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

विषय: National Institute of Technical Teachers Training and Research, Chandigarh के वर्ष 2023-24 के लेखाओं पर पृथक लेखापरीक्षा प्रतिवेदन

महोदय/महोदया,

संलग्न: उपरोक्त अनुसार

कृप्या National Institute of Technical Teachers Training and Research, Chandigarh के वर्ष 2023-24 के लेखाओं पर पृथक लेखापरीक्षा प्रतिवेदन (Separate Audit Report) संसद के दोनों सदनों के समक्ष प्रस्तुत करने हेतु संलग्न पाएं | संसद में प्रस्तुत होने तक प्रतिवेदन को गोपनीय रखा जाए |

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

कृप्या इस पत्र की पावती भेजें |

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प्रधान निदेशक

उपरोक्त की प्रतिलिपी वर्ष 2023-24 की पृथक लेखापरीक्षा प्रतिवेदन की प्रति सहित आवश्यक कार्यवाही हेतु Director, National Institute of Technical Teachers Training and Research, Chandigarh, Sector 26, Chandigarh - 160019 को प्रेषित की जाती है। Separate Audit Report of the Comptroller & Auditor General of India on the Accounts of the National Institute of Technical Teachers Training and Research, Chandigarh for the year ended 31 March 2024

We have audited the Balance Sheet of the National Institute of Technical Teachers Training and Research, Chandigarh as on 31 March 2024, Income & Expenditure Account and Receipts & Payments Account for the year ended on that date under Section 20(1) of the Comptroller & Auditor General's (Duties, Powers & Conditions of Service) Act, 1971. The audit has been re-entrusted for a period of five years from 2023-24 to 2027-28. These financial statements are the responsibility of the Institute's management. Our responsibility is to express an opinion on these financial statements based on our audit.

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

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

4. Based on our audit, we report that

i) We have obtained all the information and explanations, which to the best of our knowledge and belief were necessary for the purpose of our audit;

ii) The Balance Sheet and Income and Expenditure Account/Receipts and Payments Account dealt with by this Report have been drawn up in the format prescribed by the Ministry of Human Resources Development, Government of India vide order No. 29-4/2012-FD dated 17 April 2015.

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

iv) We further report that:

#### A Income & Expenditure Account

#### A.1 Income

#### Academic Receipts (Schedule 9): ₹ 126.21 lakh

As per the ledger of Academic Receipts, total academic receipts during the year 2023-24 were ₹161.32 lakh. Out of these academic receipts, an expenditure of ₹35.11 lakh was incurred on various academic activities by the Institute. The expenditure amounting to ₹35.11 lakh should have been shown as academic expenses on the expenditure side of Income & Expenditure Account. However, the Institute has netted the expenditure from the academic receipts and has shown ₹ 126.21 lakh (₹161.32 lakh - ₹35.11 lakh) as income under Academic Receipts (schedule 9) in its annual accounts. This has resulted in understatement of Income as well as Expenditure by ₹35.11 lakh.

Similar observation was included in previous Separate Audit Report for the year 2022-23. However, compliance has not been made by the Institute.

#### A.2 Expenditure

# Staff Payments & Benefits (Establishment Expenses) (Schedule 15): ₹ 40.45 crore

Above includes transfer of contribution to Reserve Fund out of Internal Revenue Generation (IRG) amounting ₹ 83.00 lakh. The Institute is maintaining four specific funds (i) Corpus fund, (ii) Faculty Development Fund, (iii) Equipment Replacement Fund and (iv) Maintenance Fund. An amount of ₹ 20.75 lakh was transferred in the each of these funds by the Institute from its IRG. As this amount of ₹83.00 lakh has only been transferred to specific funds, thus, the same did not constitute expenditure and should not have been booked as expenditure in the Income & Expenditure Account: instead this amount of ₹ 83.00 lakh should have been transferred directly from Corpus Fund/General Fund. This has resulted in overstatement of expenditure in the Income & Expenditure by ₹83.00 lakh, resultantly surplus was also understated by ₹ 83.00 lakh.

Similar observation was included the previous Separate Audit Report for the year 2022-23. However, compliance has not been made by the Institute.

# **B** Significant Accounting Policies and Notes to Accounts

# **B.1** Academic receipts

As per the prescribed format of accounts, tuition fee collected separately for each semester should be accounted for on accrual basis. A reference is invited to Accounting Policy at Sl.No. 2 (Schedule 23) which states that accounts have been prepared on accrual basis. However, it has been observed that the Institute is collecting Academic Receipts from its students of semester/spells of various courses in two installments, for the periods of July to December and January to June, respectively.

To comply with accounting policy adopted of accrual basis, academic receipts for the period of April 2024 to June 2024 which were received by the Institute up to 31.03.2024 should have been segregated and shown as Fee Received in Advance on the liability side of the Balance Sheet.

However, the Institute is booking all the academic receipts on receipt basis as income in the Income and Expenditure Account and there is no system to segregate the academic receipts which should not have been booked as income of that respective year. Thus, compliance of the instructions contained in the prescribed format as well as Accounting Policy adopted by the Institute was not made by the Institute.

Similar observation was included the previous Separate Audit Report for the year 2022-23. However, compliance has not been made by the Institute.

# B.2 Assets acquired under the running Sponsored Projects

As per the prescribed format of accounts, assets created out of funds of Sponsored projects where the ownership of such assets vests in the Institution, are to be setup by credit to Capital Fund and merged with the Fixed Assets of the Institution. Depreciation is charged at the rates applicable to the respective assets. Assets created out of Sponsored Project funds, where the ownership is retained by the sponsors but held and used by the Institution are to be separately disclosed in the Notes on Accounts along with the details of notional depreciation thereon.

As per the Fixed Assets Register maintained by the Central Store of the Institute. assets valuing and ₹98.70 lakh and ₹5.90 lakh were purchased out of the funds of Sponsored

Projects during the year 2022-23 and 2023-24, respectively. However, the Institute has disclosed assets amounting to ₹5.65 lakh only in the Notes to Accounts for the year 2023-24. Moreover, the details of notional depreciation, etc have not been disclosed even in respect of the assets amounting to ₹5.65 lakh disclosed in the accounts.

The Institute needs to identify all the assets acquired out of funds of Sponsored projects on the Balance Sheet date and book/disclose the same in the Accounts as per the prescribed format of accounts depending on the terms and conditions set out by the respective sponsoring agencies.

Similar observation was included in the Separate Audit Report for the year 2022-23. However, no compliance has been made.

#### **B.3** Investments

As per the prescribed format of accounts, accounting policy in respect of valuation of Investments has to be disclosed. Accounting Standard 13 issued by the ICAI also requires disclosure of the accounting policies for the determination of carrying amount of investments. However, no such policy has been disclosed by the Institute in the accounts. Further, it must also be ensured that the cost of an investment should include acquisition charges such as brokerage, fees and duties as required by Accounting Standard 13.

Similar observation was included in previous year Separate Audit Report. However, compliance has not been made.

**B.4** The policies regarding Revenue Recognition and income and expenditure from activities such as research were not disclosed in contravention to prescribed format of accounts.

#### C. General

C.1 As per the prescribed format of accounts (page 106), the current year's cash and bank balances under Schedule 7 "Current Assets" should agree with the closing cash and bank balances in the Receipts and Payments Account in the current year. However, it was noticed that bank balances of Sponsored Projects amounting to ₹59.37 lakh shown under Current Assets in Schedule 7 were not shown under bank balances in Receipts and Payments.

**C.2** The balance confirmation of current as well as matured Fixed Deposits in respect of Canara Bank and Punjab National Bank were not provided.

C.3 The Bank Reconciliation Statements of various banks depicted unaccounted income of ₹318.71 lakh as on 31.03.2024 which, though credited by the bank, was not included in the cash book. The Institute neither booked the unaccounted income in the Annual accounts nor disclosed in the Notes to Accounts.

### D. Grant in Aid

(₹ in crore)

Particulars	OH 31	OH35	OH 36	Total
Opening Balance (excluding advances)	11.51	16.82	7.09	35.42
Add: Grant received during the year	3.50	Nil	26.60	30.10
Total funds available	15.01	16.82	33.69	65.52
Less: Utilization during the year	13.43	6.91 <sup>1</sup>	28.08	48.42
Un-utilized balance as on 31.03.2024	1.58	9.91 <sup>2</sup>	5.61	17.10

#### E. Management Letter

Deficiencies which have not been included in the Audit Report have been brought to the notice of the Management, through a management letter issued separately for remedial corrective action.

v) Subject to our observations in the preceding paragraphs, we report that the Balance Sheet, Income & Expenditure Account and Receipts & Payments Account dealt with by this report are in agreement with the books of accounts.

vi) In our opinion and to the best of our information and according to the explanations given to us, the said financial statements read together with the Accounting Policies and Notes on Accounts, and subject to the significant matters stated above and other matters mentioned in Annexure to this Audit Report give a true and fair view in conformity with accounting principles generally accepted in India:

a. In so far as it relates to the Balance Sheet, of the state of affairs of the National Institute of Technical Teachers Training and Research, Chandigarh as at 31 March 2024;

<sup>&</sup>lt;sup>1</sup>Including Advances adjusted during the year amounting to₹ 0.28 crore.

<sup>&</sup>lt;sup>2</sup>Including Outstanding Advances amounting to₹ 1.02 crore.

and

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

For and on behalf of the C & AG of India

Principal Director of Audit (Central), Chandigarh

Place: Chandigarh Date: 29.10.2024

### 1. Adequacy of Internal Audit System

Internal audit was completed up to 2022-23 and internal audit for the year of 2023-24 was under progress.

## 2. Adequacy of Internal Control System

Internal Control was found to be inadequate in view of the following:-

- i. Narrations are not being recorded properly in Tally vouchers as details of receiver/payer, reasons and bill number etc are not being recorded;
- ii. Accounting manual was not prepared.
- iii. Delay in reconciling un-identified receipts received in the bank account.

# 3. System of Physical Verification of Fixed Assets

Physical verification of Fixed Assets (other than library books) for the year 2023-24 was under progress. Physical verification of Library books had been conducted.

# 4. System of Physical Verification of Inventory/Consumables

Physical Verification of inventory was not conducted.

# 5. Regularity in payment of Statutory Dues

The Institute was regular in deposing statutory dues.

**Deputy Director** 



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