

**PAPERS TO BE LAID ON THE TABLE OF  
LOK SABHA / RAJYA SABHA**

**ANNUAL REPORT & ANNUAL ACCOUNTS 2020-21**



**(AUTHENTICATED)**

**MINISTER OF STATE IN THE MINISTRY OF EDUCATION,  
GOVERNMENT OF INDIA,  
NEW DELHI**

**Dated:-**

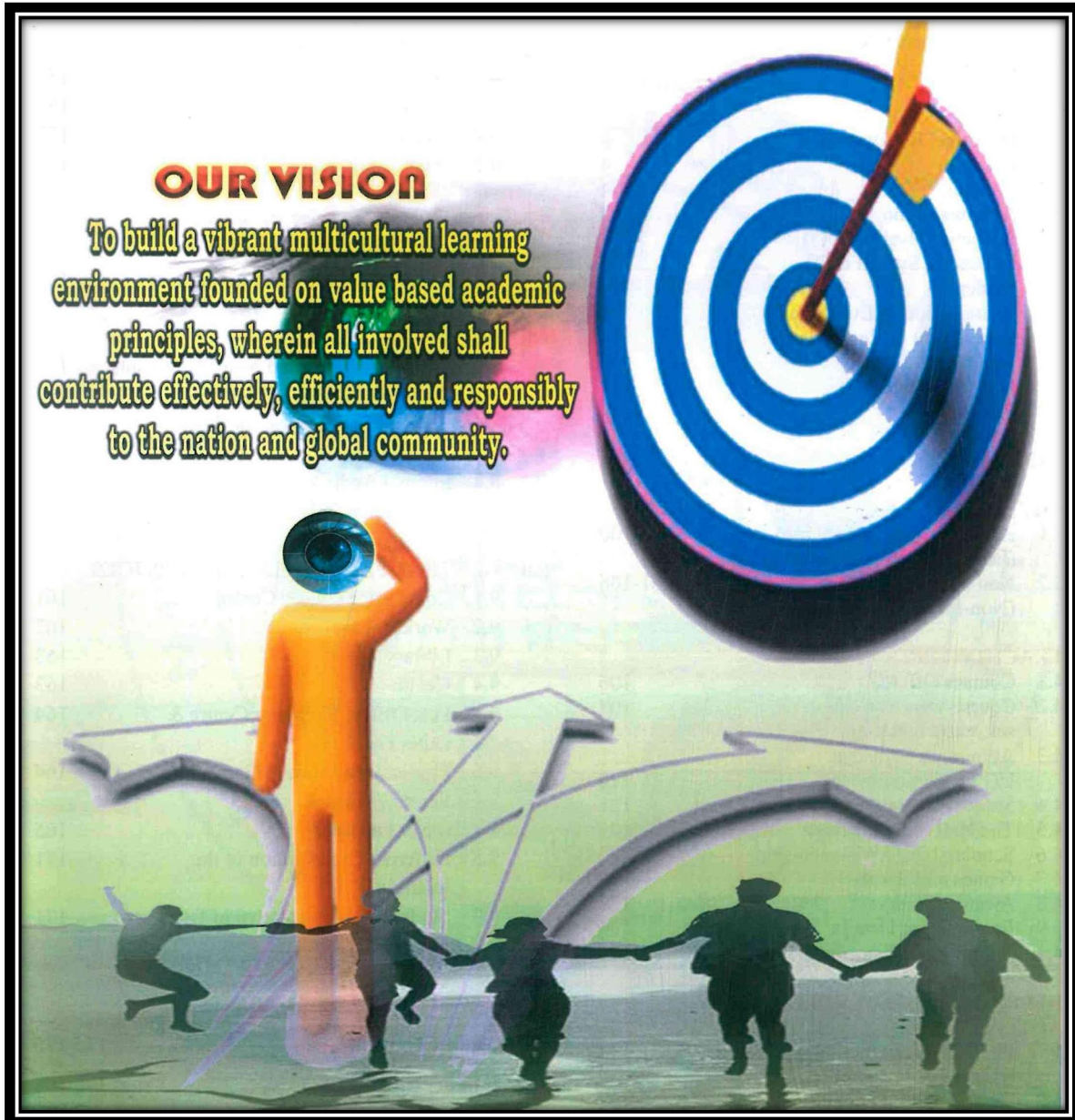
**NATIONAL INSTITUTE OF TECHNOLOGY  
HAMIRPUR (H.P) - 177005**



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## 1.0 Introduction

### 1.1 Vision





## 1.2 Mission

- To achieve academic excellence in engineering, technology, architecture and science by imparting quality and value based education.
- To inspire our students to become responsible citizens and competent professionals with high ethical values.
- To meet the expectations of technical human resource at national and international level.

## 1.3 Goals

**To realize the vision and mission of the Institute following goals are set.**

- Attracting best talent and collaborate globally
- Advance frontiers of knowledge
- Build world class infrastructure to support multi/inter/trans disciplinary research.
- Enhance engagement with Society and Industry
- To take initiatives to achieve financial sustenance
- Outreach activities of National and International level
- To be among top 40 in NIRF ranking of Engineering Institutes
- To develop eco-friendly and green campus
- To continuously evaluate and improve programmes, services and policies

## 1.4 Core Values

The core values adopted by the Institute as enduring principles are Integrity, Excellence, Unity, Accountability, Inclusivity and Empathy.

**Integrity:** To be honest in intension, fair in evaluation, transparent in deeds and adhere to highest standards of ethics in all its activities.

**Excellence:** An unfailing commitment for continuous Improvement and passion to innovate in an environment, encompassing best practices where achievement and merit is duly recognized and acknowledged.

**Unity:** Capacity building through trust in other's abilities and cultivating respect for others as cornerstone of collective efforts.

**Accountability:** To be accountable to the people of India (Through NIT Council and BOG) and all stake holders for the funds it receives from Govt. of India.

**Inclusivity:** No one left behind, no one ignored and decimated, none forgotten in the resolve for nation building through higher learning.

**Empathy:** To identify due space to the problems faced by weaker sections of the society in Research and Educational programmes of the institute.

## **2.0 AN OVERVIEW**

### **2.1 HISTORICAL BACKGROUND**

National Institute of Technology Hamirpur is one of the thirty-one NITs of the country, which came into existence on 7<sup>th</sup> August 1986 as Regional Engineering College, a joint and cooperative enterprise of the Govt. of India and Govt. of Himachal Pradesh.

On 26<sup>th</sup> June 2002, REC Hamirpur was awarded the status of Deemed University and upgraded to National Institute of Technology. NIT Hamirpur is an institute of National importance set up by an act of Parliament namely the National Institute of Technology Act 2007 which received the accent of the President of India on 5<sup>th</sup> June, 2007. The provisions of Act came into force with effect from 15<sup>th</sup> August, 2007 as per notification S.O. 1384 (E) dated 9<sup>th</sup> August, 2007 of the Department of Higher Education, MHRD, New Delhi.

The goals of the Institute as embodied in logo are truly remarkable in their scope and vision. The Institute offers Bachelor, Master and Doctoral programmes in Engineering, Sciences, Architecture, Management and Humanities. The Institute spares no effort to foster the spirit of national integration among students, a close interaction with industry and laying strong emphasis on research. The institute has the flexibility to evolve and change in response to requirements of the Industry and happenings in technical world. Various programmes serve the purpose of building a comprehensive foundation of knowledge and of enhancing confidence, creativity and innovation in its students.

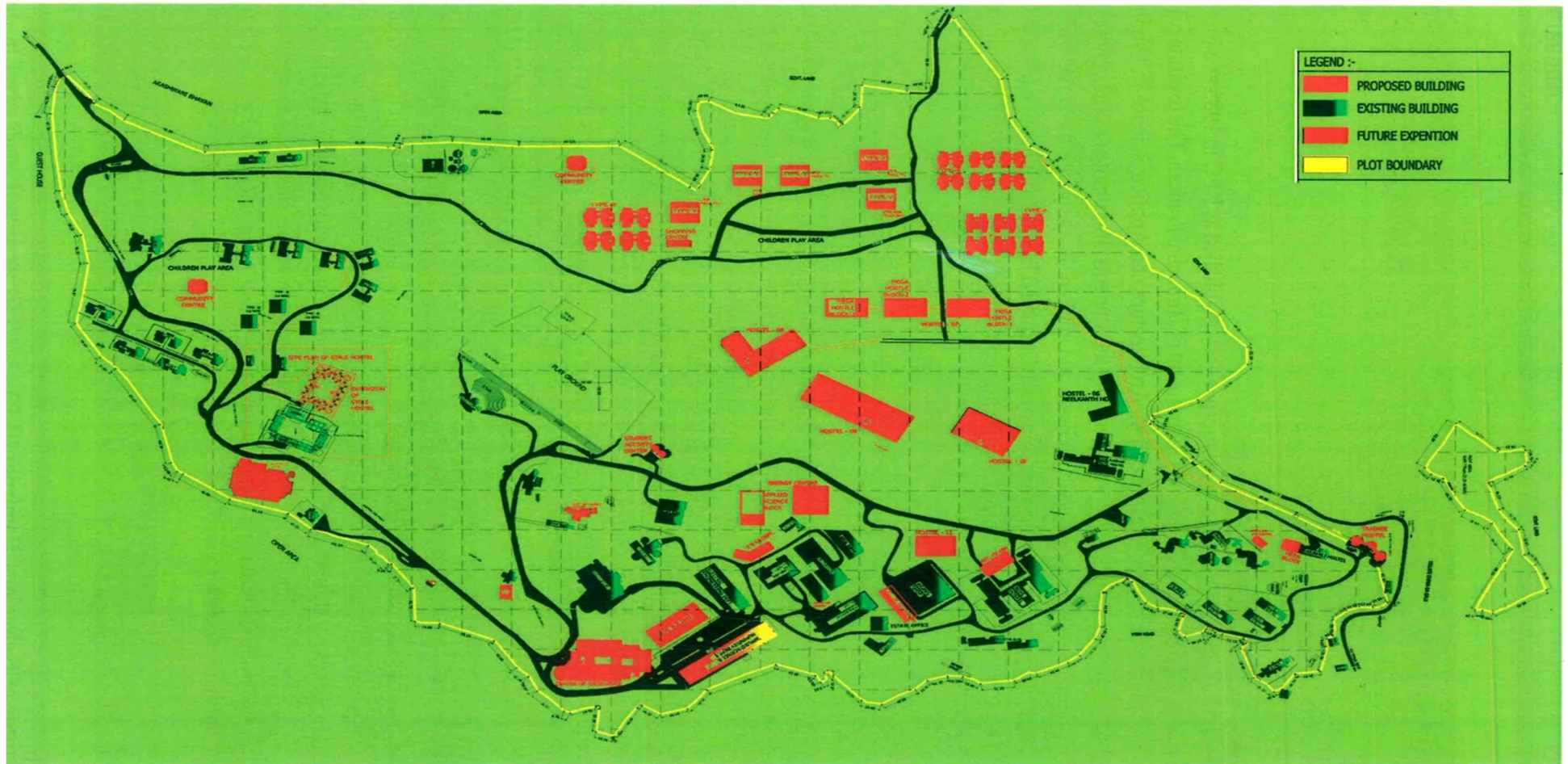
### **2.2 LOCATION**

The Institute campus is located on Hamirpur-Awah Devi Road on the outskirts of the Hamirpur town, at a distance of about four (04) kilometer from the bus stand Hamirpur. It is well connected by road from Shimla, Dharmashala, Delhi, Chandigarh, Jalandhar and nearby cities by all weather road. The nearest broad gauge head is at Una (Himachal Pradesh), which is eighty (80) kilometer from Hamirpur. It is about nine hours' journey by train from Old Delhi to Una and frequent bus services are available from Una to Hamirpur. From Hamirpur bus stand to NIT Campus, taxi services are also available. The nearest airport is at a distance of about eighty five (85) kilometer at Gaggal Kangra at Dharamshala and has direct airlink from Delhi and Chandigarh.

### **2.3 CAMPUS**

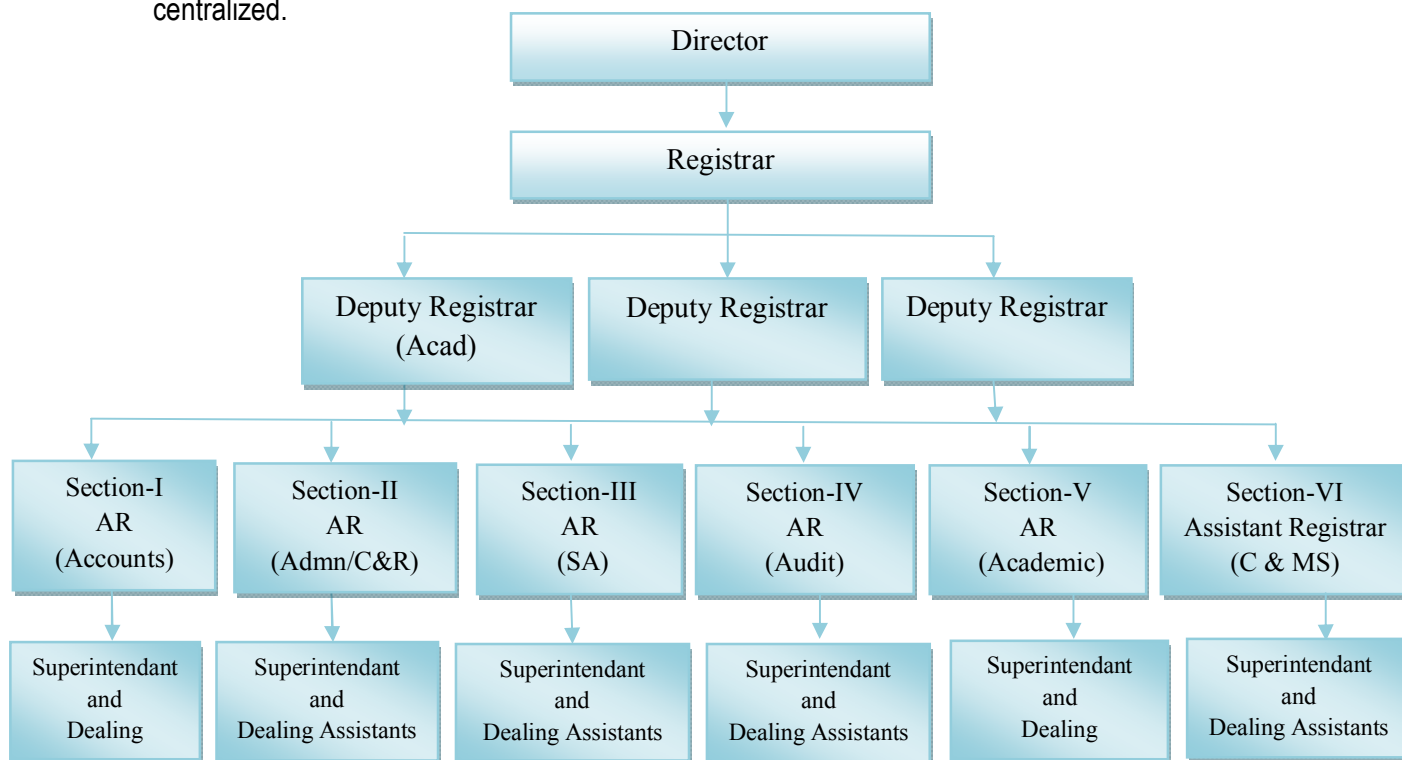
The campus has an area of 177.1 Acres in the picturesque surrounding with lush green pine trees, facing snow clad Dhauladhar mountain ranges. The place has healthy climate with moderate temperature ranging from 4° to 40° at an altitude of 900 meter. It presents a spectacle of harmony in architecture and natural beauty. The land for the Institute has been acquired from the State Government and on this various instructional, administrative, residential buildings, hostels and students' activity centres, openair theatre, auditorium etc. have been constructed.

## Campus Site Plan



## 2.4 ADMINISTRATION

The Director of the Institute is the Principal Academic and Chief Executive Officer and is responsible for proper Administration under the supervision of Board of Governors. He is assist in day-to-day work by the Deans, HODs, Registrar and other Officers and Committee Coordinators of the Institute. The system has been made fully transparent & powers and responsibilities have been abdicated and decentralized.



## 2.5 Academic Section

The office of the Dean (Academic), called the Academic Section, is responsible for the implementation of the decisions taken on academic matters by the SENATE and other Academic bodies. Its functions are as follows:

- i. Receives, processes and maintains all records relating to Bachelor, Master and Doctoral Programmes including curricula, courses offered, academic calendar, registration, leave, examinations, grades and award of degrees and prizes.
- ii. Disseminates information pertaining to all relevant academic matters.
- iii. Issues necessary Memoranda/Orders related to Academics.
- iv. Acts as a channel of communication between the students, Departments and other Academic bodies of the Institute.

Academic Section also assists the Academic bodies and its subcommittees in their functioning. Dean (Academic) is the main functionary who ensures the smooth functioning of the academic programmes as approved by the SENATE, executes the policies and decisions of the SENATE and other Academic bodies, and ensures that all records and files are maintained.



## 2.6 Academic Departments

The Institute has following Academic Departments:

Sr. No.	Name of Department/Centre
1.	Civil Engineering
2.	Electrical Engineering
3.	Mechanical Engineering
4.	Electronics & Communication Engineering
5.	Computer Science & Engineering
6.	Chemical Engineering
7.	Architecture
8.	Mathematics & Scientific Computing
9.	Physics & Photonics Science
10.	Chemistry
11.	Management Studies
12.	Humanities & Social Sciences
13.	Materials Science & Engineering

## 2.7 Academic Session and Academic Calendar

### Academic Session

The Academic Session of the Institute is divided into two semesters each of approximately eighteen weeks duration.

The semester timeline is defined in the Academic Calendar and is broadly the following:

**Semester I (Odd Semester):** July to December.

**Semester II (Even Semester):** January to June.

Each regular semester (odd and even) shall be for thirteen weeks for academic instructions. Generally, the last two weeks of each semester shall be earmarked for the End Semester Examination (ESE) and one week during the semester for Mid Semester Examination (MSE).

### Academic Calendar

The exact dates of all the important events, such as orientation, registration, late registration, commencement and end of the classes, submission of documents, examinations, submissions of grades, vacation, mid-semester break, etc., during the Academic Session shall be specified in the Academic Calendar of the Institute. The SENATE shall approve the Academic Calendar prior to start of each Academic Session.

## 2.8 Programmes Offered

The Institute offers undergraduate, postgraduate and doctoral programmes in various academic Departments/Centres leading to the award of degree of B.Tech., B.Arch., Dual Degree, M.Tech., MBA, MSc and Ph.D. in the disciplines of Engineering, Architecture, Sciences, Social Sciences and Management.

### 2.8.1 UG Programmes

The following UG Programmes are offered:

**B.Tech. Programmes (8 Semesters)**

1. Chemical Engineering
2. Civil Engineering
3. Computer Science and Engineering
4. Electrical Engineering
5. Electronics and Communication Engineering
6. Materials Science and Engineering
7. Mechanical Engineering
8. Mathematics & Computing
9. Engineering Physics

**Dual Degree Programmes (10 Semesters)**

1. Computer Science and Engineering
2. Electronics and Communication Engineering

**B.Arch. Programme (10 Semesters)**

1. Architecture

**2.8.2 PG Programmes**

The following PG Programmes are offered:

**M.Tech./M.Arch. Programmes (04 Semesters)**

SNo	Name of Courses/Programmes (M.Tech/M.Arch)	
1.	Civil Engineering	Geotechnical
		Structures
		Transportation
		Water Resources
		Environment
2.	Electrical Engineering	Power System
		Signal Processing & Control
		Condition Monitoring of Power Apparatus
3.	Mechanical Engineering	Thermal
		Design
		Manufacturing
		Energy Technology
4.	Electronics & Communication Engineering	Communication Systems & Networks
		VLSI Design
5.	Computer Science & Engineering	Computer Science & Engineering
		Artificial Intelligence
6.	Architecture	M. Arch., Sustainable Architecture
7.	Materials Science & Engineering	Materials Science & Engineering
8.	Chemical Engineering	Chemical Engineering

**MSc Programmes (04 Semesters)**

1. Physics
2. Chemistry
3. Mathematics & Computing

**MBA Programmes (04 Semesters)**

Master of Business Administration programme is offered by the Department of Management Studies.

**2.8.3 PhD Programmes**

The Ph.D. programmes are offered by the following Departments in various areas of research specialization:

SNo	Department	Area of Research
1.	Architecture	Architecture, Planning
2.	Civil Engineering	Water Resources, Environment Engineering, Remote Sensing, Geotechnical Engineering & Geology, Structural & Transportation Engineering
3.	Computer Science & Engineering	Networking, Artificial Intelligence, Information Security
4.	Electronics & Communication Engineering	Communication and Networks, VLSI Design, RF and Microwave
5.	Electrical Engineering	Power System, Signal Processing & Control, Instrumentation, Power Electronics & Drives, High Voltage Engineering
6.	Mechanical Engineering	Design, Thermal, Production & Industrial, Energy Technology
7.	Chemical Engineering	Computational Fluid Dynamics, Electrochemical Engineering, Biochemical & Bioprocess Engineering
8.	Materials Science & Engineering	Polymer Matrix Composites/Nanocomposites, Physical/Mechanical Metallurgy, Functional Oxide Materials (Ceramic/Thin Films/Nanoparticles)
9.	Chemistry	Organic Chemistry, Inorganic Chemistry, Physical Chemistry
10.	Physics & Photonics Science	Condensed Matter Physics, Nuclear Physics, High Energy Physics
11.	Mathematics & Scientific Computing	Pure Mathematics, Applied Mathematics, Statistics
12.	Management Studies	Management
13.	Humanities & Social Sciences	Economics, Sociology, Psychology, Behavioural and Social Sciences

**2.9 Admissions**

Number of students admitted during 2020-21 are as follows:

Programme	Number of Students Admitted
UG Programmes (B.Tech./B.Arch./Dual Degree)	938+2 (MEA)*=940
PG Programmes (M.Tech./M.Arch./MSc/MBA)	380
PhD Programmes	44

\*Ministry of External Affairs

**Number of students registered ( For all Semesters) in different programmes are:**

Programme	Number of Students Registered
B.Tech.	2590
B.Arch.	220
Dual Degree	539
M.Tech.	488
M.Arch.	28
MSc.	116
MBA	32
PhD	267
<b>Total</b>	<b>4280</b>

### 2.9.1 UG Programmes

The admissions to various UG Programmes (B.Tech., B.Arch. and Dual Degree) are made once in a year normally during June-July. The admission details (2020-21) are as under:

SNo	Programme	Sanctioned Intake	Actual Admission
<b>B.Tech. Programmes</b>			
1.	Chemical Engineering	76	76
2.	Civil Engineering	123	122
3.	Computer Science and Engineering	124	124 + 1 MEA
4.	Electrical Engineering	125	125
5.	Electronics and Communication Engineering	117	117
6.	Mechanical Engineering	125	123 + 1 MEA
7.	Materials Science and Engineering	40	38
8.	Mathematics & Computing	50	50
9.	Engineering Physics	50	50
<b>Dual Degree Programmes</b>			
1.	Computer Science and Engineering	28	28
2.	Electronics and Communication Engineering	28	27
<b>B.Arch. Programme</b>			
1.	Architecture	58	58

### 2.9.2 PG Programmes

The admission to PG programmes are made once in an academic year in the beginning of Odd Semester. The students admitted in various PG programmes during 2020-21 are as follows:

SNo	M.Tech./M.Arch. Programme	Sanctioned Intake	Actual Admission
1.	Geotechnical	19	19
2.	Structures	19	19
3.	Transportation	19	19
4.	Water Resources	19	19
5.	Environment	19	17
6.	Power System	19	18
7.	Signal Processing & Control	19	18
8.	Condition Monitoring of Power Apparatus	19	18
9.	Thermal	19	17
10.	Design	19	17
11.	Manufacturing	19	14
12.	Energy Technology	19	09
13.	Communication Systems & Networks	19	17

14.	VLSI Design	19	17
15.	Computer Science & Engineering	19	16
16.	Artificial Intelligence	19	18
17.	M. Arch., Sustainable Architecture	19	19
18.	Materials Science & Engineering	19	06
19.	Chemical Engineering	19	02

SNo	MSc Programme	Sanctioned Intake	Actual Admission
1.	Physics	25	18
2.	Chemistry	25	22
3.	Mathematics & Computing	25	22

SNo	MBA Programme	Sanctioned Intake	Actual Admission
1.	Master of Business Administration	40	19

### 2.9.3 PhD Programmes

The admissions to the PhD programmes are made in either or both of the two regular semesters as per decision of SENATE from time to time. Admission shall normally be made in May-June for the Odd Semester and in November-December for the Even Semester. The number of students admitted during 2020-21 in various Departments are as follows:

SNo	Department	Candidates Admitted with MHRD Fellowship	Candidates Admitted Under Other Schemes
1.	Architecture	-	08
2.	Civil Engineering	-	02
3.	Computer Science & Engineering	-	06
4.	Electronics & Communication Engineering	-	03
5.	Electrical Engineering	-	03
6.	Mechanical Engineering	-	04
7.	Chemical Engineering	-	02
8.	Materials Science & Engineering	-	-
9.	Chemistry	-	-
10.	Physics & Photonics Science	-	02
11.	Mathematics & Scientific Computing	-	03
12.	Management Studies	-	06
13.	Humanities & Social Sciences	-	05

### 2.10 Results

The summary of results is as follows:

Programme	Students Passed in 2020-21
UG Programmes (B.Tech./B.Arch./Dual Degree) [Final Year]	612
PG Programmes (M.Tech./M.Arch./MSc/MBA) [Final Year] (183+43+23)	249
PhD Programmes	21

The results of various programmes are as follows:



## 2.10.1 UG Programmes

Sr. No.	Programme	Students Admitted in 2016-17	Students Passed in 2020-21
<b>B.Tech. Programmes</b>			
1.	Chemical Engineering	50	47
2.	Civil Engineering	90	86
3.	Computer Science and Engineering	94	87
4.	Electrical Engineering	87	85
5.	Electronics and Communication Engineering	94	88
6.	Mechanical Engineering	94	87
<b>Dual Degree Programmes</b>			
		Students Admitted in 2015-16	Students Passed in 2020-21
1.	Computer Science and Engineering	53	50
2.	Electronics and Communication Engineering	54	48
<b>B.Arch. Programme</b>			
1.	Architecture	41	34
<b>Total</b>		<b>657</b>	<b>612</b>

## 2.10.2 PG Programmes

Sr. No.	M.Tech./M.Arch. Programme	Students Admitted in 2018-19	Students Passed in 2020-21
1.	Geotechnical Engineering & Under Ground Structures	15	11
2.	Structural Engineering	15	12
3.	Transportation Systems Engineering	14	11
4.	Water Resources Engineering	13	11
5.	Power System	14	14
6.	Signal Processing & Control	13	10
7.	Condition Monitoring, Control & Protection of Electrical Apparatus	11	10
8.	Thermal Engineering (Computational Fluid Dynamics and Heat Transfer)	14	12
9.	CAD-CAM	13	13
10.	VLSI Design Automation & Techniques	12	12
11.	Communication Systems & Networks	05	05
12.	Computer Science & Engineering	13	10
13.	Mobile Computing	08	07
14.	M.Arch. in Sustainable Architecture	10	08
15.	Material Science & Engineering	12	12
16.	Energy Technology	13	10
17.	Environmental Engineering	15	13
18.	Chemical Engineering	02	02
<b>Total</b>		<b>212</b>	<b>183</b>

SNo	MSc Programme	Students Admitted in 2018-19	Students Passed in 2020-21
1.	Physics	17	16
2.	Chemistry	14	13
3.	Mathematics & Computing	15	14
<b>Total</b>		<b>46</b>	<b>43</b>

SNo	MBA Programme	Students Admitted in 2018-19	Students Passed in 2020-21
1.	Master of Business Administration	25	23

### 2.10.3 PhD Programmes

SNo	Department	PhDs Awarded
1.	Architecture	01
2.	Civil Engineering	06
3.	Computer Science & Engineering	01
4.	Electronics & Communication Engineering	02
5.	Electrical Engineering	02
6.	Mechanical Engineering	06
7.	Chemical Engineering	-
8.	Materials Science & Engineering	-
9.	Chemistry	01
10.	Physics & Photonics Science	01
11.	Mathematics & Scientific Computing	-
12.	Management Studies	-
13.	Humanities & Social Sciences	01
<b>Total</b>		<b>21</b>

## AWARD AND MEDALS

### MEDALS

#### DIRECTOR MEDAL TO THE BEST ALL ROUNDER

Roll No.	Name	Department
16504	Krishna Mehra	Computer Science & Engineering

#### GOLD MEDAL TO 1<sup>ST</sup> BRANCH TOPPERS B.TECH./ DUAL DEGREE/B.ARCH.

Roll No.	Name	Branch
16139	Sajid Mannan	Civil Engineering
16268	Vaibhav Dwivedi	Electrical Engineering
16371	Garvit Gupta	Mechanical Engineering
16451	Astha Agarwal	Electronics & Communication Engineering
15MI445	Animesh Shrivastava	Electronics & Communication Engineering (Dual Degree)
16504	Krishna Mehra	Computer Science & Engineering
15MI506	Nimit Bhardwaj	Computer Science & Engineering (Dual Degree)
16725	Ravindra Singh	Chemical Engineering
15607	Nalini Sharma	Architecture

#### GOLD MEDAL TO 1<sup>ST</sup> BRANCH TOPPERS M.TECH./DUAL DEGREE/ M.ARCH./MSC/MBA

Branch	Specialization	Name	Roll No.
Civil Engineering	Geotechnical Engineering & Under Ground Structure	Ashok Chhimpa	18M103
	Structural Engineering	Anurag Gupta	18M121
	Transportation Systems Engineering	Sourabh Thakur	18M141

	Water Resources Engineering	Ankush	18M165
	Environmental Engineering	Ashok Kumar	18M729
<b>Electrical Engineering</b>	Power System	Himani Mattoo	18M205
	Condition Monitoring Control & Protection of Electrical Apparatus	Joel S	18M252
<b>Mechanical Engineering</b>	Thermal Engineering (CFD & HT)	Shubham Silswal	18M301
	Energy Technology	Gajendera Singh Negi	18M711
<b>Electronics &amp; Communication Engineering</b>	VLSI Design Automation & Techniques	Pawan Kumar Pandey	18M412
	Communication System & Networks	Neha Verma	18M428
	Electronics & Communication Engineering (Dual Degree)	Animesh Shrivastava	15MI445
		Voleti Bhargav	15MI453
<b>Computer Science &amp; Engineering</b>	Computer Science & Engineering	Shivam Kainth	18M509
	Mobile Computing	Riya	18M530
	Computer Science & Engineering (Dual Degree)	Arzoo	15MI524
		Sakshi Pushkar	15MI548
<b>Materials Science &amp; Engineering</b>	Materials Science & Engineering	Anindya Khamaru	18M611
<b>Master of Architecture</b>	Architecture	Neethulakshmi B	18M806
<b>Management Studies</b>	MBA	Neha Thakur	18M915
<b>Master of Science</b>	Chemistry	Tanya Gupta	18MSCC006
		Sakshi Sahiwal	18MSCC011
	Mathematics & Computing	Anjali Rathee	18MSCM015
	Physics	Praveen Kumar	18MSCP008

**SILVER MEDAL TO 2<sup>ND</sup> BRANCH TOPPERS B.TECH./DUAL DEGREE/B.ARCH.**

Roll No.	Name	Branch
16126	Anish Kumar Soni	Civil Engineering
16262	Amit Sharma	Electrical Engineering
16321	Md. Imran	Mechanical Engineering

16402	Sarthak Jain	Electronics & Communication Engineering
15MI420	Apoorva Jha	Electronics & Communication Engineering (Dual Degree)
16559	Ananyashree	Computer Science & Engineering
15MI548	Sakshi Pushkar	Computer Science & Engineering (Dual Degree)
16748	Nishant Gupta	Chemical Engineering
15611	Neeraj Choudhary	Architecture

### 2.11 Placement:

The Training & Placement Cell was established in this Institute in the year 1995. Since then lot of activities are being conducted within the ambit of this cell for the benefit of the students and faculty.

### 2.12 Games & Sports:

National Institute of Technology, Hamirpur is one of the premier technical institutes in Northern India. The Institute presently provides sports facilities for both indoor and outdoor activities. A standard size stadium with the provision of pavilion has been provided to the students where the games like Cricket, Football, Hockey, Basket Ball, Lawn Tennis and Athletics are played. The facilities of separate Basket ball and lawn tennis court with the provision of flood lights have also been provided to our students. We have got the provision of indoor hall for Badminton and other indoor games and gymnasium facilities with latest physical fitness machines for both boys and girls separately. The facilities of Billiards and pool table for our students and staff have also been provided:





**2.13. Staff Position:****2.13.1 Faculty**

<b>Total Faculty 2020-21</b>													
Name of Department	Professor			Associate Professor			Assistant Professor			Total faculty in position			
	Sanctioned Strength	In Position	Total	Sanctioned Strength	In Position	Total	Sanctioned Strength	In Position	Total				
DoCE	37	03	03	74	05	05	150	15	15	23			
DoEE		04	04		06	06		09	09	19			
DoME		04	04		08	08		13	13	25			
DoCSE		01	01		06	06		15	15	22			
DoECE		02	02		05	05		19	19	26			
DoARCH		02	02		01	01		08	08	11			
DoMSC		02	02		02	02		09	09	13			
DoPPS		02	00		05	05		00	00	05			
DoCHE		00	01		02	02		04	04	07			
DoHSS		01	01		02	02		03	03	06			
DoMSE		01	01		01	01		04	04	06			
DoPHY		00	00		01	01		00	00	01			
DoCHE		00	00		00	00		10	10	10			
DoMS		00	00		00	00		06	06	06			
<b>Total</b>			<b>21</b>		<b>21</b>			<b>44</b>	<b>44</b>		<b>115</b>	<b>115</b>	<b>180</b>

**2.13.2 Head of the Institute :**

Sr. No.	Name of the post	Sanctioned strength	In position
1	Director	01	01
	<b>Total</b>	<b>01</b>	<b>01</b>

**Academic Staff:**

Sr. No.	Name of the post	Sanctioned strength	In position
1	Professor	37	21
2	Associate Professor	74	44
3	Assistant Professor	150	115
	<b>Total</b>	<b>261</b>	<b>180</b>

**2.13.3 (A) Officers:**

Sr. No.	Name of the Post	Sanctioned Strength	In Position
1.	Registrar	01	01*
2.	Deputy Registrar	03	01
3.	Assistant Registrar	07	07
4.	Executive Engineer	01	00
5.	Engineer	02	01**
6.	Assistant Librarian	02	02*
7.	Sr. Medical Officer	01	00
8.	Medical Officer	01	01
9.	Sr. Scientific/Technical Officer	04	02
10.	Scientific/Technical Officer	04	01
	<b>Total</b>	<b>26</b>	<b>16</b>

\* Officiating

\*\* On deputation/Lien = One each on deputation/lien.

**B .Technical Higher:**

Sr. No.	Name of the Post	Sanctioned Strength	In Position
1	Technical Assistant/ Junior Engineer/ SAS Assistant/Sr. Pharmacist	31	01
2	Sr. Technical Assistant/ Assistant Engineer/ Sr. SAS Assistant/ Pharmacist SG-II	23	05
3	Technical Assistant (SG –II) Assistant Executive Engineer SAS Assistant (SG-II)/Pharmacist SG-I	16	08
4	Technical Assistant (SG-I) Executive Engineer, SAS Assistant (SG-I)	08	07
	<b>Total</b>	<b>78</b>	<b>21</b>

**C Technical Lower:**

Sr. No.	Name of the Post	Sanctioned Strength	In Position
1	Technician , Lab. Assistant, Work Assistant, Driver	31	04
2	Sr. Technician, Sr. Lab Assistant, Sr. Work Assistant	23	06
3	Technician (SG-II), Lab Assistant (SG-II), Work Assistant (SG-II), Pharmacist	16	15
4	Technician (SG-I), Lab Assistant(SG-I), Work Assistant (SG-I)	08	05
	<b>Total</b>	<b>78</b>	<b>30</b>

**D Administrative/Stenographer (Higher):**

Sr. No.	Name of the Post	Sanctioned Strength	In Position
1	Superintendent/ Accountant/ PA	09	02
2	Sr. Superintendent/Sr. PA	06	06
3	Superintendent SG-(II)/ PS	04	03
4	Superintendent SG-(I)/ Private Secretary	02	00
	<b>Total</b>	<b>21</b>	<b>11</b>

**E Administrative/Stenographer (Lower):**

Sr. No.	Name of the Post	Sanctioned Strength	In Position
1	Jr. Assistant	18	03
2	Sr. Assistant/ Stenographer	13	07
3	Assistant(SG-II) / Sr. Stenographer	09	09
4	Assistant (SG-I)/ Stenographer (SG-II)	04	08
5	Stenographer (SG-I)	01	02
	<b>Total</b>	<b>45</b>	<b>29</b>

**F Supporting Staff:**

Sr. No.	Name of the Post	Sanctioned Strength	In Position
1	Attendant/ Security Guard/ Mali/ Care Taker (Higher Scale)	16	--
2	Sr. Attendant/ Security Guard/ Mali/ Care Taker	12	20
3	Attendant/ Security Guard/ Mali/ Care Taker (SG-II)	08	23

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4	Attendant/ Security Guard/ Mali/ Care Taker (SG-I)	03	08
	<b>Total</b>	<b>39</b>	<b>51</b>
	<b>Total (A to F)</b>	<b>287</b>	<b>158</b>

**2.13.4 TEMPORARY FACULTY 2020-21 :-**

<b>S.NO.</b>	<b>Name of Temporary Faculty</b>	<b>Department</b>	<b>Date of Joining</b>
1.	Ms. Vishakha Verma	DoARCH	13.01.2020
2.	Ms. Bhavna	DoHSS	17.01.2020
3.	Dr. Navneet Singh	DoPPS	22.09.2020
4.	Dr. Varun	DoPPS	25.09.2020
5.	Dr. Ruchi Sharma	DoHSS	17.09.2020
6.	Dr. Pratima Mishra	DoMS	21.09.2020
7.	Dr. Priyanka	DoCHE	21.09.2020
8.	Dr. Pushpender Kumar	DoCSE	21.09.2020
9.	Mr. Jitendra Singh	DoARCH	24.09.2020
10.	Dr. Sumeet Kumar	DoMSE	24.09.2020
11.	Dr. Brij Kishor	DoMSE	25.09.2020
12.	Dr. Sunil Kumar	DoMSE	25.09.2020
13.	Dr. Pavan Kumar Katiyar	DoMSE	25.09.2020
14.	Dr. Praveen Kumar Jha	DoCHY	25.09.2020
15.	Dr. Pankaj	DoARCH	18.02.2021
16.	Ar. Kriti Dhingra	DoARCH	17.02.2021
17.	Dr. Rajneesh Sharma	DoCE	12.02.2021
18.	Dr. Monalisha Nayak	DoCE	17.02.2021
19.	Dr. Tripti Ahuja	DoCHY	02.03.2021
20.	Dr. Mohammad Ahsan	DoCSE	26.02.2021
21.	Dr. Parikshit Saikia	DoCSE	17.02.2021
22.	Dr. Somnath Dey	DoME	18.02.2021
23.	Dr. Subhajit Saha	DoMSC	16.02.2021
24.	Dr. Shivani	DoMSC	12.02.2021
25.	Dr. Sumit Koul	DoMSC	12.02.2021
26.	Dr. Abhijit Ojha	DoMSE	01.03.2021
27.	Dr. Krishna Manwani	DoMSE	17.02.2021
28.	Dr. Apoorva Dwivedi	DoECE	15.02.2021
29.	Dr. Akanksha Shukla	DoEE	15.02.2021
30.	Dr. Saurabh Shukla	DoEE	18.02.2021
31.	Dr. Ajay Kumar	DoEE	23.02.2021
32.	Dr. Tulsi Anna	DoPPS	02.02.2021
33.	Dr. Yasina Rajkumari	DoHSS	02.12.2021

**2.13.5 Faculty relieved after 5 Years of tenure:-**

S.No.	Name of Faculty & Designation	Department	Date of Relieving
1.	Dr. Manisha Sharma, Assistant Professor	Department of Electrical Engineering	Relived after 5 Years of Tenure
2.	Dr. Chandrasekran S Assistant Professor	Department of Electrical Engineering	Relived after 5 Years of Tenure
3.	Dr. Santosh Bhaulal Bopche Assistant Professor	Department of Mechanical Engineering	Relived after 5 Years of Tenure
4.	Dr. Anuradha Assistant Professor	Department of Electronics and Communication & Engineering	Relived after 5 Years of Tenure
5.	Lokesh Chauhan Assistant Professor	Department of Computer Science & Engineering	Relived after 5 Years of Tenure
6.	Dr. Leela Manohar Aeshala Assistant Professor	Department of Chemical Engineering	Relived after 5 Years of Tenure
7.	Dr. Rajesh Kumar Sharma Assistant Professor	Department of Mathematics & Computing Science Engineering	Relived after 5 Years of Tenure
8.	Dr. Abhishek Engineering Assistant Professor	Department of Mathematics & Computing Science Engineering	Relived after 5 Years of Tenure
9.	Dr. Talari Ganesh Assistant Professor	Department of Mathematics & Computing Science Engineering	Relived after 5 Years of Tenure
10.	Dr. Jaibir Kherb Assistant Professor	Department of Chemistry	Relived after 5 Years of Tenure
11.	Dr. Vikram Verma Assistant Professor	Department of Material Science & Engineering	Relived after 5 Years of Tenure

**2.13.6 Relieved /Expired:**

S.No.	Name of Faculty & Designation	Department	Date of Relieving
1.	Dr. Priyadarshi Biplab Kumar Assistant Professor (Contract)	Department of Mechanical Engineering	Expired on 07.09.2020
2.	Dr. Arpita Saha Assistant Professor (Contract)	Department of Civil Engineering	Resigned on 23.07.2020

**2.13.7 Retiree Faculty:-**

S.No.	Name of Faculty & Designation	Department	Date of Relieving
1.	Dr. Saroj Thakur Associate Professor	Department of Humanities & Social Science	Retired on 31.03.2021

**2.13.8 Faculty on Lien (EOL/Deputation/Study Leave/QIP)**

<b>S.No.</b>	<b>Name of Faculty</b>	<b>Department</b>	<b>Designation</b>
1.	Dr. Yog Raj Sood	Department of Electrical Engineering	Professor HAG
2.	Dr. R.K. Sehgal	Department of Mechanical Engineering	Professor
3.	Dr. Manoj Sharma	Department of Humanities & Social Science	Assistant Professor Gr-I

**2.13.9 New Appointment:**

<b>S.No.</b>	<b>Name of Faculty &amp; Designation</b>	<b>Department</b>	<b>Date of Joining</b>
1.	Dr. Mohit Kumar Assistant Professor (Contract)	Department of Computer Science & Engineering	08.06.2020
2.	Dr. Supriya Jaiswal Assistant Professor (Contract)	Department of Electrical Engineering	24.06.2020



## 3.1 DEPARTMENT OF CHEMICAL ENGINEERING



### 1. ACADEMIC STAFF:

**Head of the Department:** Dr. Tapas Palai

**Faculties:**

Professor	Associate Professor	Assistant Professor	Guest faculty
-----	--	1. Dr. Radhe Shyam 2. Dr. Tapas Palai 3. Dr. Alok Garg, 4. Dr. Subhajit Majumder 5. Dr. Arvind Kumar Gautam 6. Dr. Tara Chand Kumawat 7. Dr. Pooja Thakur 8. Dr. Smita Mondal (Relieved on 31/03/2021) 9. Dr. Rahul Saha	1. Dr. Praveen Kumar Jha

**Technical Staff:**

1. Mr. Subhash Chand (On outsourcing basis)
2. Mrs. Praveen Kumari (On outsourcing basis)

**Ministerial Staff:**

1. Mrs. Surindra Verma, ASG-I

## 2. Mr. Ashok Kumar, Attendant

**2. DISTINCTION ACHIEVED:**

- Dr. Arvind K. Gautam: Research Excellence Award, by ICS Kolkata, India in RTCS-2020 Conference
- Dr. Arvind K. Gautam: Best Paper Award, by NIT Jalandhar, India in SREE-2021 Conference.
- Dr. Arvind K. Gautam: Innovative Researcher & Excellent Professional Achievement Award 2020, by the Society of Innovative Educationalist & Scientific Research Professional, Chennai, India.

**3. Program/Events Organized****a) FDP/STC/Workshops organized**

- Hands-on-Training session on “Applications of COMSOL Multi physics in Engineering Applications”, October 01-31, 2021, Coordinator: Dr. Tara Chand Kumawat.
- Short-term course (e-STC) on “Modeling and Simulation for Transport Processes (MSTP 2020)”, 04<sup>th</sup> - 08<sup>th</sup> November 2020, Coordinators: Dr. Pooja Thakur and Dr. T. C. Kumawat, Convener: Dr. Smita Mondal.
- e-Workshop on “Frontiers in Sustainable Chemical Processes (FSCP - 2021)” 1st -5th February 2021, Coordinators: Dr. Pooja Thakur, Dr. Subhajit Majumder, Convener Dr. Rahul Saha.
- Advanced Research Trends in Chemical Engineering (ARTCE-2020), October 28- November 01, 2020, Coordinators: Dr. Arvind K. Gautam & Dr. Rahul Saha, Convener: Dr. Leela Manohar.

**b) COVID-19 Pledge**

COVID-19 pledge was taken by the Faculty and Staff of Chemical Engineering Department on 09/10/2020 at 10.45 AM in the Department.

**4. Research Publication****i) Papers published by Faculties:**

S.No.	Name of Faculty	Title of the paper	Name of Journal/Conference in which paper published
1.	Dr. Tara Chand Kumawat	Flow and stability of a gravity-driven thin film over a locally heated porous wall	Phys. Fluids 32, 092106 (2020).
2.	Dr. Leela Manohar	Imidazolium functionalized polymers for effective electrochemical reduction of CO <sub>2</sub>	Journal of Polymer Engineering, 41 (3), 211-217 (2021).
3.	Dr. Radhe Shyam	Effect of Prandtl Number on Free Convection in Power Law Fluids between Two Concentric Square Ducts at Low Rayleigh Number	FIAM-2020(Frontiers in Industrial and Applied mathematics), 21-22 December 2020, NIT Jamshedpur, India.
4.	Dr. Arvind Kumar Gautam	A thermodynamic analysis on liquid-crystal phase transition in super cooled SW-Silicon	RTCS-2020, ICS, Kolkata, India
5.		A review study on the	SEHCM - 2020, NIT Jalandhar,

		challenges of novel virus COVID-19 in India including its economic and environmental impacts	Punjab, India
6.		Environmental and economic impact of novel virus COVID-19 in India,	ICAASHTOGD-20, RBS Agra, UP, India
7.		A Theoretical and Mathematical Study on the Importance of Petroleum derivatives in the production of Sanitizer Based Products	IC2S2TD-2020, SVNIT Surat, India
8.		Importance of interfacial energy in the dynamics of phase transition in super cooled SW-Silicon	SREE-2021, NIT Jalandhar, India
9.		An effective analysis on the production of qualitative sanitizers from petroleum derivatives	SREE-2021, NIT Jalandhar, India
10.		Thermodynamic and Structural Analysis on Monatomic (mW) Water in Super cooled Region	FTCPI-2021, IEI, India

- ii) **Papers accepted for publication:** NIL
- iii) **Patent:** Nil
- iv) **Doctoral Programme:** This department is running Doctoral Programme.
- v) **Master Thesis completed:** 02
- vi) **Ph.D. Degree awarded:** Nil
- vii) **Popular Lectures by outside experts:** 01
- E-Seminar on “Current and future Scope of Entrepreneurship in Chemical Engineering (CFSECE-2021)” January 30, 2021, Coordinators: Dr. Arvind K. Gautam & Dr. Rahul Saha, Convener: Dr. Tapas Palai.
- viii) **Expert Lecturer delivered by faculty:**
- **Dr. Tara Chand Kumawat:** Expert lecture delivered on “Modeling and Simulations of applications involving ODE and PDEs” in a 5-days e-STC “Modeling and simulation for transport processes” organised by Department of Chemical Engineering NIT Hamirpur from 04 October to 08 October 2020.
  - **Dr. Tara Chand Kumawat:** Expert lecture delivered on “Stability of Rimming flow inside a rotating cylinder” in a one week online faculty development programme “Computer Aided Software for Process Intensification” organized by Department of Chemical Engineering Gharda Institute of Technology Level, Ratnagiri from 05 April to 10 April 2020.
  - **Dr. Pooja Thakur:** Insight of the Transportations of fluids, Dr. Ambedkar Institute of Technology for Handicapped, Awadhपुरi, Kanpur, 8th February 2021.
  - **Dr. Arvind K. Gautam:** Application of molecular simulation techniques to understand the thermodynamic behaviour of a defined system at NIT Hamirpur, in e-Workshop on Modeling and Simulation in Thermal Engineering (MSTE-2020)

- **Dr. Arvind K. Gautam:** Scope of chemical engineering in various sectors and its future aspects, at MIET Meerut, India, in online webinar on career opportunities in the field of chemical engineering (COFCE-2020).

**5. EQUIPMENT ACQUIRED:**

Sr. No.	Name of Equipment	Qty.	Name of manufacturer/Supplier	Cost in Rs.
1	Soxhlet Extraction Unit	01 No.	M/s. Macro Scientific Works Pvt. Ltd., Delhi	24,999/-

**6. DETAILS OF LABORATORIES:**

- Fluid Mechanics Lab
- Chemical Reaction Engineering Lab
- Process Dynamic and Control Lab
- Mechanical Operation Lab
- Mass Transfer Lab
- Process Simulation Lab
- Chemical Technology Lab
- Heat Transfer Lab
- Industrial Pollution Abatement Lab
- Thermodynamics Lab.
- Research Lab

## 3.2 DEPARTMENT OF CIVIL ENGINEERING



**Head of the Department** :Dr. R.S.Banshtu  
Ph.D

**(I) Faculty of Civil Engineering Department:**

Sr. No.	Name of Faculty	Designation
<b>Professor</b>		
1.	Dr. R.K.Sharma	Professor
2.	Dr. Raman Parti	Professor
3.	Dr. R.K.Dutta	Professor
<b>Associate Professor</b>		
1.	Dr. Pardeep Kumar	Associate Professor
2.	Dr. R.S.Banshtu	Associate Professor, HEAD OF THE DEPARTMENT
3.	Dr.S.S. Katoch	Associate Professor
4.	Dr. V.S.Dogra	Associate Professor
5.	Dr. V.K.Bansal	Associate Professor
<b>Assistant Professor</b>		
1.	Dr. Amrit Kumar Roy	Assistant Professor Grade-1
2.	Dr. Umesh Kumar Pandey	Assistant Professor Grade-1
3.	Sh. Chander Prakash	Assistant Professor Grade-1
4.	Dr. Sunil Sharma	Assistant Professor Grade-1
5.	Dr. Mamta Awasthi	Assistant Professor Grade-1

6.	Dr. Dharmendra	Assistant Professor Grade-1
7.	Dr. K. Nallasivam	Assistant Professor Grade-1
8.	Dr. Joy Pal	Assistant Professor Gr-II
9.	Dr. Joseph Tripura	Assistant Professor Gr-II
10.	Dr. Subhadip Biswas	Assistant Professor Gr-II
11.	Dr. Manendra Singh	Assistant Professor Gr-II
12.	Dr. Ray Singh Meena	Assistant Professor Gr-II
13.	Dr. Jitendra Singh Yadav	Assistant Professor Gr-II
14.	Dr. Vimal Kumar	Assistant Professor Gr-II
<b>Faculty (on Contract)</b>		
1.	Dr. Rahul	Guest Faculty (July/2019 to May/2020)
2.	Dr. Amrendra	Guest Faculty (July/2019 to May/2020)
3.	Dr. Santosh Verma	Guest Faculty (July/2019 to May/2020)
4	Dr. Rajneesh Sharma	Guest Faculty (Jan/2021 to
5	Dr. Monalisa Nayak	Guest Faculty (Jan/2021 to April/2021

### **REVIEWERS OF JOURNALS/EDITORIAL BY FACULTY**

#### **(III). Papers Published in Conferences:-**

<b>Sr. No.</b>	<b>Faculty Name</b>	<b>Year</b>	<b>Author's</b>	<b>Title</b>	<b>Conference Name with Place</b>
1	<b>Dr. R.K. Dutta</b>	2019	Gnananandarao, T, Dutta, R.K. and Khatri, V.N.	Cost economics of flexible and rigid pavements over clay subgrades	Indian Conference on Geotechnical and Geoenvironmental Engineering (ICGGE-2019), March 01-02, Allahabad Prayagraj, Uttar Pradesh, India
2	<b>Dr. Pardeep Kumar</b>	2019	Bavita Bhardwaj, Pardeep Kumar and Sumit Arora	Comparative Study of Heat as well as Ambient Cured Alkali Activated Slag Concrete	Proceedings of UKIERI Concrete Congress Concrete: The Global Builder 5 - 8 March 2019, Jalandhar, Punjab, India. ISBN: 978-93-5351-357-3 Pages 116.
3	<b>Dr. Vijay Shankar</b>	2019	34. Navsal Kumar, Arunava	Performance Assessment of	International Conference on



	<b>Dogra</b>		Poddar, AashishDhobal and Vijay Shankar	PSO and GA in estimating Soil hydraulic properties using Near-Surface Soil Moisture Observations	Computational Modelling, Simulation and Optimization, June 27th-29th, 2019, Shaw Foundation Alumni House, National University of Singapore
		2019	35. Navsal Kumar, Arunava Poddar and Vijay Shankar	Non Linear Regression for Identifying the optimal Soil Hydraulic Model Parameters	International Conference on Numerical Optimization in engineering and Sciences (NOIEAS-2019), June 19th-21st, 2019, National Institute of Technology, Warangal, India
		2019	36. Navsal Kumar, Arunava Poddar and Vijay Shankar	Optimizing Irrigation through Environmental Canopy Sensing- A Proposed Automated Approach	. International Conference on Applied Mechanics and Optimization (ICAMeO-2019), June 19th-21st, 2019, Mar Baselios College of Engineering and Technology, Kerala, India
4	<b>Dr. Vijay Kumar Bansal</b>	2019	Bansal, V. K.	Use of GIS-Based 4D Simulation to Facilitate Construction Planning.	Proc. of 19th Int. Conf. on Computational Science and its application (ICCSA 2019), held in Saint Petersburg, Russia, July 1-4, 2019.
5	<b>Dr. Mamta Awasthi</b>	2019	Mamta Awasthi	Energy generation enhancement of an existing PV/wind hybrid system using biomass gasifier,	Beant College of Engineering and Technology (BCET), Gurdaspur, Punjab, India. 22

				International Conference on Materials, Manufacturing and Decision Making (MMDM – 78	– 23 February 2019.
6	<b>Dr. Subhadip Biswas</b>	2019	Biswas, S., Sharma, A. and Pandey, A.	“Performance evaluation of undivided streets: A clustering-based approach.”	13th International Conference of the Eastern Asia Society for Transportation Studies (EASTS), Colombo, Sri Lanka.

**(V). Papers Published in Journal:-**

Sr. No.	Faculty Name	Year	Author's	Title	Journal Name
1	<b>Dr.R.K. Sharma</b>	2019	Abhishek Sharma and R. K. Sharma	An experimental study on uplift behaviour of granular anchor pile in stabilized expansive soil	International Journal of Geotechnical Engineering
		2019	Abhishek Sharma and R. K. Sharma	Effect of addition of construction–demolition waste on strength characteristics of high plastic clays	Innovative Infrastructure Solutions
		2019	Akhilesh Kumar, R. K. Sharma and V. K. Bansal	GIS-based comparative study of information value and frequency ratio method for landslide hazard zonation in a part of mid-Himalaya in Himachal Pradesh	Innovative Infrastructure Solutions
2	<b>Dr.Raman Parti,Prof.</b>	2020	Vivek, RK Dutta, R Parti	<u>Application Potential of Treated Coir Geotextiles in Unpaved Roads</u>	Journal of Natural Fibers 17 (10), 1454-1467
		2021	A Sharma,R Parti	Optimal generation of fast transit corridors in a city	Current Science (00113891) 120 (9)



		2021	P Aman, R Parti	<u>Estimation of Passenger Car Unit for Undivided Two-Lane Roads in the Mountainous Region</u>	Journal of The Institution of Engineers (India): Series A 102 (1), 185-197
3	<b>Dr. R.K. Dutta, Prof.</b>	2020	<u>A Thakur, RK Dutta</u>	<u>Experimental and numerical studies of skirted hexagonal footings on three sands</u>	<u>A Thakur, RK Dutta</u>
		2020	<u>T Gnananandarao, RK Dutta, VN Khatri</u>	<u>Model studies of plus and double box shaped skirted footings resting on sand</u>	<u>International Journal of Geo-Engineering 11, 2</u>
		2020	<u>Vivek, RK Dutta, R Parti</u>	<u>Application potential of treated coir geotextiles in unpaved roads</u>	<u>Journal of Natural Fibers 17 (10), 1454-1467</u>
		2021	<u>A Thakur, RK Dutta</u>	<u>Study of bearing capacity of skirted irregular pentagonal footings on different sands</u>	<u>Journal of Achievements in Materials and Manufacturing Engineering 105 (1), 5-17</u>
		2021	<u>A Thakur, RK Dutta</u>	<u>A study of bearing capacity of skirted octagonal footings resting on different sands</u>	<u>Archives of Materials Science and Engineering 107 (1), 21-31</u>
		2021	<u>M Arora, RK Dutta, A Jain</u>	<u>Characterization, durability, and application of treated coir geotextiles In low volume roads</u>	<u>Journal of Natural Fibers</u>
		2021	<u>T Gnananandarao, RK Dutta, VN Khatri</u>	<u>Tsunamigenic seismic activity (earthquakes) prediction from III-component seismic data</u>	<u>Seismic Hazards and Risk, 351-360</u>
		2021	<u>RK Dutta, JS Yadav, AK Shukla</u>	<u>Mechanical behaviour of bentonite-cement mixtures subjected to change in moisture content</u>	<u>Proceedings of the 1st Indo-China Research Series in Geotechnical and ...</u>
		2021	<u>T Gnananandarao, RK Dutta, VN Khatri</u>	<u>Neural network based prediction of cone side resistance for cohesive soils</u>	<u>Lecture Notes in Civil Engineering 137, 389-399</u>
		2021	<u>M Arora, RK</u>	<u>Bearing ratio behaviour</u>	<u>Journal of Natural</u>

			<u>Dutta, DK Soni</u>	<u>of sand overlying silty sand and reinforced with treated coir geotextiles</u>	<u>Fibers 18 (6), 834-844</u>
		<u>2020</u>	<u>T Gnananandar ao, RK Dutta, VN Khatri</u>	<u>Support vector machines based prediction of elastic modulus for granite rock</u>	<u>1st Online International Conference on Recent Advances in Computational and ...</u>
		<u>2020</u>	<u>A Thakur, RK Dutta</u>	<u>Experimental and numerical studies of skirted hexagonal footings on three sands</u>	<u>A Thakur, RK Dutta</u>
		<u>2020</u>	<u>T Gnananandar ao, RK Dutta, VN Khatri</u>	<u>Model studies of plus and double box shaped skirted footings resting on sand</u>	<u>International Journal of Geo-Engineering 11, 2</u>
		<u>2020</u>	<u>T Gananandara o, VN Khatri, RK Dutta</u>	<u>Prediction of bearing capacity of H shaped skirted footings on sand using soft computing techniques</u>	<u>Archives of Materials Science and Engineering 103 (2), 62-74</u>
		<u>2020</u>	<u>RK Dutta, T Gnananandar ao, S Ladol</u>	<u>Soft computing based prediction of friction angle of clay</u>	<u>Archives of Materials Science and Engineering 104 (2), 58-68</u>
		<u>2020</u>	<u>Vivek, RK Dutta, A Kumari</u>	<u>Effect of chemical treatment on the durability behavior of coir geotextiles</u>	<u>Journal of Natural Fibers</u>
		<u>2020</u>	<u>V Panwar, RK Dutta</u>	<u>Numerical study of ultimate bearing capacity of rectangular footing on layered sand</u>	<u>Journal of Achievements in Materials and Manufacturing Engineering 101 (1 ...</u>
		<u>2020</u>	<u>T Gnananandar ao, VN Khatri, RK Dutta</u>	<u>Bearing capacity and settlement prediction of multi-edge skirted footings resting on sand</u>	<u>Ingenieria e Investigación 40 (3), 9-21</u>
		<u>2020</u>	<u>A Thakur, RK Dutta</u>	<u>A study on bearing capacity of skirted square footings on different sands</u>	<u>Indian Geotechnical Journal 50 (6), 1057 - 1073</u>
		<u>2020</u>	<u>MSB Lateef, RK Dutta</u>	<u>Properties of bentonite stabilised with fluorogypsum</u>	<u>International Journal of Geological and Geotechnical</u>

					<u>Engineering 6 (1), 10-20</u>
3	<b>Dr. Pardeep Kumar</b>	2019	Pardeep Kumar and Sandeep Petwal	Seismic Performance of Secondary Systems Housed in Isolated and Non Isolated Building	Earthquakes and Structures, An International Journal
		2020	Bavita Bhardwaj and Pardeep Kumar	Comparative Study of Geopolymer and Alkali Activated Slag Concrete Comprising Waste Foundry Sand	Construction and Building Materials
		2021	Sharma, A., Kumar, P., Vinayak, H. K., & Walia, S. K. (2021)	Identification of joint discrepancy in steel truss bridge using Hilbert transform with root-MUSIC and ESPRIT techniques.	<i>International Journal of Civil Engineering, 19(6), 653-668</i>
		2021	Sharma, A., Kumar, P., Vinayak, H. K., Walia, S. K., & Patel, R. K. (2021).	Condition assessment of retrofitted steel truss bridge through fused Hilbert transform and frequency resolution enhancing techniques.	<i>Innovative Infrastructure Solutions, 6(1), 1-30.</i>
		2021	Sharma, A., Kumar, P., Vinayak, H. K., Patel, R. K., & Walia, S. K. (2021).	Steel truss bridge vibration-based condition monitoring using Savitzky-Golay filter, Hilbert transform, MUSIC and ESPRIT	<i>. Journal of Engineering, Design and Technology.</i>
		2021	Sharma, A., Kumar, P., Vinayak, H. K., & Walia, S. K. (2021).	Condition Evaluation in Steel Truss Bridge with Fused Hilbert Transform, Spectral Kurtosis, and Bandpass Filter. <i>Monitoring, 15(2), 139–165.</i>	<i>Structural Durability &amp; Health</i>

4	<b>Dr. R.S. Banshtu</b>	2019	<u>Laxmi Devi Versain, Rajeshwar Singh Banshtu, Desh Deepak Pandey,</u>	Comparative Evaluation of GIS Based Landslide Hazard Zonation Maps Using Different Approaches	Journal of Geological Society of India, <u>Volume 93 (6), June 2019, pp. 627-730.</u> (SCI Indexed)
		2019	<u>Laxmi Devi Versain, Rajeshwar Singh Banshtu, Desh Deepak Pandey,</u>	Bi-Variate Statistical Approach In Landslide Hazard Zonation, District Kullu, Himachal Pradesh, India	International Journal of Applied Engineering Research, Volume 14 (2) February 2019, pp. 415-428. (SCOPUS Indexed)
		2019	<u>Rajeshwar Singh Banshtu, Laxmi Devi Versain, Desh Deepak Pandey,</u>	Risk assessment using quantitative approach: central Himalaya, Kullu, Himachal Pradesh, India”,	Arabian Journal of Geosciences. (SCI & SCOPUS Indexed).
5	<b>Dr. Vijay Shankar</b>	2020	N Kumar, V Shankar, A Poddar	<u>Investigating the effect of limited climatic data on evapotranspiration-based numerical modeling of soil moisture dynamics in the unsaturated root zone: A case study for potato ...</u>	Modeling Earth Systems and Environment 6, 2433-2449
		2020	N Kumar, V Shankar, A Poddar	<u>Neural computing modelling of the crop water stress index</u>	Journal Agricultural Water Management
		2020	N Kumar, A Poddar, V Shankar	<u>Nonlinear regression for identifying the optimal soil hydraulic model parameters</u>	Numerical Optimization in Engineering and Sciences, 25-34
		2020	N Kumar, A Poddar, V Shankar	<u>Nonlinear regression for identifying the optimal soil hydraulic model parameters</u>	Numerical Optimization in Engineering and Sciences, 25-34

	2020	L Goel, V Shankar, R Sharma	<u>Effect of organic mulches on agronomic parameters—a case study of tomato crop (Lycopersicon esculentum Mill.)</u>	International journal of recycling organic waste in agriculture 9 (3), 297-307
	2020	L Goel, V Shankar, RK Sharma	<u>Influence of different organic mulches on soil hydrothermal and plant growth parameters in potato crop (Solanum tuberosum L.)</u>	Journal of Agrometeorology 22 (1), 56-59
	2020	N Kumar, A Poddar, V Shankar, CSP Ojha, AJ Adeloye	<u>Crop water stress index for scheduling irrigation of Indian mustard (Brassica juncea) based on water use efficiency considerations (vol 206, pg 148, 2020)</u>	Journal JOURNAL OF AGRONOMY AND CROP SCIENCE
	2020	A Poddar, N Kumar, R Kumar, V Shankar, MK Jat	<u>Evaluation of non-linear root water uptake model under different agro-climates</u>	Current Science 119 (3), 485
	2020	N Kumar, S Maharshi, A Poddar, V Shankar	<u>Evaluation of Artificial Neural Networks for Estimating Reference Evapotranspiration in Western Himalayan Region</u>	2020 International Conference on Computational Performance Evaluation (Com PE ...
	2021	A Chandel, V Shankar, MA Alam	<u>Experimental investigations for assessing the influence of fly ash on the flow through porous media in Darcy regime</u>	Water Science and Technology 83 (5), 1028-1038
	2021	N Kumar, V Shankar, R Rustum, AJ Adeloye	<u>Evaluating the Performance of Self-Organizing Maps to Estimate Well-Watered Canopy Temperature for Calculating Crop Water Stress Index in</u>	Journal of Irrigation and Drainage Engineering 147 (2), 04020040

			<u>Indian Mustard (Brassica juncea)</u>		
		2021	A Poddar, N Kumar, V Shankar	<u>Performance Evaluation of Four Models for Estimating the Capillary Rise in Wheat Crop Root Zone Considering Shallow Water Table</u>	Hydrological Extremes, 423-434
		2021	S Kumari, A Poddar, N Kumar, V Shankar	<u>Delineation of groundwater recharge potential zones using the modeling based on remote sensing, GIS and MIF techniques: a study of Hamirpur District, Himachal Pradesh, India</u>	Modeling Earth Systems and Environment, 1-1
		2021	A Chandel, V Shankar	<u>Evaluation of empirical relationships to estimate the hydraulic conductivity of borehole soil samples</u>	ISH Journal of Hydraulic Engineering, 1-10
		2021	N Kumar, R Rustum, V Shankar, AJ Adeloye	<u>Self-organizing map estimator for the crop water stress index</u>	Computers and Electronics in Agriculture 187, 106232
6	<b>Dr. Vijay Kumar Bansal</b>	2020	Kapoor, N., Bansal, V.K., and Jain, M.	Development of creative problem solving-based framework for site planning in hill areas.	Frontiers of Architectural Research
		2020	Tomar, A., and Bansal V.K.	Generation, visualization, and evaluation schedule of repetitive construction projects using GIS.	International Journal of Construction Management,
		2020	Kumar, S., and Bansal, V.K.	GIS-Based locational evaluation of infrastructural facilities in hilly regions: a case study of an institute campus.	International Journal of Construction Management
		2020	Bansal, V.K.	Use of GIS to consider	International

				spatial aspects in construction planning process.	Journal of Construction Management
		2020	Tomar, A., and Bansal V.K.	A novel step towards repetitive projects scheduling using geographic information systems.	Arabian Journal for Science and Engineering
		2020	Kapoor, N., Jain, M., and Bansal, V.K.	A methodological approach for weighting factors in land suitability assessment: a tool for facilitating spatial planning	Journal of Mountain Science, 17(3), 724-739
7	Dr. K. Nallasivam	2019	Virajan Verma & K. Nallasivam	“One-dimensional finite element analysis of thin-walled box-girder bridge”	Innovative Infrastructure Solutions, Springer (2020) 5:51
8	Dr. Mamta Awasthi	2020	P Malik, M Awasthi, S Sinha	<u>Study on an existing PV/wind hybrid system using biomass gasifier for energy generation</u>	Pollution 6 (2), 325-336
		2020	Malik, P., Awasthi, M., & Sinha, S.	Study of grid integrated biomass-based hybrid renewable energy systems for Himalayan terrain.	International Journal of Sustainable Energy Planning and Management
		2020	Malik, P., Awasthi, M., & Sinha,	Analysis of sensitive parameters influencing a SPV/WT/Biomass/Battery based hybrid system	In 2019 8th International Conference on Power Systems (ICPS) (pp. 1-6). IEEE, DOI:
			Malik, P., Awasthi, M., & Sinha, S.	Study on an Existing PV/Wind Hybrid System Using Biomass Gasifier for Energy Generation, 6(2)	Pollution 6 (2), 325-336
		2021	P Malik, M Awasthi	<u>Techno-economic and Environmental Evaluation of Producer Gas-Based IC Engine in a Hybrid Energy System</u>	Alternative Fuels and Advanced Combustion Techniques as Sustainable ...
		2021	P Malik, M Awasthi, S Sinha	<u>Techno-economic and environmental analysis of biomass-based hybrid energy systems: A case study of a</u>	Sustainable Energy Technologies and Assessments 45, 101189

				<u>Western Himalayan state in India</u>	
		2021	Malik, P., Awasthi, M., & Sinha, S.	Techno-economic analysis of decentralized biomass energy system and CO2 reduction in the Himalayan region <a href="https://link.springer.com/article/10.1007/s40095-020-00370-0">https://link.springer.com/article/10.1007/s40095-020-00370-0</a> , IF:1.87	International Journal of Energy and Environmental Engineering, Springer
9	Dr. Sunil Sharma		R Anjum, V Sharma, S Sharma, A Kumar	<u>Management and exploitation of human hair “Waste” as an additive to building materials: a review</u>	Sustainable Environment and Infrastructure, 137-146
10	Dr. Amrit Kumar Roy	2019	Singh, Jagbir, and Amrit Kumar Roy	'Wind Pressure Coefficients on Pyramidal Roof of Square Plan Low Rise Double Storey Building	Journal of Computational Engineering and Physical Modeling
		2019	Singh, Jagbir, and Amrit Kumar Roy	Effects of Roof Slope and Wind Direction on Wind Pressure Distribution on the Roof of a Square Plan Pyramidal Low-Rise Building Using CFD Simulation.	International Journal of Advanced Structural Engineering
11	Dr. Joy Pal	2019	Sikdar, S., Ostachowicz, W. and Pal, J.	Damage-induced Acoustic Emission Source Identification in an Advanced Sandwich Composite Structure & 202	Composite Structures
		2020	P Mirgal, J Pal, S Banerjee	<u>Online acoustic emission source localization in concrete structures using iterative and evolutionary algorithms</u>	Ultrasonics 108, 106211
		2020	J Pal, P Singh, S Banerjee	<u>Identification of Loosening of Bolts in a Steel Plane Frame</u>	Advances in Rotor Dynamics, Control, and Structural



				<u>Structure Using Fourier Decomposition Method</u>	Health Monitoring, 393-406
		2021	S Sikdar, J Pal	<u>Bag of Visual Words based Machine Learning Framework for Disbond Characterisation in Composite Sandwich Structures using Guided Waves</u>	Smart Materials and Structures
12	Dr. Joseph Tripura	2020	AK Tripura, J., Roy, P. & Barbhuiya	<u>Simultaneous streamflow forecasting based on hybridized neuro-fuzzy method for a river system.</u>	Neural Computing and Applications
13	Dr. Subhadip Biswas	2020	M Sharma, S Biswas	<u>Estimation of Passenger Car Unit on urban roads: A literature review</u>	International Journal of Transportation Science and Technology
		2020	S Biswas, S Chandra, I Ghosh	<u>An advanced approach for estimation of PCU values on undivided urban roads under heterogeneous traffic conditions</u>	Transportation letters 12 (3), 172-181
		2020	S Biswas, A Pandey	<u>Development of ‘Speed Ratio’ Based Level of Service Criteria on Undivided Urban Streets in Mixed Traffic Context</u>	Canadian Journal of Civil Engineering
		2020	HK Saini, S Biswas	<u>Estimating Lateral Placement and Lane Indiscipline of Urban Mixed Traffic in Developing Country: An ANN Assisted Approach</u>	Canadian Journal of Civil Engineering
		2020	Biswas, S., Chandra, S. and Ghosh, I.	“Side Friction Parameters and Their Influences on Capacity of Urban Streets.”	International Journal of Transportation Science and

					Technology. DOI: 10.1016/j.ijst.2020.03.007.
		2021	S Biswas, S Chandra, I Ghosh	<u>Side friction parameters and their influences on capacity of Indian undivided urban streets</u> International Journal of Transportation	Science and Technology 10 (1), 1-19
		2021	S Biswas	<u>Impact of Pedestrian Movements on Capacity of Undivided Streets: A Case Study</u>	Advances in Sustainable Construction Materials: Select Proceedings of ASCM ...
14	Dr.Vimal Kumar	2020	V Kumar, KV Kartik, MA Iqbal	Experimental and numerical investigation of reinforced concrete slabs under blast loading	Engineering Structures <a href="https://doi.org/10.1016/j.engstruct.2019.110125">https://doi.org/10.1016/j.engstruct.2019.110125</a>

**(VIII). CONSULTANCY SERVICES:-**

Sr. No.	Name of The Test	Sponsored Agency	Amount
1.	Routine Testing of Cement , Aggregate Samples	HPPWD, IPH, SJVNL, Power Grid Corporation of India, Unipro Techno, Oil Corporation, Govt Contractors	<b>1,53,50,135.00</b> -
2.	Field Testing of Soil Bearing Capacity and Testing of Various soil Samples	HPPWD,HP IPH, SJVNL, Power Grid Corporation of India, Unipro Techno, HP Cricket Association India, Oil Corporation, Govt Contractors	
3.	Design of Multistoried building	HPPWD, IPH, SJVNL, Power Grid Corporation of India, Unipro Techno, Food Corporation of India	
4.	Routine testing of CBR, Bitumen , Coarse Aggregate	HPPWD, HP IPH, SJVNL, Power Grid Corporation of India, Unipro Techno, Oil Corporation, Govt Contractors	
5.	STA for PMGSY	Ministry of Rural Roads Government of India	
6.	STA- for HP IPH	Himachal Pradesh Irrigation and Public Health Department, Shimla	

**(IX). M. Tech Dissertation Guidance:-****M.Tech Completed in 2020:****1. Geotechnical Engineering & Under Structures:**

Sr. No.	Roll. No	Name	
1	18M101	Dhanjay Kaushal	
2	18M102	Nitesh Kaundal	
3	18M103	Ashok Chhimpa	
4	18M104	Mohit Katna	
5	18M105	Sharadmani Tiwari	
6	18M107	Deepali Anand	
7	18M108	Kapil Kumar Gautam	
8	18M109	Sonam Ladol	
9	18M110	Shreya Maheshwari	
10	18M111	Mohd .Sajid	
11	18M112	Abrar Suhil Chowdhary	
12	18M113	Shubham Jagid	
13	18M114	Shweta Singh	
14	18M115	Sahil Chalotra	

**2. STRUCTURAL ENGINEERING:**

1	18M121	Anurag Gupta	
2	18M122	Rishabh Singh	
3	18M123	Shashwat Kapoor	
4	18M124	Bhinv Raj Soni	
6	18M126	Rishabh Agrawal	
7	18M127	Sujeet Varun	
8	18M128	Arun Chanotra	
9	18M129	Mallothu Abhilash	
10	18M130	Vinjamuri Vijay Kumar	
11	18M131	Shubham Saurabh	
12	18M132	Avneesh Tripathi	
13	18M134	Vinay Kumar	
14	18M135	Pankaj Kumar	

**3. Transportation Engineering**

1	18M141	Sourabh Thakur	
2	18M142	Rahul Tanwar	
3	18M143	Saurav Kumar	
4	18M144	Karan Kumawat	
5	18M145	Saumya Anand	
6	18M146	Ashutosh pandey	
7	18M147	Harish Kumar Saini	
8	18M148	Aman Sharma	
9	18M149	Faijan Ali Ansari	
10	18M150	Priyanshu Aman	
11	18M151	Ajay Sharma	
12	18M152	Anshul Kumar	
13	18M153	Subham	
14	18M154	Manjul Sharma	

**4. Water Resources Engineering**

1	18M161	Sanjeet Kumar	
2	18M162	Deepanshu Verma	
3	18M163	Atul Mishra	
4	18M164	Ashraf Raza	
5	18M165	Ankush	
6	18M166	Aakriti Chauhan	
7	18M167	Gargi Bindal	
8	18M168	Arun Kumar Singh	
9	18M169	Paulomi Parai	
10	18M170	Gaurav Patel	
11	18M171	Rajat Kumar	
12	18M172	Sumit Kumar	

**M.Tech Admission in 2020:**

S.No	Roll No.	Name of the Student	Name of Guide	Brief Report
<b>Geotechnical Engineering</b>				
1	20MCE001	AAYUSH HOODA	Dr.R.K.Dutta	On Going
2	20MCE002	ABRAR AHAD	Dr.R.K.Sharma	On Going
3	20MCE003	ABRAR KHURSHID	Dr.R.S.Banshtu	On Going
4	20MCE004	ANANT SAINI	Dr.J.S.Yadav	On Going
5	20MCE005	ANITA KUMARI	Dr.J.S.Yadav	On Going
6	20MCE006	ANKIT PURUSHOTTAM PATINGE	Dr.R.K.Sharma	On Going
7	20MCE007	ASMA KHATOON	Dr.R.K.Dutta	On Going
8	20MCE008	DEV INDER ANGURANA	Dr.J.S.Yadav	On Going
9	20MCE009	DUHA NISSAR HAMDANI	Dr.R.K.Dutta	On Going
10	20MCE010	GULAM RASOOL	Dr.Manendra Singh	On Going
11	20MCE011	HIMANSHU SONI	Dr.J.S.Yadav	On Going
12	20MCE012	HITESH RAHI	Dr.J.S.Yadav	On Going
13	20MCE013	IQRA BASHIR	Dr.Manendra Singh	On Going
14	20MCE014	KARTIKEYA TRIPATHI	Dr.Manendra Singh	On Going
15	20MCE016	PRIYANKA BADRINARAYAN CHOUDHARY	Dr.R.K.Dutta	On Going
16	20MCE017	PULKIT SHARMA	Dr.R.S.Banshtu & Dr.C.Parkash	On Going
17	20MCE018	SANGAM KHANDELWAL	Dr.Manendra Singh	On Going
18	20MCE019	SIDDHANT SINGH	Dr.Manendra Singh	On Going
<b>Structural Engineering</b>				
1.	20MCE103	AMAN KUMAR	Dr.Vimal Kumar	On Going
2.	20MCE104	ANUJ MEENA	Dr. U.K.Pandey	On Going
3	20MCE105	ASHISH CHAKOTRA	Dr. Joy Pal	On Going

4	20MCE106	DASU SAI CHARAN	Dr.A.K.Roy	On Going
5	20MCE107	DIVYANSHU SHUKLA	Dr. Joy Pal	On Going
6	20MCE108	JAYESHBHAI BHURABHAI DESAI	Dr. U.K.Pandey	On Going
7	20MCE109	KASHYAP RAJESHKUMAR SHUKLA	Dr.K.Nallasivam	On Going
8	20MCE110	MITRESH KAUL	Dr.K.Nallasivam	On Going
9	20MCE111	NEERAJ SHARMA	Dr.A.K.Roy	On Going
10	20MCE112	NITISH SHARMA	Dr. V.K.Bansal	On Going
11	20MCE113	PARVESH KUMAR	Dr. U.K.Pandey	On Going
12	20MCE114	RAGHAV DADHICH	Dr.Pardeep kumar	On Going
13	20MCE115	RAJEEV KUMAR	Dr.Vimal Kumar	On Going
14	20MCE116	ROBIN BHARDWAJ	Dr.Pardeep kumar	On Going
15	20MCE117	SACHIN KUMAR SAINI	Dr. Joy Pal	On Going
16	20MCE118	SHAHEEN YOUSUF	Dr.Pardeep kumar	On Going
<b>Transportation Engineering</b>				
1	20MCE201	Aaditi	Dr Subhadip Biswas	On Going
2	20MCE202	Aditya	Dr Subhadip Biswas	On Going
3	20MCE203	Agrita	Dr Sunil Sharma	On Going
5	20MCE205	Gayatri	Dr Subhadip Biswas	On Going
6	20MCE206	Anuj	Dr Subhadip Biswas	On Going
7	20MCE207	Himanshu	Dr Sunil Sharma	On Going
8	20MCE208	Kartikyan	Dr Subhadip Biswas	On Going
9	20MCE209	Mohan	Dr Subhadip Biswas	On Going
10	20MCE210	Nikhil	Prof Raman Parti	On Going
11	20MCE211	Prateek	Dr Sunil Sharma	On Going
12	20MCE212	Rahul	Dr Sunil Sharma	On Going
14	20MCE214	Sagar	Prof Raman Parti	On Going
15	20MCE215	Sahil	Prof Raman Parti	On Going
16	20MCE216	Saurabh	Dr Sunil Sharma	On Going
17	20MCE217	Shivam	Dr Sunil Sharma	On Going
18	20MCE218	Shubham	Prof Raman Parti	On Going
19	20MCE219	Vishal	Prof Raman Parti	On Going
<b>Water Resources Engineering</b>				
1.	20MCE301	Adarsh Guleria	Dr. Ray Singh Meena	On Going
2.	20MCE302	Ajay Kumar Mahato	Dr. Joseph Tripura	On Going
3.	20MCE303	Ajay Sehgal	Dr. Ray Singh Meena	On Going
4.	20MCE304	Aman chauhan	Dr. Joseph Tripura	On Going
5.	20MCE305	Anuj Prashar	Dr. Vijay Shankar	On Going
6.	20MCE307	Divya Thakur	Dr. Vijay Shankar	On Going
7.	20MCE308	Gulshan Kumar	Dr. Ray Singh Meena	On Going
8.	20MCE309	Himanshu	Dr. Ray Singh Meena	On Going
9.	20MCE311	Mohammad Arif	Dr. Vijay Shankar	On Going
10.	20MCE313	Pallavi bansal	Dr. Vijay Shankar	On Going

11.	20MCE314	Saba Shakeel Raina	Dr. Joseph Tripura	On Going
12.	20MCE315	Sudhir kumar	Dr. Vijay Shankar	On Going
13.	20MCE316	Vikash Kumar	Dr. Joseph Tripura	On Going
14.	20MCE317	Vinay Meena	Dr. Ray Singh Meena	On Going
15.	20MCE318	Vishal goyal	Dr. Ray Singh Meena	On Going
16.	20MCE319	Younis mushtaq	Dr. Joseph Tripura	On Going

**Ph.D. Admission in 2020:-**

S.No.	Name of Student	Research Area	Status	Name of Guide
1	Vaibhav Chaudhary 2K20-Ph.D- CE-498	Impact of Nano Particles on Geotechnical Properties of Soil	On Going	Dr. Jitender Singh Yadav
2	Chander Kant 2K20-Ph.D-CE-499	Hydrologic and Hydrodynamic modeling under climate change scenario in scenario in Western Himalayan Catchment.	On Going	Dr. Ray Singh Meena
3	Maloth Naresh 2K20-Ph.D-CE-500	Health Monitoring of Joints in Steel Structures	On Going	Dr. Joy Pal
4	Rahul Shakya 2K20-Ph.D-CE-501	Effect of underground Funnels on Adjacent building under Seismic loading	On Going	Dr. Manendra Singh
5	Sahil Dhiman 20RCE002	Numerical Modeling based slope stability assessment of Gulaba region, Kullu (HP)	On Going	Dr. R.S.Banshtu
6.	Saurabh Raj 20RCE001	Hydro Power construction projects planning & scheduling in hilli region	On Going	Dr. Vijay Kumar Bansal

**(XI) Research Project**

<b>Sr. No.</b>	<b>Title of Project</b>	<b>Funding Agency &amp; Amount Sanctioned</b>	<b>Allotment Year &amp; Time</b>	<b>Present Status of the Project/PI</b>	<b>Name of PI/ Co-PI</b>
1.	Application of Geospatial technologies in the development of scientific approach to prioritize Upgradation of roads constructed under PMGSY in HP	State Council for Science, Technology & Environment (SCSTE), H.P. Rs. 1.5 Lacs	3/04/2017 To 31/03/2019	Ongoing	Dr. Sunil Sharma (PI), Dr. V.K. Bansal (Co-PI)
2.	Wind Energy Conversion for Domestic Usage in Himachal Pradesh	State Council for Science, Technology & Environment (H.P.) SDA Complex, Kasumpti, Shimla – 171009 Rs.4.00 Lacs	01/10/2016	Ongoing	Dr. Amrit Kumar Roy
3	Application of Wollastonite micro fiber reinforced self-compacting concrete overlay for rehabilitating District and Village roads in Himachal Pradesh.	State Council for Science, Technology & Environment (SCSTE), Himachal Pradesh Rs.5.052 Lacs	27/12/2017 To 31/12/2019	Ongoing	Dr. Vijay Shankar
4	Sustaining Himalayan Water Resources in a Changing Climate (SusHi-Wat).	Ministry of Earth Sciences (MoES), GOI & Natural Environment Research Council (NERC), UK Rs.56.80 Lacs	18/01/2017 To 31/12/2019	Ongoing	Dr. Vijay Shankar
	Social-economic-environmental trade-offs in managing the Land-River-Interface	Department of Biotechnology, Ministry of Science & Technology, Government of India, Natural Environment Research Council-UK and National Science Foundation, China Rs. 31.382 Lacs	06/08/2019 To 31/08/2021	Ongoing	Dr. Vijay Shankar

5	Project on Geothermal Energy "Maintenance/ Operation of Demonstration site of Heating Space in Chumathang, Laddakh"	Department of Science & Technology Govt. of India Rs.16,98,000/-	2/2018 To 31/10/2020	Ongoing on extension	Dr. R.S. Banshtu
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**(XII) DETAIL OF LABORATORIES:**

Sr. No.	NAME OF LABORATORY
1	Geotechnical Laboratory
2	Structure Laboratory
3	Irrigation & Hydraulics Laboratory
4	Concrete Laboratory
5	Foundation Engineering Laboratory
6	Surveying Laboratory
7	Transportation Laboratory
8	Geology Laboratory
9	Remote Sensing & GIS Laboratory
10	Computation Laboratory
11	Environmental Engineering Lab

**(XII) EQUIPMENT/ FURNITURE PURCHASED:**

Sr. No.	Name of Equipment/ Furniture	Qty	Name of Manufacturer	Cost in Rs
1.	Microscopy Digital Camera Metimage Lx Software & Glass calibration scale	1 No.	Metimamage Techology,P.LTd. Hyderabad	4,77750.00
2.	U50 Multi Parameter Kit: Water Quality	1 No.	Aimil Ltd. Instruments & Technologies, Industrial Esate, Mathura Road N.Elhi-110044 India	37,50,786
3.	Replacement of upper plate of compression and site calibration	1 No.	Hydraulic & Engineering Instruments Manufacturers of Engineering New Delhi-110028	92040.00
4.	HP800 G4 A/O Touch i7 win 10 Pro 814 with 4gb gfx 8cc8490BCV	1 No.	SM Enterprises first floor 5502-5/2, Amabala Cantt-133001	134865.00
5	Lab Scale Model No.PGB200	1 No.	M/S Disha Enterprises Anu Hamirpur HP	14868.00
6	PH Meter Bench-top Model No.LMPH-10	1 No.	---Do---	14160.00



### 3.3 DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING



#### 1. ACADEMIC STAFF:

HEAD of Department: Dr. T. P. Sharma

FACULTIES:

Professor	Associate Professor	Assistant Professor
Dr. Lalit Kumar Awasthi (Director NIT Hamirpur) (Additional Charge)	<ol style="list-style-type: none"> <li>1. Dr. (Mrs.) Kamlesh Dutta</li> <li>2. Dr. Narottam Chand</li> <li>3. Dr. T.P. Sharma</li> <li>4. Dr. Siddhartha Chauhan</li> <li>5. Dr. Naveen Chauhan</li> <li>6. Dr. Divakar Yadav</li> </ol>	<ol style="list-style-type: none"> <li>1. Dr. Rajeev Kumar</li> <li>2. Dr. Nitin Gupta</li> <li>3. Dr. Pardeep Kumar</li> <li>4. Dr. Nagendra Partap Singh</li> <li>5. Dr. Dharmendra Prasad Mahato</li> <li>6. Dr. Jatoth Chandrashekar</li> <li>7. Dr. Basant Subba</li> <li>8. Dr. Parkash Choudhary</li> <li>9. Dr. Arun Kumar Yadav</li> <li>10. Dr. Vijay Kumar</li> <li>11. Dr. Priyanka</li> <li>12. Dr. Jyoti Srivastava</li> <li>13. Dr. Sangeeta Sharma</li> <li>14. Dr. Mohit Kumar</li> </ol>

#### 2. DISTINCTION ACHIEVED:

a) By students:

- a. Siddha Ganju won, IET Young Professional Excellence Medal, U.K.
- b. Pranav Kant won OOPSLA 2020 Distinguished Paper Award

- c. Manoj Parihar won Best User-voice Experience with Amazon Alexa Award for best use of Amazon personal assistant API.
  - d. TEN students selected for Prestigious Google Summer of Code
  - e. Sanya Dhingra and Prakriti Gupta Joined Adobe India on 42.5 LPA package
  - f. In a collective selection pool for 11 colleges with over 40 students who got past the first screening round, [Kartik Saxena](#), [Karthik Vedantham](#) and [Muskan Jhunjhunwalla](#) were selected by Amazon for 6 months internship starting this year.
  - g. [Jahnvi Gupta](#), [Ritwik Duggal](#) and [Mukesh Kumar](#), won SECOND position in an \*International IEEE dataset upload contest\* at IEEE DATAPORT, with a project titled \*IoT Assisted Human Posture detection/recognition.
  - h. Work of Varan Singh Rohila, is accepted in IEEE ICC, which is one of the top tier conferences under the flagship of IEEE Communication Society, and is going to be held in Canada in June 2021.
  - i. Uttkarsh Chaurasia, [Rishabh Dhenkawat](#), Aditi Katoch, [Mohd Nomaan](#), Navdeep Singh Rathore, Sitaram Rathi and Rishabh Verma won the Smart India Hackathon (SIH)-2020 by creating solutions to provide a “second eye” to blind people using artificial intelligence. The team got the prize money of Rs 1 lakh.
- b) By faculty Member: NIL

#### **Journals/ Books/Book Chapters Publications:-**

1. Agarwal, Neha, Geeta Sikka, and Lalit Kumar Awasthi. "Evaluation of web service clustering using Dirichlet Multinomial Mixture model based approach for Dimensionality Reduction in service representation." *Information Processing & Management* 57, no. 4 (2020): 102238.
2. Sharma, Abhilasha, and Lalit Kumar Awasthi. "AdPS: Adaptive Priority Scheduling for Data Services in Heterogeneous Vehicular Networks." *Computer Communications* 159 (2020): 71-82.
3. Richa Sharma, Teek Parval Sharma, Ajay Kumar Sharma, "TVDD: Topology Based Vehicular Data Dissemination Scheme for stability Optimization in IoV," *Inderscience International Journal of Sensor Networks* (Accepted)
4. Lata, Kusum, Pardeep Singh, and Kamlesh Dutta. "A comprehensive review on feature set used for anaphora resolution." *Artificial Intelligence Review* (2020): 1-90.
5. Bhat, Parnika, and Kamlesh Dutta. "CogramDroid–An approach towards malware detection in Android using opcode ngrams." *Concurrency and Computation: Practice and Experience* (2021): e6332.
6. Adhikary, Kaushik, Shashi Bhushan, Sunil Kumar, and Kamlesh Dutta. "Hybrid Algorithm to Detect DDoS Attacks in VANETs." *Wireless Personal Communications* 114, no. 4 (2020): 3613-3634.
7. Sharma, Anamika, and Siddhartha Chauhan. "Information Fusion-Based Intruder Detection Techniques in Surveillance Wireless Sensor Network." In *Innovations in Computational Intelligence and Computer Vision*, pp. 93-99. Springer, Singapore, 2021.
8. Sharma, Anamika, and Siddhartha Chauhan. "Analytic evaluation of non-uniformities for coverage probability computation of randomly deployed wireless sensor network." *International Journal of Sensor Networks* 34, no. 1 (2020): 1-14.
9. Sharma, Anamika, and Siddhartha Chauhan. "Sensor Fusion for Distributed Detection of Mobile Intruders in Surveillance Wireless Sensor Networks." *IEEE Sensors Journal* 20, no. 24 (2020): 15224-15231.

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11. Sharma, Anamika, and Siddhartha Chauhan. "Detection and Tracking of Mobile Intruder in Harsh Geographical Terrains Using Surveillance Wireless Sensor Networks." In *Handbook of Wireless Sensor Networks: Issues and Challenges in Current Scenario's*, pp. 417-437. Springer, Cham, 2020.
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16. Yadav, Divakar, and Arun Kumar Yadav. "A Novel Convolutional Neural Network Based Model for Recognition and Classification of Apple Leaf Diseases." *Traitement du Signal* 37, no. 6 (2020).
17. Jain, Arti, Divakar Yadav, and Anuja Arora. "Particle Swarm Optimization for Punjabi Text Summarization." *International Journal of Operations Research and Information Systems (IJORIS)* 12, no. 3 (2021): 1-17.
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29. Kumar, Vijay, and Dinesh Kumar. "A Systematic Review on Firefly Algorithm: Past, Present, and Future." *Archives of Computational Methods in Engineering* (2020): 1-23.
30. Kaur, Manjit, Dilbag Singh, and Vijay Kumar. "Drug Synergy Prediction Using Dynamic Mutation based Differential Evolution." *Current Pharmaceutical Design* (2020).
31. Gianchandani, Neha, Aayush Jaiswal, Dilbag Singh, Vijay Kumar, and Manjit Kaur. "Rapid COVID-19 diagnosis using ensemble deep transfer learning models from chest radiographic images." *Journal of ambient intelligence and humanized computing* (2020): 1-13.
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37. Kaur, Manjit, Dilbag Singh, and Vijay Kumar. "Color image encryption using minimax differential evolution-based 7D hyper-chaotic map." *Applied Physics B* 126, no. 9 (2020): 1-19.
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41. Sharma, Sahil, and Vijay Kumar. "Voxel-based 3D occlusion-invariant face recognition using game theory and simulated annealing." *Multimedia Tools and Applications* 79, no. 35 (2020): 26517-26547.
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- computing in IoT networks." *Journal of Information Security and Applications* 58 (2021): 102768.
45. Sharma, Sushant, and Nitin Gupta. "Federated learning-based caching in fog computing for future smart cities." *Internet Technology Letters*: e225.
  46. Thakur, Anshu, Ashok Kumar, and Nitin Gupta. "Secrecy analysis of multiple-input multiple-output underlay cognitive radio networks with energy harvesting." *Transactions on Emerging Telecommunications Technologies* (2020): e4116.
  47. Riya, Gupta, Nitin, and Sanjay Kumar Dhurandher. "Efficient caching method in fog computing for internet of everything." *Peer-to-Peer Networking and Applications* 14, no. 1 (2021): 439-452.
  48. Thakur, Anshu, Ashok Kumar, Nitin Gupta, and Puspita Chatterjee. "Secrecy Analysis of Reconfigurable Underlay Cognitive Radio Networks with SWIPT and Imperfect CSI." *IEEE Transactions on Network Science and Engineering* (2020).
  49. Saroj, Sushil Kumar, Rakesh Kumar, and Nagendra Pratap Singh. "Fréchet PDF based Matched Filter Approach for Retinal Blood Vessels Segmentation." *Computer Methods and Programs in Biomedicine* 194 (2020): 105490.
  50. Dharmendra Prasad Mahato and Van Huy Pham. "Reliability Analysis in Grid System Considering Load." *Cluster Computing*, Springer, 2021
  51. Bhagat, P. K., Prakash Choudhary, and Kh Manglem Singh. "A novel approach based on fully connected weighted bipartite graph for zero-shot learning problems." *Journal of Ambient Intelligence and Humanized Computing* (2021): 1-16.
  52. Inunganbi, Sanasam, Prakash Choudhary, and Khumanthem Manglem. "Handwritten Meitei Mayek recognition using three-channel convolution neural network of gradients and gray." *Computational Intelligence* 37, no. 1 (2021): 70-86.
  53. Sanasam, Inunganbi, Prakash Choudhary, and Khumanthem Manglem Singh. "Line and word segmentation of handwritten text document by mid-point detection and gap trailing." *Multimedia Tools and Applications* 79, no. 41 (2020): 30135-30150.
  54. Hazra, Abhishek, Prakash Choudhary, Sanasam Inunganbi, and Mainak Adhikari. "Bangla-Meitei Mayek scripts handwritten character recognition using convolutional neural network." *Applied Intelligence* 51, no. 4 (2021): 2291-2311.
  55. Subba, Basant, and Prakriti Gupta. "A tfidfvectorizer and singular value decomposition based host intrusion detection system framework for detecting anomalous system processes." *Computers & Security* 100 (2021): 102084.
  56. Avik Dutta, Chandrashekar Jatoth, G.R. Gangadharan, U Fiore. "QoS-aware Big Service Composition using Distributed Co-Evolutionary Algorithm." *Concurrency and Computation: Practice and Experience*, 2021
  57. Potu, Narayana, Chandrashekar Jatoth, and Premchand Parvataneni. "Optimizing resource scheduling based on extended particle swarm optimization in fog computing environments." *Concurrency and Computation: Practice and Experience*: e6163.
  58. Dinesh Kumar Saini, Arun Kumar Yadav and Kartik Sharma. "Mnemonics in e-learning using augmented reality." *Book Chapter in IET*, pp 215 –233 (19), 2021

#### Conference Publications: -

1. Triveni Lal Pal and Kamlesh Dutta. "Aspect-based Text Classification Approach." *n Proc. of ICAREMIT-2020*, pp 220-225, ISBN-978-81-933433-9-5, 2020.
2. Mahato, Dharmendra Prasad, Jasminder Kaur Sandhu, and Kamlesh Dutta. "Distributed routing for underwater wireless sensor networks using cuckoo search-ant colony optimization." *In Proceedings of the 21st International Conference on Distributed Computing and Networking*, pp. 1-5. 2020.

3. Sharma, Anamika, and Siddhartha Chauhan. "Information Fusion-Based Intruder Detection Techniques in Surveillance Wireless Sensor Network." In *Innovations in Computational Intelligence and Computer Vision*, pp. 93-99. Springer, Singapore, 2021.
  4. Kumar, Abhishek, Nitin Gupta, Riya Tapwal, and Jagdeep Singh. "Trust Aware Scheme based Malicious Nodes Detection under Cooperative Spectrum Sensing for Cognitive Radio Networks." In *Adjunct Proceedings of the 2021 International Conference on Distributed Computing and Networking*, pp. 56-61. 2021.
  5. Thakur, Anshu, Ashok Kumar, and Nitin Gupta. "Secrecy Analysis of Underlay Cognitive Radio with Delayed Channel Information." In *International Conference on Wireless Intelligent and Distributed Environment for Communication*, pp. 91-97. Springer, Cham, 2020.
  6. K. Susheel Kumar, Chandra Shekar Jatoth, Nagendra Pratap Singh. "Segmentation of Retinal Blood Vessel using an Algorithm-based Gamma Distribution of Matched Filter." International virtual conference on Integrated Intelligence Enable Networks and Computing (IIENC-2020)
  7. Radha Rani, Saurabh Rashpa, Dharmendra Prasad Mahato and Van Huy Pham. "Scalable Leader Election considering Load Balancing." In the 35th International Conference on Advanced Information Networking and Applications (AINA-2021) to be held from May 12, 2021 to May 14, 2021 at Ryerson University, Toronto, Canada
  8. Dharmendra Prasad Mahato and Pham Van Huy. "Antlion optimizer-based load-balanced transaction scheduling for maximizing reliability." In the 35th International Conference on Advanced Information Networking and Applications (AINA-2021) to be held from May 12, 2021 to May 14, 2021 at Ryerson University, Toronto, Canada
  9. Mahato, Dharmendra Prasad. "On Scheduling Transaction in Grid Processing System Considering Load Using Fuzzy Ant Colony Optimization." In *International Conference on Advanced Information Networking and Applications*, pp. 1020-1031. Springer, Cham, 2020.
  10. Kumar, Yogendra, and Basant Subba. "A lightweight machine learning based security framework for detecting phishing attacks." In *2021 International Conference on COMMunication Systems & NETWORKS (COMSNETS)*, pp. 184-188. IEEE, 2021.
3. SEMINAR, SYMPOSIA, SUMMER SCHOOL, WINTER SCHOOL, SHOR TERM COURSE

(a) Conducted in the DoCSE:

Sponsoring Agency	Name of the Co-ordinator	Title of the Seminar/symposia	Duration
NIT Hamirpur	Dr. Jyoti Srivastava and Dr. Pardeep Singh	Short term course (e-STC) on "Machine Learning for Natural Language Processing (MNLP-2020)"	12-17 October 2020

(b) Participated by Faculty Members: NIL

**1. RESEARCH Projects:**

Title of the Scheme	Sponsored by	Assistance Received (Rs) in lakh	Investigator
Machine Learning and Deep learning based cyber security framework for identification of phishing websites & malicious Uniform Resource Locators (URLs)	SCIENCE & ENGINEERING RESEARCH BOARD (SERB)	Rs. 14,79,850/-	Dr. Basant Subba
Compressed Wavelet Tree Based Semantic Spatial Search	UPCST, Lucknow	Rs.1044000	Dr Divakar Yadav (Co-PI)

**2. Research Supervision**

Master thesis completed:

Sr. No	Title	Guide	Name of the student	Brief Report
1.	A heterogeneous stacking ensemble based sentiment analysis framework using multiple word embeddings	Dr. Basant Subba	Simpy Kumari	Ongoing
2.	A novel security framework for minimization of false information dissemination in VANETs: Bayesian game formulation	Dr. Basant Subba	Ayushi Singh	Ongoing
3.	Host based Intrusion Detection System (IDS) for detection of anomalous system processes in Windows Systems	Dr. Basant Subba	Renuka Jangid	Ongoing
4.	Intrusion Detection System Using Time Interval	Dr. T.P. Sharma	Anukrit Tiwari	Ongoing
5.	DDoS Attack Detection in WSNs Using Machine Learning	Dr. T.P. Sharma	Pranjal thakur	Ongoing
6.	Vehicle Arrival Time Prediction Using Artificial Intelligence	Dr. T.P. Sharma	Hunny Sharma	Ongoing
7.	Cloud Based Smart Parking Solutions for VANETs	Dr. T.P. Sharma	Vedantham Kartik	Ongoing
8.	Retinal blood vessel segmentation using novel matched filter with deep learning	Dr. Arun Kumar Yadav	Sanjeevani	Ongoing
9.	Cyberbullying detection in social media text	Dr. Arun Kumar Yadav	Shubham	Ongoing
10.	Image caption generation using deep learning	Dr. Arun Kumar Yadav	Akash Verma	Ongoing
11.	Identifying distributed denial of service attack in IoT devices based on network traffic analysis	Dr. Arun Kumar Yadav	sweta kushvaha	Ongoing
12.	Instant Encryption Technique Using DNA Cryptography	Dr. Mohit Kumar	Uprant Choudhary	Ongoing

13.	A Secure Authentication Scheme for IoT using Steganography	Dr. Mohit Kumar	Akanksha Gahalot	Ongoing
14.	Pruning deep neural networks using reinforcement learning	Dr. Mohit Kumar	Pratibha	Ongoing
15.	Wheelchair fall detection system	Dr. Mohit Kumar	Suraina Dhiman	Ongoing
16.	Trend prediction of stock price using Financial News and Technical Indicator	Dr. Jyoti Srivastava	ARUN SHARMA	Ongoing
17.	Extractive Text Summarizer	Dr. Jyoti Srivastava	Navam Sharma	Ongoing
18.	Blockchain based Drug Distribution and traceability solution using hyperledger	Dr. Jyoti Chandrashekar	Sahil Jamwal	Ongoing
19.	Privacy preserving synthetic data generation using deep learning	Dr. Jyoti Chandrashekar	Tania	Ongoing
20.	Improved Classification of nodes of Blockchain Transactions using Ensemble learning	Dr. Jyoti Chandrashekar	Rishabh Jain	Ongoing
21.	Blockchain for future smart grid using cloud computing applications	Dr. Jyoti Chandrashekar	Shurab Patil	Ongoing
22.	Multiobjective optimization techniques for engineering applications	Dr. Vijay Kumar	Isha Sharma	Ongoing
23.	Disease detection from chest X-ray using Deep learning techniques	Dr. Vijay Kumar	Rahul Gupta	Ongoing
24.	Detection of Chest infection using transfer learning	Dr. Vijay Kumar	Saloni Laddha	Ongoing
25.	Drug discovery using computational techniques	Dr. Vijay Kumar	Nitin Dogra	Ongoing
26.	Design of Image steganography using GAN	Dr. Vijay Kumar	Aniket	Ongoing
27.	Grey Wolf Optimizer for Load Balancing in Cloud Computing	Dr. Dharmendra Prasad Mahato	Muskan Saini	Ongoing
28.	Mobile Charger Tour Planning in Wireless Sensor Network	Dr. Dharmendra Prasad Mahato	Vibhor Sood	Ongoing
29.	Networks	Dr. Dharmendra Prasad Mahato	Aman Pratap Singh	Ongoing
30.	The Online K-Taxi Problem	Dr. Dharmendra Prasad Mahato	Kapil	Ongoing
31.	Wait Free Consensus in Distributed Computing	Dr. Dharmendra Prasad Mahato	Rakesh Kumar Gupta	Ongoing
32.	Machine Learning techniques for Plant Leaf Disease Detection	Dr Divakar Yadav	Aarushi	Ongoing
33.	Sentiment analysis Using Bert	Dr Divakar Yadav	Nikhil Choudhary	Ongoing
34.	Sentiment Analysis of Amazon Reviews	Dr Divakar Yadav	M. Sahithi	Ongoing
35.	Anomaly detection in Videos	Dr Divakar Yadav	Saumya Asati	Ongoing



36.	Profit Enhancing Resource Allocation in Fog Computing	Dr. Nitin Gupta	Akshita Doad	Ongoing
37.	Comparative study of task scheduling algorithms for cloud computing	Dr. Nitin Gupta	Ankit Gunavat	Ongoing
38.	Drone Trajectory Optimization for Data Collection in WSN	Dr. Nitin Gupta	Kartik Saxena	Ongoing
39.	Effective Task Scheduling for Cloud-fog Environment	Dr. Nitin Gupta	Robin Singh Rana	Ongoing
40.	Data Analytics Based Caching for Fog Computing	Dr. Nitin Gupta	Shruti Meshram	Ongoing

### 3. DOCTORAL PROGRAMME:

Doctoral Programme: Submitted: 3 & In Progress: 19

Ph.D Degree awarded: 2

Sr. No	Title	Guide	Name of the student	Brief Report
1.	Semantic Interplay in Text Document	Dr. Kamlesh Dutta	Mr. Triveni Lal Pal	Ongoing
2.	Information Security	Dr. Kamlesh Dutta	Ms. Parnika Bhat	Ongoing
3.	Natural Language Processing	Dr. Kamlesh Dutta	Mr. Chetan Agarwal	Ongoing
4.	Enhancing Security and Privacy for Robust Internet of Things (IoT)	DDPC Convener as a caretaker	Mr. Pankaj Kumar	Submitted
5.	Not yet finalized	Dr. T.P. Sharma	Mr. Vishnu Kumar Prajapati	Ongoing
6.	Medical Image Processing	Dr. Nagendra Pratap Singh	Mr. K. Susheel Kumar	Ongoing
7.	Wait-Free Consensus Algorithm	Dr. Dharmendra Prasad Mahato	Ms Radha Rani	Ongoing
8.	Drug Traceability Using Blockchain Technology	Dr. Chandrashekar Jatoth	M. Sreenu	Ongoing
9.	Sentiment Based Information Diffusion in Online Social Networks	Dr. T.P. Sharm	Mr. Mohammad Ahsan	Awarded
10.	Dynamic and Fault Tolerant Topology for Efficient Data Dissemination in IoV	Dr. T.P. Sharma	Ms. Richa	Ongoing
11.	Internet of Things	Dr. Naveen Chauhan	Mr. Himanshu	Ongoing
12.	Improving Data Availability in Internet of Vehicles Environmen	Dr. Naveen Chauhan	Mr. Nishant Sharma	Ongoing
13.	Body Area Networks	Dr. Siddhartha	Ms. Deepshikha	Submitted

		Chauhan		
14.	Surveillance Wireless Sensor Networks	Dr. Siddhartha Chauhan	Ms. Anamika	Submitted
15.	Energy Efficient Protocols in Wireless Sensor Networks	Dr. Siddhartha Chauhan	Ms. Nilanshi Chauhan	Ongoing
16.	Lifetime Enhancement of Wireless Sensor Networks	Dr. Siddhartha Chauhan	Mr. Piyush Rawat	Ongoing
17.	Coreference Resolution for Hindi	Dr. Pardeep Singh	Ms. Kusum Lata	Ongoing
18.	Text Summarization for Hindi	Dr. Pardeep Singh	Ms. Namarta Kumari	Ongoing
19.	Causality Reference in Text	Dr. Pardeep Singh	Mr. Poonam Kashtariya	Ongoing
20.	Game Theory and machine learning based IDS frameworks for wireless network	Dr. Basant Subba	Mr. Yogendra Kumar	Ongoing
21.	Wait-Free Consensus Problem	Dr. Dharmendra Prasad Mahato	Ms. Radha Rani	Ongoing
22.	Energy Efficient Operations in Wireless Sensor Networks	Dr. Naveen Chauhan	Dr. Rajeev Kumar	Awarded
23.	Data Dissemination in WSNs	Dr. T.P. Sharma	Ms. Rakhi	Ongoing
24.	Image Forensic Using Machine Learning	Dr Divakar Yadav	Mr Shobhit Tyagi	Ongoing

4. Visit of Renowned Speakers: NIL due to Covid-19.

5. CONSULTANCY SERVICES:

Sr. No	Name of the Scheme	Sponsored Agency	Amount Earned
1.	CBS and Allied Services to KCCB Dharamshala, HP	KCCB Dharmashala	-----

6. EQUIPMENT ACQUIRED:

Sr. No	Name of equipment	Name of manufacturer	Cost (Rs. In lakh)
NIL			

5. TECHNICAL ASSOCIATION / SOCIETIES:

- Dr. Narottam Chand: Senior Member, IEEE USA, Fellow, IE India
- Dr. Jatoth Chandrashekhar Member of IEEE, Member of ACM
- Dr. Priyanka Member IEEE, Mentor IEEE YP Delhi section
- Dr. Nitin Gupta Senior Member IEEE, Communication Society, Vehicular Technology Society, and Member ACM

## 5. DETAIL OF THE LABORATORIES:

Name of the Laboratory

- Artificial Intelligence and Robotics Lab
- Computer Organization and Architecture Lab
- Compiler Design Lab
- Computer Graphics Lab
- Computer Network Lab
- Data Structure Lab
- Data Base Management Lab
- Digital Image Processing Lab
- Microprocessor and Interfacing Lab
- Object Oriented Paradigm Lab
- Operating System Lab

## 3.2 DEPARTMENT OF ELECTRICAL ENGINEERING



### 1 Academic Staff:

Head: **Dr Veena Sharma Asso. Prof. & Head EED** (Till 27/04/2021 FN) & Dr. R.K Jarial , Head, Electrical Engineering Department., Asso. Prof. EED & Head EED (wef 27/4/2021 A.N. to till date) vide letter No. NIT/HMR/Admn./F-16(Vol-34)/2021/3994-4020 Dated 26/4/2021)

### FACULTIES:

Professor	Associate Professor	Assistant Professor
04	06	8

Sr.No	Name	Designation	Qualification	Specialization
1.	Dr. Yog Raj Sood	Professor	Ph.D	Power system & AI Applications to Deregulation of Power System
2.	Dr.Sushil Chauhan	Professor	Ph.D	Power System
3.	Dr.Ram Naresh Sharma	Professor	Ph.D	Power System
4.	Dr. Ashwani Kumar Chandel	Professor	Ph.D	Electric Power Quality & Harmonics
5.	Dr. Zakir Hussain	Associate Professor	Ph.D	Power System
6.	Dr. Ravinder Nath	Associate Professor	Ph.D	Signal processing & Control Engg.
7.	Dr. Veena Sharma	Associate Professor	Ph.D	Instrumentation & Control Engg.
8.	Dr. R. K. Jarial	Associate Professor	Ph.D	Power Electronic & Drives
9.	Dr. B. B. Sharma	Associate Professor	Ph.D	Control Engineering
10.	Dr. O. P. Rahi	Associate Professor	Ph.D	Power System

11.	Dr. Amit Kaul	Assistant Professor	Ph.D	Signal Processing & Control Engineering
12.	Dr. Himesh Handa	Assistant Professor	Ph.D.	Instrumentation & Control Engg.
13.	Er. Rajesh Kumar	Assistant Professor	M. Tech.	Power System
14.	Er. Bharti Koul	Assistant Professor	M. Tech.	Power System
15.	Dr. Anil Kumar Yadav	Assistant Professor	Ph.D.	Control System
16.	Dr. Rajan Kumar	Assistant Professor	Ph.D.	Power Electronics, Electrical Machines & Drives
17.	Dr. Ram Niwas Mahia	Assistant Professor	Ph.D.	Networked Control Systems
18.	Dr. Supriya Jaiswal	Assistant Professor	Ph.D.	Power System

## 2. Patents –NITs

Name of NITs	No. of Patents Acquired	2020-21
National Institute of Technology, Hamirpur (HP).	--	--

## 3. Research Publications –NITs

Name of NITs	Publications	2020-21
National Institute of Technology, Hamirpur (HP).	National Journal	-
	International Journals	22
	National Conference	-
	International Conference	18
	No. of Books Published	01 ( e-Book)
	Book Chapters	06

1. **Seminar symposia, summer school, winter school, short term course:**

a) Conducted in the Department: 03

Sponsoring Agency	Name of the Coordinator	Title of the seminar/Symposia	Duration	Venue
NIT Hamirpur	Anil Kumar Yadav ( Coordinator ) Rajan Kumar ( Coordinator ) Dr. Bharat Bhushan Sharma ( Convener )	“Advancements in Optimization of Power Generation, Drives and Control System”	16-20 November 2020 (One week)	e-STC
NIT Hamirpur	Dr. Ram Niwas Mahia & Dr. Supriya Jasiwal ( Coordinators ) Dr. R K Jarial ( Convener )	Recent Trends in Intelligent control Techniques for renewable Energy system and Electric Vehicles	12-16 Oct., 2020 (One week)	e-STC
NIT Hamirpur	Bharti Koul	“Software Tools for	(23 <sup>rd</sup> to 27 <sup>th</sup>	e-STC

	(Coordinator) Rajesh Kumar (Coordinator) Dr. Amit Kaul Sharma (Convener)	Academicians and Researchers (STAR-2020)	November, 2020) One week	
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b) Participated by faculty members: 13

Name of the Faculty / staff Member	Course/Seminar	Organization	Duration	Venue
Dr. Yog Raj Sood	Faculty Development Program on "Learning Additional ICT Tools for Online Teaching and Administration	ScrollwellEduTech LLP in Collaboration with Government Degree College, Ramgarh	December 26-28, 2020	Webinar
Dr. Yog Raj Sood	Types of Patent in India	Turnip Innovations and organized by BITS, Vadodra	January 16, 2021	Webinar
Dr. Bharat Bhushan Sharma	Faculty Development Program on " Control Systems"	Muthoot Institute of Technology and Science, Ernakulam, Kerala	Feb. 22-26, 2021	e-FDP
Dr. Anil Kumar Yadav	5 days FDP on "Recent Trends in Intelligent Control Techniques for Renewable Energy Systems and Electric Vehicles"	NIT Hamirpur	Oct. 12-16, 2020	NIT Hamirpur
Dr. Rajan Kumar	Emerging Trends in power and Energy Systems	Gautam Buddha university, India	24 <sup>th</sup> to 28 <sup>th</sup> August, 2020	Greater Noida ( Virtual )
Dr. R K Jarial	On line Webinars/Programs on varied topics like Electrical Vehicles, MICROGRIDS, ELECTRICAL WIRING INSTALATION FIRE SAFETY , MATLAB, COMSOLE Multi-Physics Modeling, IOT Applications in Engineering,	NIT Hamirpur	46 Hours Total	NIT Hamirpur
Bharti Koul	35 <sup>th</sup> Indian Engineering Congress	Institution of Engineers (india)	(18 <sup>th</sup> to 20 <sup>th</sup> December 2020 (Three days	Virtual Mode
Bharti Koul	FDP On "Energy Conservation and Management"	TEQIP-III sponsored GNDEC Ludhiana,	April 27 – May 1, 2020 one week	ICT enabled

Bharti Koul	Webinar series on "Beyond the boundaries: reinventing Horizon"	SKIETM Jaipur	16 <sup>th</sup> to 20 <sup>th</sup> May 2020	Webinar
Dr. Amit Kaul	Faculty Development Program on "Biomedical Instrumentation: What and How to Teach"	Rajasthan Technical University, Akelgarh, Kota, Rajasthan	Aug. 24-28, 2020	e-FDP
Dr. Supriya Jaiswal	Smart Electric Grids: Operations, Protection & Control	NIT Meghalaya, Shillong	14-18 September, 2020	NIT Meghalaya, e-FDP
Dr. Supriya Jaiswal	Advanced Rechargeable Batteries: From Powder to Power	IIT Roorkee	25-30 December, 2020	IIT Roorkee, e-FDP
Dr. Supriya Jaiswal	The Development of the Energy Internet of Things (eIoT) in Green Energy Infrastructure	NIT Silchar	1-5 September, 2020	NIT Silchar, e-FDP

## **2. Research Component:**

### **(a) Research Scheme: 03 (Sponsored R & D Projects)**

Title of the scheme	Sponsored by	Assistance received (Rs. In lacs)	Investigator	Brief Report
Model Predictive Controller based Automatic Generation Control of Interconnected Power System Integrated with Renewable Energy Sources." -	Himcoste, HP Shimla	5.00 lacs	Dr. Veena Sharma	<p>1. For recruitment of project associate, the post was advertised as per the guidelines followed in the institute. Interview for the recruitment of project associate was held on 1/09/2020 &amp; the selected candidate has joined on 15/10/2020.</p> <p>2. Data related to the project problem is being collected through various sources (such as reputed journals, books) and a detailed relevant literature review has been completed.</p> <p>3. Mathematical modeling part of the interconnected power systems including renewable energy resources.</p>

				is completed.
IEDC & innovative Projects	NIT Hamirpur	Rs 0.45 lacs	Pradyuman, Pratham, R K Jarial	An Innovative project entitled “Microgrid Implementation” was sanctioned to UG students under DST Scheme in 2019 and has been completed.
<b>Solution Techniques to Unit Commitment Problems in Power System Integrated with Renewable Sources</b>	CSIR	Rs.2,47,500/-	Dr Ram Naresh Sharma	Approval from CSIR for recruitment of SRF in the research Scheme is pending

**(b) Research Publications: 40 (Numbers)**

1. Pawan Kumar Pathak, **Anil Kumar Yadav** and PA Alvi, “Advanced solar MPPT techniques under uniform and non-uniform irradiance: A comprehensive review,” Journal of Solar Energy Engineering, ASME Transactions, vol. 142, no. 4, pp. 040801-26, 2020.
2. **Anil Kumar Yadav**, Piyush Saxena, Prerna Gaur, and Pawan Kumar Pathak, “Self-Tuning Fuzzy PID Controller for Servo Control of Hard Disk Drive with Time Delay,” International Journal of Information Technology, Springer, vol. 13, no. 1, pp. 109-114, February 2021.
3. **Anil Kumar Yadav**, Pawan Kumar Pathak, Prerna Gaur, “Robust Control and Stability Analysis of Computerized Numeric Controlled Machine Tool under Parametric Uncertainty,” Journal Européen des Systèmes Automatisés, vol. 53, no. 5, pp. 661-670, October 2020.
4. Vineet Kumar and **R. Naresh**, “Application of BARON Solver for Solution of Cost Based Unit Commitment Problem,” International Journal on Electrical Engineering and Informatics, Vol. 12, No. 4, pp. 807-827, 2020. DOI:10.15676/ijeei.2020.12.4.7
5. Vineet Kumar and **Ram Naresh**, “Investigation of Solution Techniques of Unit Commitment Problems: A Review,” Wind Engineering, Feb2021. DOI: 10.1177/0309524X21992446.
6. Vineet Kumar and Ram Naresh, “Monarch Butterfly Optimization based Computational Methodology for Unit Commitment Problem,” Electric Power Components and Systems, March 2021, DOI: 10.1080/15325008.2021.1908458.
7. Vineet Kumar, **Veena Sharma & R. Naresh**, “HHO-based Model Predictive Controller for Combined Voltage and Frequency Control Problem Including SMES,” IETE Journal of Research, March 2021. DOI:10.1080/03772063.2021.1908180.
8. Preeti Sonkar and **O. P. Rahi**, “Contribution of Wind Power Plants in Grid Frequency Regulation: Current Perspective and Future Challenges,” in Wind Engineering, Volume: 45 issue: 2, page(s): 442-456. Issue published: April 1, 2021 (SCOPUS) DOI: 10.1177/0309524X19892899
9. Sita Ram, **O. P. Rahi, and Veena Sharma**, “Performance Analysis of SPRS based Induction Motor Drive using Multi-level Inverter and Buck-Boost Chopper,” International Journal of Power Electronics, 2020, Vol.12, No.1, pp.85-100. (SCOPUS) 21100202505 DOI: 10.1504/IJPELEC.2020.108387 Published online: 22 May 2020.
10. S. Tiwari, **Ashwani. Kumar**, 'Reconfiguration and optimal micro-phasor unit placement in a distribution system using Taguchi-Binary Particle Swarm Optimization,' Arab J Sci Eng. 46, pp. 1213-



1223,2020.

11. N. Bhatt and **Ashwani Kumar**, “A passive islanding detection algorithm based on modal current and adaptive boosting”, Arab J Sci Eng.,45, pp. 6791–6801, 2020.
12. Ishan Garg and **B B Sharma**, “Simple Adaptive Control Strategy for a Class of Systems Subjected to Real Parametric Uncertainty with Application to Unified Chaotic System” International Journal of Nonlinear Dynamics and Control, Feb. 2021 (In Press).
13. Pallov Anand and **B B Sharma**, “Simple Adaptive Control Strategy for a Class of Systems Subjected to Real Parametric Uncertainty with Application to Unified Chaotic System” International Journal of Nonlinear Dynamics and Control, Vol. 141, pp:1-16; Dec. 2020(<https://doi.org/10.1016/j.chaos.2020.110331>).
14. Anant Kumar Verma, **R. K. Jarial**, Pedro. Roncero-Sánchez, M. R. Ungarala, and J. M. Guerrero, “An Improved Hybrid Pre-filtered Open-Loop Algorithm for Three-Phase Grid Synchronization,” IEEE Transactions on Industrial Electronics, vol. 68, no. 3, pp. 2480-2490, March 2021. [DOI: 10.1109/TIE.2020.2975470] Publisher: IEEE Electronic ISSN: 1557-9948 Print ISSN: 0278-0046
15. Anant Kumar Verma, **R. K. Jarial**, Pedro Roncero-Sanchez, and M. R. Ungarala, “Improved Fundamental Frequency Estimator for Three-Phase Application,” IEEE Transactions on Industrial Electronics, pp. 1-1, Aug. 2020,[DOI: 10.1109/TIE.2020.3018063]Publisher: IEEE,Electronic ISSN: 1557-9948,Print ISSN: 0278-0046.
16. Anant Kumar Verma, **R. K. Jarial**, and M. R. Ungarala, “Modified non-adaptive bandpass filter based phase locked loop,” IET Electronics Letters, vol. 56, no. 18, pp. 951-954, Sep. 2020. [DOI: 10.1049/el.2020.1227]Publisher: IET, Print ISSN: 0013-5194, Online ISSN: 1350-911X.
17. Anant Kumar Verma, **C. Subramanian, R.K. Jarial**, Pedro Roncero-Sánchez and U.M. Rao, “A Robust Lyapunov’s, Demodulator for Tracking of Single-/Three-Phase Grid Voltage Variables,”IEEE Transactions on Instrumentation and Measurement, vol. 70, pp. 1-11, Dec.2020.[ DOI: 10.1109/TIM.2020.3043494,Publisher: IEEE,Electronic ISSN: 1557-9662, Print ISSN: 0018-9456
18. Anant Kumar Verma, **C. Subramanian, and R. K. Jarial**, “An Error Demodulation Technique for Single-Phase Grid Synchronization/LVRT Applications,” IEEE Systems Journal, Early Access, Mar. 2021.[DOI: 10.1109/JSYST.2021.3062878] Date of Publication: 22 March 2021, Publisher: IEEE Print ISSN: 1932-8184, Electronic ISSN: 1937-9234.
19. **Bharti Koul**, Kanwardeep Singh, Y S Brar, “An Introduction to Demand Side Management in Smart Grids and its Integration with Renewable Energy”Book Chapter entitled “Advances in Smart Grid Power Systems, First Edition” publication Elsevier , pp 73-100, Advances in Smart Grid Power System. <https://doi.org/10.1016/B978-0-12-824337-4.00004-7>,Copyright © 2021 Elsevier Inc. All rights reserved.
20. **Rajesh Kumar &** Arun Kumar “Optimal scheduling for solar wind and pumped storage systems considering imbalance penalty”, DOI: 10.1080/15567036.2020.1841854 Energy Sources, Part A: Recovery, Utilization, and Environmental Effects
21. **Rajesh Kumar &** Arun Kumar “Optimal scheduling of variable speed pumped storage, solar and wind energy system”, DOI: 10.1080/15567036.2021.1892243 Energy Sources, Part A: Recovery, Utilization, and Environmental Effects
22. Rohila, V. S., Gupta, N., **Kaul, Amit.**, & Sharma, D. K. (2021). Deep learning assisted COVID-19 detection using full CT-scans. *Internet of Things*, 14, 100377
23. Rishabh Verma, **Anil Kumar Yadav**, Pawan Kumar Pathak “Modified IMC for Automatic Voltage Regulator via Order Reduction Techniques,17th IEEE India Conference (INDICON-2020), NSUT New Delhi, 11-13 December 2020.
24. Y. Chauhan and **B. B. Sharma**, "Design of Coupling Function for Synchronization of Linear & Nonlinear Systems in Chain Formation Using Contraction Based Approach," 2020 IEEE 5th

- International Conference on Computing Communication and Automation (ICCCA), Greater Noida, India, 2020, pp. 203-209, doi: 10.1109/ICCCA49541.2020.9250827
25. Saurabh Ranjan Sharma, **O. P. Rahi**, Arush Singh, and Atul Jaysing Patil, "A New Methodology for Risk Analysis for Excitation System of Alternator in SHP using FIS", 4th International Conference on Intelligent Computing and Control Systems (ICICCS 2020), 13-15, May 2020, India, pp. 85-92. DOI: 10.1109/ICICCS48265.2020, ISBN: 978-1-7281-4876-2
  26. Aaditya Sharma, **Veena Sharma, and O.P. Rahi**. "PSO Tuned PID Controller for DC Motor Speed Control," International on line Conference on smart Grid Energy System and Control, Organized by Deptt., of Electrical Engineering, NIT Kurukhetra (Haryana) India, March 19-21, 2021.
  27. Sing, S., Tiwari A., **Handa, Himesh** "Synchronization of Hyperchaotic Rossler System using backstepping and sliding mode control," 2nd International Conference on Innovative Mechanisms for Industry Applications, 2020.
  28. Singh, S., **Handa, Himesh**. "Synchronization of MLS chaotic system using adaptive backstepping control," 7th International Conference on Signal Processing and Integrated Networks, SPIN 2020.
  29. Tiwari, A., **Handa, Himesh** "Sliding mode control for rossler prototype-4 system using two and three controllers," 7<sup>th</sup> International Conference on Signal Processing and Integrated Networks, SPIN 2020.
  30. Ankit Mishra, **Sushil Chauhan** "PV based Shunt Active Harmonic Filter for Power Quality improvement", 2021 International Conference on Computing, Communication, and Intelligent Systems (ICCCIS) 19-20 Feb. 2021
  31. **Rajan Kumar** and B.Singh ess BLDC Motor Drive for Single Stage PV Based water pumping , "IEEE5th International Conference on Computing Communication and Automatic ( ICCCA), Greater Noida, India 2020, PP.634-639
  32. S. Tiwari and **Ashwani Kumar**, "A Robust Taguchi Particle Swarm Optimization Approach for Network Reconfiguration with Distributed Generation," 2020 IEEE 7th Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON), Prayagraj, India, 2020, pp. 1-5, doi: 10.1109/UPCON50219.2020.9376463.
  33. S. Yadav, S. Tiwari and **Ashwani Kumar**, "Transient Stability Analysis of Multi-machine Power System with Hybrid Power Flow Controller," 2020 International Conference on Power, Instrumentation, Control and Computing (PICC), Thrissur, India, 2020, pp. 1-6, doi: 10.1109/PICC51425.2020.9362390
  34. A. Singh, A. J. Patil, V. K. Tripathi, R. K. Sharma and **R. K. Jarial**, "Reliability Modeling and Simulation for Assessment of Electric Arc Furnace Transformers," 2020 IEEE International Conference on Computing, Power and Communication Technologies (GUCON), Greater Noida, India, 2020, pp. 239-244, doi: 10.1109/GUCON48875.2020.9231147
  35. V. Kumar, **Ram Naresh** and A. Singh, "Scheduling of Energy on Deregulated Environment of Profit based Unit Commitment Problem," IEEE 9th Power India International Conference (PIICON), SONEPAT, India, pp. 1-6, 2020.
  36. **Veena Sharma**, V. Kumar, **R. Naresh** and V. Kumar, "Automatic Voltage Regulator System with State-Feedback and PID based Sliding Mode Control Design," *International Conference on Advances in Electrical, Computing, Communication and Sustainable Technologies (ICAECT)*, pp. 1-6, 2021.
  37. Joel, S., & **Kaul, Amit** (2020, June). Predictive Maintenance Approach For Transformers Based On Hot Spot Detection In Thermal images. In 2020 First IEEE International Conference on Measurement, Instrumentation, Control and Automation (ICMICA) (pp. 1-5). IEEE.
  38. Walia, A., & **Kaul, Amit** (2020, November). QRS Detection using Dual Window Fourier Transform. In 2020 4th International Conference on Electronics, Communication and Aerospace Technology (ICECA) (pp. 314-318). IEEE.
  39. Manish Kumar, Shankar Pandit and **Chandrasekaran S**, "Cascaded Sliding DFT Based Grid

Synchronization Technique with DC Offset Removal Capability” in Proceedings of 21st IEEE National Power System Conference (NPSC 2020) DOI: 10.1109/NPSC49263.2020.9331757.

40. Shankar Pandit and **Ram Naresh**, “Power System Frequency Estimation using Teager Energy operator” in Proceedings of 1st IEEE International Conference on Emerging Trends in Industry 4.0 (ETI 4.0), 2021.(Accepted and presented)

**(c) Ph.D Degree awarded: 02**

Sr. No.	Name of the Candidate with Regn. No.	Name of Supervisor(s)	Title of the Thesis
1	Ms. Preeti Sonkar 2k14-Ph.D-EE-252 (Notification Date: (10.07.2020))	Dr. O.P Rahi Associate professor	Active Power Support from Wind Power Plants
2.	Mr. Sita Ram [ 2k14-Ph.D-EE-249] (Notification Date: (14.07.2020))	Dr. O.P Rahi Associate professor and Dr. Veena Sharma Associate Professor	Performance Analysis of Induction Motor Drive using Slip Power Recovery Scheme

**(d) Doctoral programme (Ongoing): 24**

Sr. No.	Tentative Title	Guide	Name of the student(s)	Brief Report
1.	Control and Synchronization of dynamical systems (Tentative )	Dr. Himesh Handa	Pallav Sahay 2k19-Phd. –EE-430 ( Full Time )	The Candidate got registered in 2019 in EED and has completed his course work. He is trying to explore possible research topic and keen to work in the area of control and synchronization of dynamical systems.
2	Optimal Planning and Sensitivity Analysis of Hybrid Green Microgrid	Dr. Yog Raj Sood	Sumit Sharma Regular	The candidate got registered in 2018 in EED and working in area of optimal planning of hybrid green microgrid with islanded mode and grid connected mode. Different renewable technologies would be included in the planning and sensitivity analysis of the microgrid system. The software used in this study is HOMER.
3	Forecasting & Techno economical design of SPV based Systems	Dr Yog Raj Sood & DrR K Jarial,	Mr.Shafqat Mughal (Part Time)	The candidate got registered in 2017 in EED and working in area of Forecasting techniques for Solar radiations at a given location under several variants and parameters that should be included while design and development of any SPV interfaced power system applications meant for harnessing solar energy. Several forecasting techniques have been tried and testing for nearly real time operation of SPV System by considering case studies at BGSMS, Rajouri (J & K) site.
4	Optimal Operation	Dr. Yog Raj Sood	AnkurMaheshwari	The candidate got registered in 2019

	of Deregulated Power Sector incorporating Wind and Solar energy		(Full Time)	in EED and completed his course work requirement in his first year. He has developed and validated OPF software using PSO.
5	Control of Renewable Energy System	Dr. Anil Kumar Yadav	Maloth Ramesh	Comprehensive Examination Passed
6	Renewable Energy System	Dr R K Jarial	Bhumaiah Jula	Comprehensive Examination Passed
7	LVRT Capability of Smart Grid	Dr RK Jarial & Dr R Nath Sharma	Manish Kumar	State of Art Completed
8	Grid Synchronization Techniques for Smart PV Inverters	Dr. R K Jarial, Dr Chandrasekaran. S	Mr. Anant Kumar Verma 2K16-Ph.D.-EE-313	The candidate has completed research work and has submitted thesis in Jan. 2021 in institute. The Thesis is under process of evaluation.
9	Solution Techniques to Unit Commitment Problems in Power System integrated with Renewable Energy Sources	Dr. Ram Naresh Sharma	Vineet Kumar 2K17-Ph.D.-EE-356	Ongoing
10	MPC based Optimal Automatic Generation Control of Interconnected Power System including RES.	Dr. Veena Sharma	Amita Singh 2K17-Ph.D.-EE-354	Ongoing
11	Combined LFC and AVR control	Dr. Veena Sharma	Vineet Kumar 2K19-Ph.D.-EE-434	Ongoing
12	Performance Analysis and Island Detection in Distribution Power System.	Dr. Ashwani Kumar	Nimish Bhatt 2K17-Ph.D.-EE-355	Ongoing
13	Optimal Monitoring and Performance Analysis of Grid Connected Distribution System.	Dr. Ashwani Kumar	Sukriti Tiwari 2K18-Ph.D.-EE-385	Ongoing
14	Power System Security Assessment using Machine Learning Techniques	Dr Sushil Chauhan	Mukesh Singh 2K19-Ph.D.-EE-431	It is proposed to investigate static and dynamic aspects of power system security assessment using Machine Learning techniques. Candidate has passed comprehensive examination and working towards his State of Art.
15	Combining Traditional and Esoteric Biometrics for Robust Human Authentication	Dr. Amit Kaul	Akhil Walia 2K17-Ph.D.-EE-330	Candidate is working on integration of traditional Biometrics and medical Biometrics so as to provide solution for problem of vitality check.
16	Modelling Analysis and Implementation of Six-Phase (Multi-Phase) DFIG for Wind Energy Generation.	Dr. Zakir Husain	Neeraj Kumar Mishra 2K16-Ph.D.-EE-304	Ongoing
17	Control	Dr. Zakir Husain	Vivek Kumar	Course work completed. Preparing

	and Implementation of multifunctional multi-phase-compensator for grid-tied solar PV energy conversion systems	and Dr. Rajan Kumar	2K19-Ph.D.-EE-435	for a comprehensive exam.
18	Power System Optimization Techniques	Dr. O.P. Rahi	Abhishek Saini 2K19-Ph.D.-EE-433	Ongoing
19	Output Feedback Schemes for Control and Synchronization of Nonlinear Systems	Dr. B.B. Sharma	Ravi Kumar Ranjan 2K19-Ph.D.-EE-438	In many real world applications, it is not practical to measure all of the states directly. Usually, one can measure only a small number of outputs (corresponding to the sensors that are available). So designing control and synchronization schemes based on output feedback is desirable but a challenging task. The focus in current work is to study various output feedback and state feedback schemes and to design output feedback based control and synchronization strategies for a class of non-linear systems with and without parametric uncertainty. The results will be extended to address secure communication and message transmission and recovery schemes.
20	Non-Invasive Disease Diagnosis	Dr. Amit Kaul	Piyush Mahajan 2K19-Ph.D.-EE-429	Candidate is carrying out investigations for developing Non-Invasive disease diagnosis.
21	Control of Non-Linear Multi-Agent System using Dynamic Programming Techniques	Dr. Ram Niwash Mahia	Manish Kumar Pandey 2K20-PhD. -EE-502	Completed the course work
22	Finite-Time Stability and Synchronization of Non-Linear Systems	Dr. Bharat Bhushan Sharma	Pallov Anand 2020-REE-003	The objective of the research work is to address the problem of finite-time stability and synchronization of non-linear systems with and without parametric uncertainty. In initial part, finite-time synchronization in two system configuration i.e. Master and Slave configuration will be addressed whereas in later part the results will be extended to address finite-time stabilization and synchronization of networked systems
23	Power & Emerging Energy Systems	Dr. Ram Naresh Sharma	Romil Chauhan 2020REE-001	"Attending 16 credit course work"
24	Stability and Synchronization of Complex Networked Systems	Dr. Bharat Bhushan Sharma	Yashasvi Chauhan 2020REE-002	The main focus of this research work is to study synchronization phenomena in networks of coupled dynamical systems where the coupling topology can be expressed as a complex network. To analyze the synchronization of strict-feedback

				like class of linear and non-linear systems, mainly contraction principle based approach will be utilized. The main focus of this research work is to study synchronization phenomena in networks of coupled dynamical systems where the coupling topology can be expressed as a complex network. To analyze the synchronization of strict-feedback like class of linear and non-linear systems, mainly contraction principle based approach will be utilized.
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**(e) M.Tech. dissertation Completed: 33 ( Passed out in July 2020)**

Sr.No.	Title	Guide	Name of the student(s)	Brief Report
1.	Synchronization of Chaotic and hyperchaotic system using sliding mode control	Dr. Himesh Handa	Anjali Tiwari (18M228)	Synchronization of various fractional order chaotic systems has been carried. Several systems like Rossler, Lorenz, systems have been considered using sliding mode control.
2.	Synchronization of Chaotic and hyperchaotic system using adaptive backstepping control	Dr. Himesh Handa	Shubham Singh (18M229)	Various aspects of Synchronization of chaotic systems have been carried. Backstepping control strategy like has been considered to address the problem of synchronization for chaotic and hyperchaotic systems.
3.	Feasibility of microgrids in INDIA using renewable sources of energy	Dr. Yog Raj Sood	Prakhar Singh (18M202)	As the growth in demand of electricity is increasing continuously, a crisis of energy with conventional utilization sources are reducing with a high rate which forces people to enable their interest towards distributed energy sources. In the dissertation discussion is made about the existing architecture and availability of resources in different corners of the country on the basis of geographical location and economic of

				generation. A suitable Micro-grid architecture is suggested as per the future solution of electricity and reducing the emission rate of greenhouse gases, which is a valuable contribution towards the environment.
4.	Modelling and control of microgridBased on Frequency Control of Microgrid	Dr. Yog Raj Sood	Anup Kumar Yadav (18M204)	In this dissertation, - A Microgrid is a building block of future smart grid, This dissertation provides an overview of recent developments in modeling and control methods of microgrid as well as presenting the reason towards incorporating microgrid into the existing grid. Various System of Systems control strategies when applied to MGare discussed.
5.	Harmonics reduction in microgrid	Dr. Yog Raj Sood	Vivek Kumar Tripathi (18M206)	In this work, the candidate presents the enhancement of power quality for a microgrid system at distribution level. The performance of proposed techniques have been verified in the platform of MATLAB/SIMULINK model.
6.	Contraction Theory Based Backstepping Control of Dynamical Systems	Dr. Bharat Bhushan Sharma	PallovAnand (18M230)	In this dissertation, for a generalized class of nonlinear systems,a stabilizing controller is obtained using contraction theory. Many chaotic/hyperchaotic systems belongs tothe proposed generalized class of nonlinear systems such as Chua circuit, Lorenz-Stenflo system, Chen system, Lu system, Lorenz system etc. For deriving results, contraction theory

				blended with Gersgorin theorem is used to obtain a stabilizing controller. Many examples have been provided and a stabilizing controller has been obtained for all of them to prove the justification of the procedure given. After obtaining the stabilizing controller, synchronization of a family of identical systems have been presented.
7.	Finite time stabilization and synchronization of chaotic system using known and unknown parameter	Dr. Bharat Bhushan Sharma	Rohit Kumar (18M232)	In this dissertation, concept of finite time synchronization is explored. Here, a controller has been designed based upon the adaptive approach such that the synchronizing error of the various system states reduces to zero that too within a finite time. The controller is introduced in response system to make its states track the states of the drive system. Different example systems including synchronization and stabilization of hyperchaotic Lu and Chen system, Lorenz system, Genesio system and Chua's system are presented in detail to show the efficacy of the proposed methodology.
8.	Position Control of Electronic Throttle	Dr. Anil K. Yadav and Dr. Bharat Bhushan Sharma	Gopal Sanodia (18M235)	The Electronic Throttle Control (ETC) has become an exceptionally popular system with a fixed ultimate objective to have finer control on the fuel economy, emissions, quality of driving and for integration with the



				<p>other set ups in the vehicle. The ETC is placed after the air filter in the intake manifold of an engine. It is used to change the throttle angle for controlling the air intake to the combustion chamber in accordance with accelerator pedal input. Here, the most prevalent PID controller with Zeigler Nichols tuning techniques have been used to design ETC. Further, the same position control scheme is obtained using most popular feedback linearization approach to achieve appropriate system performance.</p>
9.	Development of an Expert System for Evaluating Residual Life of Transformer	Dr. Veena Sharma	Rishav Choudhary Roll Number: 18M258	<p>This dissertation presents a detailed introduction about the concept of asset management. Furthermore, a rule based expert system using fuzzy inference system for evaluating the transformer's condition has been proposed. The inputs to the expert system are the results of various tests on transformers oil like breakdown voltage, water content, acid number, interfacial tension number, dissolved combustible gases, dissipation factor and 2-furaldehyde concentration.</p>
10	Analysis and Control of Time Delay Systems	Dr. Veena Sharma	Ram kumar Raghuvanshi 18M227	<p>Time delay systems are there in most of the industries. The control and operation of these systems for desired performance is the need of today's control engineers. Therefore we need to study various</p>

				<p>methods that control these systems to get the desired performance. In this study, Smith predictor is used to control these kind of systems. We also used a modified Smith predictor and a PID controller to control the same system. The modified Smith predictor came out to be a better option for these kind of systems. When the systems are with constant delay we can use Smith predictor control techniques to these systems but when delays are variable we should go for modified Smith predictor instead.</p>
11.	Study of Morphological & Dielectric Properties of Polymer Nano-composites	Dr R K Jarial & Dr Jai Gupta, Deptt. of Chemistry, NITH	Aniket Chaturvedi (18M251)	<p>The candidate has done experimental work by using infrastructure in Material Science Deptt., Chemical Engg., EED and IIT Ropar. He has developed Nano Composite insulations as new insulation material for possible use in electric Power cable applications upto 11 KV. One Paper was written for IEEE Conference ICD-2020 to be held in Toronto, Canada but due to covid19 the candidate could not pursue.</p>
12.	Reliability centric Condition monitoring for Power Transformers	Dr R K Jarial & Dr Rajiv K Sharma, Deptt. of Mech. Engg.	Arush K Singh (18M257)	<p>The candidate has carried out exhaustive research in the area of Reliability aspects through monitoring for preventing Transformers Failures. Investigation of Failure Mode Analysis to explore</p>

				possible root cause of failures of Power Transformers related aspects and Published work in 03 IEEE Conferences, 02 Journal
13.	Condition monitoring and life estimation of Transformers feeding power to Steel Mills	Dr R K Jarial	Atul Jaysingh Patil (18M259)	The candidate has carried out his dissertation work on electrical health assessment issues keeping in view problems faced in steel mill transformers to explore possible root causes of their failures by considering case studies at M/s B. Steel Mill Pvt. Ltd., Gagret Distt. UNA (HP). Mr Atul has published his work in 3 IEEE Conferences, 01 Journal.
14.	Optimal Reactive Power Dispatch Using Meta-heuristic Technique in Power System Network	Prof. Ram Naresh Sharma	Abhishek Saini (18M201)	In this dissertation, the particle swarm optimization approach for optimal Var dispatch problems in the power system network is presented. PSO algorithm and MATPOWER 6.0 simulating software are implemented to solve the Var power problem. The proposed methodology is applied on the IEEE 14-bus system and the IEEE 30-bus test system for finding the optimal settings of constraints and simultaneously keeping the system in a safe and secure condition. Simulation results are compared with evolutionary programming and self-adaptive real coded

				genetic algorithm. PSO guides towards an optimal solution for the optimal reactive power flow (ORPF) problem that is confirmed by results.
15.	Comparative Analysis of Maximum Power Point Tracking Techniques for Solar Photovoltaic System	Prof Ram Naresh Sharma	Saurabh Tiwari (18M203)	This dissertation work focuses on comparison between three algorithms in order to find out the most suitable algorithm under changing conditions for maximizing the power yield from the photovoltaic generation setup under varying solar irradiation and temperature. The algorithms used in the dissertation are Perturb and Observe, Incremental Conductance and Particle Swarm Optimisation. Highly accurate SIMULINK models of these algorithms are refined in MATLAB for carrying out the comparative analysis.
16.	Thermal imaging based Life-Assessment and Anomaly Detection using AI Techniques	Dr. Amit Kaul	Joel S (18M252)	In this dissertation, possibilities of using thermal imaging for abnormality detection and life assessment in diverse areas like electrical apparatus/ power transformers, building structures and human health has been explored.
17.	Diagnosis of Retinal Abnormalities using Fundus Images	Dr. Amit Kaul	Yamalakonda Venu Gopal (18M234)	In this dissertation, investigations were carried out to detect retinal abnormalities. Features like Cup-to-disc ratio (CDR) and Rim to Disc ratio were computed. Classifiers ANN and SVM have

				been employed for glaucoma detection.
18.	Study of Image Restoration Techniques using PDE and Sparse Representation	Dr. Amit Kaul Co- Guide Dr. R. Nath	Abhishek Kumar Srivastava (18M236)	Sometimes the images which is collected from the satellite, camera or from any other way is not clear in vision due to blurring or missing of some portion. In this dissertation, image inpainting methods for image restoration have been studied.
19.	Slip Power Recovery Scheme for Induction Motor Using Ćuk Converter	Dr. O.P. Rahi	GauravVardhan	In this research work the performance analysis of SPRS is done on the basis of power factor, reactive power drawn from the source and THD mainly. Simulink models are developed for this purpose. And their results for two-level PWMVSI and three-level PWMVSI are compared along with using MOSFET and IGBT switching devices in converters. The results of proposed work suggest use of three-level inverter with IGBT for better performance.
20	Design & Analysis of Substation Grounding Grid Performance Considering Seasonal Influence	Dr. O.P. Rahi	Arun Kumar	This dissertation, contributes towards safe and efficient grounding design to the ac substations built on hilly terrain. The soil in these areas is more likely to be influenced by seasonal changes and thus posing risk to lives. It has been established in work that frozen season is the main concern for the grounding system safety. So, final design has two schemes. First: The designing of system in the normal soil model and safety measured in frozen soil model.

				Second: The designing of system in frozen soil model and safety measured in normal soil model.
21	Modeling, Simulation and Failures of Small Hydro Power Plants	Dr. O.P. Rahi	Saurabh Ranjan Sharma	In this dissertation, a simulation model has been developed for small hydropower plant to study its behavior. Here for penstock and turbine model the non-linear model of turbine (non-elastic water column) have been used. The response of the simulation is obtained and graphs are plotted using MATLAB/Simulink. The failures modes and effect analysis (FMEA) for Excitation System and Stator of a SHPP have been carried out using fuzzy model.
22	Fast Grid Voltage Amplitude Estimation Technique for LVRT Capability in Single-Phase PV Systems	Dr. Chandrasekaran S.	Anamitra Sarkar	In this dissertation, a fast and accurate amplitude estimation technique is presented. The proposed technique is more accurate, stable, has lesser implementation complexity and computational burden.
23	Cascaded SOGI-FLL Based Reference Current Extraction Method for Active Power Filter in More Electric Aircraft	Dr. Chandrasekaran S.	Animesh Mukherjee	This dissertation presents a reference current extraction method (RCEM) for shunt active power filter in more electric aircraft for various dynamic frequency conditions.
24	Hotspot Detection and Analysis in Distribution Transformer using Thermal Imaging and MATLAB	Er. Rajesh Kumar	Monika Sahu	This dissertation presents the Condition Monitoring of the transformer by taking temperature as a factor of fault.
25	Voltage Stability Improvement of Wind and PV connected Grid using Hybrid Power Flow	Prof Ashwani Kumar	Himani Mattoo	Flexible AC transmission system (FACTS) devices are

	Controller			deployed for enhancing the stability of the system. In this dissertation a hybrid power flow controller (HPFC) is used for analysing its impact on the voltage stability of the grid.
26	Reactive Power and Network Voltage Quality Control of Grid using STATCOM and Active Power Filter	Prof. Ashwani Kumar	Amal Lazar	A novel configuration has been proposed in this dissertation which consists of a STATCOM based on multilevel inverter and a shunt active power filter designed for compensation of reactive power and elimination of harmonics in the current waveform
27	Feasibility Analysis of Hybrid Renewable Energy System	Er. Rajesh Kumar	Ashish Kumar	This dissertation presents the feasibility analysis of hybrid renewable energy (HRE) model. The hybrid model consist of solar/Wind Resources and required amount of battery and converter
28	Impact of UPQC on Power Quality in a Distribution System	Prof. Ashwani Kumar	Ankush Sharma	In this dissertation work, different cases of distributed generation such as PV, Wind, and combination of PVWind are connected to a common bus with different loads, and the system is operated in both grid-connected and islanded modes.
29	Optimal Power Flow using Modified ALO	Dr. Manisha Sharma	R. Dhakeswar Naik	A modified ALO has been proposed by incorporating Lévy-flight (LF) in ALO. This increases the algorithms' capability, further improving the

				solution quality
30	Economic Power Dispatch Integrating Solar Energy Using Evolutionary Algorithm	Dr. Manisha Sharma	Arpita Bharti	In this work, a new meta-heuristic technique named sine cosine (SCA) technique is included for tackling the issue of generation scheduling to obtain best possible solution in power systems taking into account the balance of load, solar power availability constraints, practical constraints
31	Wind Integrated Power Dispatch Using Whale Optimization Algorithm	Dr. Manisha Sharma	Himanshu Raj	In this work, a newly developed meta-heuristic optimization technique called Whale Optimization Algorithm (WOA) is used to improve power generation scheduling issues to get the best results in the power system taking account of power or load balance, wind probability limits, inequality and equality boundaries.
32	Comparative Study of Order Reduction Techniques	Dr. Anil Kumar Yadav	Rishabh Verma	The present work manages the strategies for approximating higher order model into lower order model.
33	Power Flow Control of Hybrid Renewable Energy System	Dr. Anil Kumar Yadav	Srishti	This work proposes operational and management policies for inter-operation and independently operated electrical systems

(f) ONGOING Guidance for M tech Dissertations ( 4th Semester Ongoing Registered PG Students) – 36 ( To Pass out in June/July 2021)				
1	Health monitoring of three phase induction motor using infrared thermography	Dr R K Jarial	Shalinee Badoni (19M251)	Ongoing ( By 31/3/2021)



2	Matrix Inverter Fed Induction motor drive	Dr R K Jarial	Madhulika Yadav (19M257)	Ongoing
3	Identifying Oil filled Power Cable Criticality Using Fuzzy Logic Approach	Dr R K Jarial	Shaily Singh (19M255)	On going
4	Real Time fault & Condition Assessment Practices for Induction Motor drive using IOT Suchandan Das	Dr R K Jarial	Suchandan Das (19M259)	On going
5	Fault-ride-through capability of grid connected photovoltaic plant	Dr. O.P. Rahi	Mr. Abhishek Singh 19M206	Ongoing
6	Hybrid Renewable Energy Management using Artificial Neural Network	Dr. O.P. Rahi	Mr. Shivshankar Pathak 19M220	Ongoing
7	PSO Tuned PID Controller for DC Motor Speed Control	Dr. O.P. Rahi	Mr. Aaditya Sharma 19M227	Ongoing
8	Design & Analysis of Power Converters for Battery Charging of Electric Vehicle	Dr. Rajan Kumar	Ayush Purwar 19M215	Ongoing
9	Power Quality Improvement in Distribution System Using Distributed Static Compensator (DSTATCOM)	Dr. Rajan Kumar	Kirti Kumari 19M254	Ongoing
10	Solar Photovoltaic Array Powered Brushless DC Motor Drive for Industrial Loads	Dr. Rajan Kumar	Seema Chouhan 19M256	Ongoing
11	IoT enabled Condition Monitoring of Low Voltage Industrial Motor	Dr. Supriya Jaiswal	Chaudhary Om Prakash 19M263	Ongoing
12	Grid Synchronization of DG Systems under distorted Grid Conditions	Dr Sushil Chauhan	Lokesh Bhardwaj, Roll no. 19M201	Ongoing
13	Radial basis function neural network for Power flow studies	Dr Sushil Chauhan	Ajay Kumar, Roll no.19M209	Ongoing

14	PV based shunt active harmonic filter for power quality improvement	Dr Sushil Chauhan	Ankit Mishra, Roll no. 19M262	Ongoing
15	Synchronization of Dynamical Systems in Complex Networks using Graphical Approach	Dr. Bharat Bhushan Sharma	Baby Diana (19M236)	Ongoing
16	Combinational and Projective Synchronization among Multiple Chaotic Systems	Dr. Bharat Bhushan Sharma	Samit Changder (19M235)	Ongoing
17	Non-Invasive and Cuff-less estimation of BP using PPG signal	Dr. Amit Kaul	Ms. Shilpa Jaiswal	Ongoing
18	Frequency analysis using Graph signal processing	Dr. Amit Kaul	Ms. Kavita	Ongoing
19	Observer Based Chaotic and Hyperchaotic System Synchronization and Application using LMI toolbox	Dr. Himesh Handa	Prarit Rajput 19M226	Ongoing
20	PSO Tuned PID Controller For DC Motor Speed Control	Dr. Veena Sharma	Aaditya Sharma 19M227	Ongoing
21	Implementation of Multi States in Variable Step Size NLMS & LMS Adaptive Filters	Dr. Ravindra Nath	Meeta Singh 19M230	Ongoing
22	Sliding Mode Control Based Chaotic System Synchronization	Dr. Himesh Handa	Chitranjan Chaudhary 19M233	Ongoing
23	Synchronization and Anti-synchronization of Chaotic Systems Using Contraction Theory	Dr. Himesh Handa	Arpit Sharma 19M234	Ongoing
24	A Novel Design Technique of HESS for Power Management in Electric Vehicle	Dr. Ram Niwas Mahia	Vishwajeet Sinha 19M261	Ongoing
25	Modified SVPWM Technique for Speed Control of PMSM in Electric Vehicles.	Dr. Ram Niwas Mahia	Ashish Kumar 19M264	Ongoing

26	Design & Analysis of Power Converters for Battery Charging of Electric Vehicle	Dr. Rajan Kumar	Ayush Purwar 19M215	Ongoing
27	“Power Management for Hybrid Energy Systems using Droop Control”	Dr. Anil Kumar Yadav	Kamal Singh 19M218	Ongoing
28	Power System Frequency Estimation Using Teager Energy operator	Prof. R.N.Sharma	Shankar Pandit 19M202	Ongoing
29	Constrained Unit Commitment Using Metaheuristic Algorithm	Prof. R.N.Sharma	Vikas Mishra 19M212	Ongoing
30	Short Term Hydrothermal Scheduling Using Improved Social Group Optimization	Prof. R.N.Sharma	Akash Gautam 19M219	Ongoing
31	Power Flow of Multi-Terminal HVDC with Converter Control	Prof. Y. R. Sood	Nivedita Singh 19M203	Ongoing
32	Modified Droop Control for Parallel Connected Inverter	Prof. Ashwani Kumar Chandel	Arvind Kumar Sagar 19M204	Ongoing
33	Non-Linear Fractional Order Controllers for Microgrid System	Prof. Ashwani Chandel	Srikanth Bondalapati 19M205	Ongoing
34	Evaluation of Power Quality Indices in Island Mode Hybrid Micro-grid System	Ms. Bharti Koul	Rana Kinkar Singh 19M216	Ongoing
35	Optimal Power Flow Using Conventional and Artificial Neural Network Methods	Prof. Y. R. Sood	Adarsh Kushwaha 19M208	Ongoing
36	Optimal Placement of DG for Minimizing Loss in Radial Distribution System	Er. Rajesh Kumar	Purushottam Kumar 19M207	Ongoing

### **3. Consultancy services: 03**

Sr.No.	Name of the scheme	Sponsored agency	Amount earned
01	Electrical Health Assessment of Liquid Dielectrics at TIFAC CORE in Power Transformer Diagnostics at NIT Hamirpur	HPSEBL, Rait (Kangra)	Rs 5900.00 (completed)

02.	Electrical Health Assessment of liquid dielectrics at TIFAC CORE in Power Transformer Diagnostics at NIT Hamirpur	M/s Associated Electricals Pvt. Ltd., Roorkee ( UA)	Rs 17136.00 (completed)
03	Under TIFAC CORE One Consultancy Project entitled “Evaluation of System Improvement Scheme for Low Voltage Pockets In Himachal Pradesh including investigations related to Rotten Wooden Poles replacement with Steel Tubular Poles under HPSEBL, Shimla” where in 11 faculty of EED have been jointly working for its completion soon.	HP State Electricity Board Ltd. Shimla	Rs 25,38,450.00 ( Ongoing)

**4. Technical association / societies :**

Sr. No.	Name of Faculty	Technical association / societies :
1	<b>Prof. YR Sood</b>	Senior Member IEEE, USA Fellow of Institution of Engineers (India), Life Member, Indian Society for Technical Education (ISTE) Member Power Globe Member IEEE Indian Council Senior Member International Association of Computer science and Information Technology (IACSIT) Member IEEE Education Society Member IEEE Power & Energy Society Member IEEE Dielectrics and Electrical Insulation Society Member IEEE Sensors Council Member IEEE Council of Superconductivity Member IEEE Nanotechnology Council Fellow Member, International Institute of Education & Management
2	<b>Dr. R.K. Jarial</b>	Member IEEE, Associate Member Institution of Engineers (India), Life Member, Indian Society for Technical Education (ISTE) Delhi, Member, IEEE Dielectrics and Electrical Insulation Society & Member IEEE Power Electronics Society Member, USA
3	<b>Dr. B.B.Sharma</b>	Member, IEEE and Member IEEE (Control System Society), Member ,Robotic Society of India , member institution of Engineers ( India)

4	<b>Sh. Rajesh Kumar</b>	Member Instrument society Of India (LM-1958) and Member the Institution Of Engineers(INDIA) (AM-0998683)
5	<b>Dr. Anil Kumar Yadav</b>	Senior Member, IEEE and Member, The Institution of Engineers (India)
6	<b>Dr. Rajan Kumar</b>	International Awards (01) Membership of Societies (02) Member, IEEE Associate Member, IE (India)
7	<b>Dr Ram Niwas Mahia</b>	Member, IEEE
8	<b>Er. Bharti Koul</b>	Member, IEEE Member, Instrument Society of India Member Institution of Engineers (India)
9	<b>Er. Rajesh</b>	Member Instrument society Of India (LM-1958) Member THE INSTITUTION OF ENGINEERS(INDIA) (AM-0998683)
10	<b>Dr. Ram Naresh Sharma</b>	Member, IEEE, Member, ISTE, Fellow Institution of Engineers (India)
11	<b>Dr. Amit Kaul</b>	Senior Member, IEEE , Life Member ISTE, BMI , Associate Member IE(I)
12	<b>Dr. O.P Rahi</b>	Member, IEEE (USA) Fellow, The Institution of Engineers (India) Life Member, Indian Society for Technical Education. Life Member, Instrumentation Society of India
13	<b>Dr. Supriya Jaiswal</b>	Member, IEEE Associate Member, IE (India)

#### **5. Expert Lectures delivered by EED Faculty : 14**

- (a) Dr R K Jarial delivered an Expert Talk on “Industrial Energy Auditing Practices” for Participants of 05 Day long AICTE Sponsored STTP on Electrical Power System EPS – 2020 conducted by Dr. D.S.Chohan, Professor, EED & Convener, AICTE Sponsored STTP on EPS-2020 at Arya college of Engineering & IT Jaipur (Raj.) wef 19-24, Oct. 2020
- (b) Dr. R K Jarial delivered an Expert Talk for Participants of 05 Day long STTP on Condition Monitoring & Emerging Areas in High Voltage Engineering conducted by EED, IIT BHU wef Feb. 1– 5, 2021 on Topic, “TIFAC CORE in Power Transformer Diagnostics- Ongoing Research Activities”.
- (c) Dr. B. B. Sharma delivered an Expert Talk for Participants of 05 Days e-FDP on “Recent Trends in Intelligent Control Techniques for Renewable Energy Systems and Electric Vehicles” (12-16<sup>th</sup> October, 2020) conducted by Department of Electrical Engineering, NIT Hamirpur on the topic “Tools for Stability and Synchronizability of Nonlinear Control Systems”
- (d) Prof. (Dr.) R. N. Sharma delivered an Expert Talk for Participants of 05 Days e-FDP on “ Recent Trends in Intelligent Control Techniques for Renewable Energy Systems and Electric Vehicles” (12-16<sup>th</sup> October, 2020) conducted by Department of Electrical Engineering, NIT Hamirpur on “Hydro Energy Management Using ANN Techniques”.
- (e) Prof. (Dr.) Y. R. Sood delivered an Expert Talk for Participants of 05 Days e-FDP on “Recent Trends in Intelligent Control Techniques for Renewable Energy Systems and Electric Vehicles” (12-16<sup>th</sup> October, 2020) conducted by Department of Electrical Engineering, NIT Hamirpur on “Microgrids for Promotion of Renewable Energy in Deregulated Power Sector”.

- (f) Prof. (Dr.) Sushil Chauhan delivered an Expert Talk for Participants of 05 Days e-FDP on “Recent Trends in Intelligent Control Techniques for Renewable Energy Systems and Electric Vehicles” (12-16<sup>th</sup> October, 2020) conducted by Department of Electrical Engineering, NIT Hamirpur on “Hybrid Intelligent Systems”.
- (g) Dr. O.P. Rahi delivered an Expert Talk under the Ageis of TEQIP-III, RGSEC, Nagrota Bagwan, Kangra HP on the topic “Indian Power System: An Overview”
- (h) Dr. O.P. Rahi delivered an Expert Talk under the MHRD Sponsored Faculty Development Programme for Faculty of NIT's and Engineering Colleges, NIT Jalandhar on the topic “Wind Power as Renewable Power: Resource Assessment to Active Power Control”
- (i) Dr. Ram Niwas Mahia delivered an Expert Talk under TEQIP-III (RTU-ATU) Sponsored Five Days Faculty Development Program on “Renewable Integration, Challenges and Opportunities” in duration Sept. 01-05, 2020 (Sept. 04, 2020), Rajasthan Technical University, Kota and Vedant College of Engineering & Technology, Bundi, Rajasthan on the topic “Application of Networked Control System in Power Networks”.
- (j) Dr. Ram Niwas Mahia delivered an Expert Talk under TEQIP-III (RTU-ATU) Sponsored Faculty Development Program on “Recent Trends and Practices in Power Utility Grid Operations” in duration Oct. 02-03, 2020 (October 03, 2020) on the topic “Input-Output Dynamic Properties of Power Networks”.
- (k) Dr Rajan delivered an Expert Talk for an Online Faculty Development Program on “Recent Trends and Advances in Renewable Energy Sources,” jointly organized by Rajasthan Technical University Kota and Poornima College of Engineering Jaipur, during 18-22 February 2021.
- (l) Dr Rajan delivered an Expert Talk for an Online Short Term Course on “Research Trends in Energy and Power Systems (RTEPS),” organized by Maulana Azad National Institute of Technology Bhopal, India, during 19-23 October 2020.
- (m) Dr Rajan delivered an Expert Talk for an Online Short Term Training Program on “Recent Advances in power Electronics and Its Applications,” organized by Jabalpur Engineering College, Jabalpur, India, during 22-26 September 2020.
- [n] Dr Rajan delivered an Expert Talk for Online Short Term Training Program on “Sustainable Energy Systems Design for Remote Villages in India,” organized by National Institute of Technology Raipur, India, during 14-18 September 2020.
- [o] Dr Rajan delivered an Expert Talk for an Online Short Term Course on “Emerging Trends in Power and Energy Systems,” organized by Gautam Buddha University, Greater Noida, during 24-28 August 2020.

## **6. Book Chapters = 06, E- Book -01**

- Pawan Kumar Pathak, **Anil Kumar Yadav** and PA Alvi, “Electrical and Electronic Devices, Circuits, and Materials: Technological Challenges and Solutions: Study of the Most Commonly Utilized Maximum Power Point (MPP) Tracking (MPPT) Schemes for SPV Systems” First Edition, Scrivener Publishing, John Wiley & Sons, pp. 447-472, 2021. ISBN: 978-1-119-75036-9.
- Pavan Fuke, **Anil Kumar Yadav**, Ipuri Anil, “A Fuzzy Logic Approach for Optimization of Solar PV Site in India,” Mathematical Modeling, Computational Intelligence Techniques and Renewable Energy; Lecture Notes in Advances in Intelligent Systems and Computing, Springer, vol. 1287, pp. 509-519, February 2021. ISBN: 978-981-15-9953-8, DOI: [https://doi.org/10.1007/978-981-15-9953-8\\_43](https://doi.org/10.1007/978-981-15-9953-8_43)
- Ipuri Anil, Pavan Fuke and **Anil Kumar Yadav**, “MATLAB Based Modeling of Conventional and Fuzzy Logic Controller MPPT Techniques for Solar PV System,” Innovations in Electrical and

Electronic Engineering; Lecture Notes in Electrical Engineering, Springer, vol.661, pp. 283-293, 2021. ISBN: 978-981-15-4692-1, DOI: [https://doi.org/10.1007/978-981-15-4692-1\\_22](https://doi.org/10.1007/978-981-15-4692-1_22).

- Dr **R K Jarial** contributed One Chapter in Book entitled, “Intelligent Computing Applications for Sustainable Real-World Systems (pp.209-218) namely Condition Monitoring Power Transformer by authors Rajesh Roshan, Manisha Sharma and R. K. Jarial which got published vide publication no. [DOI:10.1007/978-3-030-44758-8\_18] in April 2020.
- Contributed One Chapter in Springer Book entitled , “Internet of Energy for Plug-In Hybrid Electric Vehicle by Authors “ Arush Singh, Saurabh Ranjan Sharma, Vivek Kumar Tripathi, Deepanshu Singh Solanki and Dr **R.K. Jarial** Published in March 2021.
- One e- Book Jointly edited on Title : Electricity Pricing In Restructured Electrical Power Sector by Authors :Abhas Kumar Singh, **Y R Sood**, **R K Jarial** through Novateur Publication, India 2020.
- **Koul, Bharti**, Kanwardeep Singh, and Y. S. Brar. "An introduction to smart grid and demand-side management with its integration with renewable energy." *Advances in Smart Grid Power System* (2021): 73-101.

## 3.5 DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



### 1 Academic Staff:

**Head of the Department: Dr. Ashok Kumar  
Ph.D**

#### FACULTIES:

<b>Professor</b>	<b>Associate Professor</b>	<b>Assistant Professor Grade – I / II</b>
Dr. Vinod Kapoor	Sh. K.S. Pandey	Dr. Krishan Kumar
	Dr. Surender Kumar Soni	Sh. Vinod Kumar
Dr. Rajeevan Chandel	Dr. Ashok Kumar	Dr. P. Daniel
	Dr. Gargi Khanna	Dr. Manoranjan Rai Bharti
	Dr. Ashwani Kumar Rana	Dr. Rakesh Kumar
		Sh. Gagnesh Kumar
		Dr. Rohit Dhiman
		Dr. Aman Kumar
		Dr. Amit Bage
		Dr. Dharmendra Singh Yadav
		Dr. Chandra Shekhar Prasad



		Dr. Saurabh Kumar
		Dr. Sankalita
		Dr. Abhijit Bhattacharya
		Dr. Sandeep Kumar
		Dr. Mahesh Angira
		Dr. Pushpendra Singh
		Dr. Gopal Rawat

## 2. DISTINCTION ACHIEVED

- (a) By student: - Nil
- (b) By faculty Member: - Nil

## 3. SEMINAR, SYMPOSIA, SUMMER SCHOOL, WINTER SCHOOL, SHORT TERM COURSE.

### Conducted in the Department

Sponsoring agency	Name of the Coordinator	Title of the Seminar/symposia	Duration
ECE Department	Dr. Abhijit Bhattacharya, Asstt. Prof. Dr. Aman Kumar, Asstt. Prof. Dr. Pushpendra Singh, Asstt. Prof.	EWORKSHOP on "Recent Trends in Signal Processing and Machine Learning with their applications"	8-12 March 2021.
ECE Department	Dr. Sandeep Kumar Singh	E Workshop on "Design Challenges of Internet of Things with AI and ML Applications"	30Nov.-4Dec. 2020

### a) Participated by Faculty Members:

Name of the Staff	Course/Seminar	Organization	Duration
Dr. Rajeevan Chandel	VLSI Design	Webinar organized by Poornima College of Engineering, Rajasthan	July 2020

## 4. RESEARCH

## (a) Research Scheme:

Title of the Scheme	Sponsored by	Assistance Received (Rs) in lakh	Investigator	Brief Report
Design and Fabrication of Low Cost Nanoelectronic Devices for Energy and Environment Applications	SERB	Approx 37 lacs	Dr Gopal Rawat	Granted in 09/12/2020 and it is of three years of duration
Development of Quantum Dots and Pb+2 Free Hybrid Perovskite Based Flexible Photovoltaic Devices	SERB	Approx 32 lacs	Dr Gopal Rawat	Granted in 02/11/2020 and it is of two years of duration

## (b) Research Publication:

(c) Doctoral Programme: 34 ongoing

(d) Ph.D Degree awarded:

**(f) DOCTORAL PROGRAMME:**

Sr. No.	Name of Guide	Name of students
1.	Prof. Rajeevan Chandel	Mr. Dilip Singh
2.	Dr. Surender Soni	Mr. Vinith Chauhan
3.		Ms. Jyoti
4.		Mr. Rajesh K. Garg
5.		Mr. Rahul Kumar
6.		Ms. Nikita Sandil
7.		Dr. Ashok Kumar
8.	Mr. Ashish Goswami	
9.	Ms. Anshu Thakur	
10.	Dr. Ashwani Rana	Mr. Vinod Kumar
11.		Ms. Shelja
12.		Ms. Priyanka
13.	Dr. Philemon Daniel	Ms. M. Kodeeswari
14.		Ms. Shefali Saxena
15.		Ms. Sweta Chauhan
16.	Dr. Gargi Khanna	Mr. Prateek Asthana
17.		Ms. Priya Kaushal
18.	Dr. Rohit Dhiman	Ms. Anchal Thakur
19.		Mr. Ashish Singh
20.		Mr. Ajay Kumar
21.	Dr. M. R. Bharti	Ms. Tanuja Dogra
22.		Ms. Pramila
23.	Dr. Krishan Kumar	Mr. Ashok Kumar
24.		Mr. Mani Shekhar Gupta
25.		Ms. Amandeep Kaur
26.		Ms. Nidhi Sharma

27.		Mr. Monish Bhatia
28.	Dr. Anuradha	DeepanshuKaushal
29.		Ms. ShakshiAnand
30.	Dr. Mahesh Angira	Ms. Raj Kumari
31.	Dr. Rakesh Sharma	Mr. G. Devender
32.	Dr. Aman Kumar	Mr. B. Mohan Rao
33.	Dr. Amit Bage	Mr. Surendra Kumar Gupta
34.	Dr. Dharmendra Singh Yadav	Mr. Prabhat Singh

**(g) POPULAR LECTURES BY OUTSIDE EXPERTS:**

Sr. No.	Date	Speaker	Topic
1.			

**(h) CONSULTANCY SERVICES:**

Sr. No	Name of the Scheme	Sponsored Agency	Amount Earned
-	-	-	-

**(i) EQUIPMENT ACQUIRED:**

Sr. No.	Name of Equipment	Name of manufacturer	Quantity in No.'s	Cost (Rs. In Lakh) in
1	Desktop Computer	HP	20	Rs15,99940.00
2	Analog Communication Kit	M/S. Akadimika	11	Rs9,90000.00

3	<p>Sensor/ Transducer Trainer and data acquisition Trainer Kit (Master Unit).</p> <p>(a) Strain Guage Module.</p> <p>(b) Sound Sensing Module.</p> <p>(c) Speed Sensing Module.</p> <p>(d) Temp. Sensing Module</p> <p>(e) Light Sensing Module</p>	M/S Anshuman	<p>05</p> <p>05</p> <p>05</p> <p>05</p> <p>05</p> <p>05</p>	<p>Rs3,27500.00</p> <p>CGST@9%=1,18575.00</p> <p>SGST@9%=1,18575.00</p> <p>Grand Total=</p> <p>Rs. 15,54650.00</p>
4	<p>Electronic System Trainer Kit.(Master Unit).</p> <p>(a) Transistor Amplifier Experimental Module.</p> <p>(b) Oscillator &amp;Multivibrator Experimental Module.</p>	M/S Anshuman	<p>10</p> <p>10</p> <p>10</p>	<p>Rs1,85000.00</p> <p>CGST@9%=16,650.00</p> <p><u>SGST@9%=16,650.00</u></p> <p>Grand Total=Rs. 2,18300.00</p>
5	PCM Modulation and Demodulation Kit.	Advance tech India Pvt. Ltd.	05	Rs1,01,250.00

6	ASK/FSK/BPSK/DBPSK Trainer Kit .	Advance tech India Pvt. Ltd.	05	Rs1,00000.00
7	Error Correction and Hamming Code Development System.	Advance tech India Pvt. Ltd.	05	
6	Time Division Multiplexing & De-Multiplexing Kit.	Advance tech India Pvt. Ltd.	05	Rs90,000.00
6	Time Division Multiplexing & De-Multiplexing Kit.	Advance tech India Pvt. Ltd.	05	Rs95,000
7	Delta Modulation and Demodulation Kit.	Advance tech India Pvt. Ltd.	05	Rs.95,000 IGST 18%=Rs.86,625.00 TOTAL =Rs 5,67875.00
8	Bread Board Trainer System	M/S. Mine Instrument PVT. LTD.	35	Rs 2,15250 <a href="#">GST@5%=10762.5</a> Total Amount=Rs 226012.5

5. TECHNICAL ASSOCIATION / SOCIETIES:-NIL –

6. DETAIL OF THE LABORATORIES:

Sr. No.	Name of the Laboratory
1	Basic Electronics Lab
2	Computer Lab
3	Electronics Workshop
4	Analog Electronics Lab
5	Digital Signal Processing Lab
6	VLSI Design Lab
7	Communication Lab
8	MEMS Design Lab
9	Embedded System Lab
10	Digital Electronics Lab
11	Industrial Electronics Lab
12	Microwave Lab
13	Fibre Optical Lab
14	Microprocessor Lab

### 3.6 DEPARTMENT OF MECHANICAL ENGINEERING



#### 1. ACADEMIC STAFF

**HEAD** Dr. Somesh Kumar Sharma  
Ph. D

#### FACULTIES:

Professor	Associate Professor	Assistant Professor Gr. – I	Assistant Professor Gr. – II
Dr. Rakesh Sehgal (On Deputation)	Dr. Rajesh Sharma	Dr. Debasish Das	Dr. Deepak Sharma
Dr. Sunand Kumar	Dr. Rajiv Kumaar Sharma	Dr. Mohit Pant	Dr. Param Singh
Dr. Anoop Kumar	Dr. Somesh Kumar Sharma		Dr. Manoj Kumar Sinha
Dr. N.S. Thakur	Dr. Sant Ram Chauhan		Dr. Akhilesh Kumar Choudhary
	Dr. Prashant Kumar		Dr. Ajoy Debberma
	Dr. P.K. Sood		Dr. Dilshad Ahmad Khan
	Dr. Siddhartha		Dr. Rajesh Kumar
	Dr. Varun		Dr. Laxmikant Yadav
			Dr. Parnika Shrivastava
			Dr. Somnath Dey, Temporary Faculty

#### 2. DISTICTION ACHIEVED:

(a) **By Student:** Students participated in various Tehnical Festivals within Country and Qualified National Level Exams such as GATE etc.



### 3. SEMINAR, SYMPOSIA, SUMMER SCHOOL, WINTER SCHOOL, SHORT TERM COURSE

(a) Conducted in the Department: **Mechanical Engg. Deptt.**

Sponsoring Agency	Name of the Co-ordinator	Title of the Seminar/Symposia/STC etc.	Duration	Venue
MHRD	Dr. Rajesh Sharma	e-workshop on Innovation and Entrepreneurship	28 Dec 2020 to 1st Jan 2021	On-line
MHRD	Dr. Manoj Kumar Sinha	Five days online workshop on Advances In Manufacturing: Materials, Processes & Systems	Nov. 23-27,2020	On-line
MHRD	Dr. Ajoy Debberma	Modeling and Simulation in Thermal Engineering,	30-10-2020 - 03-11-2020	On-line
MHRD	Dr. Dilshad A Khan	e-workshop on "Condition Monitoring & Industrial Automation"	22-26 March 2021	On-line
MHRD	Dr. Parnika Shrivastava	e-Workshop on Technology, Innovations and Challenges in Rapid Product Manufacturing	Nov. 23-27, 2020	On-line
MHRD	Dr. Parnika Shrivastava	e-STC on Energy Efficient Building Technology	Jan 3-7, 2021	On-line

### 4. RESEARCH:

(a) **Research Scheme:**

Title of the Scheme	Sponsored by	Assistance Received ₹ (in lakh)	Investigator	Brief Report
-	-	-	-	-

(b) **Research Publication:**

i) **PAPER PUBLISHED BY FACULTY:**

S. No.	Name of Faculty	Name of Refereed Journal	National / International	Title of the Paper	Year of Publication
1.	Dr. Rajesh Sharma	Journal of Mechanical Engineering and Sciences	International	Wear volume prediction of AISI H13 die steel using response surface methodology and artificial neural network	2020
2.	Dr. Rajesh Sharma	Proceedings of the Institution of Mechanical Engineers, Part J: Journal of	International	Impact of austenitizing temperature on the wear behaviour of AISI H13 steel,	2021

		Engineering Tribology		235 issue: 3, page(s): 564-574	
3.	Dr. Somesh Kumar Sharma	The International Journal of Manufacturing, Materials, and Mechanical Engineering, Accepted for Publication, SCI	International	SLS Process Parameters Optimization to improve Surface Quality and Accuracy of Polymer Parts	2021
4.	Dr. Somesh Kumar Sharma	Management of Environmental Quality, Emerald Publishing Ltd., Accepted for Publication, Scopus	International	Assessment of Healthcare solid waste management practices for environmental performance: a study of hospitals in Himachal Pradesh	2020
5.	Dr. Rajiv Kumaar Sharma	Prod. Eng. Arch., vol. 26, no. 4, pp. 154–161, 2020, doi: 10.30657/pea.2020.26.28.	International	Parametric optimization of process parameters for Electric discharge Machining of Tungsten carbide (93% WC and 7%Co)	2020
6.	Dr. Rajiv Kumaar Sharma	Int. J. Qual. Reliab. Manag., 2021, doi: 10.1108/IJQRM-09-2020-0294	International	ISM and fuzzy logic approach to model and analyze the variables in downstream supply chain for perfect order fulfilment	2021
7.	Dr. Rajiv Kumaar Sharma	Journal of Manufacturing Technology Management	International	The Relationship between Cost Leadership Competitive Strategy and Firm Performance: A Mediating Role of Quality Management	2020
8.	Dr. Rajiv Kumaar Sharma	Springer, ISBN 978-981-15-4549-8	International	An Efficient Algorithm for Solving Cell Formation Problem in Cellular Manufacturing	2020
9.	Dr. Rajiv Kumaar Sharma	Springer, ISBN 978-981-15-6016-3, 483185_1_En (20)	International	Analyzing the Effect of Different Maintenance Policies on the Performance of Flexible Manufacturing Cell	2020
10.	Dr. Prashant Dhiman	Energy Sources-Elsevier	International	Photovoltaic Thermal Solar Air Heater under External Recycle: A Performance Study	
11.	Dr. Deepak Sharma	Case Studies in Thermal Engineering, 2021	International	An Experimental Investigation of Emission Performance of Heterogenous Catalyst Jatropa Biodiesel using RSM	2021
12.	Dr. Deepak Sharma	Process Safety and Environmental Protection,	International	Experimental study on combustion, performance, and	2021

		2021		emission behaviours of diesel /WCO biodiesel/Cyclohexane blends in DI-CI engine	
13.	Dr. Manoj Kumar Sinha	Journal of Materials Engineering and Performance, Vol. 30, 2021, 1-14	International	Compaction and Densification Characteristics of Iron Powder/Coal Fly Ash Mixtures Processed by Powder Metallurgy Technique	2021
14.	Dr Rajesh Kumar			Forcefields for Atomistic-Scale Simulations: Materials and Applications	
15.	Dr. Laxmikant Yadav	Springer Berlin Heidelberg 2779-2799	International	Performance analysis of counter flow cooling tower using reciprocating desiccant mesh	2020
16.	Dr. Parnika Shrivastava	Mathematical Methods in the Applied Sciences.	International	Pseudospectral analysis and approximation of two-dimensional fractional cable equation.	2021
17.	Dr. Parnika Shrivastava	Numerical Methods for Partial Differential Equations 37.2	International	Time-space Jacobi pseudospectral simulation of multidimensional Schrödinger equation.	2021
18.	Dr.Parnika Shrivastava	Reliability and Risk Assessment in Engineering. Springer, Singapore, 2020. 457-466.	International	Deformation-Induced Surface Roughness and Global Spring Back Resulted with Different Plastic Strain Levels in Incremental Forming of Original and Preheated Sheet Samples."	2020

Type	Title	Publisher	Authors	ISBN/ISSN No.	Year
Book	Quality Management Practices in MSME Sectors	Springer	Dr. Rajiv Kumar Sharma	978-981-15-9514-1/2195-9862	2021

## ii) PAPER

PRESENTED IN CONCERNECE/SEMINAR/SYMPOSIOS:

Sl. No.	Name of Faculty	Details of Conference Proceeding	National / International	Title of the Paper	Year of Publication
1.	Dr. Prashant Dhiman	ICCACE -2020 NIT Kurukshetra	National	Performance analysis of solar air Heater with jet impingement and corrugated	

				absorber plate	
2.	Dr. Deepak Sharma	RAME DTU, 2020	National	Numerical Investigation of Heat Transfer Characteristics of Al <sub>2</sub> O <sub>3</sub> -H <sub>2</sub> O Based Nanofluid Flow in Light Water Nuclear Reactor	2020
3.	Dr. Ajoy Debberma	i-CONNECTS-2021: International Conference on Energy Conversion and Thermo-Fluids System, Malaviya National Institute of Technology Jaipur, Jaipur India	International	Numerical study of hydrodynamics and heat transfer characteristics during cooling of curve surface with water jet impingement	2021
4.	Dr. Ajoy Debberma	FLUTE 2021: International Symposium on Fluids and Thermal Engineering, Department of Mechanical Engineering, Amity University, Noida, India	International	Performance Investigation of Sinusoidal Corrugated Absorber Plate Solar Air Heater	2021
5.	Dr. Ajoy Debberma	ICAMIE-2020: International Online Conference on Advances in Mechanical and Industrial Engineering, Virtual Conference, Bhubaneswar, India	International	CFD Investigation on Rewetting temperature and Wetting delay during quenching of hot Surface with Jet Impingement	2020
6.	Dr. Ajoy Debberma	3rd International e-Conference on Frontiers in Mechanical Engineering and nanoTechnology [ICFMET-2020], Sanjeevan Engineering and Technology Institute, Panhala and Yashwantrao Patil Science College, Solankur (Technical Sponsor - Association of Science and Technology)	International	CFD Investigation of Rewetting behavior on a hot vertical plate surface with coolant jet impingement	2020
7.	Dr. Dilshad A Khan	Industrial and Manufacturing Systems (CIMS-2020), October 09-11, 2020, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar	National	Design and Development of Novel Multipoint Epicyclic Superfinishing Tool	2020

## iii) PAPER ACCEPTED FOR PUBLICATION:

S. No.	Name of Faculty	Name of Refereed Journal	National / International	Title of the Paper	Year of Publication
1.	Dr. Ajoy Debberma	Materials Today proceeding	International	CFD Investigation of Rewetting behavior on a hot vertical plate surface with coolant jet impingement	
2.	Dr. Ajoy Debberma	Proceedings of International Conference on Advances in Mechanical & Industrial Engg. (ICAMIE-2020): (Materials, Design, Manufacturing Processes & Systems) Taylor & Francis Book India Pvt. Ltd. (CRC Press) (SCOPUS & WOS).	National	CFD Investigation on Rewetting temperature and Wetting delay during quenching of hot Surface with Jet Impingement	
3.	Dr. Parnika Shrivastava	Additive Manufacturing (CRC Press, Taylor & Francis Group, USA)	International	Recent Advancements and Developments in the Field of Rapid Prototyping for Clinical Applications	

- (c) Doctoral Programme: 33
- (d) Ph. D. Degree awarded: 05
- (e) Master Thesis completed: 34

Sr. No.	Name of the Student	Name of Guide	Name of Co-Guide	Year of Regn.	Nature of Ph.D	Specialization/ Topic	Status
1.	Mr. Vishal Jagota	Dr. Rajesh Sharma	-	2013	Part-Time	Investigation of Sliding Wear Behaviour of AISI H13 Tool Steel	Awarded on (21-03-2021)
2.	Mr. Jagroop Singh	Dr. Somesh Sharma	-	2013	Full Time	Assessing the Parameters of Aviation Fuel Consumption	Awarded on (20-10-2020)
3.	Mr. Rajneesh Kumar	Dr. Anoop Kumar	-	2013	Full Time	Heat Transfer Enhancement and Fluid Flow Behaviour through Non-Circular (Triangular) Duct	Awarded on (23-09-2020)
4.	Mr. Anant Krishan Pun	Dr. Siddhartha	-	2014	Part Time	Investigations on Erosion Wear Characteristics of Some Oxide and Non-Oxide Filler Based Polymer Composites	In-Progress (10-09-2014)
5.	Mr. Surender Kumar	Dr. P.K. Sood	-	2014	Full Time	Investigations on Machinability and Wear behavior of Aluminium Matrix Nanocomposite	Awarded on (02-12-2020)
6.	Mr. Arvind Kr. Bisht	Dr. N.S.Thakur	-	2015	Full Time	Thermal Analysis of Bio Mass Gasification for IC Engine Application	Awarded on (24-12-2020)
7.	Mr. Sushant Thakur	Dr. N.S. Thakur	-	2016	Full Time	Solar Air Heater	In Progress (17-08-2016)
8.	Mr. Navneet Arya	Dr. Varun	-	2018	Full Time	Passive Heat Transfer Augmentation Techniques	In Progress (19-07-2018)
9.	Mr. Vishal Kumar	Dr. Debasish Das	-	2018	Full Time	Experimental Investigation of Bio Diesel in Modified Diesel Engine	In Progress (19-07-2018)

10.	Mr. Ajay Kumar	Dr. Prashant Dhiman	-	2018	Full Time	Thermal Performance of New Solar Thermal Air Heater	In Progress (19-07-2018)
11.	Mr. Sunil Setia	Dr. S.R. Chauhan	-	2018	Full Time	Development Mechanical Tribological and Machining Characteristics of Mono and Hybrid Nano Composites	In Progress (19-07-2018)
12.	Mr. Amitesh Sharma (QIP)	Dr. Prashant Dhiman	-	2018	Full Time	Performance of Jet Impingement Type Solar Air Heat	In Progress (01-08-2018)
13.	Mr. Roopak Varshney	Dr. Param Singh	-	2019	Full Time	Assisted Electrical Discharging Machine	In Progress 22-07-2019
14.	Mr. Kamal Kishore	Dr. Manoj Kumar Sinha	-	2019	Full Time	Sustainable Machining of Difficult to Machine Materials	In Progress 22-07-2019
15.	Mr. Sudhir Kumar Singh	Dr. Deepak Kumar Sharma	-	2019	Full Time	Boiling Heat Transfer Enhancement	In Progress 22-07-2019
16.	Mr. Ayush Awasthi	Dr. Mohit Pant	-	2019	Full Time	Computational Fracture Mechanics	In Progress 22-07-2019
17.	Mr. Yogesh Kumar Yadav	Dr. Siddharatha	-	2019	Full Time	Erosion Wear Modelling	In Progress 22-07-2019
18.	Mr. Vivek Singh	Dr. Rajesh Kumar Sharma	-	2019	Full Time	Experimental Investigation on Tribological Behaviour of Material	In Progress 22-07-2019
19.	Ms. Akanksha Maurya	Dr. Santosh B. Bopche	-	2019	Full Time	Investigations on the Performance Improvement of Solar Cavity Receives	In Progress 22-07-2019
20.	Mr. Vijay Kumar	Dr. Akhilesh Kumar Choudhary	-	2019	Full Time	Condition Monitoring of Mechanical System	In Progress 22-07-2019
21.	Mr. Rajat Kumar	Dr. Varun	-	2019	Full Time	Thermal Management System using Heat Pipes	In Progress 22-07-2019
22.	Mr. Jasveer Singh	Dr. Rajesh Kumar, AP Gr. - II	-	2020	Full Time	Atomistic Modelling of Nano Materials for Mechanical Characterization	In Progress (08-01-2020)
23.	Mr. Saurabh Thakur	Dr. Parnika Shrivastava	-	2020	Full Time	Incremental Sheet Forming of Polymer Material	In Progress (08-01-2020)

24.	Mr. Sohan Lal Sharma	Dr. Ajoy Debbarma	-	2020	Full Time	Thermal Storage System for Power Generation using TEG Models	In Progress (08-01-2020)
25.	Mr. Prince Oliver Horo	Dr. Dilshad Ahmad Khan	-	2020	Full Time	Magnetorheological Finishing (MRF)	In Progress (08-01-2020)
26.	Mr. Ankur Dwivedi	Dr. Anoop Kumar	-	2020	Full Time	Battery Thermal Management System	In Progress (08-01-2020)
27.	Mr. Ashutosh Kumar Verma	Dr. Laxmikant Yadav	-	2020	Full Time	Solar Assisted Deficient Cooling Tower	In Progress (08-01-2020)
28.	Mr. Love Kumar	Dr. Rajiv Kumar Sharma	-	2020	Full Time	Industrial Engineering	In Progress (08-01-2020)
29	Mr. Biswajit Sahoo	Dr. Debasish Das	-	2020	Full Time	Robotics	In Progress (08-01-2020)
30	Mr. Akshay Thakur	Dr. Varun	-	2020	Full Time	Renewal Energy	In Progress (05-10-2020)
31	Mr. Ritesh Sharma	Dr. Rajesh Sharma	-	2020	Full Time	Trobology	In Progress (01-10-2020)
32	Mr. Sushail Sabri Ali	Dr. S.R. Chauhan	-	2020	Full Time		In Progress (06-10-2020)
33	Mr. Vikram Singh (Under QIP)	Dr. Somesh Kumar Sharma	-	2020	Full Time		In Progress (25-09-2020)

**iv) PATENT:**

Sr. No.	Title of Patent (CBR No.)	Application Number	Application filing Agency/office	Application Filing date	Present Status
1.	Magnetorheological Fluid Based Flexible Grinding Set-up (Dr. Dilshad A Khan)	202011019207	Dr. Dilshad A Khan /Indian Patent Office Delhi	05th June, 2020	Patent Published



2.	Surya Stree: A Battery Free Solar Iron Press and the System for heating Thereof( <b>Dr. Dilshad A Khan</b> )	202011040479	Dr. Dilshad A Khan /Indian Patent Office Delhi	18 <sup>th</sup> September 2020	Patent Published
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**(f) DOCTORAL PROGRAMME:**

S. No.	Title of Thesis	University / Institute & Year of Ph. D. Award	Name of the Scholar	Name of the Supervisors
1.	Heat Transfer Enhancement and Fluid Flow Behaviour through Non-Circular (Triangular) Duct	NIT Hamirpur/Awarded on (23-09-2020)	Mr. Rajneesh Kumar	Dr. Anoop Kumar
2.	Thermal Analysis of Bio Mass Gasification for IC Engine Application	NIT Hamirpur/Awarded on (24-12-2020)	Mr. Arvind Kr. Bisht	Dr. N.S.Thakur
3.	Investigation of Sliding Wear Behaviour of AISI H13 Tool Steel	NIT Hamirpur/Awarded on (21-03-2021)	Mr. Vishal Jagota	Dr. Rajesh Sharma
4.	Assessing the Parameters of Aviation Fuel Consumption	NIT Hamirpur/Awarded on (20-10-2020)	Mr. Jagroop Singh	Dr. Somesh Sharma
5.	Investigations on Machinability and Wear behavior of Aluminium Matrix Nanocomposite	NIT Hamirpur/Awarded on (02-12-2020)	Mr. Surender Kumar	Dr. P.K. Sood

**5. DISTICTION ACHIEVED:**

(a) By Student: -

(b) By Faculty Member:

**Dr. Deepak Sharma**

Best Paper Award received in RAME DTU Conference in 2020 -

**Dr Dilshad A Khan**1. Honored with the title of *Chartered Engineer (CEng)* by The Institutions of Mechanical Engineers, London (U.K), 1<sup>st</sup> December 2020.2. *Best Paper Award* received in International Conference on Industrial and Manufacturing Systems (CIMS-2020), October 09-11, 2020, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar.3. *Best Researcher Award* in International Scientist Awards 2021 by VDGGood, 6-7 March 2021, Goa**6. DETAILS OF LABORATORIES:**

Sl. No.	Name of Laboratory	Capacity	Year of Establishment
1	Foundary, Forming and Welding Laboratory	313 Sq.m	1996
2	Metrology & Measurement Laboratory	156 Sq.m	2020
3	Industrial Engineering Laboratory	78 Sq.m	1996
4	Computer Aided Manufacturing Laboratory	78 Sq.m	2005
5	Advanced Manufacturing Laboratory	78 Sq.m	2020

6	Mechatronics & Robotics Laboratory	78 Sq.m	2005
7	Material Testing Laboratory	117 Sq.m	1986
8	Theory of Machine	78 Sq.m	1996/1997
9	Computer Aided Design Laboratory	156 Sq.m	1992
10	Tribology Laboratory	78 Sq.m	1997
11	Rapid Design & Development Lab.	78 Sq.m	2020
12	Product Design & Development Laboratory	78 Sq.m	2020
13	Fluid Mechanics & Machinery Laboratory	243 Sq.m	1996
14	Heat & Mass Transfer Laboratory	78 Sq.m	1996
15	Steam Power Engineering Laboratory	120 Sq.m	2000
16	I.C.Engine Laboratory	117 Sq.m	1995
17	Refrigeration and Air Conditioning Lab.	78 Sq.m	1997
18	Automobile Engineering Laboratory	117 Sq.m	1995
19	Solar Energy Laboratory	120 Sq.M	2020
20	C.F.D (New) Laboratory	117 Sq.m	2010
21	Energy Research Laboratory	120 Sq.m	2020

## 3.7 DEPARTMENT OF CHEMISTRY



### 1 DEPARTMENT OF CHEMISTRY

#### ACADEMIC STAFF

1. **HEAD:** - Prof. A.S. Singha

#### FACULTIES:-

Professor	Associate Professor	Assistant Professor
Dr. A.S. Singha	1) Dr.Pamita Awasthi	1) Dr. K.S. Ghosh (Gr-I)
	2) Dr.Bharti Gaur	2) Dr.Raj Kaushal
		3) Dr. Jai Prakash

2) **Research Publication: (w.e.f. 1.04.2020 to 31.03.2021)**

1. R. Dhiman, V. Kiran, **Bharti Gaur**, Amar Singha, "Impact of PVA modified sulfonated poly (aryleneether ketone) copolymers as proton exchange membranes on fuel cell parameters," **Journal of Chemical Sciences**, (2021). (DOI: [10.1007/s12039-021-01905-6](https://doi.org/10.1007/s12039-021-01905-6))
2. R. Dhiman, **Bharti Gaur**, Amar Singha, "Carbon Nanotubes Doped Poly (arylene) Ether Copolymerised Multiblock Based Proton Exchange Composite Membranes for Fuel Cell Application," **Journal of The Electrochemical Society**, (2021). (DOI:[10.1149/1945-7111/abf5a8](https://doi.org/10.1149/1945-7111/abf5a8))

3. Rashi Dhiman, Vaishnav Kiran, **Bharti Gaur**, A.S. Singha, "Biphenol based Membranes with Ionic Channels for Fuel Cell Applications," (Accepted), **Iranian Polymer Journal**, (April 2021).
4. T. Thakur, S. Jaswal, S. Parihar, B.Gaur, A. S. Singha, Bio-based epoxy thermosets with rosin derived imidoamine curing agents and their structure-property relationships, *eXPRESS Polymer Letters*, Vol.14.
  - a. DOI:10.3144/expresspolymlett.2020.42
5. T. Thakur, S. Jaswal, B.Gaur, A.S. Singha : Thermo-mechanical properties of rosin-modified o-cresol novolac epoxy thermosets comprising rosin-based imidoamine curing agents, *Polymer Engineering and Science*. ( October2020);1–21.
  - a. DOI: 10.1002/pen.25562
6. S. Jaswal, T. Thakur, B.Gaur, A. S. Singha: High performance rosin-based hyperbranched vinyl ester resin derived from multifunctional pentaerythritol. *Polymer Bulletin*.(April 2020)
  - a. DOI: 10.1007/s00289-020-03511-x
7. S. Jaswal, T. Thakur, B.Gaur, Rosin-modified o-cresol novolac based vinyl ester thermosets containing methacrylate lignin model compounds: synthesis, curing and thermo-mechanical analysis. *Journal of Polymer Research* (2021) 28:111
  - a. DOI: 10.1007/s10965-021-02475-4
8. "Spectroscopic, viscometric and computational binding study of 1 and 2 substituted anthraquinoneanalogs to be potential anti-cancer agents" **Pamita Awasthi\***, Anjali Sharma , Manu Vatsal Department of Chemistry, National Institute of Technology, Hamirpur 177005, Himachal Pradesh, India **Journal of Molecular Structure** 1223 (2021) 129293 <https://doi.org/10.1016/j.molstruc.2020.129293> 0022-2860/© 2020 Elsevier B.V. All rights reserved.
9. "Isoleucine with secondary sulfonamide functionality as anticancer, antibacterial and antifungal agents" KirnaDevi, **Pamita Awasthi\*** Received 23 Nov 2020, Accepted 17 Feb 2021, Published online: 11 Mar 2021 **Journal of Biomolecular Structure and Dynamics Taylor and Francis** <https://doi.org/10.1080/07391102.2021.1893818> SCI
10. "Synthesis, Characterization, In vivo, Molecular Docking, ADMET and HOMO-LUMO study of Juvenile Hormone Analogues having sulfonamide feature as an Insect Growth Regulators" Priyanka Sharma, **Pamita Awasthi\*** Department of Chemistry, National Institute of Technology, Hamirpur, H.P.-17 7005 **Journal of Molecular Structure**, 1231(2021)129945 <https://doi.org/10.1016/j.molstruc.2021.129945> 0022-2860/© 2021 Elsevier B.V. All rights reserved SCI
11. T. Gupta, Samriti, J. Cho, **Jai Prakash**, Hydrothermal synthesis of TiO<sub>2</sub>nanorods: formation chemistry, growth mechanism, and tailoring of surface properties for photocatalytic activities, (accepted) **Materials Today Chemistry** (Feb 2021)
12. W. Fernandes-Junior, P. R de Oliveira, **Jai Prakash**, Bruno Campos Janegitz, Electrochemical sensor based on nano diamonds and manioc starch for detection of tetracycline, (accepted) **Journal of Sensors** (March 2021)
13. P. Kumar, M. C Mathpal, **Jai Prakash**, B. C. Viljoen, W. D. Roos, H. C. Swart, Band gap tailoring of cauliflower-shaped CuO nanostructures by Zn doping for antibacterial applications, **J. of Alloys and Compounds**, (2020). (<https://doi.org/10.1016/j.jallcom.2020.154968>)
14. P. Kumar, M. C. Mathpal, **Jai Prakash**, G. Jagannath, W.D. Roos, H.C. Swart, Plasmonic and nonlinear optical behavior of nanostructures in glass matrix for photonics application, **Mat. Res. Bull.** 125 (2020) 110799. (DOI: <https://doi.org/10.1016/j.materresbull.2020.110799>)

15. Sharma, S., **Ghosh, K.S.** (2021) Overview on recently reported fluorometric sensors for the detection of copper ion based on internal charge transfer (ICT), paramagnetic effect and aggregation induced emission (AIE) mechanisms, *J. Mol. Struct.* **1237**, 130324.
16. Sharma, S., **Ghosh, K.S.** (2021) Recent advances (2017-20) in the detection of copper ion by using fluorescence sensors working through transfer of photo-induced electron (PET), excited-state intramolecular proton (ESIPT) and Förster resonance energy (FRET), *Spectrochimica Acta A* **254**, 119610.
17. Rana, S., Sarmah, S., Singha Roy, A., **Ghosh, K. S.** (2020) Elucidation of molecular interactions between human  $\gamma$ D-crystallin and quercetin, an inhibitor against tryptophan oxidation, *J. Biomol. Struct. Dyn.* **39**, 1811-1818.
18. Velappan, A.B., Datta, D., Ma, R. Rana, S., **Ghosh, K.S.**, Hari, N., Franzblau, S.G., Debnath, J. (2020) 2-Aryl benzazole derived new class of anti-tubercular compounds: Endowed to eradicate Mycobacterium tuberculosis in replicating and non-replicating forms, *Bioorg. Chem.*, **103**, 104170.
19. Rana, S., Velappan, A. B., Debnath, J., **K.S. Ghosh** (2020) Inhibition of copper-induced aggregation of human  $\gamma$ D-crystallin by a diimine molecule and investigations on their molecular interactions, *J. Biomol. Struct. Dyn.* **38**, 4914-4920.
20. Sharma, A., **Ghosh, K. S.** (2020) Studies on molecular interactions between bovine  $\beta$ -lactoglobulin and silver nanoparticles, *Prot. Pept. Lett.* **27**, 793-800.

**Patents filed: NIL**

3. **Doctoral Programme:** - 16 Nos. on going  
**Ph. D Degree Awarded:** - 01

**Doctoral Programme :**

Sr. No	Title	Guide	Name of the student	Brief Report
1	"Self-Healing Thermoset Resin"	<b>Dr. A.S. Singha</b> <b>Dr. Bharti Gaur</b>	Ms. Tamanna Thakur	<b>In Progress</b>
2	"Proton Exchange Membranes for Fuel cell application"	<b>Dr. Bharti Gaur</b> <b>Dr. A.S. Singha</b>	Ms. Rashi	<b>In Progress</b>
3	"Self-healing coatings based on thermo reversible Diel's Alder reactions"	<b>Dr. Bharti Gaur</b>	Ms. Shalini	<b>In Progress</b>
4.	"Polymer Drug Delivery Vehicles."	<b>Dr. Bharti Gaur</b>	Mr. Avtar Chand	<b>In Progress</b>
5	Inhibition of aggregation and	<b>Dr. K.S. Ghosh</b>	Ms. Shiwani Rana	<b>In Progress</b>

	posttranslational modifications of human gamma D- crystallin: Implications in cataract			
6.	Application of nano materials for amyloid inhibition and studies on their molecular interactions	<b>Dr. K.S. Ghosh</b>	Ms. Anchal Sharma	<b>In Progress</b>
7.	Design and development of chemical sensors for detection of metal ions	<b>Dr. K.S. Ghosh</b>	Ms. Shivani Sharma	<b>In Progress</b>
8.	Titanium- Indol Complexes as Potential Biological Agents	<b>Dr. Raj Kaushal</b>	Ms. Archana Thakur	<b>In Progress</b>
9.	Chalcone based vanadium complexes, their antibacterial and antidiabetic studies	<b>Dr. Raj Kaushal</b>	Ms. Mandeep Kaur	<b>In progress</b>
10.	Functionalized Carbon Quantum Dots as Probes for Measuring Specific Ionic Interactions at Macromolecular Surfaces	<b>Dr. Pamita Awasthi Care Taker Supervisor</b>	Ms. Shameema Rana	<b>In progress</b>
11.	Green Synthesis of Silica nanoparticles	<b>Dr. Raj Kaushal</b>	Ms. Pratibha Sharma	<b>In progress</b>
12	“Multifunctional Hybrid Nanostructured Materials” (tentative)	<b>Dr. Jai Prakash</b>	Ms. Samriti	<b>In Progress</b>
13	Synthesis, Characterization, Biological screening and computational studies of Sulfonamide	<b>Dr. Pamita Awasthi</b>	Ms. Kirna Devi	<b>In progress</b>
14	Synthesis Characterization Computational and biological studies of Juvenile hormone analogues as insect growth regulators	<b>Dr. Pamita Awasthi</b>	Ms. Vandna Devi	<b>In progress</b>
15	Synthesis Biological Screening and DNA-Interaction studies of 9,10 anthraquinone class of Compounds as potential anticancer agents	<b>Dr. Pamita Awasthi</b>	Ms. Anjali Sharma	<b>In progress</b>
16	Designing and Synthesis of IGR's”	<b>Dr. Pamita Awasthi</b>	Ms. Neetika Kumari	<b>In progress</b>

**4. Popular Lectures by outside experts:**

Sr. No.	Date	Speaker	Topic
1.		Nil	

**5. DETAIL OF THE LABORATORIES:**

Sr. No.	Name of the Laboratory
1.	Research & Development Laboratory R&D Lab (PG)
2.	Under Graduate (UG) Laboratory
3.	Instrumentation Laboratory
4	Physical Laboratory
5	Organic Laboratory
6	Inorganic Laboratory
7	Nanomaterial Research Laboratory
8	Organic synthesis research Lab.
9	Computational Chemistry research lab.



### 3.8 DEPARTMENT OF MATHEMATICS & SCIENTIFIC COMPUTING



#### 1. Academic Staff

Head: Dr. Pawan Kumar Sharma, Associate Professor.

#### Faculty Names:

Professor	Associate Professor	Assistant Professor
1. Dr. Yogeshver Dutt Sharma, Ph.D. 2. Dr. Sunil, Ph.D.	1. Dr. Ramesh Kumar Vats Ph.D. 2. Dr. Pawan kumar Sharma, Ph.D.	1. Dr. Suket Kumar, Ph.D. 2. Dr. Neha Yadav, Ph.D. 3. Dr. Subit Kumar Jain, Ph.D. 4. Dr. Om Prakash Yadav, Ph.D. 5. Dr. Rifaqat Ali, Ph. D. 6. Dr. Nidhi Gupta, Ph.D.

#### 2. Research (2020-21)

##### i. Research Scheme (2020-21): NIL.

S. No	Name of the Staff	Title of the Scheme	Sponsored by	Assistance Received (Rs.) in lakh	Investigator	Brief Report
1.	Dr. Kamaljeet	Solutions of various forms of differential and integral	CSIR, New Delhi	2,38,374/-	Dr. R. K. Vats	5 Research papers have been

		equations through concepts of fixed-point theorems.				published under this project grant.
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## ii. Research Publications:

### Paper published in National and International Journals/Conferences/Seminars: NIL

1. Majee S, Jain SK, Ray RK, Majee AK. On the development of a coupled nonlinear telegraph-diffusion model for image restoration. *Computers & Mathematics with Applications*. 2020 Oct 1;80(7):1745-66. **(Dr. Subit Kumar Jain)**
2. Kali Charan, Om Prakash Yadav, BC Tewari, Charged anisotropic spherical collapse with heat flow, *The European Physical Journal C*, Vol. 81(1), pp 1-11. **(Dr. OP Yadav)**
3. Bhuarya, Pallavi, Preeti Chandrakar, Rifaqat Ali, and Aakanksha Sharaff. "An enhanced authentication scheme for Internet of Things and cloud based on elliptic curve cryptography." *International Journal of Communication Systems* 34, no. 10 (2021): e4834. **(Dr. Rifaqat Ali)**
4. Kumar, Aashish, Preeti Chandrakar, and Rifaqat Ali. "An Improved Two Factor Authentication Scheme for TMIS Based on Dual Biometrics." *Cloud Security*. CRC Press, 2021. 161-174. **(Dr. Rifaqat Ali)**
5. Rifaqat Ali, and Preeti Chandrakar. "Design of Robust Smartcard-Based User Anonymous Authentication Protocol with AVISPA Simulation." *Architectural Wireless Networks Solutions and Security Issues*: 27. **(Dr. Rifaqat Ali)**
6. Rifaqat Ali, Preeti Chandrakar, Mohammad S. Obaidat, Kuei-Fang Hsiao, Arup Kumar Pal, and SK Hafizul Islam. "A Secure Authentication Mechanism for Wireless Sensor Networks." In *2020 International Conference on Computer, Information and Telecommunication Systems (CITS)*, pp. 1-8. IEEE, 2020. **(Dr. Rifaqat Ali)**
7. Preeti Chandrakar,, and Rifaqat Ali. "Cryptanalysis of Two-Factor Remote User Authentication Scheme for Wireless Sensor Networks." In *International Congress on Information and Communication Technology*, pp. 510-519. Springer, Singapore, 2020. **(Dr. Rifaqat Ali)**
8. Ankit Kumar, Ramesh K. Vats, Avadhesh Kumar, Approximate Controllability of Second-order Non-autonomous System with Finite Delay, *Journal of Dynamical and Control Systems*, 26, 611–627 (2020). **(Dr. RK Vats)**
9. Avadhesh Kumar, R.K. Vats, Ankit Kumar and D.N. Chalishajar, Numerical approach to the controllability of fractional order impulsive differential equations, *Demonstratio Mathematica*, 53 (2020), 193–207. **(Dr. RK Vats)**
10. A.K. Nain, R.K. Vats and A. Kumar: Caputo-Hadamard fractional differential equation with impulsive boundary conditions, *Journal of Mathematical Modeling*, 9(1) (2021), 93-106. **(Dr. RK Vats)**
11. A.K. Nain, R.K. Vats and A. Kumar: Coupled fractional differential equations involving Caputo-Hadamard derivative with nonlocal boundary conditions, *Mathematical Methods in the Applied Sciences*, 44(5) (2020), 4192-4204. **(Dr. RK Vats)**
12. A.K. Nain, R.K. Vats and S.K. Verma, Existence of solutions for non-linear Hadamard type fractional differential equation with mixed fractional boundary conditions, *Dynamics of Continuous, Discrete and Impulsive Systems*, 28 (2021), 193-206. **(Dr. RK Vats)**

13. Ankit Bajpai, Rajneesh Kumar, P. K. Sharma, Analysis of Wave Motion and Deformation in Elastic Plate Based on Two Temperature Theory of Thermoelasticity, Waves in Random and Complex Media (2021). (18 Feb, 2021). (Published). **(Dr. PK Sharma)**
14. Ankit Bajpai, P. K. Sharma, Rajneesh Kumar, Modeling of thermoelastic diffusion plate under two temperature, fractional-order, and temperature-dependent material properties, Z Angew Math Mech. (2021). (Communicated). **(Dr. PK Sharma)**
15. Ankit Bajpai, P. K. Sharma, Rajneesh Kumar, Transient response of a thermo-diffusive elastic thick circular plate with variable conductivity and diffusivity, Acta Mech. (2021). (Communicated). **(Dr. PK Sharma)**
16. Ankit Bajpai, P. K. Sharma, Variable thermal conductivity and diffusivity impact on forced vibrations of thermo-diffusive elastic plate, J. of Thermal Stresses. (2021). (Communicated). **(Dr. PK Sharma)**
17. Ankit Bajpai, P. K. Sharma: Free Vibration Analysis of Generalized Thermoelastic Homogeneous Isotropic plate with Two Temperatures-International Conference on Applied Mathematics and Computational Intelligence – (ICAMCI-2020). (23-24 Dec, 2020) (Presented). **(Dr. PK Sharma)**
18. Ankit Bajpai, P. K. Sharma: Impacts of Two-Temperature on a Generalized Thermoelastic Plate with Thermal Loading -1<sup>st</sup> International Conference on Applied Analysis Computation and Mathematical Modelling in Engineering (AACMME-2021). (24-26 Feb, 2021) (Presented). **(Dr. PK Sharma)**
19. Ankit Bajpai, P. K. Sharma: Impacts of Two Temperature and Temperature-Dependent Material Properties on Thermoelastic Diffusion Plate -26th International Conference of International Academy of Physical Sciences (CONIAPS XXVI) -- Advances in Mechanics (ICAM-2020). (18-20 dec, 2020) (Presented) **(Dr. PK Sharma)**

### iii. Editorial Work:

1. R. Tiwari, A. Mishra, N. Yadav\*, M. Pavone, Proceedings of International Conference on Computational Intelligence (ICCI-2020), ISBN: 978-981-16-3802-2, DOI: 10.1007/978-981-16-3802-2 (Springer). \* Corresponding Editor. **(Dr. Neha Yadav)**

### 3. National/International Conference Organized: NIL

### 4. Summer/Winter/FDP Organized

1. Organized e-STC on "Recent trends in Artificial Neural Networks and Optimization (RTNNO-2020) during Dec 18-22, 2020. **(Dr. Neha Yadav)**
2. Coordinated five days e-Workshop on Mathematical and Statistical Methods for Machine Learning during November 7-11, 2020 at NIT Hamirpur, India. **(Dr. Nidhi Gupta and Dr. Rifaqat Ali)**

### 5. National/International Conferences Attended: NIL

### 6. Workshop Attended:

1. Role of Numerical Techniques in Chemical Engineering with MATLAB **(Dr. OP Yadav)**
2. Two weeks online Faculty Development Programme on Machine Learning for Computer Vision jointly organized by Electronics and ICT Academies during February 1-12, 2021 **(Dr. Nidhi Gupta)**
3. Two weeks online Faculty Development Programme on Python Programming jointly organized by Electronics and ICT Academies during September 7-18, 2020 **(Dr. Nidhi Gupta)**

4. One Week Webinar on Cyber Security Techniques with Application, 5th to 9th October, 2020, At IIT-ISM Dhanbad **(Dr. Rifaqat Ali)**

#### 7. Invited Lecture/Speaker/Expert

1. Delivered an Invited lecture in Two days International conference on “Recent development in Engineering & Technology” held during 26/02/2021 to 27/02/2021 at Anand International College of Engineering, Jaipur. **(Dr. Neha Yadav)**
2. Delivered Expert lecture in TEQIP-III RTU (ATU) Sponsored 10 days workshop (remedial classes) on “**Advanced Engineering Mathematics-I**” organized by Rajasthan Technical University, Kota and Vivekananda Institute of Technology, Jaipur during 11-21 January 2021. **(Dr. Neha Yadav)**
3. Invited Speaker in Mathematics & its Applications in Engineering & Technology (February22-24, 2021) at Department of Mathematics, UCET, VBU, Hazaribag. **(Dr. Subit Kumar Jain)**
4. Delivered a expert talk in TEQIP-III Sponsored FDP on Data Analytic Technique for Research and Innovation and their Advancement, VIT Jaipur, India, August 29 - September 2, 2020. **(Dr. Nidhi Gupta)**

#### 8. Doctoral Programme

##### On Going or Completed: (2020-21)

Sr. No.	Name of Registered Student	Registration No.	Topic of his/her Research	Name of his/her Supervisor/ Co-Supervisor	Brief Report
1.	Sachin Kumar	2K15-Ph.D.- Math-287	Applications of Fixed-Point Theory in the Existence of Solutions of Fractional Boundary Value Problems	Dr. Ramesh Kumar Vats	Thesis Submitted
2.	Ankit Kumar	2K17-Ph.D.- Math-344	Controllability of Integer and Non-Integer Order Differential Systems	Dr. Ramesh Kumar Vats	At the stage of final submission
3.	Ankit Kumar Nain	2K17-Ph.D.- Math-349	Existence of solutions for fractional boundary value problems	Dr. Ramesh Kumar Vats	At the stage of final submission
4.	Ankita Bisht	2K17-PhD- Math-374	Numerical Study of Flow and Heat Transfer Problems in Sisko Nanofluid over Stretching Surfaces.	Dr. Om Prakash Yadav (Caretaker Supervisor)	Thesis Submitted

5.	Prachi Agrawal	2K17-PhD-Math-375	Stochastic Optimization using Computational Intelligence Techniques	Dr. Om Prakash Yadav (Caretaker Supervisor)	Submission of Ph.D Synopsis
6.	Ankit Bajpai	2K17-PhD-Math-376	Waves propagation in plates using two temperature theory of thermoelasticity	Dr. Pawan Kumar Sharma	Three research papers have been published and three papers are communicated.
7.	Kanika	2K18-Ph.D.-Math-411	Existence and Stability Results for Fractional Differential Equations	Dr. Ramesh Kumar Vats	Conducted Comprehensive and state of the art seminar
8.	Geetanjali	2K18-PhD-Math-412	Free & forced vibration analysis of thermoelastic continua with variable material properties	Dr. Pawan Kumar Sharma	Three papers are communicated.
9.	Mohammad Shad	2K18-PhD-Math-413	Time Series Forecasting using Statistical Model	Dr. Y. D. Sharma	Conducted Comprehensive and state of the art seminar
10.	Atul Kumar Khushwaha	2K18-PhD-Math-414	Stability Analysis of Thermo Bio-Convection Problems	Dr. Y. D. Sharma	Conducted Comprehensive and state of the art seminar
11.	Sanjalee	2K19-PhD-Math-493	Computational Fluid Dynamics	Prof. Y.D. Sharma, Dr. Om Prakash Yadav	She has completed course work and comprehensive exam. She has communicated two articles in referred journals.
12.	Arpan Garg	2K19-Ph.D.-Math-494	Operational Research	Prof. Y.D. Sharma Dr. Subit Kumar Jain	He is registered in 4th semester and Conducted Comprehensive
13.	Bhupendra Kumar	2K19-PH.D.-Math-495	Time Series Analysis Using Statistical and Deep learning Methods	Prof. Sunil Dr. Neha Yadav	Working on development of algorithm based on Statistical and ANN technique for time series data arising in real life applications.
14.	Harender	2K19-Ph.D.-	ANN method for	Dr. Neha Yadav	Working on development

	Kumar	Math-496	solution of differential equations		of numerical algorithms based on ANN for differential equations problems arising in Science and Engineering Applications.
15.	Mr. Parveen Kumar	2K19-Ph.D.- Math-497	Differential Equation & Fixed-Point Theory	Dr. Ramesh Kumar Vats	Conducted Comprehensive seminar
16.	Mr. Ankit Kumar	2K20-Ph.D. – Math-518	Image Segmentation using PDEs	Dr. Subit Kumar Jain	Course work and literature review has been done and currently working on development of new mathematical model for image segmentation
17.	Ms. Anisha Devi	2K20-PhD- Math-519	Numerical solutions of PDEs	Dr. Om Prakash Yadav	She is registered in 4th semester. She has completed her course and surveying the literature. Learning the basics and working on an article.
18.	Nikhil Chauria	20RMA001	Functional Analysis	Dr. Suket Kumar	Ongoing
19.	Mr. Pavinder	20RMA002	Object Detection from Real Scenes	Dr. Nidhi Gupta Dr. Pawan Kumar Sharma	Course work has been completed and he is working on development of mathematical model for object detection
20.	Vipin Kumar	20RMA003	Cryptography and Network Security	Dr. Rifaqat Ali Dr. P.K. Sharma	Trying to make authentication schemes based cryptographic approaches

### 9. Detail of the Laboratories:

Sr. No.	Name of Laboratory
1.	Basic Computational Lab

### 3.9 DEPARTMENT OF PHYSICS & PHOTONIC SCIENCE



#### 1. ACADEMIC STAFF

**HEAD:** Dr. Arvind Kumar

#### FACULTIE

Professor	Associate Professor	
-	Dr. Subhash Chand	Dr. Rajesh Kumar
-	Dr. Arvind Kumar	Dr. Vimal Sharma
-	Dr. Kuldeep Kumar Sharma	-

#### 2. DISTINCTION ACHIEVED

(a) By student: - 03 student qualified CSIR- JRF national level examination in Feb-2021. Students have joined Ph.D. Programme at Raja Raman Centre for Advanced Technology (RRCAT), Indore, Department of Physics- Indian Institute of Technology Madras, Indian Institute of Technology- Dhanbad, Central University- Sirsa, National Institute of Technology, Kurukshetra, Malaviya National Institute of Technology- Jaipur, National University of Ireland Galway etc. One student has qualified the GATE -2021

(b) By faculty Member: - Nil



**3. SEMINAR, SYMPOSIA, SUMMER SCHOOL, WINTER SCHOOL, SHORT TERM COURSE**

a) Conducted in the department.

Sponsoring agency	Name of the Coordinator	Title of the Seminar/symposia	Duration	Venue
-	-	-	-	-

b) Participated by Faculty Members:

Name of the Staff	Course/Seminar	Organization	Duration	Venue
-	-	-	-	-

**4. RESEARCH**

(a) Research Scheme:

Title of the scheme	Sponsored by	Assistance received (Rs.) in lakh	Investigator	Brief Report
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(b) **Research Publication**

i) PAPER PUBLISHED BY FACULTIES:

1. SYNTHESIS AND OPTICAL PROPERTIES OF GdVO<sub>4</sub>:Eu<sup>3+</sup> PHOSPHOR, Himani Thakur, Rajesh Kumar Singh, and Arvind K. Gathania, Materials Research Express, vol.8, No.2, 026201, March 2021.
2. SYNTHESIS, STRUCTURAL ANALYSIS, UPCONVERSION LUMINESCENCE AND MAGNETIC PROPERTIES OF Ho<sup>3+</sup>/Yb<sup>3+</sup> CO-DOPED GdVO<sub>4</sub> NANOPHOSPHOR, Himani Thakur, B.P. Singh, R. Kumar, Arvind K. Gathania, S. K. Singh, Rajesh Kumar Singh, Materials Chemistry and Physics, Vol. 253, Oct- 2020.
3. Structural and optical studies of Mn<sup>2+</sup> substituted CdO nano-particles, R.K. Leelavati, Applied Physics A, Materials Science & Processing 127 (4), 249.



4. Study of energy release in Fe<sub>2</sub>O<sub>3</sub>/Al nano-thermite with grapheme as an additional fuel, Priya Thakur, Vimal Sharma, Nagesh Thakur, (Physics-B : Condensed Matter)
5. Enhanced Electro active Phases in Bi<sub>3.3</sub>La<sub>0.7</sub>Ti<sub>3</sub>O<sub>12</sub>-poly (vinylidene fluoride) composites with Improved Dielectric Properties, Sumit Bhardwaj, J.D.Sharma, Subhash Chand, K.K. Raina, Ravi Kumar, Solid State Communications 326 (2021)114176 doi.org/10.1016/j.ssc.2020.114176

ii) **PAPER PRESENTED IN CONFERENCE/SEMINAR/ SYMPOSIUM: Nil**

iii) **PAPER ACCEPTED FOR PUBLICATION: Nil**

iv) **PATENT: Nil**

(c) **Doctoral Programme:** 07 Nos. Ongoing

Sr. No	Title	Guide	Name of the student	Brief Report
1.	Condensed Matter Physics	Dr. Arvind Kumar	Mr. Avinash Kumar	In progress
2.	Condensed Matter Physics	Dr. Vimal Sharma	Ms. Manisha Sharma	In progress
3.	Synthesis & Characterization Phosphor material	Dr. Arvind Kumar	Mr. Ishant Kumar	In progress
4.	Condensed Matter Physics	Dr. Subhash Chand	Ms. Seema	In progress
5.	Synthesis & Characterization of High K dilation Materials and their Hetero junctions	Dr. Subhash Chand	Mr. Naveen Kumar	In progress
6.	Properties of transmission metal doped C&D	Dr. Rajesh Kumar	Ms. Leelavati	In progress
7.	Study of Ni Doped Rare Earth Cobaltite Thin Film	Dr. Rajesh Kumar	Mr. Ashok Kumar	In progress

(d) **Ph.D. Degree awarded:** 01(e) **Master thesis completed:** 16(g) **POPULAR LECTURES BY OUTSIDE EXPERTS:**

Sr. No.	Date	Speaker	Topic
-	-	-	-

(h) **CONSULTANCY SERVICES:**

Sr. No	Name of the Scheme	Sponsored Agency	Amount Earned
-	-	-	-

(i) **EQUIPMENT ACQUIRED:**

Sr. No	Name of equipment	Name of manufacturer	Cost (Rs. In lakh)
1.	Field Lines and Equipotential Lines (SK0044)	OSAW INDUSTRIAL PRODUCTS PVT. LTD Ambala Cantt	Rs. 14096/-
2.	Experiment kit for Stefan's Constant	OSAW INDUSTRIAL PRODUCTS PVT. LTD Ambala Cantt	22420/-
3.	Sealers Apparatus	OSAW INDUSTRIAL PRODUCTS PVT. LTD Ambala Cantt	12555/-
4.	Platinum Resistance Thermometr to Determine the Temperature Co Efficient of Resistance	OSAW INDUSTRIAL PRODUCTS PVT. LTD Ambala Cantt	22599/-
5.	Experiment Setup to Study variation of Thermo EMF Across Two Junction of A Thermocouple with Temperature	OSAW INDUSTRIAL PRODUCTS PVT. LTD Ambala Cantt	22621/-
6.	Specific Heat of Solids	OSAW INDUSTRIAL PRODUCTS PVT. LTD Ambala Cantt	40721/-

7.	Experimental Setup to Calibrate a Thermocouple to measure Temperature	OSAW INDUSTRIAL PRODUCTS PVT. LTD Ambala Cantt	11300/-
8.	Experiment set up for measuring mechanical equivalent of heat J by Callender and Barne's constant flow method	Vijayanta Technologies Pvt. Ltd. Dr. Baldev Singh Marg, 28/147 Civil Lines, Roorkee	10620/-
9.	Experiment set up to study linear expansion for different kinds of solids	Vijayanta Technologies Pvt. Ltd. Dr. Baldev Singh Marg, 28/147 Civil Lines, Roorkee	11800/-
10.	Experimental kit for Angstrom's Method	Vijayanta Technologies Pvt. Ltd. Dr. Baldev Singh Marg, 28/147 Civil Lines, Roorkee	46964/-
11.	Experimental set up to determine relationship b/w gas vol. and pressure at constant temperature	Vijayanta Technologies Pvt. Ltd. Dr. Baldev Singh Marg, 28/147 Civil Lines, Roorkee	14750/-
12.	Experimental set up to study hall effect and to determine carrier concentration with Hall probe	Gupta Enterprises Near Sood Transport Company, Saproon, Solan (H.P)	77762/-
13.	Experimental set up to measure magnetic susceptibility of different material	Gupta Enterprises Near Sood Transport Company, Saproon, Solan (H.P)	78942/-
14.	Experimental set up to determine the value of e/m by bar magnet cathode ray	Gupta Enterprises Near Sood Transport Company, Saproon, Solan (H.P)	15222/-
15.	Experimental set up to study of thermoluminescence of F centers in alkali halides	Gupta Enterprises Near Sood Transport Company, Saproon, Solan (H.P)	165082/-
16.	Experimental set up to measure resistivity of insulator with temperature by two probe method	Gupta Enterprises Near Sood Transport Company, Saproon, Solan (H.P)	69502/-
17.	Experimental set up to study Zeeman effect	Gupta Enterprises Near Sood Transport Company, Saproon, Solan (H.P)	173342/-
18.	Equipmental setup to Determine the permeability of Air	OSAW INDUSTRIAL PRODUCTS PVT. LTD Ambala	33731/-

		Cantt	
19.	Equipmental setup to Determine the Permittivity of Air	OSAW INDUSTRIAL PRODUCTS PVT. LTD Ambala Cantt	33731/-
20.	To measure the spacial Distribution of M/F between a Pair if Identical Coils in Helmholtz Arrangement	OSAW INDUSTRIAL PRODUCTS PVT. LTD Ambala Cantt	37511/-
21.	Experimental setup to study M/F Along the Axis of current Carrying Coil	OSAW INDUSTRIAL PRODUCTS PVT. LTD Ambala Cantt	34550/-
22.	Equipmental setup to study Dependency of M/F on Coil Diameter & Number of Turns	OSAW INDUSTRIAL PRODUCTS PVT. LTD Ambala Cantt	34550/-
23.	Equipmental setup to study The Biot's Savart's Law	OSAW INDUSTRIAL PRODUCTS PVT. LTD Ambala Cantt	35858/-
24.	Equipmental setup to study M/F of Circular conductor	OSAW INDUSTRIAL PRODUCTS PVT. LTD Ambala Cantt	35858/-
25.	Equipmental setup to study Optical Phenomenon in Microwave Optics System	OSAW INDUSTRIAL PRODUCTS PVT. LTD Ambala Cantt	62843/-
26.	Experimental set up to demonstrate DIA-Para-Ferro Magnetism in magnetic field	OSAW INDUSTRIAL PRODUCTS PVT. LTD Ambala Cantt	39559/-
27.	To measure the spatial Distribution of M/F between a Pair if Identical Coils in Helmholtz Arrangement	OSAW INDUSTRIAL PRODUCTS PVT. LTD Ambala Cantt	42155/-
28.	Experimental set up to investigate and plastic extension of metal wires.	OSAW INDUSTRIAL PRODUCTS PVT. LTD Ambala Cantt	7074/-
29.	Experimental setup to perfrom Frank Hertz Experiments-SK087	OSAW INDUSTRIAL PRODUCTS PVT. LTD Ambala Cantt	148031/-
30.	Experimental setup to determine wavelength of Balamer Series of	OSAW INDUSTRIAL PRODUCTS PVT. LTD Ambala	43412/-

	Hydrogen Emission spectrum	Cantt	
31.	Experimental setup to Observe Balmer Series of Hydrogen using Bunsen Kirchoff Spectroscopy-SK043	OSAW INDUSTRIAL PRODUCTS PVT. LTD Ambala Cantt	32951/-
32.	Energy Band Gap of Four Probe Method RSP-901	Aarson Scientific Work 9-10 Khojki Pur PO Industrial Estate Ambala Cantt	24750/-
33.	E/m by Helical Method	Aarson Scientific Work 9-10 Khojki Pur PO Industrial Estate Ambala Cantt	22950/-

5. TECHNICAL ASSOCIATION / SOCIETIES: -nil-

6. DETAIL OF THE LABORATORIES:

Sr. No.	Name of the Laboratory
1.	Engineering Physics Lab
2.	Solid State Physics Lab
3.	Electricity & Magnetism Lab
4.	Spectroscopy Lab
5.	Thermal Physics Lab
6.	Numerical methods & Computational Physics Lab
7.	Optics Lab
8.	Modern Physics Lab
9.	Digital Electronics Lab
10.	Laser & Photonics Lab
11.	Measurement & Instrumentation Lab
12.	Fabrication & Assembly Lab

### 3.10 DEPARTMENT OF MATERIAL SCIENCE & ENGINEERING



#### 1. ACADEMIC STAFF

HEAD: Dr. Ravi Kumar

#### FACULTIES

Professor	Associate Professor	Assistant Professor		
Dr. Ravi Kumar	Dr. Vishal Singh	Dr. Rita Maurya	Dr. Raj Bahadur Singh	Dr. Nitesh Kumar

#### 2. DISTINCTION ACHIEVED

- (a) By student: -  
 (b) By faculty Member: -

#### 3. SEMINAR, SYMPOSIA, SUMMER SCHOOL, WINTER SCHOOL, SHORT TERM COURSE-Conducted in the department.

Sponsoring agency	Name of the Coordinator	Title of the Seminar/symposia	Duration	Venue
NIT, Hamirpur(HP)	Dr. Raj Bahadur Singh	“Advanced Materials Testing and Characterization”	5 Days	11/01/2021 to 15/01/2021
NIT, Hamirpur(HP)	Dr. Rita Maurya Dr. Nitesh Kumar	“New Generation Functional Materials and Their Applications”	5 Days	3/02/2021 to 7/02/2021

#### b) Participated by Faculty Members:

Name of the Staff	Course/Seminar	Organization	Duration	Venue
-	-	-	-	-

## 4. RESEARCH

## (a) Research Scheme:

Title of the Scheme	Sponsored by	Assistance Received (Rs) in lakh	Investigator	Brief Report
-	-	-	-	-

## (b) Research Publication:-

**PAPER PUBLISHED IN JOURNALS/CONFERENCES BY FACULTIES:**

1. P. Chand, A. Joshi and **Vishal Singh**, "Impact of phase segregation on optical and electrochemical property of BiPO<sub>4</sub> nanostructures for energy storage applications", *Journal of Materials: Science Materials in Electronics*, vol. 24, no. 10, pp. 1-15, Oct. 2020, doi: 10.1007/s10854-020-04243-4.
2. Ashish Kaushal and **Vishal Singh**, "Effect of filler loading on the shielding of electromagnetic interference of reduced graphene oxide reinforced polypropylene nanocomposites prepared via a twin-screw extruder", *Journal of Materials: Science Materials in Electronics*, Oct. 2020 (online), doi: 10.1007/s10854-020-04719-3.
3. P. Chand, A. Joshi and **Vishal Singh**, "High performance of facile microwave-assisted BiPO<sub>4</sub> nanostructures as electrode material for energy storage applications", *Materials Science in Semiconductor Processing*, vol. 122, pp. 105472, Feb. 2021, doi: 10.1016/j.mssp.2020.105472.
4. Lovepreet Singh and **Vishal Singh**, "Synthesis of Au@PANInanocomposites by complexation method and their application as label-free chemo probe for detection of mercury ions", *Bulletin of Materials Science*, vol. 44, pp. 307, Nov. 2020, doi: https://doi.org/10.1007/s12034-020-02300-6.
5. AshishKaushal and **Vishal Singh**, "Electromagnetic interference shielding response of multiwall carbon nanotube/polypropylene nanocomposites prepared via melt processing technique" *Polymer Composites*, Nov. 2020 (online), doi: 10.1002/pc.25889.
6. S Tyeb, N Kumar, A Kumar and V Verma, "Agar-Iodine Transdermal Patches for Infected Diabetic Wounds", *ACS Appl. Bio Mater.*, 2020, **3**, 7515-7530
7. K Jahan, S Tyeb, N Kumar, V Verma, "Bacterial Cellulose-Polyaniline Porous Mat for Removal of Methyl Orange and Bacterial Pathogens from Potable Water", *J Poly. & Environ.*, 2021, **29**, 1257-1270
8. F. H. Bhat, G. Anjum, Ravi kumar, Manzoor A. Malik, R. J. Choudhary, D. K. Shukla, "XAS and XPS analysis of double magnetic transition, canonical spin glass behavior and magnetoresistance in LaMn<sub>1-x</sub>Co<sub>x</sub>O<sub>3</sub> (0.1<x<0.5)" system , *Ceramic International*, 2021, **47**, 6753-6713
9. F. H. Bhat, Ghazala A. khan, Gitansh Kataria, RaviKumar, Deshdeep Sahdev and Manzoor A. Malik, "Study of canonical spin glass behavior in Co doped LaMnO<sub>3</sub>", *AIP Advances*, 2021, **11**, 025122(5)
10. Pankaj Bhardwaj, Jarnail Singh, Rajesh Kumar, Ravi Kumar, Vikram Verma, "Structural, optical and magnetic characterization of Ni<sup>2+</sup> ions doped chromium oxide (Cr<sub>2</sub>O<sub>3</sub>) nanoparticles", *Solid State Sciences*, 2021, **115**, 106581
11. Sumit Bhardwaj, J.D.Sharma, Subhash Chand, K.K.Raina, RaviKumar, "Enhanced Electroactive Phases in Bi<sub>3-3La0.7Ti3O12</sub>-poly (vinylidene fluoride) composites with Improved Dielectric Properties", *Solid State Communications*, 2021, **326**, 114176(11)
12. Jarnail Singh, Rajesh Kumar, Vikram Verma, Ravi Kumar, "Structural and optoelectronic properties of epitaxial Ni-substituted Cr<sub>2</sub>O<sub>3</sub> thin films for p-type TCO applications", *Materials Science in Semiconductor Processing*, 2021, **123**, 105483(6)

13. Amarjit Singh, Jarnail Singh, Manoj Kumar Sinha, Ravi Kumar, Vikram Verma, "Compaction and Densification Characteristics of Iron Powder/Coal Fly Ash Mixtures Processed by Powder Metallurgy Technique", *Journal of Materials Engineering and Performance*, 2021, 30, 1207-1220
14. R. Siddiqui, R. Maurya, P. K. Katiyar and K. Balain, "Superhydrophobic, self-cleaning carbon nanofiber CVD coating for corrosion protection of AISI 1020 steel and AZ31 magnesium alloys" *Surface and Coatings Technology*, 2020, 404, 126421

- iii) PAPER ACCEPTED FOR PUBLICATION: -nil-
- iv) PATENT: -nil-
- (c) Doctoral Programme: 09 Nos. Ongoing

Sr. No.	Title	Guide	Name of the student(s)	Brief Report
1	Syn and Optical, Electrical Characterization of P-type Transparent conducting Oxides Material	Dr. Vikram Verma/ Dr. Ravi Kumar	Mr. Jarnail Singh	Ongoing
2	Synthesis and Characterization of LDPE, HDPE with fillers graphite GE, CNT and study the electrical and mechanical properties	Dr. Vishal Singh	Mr. Ashish	Ongoing
3	Structural , Electrical and Magnetic Studies of Transition Metal substituted RCrO <sub>3</sub>	Dr. Ravi Kumar	Mr. Kapil Dev Singh	Ongoing
4.	Metal Matrix Composites	Dr. Ravi Kumar	Sh. Amarjeet Singh	ongoing
5.	Swift Heavy Ion Irradiation Induced Modification in Structural , Electrical and Optical Properties in Substituted RCrO <sub>3</sub> Thin Film	Dr. Ravi Kumar	Sh. Ravinder Kumar	Ongoing
6.	Polymer Nanocomposites Based Chemo-Sensors for the Sensitive and Selective Detection of Mercury Ions	Dr. Vishal Singh	Sh. Lovepreet Singh	Ongoing
7.	DMO in TM Ions Substituted Cr <sub>2</sub> O <sub>3</sub> NPs and TFs	Dr. Ravi Kumar	Sh. Pankaj Bhardwaj	Ongoing
8.	Performance Improvement of Inconel 718 in EDM Process	Dr. Vishal Singh	Sh. Pankaj Sharma	Ongoing
9.	Metal Matrix Composites (MMC) Coating	Dr. Rita Maurya	Sh. Piyush Priyadarshi	Ongoing



- (d) Ph.D Degree awarded: 05
- (e) Master thesis completed: 12 (Thesis to be submitted during June/July, 2020).

S.No	Title	Name of Student	Guide allotted
1	Mechanical and Microstructural Analysis of Electrodeposited Copper on Heat Treatment Mild Steel	Mohammed Rafi (18M601)	Dr. Rita Maurya
2	Study of Mechanical and Thermal Behaviour of Nanoclay/ Nylon 6 Nanocomposites Prepared by Twin Screw Extruder	Surya Prakash Pandey (18M602)	Dr. Vishal Singh
3	Synthesis and Characterization of Silver, Titanium and Magnesium Doped Hydroxyapatite	Shubham Kapoor (18M603)	Dr. Vishal Singh
4	Synthesis and Characterization of graphene/ Polyaniline Nanocomposites	Shubham Bhardwaj (18M604)	Dr. Vishal Singh
5	Synthesis and Characterization of Carbon Nanotube Reinforced Hydroxyapatite Ceramics	Prashant Kumar Singh (18M605)	Dr. Vishal Singh
6	Effect of Ni doping on Structural and Magnetic Properties of Chromium Oxide (Cr <sub>2</sub> O <sub>3</sub> ) Nanoparticles	Banti Chouhan (18M606)	Dr. Vikram Verma
7	Green Synthesis and Characterization of Carbon Quantum Dots (CQDs)	Tarun Sharma (18M607)	Dr. Vishal Singh
8	Synthesis and Characterization of Pure Nickel Substituted Zinc Manganite By Coprecipitation Method	Ankit Dev Singh (18M608)	Dr. Ravi Kumar
9	Copper Based Metal Matrix Composite Electrodeposited on Mild Steel	Ankush Yadav (18M609)	Dr. Rita Maurya
10	Effect of Surfactants on the structural and Optical Properties of the Cr <sub>2</sub> O <sub>3</sub> Nanoparticles	Mayank Dotiyal	Dr. Vikram Verma
11	Preparation & Characterization of Pure ZnCo <sub>2</sub> O <sub>4</sub> & Ni-Doped ZnCo <sub>2</sub> O <sub>4</sub> By Coprecipitation Method For SuperCapacitor Applications	Anindya Khamaru (18M611)	Dr. Ravi Kumar
12	Electrodeposition of Nickel Based Composite Coating on Copper	Ashwin Shah (18M611)	Dr. Rita Maurya

- (f) DOCTORAL PROGRAMME: 09 No. ongoing.

## (g) POPULAR LECTURES BY OUTSIDE EXPERTS:

Sr. No.	Date	Speaker	Topic
-	-	-	-

## (h) CONSULTANCY SERVICES:

Sr. No	Name of the Scheme	Sponsored Agency	Amount Earned
-	-	-	-

## (i) EQUIPMENT ACQUIRED:

Sr. No.	Name of equipment	Name of manufacturer	Cost (in Rs.)
1.	-	-	-
2.	-	-	-
3.	-	-	-
4.	-	-	-
5.	-	-	-
6.	-	-	-

## 4. TECHNICAL ASSOCIATION / SOCIETIES:

-nil-

## 5. DETAIL OF THE LABORATORIES:

Sr. No.	Name of the Laboratory
1.	Polymer Composites Lab
2.	XRD Lab
3.	FESEM / Nano Indentor Lab
4.	PLD Lab
5.	PL/Micro-Raman Lab
6.	Spectroscopy Lab
7.	Nono Tech. Lab
8.	Materials Science & Research Lab
9.	Physical Metallurgy Lab
10.	Transport Lab

## 3.11 DEPARTMENT OF ARCHITECTURE



### 1. ACADEMIC STAFF

**HEAD:** Dr. Inderpal Singh

#### FACULTIES:

Professor	Associate Professor	Assistant Professor
Dr. Minakshi Jain	Dr. Inderpal Singh	Dr. Vandna Sharma
Dr. Bhanu M Marwaha		Dr. Puneet Sharma
		Dr. Aniket Sharma
		Dr. Amanjeet Kaur
		Dr. Venu Shree
		Dr. Sandeep Sharma
		Dr. Neetu Kapoor
		Dr. Rashmi Kumari

### 2. DISTINCTION ACHIEVED:

- a) **By Student:** 03 Students secured prizes at national level competitions.
- b) **By Faculty Member:** 04 Faculty members completed their doctorate degree.

### 3. RESEARCH:

#### a) Research Publication by faculties:

##### (i) International journal:

1. N. Kapoor, M. Jain, and V. K. Bansal, "A methodological approach for weighting factors for land suitability assessment: a tool for facilitating spatial planning," Journal of Mountain Science, vol. 17, no. 3, pp. 721-739, 2020.

2. N. Kapoor, V. K. Bansal, and M. Jain, "Development of creative problem solving-based framework for site planning in hill areas," *Frontiers of Architectural Research*, vol. 9, no. 2, pp. 450-466, 2020.
3. Shree V., Nautiyal H., Goel V. (2021) Carbon Footprint Estimation for Academic Building in India. In: Muthu S.S. (eds) *LCA Based Carbon Footprint Assessment. Environmental Footprints and Eco-design of Products and Processes*. Springer, Singapore. [https://doi.org/10.1007/978-981-33-4373-3\\_3](https://doi.org/10.1007/978-981-33-4373-3_3)
4. Rai, S., Asim, F., Shree V. (2020). Biophilic Architecture for restoration and therapy within the built environment. *Visions for Sustainability*, 15, 00-00. <http://dx.doi.org/10.13135/2384-8677/5104>
5. Rai, S., Asim, F., & Shree, V. (2020). Investigative Study of Relationship between Built Environment and Perceived Restorativeness: Cases of Colonial Churches of Dalhousie. *Visions for Sustainability*, 13, 31-43.
6. Kapoor, Neetu & Bansal, Vijay. (2021). Spatial suitability assessment for planning infrastructure facilities at site level in hill areas. *Journal of Urban Management*. 10. 10.1016/j.jum.2021.02.003. <http://dx.doi.org/10.1016/j.jum.2021.02.003>

**(ii) International Conferences:**

1. P. Atul, Sharma. V., "Sustainability and cultural conformity in vernacular architecture: a case study of Kurichyar tribe of Wayanad Kerala" ICFC-2019, IIT Roorkee, 11-13 December 2019. pp386-389
2. Kawale, A., & Kaur, A. (2021). Exploring Sustainable Dwellings of Rural Maharashtra: "Transformation of Traditional Architecture to Contemporary Evolution". International Conference on Architecture and Beyond 25-26th March, 2021. School of Architecture. Coimbatore.

**b) Workshop/ Training:**

**(i) Organized**

- Five days e-STC on 'Traditional Knowledge in Urban Resilience' from 28<sup>th</sup> Oct. – 1<sup>st</sup> Nov. 2020
- Five days e-workshop on 'Socio-ecological Resilience in Hills' from 18<sup>th</sup> – 22<sup>nd</sup> Dec. 2020
- Five days e-workshop on 'ECBC Training Program on Whole Building Performance Simulation Method' from 21<sup>st</sup> – 25<sup>th</sup> Dec. 2020
- Five days e-workshop on 'Energy Efficient Building Technology (EEBT-2021)' from 3<sup>rd</sup> – 7<sup>th</sup> January, 2021

**c) Research project**

**1. EXTERNAL SPONSORED R&D PROJECTS**

Dr. Inderpal Singh, Dr. Puneet Sharma, and Dr. Aniket Sharma

Sr. No.	Title of R&D Project/Patent	Heading Status [PI / Co-PI(,)]	Present Status of Project [Completed / Ongoing]	Patent Granted [Yes / No]	Rs.
1	International project “Building Urban Resilient Communities” co funded by Erasmus + Programme of the European Union	PI	ongoing	NO	1,39,50,000/- Approx.

**d) Book published**

**Text / Reference Books published on relevant subjects from reputed International Publishers:**

**e) Doctoral Programme: 21 nos. ongoing**

Sr. No.	Title	Guide	Name of the Student	Brief report
1.	Eco frame work for Religious tourism of Trikota Hills: Study of Shri Mata Vaishno Devi Katra	Dr. Minakshi Jain	Ar. Vikas Bhola	Submission stage
2.	Developing Sustainable Residential Model by Integrating Landscape Elements : study area Nainital	Dr. Minakshi Jain & Dr. I. P.Singh	Ar. Priyank Jain	SOA completed
3.	Geo-design approach for spatial planning in Hill area	Dr. Minakshi Jain & Dr. Vijay Kumar Bansal	Ar. Neetu Kapoor	Completed
4.	Study of ventilation and Indoor paints in Primary School class Rooms of composite climate for monitoring its indoor air quality	Dr. Bhanu M Marwaha	Ar. Venu Shree	Completed
5.	Sustainable Housing for Industrial Workers. Case Study-Noida (U.P.)	Dr. Bhanu M Marwaha	Ar. Manisha	Course work completed
6.	Impact of Yamuna Expressway on the Quality of Life in selected villages under the Master Plan of YEIDA-I	Dr. I. P. Singh	Ar. Kaushlendra Singh	SOA completed
7.	Role of Fenestration for daylight performance in government offices of Hamirpur	Dr. Aniket Sharma	Ar. Rohit Thakur	SOA completed
8.	Predicting Energy of Hotel buildings using core-based reasoning Approach	Dr. Aniket Sharma	Ar. Rajat Nainwal	SOA completed
9.	Developmental Model for Urban Revitalization of Core area in India: case of Sagar, MP, India	Dr. Puneet Sharma	Ar. Akansha Soni	SOA completed
10.	Framework development for hill Town Resilience-HP	Dr. Puneet Sharma	Ar. Geetika Kaundal	Comprehensive
11.	Visual Quality framework for the city of Dharamshala, HP	Dr. Vandana Sharma	Ar. Rahul Bharmauria	SOA completed
12.	Effect of different types of roof systems on the indoor thermal comfort of houses of Himachal Pradesh.	Dr. Vandana Sharma	Ar. Ridima Sharma	Comprehensive
13.	Gender Sensitive Strategies in Urban Planning	Dr. Rashmi Kumari	Ar. Asmita Yadav	Comprehensive
14.	Urban mobility in hill towns	Dr. Inderpal Singh	Ar. Gouri	Course work going on
15.	Eco tourism in hill areas	Dr. Inderpal Singh	Ar. Kirti	Course work

				going on
16.	Ground water management in rural areas	Dr. Bhanu M Marwaha	Ar. Jitender Kumar das	Course work going on
17.	Planning for water resilient cities	Dr. Puneet Sharma & Dr. Inderpal Singh	Ar. Kalpna Thakur	Course work going on
18.	Role of Software development in Construction waste management	Dr. Puneet Sharma & Dr. Rashmi Kumari	Ar. Shiwani	Course work going on
19.	Socio-ecological resilience in the coastal ecosystems of Kerala	Dr. Aniket Sharma	Ar. Atul	Course work going on
20.	Quantification of BIPV towards the net zero building	Dr. Venu Shree	Ar. Jay Prakash	Course work going on
21.	Application of vernacular building construction technique to achieve sustainability in modern construction in lahaul region	Dr. Venu Shree	Ar. Shivdayal	Course work going on

#### 4. POPULAR LECTURES BY OUTSIDE EXPERTS:

Sr. No	Date	Speaker	Topic
1.	03.01.2021	Dr. Siraj Ahamed	Wind energy technology in housing and planning
2.	04.01.2021	Dr. Ashwani Kumar	Energy and building bye laws
3.	05.01.2021	Dr. N S Thakur	Refrigeration and Air conditioning
4.	06.01.2021	Dr. S S Katoch	Energy audit of buildings
5.	07.01.2021	Dr. Bhaskar D	Urban climate
6.	18.12.2020	Dr. Pravesh Kr. Sharma	Role of Watershed Management in Social ecological resilience
7.	19.12.2020	Dr. Hemant K Vinayak	Social Economic assessment of buildings
8.	20.12.2020	Sh. Navneet Yadav	Role of Disaster Management in community resilience
9.	21.12.2020	Dr. Manoj Sharma	Natural order, Integral Humanism and Socio Economic Resilience
10.	22.12.2020	Ar. Ajay Sharma	Impact of Tourism on ecological resilience
11.	28.10.2020	Dr. Faiz Ahmed C	Buildings and energy conservation
12.	29.10.2020	Ar. Surinder Bahga	Planning for Green Architecture
13.	30.10.2020	Dr. Adinarayanane R	Framework for assessment of Traditional Knowledge System
14.	31.10.2020	Dr. Barsha Poricha	Understanding Resilience – The Social Construct

15.	01.11.2020	Ar. Ajay Sharma	Sustainable development through community resilience
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#### 5. CONSULTANCY SERVICES:

Sr. No.	Name of the Scheme	Sponsored Agency	Amount earned
1.	Conceptual planning for Gasota Mahadev Temple, Hamirpur	Deputy Commissioner office, Hamirpur, HP	-

#### 6. TECHNICAL ASSOCIATIONS/SOCIETIES:

Sr. No.	Name of Professional Societies/ Institutions	Name of the Faculty	Status	National/ International
1.	Council of Architecture	Dr. Minakshi Jain	CA/90/13558	National
2.	Indian Society of Landscape Architects		J-10/A2007	National
3.	Council of Architecture	Dr. Bhanu M Marwaha	CA/92/15454	National
4.	Associate Member of The Indian Institute of Architects Mumbai		A-14291	National
5.	Fellow Member ITPI – New Delhi	Dr. I P Singh	2006/52	National
6.	Fellow Member of The Indian Institute of Architects Mumbai		A-16465	National
7.	Council of Architecture		CA/89/12443	National
8.	Member of The Indian Institute of Architects Mumbai	Dr. Aniket Sharma	Lifetime	National
9.	Council of Architecture		CA/2006/38390	National
10.	Associate Member of Institute of Town Planners, India		Lifetime (2011-119)	National
11.	Member, Indian Society of Heating, Refrigeration & Air Conditioning Engineers (ISHRAE)		2017-2020	National
12.	Life Member, Indian Building Congress (IBC)		Lifetime (ML6231)	National
13.	Life Member, Indian Concrete Institute		Lifetime (10542)	National
14.	Member, Autodesk User Group International		Lifetime	International

	Organization (AUGI)			
15.	General Member, International Network for Traditional Building, Architecture and Urbanism (INTBAU)		Lifetime	International
16.	Member of The Indian Institute of Architects Mumbai	Dr. Puneet Sharma	Lifetime	National
17.	Council of Architecture		CA/2004/33626	National
18.	Institute of Urban Design India		Lifetime	National
19.	Council of Architecture	Dr. Vandna Sharma	CA/2005/36353	National
20.	Member, Indian Society of Heating, Refrigeration & Air Conditioning Engineers (ISHRAE)		2017-2020	National
21.	Life Member, Indian Building Congress (IBC)		Lifetime (ML6232)	National
22.	Associate Member of Institute of Town Planners, India		Lifetime (2011- 118)	National
23.	General Member, International Network for Traditional Building, Architecture and Urbanism (INTBAU)		Lifetime	International
24.	Council of Architecture	Dr. Amanjeet Kaur	CA/2001/28647	National
25.	Member of The Indian Institute of Architects Mumbai		Lifetime (A15110)	National
26.	Member of The Indian Institute of Architects Mumbai	Dr. Neetu Kapoor	Lifetime	National
27.	Council of Architecture		CA/2006/37880	National
28.	Member of The Indian Institute of Architects Mumbai	Dr. Sandeep Sharma	Lifetime	National
29.	Council of Architecture		CA/2006/37836	National
30.	Council of Architecture	Dr. Venu Shree	CA/2006/38789	National
31.	Member of The Indian Institute of Architects Mumbai		Lifetime	National
32.	Council of Architecture	Dr. Rashmi Kumari	CA/2009/45688	National
33.	Associate Member of Institute of Town Planners, India		2016-242, AITP	National



**7. EQUIPMENT ACQUIRED:**

Sr. No.	Name of Equipment	Grant/ Lab	Cost (Rs./)
1	Professional Headphones	BReUCom Project Grant	17,996
2	High Resolution Camera (integrated for Video Conferencing)		80,000
3	Speakers		19,516
4	Overhead Projector		1,19,880
5	Digital camera (SLR) with wide angle lens and accessories or equivalent		62,099
6	50M Range Laser Distance Meter		18,364.34
7	Video recorder (Professional Handycam)		19,810.78
8	A0 size plotter		32,2600
9	Laptop		3,91,600
10	A3 scanner		42,383.98
11	A4 colored laserjet printer		1,18,154.36
12	Photocopier machine A3 colored or equivalent		2,49,923
13	Total station		4,99,500

**8. DETAILS OF LABORATORIES:**

1. Research & Documentation Lab
2. Computer Lab
3. Climatology & Energy Lab
4. Survey Lab
5. Audio Visual lab (SH-I to SH-IV)
6. Visual Arts Lab
7. Building Material & Construction lab
8. Carpentry lab
9. Built Environment Model Making lab
10. BReUCom Research Lab

**9. STUDENT ACTIVITIES:**

- i) Nimbus 2020
- ii) Design Competitions at national and international level

<b>Competition Name</b>	<b>Duration</b>	<b>Position/Prize</b>
UNI- Brewed	January 20 - October 20	Top shortlisted and Editor's Choice Award
UNI-Libgen Library	Nov 19-March 20	Top 15 + Institutional Excellence Award
ARCHMELLO- Master Studio	April 20 - August 20	Top 25 Student Entries
UNI-Competition-Co-Life	January 30 - December 3	Top Shortlisted
Harit Prem Bharat- Green art competition	January 23-29 2021	3rd prize

### 3.12 DEPARTMENT OF HUMANITIES & SOCIAL SCIENCES



#### 1. ACADEMIC STAFF:

**HEAD: Dr. Piar Chand Ryhal**  
**Ph.D**

#### FACULTIES:

Professor	Associate Professor	Assistant Professor Grad-II
Dr. Piar Chand Ph.D	Dr. Yogesh Gupta Ph.D	Dr. Manoj Sharma Ph.D Dr. Manoj Kumar Yadav Ph.D Dr. Sunder Kala Negi Ph.D

#### 2. RESEARCH :-

(a) Research Publication: i) Paper published in National and International Conferences/Seminars

Author	Year	Title of Publication	Name of Journal ISSN	Volume (Issue)	Indexing
Manoj Sharma & Ritu Rana	2020	Dynamic Causality Among GDI ,economic growth and Co2 emissions in India : with open markets and Technology gap.	International Journal of Asian Business and Information Management	11(3)	Scopus

Sonika Singh & Piar Chand	2020-21	Emotional Intelligence : Evidence from government and private school teaches	International Journal of Business Globalization		Scopus
Sonika Singh & Piar Chand Ryhal	2020-21]	How Servant Leadership Behavior affect job Satisfaction? A study on Indian Academia	FIIB – Business Review (Sage Publication)		Scopus
Swarali N. Sahasrabudhe & Piar chand	2020-21	Masking the Emotions at Workplace : A Review on the Consequences of Emotional Labour	Recent Trends in Management & Social Science		Book Chapter

### 3. PhD Supervision

Sr. No.	Guide/Supervisor	Department/Institute	Year
1.	Dr. Piar Chand	HSS , NIT Hamirpur	2020
2.	Dr. Yoesh Gupta	HSS , NIT Hamirpur	2020
3.	Dr. Manoj Shamra	HSS, NIT Hamirpur	2020
4.	Dr. Manoj Kr. Yadav	HSS, NIT Hamirpur	2020

### 5. Ph.D Degree Awarded

Sr. No.	Title	Guide's	Name of Student	Brief Report
1.	Workplace spirituality Emotional ownership, job satisfaction: a Paradigm for managing job stress.	Prof. Piar Chand	Mr. Vikrant Jaswal	Awarded
2.	Performance An analysis of Indian Textile Exports: A study of post Reform Period.	Dr. Manoj Sharma	Mr. Rahul Dhiman	Awarded
3.	FDI/Environmental Economics	Dr. Manoj Sharma	Ms. Ritu Rana	Awarded

**5. (b) DOCTORAL PROGRAMME: 03 Nos. on going**

S.No	Guide's	Name of Student	Brief Report
1	Prof. Piar Chand	Ms. Sonika	In progress
	Dr. Sunder kala Negi	Ms. Monika	In Progress
		Ms. Swarali N. Sahasrabudhe	In Progress
2	Dr. Manoj Sharma & Prof. Piar Chand	Mr. Daljit Singh	In Progress
		Mr. Sukhwinder Singh	In Progress
		Swati Verma	In Progress
		Shailja Kanwar	In Progress
		Chhaya Devi	In Progress
3	Dr. Yogesh Gupta	Swarima Verma	In Progress

**6(a) Sponsored Research Project:**

Sr. No	Title of Project	Sponsoring Organization	PI	Year of award	Status
1	Adolescent sanitation practices and infrastructure facilities	H IPA	Dr. Manoj Sharma & Dr. Piar Chand	2019-20	Completed
2	Bridging the Mountainous Divide through Digital Astuteness and Capacity Building of Rural Woman in HP	ICSSR MHRD New Delhi	Dr. Manoj Sharma	2019-21	Ongoing
3	Declining Child Sex Ratio in the Boarder Districts of Himachal Pradesh	Himachal Pradesh Institute of Public Administration, Shimla(HIPA)	Dr. Manoj Sharma & Dr. Piar Chand	2019-20	Completed
4	Prospects and Problem of Tribal Entrepreneurship	Tribal Development Department Himachal Pradesh	Dr. Manoj Sharma	2019-20	Completed

**6 (b) In Progress**

Sr. No	Title of Project	Sponsoring Organization	PI	Status
1	Bridging the Mountainous Divide through Digital Astuteness and Capacity Building Rural Women of Himachal Pradesh	Indian Council of Social Science Research, New Delhi	Dr. Manoj Sharma	Ongoing

**6. DETAIL OF THE LABORATORIES:**

Sr. No.	Name of the Laboratory
1	Language Lab
2	Research Lab

### 3.13 DEPARTMENT OF MANAGEMENT STUDIES



#### 1. ACADEMIC STAFF

**HEAD: Dr. Lalit Kumar Awasthi, Professor & Head**

**FACULTY:**

<b>Professor</b>	<b>Associate Professor</b>	<b>Assistant Professor Grade-I</b>	<b>Assistant Professor Grade-II</b>
NIL	NIL	Dr. Vivek Tiwari	Dr. Sachin Kumar
		Dr. Mohd. Adil	Dr. Neeraj Dhiman
			Dr. Shampy Kamboj
			Dr. Richa Joshi

#### 1. Student Admitted:

<b>(2020-21)</b>	<b>M.B.A</b>
1 <sup>st</sup> Year	18
2 <sup>nd</sup> Year	13

## Achievements in Department

### 2. SEMINAR, SYMPOSIA, SUMMER SCHOOL, WINTER SCHOOL, SHORT TERM COURSE

#### (a) Conducted in the Department: 02 e-workshops and 01 national e-conference

- I. Advanced Statistical Techniques for Research In Social Sciences- 26<sup>th</sup> to 30<sup>th</sup> October, 2020. (By **Dr. Shampy Kamboj, Dr. Sachin Kumar and Dr. Richa Joshi**)
- II. Quality Research and Scholarly Publications in Social Sciences-18<sup>th</sup> to 22<sup>nd</sup> January 2021 (By **Dr. Shampy Kamboj, Dr. Sachin Kumar and Dr. Neeraj Dhiman**)
- III. Recent Trends in Management and Social Sciences RTMSS -2021 National – e Conference – 5<sup>th</sup> and 6<sup>th</sup> March 2021. (By **Dr. Richa Joshi, Dr. Sachin Kumar and Dr. Neeraj Dhiman**)
- IV. **Published a Book** Titled “Recent Trends in Management & Social Sciences” Published by Bharti Publications, New Delhi, India, ISBN: 978-93-90818-55-6 Edited by Prof. Piar Chand | Dr. Richa Joshi | Dr. Sachin Kumar | Dr. Neeraj Dhiman

**(b) Participated by Faculty Members:** Dr. Sachin Kumar, attended National Webinar on “Strategy for Managing Personal Finance Including Mutual Funds During and After Covid-19” organized by Central University of Jharkhand In association with Association of Mutual Funds in India (AMFI) dated 21 September, 2020.

### 4. RESEARCH:

**(a) Research Scheme: NIL**

**(b) Research Publications: 22**

#### **(I) PAPER PUBLISHED BY FACULTIES:**

##### **Paper Published in International Journals:**

S. No	Journal Name	Title of paper	Year in which publish	Author	Journal Pages
1.	Journal of Retailing and Consumer Services	An innovation resistance theory perspective on purchase of eco-friendly cosmetics	2021	Mohd Sadiq, Mohd Adil, Justin Paul	102-369
2.	Journal of Ecotourism	Ecotourism related search for information over the internet: a technology acceptance model perspective	2021	Mohd Sadiq, Mohd Adil	70-88



3.	Business Strategy and the Environment	Does social influence turn pessimistic consumers green?	2021	Mohd Sadiq, Mohd Adil, Justin Paul	
4.	International Journal of Business Excellence	SSTQUAL model: assessment of ATM service quality in an emerging economy	2020	Mohd. Adil, Mohd. Nasir, Mohd. Sadiq, Kumkum Bharti	114-138
5.	Behavior & Information Technology	Social comparison and continuance intention of smart fitness wearable: an extended expectation confirmation theory perspective	2020	Gupta, Neeraj Dhiman, Yousaf, & Arora, (2020)	1-14
6.	Journal of Indian Business Research	Understanding intentions and actual use of mobile wallets by millennial: an extended TAM model perspective	2021	Neeraj Dhiman	
7.	International Journal of Work Innovation	Influence of psychological capital on turnover intentions: empirical evidence from Indian paramedics.	2020	Neelika Arora & Neeraj Dhiman	247-256
8.	Journal of Electronic Commerce in Organizations	Factors driving consumer engagement and intentions with gamification of mobile apps	2020	Shampy Kamboj, S Rana and V Drave	17-35
9.	International Journal of Tourism Cities	Examining the factors influencing smartphone apps use at tourism destinations: a UTAUT model perspective	2020	Shampy Kamboj and Richa Joshi	135-157
10.	Management of Environmental Quality	Understanding the impact of lifestyle on sustainable consumption behavior: a sharing economy perspective	2020	Matharu, M., Jain, R. and Shampy	20-40

				Kamboj.	
11.	Current Issues in Tourism	Use of smart phone apps in co-creative hotel service innovation: an evidence from India	2020	Shampy Kamboj, S Gupta	323-344
12.	Journal of Asia Business Studies	Modeling the predictors of consumers' willingness to pay premium price for sustainable products	2021	S Kamboj, M Matharu	1-17
13.	Global Business and Economics Review	Consumers' lifestyle of health and sustainability as determining factor of purchase behavior for sustainable products: An empirical analysis	2021	M Matharu, R Jain, S Kamboj	1-20
14.	Journal of Asia-Pacific Business	Brand Desire: Scale Development and Empirical Examination	2020	Richa Joshi	
15.	Vision	Captivating Brand Hate Using Contemporary Metrics: A Structural Equation Modeling Approach.	2020	Richa Joshi	
16.	Journal of Islamic Marketing	Assessing brand love, brand sacredness and brand fidelity towards halal brands	2020	Richa Joshi	
17.	Journal of Asia-Pacific Business	Brand desire: Scale development and empirical examination	2020	Richa Joshi	
18.	International Journal of Tourism Cities	Examining the factors influencing smartphone apps use at tourism destinations: a UTAUT model perspective	2020	Richa Joshi	
19.	International Journal of Consumer Studies	<u>Role of brand experience in shaping brand love</u>	2020	Richa Joshi	
20.	Environment, Development and Sustainability	Environment Sustainability through Sustainability Innovations	2020	Vivek Tiwari	

21.	Benchmarking: an International Journal	Countering Effects of Techno stress on Productivity: Moderating Role of Proactive Personality, Vol. 28 No. 2, pp. 636-651	2020	Vivek Tiwari	
22.	Purushartha	Relationship Among Techno stress Productivity and Role Stress. Vol. no.: 13. No. 1. pp.67-83	2020	Vivek Tiwari	

## (ii) PAPER PRESENTED IN CONFERENCE/SEMINAR/SYMPOSIUM:

**Dr. Mohd Adil and Mohd Sadiq** presented a paper titled “Do Personality Traits Drive Tourist Dishonest Behaviour at Tourist Destination?” at the SERVSIG-2020 Conference by American Marketing Association, USA at Queensland University of Technology, Australia during August 2020.

**Nikhil Dogra and Dr. Mohd Adil** presented a paper titled “Identifying indicators of sustainable smart agriculture driven by big data using m-TISM” in International Conference on Innovations in Cyber Physical Systems 2020.

Presented a paper Titled – “Influence of brand sacredness and fidelity on Brand Advocacy: An extended approach to Triangular Theory of love” at the International conference on marketing, technology and society organized by IIM Kozikhode during 7<sup>th</sup> to 9<sup>th</sup> December 2020. (**Dr. Richa Joshi**)

**Dr. Shampy Kamboj** presented a paper titled, “learned helplessness among people with disabilities in the tourism context: An empirical study” at International conference on Managing Tourism across continents held at Turkey on 1-3 April 2021.

**Dr. Shampy Kamboj** presented a paper titled, “Role of reviews and digital platforms in International research symposium in service Management held at USA on 15-16 August 2020.

**Dr. Shampy Kamboj** presented a paper titled, “Influence of brand sacredness and fidelity on Brand Advocacy: An extended approach to Triangular Theory of love” at the International conference on marketing, technology and society organized by IIM Kozikhode during 7<sup>th</sup> to 9<sup>th</sup> December 2020.

**Dr. Neeraj Dhiman** presented a paper titled, “Continuance Intentions of Online Learning Platforms: An Extended ECM Perspective” in the International conference on “Rethinking Business : Designing Strategies in the Age of Disruptions” held on December 19, 2020 organized by Mittal School of Business, Lovely Professional University, Punjab, India.

**Dr. Neeraj Dhiman** presented a paper titled, “Predicting the users’ Intentions to use hand Sanitizers: An Extended theory of Planned behavior Perspective” in the International conference on “Rethinking Business : Designing Strategies in the Age of Disruptions” held on December 19, 2020 organized by Mittal School of Business, Lovely Professional University, Punjab, India.

**Dr. Sachin Kumar** presented a paper titled, “Predicting the users’ Intentions to use hand Sanitizers: An Extended theory of Planned behavior Perspective” in the International conference on “Rethinking Business : Designing Strategies in the Age of Disruptions” held on December 19, 2020 organized by Mittal School of Business, Lovely Professional University, Punjab, India.

**Dr. Sachin Kumar**, Paper presented titled “Impact of Online Services Convenience on Adoption of Electronic Information Resources” in International management Conference AMRIT (Dec 16-18, 2020) at Fortune Institute of International Business New Delhi.

### **International / National Conferences**

- i) PAPER ACCEPTED FOR PUBLICATION: 02  
ii) PATENT :Nil

**Dr. Shampy Kamboj** presented a paper titled, “learned helplessness among people with disabilities in the tourism context: An empirical study” at International conference on Managing Tourism across continents held at Turkey on 1-3 April 2021 and **accepted** for publications as well.

**Nikhil Dogra and Dr. Mohd Adil** presented a paper titled “Identifying indicators of sustainable smart agriculture driven by big data using m-TISM” in International Conference on Innovations in Cyber Physical Systems 2020 and **accepted** for publication.

(c) Doctoral Programme:

(d) Ph.D. Degree awarded: Nil

(e) Master Thesis Completed: 23

(f) DOCTORAL PROGRAMME:

Sr. No.	Title	Guide	Name of Student	Brief Report
1.				

(g) POPULAR LECTURES BY OUTSIDE EXPERTS:

5. CONSULTANCY SERVICES: Nil

6. EQUIPMENT ACQUIRED:

Sr. No.	Name of Equipment	Name of Manufacturer	Cost (Rs. In INR)
	-----NIL-----		

**7. NAME OF LABORATORIES:**

S.N.	Name of Laboratory
1	Managerial Computational and Simulation Laboratory

## 4 Staff Details

### 4.1 ADMINISTRATIVE STAFF

No.	Sr.	Title	First Name	Last Name	Designation	Employee Code
1	Dr.		Sushil	Chauhan	Registrar (Officiating)	S0030
	Dr.		Sunil	Kumar	Registrar (Officiating)	
	Dr.		Yogesh	Gupta	Registrar (Officiating)	
2	Sh.		Anil	Kumar	Sr. Scientific Officer	S0243
3	Sh.		Jagdish Chand	Verma	Sr. Scientific Officer	S0057
4	Sh.		Ashwani	Kumar	Scientific Officer	S0059
5	Dr.		Mani	Verma	Medical Officer	S0293
6	Sh.		Nitin	Paliwal	Assistant Librarian	S0343
7	Sh.		Vimlesh	Patel	Assistant Librarian ( On Lien)	S0359
8	Sh.		Satish Chander	Sharma	Deputy Registrar	
9	Sh.		Sanjay	Jamwal	Assistant Registrar	S0151
10	Sh.		Gaurav	Sharma	Assistant Registrar	S0344
11	Sh.		Vipan	Kumar	Assistant Registrar	
12	Sh.		Kumar	Saurabh	Assistant Registrar	
13	Sh.		Gaurav	Yadav	Assistant Registrar	
14	Sh.		Baldev Ram	Sharma	Assistant Registrar	
15	Sh.		Nanak Chand	Negi	Assistant Registrar	S0126

### 4.2 Technical Staff

Sr. No.	Title	First Name	Last Name	Designation	Employee Code
1	Sh.	Sanjeev Kumar	Vashisth	Assistant Engineer SG-I	-
2	Sh.	Rajesh	Sharma	Assistant Engineer SG-II	S0172
3	Sh.	Birender Singh	Minhas	Library Information Assistant SG-I	S0166
4	Sh.	Rajesh	Paul	Sr. Library Information Assistant	S0167
5	Sh.	Joginder	Singh	Technical Assistant SG-II	S0169
6	Sh.	Sarvjit	Singh	Technician SG-II	S0170
7	Sh.	Amarjeet	Singh	Technical Assistant SG-I	S0270
8	Sh.	Ravi	Singh	Technical Assistant SG-I	S0240
9	Sh.	Om Parkash	Sharma	Technical Assistant SG-I	S0105
10	Sh.	Jaspal	Singh	Technical Assistant SG-I	S0106
11	Sh.	Balbir	Singh	Technical Assistant SG-II	S0077
12	Sh.	Rajpal	Minhas	Technical Assistant SG-I	S0092
13	Sh.	Avinash	Aggarwal	Sr. Technical Assistant	S0269
14	Sh.	Santosh	Kumar	Sr. Technical Assistant	S0275
15	Sh.	Inder Singh	Guleria	Technical Assistant SG-II	S0104
16	Sh.	Partap	Chand	Technical Assistant SG-II	S0113
17	Sh.	Bikram	Singh	Technical Assistant SG-II	S0084
18	Sh.	Ravinder	Kumar	Technical Assistant SG-II	S0107
19	Sh.	Sanjeev Kumar	Thakur	Sr. Technical Assistant	S0058
20	Sh.	Dev	Raj	Sr. Technical Assistant	S0114

21	Sh.	Dinesh	Kumar	Technical Assistant SG-II	S0067
22	Sh.	Joginder	Singh	Technician SG-I	S0093
23	Sh.	Desh	Raj	Technician SG-I	
24	Sh.	Kalyan	Singh	Technician SG-I	
25	Sh.	Ashwani	Kumar	Technician SG-II	
26	Smt.	Reeta	Singh	Sr. Technician	S0268
27	Sh.	Ajay	Kumar	Technician SG-II	S0101
28	Sh.	Sukh Dev	Singh	Technician SG-II	S0102
29	Sh.	Parkash	Singh	Technician SG-II	S0079
30	Sh.	Suresh	Kumar	Technician SG-II	S0069
31	Sh.	Shiv	Dayal	Technician SG-II	S0070
32	Sh.	Jiwan	Kumar	Technician SG-II	S0061
33	Sh.	Rakesh	Sharma	Technician SG-II	S0060
34	Sh.	Gajinder	Singh	Technician SG-II	
35	Sh.	Surinder	Singh	Technician SG-II	S0086
36	Sh.	Sunil	Kumar	Sr. Technician	S0111
37	Sh.	Santosh Kumar	Yadav	Sr. Technician	S0266
38	Sh.	Chet	Ram	Technician SG-II	S0095
39	Sh.	Roop	Lal	Technician SG-II	S0087
40	Sh.	Surinder	Kumar	Technician SG-II	S0116
41	Sh.	Vijay	Kumar	Sr. Technician	S0267
42	Sh.	Kishore	Chand	Sr. Technician	S0265
43	Sh.	Naresh	Kumar	Sr. Technician	S0264
44	Sh.	Mahesh	Chand	Technician SG-I (Driver)	S0173
45	Sh.	Surender	Pal	Technician	S0316
46	Sh.	Sanjeev	Kumar	Technician	S0317
47	Sh.	Shameem	Ahmed	Technician	S0319
48	Sh.	Pawan	Kumar	Technician	S0326
49	Sh.	Ashok	Kumar	Technical Assistant	
50	Sh.	Yashwant	Singh	Technician SG-I (Driver)	
51	Sh.	Rakesh	Kumar	Technician SG-II	

#### 4.3 Ministerial Staff:

Sr. No.	Title	First Name	Last Name	Designation	Employee Code
1	Sh	Pritam Chand	Rangra	Superintendent Gr-II	S0129
2	Sh.	Amar Nath	Nath	Superintendent Gr-II	S0133
3	Sh.	Satpal	Sharma	Superintendent Gr-II	S0132
4	Sh.	Rattan Chand	Verma	Sr. Superintendent	S0131
5	Sh.	Parkash Chand	Bhardwaj	Sr. Superintendent	S0139
6	Sh.	Raj Kumar	Sharma	Sr. Superintendent	S0136
7	Sh.	Dev	Raj	Sr. Personal Assistant	S0071
8	Sh.	Desh Raj	Bansal	Sr. Personal Assistant	S0099
9	Sh.	Parvesh	Kumar	Sr. Personal Assistant	S0282
10	Sh.	Raman	Kumar	Superintendent	S0272
11	Sh.	Kishore	Kumar	Asst. SG I	S0138
12	Smt.	Pushpa	Devi	Sr. Stenographer	S0164
13	Sh.	Gulab Singh	Thakur	Stenographer (SG- I)	S0117
14	Sh.	Vinod	Kumar	Stenographer SG-II	S0149
15	Smt.	Sangeeta	Kumari	Stenographer SG-II	S0150
16	Sh.	Sanjeev	Mehta	Asst. SG I	S0097

17	Sh.	Pardeep	Kumar	Asst. SG I	S0137
18	Sh.	Joginder	Singh	Asst. SG I	S0141
19	Sh.	Rameshwar	Attri	Asst. SG I	S0140
20	Sh.	Yashpal	Singh	Asst. SG I	S0142
21	Sh.	Pawan Kumar	Sharma	Asst. SG I	S0145
22	Sh.	Jitender	Kumar	Asst. SG I	S0146
23	Sh.	Surinder	Singh	Asst. SG I	S0072
24	Smt.	Surindera	Verma	Asst. SG I	S0147
25	Sh.	Ram	Kumar	Sr. Stenographer	S0080
26	Smt.	Rajbala	Jassi	Asst. SG II	S0062
27	Sh.	Raman	Thakur	Asst. SG II	S0158
28	Sh.	Meera	Thakur	Asst. SG II	S0155
29	Smt.	Meena	Devi	Asst. SG II	S0162
30	Sh.	Madan	Lal	Asst. SG II	S0152
31	Sh.	Raj	Kumar	Asst. SG II	S0160
32	Sh.	Ajit	Kumar	Asst. SG II	S0157
33	Smt.	Nazima	--	Asst. SG II	S0159
34	Sh.	SukhDev	Singh	Asst. SG II	S0286
35	Sh.	Vikas	Dogra	Sr. Assistant	S0311
36	Sh.	Ashwani	Kumar	Sr. Assistant	S0314
37	Sh.	Vishal	Narota	Sr. Assistant	S0313
38	Sh.	Vipan	Kumar-I	Sr. Assistant	S0312
39	Sh.	Vipan	Kumar-II	Sr. Assistant	S0315
40	Sh.	Shashi Kant	Ratnakar	Sr. Assistant	S0320
41	Sh.	V.K.	Tippan	Sr. Assistant	S0321
42	Smt.	Neenu	Sharma	Sr. Assistant	S0325
43	Mr.	Suresh	Kumar	Jr. Assistant	S0192
44	Mr.	Ashok	Kumar-I	Jr. Assistant	S0195
45	Mr.	Ravi	Das	Jr. Assistant	S0190

#### 4.4 Supporting Staff:

Sr. No.	Title	First Name	Last Name	Designation	Employee Code
1	Mr.	Partap	Chand	Office Attendant SG-I	S0189
2	Mr.	Bhagwan	Dass	Office Attendant SG-I	S0198
3	Mr.	Suresh Chand	Rangra	Office Attendant SG-I	S0186
4	Mr.	Om	Prakash	Office Attendant SG-I	S0181
5	Mr.	Sunil	Kumar	Office Attendant SG-I	S0180
6	Smt.	Sulesho	Devi	Office Attendant SG-I	S0083
7	Mr.	Hari	Singh	Office Attendant SG-I	S0219
8	Mr.	Bhupinder	Singh	Office Attendant SG-II	S0210
9	Mr.	Surinder	Kumar	Office Attendant SG-II	S0280
10	Mr.	Suresh	Kumar	Office Attendant SG-II	
11	Smt.	Manorma	Chopra	Office Attendant SG-II	S0098
12	Mr.	Hem	Raj	Office Attendant SG-II	S0197
13	Mr.	Kashmir	Singh	Office Attendant SG-II	S0196
14	Mr.	Kehar	Singh	Office Attendant SG-II	S0194
15	Mr.	Ravinder	Kumar	Office Attendant SG-II	S0207
16	Mr.	Vijay	Kumar	Office Attendant SG-II	S0202



17	Mr.	Balwant	Chand	Office Attendant SG-II	S0064
18	Mr.	Rajinder	Singh	Office Attendant SG-II	S0213
19	Mr.	Tilak	Raj	Office Attendant SG-II	S0075
20	Mr.	Manohar	Lal	Sr. Office Attendant	S0188
21	Mr.	Banka	Ram	Office Attendant SG-II	S0074
22	Mr.	Ashok	Kumar-I	Office Attendant SG-II	S0191
23	Mr.	Lekh	Raj	Office Attendant SG-II	
24	Mr.	Joginder	Singh	Office Attendant SG-II	S0119
25	Mr.	Partap	Chand	Office Attendant SG-II	S0189
26	Mr.	Devinder	Kumar	Office Attendant SG-II	S0214
27	Mr.	Ramesh	Chand-I	Sr. Office Attendant	S0205
28	Mr.	Manmohan	Lal	Office Attendant SG-II	S0089
29	Mr.	Jiwan	Parkash	Sr. Office Attendant	S0206
30	Mr.	Ramesh	Chand-II	Sr. Office Attendant	S0201
31	Mr.	Subhash	Chand	Sr. Office Attendant	S0222
32	Mr.	Chain	Singh	Sr. Office Attendant	S0203
33	Mr.	Jai	Chand	Sr. Office Attendant	S0208
34	Mr.	Vinod	Kumar	Sr. Office Attendant	S0221
35	Mr.	Subhash	Chand	Sr. Office Attendant	S0183
36	Mr.	Anil	Kumar	Sr. Office Attendant	S0262
37	Smt.	Salochna	--	Sr. Office Attendant	S0263
38	Mr.	Jiya	Lal	Sr. Office Attendant	S0274
39	Mr.	Neeraj	Kumar	Sr. Office Attendant	S0271
40	Mr.	Roshan	Lal	Office Attendant SG-II	
41	Mr.	Vidya	Sagar	Office Attendant SG-II	
42	Mr.	Parkash	Chand	Sr. Office Attendant	
43	Mr.	Rajinder	Singh	Sr. Office Attendant	
44	Mr.	Rakesh	Kumar	Sr. Office Attendant	
45	Mr.	Prem	Lal	Sr. Office Attendant	
46	Mr.	Om	Parkash	Office Attendant SG-II	S0276
47	Mr.	Sunil	Kumar	Sr. Office Attendant	S0277
48	Mr.	Subhash	Chand	Sr. Office Attendant	S0279
49	Mr.	Mukesh	Kumar	Sr. Office Attendant	S0278
50	Mr.	Basant	Singh	Office Attendant SG-II	
51	Smt	Geeta	Devi	Office Attendant SG-I	

4.5



राष्ट्रीय प्रौद्योगिकी संस्थान हमीरपुर

NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR (HP)

ACADEMIC CALENDAR FOR 1<sup>st</sup> year B.Tech./B.Arch./ Dual Degree, (Odd Semester of Academic Year 2021-22)

ANNEXURE - I

Event	1 <sup>st</sup> year UG (1 <sup>st</sup> Sem.)
Online reporting to the Institute	7 <sup>th</sup> – 13 <sup>th</sup> Dec 2021
Balance Fee deposit/ Registration	7 <sup>th</sup> – 13 <sup>th</sup> Dec 2021
Last date of Registration	13 <sup>th</sup> Dec 2021
Online Orientation Program	7 <sup>th</sup> – 13 <sup>th</sup> Dec 2021
Commencement of Classes (via online mode)	14 <sup>th</sup> Dec 2021
Physical reporting to the Institute	7 <sup>th</sup> – 10 <sup>th</sup> Jan 2022
Commencement of Classes (via offline mode)	11 <sup>th</sup> Jan 2022
Mid Semester Examinations	31 <sup>st</sup> Jan 2021 – 5 <sup>th</sup> Feb 2022
End Semester Practical Examinations	9 <sup>th</sup> – 11 <sup>th</sup> March 2022
End of Classes	11 <sup>th</sup> March 2022
End Semester Theory Examinations	14 <sup>th</sup> – 28 <sup>th</sup> March 2022
Last Date of Grade Submission	1 <sup>st</sup> April 2022
Declaration of Result	11 <sup>th</sup> April 2022

Note:

- (i) The Classes shall not be conducted during the period of physical reporting i.e., 7<sup>th</sup> – 10<sup>th</sup> Jan 2022
- (ii) The classes for 2<sup>nd</sup> Semester shall commence from 29/03/2022
- (iii) The schedule for Registration for the next Semester shall be from 29/03/2022 to 05/04/2022

\* The schedule of Orientation Programme shall be decided by the Office of Dean(SW).

Dean(Academic)



राष्ट्रीय प्रौद्योगिकी संस्थान हमीरपुर

**NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR (HP)**  
**ACADEMIC CALENDAR FOR UG/PG/PhD (Except UG 1<sup>st</sup> year), Even Semester 2021-22**

ANNEXURE - II

Event	2nd year UG (4th Sem.)	3rd Year UG (6th Sem.)	4th year UG/Dual Degree (8th Sem.) / 5th Year B.Arch./Dual Degree (10th Sem.) / MBA / M.Sc.	M.Tech. / M.Arch. / PhD
<b>Physical reporting to Institute</b>	5 <sup>th</sup> to 9 <sup>th</sup> Jan 2022	30 <sup>th</sup> Dec 21 to 2 <sup>nd</sup> Jan 2022	Latest by 10 <sup>th</sup> Dec 2021 (MBA/M.Sc. students to report by 02/01/2022 – if not already reported)	Already reported
<b>Fee deposit &amp; registration</b>	5 <sup>th</sup> to 10 <sup>th</sup> Jan 2022	30 <sup>th</sup> Dec 21 to 3 <sup>rd</sup> Jan 2022	3 <sup>rd</sup> to 7 <sup>th</sup> Jan 2022	18 <sup>th</sup> to 20 <sup>th</sup> Jan 2022
<b>Last date of Registration</b>	10 <sup>th</sup> Jan 2022	3 <sup>rd</sup> Jan 2022	7 <sup>th</sup> Jan 2022	20 <sup>th</sup> Jan 2022
<b>Commencement of Classes</b>	11 <sup>th</sup> Jan 2022	4 <sup>th</sup> Jan 2022	3 <sup>rd</sup> Jan 2022	21 <sup>st</sup> Jan 2022
<b>Mid Semester Examinations</b>	07 <sup>th</sup> - 12 <sup>th</sup> March 2022			
<b>Mid Semester Evaluation of UG/PG – Projects/ Dissertation</b>	14 <sup>th</sup> – 16 <sup>th</sup> March 2022			
<b>End of Classes</b>	29 <sup>th</sup> April 2022			
<b>End Semester Practical Examinations/ PhD End Semester Progress Seminar</b>	4 <sup>th</sup> – 10 <sup>th</sup> May 2022			
<b>End Semester Theory Examinations/ PhD End Semester Progress Seminar</b>	11 <sup>th</sup> – 24 <sup>th</sup> May 2022			
<b>End Semester Evaluation of UG projects</b>	25 <sup>th</sup> – 27 <sup>th</sup> May 2022			
<b>Last Date of Grade Submission</b>	31 <sup>st</sup> May 2022			
<b>Declaration of Result</b>	14 <sup>th</sup> June 2022			

**Note:**

- (i) Summer vacations for students shall start from 28/05/2022
- (ii) Summer vacations for faculty (except for faculty engaged with UG 1<sup>st</sup> Year) shall start from 01/06/2022
- (iii) Submission of PG Dissertation from 04/05/2022 to 27/05/2022 followed by Oral Examinations of PG Dissertation preferably before 30/06/2022
- (iv) Schedule for Registration and Commencement of Classes for the next Semester shall be notified later.

Dean(Academic)

## **5.0 Training & Placement Cell**

The Training & Placement Cell was established in this Institute in the year 1995. Since then, lots of activities are being conducted within the ambit of this cell for the benefit of the students and faculty.

### **Office of Training and Placement:**

Office of Training & Placement has been actively performing and coordinating a number of professional activities for the students. Some of the major activities relating to the students are Practical Training for the students and Campus Placements in various organizations/industrial units within the country and outside.

### **5.1 Short Term Industrial Research Experience**

Short Term Industrial Research Experience is an integral part of engineering education that aims to make students familiar with the culture and environment of industries and getting practical knowledge on working of equipment, plants and processes which cannot be accommodated or explained in a laboratory. Students are exposed to the concept of plant management and organization at first hand.

Short Term Industrial Research Training for the B.Tech. /B.Arch. students couldn't take place in organizations/industries during May-July 2020 due to ongoing pandemic. However, the students were allowed to carry out the training within the institute itself.

## 5.2 Placement Statistics for 2020 – 2021 (Upto March 31, 2021)

### B. Tech. 2020 Batch

#### (1) B. Tech. 2021 Batch

2021 (Total 37 Nos. of organizations in which students have been placed during the year 2020-21 Upto March 31, 2021)							
Sr. No.	Discipline	Eligible/ Appeared Candidate	Placed	% placement	Total Jobs Offere d	% Jobs offered to NIT Hamirpur	Max. CTC in Lacs per Annum (LPA)
1	Electronics & Comm. Engg.	82	58	70.73	66	80.48%	12.00 LPA
2	Computer Science & Engg.	84	70	83.33	98	116.66%	20.00 LPA
3	Electrical Engg.	83	41	49.39	45	54.21%	9.07 LPA
4	Mechanical Engg.	81	29	35.80	30	37.03%	35.00 LPA
5	Civil Engg.	70	14	20.00	14	20.00%	9.07 LPA
6	Chemical Engg.	54	16	29.62	17	31.48%	6.00 LPA
7	Material Sc. & Engg.	20	05	25.00	05	25.00%	6.5 LPA
<b>Total</b>		<b>474</b>	<b>233</b>	<b>49.15</b>	<b>275</b>	<b>58.01%</b>	

#### (2) Dual Degree 2020-21 Batch

2021 (Total 23 Nos. of organizations in which students have been placed during the year 2020-21 Upto March 31, 2021)							
Sr. No.	Discipline	Eligible/ Appeared Candidate	Placed	% placement	Total Jobs Offered	% Jobs offered to NIT Hamirpur	Max. CTC in Lacs
1	Computer Science & Engg.	55	49	89.09	60	109.09%	11.00 LPA
2.	Electronics & communication Engg.	34	17	50.00	22	64.70%	23.05 LPA
<b>Total</b>		<b>89</b>	<b>66</b>	<b>74.15</b>	<b>82</b>	<b>92.13%</b>	

#### (3) B.Arch. 2020-21 Batch

2021 (Total 2 Nos. of organization in which students have been placed during the year 2020-21 Upto March 31, 2021)						
	Discipline	Eligible/ Appeared Candidates	Placed	Total Job Offers	Percentage of placement	Max. CTC in Lacs
1	Architecture	29	2	2	6.89%	6.00 LPA

**(4) M.Tech./M.Arch 2020-21 Batch**

<b>2021 (Total 9 Nos. of organizations in which students have been placed during the year 2020-21 Upto March 31, 2021)</b>					
Sr. No.	Discipline	Eligible/ Appeared Candidates	Placed	Total Job Offers	Percentage of placement
1	Geotechnical Engg.	14	-NIL-		
2	Structure Engg.	18	-NIL-		
3	Transportation Systems Engg.	18	-NIL-		
4	Water Resource Engg.	14	-NIL-		
5	Thermal Engg. (Mech. Engg.)	16	-NIL-		
6	(CAD-CAM) (ME)	06	2	2	33.3%
7	Power Systems (EE)	16	-NIL-		
8	Signal Processing & Control (EE)	10	-NIL-		
9	Condition Monitoring, Protection & Control of Electrical Apparatus (EEE)	10	-NIL-		
10	VLSI Design & Automation Techniques (ECE)	18	3	3	16.66%
11	Comm. Systems & Networks (ECE)	16	2	2	12.50%
12	Comp.Sc. & Engg.	17	6	7	35.29%
13	Mobile Computing	12	1	2	08.33%
14	Energy Technology	06	-NIL-		
15	Environmental Engg.	11	-NIL-		
16	Architecture	9	-NIL-		
<b>Total</b>		<b>211</b>	<b>14</b>	<b>16</b>	<b>06.63%</b>

**(5) MBA 2020-21 Batch.**

<b>2020 (Total 1 No. of organizations in which students have been placed during the year 2020-21 Upto March 31, 2021)</b>						
Sr. No.	Discipline	Eligible/ Appeared Candidates	Placed	Total Job Offers	Percentage of placement	Max. CTC in Lacs per Annum
1	Master of Business Administration	13	1	1	7.69%	3.71 LPA

**(6) M.Sc 2020-21 Batch.**

Sr. No.	Discipline	Eligible/ Appeared Candidate	Placed	Total Jobs Offered	% Jobs offered to NIT Hamirpur	Max. CTC in Lacs
1	Maths & Comp	15	-NIL-			
2.	Physical	11	-NIL-			
3.	Chemistry	17	-NIL-			
<b>Total</b>		<b>43</b>				

**NATIONAL INSTITUTE OF TECHNOLOGY, HAMIRPUR (HP)**  
**CAMPUS PLACEMENT RECORD OF B.TECH. / B.ARCH. / M.TECH./ M.Arch./MBA/MSc.**

**(1) YEAR : 2020 – 2021 (B.Tech.)**

Sr. No.	Name of Organization	Allowed Branches	App.Pay Pac. (Rs. Lakhs per annum)	Details of Selected Students							Total
				E&CE	CSE	EEE	ME	C E	Mat Sci.	Chem Engg.	
1.	Avalara Technologies Pvt. Ltd.	CSE	20.0 Lacs	-	3	-	-	-	-	-	3
2.	Paytm Pvt. Ltd.	CSE	8.0 lacs +1 Lacs Bonus	-	3	-	-	-	-	-	3
3.	Sourcefuse Tech. India Pvt. Ltd.	CSE	8.0 Lacs	-	2	-	-	-	-	-	2
4.	Standard Chartered Bank PLC	CSE/ECE	11.00	1	2	-	-	-	-	-	3
5.	Publicis Sapient	CS/CSE/ECE	9.0	2	5	-	-	-	-	-	7
6.	Oracle Financial	CSE/ECE/ME	6.40 LPA + Rs.55,4.54	6	10	-	1	-	-	-	17
7.	Infoedge Pvt. Ltd.	CSE/ECE	12.00LPA	1	6	-	-	-	-	-	07
8.	Amdocs Pvt. Ltd	ECE/CSE	5.00LPA+20K setting allowance for out stationed candidate	1	3	-	-	--	-	-	4
9.	Capgemini Pvt. Ltd.	CSE/ME/ECE/CE/EE	6.8 LPA	7	4	1	3	2	-	-	18
10.	Nokia ( In /Bangalore ) India	ECE/CSE	7.00 LPA	8	12	-	-	-	-	-	20
11.	Verizon India Pvt. Ltd.	CSE	7,15,000 PA	-	9	-	-	-	-	-	09
12.	Larsen & Toubro Infotech Ltd.	CSE/ECE/Material science & Engg/EE	6.5 LPA	5	6	3	-	-	1	-	15
13.	JIO Platforms Ltd.	E&CE/CSE	Rs 5,75,000 pa	6	2	-	-	-	-	-	8
14.	Reliance Jio Pvt. Ltd.	CSE/E&CE	Rs 5,75,000 pa	5	6	-	-	-	-	-	11
15.	ZS Associates	E&CE	8,93,000A CTC	3	-	2	-	-	-	-	5
16.	C-DAC Corporate Office	CSE/ECE	7.8 Lakhs CTC	1	1	-	-	-	-	-	2

17.	Wipro Limited Gurugram	ECE/ME/CE/EE/	5.5 Lakh + 1lakh Retention Bonus	3	1	9	7	4	-	-	24
18.	Accenture	CSE/EE/ECE/ME/CE	9,07,500	1	1	3	1	1	-	-	7
19	Grey B	ECE/CSE/EE	6.00 LPA +4.2 LPA one time loyalty Bonus +1 Lac after completion 2 years	1	1	1					3
20.	EXL Service	ME/CSE/ECE/Material /CE/ Chemical	5.75 LPA	1	-	1	4		1		07
22	M/S Gap Inc.	CES/ECE	9.08 LPA	1	9	-	-	-	-		10
22	M/S Infosys Pvt. Ltd	M/E/CSE//Chemical Engg.	5.00 LPA	2	-	3	2		2	11	19
23	M/S Larsen & Toubro	ME/CE/Chemical/EE	6.80	-	-	1	4	6	-	1	12
24	M/S Thermax Pvt. Ltd.	Civil/Chemical Engg.	5.75LPA &					1		1	02
25	M/S Tata Consultancy Services	CSE/ME/ECE	5.79 LPA	4	1	2	3			2	10
26	M/S Vardhman Textiles Ltd.	EE	3.40LPA	-	-	4	-	-	-	-	04
27	M/S Zversal Pvt. Ltd.	CSE	3.08 LPA	-	1	-	-	-	-	-	01
28	M/S Delhivery Pvt. Ltd.	Chemical/ME/EE/CSE	6.00 & 4.50 CTC	-	1	1	1	-	-	2	05
29	M/S CGI	ECE/EE	CTC 7,11,836	1	-	1	-	-	-	-	02
30	M/S Deloitte	ECE/CSE/EEE	7.60 LPA	3	2	2					07
31	M/S Samsung SDS Gurugram	CSE/ECE	10.00 LPA	1	2						03
32	M/S TATA Power Ltd	EE	5.50LPA	1		10	1				12
33	M/S Index	CSE	4.00 LPA		1						01
34	M/S Icuierious	ECE/EE	4.00-5.00 LPA	1		1					02
35	M/s Anglo Eastern	ME	35.00 LPA				2				02
36	M/s Cognizant	CSE	6.75 LPA + JB 50,000		4						04
37	M/s Iquanti	ME/Mat. Sc. & Engg.	5.50 LPA + 1.00 Lakh JB				1		1		02
			Total	66	97	45	29	14	5	16	275



**(2) Year 2020-2021 (Dual Degree)**

Sr. No.	Name of Organisation	Allowed Branches	Details of Selected Students			
			App. Pay Pac. (Rs. Lakhs per annul	CSE DD	ECE DD	Total
1.	Paytm Pvt. Ltd.	Dual Degree (CSE/ECE )	8.0 lacs +1Lacs Bonus	01		01
2.	Source fuse Tech. India Pvt. Ltd.	Dual Degree (CSE/ECE )	8.0	01		01
3.	Standard Chartered Pvt. Ltd.	Dual Degree (CSE/ECE )	11.00	02		02
4.	Public is Sapient	Dual Degree (CSE/ECE )	9.0	02		02
5.	Oracle Financial	Dual Degree (CSE/ECE )	640,454 + bonus 55454	04	1	05
6.	Axtria India Pvt. Ltd.	Dual Degree (CSE/ECE )	8LPA + TA+benefits+2L Medical Insurance for self and Parents	18		18
7.	Amdocs Pvt. Ltd	Dual Degree (CSE/ECE )	5.00LPA+20K setting allowance for out stationed candidate	01	1	2
8.	BlogVault Pvt. Ltd.	Dual Degree (CSE/ECE )	9LPA	01		1
9.	Capgemini Pvt. Ltd.	Dual Degree (CSE/ECE )	6.8 LPA	01	3	4
10.	Nokia (In/Bangalore) Pvt.Ltd.	Dual Degree (CSE/ECE )	7.00LPA	02	03	6
11.	Verizon Pvt Ltd	Dual Degree (CSE/ECE )	7,15,000 Per Annum	05		5
12.	Wipro Limited	Dual Degree (CSE/ECE )	INR 5.5 Lakh +1 lakh Retention Bonus	03	05	08
13.	EXL Service	Dual Degree (CSE)	5.75 LPA	1	-	01
14.	M/S Infosys Pvt. Ltd	Dual Degree (CSE)	5.00LPA	5	1	06
15.	M/S Xebia IT	Dual Degree (CSE)	6.8 LPA	1	1	02
16.	M/S TCS	Dual Degree (CSE/ECE )	3.8 LPA	2	2	02
17.	M/S CGI	Dual Degree (CSE)	7,11,836 CTC	03	-	03
18.	M/S Deloitte	Dual Degree (CSE/ECE)	7.60 LPA	2		2
19.	M/S TCS	Dual Degree (CSE)	11 LPA	1	1	2
20.	M/S Samsung SDS Gurugram	Dual Degree (CSE/ECE )	10.00 LPA	1	1	2
21.	M/s Quail comm	Dual degree(ECE)	23.05 LPA	2	2	04
22.	M/s College Dekho	Dual degree(CSE)	4-5.30 LPA	1		01
23.	M/s UOLO	Dual degree (CSE)	14 LPA	1		01
		<b>Total</b>		<b>65</b>	<b>21</b>	<b>82</b>

**(3). YEAR: 2020 – 2021 (B.Arch.)**

Sr. No	Name of Organization	App. Pay Pac. (Rs. Lakhs per annum)	B.Arch.	Total No. of students
1.	M/S Moksha Design	Stipend 18000( Trainees )	1	1
2.	M/S EXL Service	5.00	1	1
		Total	2	2

**(4). YEAR: 2020 – 2021 (M.Tech.)**

Sr. No	Name of Organization	Allowed Branches	App.Pay Pac. (Rs. Lakhs per annum)	Students Selected								Total
				ECE	CSE	EE	ME	CE	Mat. Sc.	Arch	Energy	
1	Oracle Financial Service Software Ltd.	CSE	640,454 + bonus 55,454	-	1	-	-	-	-	-	-	01
2	Amdocs Pvt. Ltd	CSE	5.00LPA+ 20K setting allowance for out stationed candidate	-	1	-	-	-	-	-	-	01
3.	Cap Gemini Pvt. Ltd.	CSE/ME	6.8LPA	-	1	-	1	-	-	-	-	2
4.	C-DAC	ECE/CSE	8.5 LPA	1	1	-	-	-	-	-	-	2
5.	Infosys Pvt. Ltd.	ECE/CSE/ME	5.10 LPA	1	1	-	1	-	-	-	-	3
6.	M/S TCS Pvt. Ltd.	CSE	3.8 LPA	-	1	-	-	-	-	-	-	1
7.	M/S Deloitte	CSE	7.60 LPA		2							2
8.	M/S Samsung SDS Gurugram	CSE	10.00LPA		1							1
9.	M/s Quailcomm	ECE/CSE	23.05LPA	2	1							03
			Total	4	10		2					16

**(5). MBA 2020-21 Batch**

Sr. No	Name of Organization	App. Pay Pac. (Rs. Lacs per annum)	MBA	Total
1.	M/s Vardhman Textiles	Rs. 3.71 LPA	1	1
		Total	1	1

**(6). MSc. 2020-21 Batch**

Sr. No	Name of Organization	App. Pay Pac. (Rs. Lacs per annum)	Chemistry	Math	Total
1.	-----	-----	-NIL-	-NIL-	-----

Total Nos. of organizations in which students placed from UG = 37 Nos.

Highest Package offered = Rs. 35.00 LPA  
 Lowest package offered = Rs. 3.08 LPA  
 Average package offered = Rs. 7.18 LPA

Total Nos. of organizations in which students placed from Dual Degree = 23 Nos.

Highest Package offered = Rs. 23.05 LPA  
 Lowest package offered = Rs. 3.08 LPA  
 Average package offered = Rs. 8.07 LPA

Total Nos. of organizations in which students placed from PG (M. Tech.) = 9Nos.

Highest Package offered = Rs. 23.05 LPA  
 Lowest package offered = Rs. 3.08 LPA  
 Average package offered = Rs. 8.82 LPA

Detail of Branch wise Package Offered (B. Tech students):

Branch	Highest Package offered	Lowest Package Offered	Average package offered
Civil Engineering	9.7 LPA	4.5 LPA	4.03 LPA
Electrical Engg.	9.7 LPA	3.40 LPA	6.3 LPA
Mechanical Engg.	35.00 LPA	3.80 LPA	7.07 LPA
Electronics & Comm. Engg.	12.00 LPA	3.80 LPA	7.63 LPA
Computer Science & Engg.	20.00 LPA	3.80 LPA	8.09 LPA
Chemical Engg.	6.80 LPA	3.80 LPA	5.39 LPA

Detail of Branch wise Package Offered (Dual Degree students):

Branch	Highest Package offered	Lowest Package Offered	Average package offered
Computer Science & Engg.	23.05 LPA	5.00 LPA	7.9 LPA
Electronics & Comm. Engg.	23.05 LPA	5.00 LPA	8.9 LPA

\*LPA = Lacs Per Annum (in Rupees)

## 6.0 THE BOG, FC & OTHER COMMITTEES

### 6.1 BOARD OF GOVERNORS:

The Board of Governors present incumbents are:

Sr. No.	Name & address	Designation
1	Prof. Lalit Kumar Awasthi Director, NIT Hamirpur (HP) - 177005	<b>Chairman</b>
2	Prof. Lalit Kumar Awasthi Director, NIT Hamirpur (HP) - 177005	(Ex- officio) <b>Member</b>
3	Additional Secretary/Joint Secretary Incharge dealing with Technical Education, Ministry of Human Resource Development, Govt. of India, Shastri Bhawan, New Delhi- 110001	<b>Member</b> (MoE Nominee)
4	Finance Advisor, Department of Higher Education, Ministry of Human Resource Development, Govt. of India, Shastri Bhawan, New Delhi-110001 Deputy Secretary (IFD-HE)	<b>Member</b> (MoE Nominee)
5	Additional Chief Secretary/Principal Secretary (Technical Education) to the Govt. of Himachal Pradesh, Armsdale Building, HP Secretariat, Shimla-171002 (HP)	HP Govt. letter No. EDN(TE)A(1)-08/2002 dated 23/10/2015
6	Director (Technical Education) Industrial & Vocational Training, Govt. of HP Sundernagar, Mandi HP-175018	
7	Council nominee (--Vacant----	Member
8	Council nominee (--Vacant----	Member
9	Dr. Y.D Sharma, Professor, Department of Mathematics, NIT Hamirpur (HP)	Member
10	Dr. Kamlesh Dutta Associate Professor, Department of CSE, NIT Hamirpur (HP)	Member
11	Director, Indian Institute of Technology Mandi (HP)- 175005 or [ His nominee, not below the rank of Professor]	-----
12	Dr. Yogesh Gupta Registrar, NIT Hamirpur (HP) – 177005	Secretary

**6.2 FINANCE COMMITTEE**

The Finance Committee present incumbents are:

<b>Sr. No.</b>	<b>Name &amp; address</b>	<b>Designation</b>
1	Prof. Lalit Kumar Awasthi Director, NIT Hamirpur (HP) - 177005	(Ex-officio) <b>Chairman</b>
2	Prof. Lalit Kumar Awasthi Director, NIT Hamirpur (HP) - 177005	(Ex-officio) <b>Member</b>
3	Joint Secretary Incharge dealing with Technical Education, Ministry of Human Resource Development, Govt. of India, Shastri Bhawan, New Delhi-110001 [OR His Nominee]	<b>Member</b>
4	Finance Advisor, Department of Higher Education, Ministry of Human Resource Development, Govt. of India, Shastri Bhawan, New Delhi-110001 [OR His Nominee]	<b>Member</b>
5	--- Vacant ---	<b>Member</b>
6	Dr. Y.D Sharma, Professor, Department of Mathematics, NIT Hamirpur (HP)	<b>Member</b>
7	Dr. Yogesh Gupta Registrar, NIT Hamirpur (HP) - 177005	<b>Secretary</b>

**6.3 BUILDING & WORKS COMMITTEE**

The Buildings & Works Committee present incumbents are:

<b>Sr. No.</b>	<b>Name &amp; address</b>	<b>Designation</b>
1	Director, NIT Hamirpur (HP) - 177 005	Ex-officio Chairman
2	Director or Deputy Secretary or His nominee dealing with NITs, Department of Higher Education, Ministry of Human Resource Development, Government of India, Shastri Bhawan, New Delhi – 110 001	Ex-officio Member
3	Director or Deputy Secretary or His nominee dealing with Finance (NITs), Department of Higher Education, Ministry of Human Resource Development, Government of India, Shastri Bhawan, New Delhi – 110 001	Ex-officio Member
4	Nominee of Board of Governor (-Vacant-)	Member
5	Dean (P&D) NIT Hamirpur (HP) - 177 005	Member
6	One Expert from Civil Wing of Central or State Government or Autonomous body of repute	Member
7	One Expert from Electrical Wing of Central or State Government or Autonomous body of repute	Member
8	Registrar, NIT Hamirpur (HP) - 177 005	Ex-officio Member Secretary

**6.4 THE SENATE**

- |     |   |                 |
|-----|---|-----------------|
| a)  | The Director, ex-officio  | Chairman        |
| b)  | The Dy. Director, ex-officio  | Member-(vacant) |
| c)  | Professors appointed or recognized as such by the Institute for imparting instructions in the Institute.            |                 |
| 1.  | Prof. Lalit K. Awasthi<br>Director,<br>NIT Hamirpur.  | Chairman        |
| 2.  | Prof. Purnima Singh,<br>Professor,<br>Department of Humanities & Social Sciences,<br>IIT Delhi, New Delhi - 110 016 | External Member |
| 3.  | Prof. M.R. Maurya,<br>Professor & Head,<br>Department of Chemistry,<br>IIT Roorkee, Roorkee - 247 667               | External Member |
| 4.  | Prof. R.P Yadav,<br>Professor, Department of Electronics & Communication,<br>Engineering Department, MNIT Jaipur.   | External Member |
| 5.  | Prof Amer Singh Singha<br>Prof. in Chemistry<br>NIT, Hamirpur (HP).   | Member          |
| 6.  | Prof. Anoop Kumar,<br>Prof. MED,<br>NIT, Hamirpur (HP)  | Member          |
| 7.  | Prof Ashwani Kumar,<br>Porf. EED,<br>NIT, Hamirpur.   | Member          |
| 8.  | Prof. Bhanu Marwaha<br>Professor, Architecture Department,<br>NIT Hamirpur  | Member          |
| 9.  | Prof. Narinder Singh Thakur,<br>Prof. MED<br>NIT, Hamirpur.   | Member          |
| 10. | Prof. Piar Chand<br>Prof. Humanities & Social Science,<br>Engineering Department, NIT Hamirpur.                     | Member          |
| 11. | Prof. (Mrs) Rajeevan Chandel,   | Member          |

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	Prof. E&CED-cum Dean Academic NIT, Hamirpur.	
12.	Prof. Ram Naresh Sharma, Prof. EED, NIT, Hamirpur (HP).	Member
13.	Prof. Raman Parti Prof. CED, NIT, Hamirpur (HP)	Member
14.	Prof. Ravi Kumar, Prof. Material Science & Engineering Department NIT, Hamirpur (HP).	Member
15.	Dr. R.K. Sharma, Prof. CED, NIT, Hamirpur (HP).	Member
16.	Prof. Sunand Kumar, Prof. MED, NIT, Hamirpur (HP).	Member
17.	Prof. Sunil, Deptt. of Mathematics, NIT, Hamirpur H.P.	Member
18.	Prof. Sushil Chauhan, Prof. EED, NIT, Hamirpur (HP).	Member
19.	Prof. Vinod Kapoor Prof. Electronics & Communication Engineering Department, NIT, Hamirpur (HP).	Member
20.	Prof. Yog Raj Sood Prof., EED, NIT, Hamirpur(HP).	Member
21.	Dr. Y. D. Sharma, Prof. Mathematics & Scientific Computing Department. NIT, Hamirpur.	Member
22.	Prof. Rakesh Kumar Dutta Professor, Civil Engineering Department NIT Hamirpur H.P.	Member
23	Registrar, NIT Hamirpur	Member Secretary

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## CENTRAL FACILITIES

### 1). COMPUTER CENTRE

Computer Centre at National Institute of Technology, Hamirpur (HP) has been setup with the objective of providing state-of-the-art computational and communication facilities for the students, faculty and staff to carry out academic and research activities. Computer Centre is a central facility, which caters to the needs of different academic departments, centres and various sections of the Institute. Additionally, it also provides design and implementation services for computer network and automation of Institute. The mission of Computer Centre is to design, implement, perceive and fine tune the future computing and communication requirement of the Institute. Computer Centre at NIT Hamirpur aspires to be a leading computational/communication facility in higher education. Apart from this, Computer Centre is actively involved in extending consultancy services to outside organizations to rollout their hardware, software and networking infrastructure in best possible manner.

#### **Objectives:**

Computer Centre at NIT Hamirpur has been established with following objectives:

- To provide a central computing/communication facility with network infrastructure for all the students, faculty members and staff of the Institute.
- To collect/analyze the computing requirements of the departments and design, procure, deploy and maintain the solutions.
- To assist students, faculty and research scholars of all departments in the Institute in computerizing their activities.
- To conduct short terms courses for the students and staff of the Institute.
- To design, maintain and administer campus-wide network including Internet and allied services.
- To design and implement office automation modules in-house as per the Institute requirement.
- To provide communication service throughout the campus.
- To provide consultancy in ICT related areas.

2) Computer Centre manages various computing and communication facilities throughout the campus. It provides Internet access, Web, Email, FTP and other computing services 24x7x365. The Institute has campus wide network of more than 3000 voice & Data nodes over the fibre backbone with above 100 active devices, Wi-Fi, Voice over IP (VoIP) and Video-Conferencing. A fleet of servers from SUN, IBM, HP, Dell, etc. have been deployed to provide the services like Web, Email, DNS, proxy, DHCP, etc in the campus. The Institute has got 1Gbps connectivity under National Knowledge Network (NKN), MHRD, Govt. of India. Students, Faculty and staff are provided with Internet facility in academic, administrative and residential area. We have high end facilities like cluster computing environment having 14 heterogeneous chassis based blades with different operating systems equipped with 6TB SAN and 24TB NAS storage capacity. Internet connectivity of 1 Gbps from NKN has been provided to the Institute by MHRD, Govt. of India under NKN (National Knowledge Network). An additional Internet connectivity of 500 Mbps has been leased from M/S. Airtel. For external telephone connectivity E1 PRI Link of 30 Channels has been subscribed from BSNL.



**3). Technical Officers/Officials**

Faculty Incharge	:	Dr. Siddhartha Chauhan
Senior Scientific Officer	:	Sh. Anil Kumar
Senior Scientific Officer	:	Sh. Jagdish Verma
Scientific Officer	:	Sh. Ashwani Kumar Sharma
Technical Assistant (SG-II)	:	Sh. Ravi Singh
Sr. Technician	:	Sh. Rakesh Sharma

4). The detail of the assets/equipment purchased for the Computer Centre during the financial year 2020-2021 is as below:-

Sr. No.	Name of Asset/Equipment	Quantity
1	Matlab Campus / Campus wise Linces	01No.

**5). Detail of the Laboratories**

Sr. No.	Name of the Laboratories
1.	Internet Laboratory
2.	Research Laboratory
3.	Programming Laboratory
4.	Language Laboratory

## 7.2 WORKSHOP

### Academic Staff:

Dr. P.K. Sood  
Ph. D  
Associate Professor (Workshop Superintendent)

### Name of the Shops :

Sr. No.	Name of the Shops
1.	CNC Shop
2.	Fitting Shops
3.	Welding Shop
4.	Sheet Metal Shop
5.	Pattern Shop
6.	Foundry Shop
7.	Smithy Shop
8.	Turning Shop
9.	Machine Shop
10.	Fabrication Shop
11.	Carpentry Shop

## 7.3 LIBRARY:

A. No. of books available up to 31-03-2021 : 86,698

B. No. of books added during the year : 0.00

C. Expenditure on purchase of books during the year : 0.00

D. E-resources subscribed by Institute:

- IEEE Xplore Digital Library
- Emerald e-Journals
- Sage (Urban Studies and Planning)
- Science Direct (5 subject collection)
- Taylor and Francis e-Journals

E. e-resources subscribed through e-SodhSindhu :

- ASCE Library
- ASME Digital Collection

- ISID (Institute for Studies in Industrial Development)
- Springer Link
- Web of Science

#### G. Other Facilities

1. RFID based Library Management System for self-check-in, check-out, renewal etc.
2. INFED to provide the facility of Off-Campus Access of e-Resources.
3. Institutional Repository for archiving research output.
4. Wi-Fi services to access e-resources.

### 7.4 DISPENSARY:

#### 1) Background:

The medical facilities are available on working days from 9:00 AM to 7:00 PM daily for the faculty, students, staff and residents of the Institute. Ambulance is available on a telephone call. The following doctors are available on rotation basis in the Health Centre:

- I. Dr. Mani Verma (Medical Officer In-charge)
  - II. Dr. Wattan Singh (E.N.T. Specialist)
  - III. Dr. S.K Sharma (General Physician)
  - IV. Dr. K.C. Chopra (General Physician)
  - V. Dr. Swatantra Sharma (Eyes Specialist)
  - VI. Dr. Vivek Sharma (M.D. Medicine)
- 2) The working hours of the dispensary are as follow:-
 

Monday to Sunday	-	9:00 AM to 7:00 PM
------------------	---	--------------------
  - 3) Total patients treated annually - 12124
  - 4) No. of outdoor attendance - 12124
  - 5) No. of day care patients - 50
  - 6) No. of referral cases - 1200
  - 7) Immunization camps for new born and kids are organised once in a month in health centre
  - 8) Ambulance service is available 24\*7 with basis of facilities.
  - 9) Immunization camps are organized for vaccination against COVID-19

In addition to above, during the wake of COVID – 19, the following additional efforts were made:

1. The isolation facility was created inside the campus for all the positive cases separately for boys & girls as per the protocol. All the COVID +ve patient were provided the Pulse Ox meter / Digital & Clinical Thermometer. The arrangement of Oxygen Cylinder was also made available in the isolation rooms. In addition to this, thermal Gun for temperature

monitoring was also made available in the isolation Rooms. In addition to this, thermal Gun for temperature monitoring was also provided.

2. All medicines of COVID-19 for symptomatic treatment were also provide to the individuals. One Electric Kettle, Kada, Hand Sanitizers & Vaporizers was arranged for every room of the student.
3. All the COVOD-19 positive cases found in the campus were attended twice in a day and regular counseling was done for the COVID positive students.

## 7.5 PHYSICAL FACILITIES & GAMES AND SPORTS FACILITIES:



National institute of technology Hamirpur is one of the premier technical institutes in Northern India. The Institute presently provides sports facilities for both indoor and outdoor activity. A standard size stadium with the provision of pavilion has been provided to the student where the games like Cricket, football, Hockey, Basketball, Volleyball Lawn Tennis and Athletics are played. The facility of separate Basketball and Lawn Tennis court with the provision of flood lights also have been provided to our students. We have the provision of indoor hall for Badminton and other indoor games and gymnasium facility with latest physical fitness machine for both boys and girls separately. The facilities of Billiards and pool table for the student and staff have also been provided. Along with this the construction of student activity centre (SAC) is going on which is handed over for the use of student very shortly with indoor facilities of Badminton, Basketball, Table Tennis, Martial Arts Karate, Gymnasium Hall Male & Female, Squash Court and Hall for Drama, Dance & Music etc.

### **(Inter Branch, Inter year Tournament and Annual Athlete Meet 2020-21)**

Due to COIVD-19 Pandemic all these activities/ tournament could not be conducted.

### Participation outside the Institute 2020-2021

Besides this our Institute teams have also participate in the tournament held at other institute. During the session 2020 before COVID-19 our different teams proved their talent in different games outside the Institute and performed very well.

The detail of the participant game wise given below:-

#### A: - Boys

S.N.	Game	Date & Year	Name of Tournament	Venue	Position
1	<b>Volleyball</b>	05-07 Mar.2020	MST-20	MNIT, Jaipur	2 <sup>nd</sup>
2	<b>BasketBall</b>	05-07 Mar.2020	MST-20	MNIT, Jaipur	-----
3	<b>Badminton</b>	05-07 Mar.2020	MST-20	MNIT, Jaipur	3 <sup>rd</sup>
4	<b>Cricket</b>	05-07 Mar.2020	MST-20	MNIT, Jaipur	-----
5	<b>Table Tennis</b>	05-07 Mar.2020	MST-20	MNIT, Jaipur	-----

#### B: - Girls

S.N.	Game	Date & Year	Name of Tournament	Venue	Position
1	<b>Volleyball</b>	05-07 Mar.2020	MST-20	MNIT, Jaipur	1st
2	<b>BasketBall</b>	05-07 Mar.2020	MST-20	MNIT, Jaipur	1st
3	<b>Badminton</b>	05-07 Mar.2020	MST-20	MNIT, Jaipur	2nd

#### Other Activities: -

1. Games & Sports Section NIT Hamirpur, organized Fit India freedom walk/Run for faculty & staff of NIT Hamirpur, dated on 01/10/2020
2. In the month of March, NIT, Hamirpur Faculty & Staff cricket team participated (Nalwar fair Sundernagar, Distt. Mandi) in the Cricket Tournament held from 06/03/2021 to 28/03/2021
3. Games & Sports Section conducted one week free Yoga Camp for the Faculty, Staff & Students with the collaboration "Ved Urja Yoga Studio" Hamirpur dated on 15/03/2021 to 19/03/2021

#### Physical Facilities & Games and Sports Facilities:-

The Institute maintains excellent fitness facility and play ground with the following provision:-

1	<b>Athletic track &amp; field</b>	200 M track (grass)	01 No	There is one ground for all these 04 games
2	<b>Football ground</b>	Without flood light	01 No	
3	<b>Cricket Ground</b>	Without flood light	01 No	
4	<b>Volleyball court</b>	With flood light	02 No	
5	<b>Basketball Court</b>	With flood light	01 No	

6	<b>Lawn Tennis Court</b>	With flood light	03 No	Synthetic
7	<b>Badminton Court</b>	With flood light	04 No	01 No synthetic
8	<b>Indoor Games facilities are available inside hostel compounds (Table tennis, Carom, Chess, Outdoor Badminton court etc.) there are an attractive stadium with the provision for 1500 spectacles.</b>			
9	<b>Open Air Theater</b>			
10	<b>Student Activity Center (SAC) under construction</b>			

#### **7.6 OTHER FACILITIES LIKE HOSTELS, MESSSES, STAFF QUARTERS, ADMINISTRATION & TELEPHONE EXCHANGE etc.:**

**There are seven Boys Hostels and two Girls Hostels available in the institute. The statics of boarders of each hostel are as under:-**

<b>Name of the Hostel</b>	<b>Type (Single/ Double/ 03 Seated/ 04 seated/ 06 seated)</b>	<b>Capacity</b>
Kailash Boys Hostel	03 seated	720
Vindhyachal Boys Hostel	Single seated	169
Satpura Hostel	Triplet	250
Mani Mahesh & Aravali Girls Hostel	Single seated	222
Dhouladhar Boys Hostel	Single seated- 91 03 seated- 24	160
Neelkanth Boys Hostel	Double seated-03 03 seated- 145	565
Himadri Boys Hostel	Triplet	710
Udyagiri Boys Hostel	Singlet room 371 Double room 11	489
Ambika & Parvati Girls Hostel	Single seated-54 03 seated-36	507

#### **Hostel Management Policy:-**

- National Institute of Technology, Hamirpur is a fully residential institute. All the students admitted in the institute should reside in hostels. However, with special permission of higher authority, students may be permitted to stay outside.
- Each hostel is having one Warden, at least one Asstt. Warden, Mess Manager and Hostel/ Mess Attendant who will look after the day to day affairs of the boarders.
- The top most hostel authority next to Director is Chief Warden (H) who coordinates these activities and is authorized for all financial transaction.
- There is a separate Bank Account of each hostel in the name of the Warden of concerned hostel and one is in the name of Chief Warden (H). Students will deposit their dues at

concerned Hostel Warden Account and later on Hostel Establishment Fund, Ambulance Fund and Mess Security is transferred to the Chief Warden (H).

- The mess account bills contain only the mess advance to start with, which will be topped at the end of each semester.
- At the end of every semester there is complete reconciliation.
- Hostel Establishment Fund, Common Room Fund, Ambulance Fund is collected from the students once in a year and which will be transferred to the Chief Warden Office except Common Room Fund. The Common Room Fund is used by the Warden for the welfare of the concerned Hostel.
- The Head Cook, Cook and Mess Workers are employed by the Chief Warden (H) for all the hostels and their monthly salary is included in the monthly mess bill of the boarders of concerned hostel.
- The salary of Mess Staff is paid by the Warden of concerned hostel through their Bank Account opened in the SBI NIT Hamirpur branch.
- All expenses like electricity bill, water charges etc. are divided among all the boarders equally.
- For PG and Research Students mess bill is charged for all 12 months unless they are specially permitted by the authority to stay outside for a specific period.
- No mess rebate is allowed to any boarder unless specially permitted by the Warden for specific reason, as per Hostel Rules.
- No mess bill will be charged to the UG students during vacation unless they are specially permitted to stay during vacation, but salary charges of mess workers, electricity bill, water charges stationery charges will be payable for the 12 months.
- For UG, PG and Ph. D regular students including 1<sup>st</sup> year, the Establishment charges, ambulance charges and common room charges are collected from July 1<sup>st</sup> once in a year.
- Each hostel maintains its Bank Account and all the bills of grocery, ration, milk, gas, vegetables, Liveries disbursement of wages (including festival allowance) to mess workers as well as electricity/ water charges fully paid by the Warden of concerned hostel.
- The accounts of all the hostels are duly audited by an external agency at least twice in a year.

### **The Hostel of Residence:-**

The institute is essentially residential institute and provides hostel accommodation for students. Separate hostel accommodation is available for girl students. It is mandatory for all the students to stay in the hostel. However, a student may be permitted on application in prescribed form during beginning of each semester to live with his/ her parents or local guardian at Hamirpur (HP). Students permitted to stay outside hostel are exempted from payment of mess charges, electricity charges and water charges under Hostel Fee. The name, full address, office and residence and telephone number, designation and willingness of local guardian have to be furnished at the time of admission. The room allotment of the hostel is done on the basis of merit through software.

**POST OFFICE, BANK, SHOPPING CENTRE & OTHER FACILITIES:**

To facilitate all financial transactions, a fully computerized branch of State Bank of India functions in the Institute premises. Similarly, for the convenience of the students, a Post Office is operating in the campus. It provides saving bank facility and has provision of money orders, postal orders and postage stamps etc.

**7.7 PLINTH AREA OF NIT BUILDING**

Sr. No.	Description	Number	Plinth area (approx. in sq. ft. after renovation)	Total area sq. ft.	Equivalent area in Sq. MT.
	QTRS.				
1	Type-I	20	345.36	6907.20	642.00
2	Type-II	82	688.51	56457.72	5247.00
3	Type-III	54	907.82	49022.56	4556.00
4	Type-IV	48	1341.41	34387.68	5984.00
5	Type-V	16	1985.22	31763.52	2952.00
6	Duplex Type-VI	4	269.22	1076.88	100.00
7	Director Residence	1	3281.80	3281.80	305.00
8	Garage	97	134.50	13046.50	1213.00
9	Faculty residence under construction	48	1827.85	87736.80	8154.00
10	Non-teaching residence under construction	16	1827.85	29245.60	2718.00
B	Hostel wise Area	1	221818.52	221818.52	197195.00
C	Academic Area	1	856313.08	856313.08	79583.00
				Total	308649.00
		Gross plinth area= Qtrs. Area+ Hostel Area +Academic area			
		Total= 308649.00 Sq.m 76.26 Acre			
		Total developed area= Plinth Area + Garden + Road etc.			
		Total 100.84 Acre = 408085.00 Sq.m			



## 7.8 List of Assets Purchased during the year 2020-21 in Construction &amp; Maintenance Section, NIT, Hamirpur (HP).

"Annexure-B"

Sr. No	Name of Gurantee Institution	No. & date of sanction	Amount of sanction grant	Brief purpose of the Grant	Whether any condition regarding the right of ownership of Govt. in the property or other assests acquired out of the grants as incorporated in the grants -in - aid sectioned.	Particulars of assests actually created or acquired	Qty.	Amount as on 31.3.2021	Purpose for which utilized
	NIT, Hamirpur	F.No.34-2/2/2013-TS-111 Dated 4/6/2013 & 27/12/2013		Develop the lab/deptt. for created.	Yes				For lab work by the students.
1	-do-	-do-	-do-	Due to continuous wear & tear and regular use of the assets and in order to maintain to the buildings in working conditions grant by used.	-do-	Repair and Maintenance of Administrative, Academic Block and Central Facilities and Residential Building.		1736748.00	Being used in R/M of W.S.S. Residential & Nonresidential buildings on campus.

2	-do-	-do-	-do-	Due to increase the strength & facilities and to accommodate new faculties separate aluminium Cabins were created.	-do-	Aluminium partition for faculty Cabins in various Department.	4096944.00	Used for providing aluminium partition in various Department.
3	-do-	-do-	-do-	To accommodate students with providing aluminium partition in Drawing Hall.	-do-	Repair and maintenance work in Administrative Block on first Floor( SH:- Providing aluminum partition in Drawing Hall.	106286.00	Used for providing aluminium partition in Drawing Hall on the first floor of Admin. Block.
4	-do-	-do-	-do-	To accommodate students with providing Cupboard shutter in Chemistry Lab.	-do-	Proposed RCC Slab and aluminum Cup Board shutter in Deptt. of Chemistry Lab.	132693.00	Used for providing aluminium cupboard shutters of Chemistry Lab.
5	-do-	-do-	-do-	Painting & Distempering is due Kalish Boys Hostel after three years.	-do-	Painting and Distempring of Kailash Boys Hostel at NIT Hamirpur.	1666139.00	Providing painting & distempering and provide hygienic condition to provide better facility to students in side and around the Building.

6	-do-	-do-	-do-	AMC of 22 No. Lifts.	-do-	Renewable full comprehensive AMC of 22 Nos. Lifts at NIT Hamirpur.	322500.00	Replacement and providing original part of 22 No. lifts to the facilities for staff & students of various Hostels and Departments at NIT Hamirpur.
7	-do-	-do-	-do-	To keep the centralized UPS (Old) operative.	-do-	A/R & M/O contract for 3x60 KVA UPS installed at NIT Hamirpur for the year 2019-20.	115652.00	The centralized UPS (Old) 3x60KVA is utilized for providing backup UPS supply to the various Labs, corporate office, computer servers & Telephone exchange
8	-do-	-do-	-do-	To accommodate faculties by providing independent offices and cabins.	-do-	Renovation of IIC at Central Block ( Room No. 104) NIT Hamirpur.	649659.00	To provide cabins (Aluminium partitioning ) to facilities.

9	-do-	-do-	-do-	To provide better facilities to the faculties & students with providing new sewerage lines.	-do-	Augmentation of the sewerage system of NIT Campus( SH:- Augmentation of sewerage line of Civil Department, Type -1 Servant Quarter, Type V Quarters near SP Residence, Ambika Girls Hostel, Satpura Hostel, Shopping Complex, etc.).	888561.00	To provide Sewerage lines to facilities Houses & Hostels Building.
10	-do-	-do-	-do-	Painting & Distempering is due Himadri Boys Hostel after three years.	-do-	Painting and Distempering of Himadri Boys Hostel NIT Hamirpur.	1444881.00	Providing painting & distempering and provide hygienic conditions to provide better facility to students in side and around the Building.
						<b>Total:-</b>	11160063.00	

## AUDIT CERTIFICATE

### Separate Audit Report of the Comptroller & Auditor General of India on the Accounts of the National Institute Technology, Hamirpur for the year ended 31<sup>st</sup> March 2021

1. We have audited the Balance Sheet of National Institute of Technology, Hamirpur Himachal Pradesh as on 31<sup>st</sup> March 2021, Income & Expenditure Account and Receipts and Payments Account for the year ended on that date under Section 19(2) of the Comptroller and Auditor General's (Duties, Power and Conditions of Service) Act, 1971 read with Section 22 (2) of the National Institutes of Technology, Science Education and Research Act, 2007.

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 in 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 financial statements are free from material misstatements. An audit includes examining, on a test basis, evidences supporting the amounts and disclosure in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of financial statements. We believe that our audit provides a reasonable basis for our opinion.

#### **4. Based on our audit, we report that:**

- i. We have obtained all the information and explanations, which to the best of our knowledge and belief were necessary for the purpose of audit;
- ii. The Balance Sheet and Income and Expenditure Account/Receipt and Payment Account dealt with by this Report have been drawn up the format prescribed by the Ministry of Human Resources Development (now ministry of Education), 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 records have been maintained by National Institute of Technology, Hamirpur, Himachal Pradesh in so far as it appears from our examination of such books.

iv) We further report that:

#### **A. Balance Sheet**

##### **A.1 Current Liabilities and Provision (Schedule 3)**

**Unutilized Grants Rs. 6.79 Crore**

As per the prescribed format of accounts, unutilized grants are to be shown as Current Liability in the Balance Sheet. The Institute was having unutilized grant of Rs. 18.98 Crore as on 31/3/2021 against Rs. 6.79 Crore included above. This has resulted in understatement of Current Liabilities and overstatement of Corpus /Capital Fund by Rs. 12.19 Crore each.

## **A.2 Intangible Assets (Schedule 4) : Rs. 1.11 Crore**

### **E-Journal: Rs. 1.11 Crore**

Above includes an E-Journal named IMechE Complete Collection purchased for Rs. 20.66 Lakh on 16/3/2020 (Financial Year 2019-20) but booked in the year 2020-21, resulting in undercharging of depreciation by Rs. 8.26 Lakh (Rs. 20.66 Lakh x 40/100) for the year 2019-20. This has resulted in overstatement of Intangible Assets as well as Corpus /Capital by Rs. 8.26 Lakh each.

## **B. Significant accounting Policies (Schedule 23)**

As per the format of accounts prescribed by the Ministry of Education, provision for retirement benefits is to be made on Actuarial Valuation Method.

However, the Institute has adopted accounting policy (SI. No. 6 Schedule 23), according to which actual to which actual payments of pension, gratuity and leave encashment are debited in the accounts to the respective provisions. The accounting policy adopted by the Institute is in contravention to the aforesaid guidelines, as well as Accounting Standard 15.

## **C. General**

### **C-1 Net Impact of Audit Comments**

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

- i) Assets overstated by Rs. 0.08 Crore;
- ii) Liabilities understated by Rs. 12.19 Crore and
- iii) Corpus /Capital Fund overstated by Rs. 12.27 Crore

**C-2** General Financial Rules 230 (8) (GFR 2017) provides that, all interests or other earnings against Grants in aid or advances (Other than reimbursement) released to any grantee institution should be mandatorily remitted to the Consolidated Fund of India, immediately after finalization of accounts. Clause 12 of the sanction order of grants pertaining to recurring / nonrecurring grants also clearly included above condition.

The Institute had earned interest on saving accounts as well as FDRs (Schedule 11&12) amounting to Rs. 8.51 Crore (Rs. 4.91 Crore in 2019-20 and Rs. 3.60 Crore in 2020-21) which included interest earned on Grants in Aid. Interest earned on grants is not quantifiable, as separate bank accounts in respect of grants are not maintained by the Institute.

The observation was issued in the previous Separate Audit Report. However, compliance has not been made by the Institute.

**C-3 Non-compliance of the prescribed format:**

- a) The Institute has shown balance of Rs. 2.50 Crore (Included in Rs. 5.75 Crore shown against Receipts against sponsored projects and Consultancy) in Schedule 3 but details of respective projects i.e. opening balance, receipts/ payments during the year and closing balance at the end of the year in respect of projects have not been shown in the Schedule 3(a)
- b) The Institute has shown a balance of Rs 1.47 Crore as Receipts against Sponsored fellowships, scholarships but the details have not been shown in schedule 3 (b).
- c) As per the prescribed format, Schedule 3(C) should show the grant balance in respect of recurring as well as not-recurring grant at close of the year. However, the Institute has prepared the Schedule in respect of Capital Grant only.
- d) As per the prescribed format, applicable rate of depreciation on 'Site Development, and 'Road & Bridge' is 0 and 2 percent, respectively. The Institute has shown both under one head as 'Site Development/Roads/Other Infrastructure', which needs to be segregated and applicable depreciation charged.

**C-4** As per Significant Accounting Policy at SI. No. 3.6 of schedule 23, where an asset is fully depreciated, it will be carried at a residual value of 1 in the Balance Sheet. However, the value of Computers and Peripherals & Library Books and Scientific Journals were shown as zero in Schedule 4 of Fixed Assets which is against the aforesaid policy.

**C-5** National Institute of Technology, Hamirpur campus is constructed on land area measuring 688156 square meters, out of which land measuring 680083 squaremeters is owned by the Himachal Pradesh Government. Through possession of the land existed with the Institute, transfer of ownership and mutation of the land is still pending. This fact has not been disclosed in the accounts.

**D. Grant in Aid**

The position of grants-in-aid received during the year 2020-21 is as under:

(Amount in Rs. Crore)

Particulars	OH-31	OH-35	OH-36	Total
Opening Balance	1.32	16.26	10.78	28.36
Add: Grant received during the year	40.05	10.76	43.10	93.91
Total available funds	41.37	27.02	53.88	122.27
Utilization as on 31/03/2021	39.52	17.97	45.80	103.29
Un-utilized balance as on 31/03/2021	1.85	9.05	8.08	18.98

The unutilized balance as per books of accounts worked out to be Rs. 16.72 Crore. The difference of Rs. 2.26 Crore is due to not treating of unutilized capital advance as grant unutilized. .

### **E. Management letter**

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

i ) Subject to our observations in the preceding paragraphs, we report that the Balance sheet, Income and expenditure Account and receipts and Payments Accounts dealt with by this report are in agreement with the books of accounts.

ii ) 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 other 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 Technology, Hamirpur, Himachal Pradesh as at 31<sup>st</sup> march 2021; and
- b. In so far as it relates to Income & Expenditure Account, of the surplus for the year ended on that date.

**For and behalf of the C & AG of  
India**

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

Place: Chandigarh

Date: 31/1/22



**Annexure to Separate Audit Report**

**1. Adequacy of Internal control system**

Internal audit for the year 2020-21 was not conducted.

**2. Adequacy of Internal Audit System**

Internal Control system is deficient to the extent the Accounting Manual as not been prepared by the Institute.

**3. System of Physical Verification of Fixed Assets**

Physical Verification of Fixed Assets has been conducted for the year 2020-21. Out of 22,582 library books physically verified, 404 were found missing.

**4. System of Physical Verification of Inventory**

Physical Verification of Inventory has been conducted. However, physical verification reports were not shown to audit.

**5. Regularity in payment of statutory Dues.**

The Institute was regular in depositing statutory dues.



**Director**

# **Annual Accounts**

## **2020-21**



**NATIONAL INSTITUTE OF TECHNOLOGY, HAMIRPUR (H.P)**  
**BALANCE SHEET AS AT 31st March, 2021**

(Amount-----Rs.)			
	Schedule	Current Year	Previous Year
<b><u>SOURCES OF FUNDS</u></b>			
CORPUS/CAPITAL FUND	1	5,348,598,398.68	5,339,833,753.86
DESIGNATED/EARMARKED/ENDOWMENT FUNDS	2	43,939,943.08	38,860,153.08
CURRENT LIABILITIES AND PROVISIONS	3	984,167,915.83	612,939,270.78
<b>TOTAL</b>		<b>6,376,706,257.59</b>	<b>5,991,633,177.72</b>
<b><u>APPLICATION OF FUNDS</u></b>			
<b><u>FIXED ASSETS</u></b>			
Tangible Assets	4	2,142,772,287.12	2,204,131,984.73
Intangible Assets		11,114,677.20	11,777,032.20
Capital Works-In-Progress		1,369,380,018.00	1,228,292,953.00
<b><u>INVESTMENT FROM EARMARKED/ENDOWMENT FUNDS</u></b>			
Long Term	5	43,705,068.00	
Short Term			
<b>INVESTMENT - OTHERS</b>	6	<b>0.00</b>	<b>0.00</b>
<b>CURRENT ASSETS</b>	7	<b>2,769,890,484.93</b>	<b>2,346,101,883.55</b>
<b>LOANS, ADVANCES &amp; DEPOSITS</b>	8	<b>39,8439,722.34</b>	<b>201,329,324.24</b>
<b>TOTAL</b>		<b>6,376,706,257.59</b>	<b>5,991,633,177.72</b>
SIGNIFICANT ACCOUNTING POLICIES	23		
CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS	24		

**ASSISTANT REGISTRAR (A&F)**  
**NIT HAMIRPUR (HP)**

**REGISTRAR**  
**NIT HAMIRPUR (HP)**

**DIRECTOR**  
**NIT HAMIRPUR (HP)**

**NATIONAL INSTITUTE OF TECHNOLOGY, HAMIRPUR (H.P)**  
**INCOME AND EXPENDITURE ACCOUNT FOR THE PERIOD/YEAR ENDED 31/03/2021**

(Amount --Rs.)

<b><u>INCOME</u></b>	<b>Schedule</b>	<b>Current Year</b>	<b>Previous Year</b>
ACADEMIC RECEIPTS	9	250,639,780.00	219,530,245.00
GRANT & SUBSIDIES	10	831,500,000.00	662,200,000.00
INCOME FROM INVESTMENTS	11	32,954,106.00	45,070,869.00
INTEREST EARNED	12	3,075,846.00	4,076,607.00
OTHER INCOME	13	20,310,259.50	23,530,259.00
PRIOR PERIOD INCOME	14	00.00	337.00
<b>TOTAL(A)</b>		<b>1,138,479,991.50</b>	<b>954,408,317.00</b>
<b><u>EXPENDITURE</u></b>			
STAFF PAYMENT & BENEFITS (ESTABLISHMENT EXPENSES)	15	598,603,105.00	507,823,743.00
ACADEMIC EXPENSES	16	133,393,218.00	130,277,148.00
ADMINSTRATIVE AND GENERAL EXPENSES	17	82,111,614.00	156,875,856.00
TRANSPORTATION EXPENSES	18	1,799,006.00	1,852,148.00
REPAIR & MAINTENANCE	19	34,900,398.00	35,059,324.00
FINANCE COSTS	20	28,470.07	5,886.00
OTHER EXPENSES	<b>21</b>	<b>0.00</b>	<b>0.00</b>
PRIOR PERIOD EXPENSES	<b>22</b>	<b>0.00</b>	<b>0.00</b>

Depreciation (Net Total at the year-end - corresponding to schedule 4)		<b>116,525,832.61</b>	<b>111,514,487.94</b>
<b>TOTAL (B)</b>		<b>967,361,643.68</b>	<b>943,408,592.94</b>
<b>Balance being excess of Income over Expenditure (A-B)</b>		<b>171,118,347.82</b>	<b>10,999,724.06</b>
Transfer to Corpus Fund		<b>247,044,590.00</b>	<b>303,822,898.82</b>
Building Fund			
Others (specify)		-----	-----
<b>BALANCE BEING SURPLUS/(DEFICIT) CARRIED TO CAPITAL FUND</b>		<b>- 75,926,242.18</b>	<b>-292,823,174.76</b>
SIGNIFICANT ACCOUNTING POLICIES	<b>23</b>		
CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS	<b>24</b>		

**ASSISTANT REGISTRAR (A&F)  
NIT HAMIRPUR (HP)**

**REGISTRAR  
NIT HAMIRPUR (HP)**

**DIRECTOR  
NIT HAMIRPUR (HP)**

**NATIONAL INSTITUTE OF TECHNOLOGY, HAMIRPUR (H.P)**  
**RECEIPTS AND PAYMENTS ACCOUNT FOR THE PERIOD/YEAR ENDED 31/03/2021**  
(Amount-Rs)

RECEIPTS	CURRENT YEAR	PREVIOUS YEAR	PAYMENTS	CURRENT YEAR	PREVIOUS YEAR
I. Opening Balances			1. Expenses		
a) Cash Balances	412,392.05	407,025.05	a) Establishment Expenses	597,376,557.00	511,148,803.00
b) Bank Balance			b) Academic Expenses	129,955,657.00	114,429,966.00
In Current accounts			c) Administrative Expenses	33,237,186.07	94,240,288.00
In Deposit Accounts	73,303,060.56	268,385,815.27	d) Transportation Expenses	1,799,006.00	1,852,148.00
Savings accounts	2,272,275,961.00	1,770,805,495.76	e) Repairs & Maintenance	77,607,156.00	110,508,595.00
			f) Prior period expenses	0.00	0.00
			g) Student curricular Activities		
II. Grants Received			II. Payments against Earmarked/Endowment Funds	0.00	0.00
a) From Government of India	939,121,000.00	1,015,900,000.00			
b) From State Government	0.00	0.00			
c) From other sources (details)	0.00	0.00			
(Grants for capital & revenue exp/ to be shown separately if available)					
III. Academic Receipts	250,275,030.00	219,470,620.00	III. Payments against Sponsored Projects/Schemes	0.00	0.00
IV. Receipts against Earmarked/Endowment Funds	5,079,790.00	5,986,038.00	IV. Payments against Sponsored Fellowships/Scholarships	0.00	2,957,320.00
V. Receipts against Sponsored Projects/Schemes	0.00	13,867,668.91	V. Investments and Deposits made		
VI. Receipts against sponsored Fellowships Scholarships	0.00	3,017,323.00	a) Out of Earmarked/Endowments funds	0.00	0.00
VII. Income on Investments from			b) Out of own funds (Investments- Others	0.00	0.00
a) Earmarked/Endowment funds	0.00	0.00	VI. Term Deposits with Scheduled Banks	0.00	0.00
b) Other investments	0.00	0.00	VII. Expenditure on Fixed Assets and capital WIP		
VIII. Interest received on			b) Other investments a) Fixed Assets	51,778,550.00	349,404,184.00
a) Bank Deposits	52,757,253.00	59,209,577.00	b) Capital Works- in- Progress	0.00	0.00
b) Loans and Advances	0.00	56,679.00	VIII Other Payments including statutory payments	0.00	0.00

c) Savings Bank Accounts	3,072,810.00	4,025,413.00				
d) Project grant	0.00	1,202,576.00				
IX. Investments encashed	0.00	0.00		IX. Refunds of Grants	0.00	0.00
X. Term Deposits with Scheduled Banks encashed	0.00	0.00		X. Deposits, Advances and Stock	302,722,584.56	332,202,296.53
				Student curricular Activities Receipts	418,621.00	3,128,405.00
XI. Other income (including Prior Period Income)	20,357,248.00	23,491,878.00		XI. Other Payments	0.00	0.00
XII. Deposits, Advances and Stock	634,845,227.51	776,163,948.97		XII. Closing balances		
				Tfd to Project Cash book	0.00	0.00
Student Curricular Activities Receipt	3,385,000.00	7,696,200.00		Tfd to Corpus fund	247,044,590.00	303,822,898.82
				a) Cash in hand	430,082.05	412,392.05
				b) Bank balances		
				In Current Accounts	0.00	0.00
				In Savings Accounts	85,765,745.94	73,303,060.56
				In Deposit Accounts	2,726,749,037.00	2,272,275,961.00
XIII. Miscellaneous Receipts including Statutory Receipts	0.00	0.00				
XIV. Any Other Receipts	0.00	0.00				
<b>TOTAL</b>	<b>4,254,884,772.62</b>	<b>4,169,686,257.96</b>		<b>TOTAL</b>	<b>4,254,884,772.62</b>	<b>4,169,686,257.96</b>

**ASSISTANT REGISTRAR (A&F)**  
**NIT HAMIRPUR (HP)**

**REGISTRAR**  
**NIT HAMIRPUR (HP)**

**DIRECTOR**  
**NIT HAMIRPUR (HP)**



**NATIONAL INSTITUTE OF TECHNOLOGY, HAMIRPUR (H.P)**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31/03/2021**

(Amount--Rs.)

	Current Year		Previous year	
<b>SCHEDULE 1 A. CAPITAL FUND :</b>				
Balance as at the beginning of the year		4,115,803,866.60		4,042,056,366.84
Add : Contribution towards Corpus/Capital fund	0.00		0.00	
Add: Grants from UGC, Government of India and State Government to the extent utilized for capital expenditure	51,778,550.00		353,700,000.00	
Add: Assets Purchased out of Earmarked Funds	0.00		0.00	
Add: Assets Purchased out of Sponsored Projects, where ownership vests in the institution	0.00		0.00	
Add: Assets Donated/Gifts Received	0.00		0.00	
Add: Other Additions (Interest on Corpus fund)	0.00		0.00	
Add: Excess of Income over expenditure transferred from the Income & Expenditure Account	-75,926,242.18		-292,823,174.76	
Less: Amount of deposit being tfd a corpus account tfd back	247,044,590.00		0.00	
Add: Amount of Income of PY parked in Deposit tfd	0.00		0.00	
Add: Depreciation excess Charged PY			12,870,674.52	
Total				73,747,499.76
(Deduct) unutilized grant opening balance tfd to current liabilities	12,091,816.00	-283,284,098.18		0.00
<b>BALANCE AS AT THE YEAR -- END</b>		<b>3,832,519,768.42</b>		<b>4,115,803,866.60</b>

**ASSISTANT REGISTRAR (A&F)**  
**NIT HAMIRPUR (HP)**

**NATIONAL INSTITUTE OF TECHNOLOGY, HAMIRPUR (H.P)**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31/03/2021**

	Current year		Previous Year	
	<b>SCHEDULE 1 B. CORPUS:</b>			
Balance as at the beginning of the year		1,224,029,887.26		876,755,710.14
Add : Contribution towards corpus	45,004,153.00		2,019,646.00	
Add: Grants from UGC, Government to the extent utilized for capital expenditure	0.00		0.00	
Add: Assets purchased out of corpus funds	0.00		0.00	
Add: Other additions (interest on corpus fund + PY contribution of excess income)	0.00		41,431,632.30	
Add: Appropriation of excess/loss in income & expenditure account for corpus funds	247,044,590.00		303,822,898.82	
Total		292,048,743.00		347,274,177.12
(Deduct) deficit transferred from the income & expenditure account		0.00		
<b>BALANCE AS AT THE YEAR -END</b>		<b>1,516,078,630.26</b>		<b>1,224,029,887.26</b>

**ASSISTANT REGISTRAR (A&F)**  
**NIT HAMIRPUR (HP)**

**NATIONAL INSTITUTE OF TECHNOLOGY, HAMIRPUR (H.P)**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31/03/2021**

(Amount--Rs.)

SCHEDULE 2 - DESIGNATED/ EARMARKED / ENDOWMENT FUNDS	Fund Wise Breakup		Total	
	Pension Fund	Endowment Funds	Current Year	Previous Year
<b>A.</b>				
a) Opening balance	38,860,153.08		38,860,153.08	32,874,115.08
b) Additions during the year	5,079,790.00		5,079,790.00	5,986,038.00
c) Income from investments made of the funds	0.00		0.00	0.00
d) Accrued Interest on investments/Advances	0.00		0.00	0.00
e) Interest on Savings Bank a/c	0.00		0.00	0.00
f) Other additions (Specify nature	0.00		0.00	0.00
<b>Total (A)</b>	<b>43,939,943.08</b>		<b>43,939,943.08</b>	<b>38,860,153.08</b>
<b>B.</b>				
Utilization/Expenditure towards objectives of funds	0.00		0.00	0.00
i) Capital Expenditure	0.00		0.00	0.00
ii) Revenue Expenditure	0.00		0.00	0.00
<b>Total (B)</b>	<b>0.00</b>		<b>0.00</b>	<b>0.00</b>
<b>Closing balance at the yearend (A-B)</b>	<b>43,939,943.08</b>	<b>0.00</b>	<b>43,939,943.08</b>	<b>38,860,153.08</b>

**ASSISTANT REGISTRAR (A&F)**  
**NIT HAMIRPUR (HP)**

**NATIONAL INSTITUTE OF TECHNOLOGY, HAMIRPUR (H.P)**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31/03/2021**

(Amount--Rs.)

	Current Year		Previous Year	
<b><u>SCHEDULE 3-CURRENT</u></b>				
<b><u>LIABILITIES AND PROVISIONS</u></b>				
<b>A. <u>CURRENT LIABILITIES</u></b>				
1. Deposits from staff (TWS)	11,782.00		11,782.00	
2. Deposits from students				
College Caution Money	6,999,350.00		6,194,100.00	
Hostel Caution Money	10,557,411.50		5,761,161.50	
Library Security	8,439,450.00		10,617,950.00	
3. Sundry Creditors				
a) For Goods & Services	0.00		0.00	
b) Others	0.00		0.00	
4. Deposit-Others (including EMD, Security Deposit and other )	610,204,517.44		317,084,247.19	
5. Statutory Liabilities (GPF, TDS, WC TAX, CPF, GIS, NPS):	0.00	636,212,510.94	0.00	339,669,240.69
Total (A)				
B) Others				
6. Other Current Liabilities				
a)Salaries	37,458,131.00		37,966,173.00	
b)Receipts against sponsored projects& consultancy	66,001,964.56		57,509,834.76	
c)Receipts against sponsored fellowships & scholarships SC &ST	2,300,448.00		21,86,510.00	
Receipts against sponsored fellowships & scholarships	12,406,218.00		11,353,166.00	
d)Unutilized Grants	67,934,266.00		0.00	
e) Grants in advance	0.00		0.00	

f) Other funds	17,111,944.00		14,103,412.00	
g) Other liabilities	0.00		0.00	
h) Fees received in advance	49,048,800.00		67,500,000.00	
i) Outstanding Liability UNI	365,353.00		365,353.00	
j) Interest on project Grant payable	12,759,363.23		12,738,391.23	
k) Extra Curricular Activities	44,864,780.10		42,263,151.10	
l) Medical Expenses	359,273.00		0.00	
m) Legal Fees	0.00		0.00	
n) Other Misc	78,768.00		426,607.00	
o) Security Charges	3,552,776.00		3,316,242.00	
p) Seminar Expense payable	0.00		0.00	
q) Professional Development allowance	0.00		660,543.00	
r) LTC	151,430.00		0.00	
s) Student Welfare expenses	0.00		23,250.00	
t) Children Education allowances	4,455,000.00		4,968,000.00	
u) Maintenance of Equipment	0.00		173,991.00	
v) Maintenance of Building	1,089,170.00		176,138.00	
w) Wages	5,276,466.00		5,023,401.00	
x) Convocation	0.00		0.00	
y) NDCPS	2,013,732.00		2,131,300.00	
z) Hostel furniture account payable	0.00	327,227,882.89	0.00	262,885,463.09
<b>TOTAL (A)</b>		963,440,393.83		602,554,703.78
<b><u>B. PROVISIONS</u></b>				
1. For Taxation	0.00		0.00	
2. Gratuity	4,923,508.00		851,760.00	
3. Superannuation Pension	6,120,643.00		881,019.00	
4. Accumulated Leave Encashment	4,305,188.00		499,699.00	
5. Trade Warranties/Claims	0.00		0.00	
6. Others ( Specify)	0.00		15,750.00	
Auditors remuneration payable	210,000.00		210,000.00	
Consultancy charges payable	84,000.00		180,000.00	
Telephone charges payable	7,801.00		8,926.00	
Electricity charges payable	0.00		0.00	
Salary contract/ part time staff	2,231,236.00		1,478,400.00	

Cleaning and Maintenance	1,495,966.00		2,898,342.00	
Water Charges	1,200,176.00		1,826,435.00	
Stationery expenses	0.00		194,045.00	
Departmental operating cost	0.00		612,882.00	
Examination expenses	145,260.00		23,399.00	
Leave salary contribution	0.00		65,436.00	
TA	3,744.00		221,901.00	
Provision for contingency, other work & Equipment	0.00		0.00	
E-Journal Capital expenditure	0.00		38,955.00	
Periodic journal expenditure	0.00	20,727,522.00	377,618.00	10,384,567.00
<b>TOTAL (B)</b>		20,727,522.00		10,384,567.00
<b><u>TOTAL (A+B)</u></b>		984,167,915.83		612,939,270.78

**ASSISTANT REGISTRAR (A&F)**  
**NIT HAMIRPUR (HP)**

**SCHEDULE 3(c) UNUTILISED GRANTS FROM UGC, GOVERNMENT OF INDIA AND STATE GOVERNMENTS**

	Current Year	Previous Year
<b>A. Plan grants: Government of India</b>		
Balance B/F	12,091,816.00	7,796,000.00
Add: Receipts during the year	107,621,000.00	353,700,000.00
<b>Total (a)</b>	<b>119,712,816.00</b>	<b>361,496,000.00</b>
Less Refunds		
Less: Utilized for Revenue Expenditure	0.00	0.00
Less: Utilized for Capital expenditure	51,778,550.00	349,404,184.00
Total (b)	51,778,550.00	349,404,184.00
<b>Unutilized carried forward (a-b)</b>	<b>67,934,266.00</b>	<b>698,808,368.00</b>
<b>B. UGC grants: Plan</b>		
Balance B/F		
Add: Receipts during the year		
Total (c)		
Less Refunds		
Less: Utilized for Revenue Expenditure		
Less: Utilized for Capital expenditure		
Total (d)		
<b>Unutilized carried forward (c-d)</b>		
<b>C. UGC Grants Non Plan</b>		
Balance B/F		
Add: Receipts during the year		
Total (e)		
Less Refunds		
Less: Utilized for Revenue Expenditure		
Less: Utilized for Capital expenditure		
Total (f)		

<b>Unutilized carried forward (e-f)</b>		
<b>D. Grants from State Govt.</b>		
Balance B/F		
Add: Receipts during the year		
Total (g)		
Less Refunds		
Less: Utilized for Revenue Expenditure		
Less: Utilized for Capital expenditure		
Total (h)		
<b>Unutilized carried forward (g-h)</b>		
<b>'Grand Total (A+B+C+D)</b>	67,934,266.00	

**ASSISTANT REGISTRAR (A&F)  
NIT, HAMIRPUR (HP).**



**SCHEDULE 2A****ENDOWMENT FUNDS**

1.Sr. No.	2. Name of the Endowment	Opening Balance		Additions during the year		Total		Expenditure on the object during the year 9	Amount in Rupees		
									Closing Balance		Total
									10. Endowment	11. Accumulated interest	(10+11)
		3. Endowment	4. Accumulated Interest	5. Endowment	6. Interest	7. Endowment (3+5)	8. Accumulated Interest (4+6)				
<b>Total</b>											

**ASSISTANT REGISTRAR (A&F),  
NIT, HAMIRPUR (HP).**

**SCHEDULE - 3 (a) SPONSORED PROJECTS**

1.Sr. No.	2. Name of the Project	Opening Balance		5. Receipts/recoveries during the year	6. Total	7. Expenditure during the year	Closing Balance	
		3. Credit	4. Debit				8. Credit	9. Debit
<b>Total</b>								

**SCHEDULE 3 (b) SPONSORED FELLOWSHIPS AND SCHOLARSHIPS**

1.Sr. No.	2. Name of Sponsor	Opening Balance		Transaction during the year		Closing Balance	
		3. Credit	4. Debit	5. Credit	6. Debit	7. Credit	8. Debit
	University Grants Commission						
	Ministry.....						
	Others (Specify individually)						
	<b>Total</b>						

**ASSISTANT REGISTRAR (A&F)  
NIT, HAMIRPUR (HP).**

## SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31/03/2021

## SCHEDULE-4

S. No.	Assets Heads	GROSS BLOCK				DEPRECIATION FOR THE YEAR				NET BLOCK (WDV)	
		Opening Balance	Additions	Deductions	Closing Balance	Depreciation Opening Balance	Depreciation for the year	Deductions / Adjustment	Total Depreciation	31/03/2021	31/03/2020
1	Land	4,420,551.00	0.00	0.00	4,420,551.00	0.00	0.00	0.00	0.00	4,420,551.00	4,420,551.00
2	Site Development/Roads/other Infrastructure	73,501,456.30	44,689.00	0.00	73,546,145.30	55,314,289.00	0.00	0.00	55,314,289.00	18,231,856.30	18,187,167.30
3	Buildings	2,951,654,374.24	15,157,076.00	0.00	2,966,811,450.24	924,602,029.10	59,336,229.00	0.00	983,938,258.10	1,982,873,192.14	2,027,052,345.14
4	Roads & Bridges	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Tube wells & Water Supply	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Sewerage & Drainage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Electrical Installation and equipment	162,450.00	0.00	0.00	162,450.00	8,122.50	8,122.50	0.00	16,245.00	146,205.00	154,327.50
8	Plant & Machinery	459,527,258.04	0.00	0.00	459,527,258.04	365,420,841.05	22,976,362.90	0.00	388,397,203.96	71,130,054.08	94,106,416.99
9	Scientific & Laboratory Equipment	8,147,678.00	16,517,497.00	0.00	24,665,175.00	651,814.24	1,973,214.00	0.00	2,825,028.24	22,040,146.76	7,495,863.76
10	Office Equipment	29,578,008.85	0.00	0.00	29,578,008.85	15,452,201.36	2,218,350.66	0.00	17,670,552.03	11,907,456.82	14,125,807.49
11	Audio Visual Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Computers & Peripherals	24,740,775.00	0.00	0.00	24,740,775.00	24,740,775.00	0.00	0.00	24,740,775.00	0.00	0.00
13	Furniture Fixtures & Fittings	120,756,282.04	2,935,072.00	0.00	120,693,354.04	82,428,440.31	9,277,001.55	0.00	91,705,441.86	31,987,912.18	38,329,841.73
14	Vehicles	8,742,177.00	0.00	0.00	8,742,177.00	8,504,338.12	237,838.88	0.00	8,742,177.00	0.00	237,838.88
15	Lib. Books & Scientific Journals	62,190,067.06	0.00	0.00	62,190,067.06	62,190,067.06	0.00	0.00	62,190,067.06	0.00	0.00
16	Small Value Assets	103,061.00	19,201.00	0.00	122,262.00	81,236.05	6,113.10	0.00	87,349.15	34,912.85	21,824.95
	Total(A)	3,743,526,138.53	34,673,535.00	0.00	3,778,199,673.53	1,539,394,153.79	96,033,232.61	0.00	1,635,427,386.39	2,142,772,287.12	2,204,131,984.73
	Capital Work in Progress (B)	1,228,292,953.00	141,087,065.00	0.00	1,369,380,018.00					1,369,380,018.00	1,228,292,953.00
									<b>TOTAL</b>	<b>3,512,152,305.12</b>	<b>3,432,424,937.73</b>
S. No.	Intangible Assets	Opening Balance	Additions	Deductions	Closing Balance	Depreciation Opening Balance	Amortization for the year	Deductions / Adjustment	Total Depreciation	31/03/2021	31/03/2020
	Computer Software	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	E-Journals	31,401,255.00	19,830,245.00		51,231,500.00	19,624,222.80	20,492,600.00	0.00	40,116,822.80	11,114,677.20	11,777,032.20
	Patent	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL C	31,401,255.00	19,830,245.00	0.00	51,231,500.00	19,624,222.80	20,492,600.00	0.00	40,116,822.80	11,114,677.20	11,777,032.20
	<b>Grand Total (A+B+C)</b>		195,590,845.00		5,198,811,191.53	1,559,018,376.59	116,525,832.61	0.00	1,675,544,209.19	3,523,266,982.32	3,444,201,969.93

**SCHEDULE 4A PLAN**

S. No.	Assets Heads	GROSS BLOCK				DEPRECIATION FOR THE YEAR				NET BLOCK (WDV)	
		Opening Balance	Additions	Deductions	Closing Balance	Depreciation Opening Balance	Depreciation for the year	Deductions / Adjustment	Total Depreciation	31/03/2021	31/03/2020
1	Land	4,420,551.00	0.00	0.00	4,420,551.00	0.00	0.00	0.00	0.00	4,420,551.00	4,420,551.00
2	Site Development	73,501,456.30	44,689.00	0.00	73,546,145.30	55,314,289.00	0.00	0.00	55,314,289.00	18,231,856.30	18,187,167.30
3	Buildings	2,951,854,374.24	15,157,076.00	0.00	2,966,811,450.24	924,602,029.10	59,336,229.00	0.00	983,938,258.10	1,982,873,192.14	2,027,052,345.14
4	Roads & Bridges	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Tube wells & Water Supply	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Sewerage & Drainage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Electrical Installation and equipment	162,450.00	0.00	0.00	162,450.00	8,122.00	8,122.50	0.00	16,245.00	146,205.00	154,327.00
8	Plant & Machinery	459,527,258.04	0.00	0.00	459,527,258.04	365,420,841.05	22,976,362.90	0.00	388,397,203.96	71,130,054.08	94,106,416.99
9	Scientific & Laboratory Equipment	8,147,678.00	16,517,497.00	0.00	24,665,175.00	651,814.24	1,973,214.00	0.00	2,625,028.24	22,040,146.76	7,495,863.76
10	Office Equipment	29,578,008.85	0.00	0.00	29,578,008.85	15,452,201.36	2,218,350.66	0.00	17,670,552.03	11,907,456.82	14,125,807.49
11	Audio Visual Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Computers & Peripherals	24,740,775.00	0.00	0.00	24,740,775.00	24,740,775.52	0.00	0.00	24,740,775.00	0.00	0.00
13	Furniture Fixtures & Fittings	120,756,282.04	2,935,072.00	0.00	123,693,354.04	82,428,440.31	9,277,001.55	0.00	91,705,441.86	31,987,912.18	38,329,841.73
14	Vehicles	8,742,177.00	0.00	0.00	8,742,177.00	8,504,338.12	237,838.88	0.00	8,742,177.12	0.00	237,838.88
15	Lib. Books & Scientific Journals	62,190,067.06	0.00	0.00	62,190,067.06	62,190,067.06	0.00	0.00	62,190,067.00	0.00	0.00
16	Small Value Assets	103,061.00	19,201.00	0.00	122,262.00	81,236.05	6,113.10	0.00	87,349.15	34,912.85	21,824.95
	<b>Total (A)</b>	3,743,526,138.53	34,673,535.00	0.00	3,778,199,673.53	1,539,394,153.79	98,033,232.61	0.00	1,635,427,386.39	2,142,772,287.12	2,204,131,984.74
	<b>Capital Work in Progress (B)</b>	1,228,292,953.00	141,087,065.00	0.00	1,369,380,018.00					1,369,380,018.00	1,228,292,953.00
									<b>TOTAL</b>	3,512,152,305.12	3,432,424,937.74
S. No.	Intangible Assets	Opening Balance	Additions	Deductions	Closing Balance	Depreciation Opening Balance	Amortization for the year	Deductions / Adjustment	Total Depreciation	31/03/2021	31/03/2020
1	Computer Software	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	E-Journals	31,401,255.00	19,830,245.00	0.00	51,231,500.00	19,624,222.80	20,492,600.00	0.00	40,116,822.80	11,114,677.20	10,595,581.20
3	Patent	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	<b>TOTAL C</b>	31,401,255.00	19,830,245.00	0.00	51,231,500.00	19,624,222.80	20,492,600.00	0.00	40,116,822.80	11,114,677.20	10,595,581.20
	<b>Grand Total (A+B+C)</b>				5,198,811,191.53	1,559,018,376.59	116,525,832.61	0.00	1,675,544,209.19	3,523,266,982.32	3,443,020,518.94

**SCHEDULE 4B NON-PLAN**

S. No.	Assets Heads	GROSS BLOCK				DEPRECIATION FOR THE YEAR				NET BLOCK (WDV)	
		Opening Balance	Additions	Deductions	Closing Balance	Depreciation Opening Balance	Depreciation for the year	Deductions / Adjustment	Total Depreciation	31/03/2021	31/03/2020
1	Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	Site Development	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	Buildings	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Roads & Bridges	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Tube wells & Water Supply I	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Sewerage & Drainage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Electrical Installation and equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Plant & Machinery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Scientific & Laboratory Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	Office Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Audio Visual Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Computers & Peripherals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	Furniture Fixtures & Fittings	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	Vehicles	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	Lib. Books & Scientific Journals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	Small Value Assets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total(A)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Capital Work in Progress (B)	0.00	0.00	0.00	0.00					0.00	0.00
									<b>TOTAL</b>	<b>0.00</b>	<b>0.00</b>
S. No.	Intangible Assets	Opening Balance	Additions	Deductions	Closing Balance	Depreciation Opening Balance	Amortization for the year	Deductions / Adjustment	Total Depreciation	31/03/2021	31/03/2020
-	Computer Software	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	E-Journals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Patent	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	<b>Grand Total (A+B+C)</b>										

## SCHEDULE 4( C ) (i) PATENTS AND COPYRIGHTS

Particulars	Opening Balance 01/04/2020	Additions	Gross	Amortization	Net Block 31/03/2021	Net Block 31/03/2020
<b>A. Patents Granted</b>						
1 Balance as on 31.03.14 of Patents obtained in 2008-09	0.00	0.00	0.00	0.00	0.00	0.00
(Original Value - Rs .... /-)						
2 Balance as on 31.03.14 of Patents obtained in 2010-11	0.00	0.00	0.00	0.00	0.00	0.00
(Original Value- Rs .... /-)						
3 Balance as on 31.03.14 of Patents obtained in 2012-13	0.00	0.00	0.00	0.00	0.00	0.00
(Original Value - Rs .... /-)						
4 Patents granted during the Current Year	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	0.00	0.00	0.00	0.00	0.00	0.00
Particulars	Opening Balance 01/04/2020	Additions	Gross	Patents Granted/ rejected	Net Block 31/03/2021	Net Block 31/03/2020
<b>B. Patents Pending in respect of Patents applied for</b>						
1 Expenditure incurred during 2009-10 to 2011-12	0.00	0.00	0.00	0.00	0.00	0.00
2 Expenditure incurred during 2012-13	0.00	0.00	0.00	0.00	0.00	0.00
3 Expenditure incurred during 2013-14	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	0.00	0.00	0.00	0.00	0.00	0.00
<b>C. Grand Total (A+B)</b>	0.00	0.00	0.00	0.00	0.00	0.00

ASSISTANT REGISTRAR (A&F),  
NIT, HAMIRPUR (HP).

**NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR (H.P)**  
**SCHEDULE 5 : INVESTMENTS FROM EARMARKED/ENDOWMENT FUNDS**

Amount in Rupees

	Current Year	Previous Year
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 Term Deposits with Banks	43,705,068.00	0.00
7 Others (to be specified)	0.00	0.00
Total	43,705,068.00	0.00

**SCHEDULE 5 A : INVESTMENTS FROM EARMARKED/ENDOWMENT FUNDS (FUND WISE)**

Amount in Rupees

	Current Year	Previous Year
1 Endowment Fund Investment	0.00	0.00
Pension FUND	43,705,068.00	
Total	43,705,068.00	0.00

**SCHEDULE 6 : INVESTMENTS - OTHERS**

Amount in Rupees

	Current Year	Previous Year
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

**ASSISTANT REGISTRAR (A&F)**  
**NIT HAMIRPUR (HP)**

**NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR (H.P)**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31/03/2021**

(Amount-Rs)

SCHEDULE 7 - CURRENT ASSETS	Current Year		Previous Year	
<b>1. Stock:</b>				
a) Stores and Spares	0.00		0.00	
b) loose Tools	0.00		0.00	
c) Publications	0.00		0.00	
d) laboratory chemicals consumables and glass ware	537,182.00		0.00	
e) Building Material	0.00		0.00	
f) Electrical Material	0.00			
g) Stationery	0.00			
h) Water supply material	0.00	537,182.00	0.00	0.00
<b>2. Sundry Debtors:</b>			0.00	
a) Debts Outstanding for a period exceeding six months	0.00		0.00	
b) Others	0.00	0.00	0.00	0.00
<b>3. Cash and Bank Balances</b>				
<b>a) With Scheduled Banks:</b>				
Cash In Hand	430,082.05		412,392.05	
Current Account/Grant in Transit	0.00		0.00	
Fixed Deposit	2,683,043,969.00		2,272,275,961.00	
Saving Account Main Account	85,765,745.94		73,303,060.56	
Saving Account Secrecy Fund	113,505.94		110,469.94	
<b>b) With non-Scheduled Banks:</b>				
In term deposit Accounts	0.00		0.00	
In Savings Accounts	0.00	2,769,353,302.93	0.00	2,346,101,883.55
<b>4. Post Office- Savings Accounts</b>				
<b>TOTAL</b>		<b>2,769,890,484.93</b>		<b>2,346,101,883.55</b>

**ASSISTANT REGISTRAR (A&F)**  
**NIT HAMIRPUR (HP)**



<b>Annexure-A</b>	<b>Amount</b>
1. Grants from UGC A/c	0.00
2. University Receipt a/c	0.00
3. Scholarship A/c	2,300,448.00
4. Academic Fee receipt a/c	
5. Development (Plan) A/c	
6. Combined Entrance Exams (CBT) A/c	
7. UGC Plan Fellowship A/c	
8. Corpus Fund A/c (EMF)	325,144.26
9. Sponsored Projects Fund A/c	6,840,254.17
10. Sponsored Fellowship A/c	
11. Endowment & Chair A/c (EMF)	234,875.08
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	76,065,024.43
18. Student Fund A/c	
19. Student Aid Fund A/c	
20. Plan Grants for specific schemes	
II. Current Account (Cash in Hand)	430,082.05
III Term deposit with Scheme Banks with SBI	2,726,749,037.00
<b>Total</b>	<b>2,812,944,864.99</b>

**NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR (H.P)**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31/03/2021**

Amount (Rs.)

<b>SCHEDULE 8- LOANS ADVANCES &amp; DEPOSITS</b>	<b>Current Year</b>		<b>Previous Year</b>	
<b>1. Advances to employees: (Non-interest bearing)</b>				
a) Salary	0.00		0.00	
b) Festival	0.00		0.00	
c) Medical Advance	0.00		0.00	
d) Other (to be specified)	3,381,457.10	3,381,457.10	3,929,858.00	3,929,858.00
<b>2. Long Term Advances to employees: (Interest bearing)</b>				
a) Vehicle loan	0.00		0.00	
b) Home loan	0.00		0.00	
c) Others (to be specified)	0.00	30.00	0.00	0.00
<b>3. Advances and other amounts recoverable in cash or in kind or for value to be received:</b>				
a) On Capital Account	22,680,070.24		163,767,135.24	
b) to Suppliers	0.00		0.00	
c) Others	0.00	22,680,070.24	0.00	163,767,135.24
<b>4. Prepaid Expenses</b>				
a) Insurance			0.00	
b) Other expenses		0.00	0.00	0.00
<b>5. Deposits</b>				
a) Telephone '	0.00		0.00	
b) Lease Rent	0.00		0.00	
c) Electricity	0.00		0.00	
d) AI GTE if applicable	0.00		0.00	
e) Others (to be specified)	0.00	0.00	0.00	0.00
<b>6. Income Accrued:</b>				
a) On Investments from Earmarked/ Endowment Funds	0.00		0.00	

b) On Investments-FDR	13,647,005.00		33,450,152.00	
c) On Loans and Advances	0.00		0.00	
d) Others (includes income due unrealized) Saving Bank	0.00	13,647,005.00	0.00	33,450,152.00
<b>7. Other- Current assets receivable from UGC/sponsored projects</b>				
a) Debit balances in Sponsored Projects	0.00		0.00	
b) Debit balances in Sponsored Fellowships & Scholarships	0.00		0.00	
c) Grants Receivable	0.00		0.00	
d) Other receivables from UGC	0.00	0.00	0.00	0.00
<b>8. Claims Receivable</b>				
Misc. Income	11,000.00		12,949.00	
License Fees	118,190.00		162,910.00	
Garage Rent	6,000.00		6,320.00	
Interest on loan & Advances from Staff	0.00		0.00	
Income receivable from Forest Department	0.00		0.00	
Rent from Guest House	0.00		0.00	
Rent from Shop	0.00	135,190.00	0.00	182,179.00
<b>TOTAL</b>		<b>39,843,722.34</b>		<b>201,329,324.24</b>

**ASSISTANT REGISTRAR ( A&F)  
NIT HAMIRPUR (HP)**

**NATIONAL INSTITUTE OF TECHNOLOGY, HAMIRPUR (H.P)**  
**SCHEDULE FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31/03/2021**

<b>SCHEDULE 9- ACADEMIC RECEIPT</b>		<b>(Amount-Rs)</b>	
		<b>Current Year</b>	<b>Previous Year</b>
<b>FEES FROM STUDENTS</b>			
<b>Academic</b>			
1. Tuition fee		240,002,260.00	208,996,266.00
2. Admission fee		1,354,000.00	599,250.00
3. Enrolment fee		0.00	0.00
4. Library Admission fee		686,504.00	365,400.00
5. Laboratory fee		0.00	0.00
6. Art & Craft fee		0.00	0.00
7. Registration fee		0.00	0.00
8. Syllabus fee		0.00	0.00
<b>Total (A)</b>		<b>242,042,764.00</b>	<b>209,960,916.00</b>
<b>Examinations</b>			
1. Admission test fee		0.00	0.00
2. Annual Examination fee		4,690,125.00	3,400,100.00
3. Mark sheet certificate fee		37,450.00	110,800.00
4. Entrance examination fee		0.00	0.00
5. Supplementary fees		186,150.00	2,601,159.00
6. Phd thesis submission		403,500.00	262,500.00
<b>Total (B)</b>		<b>5,317,225.00</b>	<b>6,374,559.00</b>
<b>Other Fees</b>			
1. Identity card fee		334,750.00	59,625.00
2. Fine/ Miscellaneous fee		30,000.00	0.00
3. Medical fee		1,300,125.00	1,076,325.00
4. Transportation fee		0.00	0.00
5. Hostel fee		0.00	0.00
6. Grade Card Fee		466,616.00	638,020.00
7. Common Facility Fee		1,148,300.00	1,420,800.00
<b>Total(C)</b>		<b>3,279,791.00</b>	<b>3,194,770.00</b>

<b>Sale of Publications</b>		
1. Sale of Admission forms	0.00	0.00
2. Sale of syllabus and Question Paper etc.	0.00	0.00
3. Sale of prospectus including admission forms	0.00	0.00
<b>Total (D)</b>	<b>0.00</b>	<b>0.00</b>
<b>Other Academic Receipts</b>		
1. Registration fee for workshops programmes	0.00	0.00
2. Registration fees (Academic Staff College)	0.00	0.00
<b>Total (E)</b>	<b>0.00</b>	<b>0.00</b>
<b>GRAND TOTAL (A+B+C+D+E)</b>	<b>250,639,780.00</b>	<b>219,530,245.00</b>

**ASSISTANT REGISTRAR (A&F),  
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**SCHEDULE 10- GRANTS SUBSIDIES IRREVOCABLE GRANTS RECEIVED)**

Amount in Rupees

Particulars	Plan			Total Plan	Non Plan UGC/Govt. of India	Current year Total	Previous Year Total
	Govt. of India	UGC					
		Plan	Specific Schemes				
<b>Balance B/F</b>	<b>0.00</b>	<b>0.00</b>	0.00	0.00	107,680,482.63	107,680,482.63	265,456,222.63
<b>Add: Receipts during the year</b>	<b>0.00</b>	<b>0.00</b>	0.00	0.00	<b>831,500,000.00</b>	<b>831,500,000.00</b>	1,015,900,000.00
<b>Total</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	0.00	<b>939,180,482.63</b>	<b>939,180,482.63</b>	<b>1,301,356,222.63</b>
<b>Less: Refund to UGC</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	0.00	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>Balance</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	0.00	<b>939,180,482.63</b>	<b>939,180,482.63</b>	<b>1,301,356,222.63</b>
<b>Less: Utilized for Capital expenditure (A)</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	0.00	<b>0.00</b>	<b>0.00</b>	349,404,184.00
<b>Balance</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	0.00	<b>939,180,482.63</b>	<b>939,180,482.63</b>	<b>951,952,038.63</b>
<b>Less: utilized for Revenue Expenditure (B)</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	0.00	<b>839,975,562.07</b>	<b>839,975,562.07</b>	832,179,740.00
<b>Balance C/F (C)</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	0.00	<b>99,204,920.56</b>	<b>99,204,920.56</b>	<b>119,772,298.63</b>

**ASSISTANT REGISTRAR (A&F),  
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**SCHEDULE 11- INCOME FROM INVESTMENTS**

Amount in Rupees

Particulars	Earmarked/ Endowment Fund		Other Investments	
	Current Year	Previous Year	Current Year	Previous Year
<b>1. Interest</b> a. On Government Securities b. Other Bonds/Debentures				
<b>2. Interest on Term Deposits</b>	0.00	0.00	32,954,106.00	45,070,869.00
<b>3. Income accrued but not due on Term Deposits/Interest bearing advances to employees</b>			0.00	
<b>4. Interest on Savings Bank Accounts</b>			0.00	
<b>5. Others (On Project Grants)</b>				
<b>TOTAL</b>	<b>0.00</b>	<b>0.00</b>	<b>32,954,106.00</b>	<b>45,070,869.00</b>
<b>Transferred to Earmarked/Endowment Funds Balance</b>				

ASSISTANT REGISTRAR (A&F),  
NIT, HAMIRPUR (HP).

## NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR (H.P)

## SCHEDULE FORMING PART OF INCOME &amp; EXPENDITURE FOR THE PERIOD/YEAR ENDED 31/03/2021

## SCHEDULE 12- INTEREST EARNED

(Amount-Rs.)

Particulars	Current Year	Previous Year
1 On Savings Accounts With Schedule Bank	3,075,846.00	4,028,728.00
2 On Loans:		
a) Employees/Staff	0.00	47,879.00
b) Others	0.00	0.00
3. On Debtors and Other Receivables	0.00	0.00
<b><u>TOTAL</u></b>	<b>3,075,846.00</b>	<b>4,076,607.00</b>

ASSISTANT REGISTRAR (A&F),  
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**NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR (H.P)**  
**SCHEDULE FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31/03/2021**

**SCHEDULE 13-OTHER INCOME**

(Amount-Rs)

	Current Year		Previous Year	
1. Hostel Room Rent	14,597,967.00		12,789,250.00	
2. License fee	1,885,164.00		1,965,697.00	
3. Hire Charges of Auditorium/Shop/Convention Centre etc.	314,763.00		353,074.00	
4. Electricity charges recovered	100,781.00		26,012.00	
5. Water charges recovered	0.00		10,900.00	
6. Rent from Guest House	223,280.00		824,900.00	
7. Rent from Garage	78,890.00		73,804.00	
<b>Total</b>	<b>17,200,845.50</b>	17,200,845.50	<b>14,599,430.00</b>	<b>14,599,430.00</b>
<b>B. Sale of Institute's publications</b>		0.00	0.00	0.00
<b>C. Income from holding events</b>				
1. Gross Receipts from annual function/ sports carnival		0.00	0.00	
Less: Direct expenditure incurred on the annual function/ sports carnival				
2. Gross Receipts from fetes		0.00	0.00	
Less: Direct expenditure incurred on the fetes				
3. Gross Receipts for educational tours		0.00	0.00	
Less: Direct expenditure incurred on the tours				
4. Others (to be specified and separately disclosed)		0.00	0.00	
<b>Total</b>	<b>0.00</b>	0.00	<b>0.00</b>	0.00

<b>D. Others</b>					
1. Income from consultancy		0.00		0.00	
2. RTI fees		0.00		0.00	
3. Income from Royalty		0.00		0.00	
4. Sale of application form (recruitment)		0.00		0.00	
5. Misc. receipts (Sale of tender form waste paper Grass tree etc.)		2,211,870.00		6,675,101.00	
6. Profit on Sale/disposal of Assets/Stock		0.00		0.00	
a) Owned assets		0.00		0.00	
b) Assets received free of cost		0.00		0.00	
7. Grants/Donations from Institutions Welfare Bodies and International Organizations		0.00		0.00	
8 Others (specify) Overhead Charges		897,544.00		2,255,728.00	
10. Charges for use of transport		0.00		0.00	
	<b>Total</b>	<b>3,109,414.00</b>	3,109,414.00	<b>8,930,829.00</b>	<b>8,930,829.00</b>
<b>Grand Total (A+B+C+D)</b>			<b>20,310,259.00</b>		<b>23,530,259.00</b>

**SCHEDULE 14- PRIOR PERIOD INCOME**

Particulars	Amount In Rupees	
	Current Years	Previous Year
1. Academic Receipts	0.00	0.00
2. Income from Investments	0.00	0.00
3. Interest earned	0.00	337.00
4. Other Income	0.00	0.00
<b>Total</b>	<b>0.00</b>	<b>337.00</b>

ASSISTANT REGISTRAR (A&F),  
NIT, HAMIRPUR (HP).

**NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR (H.P)**  
**SCHEDULE FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31/03/2021**

**SCHEDULE 15- STAFF PAYMENTS & BENEFITS (ESTABLISHMENT EXPENSES)**

	Current Year			Previous Year		
	Plan	Non-Plan	Total	Plan	Non-Plan	Total
a) Salaries	0.00	524,001,981.00	524,001,981.00	0.00	404,630,047.00	404,630,047.00
b) Allowances and Bonus	0.00	0.00	0.00	0.00	0.00	0.00
c) Contribution to New Pension Fund	0.00	25,089,520.00	18,317,825.00	0.00	18,317,825.00	18,317,825.00
d) Contribution to Other Fund	0.00	0.00	0.00	0.00	0.00	0.00
e) Staff Welfare Expenses	0.00	176,167.00	176,167.00	0.00	800,231.00	800,231.00
D Retirement and Terminal Benefits	0.00	23,221,242.00	23,221,242.00	0.00	58,482,796.00	58,482,796.00
g) LTC facility	0.00	6,874,614.00	6,874,614.00	0.00	3,782,816.00	3,782,816.00
h) Medical facility	0.00	1,857,147.00	1,857,147.00	0.00	4,734,211.00	4,734,211.00
i) Children Education Allowance	0.00	4,569,750.00	4,569,750.00	0.00	4,968,000.00	4,968,000.00
j) Honorarium	0.00	0.00	0.00	0.00	10,807.00	10,807.00
l) Others (specify) Professional development allowance	0.00	2,846,116.00	4,157,890.00	0.00	969,352.00	4,157,890.00
Overtime Drivers	0.00	5,494.00	5,494.00	0.00	14,957.00	14,957.00
Leave Encashment	0.00	9,961,074.00	7,924,163.00	0.00	7,924,163.00	7,924,163.00
<b>TOTAL</b>	<b>0.00</b>	<b>598,603,105.00</b>	<b>598,603,105.00</b>	<b>0.00</b>	<b>507,823,743.00</b>	<b>507,823,743.00</b>

**ASSISTANT REGISTRAR (A&F),  
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**SCHEDULE 15 A- EMPLOYEES RETIREMENT AND TERMINAL BENEFITS**

	<b>Pension</b>	<b>Gratuity</b>	<b>Leave Encashment</b>	<b>Total</b>
Opening Balance as on ____				
Addition : Capitalized value of Contributions Received from other Organizations				
Total (a)				
Less: Actual Payment during the Year (b)				
Balance Available on 31.03 c (a-b)				
Provision required on 31.03 as per Actuarial Valuation (d)				
A. Provision to be made in the Current year (d -c)				
B. Contribution to New Pension Scheme				
C. Medical Reimbursement to Retired Employees				
D. Travel to Hometown on Retirement				
E. Deposit Linked Insurance Payment				
<b>Total (A+B+C+D+E)</b>				

**ASSISTANT REGISTRAR (A&F),  
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**NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR (H.P)**  
**SCHEDULE FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31/03/2021**

<b>SCHEDULE 16- ACADEMIC EXPENSES</b>						
	<b>Current Year</b>			<b>Previous Year</b>		
	<b>Plan</b>	<b>Non-Plan</b>	<b>Total</b>	<b>Plan</b>	<b>Non-Plan</b>	<b>Total</b>
a) Laboratory expenses	0.00	0.00	0.00	0.00	0.00	0.00
b) Field work/Participation in Conferences	0.00	0.00	0.00	0.00	0.00	0.00
c) Expenses on Seminars/Workshops	0.00	0.00	0.00	0.00	187,327.00	187,327.00
d) Payment to visiting faculty	0.00	0.00	0.00	0.00	43,142.00	43,142.00
e) Examination	0.00	865,856.00	865,856.00	0.00	514,319.00	514,319.00
f) Student Welfare expenses	0.00	108,352.00	108,352.00	0.00	831,129.00	831,129.00
g) Admission expenses --	0.00	0.00	0.00	0.00	0.00	0.00
h) Convocation expenses	0.00	663,130.00	663,130.00	0.00	2,399,721.00	2,399,721.00
i) Publications	0.00	0.00	0.00	0.00	377,618.00	377,618.00
j) Stipend/means-cum-merit scholarship	0.00	128,290,423.00	128,290,423.00	0.00	116,565,143.00	116,565,143.00
k) Subscription Expenses	0.00	0.00	0.00	0.00	0.00	0.00
l) Others (specify) academic expenses	0.00	759,110.00	759,110.00	0.00	3,032,700.00	3,032,700.00
m) Accreditation to AICTE Expenses	0.00	159,000.00	159,000.00	0.00	150,000.00	150,000.00
n) Departmental Operating cost	0.00	2,547,347.00	2,547,347.00	0.00	6,176,049.00	6,176,049.00
<b>Total</b>	<b>0.00</b>	<b>133,393,218.00</b>	<b>133,393,218.00</b>	<b>0.00</b>	<b>130,277,148.00</b>	<b>130,277,148.00</b>

**ASSISTANT REGISTRAR (A&F),  
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**NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR (H.P)**  
**SCHEDULE FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31/03/2021**  
**SCHEDULE 17- ADMINISTRATIVE AND GENERAL EXPENSES**

Particulars	Current Year			Previous Year		
	Plan	Non-Plan	Total	Plan	Non-Plan	Total
<b>A Infrastructure</b>						
a) Electricity and power	0.00	10,669,649.00	10,669,649.00	0.00	12,657,662.00	18,351,456.00
b) Water charges	0.00	4,866,521.00	4,866,521.00	0.00	5,693,794.00	
c) Insurance	0.00	0.00	0.00	0.00	0.00	
d) Rent Rates and Taxes (including property tax)	0.00	0.00	0.00	0.00	0.00	
<b>B Communication</b>						
e) Postage and Stationery	0.00	58,161.00	58,161.00	0.00	228,438.00	421,461.00
f) Telephone Fax and Internet Charges	0.00	136,490.00	136,490.00	0.00	193,023.00	
<b>C Others</b>						
g) Printing and Stationery (consumption)	0.00	1,370,775.00	1,370,775.00	0.00	1,145,996.00	138,102,939.00
h) Travelling and Conveyance Expenses	0.00	1,509,865.00	1,509,865.00	0.00	5,317,313.00	
i) Hospitality	0.00	0.00	0.00	0.00	0.00	
j) Auditors Remuneration	0.00	0.00	0.00	0.00	65,732.00	
k) Professional Charges	0.00	168,000.00	168,000.00	0.00	56,940.00	
l) Advertisement and Publicity	0.00	1,416,636.00	1,416,636.00	0.00	1,948,020.00	
m) Magazines & Journals	0.00	0.00	0.00	0.00	431,200.00	
n) Others Misc. Administrative expenses	0.00	1,377,659.00	1,377,659.00	0.00	3,438,528.00	
o) Security Charges	0.00	42,279,957.00	42,279,957.00	0.00	38,635,404.00	
p) Legal expenses	0.00	1,347,918.00	1,347,918.00	0.00	1,069,740.00	
r) Wages/ Outsourcing	0.00	5,444,553.00	5,444,553.00	0.00	63,918,270.00	
s) Salary Contract/ part time staff	0.00	11,465,430.00	11,465,430.00	0.00	22,075,796.00	
<b>Total</b>	0.00	82,111,614.00	82,111,614.00	0.00		

**SCHEDULE 18-TRANSPORTATION EXPENSES**

Particulars	Amount in Rupees					
	Current Year			Previous Year		
	Plan	Non-Plan	Total	Plan	Non-Plan	Total
						0.00
<b>1 Vehicles (owned by institution)</b>						0.00
a) Running expenses	0.00	247,395.00	247,395.00	0.00	1,178,976.00	1,178,976.00
b) Repairs & maintenance	0.00	1,324,352.00	1,324,352.00	0.00	658,981.00	658,981.00
c) Insurance expenses	0.00	227,259.00	227,259.00	0.00	14,191.00	14,191.00
<b>2 Vehicles taken on rent/lease</b>	0.00	0.00	0.00	0.00	0.00	0.00
a) Rent/lease expenses	0.00	0.00	0.00	0.00	0.00	0.00
<b>3 Vehicle (Taxi) hiring expenses</b>	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>0.00</b>	<b>1,799,006.00</b>	<b>1,799,006.00</b>	<b>0.00</b>	<b>1,852,148.00</b>	<b>1,852,148.00</b>

**ASSISTANT REGISTRAR (A&F),  
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**NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR (H.P)**  
**SCHEDULE FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31/03/2021**

Particulars	Current Year			Previous Year		
	Plan	Non-Plan	Total	Plan	Non-Plan	Total
a) Buildings	0.00	13,048,281.00	13,048,281.00	8,263,493.00	0.00	8,263,493.00
b) Furniture & Fixtures	0.00	0.00	0.00	0.00	0.00	0.00
c) Plant & Machinery	0.00	0.00	0.00	0.00	0.00	0.00
d) Office Equipment	0.00	2,585,862.00	2,585,862.00	4,654,542.00	0.00	4,654,542.00
e) Computers	0.00	14,160.00	14,160.00	0.00	0.00	0.00
f) Laboratory & Scientific equipment	0.00	0.00	0.00	0.00	0.00	0.00
g) Audio Visual equipment	0.00	0.00	0.00	0.00	0.00	0.00
h) Cleaning Material & Services	0.00	18,330,292.00	18,330,292.00	17,025,283.00	0.00	17,025,283.00
i) Book binding charges	0.00	0.00	0.00	0.00	0.00	0.00
j) Gardening	0.00	0.00	0.00	0.00	0.00	0.00
k) Estate Maintenance	0.00	0.00	0.00	0.00	0.00	0.00
l) Others Water supply	0.00	888,561.00	888,561.00	2,056,230.00	0.00	2,056,230.00
m) Road	0.00	0.00	0.00	34,634.00	0.00	34,634.00
n) Street light/Electric Installation	0.00	33,242.00	33,242.00	2,957,692.00	0.00	2,957,692.00
o) Oxidation Pond	0.00	0.00	0.00	67,450.00	0.00	67,450.00
p) Maintenance of Entrance Flayer In Admin Block	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	0.00	34,900,398.00	34,900,398.00	35,059,324.00	0.00	35,059,324.00

**ASSISTANT REGISTRAR (A&F),  
NIT, HAMIRPUR (HP).**



**SCHEDULE 20- FINANCE COSTS**

Particulars	Amount in Rupees					
	Current Year			Previous Year		
	Plan	Non-Plan	Total	Plan	Non-Plan	Total
a) Bank charges	0.00	28,470.07	28,470.07	0.00	5,886.00	5,886.00
b) Others (specify)	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>0.00</b>	<b>35,850,671.07</b>	<b>28,470.07</b>	<b>0.00</b>	<b>5,886.00</b>	<b>5,886.00</b>

**ASSISTANT REGISTRAR ( A&F)  
NIT HAMIRPUR (HP)**

**NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR (H.P)**

**SCHEDULE FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31/03/2021**

**SCHEDULE 21- OTHER EXPENSES**

Particulars	Amount in Rupees					
	Current Year			Previous Year		
	Plan	Non-Plan	Total	Plan	Non-Plan	Total
a) Provision for Bad and Doubtful Debts/Advances	0.00	0.00	0.00	0.00	0.00	0.00
b) Irrecoverable Balances Written- off	0.00	0.00	0.00	0.00	0.00	0.00
c) Grants/Subsidies to other institutions/organizations	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	0.00	0.00	0.00	0.00	0.00	0.00

**SCHEDULE 22: PRIOR PERIOD EXPENSES**

Particulars	Amount in Rupees					
	Current Year			Previous Year		
	Plan	Non-Plan	Total	Plan	Non-Plan	Total
1 Establishment expenses	0.00	0.00	0.00	0.00	0.00	0.00
2 Academic expenses	0.00	0.00	0.00	0.00	0.00	0.00
3 Administrative expenses	0.00	0.00	0.00	0.00	0.00	0.00
4 Transportation expenses	0.00	0.00	0.00	0.00	0.00	0.00
5 Repairs & Maintenance	0.00	0.00	0.00	0.00	0.00	0.00
6 Other expenses	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	0.00	0.00	0.00	0.00	0.00	0.00

**ASSISTANT REGISTRAR ( A&F)  
NIT HAMIRPUR (HP)**

**SCHEDULE: 23****SIGNIFICANT ACCOUNTING POLICIES (ILLUSTRATIVE)****1. BASIS FOR PREPARATION OF ACCOUNTS**

The accounts are prepared under the Historical Cost Convention unless otherwise stated and generally on the Accrual method of accounting.

**2. REVENUE RECOGNITION**

- 2.1 Fees from Students and Interest on Saving Bank account are accounted on accrual basis.
- 2.2 Income from Land, Buildings and Other Property and Interest on Investments are accounted on accrual basis.
- 2.3 Interest on interest bearing advances to staff for House Building, Purchase of Vehicles and computers is accounted on accrual basis every year, through the actual recovery of interest starts after the full repayment of Principal.

**3. FIXED ASSETS AND DEPRECIATION**

- 3.1 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.
- 3.2 Gifted/ Donated assets are valued at the declared value where available; if not available, The value is estimated based on the present market value adjusted with reference to the physical Condition of the asset. They are set-up 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.
- 3.3 Books received as gifts, are valued at selling prices printed on the books. Where they are not printed, the value is based on assessment.
- 3.4 Fixed assets are valued at cost less accumulated depreciation. Depreciation on fixed assets is provided on Straight line method, at the following rates:

1	Land	0%
2	Site Development	0%
3	Building	2%
4	Roads & Bridges	2%
5	Tubes wells & Water Supply	2%
6	Sewerage & Drainage	2%
7	Electrical Installation and equipment	5%
8	Plant & Machinery	5%
9	Scientific & Laboratory Equipment	8%
10	Office Equipment	7.5%
11	Audio Visual Equipment	7.5%
12	Computer & Peripherals	20%
13	Furniture, Fixtures & Fittings	7.5%
14	Vehicles	10%

15	Lib. Books & Scientific Journals	10%
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- 3.5 Depreciation is provided for the whole year on additions during the year.
- 3.6 Where an asset is fully depreciated, it will be carried at a residual value of Re.1 in the Balance Sheet and will not be further depreciated. Therefore, depreciation is calculated on the additions of each year separately at the rate of depreciation application for that asset head.
- 3.7 Assets created out of Earmarked Funds and funds Sponsored Projects, where the ownership of such assets vests in the Institution, are 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 separately disclosed in the Notes on Accounts.
- 3.8 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. However physical accounting and control are continued by the holders of assets.

- 4. INTANGIBLE ASSETS:** Depreciation on E-Journals have been charges separately.
- 5. STOCKS:** Expenditure on purchase of chemicals, glassware, publications and other stores is accounted as revenue expenditure, except that the value of closing stocks 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. RETIREMENT BENEFITS:** The Actual payments of Pension, Gratuity and Leave encashment are debited in the Accounts to the respective provisions. Other retirement benefits viz. Deposit Linked Insurance, Contribution to New Pension Scheme, Medical

reimbursement to retired employees and Travel to Home on retirement is accounted on accrual basis (actual payments plus outstanding bills at the end of the year).

Future Obligations in respect of Leave Encashment and Gratuity will be met from the Capital/Corpus Fund. Actual amount as on 31/03/2021 stands as below:

Leave Encashment: Rs. 263794050.00

Gratuity: Rs. 237079715.00

## **7. INVESTMENTS**

- a) Long term investments are carried at their cost or face value whichever is lower. However any permanent diminution in their value as on the date of the Balance Sheet is provide for.
- b) Short Term investments are carried at their cost or market value (if quoted) whichever is lower.

## **8. EARMARKED/ENDOWMENT FUNDS**

The Pension fund is earmarked for specific purpose. The fund has a separate bank account

## **9. GOVERNMENT AND UGC GRANTS**

- 9.1 Government Grant and UGC grants are accounted on realization basis. However, where a sanction for release of grant pertaining to the financial year is received before 31 "March and the grant is actually received in the next financial year, the grant accounted on accrual basis and an equal amount is shown as recoverable from the Granter.
- 9.2 To the extent utilized capital expenditure, (on accrual basis) government grants and grants from UGC are transferred to the Capital Fund.
- 9.3 Government and UGC grants for meeting Revenue Expenditure (on accrual basis) are treated, to the extent utilized, as income of the year in which they are realized.
- 9.4 Unutilized grants (including advances paid out of such grants) are carried forward and exhibited as a liability in the Balance Sheet.

**10. INVESTMENTS OF EARMARKED FUNDS AND INTEREST INCOME ACCRUED ON SUCH INVESTMENTS:** To the extent not immediately required for expenditure, the amounts available against such funds are invested in approved Securities & Bonds or deposited for fixed term with Banks, leaving the balance in Saving Bank Accounts.

## **11. SPONSORED PROJECTS:**

- 11.1 In respect of ongoing Sponsored Projects, the amounts received from sponsors are credited to the head "Current Liabilities and Provisions-Current Liabilities-Other Liabilities –Receipts against ongoing sponsored projects." As and when expenditure is incurred /advances are paid against such projects, or the concerned projects account is debited with allocated overhead charges, the liability account is debited.

11.2 In addition to the Earmarked Fund for the Junior Research Fellowships funded by the University Grants Commission, Fellowships and Scholarships are also sponsored by various organizations. These are accounted in the same way as Sponsored Projects expect that the expenditure generally is only on disbursement of Fellowships and Scholarships, which may include allowances for contingent expenditure by the Fellows and scholars.

11.3 The Institution itself also awards Fellowships and Scholarships, which are accounted as Academic expenses.

**12. INCOME TAX:** The income of the Institution is exempt from Income Tax under Section 10(23c) of the Income Tax Act. No provision for tax is therefore made in the accounts.

**SCHEDULE: 24**

**CONTINGENT LIABILITIES AND NOTES TO ACCOUNTS (ILLUSTRATIVE)**

**1. CONTINGENT LIABILITIES: NIL**

**2. FIXED ASSETS:**

**2.1** Additions in the year to Fixed Assets in Schedule 4 include Assets purchased out of Plan Funds.

**2.2** In the Balance Sheet as on 31.3.2021 and the Balance Sheets of earlier years, Fixed Assets created out of plan funds.

**2.3 Fixed assets of Rs. 3141308/- are created out of Sponsor Projects.**

**3. CURRENT ASSETS, LOANS, ADVANCES AND DEPOSITS:** In the opinion of the Management the current assets, Loans, Advances and Deposits have a value on realization in the ordinary course, equal at least to the aggregate amount shown in the Balance Sheet.

**4.** The details of balances in Saving Bank Accounts, Current Accounts and Fixed Deposit Accounts with Banks are enclosed as attachment 'A' to the Schedule of Current Assets.

**5.** Previous year's figures have been regrouped wherever necessary as per direction of AG Audit.

**6.** During the Current year Capital and corpus fund schedule bifurcated to Sch 1 A Capital Fund and Sch 1B to Corpus fund as per Corpus accounts maintained.

**7.** Schedules 1 to 24 are annexed to and form an integral part of the Balance sheet at 31<sup>st</sup> March 2021 and the Income & Income & Expenditure account for the year ended on that date.

**NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR (H.P)**  
**GENERAL PROVIDENT FUND**  
**RECEIPTES AND PAYMENTS ACCOUNT**  
**FOR THE YEAR 1/4/2020 TO 31/3/2021**

PREVIOUS YEARS (Rs.)	RECEIPTS HEAD OF ACCOUNT	AMOUNT (Rs.)
401,269,181.82	CASH IN BANK	434,557,916.82
66,700,989.00	SUBSCRIPTION	67,397,579.00
2,778,500.00	REFUND OF ADVANCE	3,088,000.00
	MIS RECEIPT	369,442.00
27,614,703.00	BANK INTEREST	23,734,687.75
<u>498,363,373.82</u>		<u>529,147,625.57</u>
	<b>PAYMENT</b>	
4,648,000.00	TEM. ADVANCE TO STAFF	1,022,000.00
59,157,457.00	WITHDRAWAL	34,702,020.00
0.0	BANK CHARGES	0.00
<u>434,557,916.82</u>	CLOSING BANK BALANCE	<u>493,423,605.57</u>
<u>498,363,373.82</u>		<u>529,147,625.57</u>

**ASSISTANT REGISTRAR (A&F)**  
**NIT HAMIRPUR (HP)**

**REGISTRAR**  
**NIT HAMIRPUR (HP)**

**DIRECTOR**  
**NIT HAMIRPUR (HP)**

**NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR (H.P)**  
**GENERAL PROVIDENT FUND**  
**INCOME AND EXPENDITURE ACCOUNT**  
**FOR THE YEAR 1/4/2020 TO 31/3/2021**

<b>PREVIOUS YEARS (Rs.)</b>	<b>EXPENDITURE HEAD OF ACCOUNT</b>	<b>AMOUNT (Rs.)</b>
30,778,968.00	Interest credited to the	32,104,485.00
0.00	Subscribers accounts	0.00
	Bank Charges	
-860,850.00	Excess of + Income/-loss	- 7,235,517.25
<u>29,918,118.00</u>		<u>24,868,967.75</u>
	<b>INCOME</b>	
	Income from Investment	
27,614,703.00	Bank Interest received	23,734,687.75
18,922,118.00	Add: Interest due for 2019-2020	20,056,398.00
<u>16,618,703.00</u>	Less: Due of year 2018-19	18,922,118.00
29,918,118.00		24,868,967.75
<u>29,918,118.00</u>		<u>24,868,967.75</u>

**ASSISTANT REGISTRAR (A&F)**  
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**NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR (H.P)**  
**GENERAL PROVIDENT FUND**  
**BALANCE SHEET**  
**AS ON 31/3/2021**

PREVIOUS YEARS (Rs.)	HEAD OF ACCOUNT	AMOUNT (Rs.)	
	<b>LIABILITIES</b>		
	Subscription Account (PF Contribution)		
551,627,798.55	Upto 2020	618,328,787.55	
66,700,989.00		<u>67,397,579.00</u>	
<b><u>618,328,787.55</u></b>		<b>685,726,366.55</b>	
	Add: Interest		
232,714,354.45	Upto 2020	263,493,322.45	
<u>30,778,968.00</u>	During the year	<u>32,104,485.00</u>	
<b><u>263,493,322.45</u></b>		<b>295,597,807.45</b>	
	Less : Withdrawal		
380,377,382.00	upto 2020	439,534,839.00	
<u>59,157,457.00</u>	During the year	<u>34,702,020.00</u>	
<b><u>439,534,839.00</u></b>		474,236,859.00	<b>507,087,315.00</b>
<b><u>442,287,271.00</u></b>			
	<b>Income &amp; Expenditure Account</b>		
16,962,828.82	upto 2020	16,101,978.82	
<u>- 860,850.00</u>	During the year	<u>- 7,235,517.25</u>	<b>8,866,461.57</b>
<b><u>16,101,978.82</u></b>			
	<b>Wrong credit in GPF Account</b>		<b>369,442.00</b>
<b><u>458,389,249.82</u></b>			<b><u>516,323,218.57</u></b>
	<b>ASSETS</b>		
	Temporary Advance		
39,011,048.00	upto 2020	43,659,048.00	
<u>4,648,000.00</u>	During the year	<u>1,022,000.00</u>	
43,659,048.00		44,681,048.00	
	Less : Refund		
35,971,333.00	upto 2020	38,749,833.00	
<u>2,778,500.00</u>	During the year	<u>3,088,000.00</u>	
<b><u>38,749,833.00</u></b>		<b><u>41,837,833.00</u></b>	<b>2,843,215.00</b>
4,909,215.00			
	<b>Bank Interest Accrued</b>		
16,618,703.00	Opening Balance	18,922,118.00	
<u>18,922,118.00</u>	Add : (C-Year accrued)	<u>20,056,398.00</u>	
35,540,821.00		<b>38,978,516.00</b>	
<u>16,618,703.00</u>	Less : Interest received on Maturity	18,922,118.00	<b>20,056,398.00</b>
<u>18,922,118.00</u>			
<b><u>434,557,916.82</u></b>	Closing Balance Bank		<b>493,423,605.57</b>
<b><u>458,389,249.82</u></b>			<b><u>516,323,218.57</u></b>

ASSISTANT REGISTRAR (A&F)  
NIT HAMIRPUR (HP)

REGISTRAR  
NIT HAMIRPUR (HP)

DIRECTOR  
NIT HAMIRPUR (HP)

**ANNEXURE IV****ANNUAL REPORT**

Group	Representation of SCs/STs/OBCs/EWS (As on 1 <sup>st</sup> January 2021)					Number of Teacher appointed during the preceding year				
	Total number of Teacher	SCs	STs	OBCs	EWS	Total	SCs	STs	OBCs	EWS
1	2	3	4	5	6	7	8	9	10	11
Professor HAG	04	0	0	0	0	04	0	0	0	0
Professor GP 10500/-	17	0	0	0	0	17	0	0	0	0
Associate Professor	44	0	0	0	0	44	0	0	0	0
Assistant Professor GP 8000/-	27	04	0	03	0	27	04	0	03	0
Assistant Professor GP 7000/-	10	03	0	01	0	10	03	0	01	0
Assistant Professor (Contract) GP 6000/-	78	14	10	35	0	81	14	10	38	0
<b>Total</b>	<b>180</b>	<b>21</b>	<b>10</b>	<b>39</b>	<b>0</b>	<b>183</b>	<b>21</b>	<b>10</b>	<b>42</b>	<b>0</b>

**REGISTRAR**  
**NIT HAMIRPUR (HP)**