

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

ANNUAL REPORT & ANNUAL ACCOUNTS 2021-22



(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 venture 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 Central Govt issues its First Statutes vide Notification dated 23/04/2009 and since then the Institute is governing under the NITSER Act & Statutes as a Central Technical Institute (CFTI).

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.

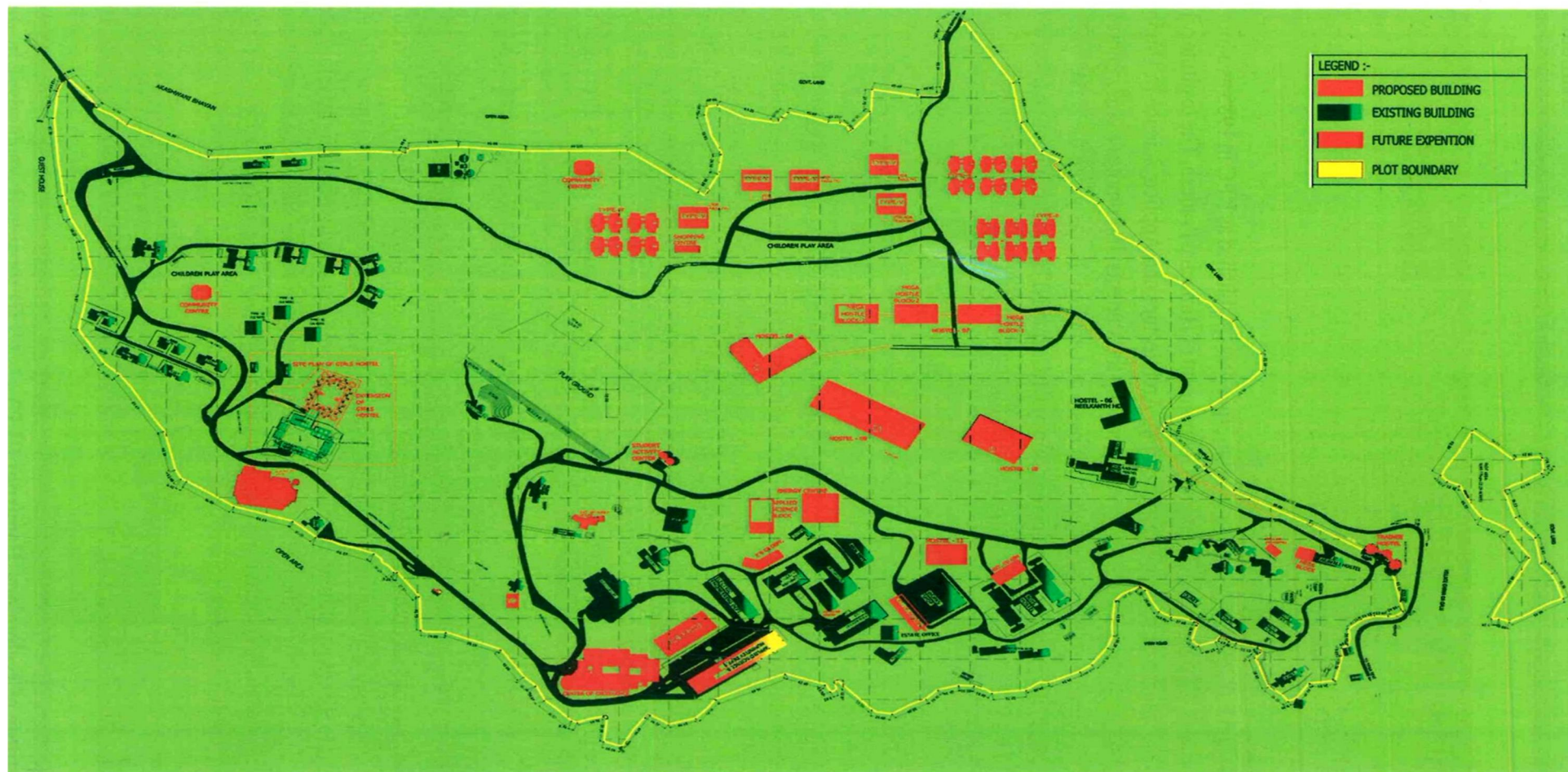
### **2.2 LOCATION**

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**

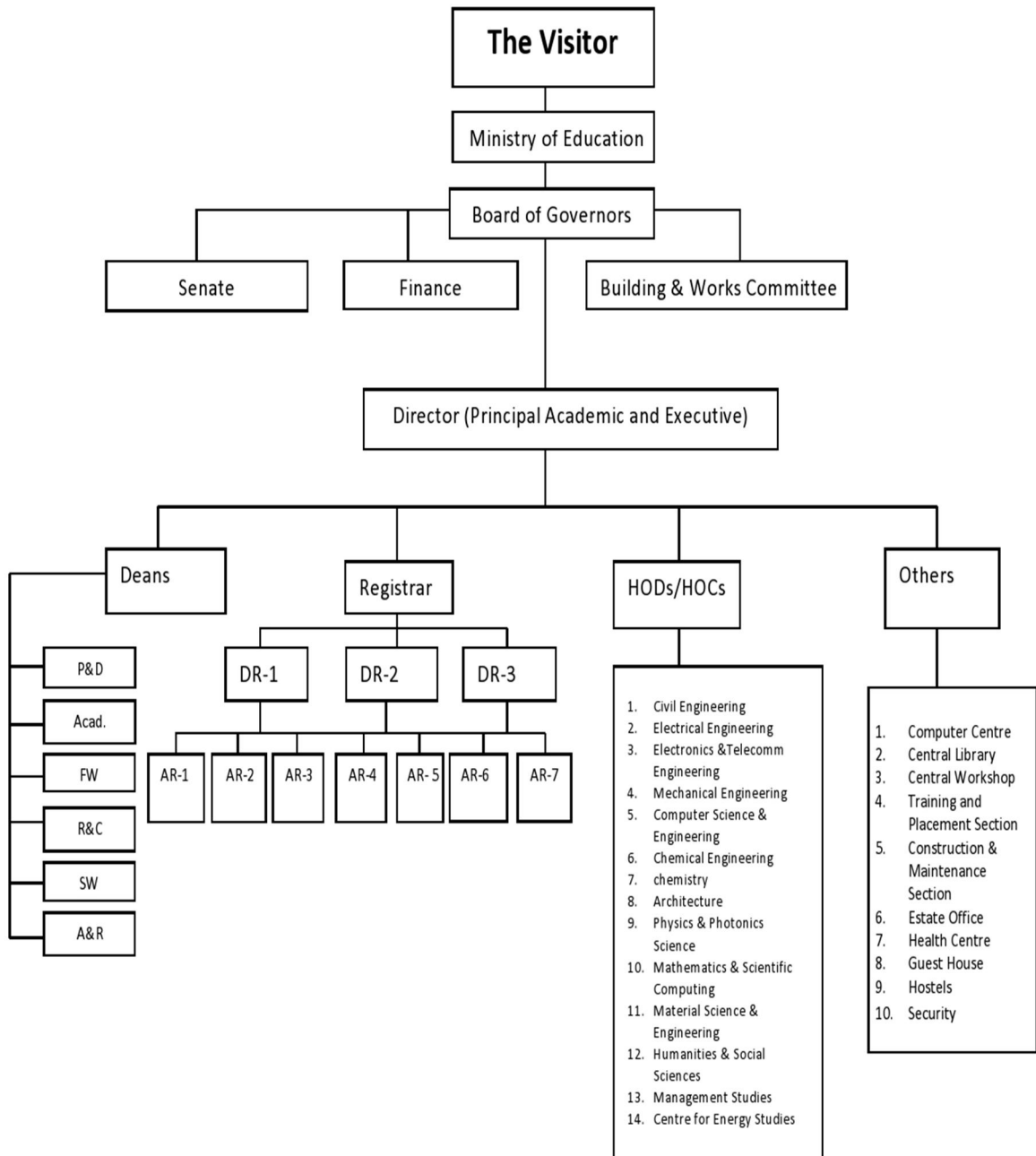
The campus has an area of 177.1 Acres in the picturesque surrounding with lush green pine trees, facing snow clad Dhauladhar mountain ranges. The place has healthy climate with moderate temperature ranging from 4° to 40° at an altitude of 900 meter. It presents a spectacle of harmony in architecture 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:

S. 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.	Mathematics & Scientific Computing
8.	Physics & Photonics Science
9.	Material Science & Engineering
10.	Centre for Energy Studies
11.	Architecture
12.	Chemistry
13.	Management Studies
14.	Humanities & Social Sciences

## 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)

S.No.	Name of courses/Programmes	
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	Design
		Thermal
		Manufacturing
		Energy Technology

4	Electronics & Communication Engineering	VLSI Design Communication Systems & Networks
5	Computer Science & Engineering	Computer Science & Engineering Artificial Intelligence
6	Material Science & Engineering	Material science & Engineering
7	Chemical Engineering	Chemical Engineering
8	Architecture	M. Arch., (Sustainable Architecture)

### 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 Ph.D. Programmes

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

S.No.	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/ Nano-composites, 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 2021-22 are as follows:

Programme	Number of Students Admitted
UG Programmes (B.Tech./B.Arch./Dual Degree)	944+1*+3**=948

PG Programmes (M.Tech./M.Arch./MSc/MBA)	328
PhD Programmes	22

\*Ministry of External Affairs: \* MEA and \*\* ICCR

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

Programme	Number of Students Registered
B.Tech.	2842
B.Arch.	246
Dual Degree	487
M.Tech.	470
M.Arch.	35
MSc.	127
MBA	40
Ph.D.	241
<b>Total</b>	<b>4488</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 (2021-22) are as under:

S.No.	Programme	Sanctioned Intake	Actual Admission
<b>B.Tech. Programmes</b>			
1.	Chemical Engineering	76	76
2.	Civil Engineering	123	123
3.	Computer Science and Engineering	124	124 + 2(ICCR)+1 (MEA)
4.	Electrical Engineering	125	125
5.	Electronics and Communication Engineering	117	117 + 1(ICCR)
6.	Mechanical Engineering	125	125
7.	Materials Science and Engineering	39	39
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	28
<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 2021-22 are as follows:

S.No.	M.Tech./M.Arch. Programme	Sanctioned Intake	Actual Admission	Self-Finance Sanctioned Intake	Actual Admission
1.	Civil Engineering (Geotechnical)	19	16	6	7
2.	Civil Engineering (Structures)	19	19	6	5
3.	Civil Engineering (Transportation)	19	19	6	6
4.	Civil Engineering (Water Resources)	19	10	6	3
5.	Civil Engineering (Environment)	19	15	6	7

6.	Electrical Engineering (Power System)	19	11	6	0
7.	Electrical Engineering (Signal Processing & Control)	19	3	6	2
8.	Electrical Engineering (Condition Monitoring of Power Apparatus)	19	2	6	5
9.	Mechanical Engineering (Thermal )	19	7	6	1
10.	Mechanical Engineering (Design)	19	5	6	3
11.	Mechanical Engineering (Manufacturing)	19	2	6	3
12.	Mechanical Engineering( Energy Technology)	19	1	6	1
13.	Electronics & Communication Engineering (VLSI Design)	19	13	6	1
14.	Electronics & Communication Engineering (Communication Systems & Networks )	19	3	6	1
15.	Computer Science & Engineering	19	19	6	4
16.	Computer Science & Engineering (Artificial Intelligence)	19	18	6	2
17.	M. Arch. (Sustainable Architecture)	19	15	6	2
18.	Materials Science & Engineering	19	0	6	0
19.	Chemical Engineering	19	5	6	1

S.No.	MSc Programme	Sanctioned Intake	Actual Admission
1.	Physics	25	23
2.	Chemistry	25	23
3.	Mathematics and Computing	25	23
S.No.	MBA Programme	Sanctioned Intake	Actual Admission
1.	Master of Business Administration	40	22

### 2.9.3 Ph.D. Programmes

The admissions to the Ph.D. 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 numbers of students admitted during 2021-22 in various Departments are as follows:

S.No.	Department	Candidates Admitted with MHRD Fellowship	Candidates Admitted Under Other Schemes
1.	Architecture	-	0
2.	Civil Engineering	-	04
3.	Computer Science & Engineering	-	06
4.	Electronics & Communication Engineering	-	00
5.	Electrical Engineering	-	02
6.	Mechanical Engineering	-	02
7.	Chemical Engineering	-	00

8.	Materials Science & Engineering	-	00
9.	Chemistry	-	01
10.	Physics & Photonics Science	-	02
11.	Mathematics & Scientific Computing	-	04
12.	Management Studies	-	01
13.	Humanities & Social Sciences	-	0
			<b>Total = 22</b>

**2.10 Results**

The summary of results is as follows:

<b>Programme</b>	<b>Students Passed in 2021-22</b>
UG Programmes (B.Tech./B.Arch./Dual Degree) [Final Year]	<b>649</b>
Advance Diploma/Diploma	<b>02</b>
PG Programmes (M.Tech./M.Arch./MSc/MBA) [Final Year] (303+9+50+13)	<b>375</b>
PhD Programmes	<b>31</b>

The results of various programmes are as follows:

**2.10.1 UG Programmes**

<b>Sr. No.</b>	<b>Programme</b>	<b>Students Admitted in 2017-18</b>	<b>Students Passed in 2021-22</b>
<b>B.Tech. Programmes</b>			
1.	Chemical Engineering	60	58
2.	Civil Engineering	92	87
3.	Computer Science and Engineering	94	87
4.	Electrical Engineering	91	87
5.	Electronics and Communication Engineering	92	87
6.	Mechanical Engineering	94	89
7.	Material Science & Engineering	25	21
<b>Dual Degree Programmes</b>			
		<b>Students Admitted in 2016-17</b>	<b>Students Passed in 2021-22</b>
1.	Computer Science and Engineering	58	56
2.	Electronics and Communication Engineering	50	45
<b>B.Arch. Programme</b>			
1.	Architecture	34	32
<b>Total</b>		<b>657</b>	<b>649</b>

<b>Advance Diploma/Diploma</b>		
Electronics & Communication Engineering	-	01
Architecture	-	01
<b>Total</b>		<b>02</b>

**2.10.2 PG Programmes**

<b>S. No.</b>	<b>M.Tech./M.Arch. Programme</b>	<b>Students Admitted in 2019-20</b>	<b>Students Passed in 2021-22</b>
1.	Geotechnical Engineering & Under Ground Structures	18	17
2.	Structures	19	18
3.	Transportation	18	18

4.	Water Resources	14	14
5.	Environmental Engineering	12	11
6.	Power System	18	16
7.	Signal Processing & Control	10	10
8.	Condition Monitoring, Control & Protection of Electrical Apparatus	12	10
9.	CAD-CAM	07	6
10.	Thermal Engineering (CFT & HT)	18	16
11.	Energy Technology	06	6
12.	VLSI Design Automation & Techniques	18	18
13.	Communication Systems & Networks	16	16
14.	Computer Science & Engineering	19	16
15.	Mobile Computing	14	10
16.	Sustainable Architecture	13	09
<b>Total</b>		<b>232</b>	<b>211</b>
<b>Dual Degree</b>			
1	Computer Science & Engineering	58	56
2	Electronics and Communication Engineering	50	45
<b>Total</b>		<b>108</b>	<b>101</b>

S.No.	M.Sc. Programme	Students Admitted in 2019-20	Students Passed in 2021-22
1.	Physics	20	17
2.	Chemistry	18	17
3.	Mathematics & Computing	17	16
<b>Total</b>		<b>55</b>	<b>50</b>

S.No.	MBA Programme	Students Admitted in 2019-2020	Students Passed in 2021-22
1.	Management Studies	15	13
<b>Total</b>		<b>15</b>	<b>13</b>

### 2.10.3 PhD Programmes

S.No.	Department	PhDs Awarded
1.	Architecture	01
2.	Civil Engineering	07
3.	Computer Science & Engineering	05
4.	Electronics & Communication Engineering	07
5.	Electrical Engineering	01
6.	Mechanical Engineering	02
7.	Chemical Engineering	-
8.	Materials Science & Engineering	01
9.	Chemistry	04
10.	Physics & Photonics Science	
11.	Mathematics & Scientific Computing	02
12.	Management Studies	-
13.	Humanities & Social Sciences	01
<b>Total</b>		<b>31</b>

## AWARD AND MEDALS

### MEDALS

#### DIRECTOR MEDAL TO THE BEST ALL ROUNDER

Roll No.	Name	Department
17268	Charu Sehgal	Electrical Engineering

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

Roll No.	Name	Branch
17137	Nitish Thakur	Civil Engineering
17237	Mehul Garg	Electrical Engineering
17345	Ayush Tiwari	Mechanical Engineering
17468	Sanjana	Electronics & Communication Engineering
16MI426	Nitesh Kumar	Electronics & Communication Engineering (Dual Degree)
17520	Mayank Dhiman	Computer Science & Engineering
17561	Ujjawal Gupta	
16MI538	Muskan Jhunjhunwalla	Computer Science & Engineering (Dual Degree)
17705	Vishakha Jangir	Chemical Engineering
17801	Nikhil Choudhary	Material Science & Engineering
16632	Divya Singh	Architecture

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

Branch	Specialization	Name	Roll No.
<b>Civil Engineering</b>	Geotechnical Engineering & Under Ground Structure	Safeena Nazeer	19M109
	Structural Engineering	Vikas Dadhwal	19M131
	Transportation Systems Engineering	Prabhat Sharma	19M154
	Water Resources Engineering	Bharti Sharma	19M164
	Environmental Engineering	Shubham Ketan Sharma	19M729
<b>Electrical Engineering</b>	Power System	Nivedita Singh	19M203
	Signal Processing & Control	Kavita	19M228
	Condition Monitoring Control & Protection of Electrical Apparatus	Shalinee Badoni	19M251
<b>Mechanical Engineering</b>	Thermal Engineering (CFD & HT)	Sunil Kumar	19M317
	CAD-CAM	Akshay Sharma	19M301
	Energy Technology	Kuppili venkata Sai Kishore	19M705
<b>Electronics &amp; Communication Engineering</b>	VLSI Design Automation & Techniques	G.Vishnu Pavan Reddy	19M403
		Anudita Gaur	19M418
	Communication System & Networks	Aarushi Verma	19M438
	Electronics & Communication Engineering (Dual Degree)	Vanshaj Sharma	16MI409
		Nitesh Kumar	16MI426
<b>Computer Science &amp; Engineering</b>	Computer Science & Engineering	Nitisha Negi	19M516
	Mobile Computing	Sunny Kumar	19M523
	Computer Science & Engineering (Dual Degree)	Saloni Laddha	16MI515
		Muskan Jhunjhunwalla	16MI538
<b>Materials Science &amp; Engineering</b>	Materials Science & Engineering	-	-
<b>Master of Architecture</b>	Sustainable Architecture	Sneha Sara varghese	19M805
<b>Management Studies</b>	MBA	Shalu	19MB910

<b>Master of Science</b>	Chemistry	Meghali	19MC007
	Mathematics & Computing	Akanksha	19MM002
	Physics	Sri Ram G	19MP013

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

Roll No.	Name	Branch
17110	Varun Chauhan	Civil Engineering
17268	Charu Sehgal	Electrical Engineering
17366	Prakhar Parashar	Mechanical Engineering
17421	Aradhita Sharma	Electronics & Communication Engineering
16MI448	Samarth Agarwal	Electronics & Communication Engineering (Dual Degree)
17566	Naman lalit	Computer Science & Engineering
16MI529	Akash Soni	Computer Science & Engineering (Dual Degree)
17708	Nidhi Verma	Chemical Engineering
17805	Vinayak Shrote	Material Science & Engineering
16610	Shivani Guleria	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 2021-22</b>										
Name of Department	Professor		Associate Professor		Assistant Professor		Total Faculty in position			
	Sanctioned Strength	In Position	Sanctioned Strength	In Position	Sanctioned Strength	In Position				
DoCE	<b>37</b>	3	<b>74</b>	5	<b>150</b>	13	21			
DoEE		4		5		8	17			
DoME		3		8		11	22			
DoECE		2		5		18	25			
DoCSE		1		5		13	19			
DoCHE		0		0		7	7			
DoMSC		2		2		6	10			
DoCHY		0		2		3	5			
DoPPS		0		5		0	5			
DoHSS		0		1		3	4			
DoMS		0		0		6	6			
CES		1		0		1	2			
DoMSE		1		1		3	5			
DoARC		2		1		8	11			
Phy.Edu.		0		1		0	1			
<b>TOTAL</b>				<b>19</b>			<b>41</b>		<b>100</b>	<b>160</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	19
2.	Associate Professor	74	41
3.	Assistant Professor	150	100
	<b>Total</b>		<b>160</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	00
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>15</b>

\* Officiating

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

**B .Technical Higher:**

Sr. No.	Name of the Post	Sanctioned Strength	In Position
1	Technical Assistant/ Junior Engineer/ SAS Assistant/Library Information Assistant	32	01
2	Sr. Technical Assistant/ Assistant Engineer/ Sr. SAS Assistant/ Sr. Library Information Assistant/Pharmacist SG-II	22	05
3	Technical Assistant (SG –II) Assistant Engineer SG-II/ SAS Assistant (SG-II)/Library Assistant SG-II	16	08
4	Technical Assistant (SG-I) Assistant Engineer SG-/ SAS Assistant (SG-I)/ Library 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	30	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	17	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	03
2	Sr. Superintendent/Sr. PA	06	04
3	Superintendent SG-(II)/ PS	04	02
4	Superintendent SG-(I)	02	00
	<b>Total</b>	<b>21</b>	<b>09</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	08
4	Assistant (SG-I)/ Stenographer (SG-II)	04	09
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)	15	--
2	Sr. Attendant/ Security Guard/ Mali/ Care Taker	12	08
3	Attendant/ Security Guard/ Mali/ Care Taker (SG-II)	08	26
4	Attendant/ Security Guard/ Mali/ Care Taker (SG-I)	04	13
	<b>Total</b>	<b>39</b>	<b>47</b>
	<b>Total (A to F)</b>	<b>287</b>	<b>151</b>

## 2.13.4 TEMPORARY FACULTY 2021-22 :-

Sr. No.	Name of faculty members	Name of Department	Date of joining
1)	Dr. Ashapura Baruah D/o Mr. Ronjon Kumar Baruah	<b>Humanities and Social Science</b>	26.08.2021 (F.N)
2)	Dr. Ruchi Sharma D/o Sh. Man Chand Sharma		23.08.2021 (F.N)
3)	Dr. Minkashi Rana D/o Sh. Pardeep Kumar		31.08.2021 (F.N)
4)	Dr. Yaisna Rajkumari D/o Sh. R.K. Nurbahan Singh		07.12.2021(F.N)
5)	Dr. Bhavna D/o Sh. Ram Sarup Bajarh		07.12.2021(F.N)
6)	Dr. Stuti Jalan D/o Shri Ashok Jalan		21.03.2022 (F.N)
7)	Dr. Shivani D/o Sh. Akshay Kumar	<b>Mathematics &amp; Scientific Computing</b>	27.08.2021 (F.N)
8)	Dr. Sumit Koul S/o Sh. P.K. Koul		27.08.2021(F.N)
9)	Dr. Ankita Bisht D/o Sh. Bhupendra Singh Bisht		07.12.2021(F.N)
10)	Dr. Rajan Kumar S/o Sh. Bhagwan Prasad		22.12.2021(F.N)
11)	Ar. Vishakha Verma D/o Sh. Vishnu Prasad Verma	<b>Architecture</b>	27.08.2021 (F.N)
12)	Ar. Ankita Choudhary D/o Sh. Krishan Choudhary		27.09.2021 (F.N)
13)	Dr. Tulsi Anna D/o Sh. Daleep Singh Anna	<b>Physics &amp; Photonics Science</b>	27.08.2021 (F.N)
14)	Dr. Varun Kumar S/o Sh. Dev Dutta Sharma		03.09.2021 (F.N)
15)	Dr. Navneet Singh S/o Sh. Rajinder Singh		07.12.2021(F.N)
16)	Dr Mohammad Ahsan S/o Sh. Nawab Ali	<b>Computer Science &amp; Engineering</b>	27.08.2021 (F.N)
17)	Dr. Pushpender Kumar S/o Sh. Suresh Kumar		07.09.2021 (F.N)
18)	Dr. Avani Vyas D/o Sh. Vinod Vyas		17.01.2022 (F.N)
19)	Dr. Anamika Sharma D/o Sh. Ganesh Sharma		17.01.2022(F.N)
20)	Dr. Praveen Kumar Jha S/o Sh. Kaushal Kishor Jha	<b>Chemical Engineering</b>	01.09.2021 (F.N)
21)	Dr. Raj Kumar Verma S/o Sh. Tika Ram Verma		16.09.2021 (F.N)
22)	Dr. Debashish Panda S/o Sh. Sundarmani Panda		17.01.2022 (F.N)
23)	Dr. Mrunalini D/o Sh. Kawaduji Gulab Gaydhane		17.01.2022 (F.N)
24)	Dr. Abhijit Ojha S/o Ramesh Chandra Ojha	<b>Material Science &amp; Engineering</b>	14.09.2021 (F.N)
25)	Dr. Nidhi Khobragade D/o Sh. A.K. Khobragade		23.09.2021
26)	Dr. Brij Kishor S/o Sh. Pragi Lal Ahirwar		18.09.2021 (FN)
27)	Dr. Sumeet Kumar Sharma S/o Sh. Raj		17.01.2022 (F.N)

	Kumar		
28)	Dr. Rajneesh Sharma S/o Sh. Bishamber Dass Shrama	<b>Civil Engineering</b>	07.12.2021(F.N)
29)	Dr. Shibayan Biswas S/o Sh. Sudhanshu Kumar Biswas		30.12.2021 (F.N)
30)	Dr. Chayawan S/o Sh. Laxmi Manoram	<b>Department of Chemistry</b>	17.01.2022 (F.N)
31)	Dr. Manu Vatsal W/o Dr. Sanjay Sharma		17.01.2022 (F.N)

**2.13.5 RELIEVED/EXPIRED:**

Sr. No.	Name of faculty members	Name of Department	Date of Relieving
1)	Dr. Smita Mondal, Assistant Professor (on contract)	<b>DoCHE</b>	Relieved on 31/03/2021
2)	Dr. Narottam Chand, Associate Professor	<b>DoCSE</b>	Expired on 15/05/2021
3)	Dr. Jatoth Chandrashekhar, Assistant Professor (on contract)	<b>DoCSE</b>	Relieved on 30/07/2021
4)	Dr. Tara Chand Kumawat, Assistant Professor (on contract)	<b>DoCHE</b>	Relieved on 31/12/2021

**2.13.6 Retiree Faculty:**

Sr. No.	Name of faculty members	Name of Department	Date of Relieving
1)	Dr. A.S. Singha, Professor	<b>DoCHY</b>	Retired on 31/10/2021
2)	Dr. Zakir Hussain, Associate Professor	<b>DoEE</b>	Retired on 31/10/2021
3)	Dr. Piar Chand , Professor	<b>DoHSS</b>	Retired on 31/01/2022

**2.13.7 Faculty on Lien**

Sr. No.	Name of faculty members	Name of Department	On Deputation
1)	Dr. Yog Raj Sood, Professor (HAG) (EOL)	<b>DoEE</b>	Vice Chancellor JP University
2)	Dr. R.K. Sehgal, Professor	<b>DoME</b>	Director NIT Srinagar
3)	Dr. Manoj Sharma, Assistant Professor Gr-I ( <b>Lien</b> )	<b>DoHSS</b>	Professor, HPU Shimla
4)	Dr. Lalit Kumar Awasthi, Professor	<b>DoCSE</b>	Director, NIT Uttarakhand

**2.13.8 New Appointment: Nil**

### 3.1 DEPARTMENT OF CHEMICAL ENGINEERING



#### 1. ACADEMIC STAFF:-

**Head of the Department:** Dr. Radhe Shyam (from 11/03/2022)  
Dr. Tapas Palai (till 11/03/2022)

#### 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. Pooja Thakur 7. Dr. Rahul Saha	1. Dr. Praveen Kumar Jha 2. Dr. Raj Kumar Verma relieved from 12/04/2022 3. Dr. Debashish Panda Join on 17/01/2022. 4. Dr. Mrunalini Kawaduji Join on 17/01/2022

**Technical Staff:-**

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

**Ministerial Staff:-**

1. Sh. Ashok Kumar, Junior Assistant
2. Mr. Kehar Singh, Office 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**

- ATAL FDP CMCE-2021 “Computational Methods in Chemical Engineering” from 6<sup>th</sup> to 10<sup>th</sup> September 2021.in the Department of Chemical Engineering. Dr. Pooja Thakur & Dr. Rahul Saha Coordinators
- Conducted a workshop on “**Frontiers in Sustainable Chemical Processes (FSCP - 2021)**” 1<sup>st</sup> -5<sup>th</sup> February 2021, Coordinators: **Dr. Pooja Thakur**, Dr. Subhajit Majumder, Convener Dr. Rahul Saha, Department of Chemical Engineering NIT Hamirpur.
- Conducted ATAL Sponsored Faculty Development Program (e-FDP) on “**Computational Methods in Chemical Engineering (CMCE-2021)**” 6<sup>st</sup> -10<sup>th</sup> September 2021, Coordinators: **Dr. Pooja Thakur**, Dr. Rahul Saha, and Department of Chemical Engineering NIT Hamirpur.

**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. Subhajit Majumder	Production of Styrene from Dehydrogenation of Methylbenzene.	Chemical Engineering & Technology, 45(5), 817-823.
2.	Dr. Rahul Saha	Low salinity surfactant alternating gas/CO <sub>2</sub> flooding for enhanced oil recovery in sandstone reservoirs	Journal of Petroleum Science and Engineering, 212, 110253, 2022
3.	Dr. Rahul Saha	Chemical Nanofluids in Enhanced Oil Recovery: Fundamentals and Applications (Book Published)	CRC Press, Taylor and Francis, ISBN 9780367425241, 2021
4.	Dr. Rahul Saha	Optimum Formulation of Chemical Slug and Core Flooding Studies (Book Chapter)	Microbial Enhanced Oil Recovery: Principles and Potential, Springer, ISBN 978-981-16-5464-0, pp. 73-99, 2021
5.	Dr. Rahul Saha	CO <sub>2</sub> -Based Enhanced Oil Recovery (Book Chapter)	Microbial Enhanced Oil Recovery: Principles and Potential, Springer, ISBN 978-981-16-5464-0, pp. 51-71, 2021
6.	Arvind K. Gautam,	“Preparation and characterization of fragrance by extracting the essential oils from different raw materials”,	J. Indian Chem. Soc., 98, 2021, 100178
7.	Dr. Arvind K. Gautam	“Comparative Study of Two Identical Industrial Digesters Using Radiotracer-Based Residence Time Distribution Measurement”,	J. Pant, Journal of Chemical Engineering & Technology, 45, 2022, 479-488

8.	Dr.Arvind K. Gautam,	“A theoretical and mathematical study on the importance of petroleum derivatives in the production of sanitizer based products”,	Raj Kumar Arya, Journal of Materials Today: Proceedings, Accepted, January 2022
9.	Dr.Arvind K. Gautam,	“Temperature effects on liquid and crystalline state of SW-Germanium in supercoiled region”,	International Journal of Modern Physics B, Accepted, March 2022
10.	Dr. Alok Garg	Highly efficient photo-degradation of cetirizine antihistamine with TiO <sub>2</sub> -SiO <sub>2</sub> photocatalyst under ultraviolet irradiation	International Journal of Chemical Reactor Engineering
11.	Dr.Alok Garg	Photocatalytic degradation and mineralization of amoxicillin and ofloxacin using TiO <sub>2</sub> -SiO <sub>2</sub> composites	Toxicological & Environmental Chemistry
12.	Dr.Alok Garg	Efficient degradation of doxycycline and ofloxacin in an aqueous environment using Fe and Cu doped TiO <sub>2</sub> -SiO <sub>2</sub> photocatalyst under sunlight	Environmental Engineering Research

- ii) **Papers accepted for publication:-**
- iii) **Patent: Dr. Alok Garg.** Preparation of Activated Carbon from Agriculture Waste.
- 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. Rahul Saha: Impact of Nanofluid for Improved Oil Recovery, One Week FACULTY development Program on Recent Trends in Chemical Engineering, 19th to 23rd April, 2022, Padmashri Dr, Vithalrao Vikhe Patil Institute of Technology and Engineering (Polytechnic), Loni, Maharashtra, India
- Dr. Rahul Saha: Chemical and Nanoparticles Induced Enhanced Oil Recovery, AICTE Training and Learning (ATAL) Academy, Faculty Development Programme (FDP), Advanced Experimental and Simulation Research Trends in Chemical Engineering, 7th to 11 th January, 2022, National Institute of Technology Hamirpur, Himachal Pradesh, India
- Dr. Rahul Saha: Role of Polymer and Nanoparticle for Heavy Oil Recovery, AICTE Training and Learning (ATAL) Academy, Faculty Development Programme (FDP), Computational Methods in Chemical Engineering, 6th to 10 th September, 2021, National Institute of Technology Hamirpur, Himachal Pradesh, India
- Dr. Rahul Saha: Potential of Nanoparticles for Residual Oil Recovery in Oil & Gas Industry, Online Lecture Series of International Experts, 3rd February to 5th February 2022, MGM University, Aurangabad, India
- Dr. Rahul Saha: Nanofluid Emulsification for Oil Recovery Application, AICTE Training and Learning (ATAL) Academy, Faculty Development Programme (FDP), Recent Trends in Upstream Petroleum Technology, 7th to 11 th March, 2022, Dibrugarh University, Assam, India
- Dr. Arvind K. Gautam 7th March 2022 Young Researcher Award Research Recognition and Listing (Rsquarel) GARnet/Rsquarel
- Expert Talk by Dr. Pooja Thakur on "Computational Study on Flow Over a Rotating Cylinder in a Channel" organised by Gharda Institute of Technology, Level 26th May 2021 Expert Talk Online.
- Expert Lecture by Dr. Pooja Thakur on "Fundamentals and Basic Governing Equations of Fluid Mechanics" at University Institute of Engineering & Technology (UIET)  
Kanpur November 15th, 2021 Offline Expert Lecture.
- Dr. Alok Garg Fundamentals Of Solid Waste Management for Smart Cities Techno- Economic Solution for Sustainable Municipal Solid Waste M Department of Chemical Engineering

- Dr. Alok Garg Photo catalytic Degradation of Organic Pollutants using Functional Nano materials Atal FDP on Advances in Pollution Control
- Dr. Tapas Palai Delivered expert lecture on "Smart Polymers: Properties and Application" in the e-workshop entitled Synthesis, Characterization, and Performance of Advanced Materials" Organized by Department of Chemical Engineering, MANIT Bhopal, India, May 10-14, 2021.
- Dr. Radhe Shyam, Preface: Proceedings of the Third International Conference on Frontiers in Industrial and Applied Mathematics - 2020 (FIAM-2020)
- **Insight of the Transportations of fluids**, Dr. Ambedkar Institute of Technology for Handicapped, Awadhपुरi, Kanpur, 8<sup>th</sup> February 2021 (Online).
- **Computational Study on Flow Over a Rotating Cylinder in a Channel**, Gharda Institute of Technology, Khed Ratnagiri, 26<sup>th</sup> May 2021 (Online).
- **Woman empowerment and dignity of woman**, Department of Chemical Engineering, NIT Agartala, 21st December, 2021(Online).
- **"Fundamentals and Basic Governing Equations of Fluid Mechanics"** University Institute of Engineering & Technology (UIET) Kanpur, 15<sup>th</sup> November 2021 (Offline).
- **5. Equipment Purchase**

Sr. No	Name of Equipment	Qty	Name of Manufacturer / Supplier	Cost in Rs.
1.	Photostat Machine	01	M/s Sun Tech System, Near M.C Office Gurudwara Road Dharmshala (HP)	<b>68988.00</b>
2.	Roller Crusher	01	M/S Vindish Instruments Private limited Ahmedabad (Gujrat)	<b>194999.00</b>
3.	Softening Point Apparatus	01	M/s Popular Science Apparatus Ambala Cantt. Haryana	<b>24500.00</b>
4.	Digital Weighing Machine	03	M/ Raja Industries ,27- G, Manish Sinha , Sanjay Palace, Agra (UP)	<b>74700.00</b>
5.	Microprocessor Control Magnetic	05	M/s Research & Aid Instrument Service Prabhu	<b>191500.00</b>

	Stirrer		Shaya Bhawan Baijnath Road Palampur (HP)	
6.	Muffle Furnace	01	M/s Matrex, New Delhi	122980.00
7.	BOD Incubator	01	M/s Creative Equipment New Delhi	254978.00
8.	Orbital Shacker	01	M/s Creative Equipment New Delhi	142749.00
9.	Dust Sampler	01	M/s Dinesh Scientific, Ambala Cantt.	249999.00

## 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



#### (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.	<b>Dr. R.S.Banshtu</b>	Associate Professor
3.	Dr.S.S. Katoch	<b>Associate Professor, HEAD OF DEPARTMENT</b>
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.	Dr. Chander Prakash	Assistant Professor Grade-1
4.	Dr. Sunil Sharma	Assistant Professor Grade-1
5.	Dr. Dharmendra	Assistant Professor Grade-1
6.	Dr. K. Nallasivam	Assistant Professor Grade-1
7.	Dr. Joy Pal	Assistant Professor Gr-II
8.	Dr. Joseph Tripura	Assistant Professor Gr-II
9.	Dr. Subhadip Biswas	Assistant Professor Gr-II
10.	Dr. Manendra Singh	Assistant Professor Gr-II
11.	Dr. Ray Singh Meena	Assistant Professor Gr-II

12.	Dr. Jitendra Singh Yadav	Assistant Professor Gr-II
13.	Dr. Vimal Kumar	Assistant Professor Gr-II
<b>TEMPORARY FACULTY ON CONTRACT BASIS</b>		
1.	Dr. Rajneesh Sharma	w.e.f. 07/12/2021
2.	Dr. Shibayan Biswas	w.e.f. 30/12/2021

**(II) RESEARCH PUBLICATIONS**

Year	Author(s)	Title & Vol. No.	Journal Name	Indexing (SCI) Web of Science/ Scopus
2021	Surya Pratap Singh, <b>Amrit Kumar Roy</b>	Numerical Study of the Behaviour of a Circular Footing On A Layered Granular Soil Under Vertical And Inclined Loading	Civil And Environmental Engineering Reports	SCOPUS Indexed
2021	Singh, Jagbir, and <b>Amrit Kumar Roy</b>	Wind loads on roof of low-rise buildings	Disaster Advances	SCOPUS Indexed
2021	Singh, Jagbir, and <b>Amrit Kumar Roy</b>	Wind Induced Pressure Variation on High-rise Geometrically Modified Building having Interference through CFD Simulation	Journal of Computational Engineering and Physical Modeling	Publons (Web of Science)
2021	Singh, Jagbir, and <b>Amrit Kumar Roy</b>	Numerical simulation of a conical roofed low-rise building to estimate the wind pressure coefficients	Electronic Journal of Structural Engineering	ESCI (Clarivate Indexing), SCOPUS Indexed
2021	Amol Sharma, <b>Chander Prakash</b> , V S Manivasagam	Entropy-Based Hybrid Integration of Random Forest and Support Vector Machine for Landslide Susceptibility Analysis	Geomatics	2673-7418
2021	Amol Sharma, <b>Chander Prakash</b> , Anuj Nautiyal	Recent landslide news of Himachal Pradesh, India	Landslides	1612-5118
2021	Lin Peng; Liu Peicheng, Ankit Garg, <b>Jitendra Singh Yadav</b>	Deformation monitoring analysis and numerical simulation in a deep foundation pit 58(1): 56-62	Soil Mechanics and Foundation Engineering	SCI
2021	Jitendra Singh Yadav, <b>Rakesh Kumar Dutta</b> ,	The Impact of Variation of Gypsum and Water Content on the Engineering Properties of Expansive soil	Transportation Infrastructure Geotechnology	Scopus
2021	Rakesh Kumar Dutta, <b>Jitendra Singh Yadav</b> , Vishwas Nandkishor Khatri, Gayathri Venkataraman,	A Study on Suitability of Fly Ash-Lime-Alcofine Mixtures in Construction of Road Pavement	Transportation Infrastructure Geotechnology	Scopus
2021	<b>Jitendra Singh Yadav</b> , Kumar Keshav, Dutta	Influence of positions of the geotextile on the load-settlement behaviour of circular footing resting on single	JAMME/AMSE International OCSCO World	Scopus

	Rakesh Kumar, Garg Ankit	stone column	Press	
2021	Vikram Singh Kashyap, Gaurav Sancheti, <b>Jitendra Singh Yadav</b>	Mechanical and Microstructural Behavior of Concrete Containing Marble and Nano Silica Mechanical and Microstructural Behavior of Concrete Containing Marble and Nano Silica	Journal of Engineering, Design and Technology	Scopus
2021	Rakesh Kumar Dutta, <b>Jitendra Singh Yadav</b>	The impact of alccofine inclusion on the engineering properties of bentonite	Cleaner Engineering and Technology	Scopus
2021	Vikram Singh Kashyap, Gaurav Sancheti, <b>Jitendra Singh Yadav</b>	Durability and Microstructural Behavior of Nano Silica-Marble Dust Concrete	JAMME/AMSE International OCSCO World Press	Scopus
2021	Hussain Shaik, <b>Jitendra Singh Yadav</b>	Evaluation of Mechanical Strength and Durability of Alkali Resistant Glass Fibre Reinforced Concrete	JAMME/AMSE International OCSCO World Press	Scopus
2021	Shirsendu Sikdar, <b>Joy Pal</b>	Bag of Visual Words based Machine Learning Framework for Disbond Characterisation in Composite Sandwich Structures using Guided Waves	Smart Materials and Structures	Sci
2021	<b>Joy Pal</b> , Shirsendu Sikdar, Sauvik Banerjee	A Deep-Learning Approach for Health Monitoring of a Steel Frame Structure with Bolted Connections (Accepted)	Structural Control and Health Monitoring	Sci
2021	Virajan Verma & <b>K. Nallasivam</b>	"Free vibration behaviour of thin-walled concrete box-girder bridge using Perspex sheet experimental model", 106/2 (2021) 56-76. DOI: <a href="https://doi.org/10.5604/01.3001.0015.2418">https://doi.org/10.5604/01.3001.0015.2418</a>	Journal of Achievements in Materials and Manufacturing Engineering	SCOPUS indexed
2021	Virajan Verma & <b>K. Nallasivam</b>	"Static response of curved steel thin-walled box-girder bridge subjected to Indian railway loading" Volume.108, Issue-2 DOI: 10.5604/01.3001.0015.5065	Journal of Achievements in Materials and Manufacturing Engineering	SCOPUS indexed
2021	Virajan Verma, Abhilash Malloth & <b>K. Nallasivam</b>	" Modal analysis of a thin-walled box-girder Bridge and Railway track using finite element framework" Volume 4, Issue 4, Serial No 16 Doi: 10.22115/CEPM.2021.278798.1165	Computational Engineering and Physical Modeling	SCOPUS indexed
2021	MN Viladkar, <b>Manendra Singh</b> ,	Some Aspects of Seismic Soil–Structure Interaction of Lifeline Structures ( <a href="https://doi.org/10.1007/s40098-021-00523-w">https://doi.org/10.1007/s40098-021-00523-w</a> )	Indian Geotechnical Journal	ESCI, Scopus, Web of Science
2021	Sharma, A., <b>Kumar Pardeep</b> , Vinayak, H.K., S K Walia	Identification of joint discrepancy in steel truss bridge using Hilbert transform with root-MUSIC and	International Journal of Civil Engineering	SCIE

		ESPRIT techniques		
2021	Sharma, A., <b>Pardeep Kumar</b> , Vinayak, H.K., S K Walia	Condition Evaluation in Steel Truss Bridge with Fused Hilbert Transform, Spectral Kurtosis, and Bandpass Filter	Structural Durability & Health Monitoring	SCOPUS
2021	Bavita Bhardwaj and <b>Pardeep Kumar</b>	Performance assessment of graphene oxide reinforced sustainable geopolymer concrete	Journal of Materials in Civil Engineering, ASCE publications	SCI
2021	Sharma, A., <b>Pardeep Kumar</b> , Vinayak, H.K., Patel, R.K. and Walia, S.K.	Steel truss bridge vibration-based condition monitoring using Savitzky-Golay filter, Hilbert transform, MUSIC and ESPRIT	Journal of Engineering, Design and Technology	SCOPUS
2021	Sharma Anshul; <b>Pardeep Kumar</b> ; Vinayak, Hemant ; Walia, Suresh ; Patel, Raj	Hilbert transform and spectral kurtosis based approach in identifying the health state of retrofitted old steel truss bridge	World Journal of Engineering,	SCOPUS
2021	Pandey, D.D., <b>R.S. Banshtu</b> , Versain, L.D.	Landslide Hazard Assessment using Probabilistic and Statistical Approaches; A case study of Chamba region Himachal Pradesh, India. <a href="http://www.springer.com/journal/12594">http://www.springer.com/journal/12594</a>	Journal of the Geological Society of India	SCI & SCOPUS
2021	Pandey, D.D., <b>R.S. Banshtu</b> , Singh, K.P., Versain, L.D.	Landslide Hazard assessment using Frequency Ratio; A case study of South western part of Chamba District, Himachal Pradesh, India. Vol.7(12)pp. 1538-1547.	Die Zeitschrift fur Geoinformatik-GIS Science	SCOPUS
2021	Pandey, D.D., <b>R.S. Banshtu</b> , Singh, K.P.	Landslide Hazard Assessment along Lahru to Chamba, Himachal Pradesh, India using Certainty Factor Approach. pp. 73-84.	Sustainable Development through Engineering Innovations, SDEI, Lecture Notes in Civil Engineering.	SCOPUS
2021	<b>Subhadip Biswas</b> , Chandra, S. and Ghosh, I.	Side Friction Parameters and Their Influences on Capacity of Urban Streets Vol 10(1), 1-19 DOI:10.1016/j.ijst.2020.03.007	International Journal of Transportation Science and Technology	Scopus
2021	Sharma, M. and <b>Subhadip Biswas</b> .	Estimation of Passenger Car Unit on urban roads: A literature review. Vol 10, 283-298. DOI: 10.1016/j.ijst.2020.07.002	International Journal of Transportation Science and Technology	Scopus
2021	Pandey, A. and <b>Subhadip Biswas</b>	Development of 'Speed Ratio' Based Level of Service Criteria on Undivided Urban Streets in Mixed Traffic	Canadian Journal of Civil Engineering	SCI

		Context. Vol 48(9), 1169-1180. DOI: 10.1139/cjce-2020-0104		
2021	Saini, H. K. and <b>Subhadip Biswas</b>	Estimating Lateral Placement and Lane Indiscipline of Urban Mixed Traffic in Developing Country: An ANN Assisted Approach Vol 48, 1571-1581. DOI: 10.1139/cjce-2020-0250	Canadian Journal of Civil Engineering	SCI
2021	Thakur, S., Maurya, S., Chandra, S. and <b>Subhadip Biswas</b>	Lambert W Based Speed Reduction Model in Presence of Pedestrian Movements: Case Studies on Undivided Streets, Vol 82, DOI: 10.48295/ET.2021.82.3	European Transport / Trasporti Europei	Scopus
2021	LA Balan, BR Anupam, <b>Sunil Sharma</b>	Thermal and mechanical performance of cool concrete pavements containing waste glass, 290	Construction and Building Materials	SCI
2021	A Nautiyal, <b>Sunil Sharma</b>	Condition Based Maintenance Planning of low volume rural roads using GIS, 127649	Journal of Cleaner Production	SCI
2021	A Nautiyal, <b>Sunil Sharma</b>	Scientific approach using AHP to prioritize low volume rural roads for pavement maintenance	Journal of Quality in Maintenance Engineering	Scopus
2021	BR Anupam, L Anjali Balan, <b>Sunil Sharma</b>	Thermal and mechanical performance of cement concrete pavements containing PVC-glass mix, 1-13	Road Materials and Pavement Design	SCI
2021	Mukul Bajpai, <b>Surjit Singh Katoch</b> , Abudukeremu Kadier and Peng-Cheng Ma	Treatment of pharmaceutical wastewater containing cefazolin by electrocoagulation (EC): Optimization of various parameters using response surface methodology (RSM) kinetics.	Chemical Engineering Research and Design	Web of Science/Scopus
2021	Govind Mohan and <b>Umesh Kumar Pandey</b>	Nonlinear homogeneous dynamical system of fully cracked concrete beam	Journal of Achievements in Materials and Manufacturing Engineering, 106(1), 5-19	SCOPUS
2021	P.P.Das, V.N Khatri and <b>R.K.Dutta</b>	Bearing capacity of ring footing on a weak sand layer overlying a dense sand deposit	Geomechanics and Geoengineering- An International Journal	Scopus, Web of Science
2021	V.N.Khatri, A. Kumar, S.K.Gupta, <b>R.K. Dutta</b> , and T. Gnananandarao	Numerical study of the uplift capacity of under-reamed piles in clay with linearly increasing cohesion	International Journal of Geotechnical Engineering	Scopus, Web of Science
2021	M. Arora, <b>R.K.Dutta</b> and D.K.Soni	Bearing ratio behaviour of sand overlying silty sand and reinforced with treated coir geotextiles	Journal of Natural Fibers	Scopus, SCIE
2021	M Arora, <b>RK Dutta</b> ,	Characterization, durability, and	Journal of	Scopus, SCIE

	A Jain	application of treated coir geotextiles In low volume roads	Natural Fibers	
2021	A Thakur, <b>RK Dutta</b>	A study of bearing capacity of skirted octagonal footings resting on different sands	Archives of Materials Science and Engineering	Scopus
2021	A Thakur, <b>RK Dutta</b>	Study of bearing capacity of skirted irregular pentagonal footings on different sands	Journal of Achievements in Materials and Manufacturing Engineering	Scopus
2021	S. Nazeer and <b>R. K. Dutta</b>	Bearing capacity of E-shaped footing on layered sand	Journal of Achievements in Materials and Manufacturing Engineering	Scopus
2021	P. Rawat, <b>R. K. Dutta</b>	Pressure settlement behaviour and bearing capacity of asymmetric embedded plus shaped footing on layered sand	Civil and Environmental Engineering Reports	ESCI, Web of Science
2021	<b>RK Dutta, JS Yadav</b>	The Impact of variation of gypsum and water content on the engineering properties of expansive soil	Transportation Infrastructure Geotechnology	Scopus
2021	Vivek, <b>RK Dutta</b>	Bearing ratio behavior of sand overlying clay with treated coir geotextiles at the interface	Journal of Natural Fibers	Scopus, SCIE
2021	<b>RK Dutta, JS Yadav</b> , V N Khatri, G Venkataraman	A study on the suitability of fly ash-lime-alccofine mixtures in construction of road pavement	Transportation Infrastructure Geotechnology	Scopus
2021	<b>Dutta, R.K., Yadav, J.S.</b>	The impact of alccofine inclusion on the engineering properties of bentonite	Cleaner Engineering and Technology	Scopus
2021	Nazeer S. and <b>R.K.Dutta</b>	Bearing capacity of embedded and skirted E-shaped footing on layered sand	Journal of Achievements in Materials and Manufacturing Engineering	Scopus
2021	<b>J. S. Yadav, , Kumar, R.K. Dutta,</b> and Garg A	Influence of positions of the geotextile on the load-settlement behaviour of circular footing resting on single stone column by 2D Plaxis software	Journal of Achievements in Materials and Manufacturing Engineering	Scopus
2021	Safeena Nazeer, <b>Rakesh Kumar Dutta</b>	Application of machine learning techniques in predicting the bearing capacity of E-shaped footing on layered sand	Journal of Soft Computing in Civil Engineering	Scopus
2021	T Gnanana ndarao, VN Khatri, <b>R.K. Dutta</b>	Bearing capacity of double box shaped skirted footings on sand	Journal of Geotechnical Engineering	Google Scholar
2022	Hussain Shaik, <b>JITENDRA SINGH</b>	A study on the carbonation of binary and ternary blended cement mortar	Journal of Structural	Scopus

	<b>YADAV</b>	and concrete	Integrity and Maintenance	
2022	<b>Rakesh Kumar Dutta, Jitendra Singh Yadav</b>	Reply to the Discussion: The Impact of Variation of Gypsum and Water Content on the Engineering Properties of Expansive Soil	Transportation Infrastructure Geotechnology	Scopus
2022	Das, Pragyan ; Khatri, Vishwas ; Doley, Rahul ;, <b>R.K. Dutta; JITENDRA SINGH Yadav</b>	Estimation of Bearing Capacity of Shallow Footings on Layered Sand Using Finite Elements Analysis	Journal of Engineering, Design and Technology	Scopus
2022	V. N. Khatri, Niketa Singh, <b>R. K. Dutta, and J. S. Yadav</b>	Numerical Estimation of Bearing Capacity of Shallow Footings on Layered Sand	Transportation Infrastructure Geotechnology	Scopus
2022	Sonu Singh; <b>Joseph Tripura</b>	Pumping test analysis for assessment of hydraulic parameters and aquifer system formation in hilly terrain	Water Practice and Technology	Scopus
2022	Shakya, <b>Ray Singh Meena</b> , Sarda, V.K. et al	Scour depth forecast modeling caused by submerged vertical impinging circular jet: a comparative study between ANN and MNL, 8, 43 (2022)	Sustainable Water Resources Management	Scopus
2022	Bhavna, and <b>Subhadip Biswas</b>	An ANN-based framework for estimating Inconsistency in Lateral Placement of heterogeneous Traffic. Vol. 592, DOI: 10.1016/j.physa.2021.126847	Physica A: Statistical Mechanics and its Applications	Scopus
2022	Pandey, A., Sharma, S. and <b>Subhadip Biswas</b>	Concept of Heterogeneity Index for Urban Mixed Traffic DOI: 10.1016/j.ijst.2022.02.008	International Journal of Transportation Science and Technology	Scopus
2022	Gyanendra Kumar Chaturvedy and <b>Umesh Kumar Pandey</b>	Performance Characteristics of Rubberised Concrete: A Multipoint Review	Journal of Innovative Infrastructure Solutions (Springer, Switzerland), Vol-7 Article-43	SCOPUS/EmergingSCI/SCIImago/ProQuest
2022	Govind Mohan and <b>Umesh Kumar Pandey</b>	Bilinear elasto-dynamical response of SDOF system under sinusoidal loading	Journal of Innovative Infrastructure Solutions (Springer, Switzerland), Vol-7 Article-52	SCOPUS/EmergingSCI/SCIImago/ProQuest
2022	<b>Vimal Kumar</b> , M. A. Iqbal, A. K. Mittal,	Progressive damage in pretensioned and reinforced concrete plates against repeated impacts (Accepted)	International Journal of Protective Structures	SCI

2022	PP Das, VN Khatri, R Doley, <b>RK Dutta,</b> <b>JS Yadav</b>	Estimation of bearing capacity of shallow footings on layered sand using finite elements analysis	Journal of Engineering Design and Technology	Scopus
2022	<b>R.K. Dutta, J.S. Yadav</b>	Reply to the discussion: The impact of variation of gypsum and water content on the engineering properties of expansive soil	Transportation Infrastructure Geotechnology	Scopus

**(III). M. Tech Dissertation Guidance:-****M.Tech Completed in 2021:**

SR. NO	ROLL NO.	STUDENT NAME
<b>GEOTECHNICAL ENGINEERING</b>		
1.	19M101	MS. PRIYANKA RAWAT
2.	19M102	MR. AMIT MANRAL
3.	19M103	MR. ARJUN SINGH BHAKUNI
4.	19M104	MR. SUHAIL MUSTAQ QAZI
5.	19M105	MR. MILIND
6.	19M106	MR. MOHD ASIF
7.	19M107	MR. AKSHAY KUMAR
8.	19M108	MR. SOFI JUNAID MAJEED
9.	19M109	MS. SAFEENA NAZEER
10.	19M110	MR. GIRDHARI LAL
11.	19M111	MR. SHANTANU SARASWAT
12.	19M112	MR. KESHAV KUMAR
13.	19M113	MR. ARSHAD IQBAL
14.	19M115	MR. VISHAL
15.	19M116	S MEHRAN RASOOL ANDRABI
16.	19M117	MR. VISHAL RAGHUWANSHI
<b>STRUCTURAL ENGINEERING</b>		
1.	19M121	MR. VIBHUM MAHAJAN
2.	19M122	MS. SHIVANI NEGI
3.	19M123	MR. MUKHTAR AHMED
4.	19M124	MR. VAIBHAV BHANDARI
5.	19M125	MR. PAWAN CHANDGEDIA
6.	19M126	MR. ABHISHEK
7.	19M127	MR. NEERAJ KUMAR
8.	19M128	MR. PANKAJ CHANDEL
9.	19M129	MR. INDRESH KUMAR
10.	19M130	MR. ROHIT KUMAR
11.	19M131	MR. VIKAS DADHWAL
12.	19M132	MR HARJOT SINGH
13.	19M133	MR EASHAN PASHA
14.	19M134	MR NIKHIL SAINI
15.	19M135	MR. VIPAN KUMAR
16.	19M136	MR. MANINDER PAL SINGH
17.	19M137	MR. SANDEEP YADAV
18.	19M139	MR. SHER BAHADUR SINGH
<b>TRANSPORTATION SYSTEM</b>		
1	19M141	MR. MOHAMMAD SHAHID RAZA

2	19M142	MR. ANUBHAV SINGH
3	19M143	MR. ARVIND
4	19M144	MR RAHUL KUMAR PANDEY
5	19M145	MS AKANSHA RAWAT
6	19M146	MR. NAVAL KUMAR
7	19M147	MR ANKIT SHARMA
8	19M148	MR VAKUL ANGARIYA
9	19M149	MR AYUSH GAUTAM
10	19M150	MR SAURABH DHIMAN
11	19M151	MS. SRADDHA MAURYA
12	19M152	MS. AINDLA HARIKA
13	19M153	MS.BHAVNA
14	19M154	MR. PRABHAT SHARMA
15	19M155	MR. RAHUL KUMAR
16	19M156	MR. SACHIN
17	19M157	MR. NIKHIL CHAURASIA
18	19M158	MR. KAPIL VYAS
	<b>WATER RESOURCE ENGINEERING</b>	
1	19M161	MR. SHUBHAM BHARDWAJ
2	19M162	MR. ROHIT
3	19M163	MR RACHIT SONI
4	19M164	MS. BHARTI SHARMA
5	19M165	MR.ABHINAV KUMAR
6	19M166	MR. AMAN PARASHAR
7	19M167	MR. SAKSHAR SHARMA
8	19M168	MR. ROHIT CHATURVEDI
9	19M169	MR. BHAVIT KUMAR SINGH
10	19M170	MR. PRERIT MACHIWAR
11	19M171	MS. SHIVALI SHARMA
12	19M172	MR. FAIZAN FAYAZ
13	19M173	MR. DEEPAK PANDEY
14	19M174	MR. ANKUSH BHARDWAJ

**M.Tech Admissions in 2021:**

Sr. No.	Institution Roll No.	Name
	<b>GEOTECHNICAL ENGINEERING</b>	
1	21MCE001	ANISH PANDIT
2	21MCE002	AKANKSHA VERMA
3	21MCE003	ANKIT KUMAR
4	21MCE004	GHANSHYAM GUPTA
5	21MCE005	IMRAN KHAN
6	21MCE006	KASHITIJ GULERIA
7	21MCE007	KRISHNA KOTIYAL
8	21MCE008	LOKESHWAR SINGH DILTA
9	21MCE009	MOQIN MUSHTAQ ZARGAR
10	21MCE010	MOUNIUS BASHIR
11	21MCE011	NITIN KUMAR
12	21MCE012	SHIVANGI CHOUDHARY
13	21MCE013	VINAY THAKUR
14	21MCE014	AKASH BHARTI
15	21MCE015	SHUBHAM KUMAR
16	21MCE016	VIKAS RAWAT

17	21MCE017	ANITA VERMA
18	21MCE018	ABHAY PRATAP SINGH
19	21MCE019	AYUSH GAURAV
20	21MCE020	AMIT KUMAR
21	21MCE022	ALANKRIT WALIA
22	21MCE023	RISHABH KUMAR PATHAK
23	21MCE024	VIVEK DWIVEDI
	<b>STRUCTURE ENGINEERING</b>	
1	21MCE101	AKSHAY PATHANIA
2	21MCE102	ARUN KATOCH
3	21MCE103	CHIRAGKUMAR JUGALBHAI MAHESWARI
4	21MCE104	GAURAV KUMAR SHUKLA
5	21MCE105	HARIT KUMAR
6	21MCE106	MOHAMMAD FARHAN SHAIKH
7	21MCE107	MOHAMMAD SULTAN
8	21MCE108	NISHA
9	21MCE109	PANKAJ CHAUHAN
10	21MCE110	PRATIBHA THAKUR
11	21MCE111	PRINCE DHIMAN
12	21MCE112	ROHIT RAJ
13	21MCE113	SUBODHA KUMAR
14	21MCE114	SUHAIB RASUL
15	21MCE115	SURBHI ASWAL
16	21MCE116	VIJAY KUMAR
17	21MCE117	VINEET KUMAR
18	21MCE118	ANAND
19	21MCE119	NITIN CHAUHAN
20	21MCE120	ANOOP KUMAR
21	21MCE121	SACHIN SHARMA
22	21MCE122	DUSHYANT SHARMA
23	21MCE123	CHANDESH PALSARA
24	21MCE124	SHUBHAM PATHAK
	<b>TRANSPORTATION ENGG.</b>	
1	21MCE201	ABHISHEK
2	21MCE202	ADITYA MOTLA
3	21MCE203	AKARSHIT AWASTHI
4	21MCE204	AKSHAY KUMAR
5	21MCE205	ASHUTOSH RANJAN
6	21MCE206	ATUL KUMAR DWIVEDI
7	21MCE207	AVINASH
8	21MCE208	GAURAV WALIA
9	21MCE209	MANSHA VERMA
10	21MCE210	MUMTAZ HUSSAIN
11	21MCE211	SHIVAM KUMAR
12	21MCE212	MUSHAIB MUSHTAQ BHAT
13	21MCE213	NIKHIL SAXENA
14	21MCE214	RAHUL KUMAR
15	21MCE215	RAVI KUMAR
16	21MCE217	VISHWAJEET KUMAR
17	21MCE218	CHINA VEERARAGHAVAIAH MOPIDEVI
18	21MCE219	MURSALIM HOQUE
19	21MCE220	SUNIDHI THAKUR
20	21MCE221	SANDEEP BHARTI
21	21MCE222	SUMIT PATHAK

22	21MCE223	PRASHANT SHARMA
23	21MCE224	ABHINAY THAKUR
24	21MCE225	WAQUAR AHMAD SIDDIQUI
	<b>WATER RESOURCE ENGINEERING</b>	
1	21MCE301	ARSHDEEP SINGH
2	21MCE302	AVINASH KUMAR
3	21MCE303	CHAITYENDRA SINGH
4	21MCE304	MAYANK TYAGI
5	21MCE305	NISHANT KUMAR
6	21MCE306	RAJNISH CHAUDHARY
7	21MCE307	YASH SHUKLA
8	21MCE308	SAKSHAM CHAUHAN
9	21MCE311	SIMRAN KAPOOR
10	21MCE312	KAISER ROY
11	21MCE313	DIKSHA CHAUDHARY
12	21MCE314	Abhishek Kumar
	<b>ENVIRONMENTAL ENGG.</b>	
1	21MCE401	AMAN MINHAS
2	21MCE402	ADARSH SINGH
3	21MCE403	ANKITA
4	21MCE404	BHARTI
5	21MCE405	DEVEN SINGH
6	21MCE406	FARMAAN MUSHTAK
7	21MCE407	GEETANSHI PANWAR
8	21MCE408	GREETY JOSEPH
9	21MCE409	MUNISH KUMAR
10	21MCE410	RACHITA GUPTA
11	21MCE412	RAJESH KUMAR
12	21MCE413	ROHIT SINGH
13	21MCE414	VINAYAK THAKUR
14	21MCE415	YOGITA
15	21MCE416	LALIT BAHAL
16	21MCE417	SHUBHAM THAKUR
17	21MCE418	SAKSHI GULERIA
18	21MCE419	SHRISHTI SHARMA
19	21MCE420	HARSHALATA SHARMA
20	21MCE421	TASADUQ HASSAN WANI
21	21MCE422	RAVISH PATIAL

**(IV) Ph.D. Admission in 2021:-**

S.No.	Name of Student	Research Area	Status	Name of Guide
1	Khair UI Faisal Wani 21RCE001	Dynamic Response of Airport Runway Rigid Pavement subjected to Aircraft Vehicular System	On Going	Dr. K. Nallasivam
2.	Vinay Kumar 21RCE002	Development of self-compacting Geopolymer concrete and its use in retrofitting	On going	Dr. Pardeep Kumar
3.	Ajay Chauhan 21RCE003	Water Resource Engineering	On Going	Dr. Vijay Shankar
4.	Vijay Kumar	Transportation Engineering	On	Dr. Raman

Chaudhary 21RCE004		going	Parti
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**(V) Ph.D Awarded in 2021-22**

S.No.	Name of Student	Research Area	Status	Name of Guide
1.	Tammineni Gnananandarao, Regn. No. 2K15-Ph.D-CE-280	Performance of Multi Edges Footing with Structural Skirts Resting on Sand	Completed	Dr. R.K. Dutta
2.	Karan Singh, Regn. No. 2K16-Ph.D-CE-311	Microbial Fuel Cell Performance Studies for Treating Wastewater	Completed	Dr. Dharmendra
3.	Anshul Sharma, Regn. No. 3K16-Ph.D-CE-310	Damage Assessment of Steel Bridges using Signal Processing Techniques	Completed	Dr. Pardeep Kumar
4.	Jagbir Regn. No. 2K15-Ph.D.-CE-277	Wind Effects on Pyramidal Roof Structures	Completed	Dr. Amrit Kumar Roy
5.	Navsal Kumar, Regn. No. 2K17-Ph.D-CE-353	Modelling Soil Water Depletion Using Environmental Stress Indicators	Completed	Dr. Vijay Shankar
6.	Rajat Kango, Regn. No. 2K16-Ph.D-CE-309	Modelling Hydraulic Conductivity for Flow through Porous Media	Completed	Dr. Vijay Shankar

**(VI) Research Projects:-**

Sr. No.	Title of Project	Funding Agency & Amount Sanctioned	Allotment Year & Time	Present Status of the Project/PI	Name of PI/ Co-PI
1.	Traffic Safety assessment of horizontal curvature on hilly highways using lateral indiscipline based approach	Himachal Pradesh Council for Science, Technology & Environment (HIMCOSTE), Shimla Rs. 1.80 lakh	24/06/2020 to 23/06/2022	Ongoing	Dr. Subhadip Biswas, PI & Dr. Sunil Sharma, Co-PI
2.	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	06/08/19 to 31/08/21	Ongoing	Dr. Vijay Shankar, PI
3.	Mobile GIS application and web-GIS based Himachal Landslide information System (HIMLIS).	Himachal Pradesh Council for Science, Technology & Environment (HIMCOSTE), Shimla Rs. 3.00 lakh	12/07/21 to 11/07/23	Ongoing	Dr. Chander Prakash, PI & Dr. R.S. Banshtu (Co-PI)

**(VII) 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

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

Sr.No.	Name of Equipment/ Furniture	Qty	Name of Supplier	Cost in Rs
1.	Sub Surface Imaging system with real time display (Ground Penetrating Radar GPR)	01	M/s Aimil Ltd, A-8 Naimex House, Mohan Co-operative, Industrial Estate, New Delhi	37,50,786.00
2.	Bentley Academic Campus Program Unlimited 50 Licenses / Structural Enterprise License – License Perpetual License	01	M/S Innovative Systel, #39 Sector-2, Nanak Nagar, Jammu-1880004	9,11,227.00
3.	Upgradation of NISA Software Latest Version 4 upgradation	01	M/s Starcon Information Technology, Bangalore	1,89,000.00
4.	Estab Version 19 Ultimate/ CSI Bridge Advanced with Rating Version 23 / Safe Standard 2016 standalone Indian Code License	01	CSI Engineering Software Private Ltd, Delhi	7,67,118.00
5.	inspect Digital Theodolite (Robust Make Laser 3 inch Electronic Theodolite) from	01	M/s Advanced Surveying Instruments (India) Private Limited, New Delhi	4,22,500.00
6.	Mineral Box	01	M/s Dinesh Scientific, Ambala Cantt, Haryana, 133001	3,39,980.00
7.	Rock Specimen	01	M/s Dinesh Scientific, Ambala Cantt, Haryana, 133001	1,01,994.00
8.	Circular Prism alongwith poles compatible with Leica & Trimble total Station	10	Axis Technologies India, 5, Shimla Bypass, Sewla Kala, Dehradun, Uttrakhand 248001	91,000.00

**(IX) CONSULTANCY SERVICES**

S. N.	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>2,87,69,449/-</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	

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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	

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

#### 2. DISTINCTION ACHIEVED:

##### a) By students:

- a. Sabhya Sood, Nishant Singh Hada, Prateek Bharat Sharma, Vishal Shrivastava, Nishit Atrey, Neerav Ganate and Parul Bansal Bagged more than one crore package.

- b. Jahnvi Gupta, Ritwik Duggal, Amulya Saxena (All BTech Students) under supervision of Dr. Nitin Gupta received Nvidia Hardware grant for their project "IoT & DL based Monitoring & Predicting Hallucinations in Schizophrenia Patient".
- c. Work done from many BTech and Dual Degree students got accepted in various reputed SCI Journals.
- d. Total thirteen students from DoCSE were selected in previous year edition of prestigious Google Summer of Code

**b) By faculty Member: NIL**

**JournalsPublications: -**

1. Singh, Samayveer, Aridaman Singh Nandan, Aruna Malik, Rajeev Kumar, Lalit K. Awasthi, and Neeraj Kumar. "A GA based Sustainable and Secure Green Data Communication Method Using IoT enabled WSN in Healthcare." *IEEE Internet of Things Journal* 2021 Aug 30.
2. Nayyer, Amit, Aman Kumar Sharma, and Lalit Kumar Awasthi. "Learning-based hybrid routing for scalability in software defined networks." *Computer Networks* 198 2021 Oct 24: 108362.
3. Sharma, Abhilasha, and Lalit Kumar Awasthi. "Pr-CAI: Priority based-Context Aware Information scheduling for SDN-based vehicular network." *Computer Networks* 193 2021 July 5: 108097.
4. Kumar, Prashant, Naveen Chauhan, Mohit Kumar, and Lalit K. Awasthi. "Clustering based opportunistic traffic offloading technique for device-to-device communication." *International Journal of System Assurance Engineering and Management* 2021 May 18: 1-13.
5. Kaur, Satnam, Lalit K. Awasthi, and Amrit L. Sangal. "A review on software refactoring opportunity identification and sequencing in object-oriented software." *Recent Advances in Electrical & Electronic Engineering (Formerly Recent Patents on Electrical & Electronic Engineering)* 14, no. 3 2021 May1: 252-267.
6. Nayyer, Amit, Aman Kumar Sharma, and Lalit Kumar Awasthi. "Unified Model towards Scalability in Software Defined Networks." *International Journal of Next-Generation Computing* 12, no. 1 2021 March 1.
7. Nandan, Aridaman Singh, Samayveer Singh, and Lalit K. Awasthi. "An efficient cluster head election based on optimized genetic algorithm for movable sinks in IoT enabled HWSNs." *Applied Soft Computing* 107 2021 Aug 1: 107318.
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11. चेतनअग्रवालएवंकमलेशदत्ता "मशीनआधारितभाषाअनुवादमेंसंदर्भनिराकरणकामहत्व." भारतीयवैज्ञानिकएवंऔद्योगिकअनुसंधानपत्रिका, 29 अंक (1) जून 2021 पृ. 49-54
12. Lata, Kusum, Pardeep Singh, and Kamlesh Dutta. "Mention detection in coreference resolution: survey." *Applied Intelligence* 2022 Jan 10: 1-45.
13. Adhikary, Kaushik, Shashi Bhushan, Sunil Kumar, and Kamlesh Dutta. "Evaluating the Performance of Various SVM Kernel Functions Based on Basic Features Extracted from KDDCUP'99 Dataset by Random Forest Method for Detecting DDoS Attacks." *Wireless Personal Communications* 2021 Oct: 1-19.
14. Bhat, Parnika, and Kamlesh Dutta. "A multi-tiered feature selection model for android malware detection based on Feature discrimination and Information Gain." *Journal of King Saud University-Computer and Information Sciences* 2021 Nov 27.

15. Rawat, Piyush, and Siddhartha Chauhan. "Performance analysis of RNC clustering protocol in wireless sensor network." *International Journal of Sensors Wireless Communications and Control* 10, no. 6 (2020): 957-966.
16. Rawat, Piyush, and Siddhartha Chauhan. "Clustering protocols in wireless sensor network: A survey, classification, issues, and future directions." *Computer Science Review* 40 2021 May 1: 100396.
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18. Chauhan, Nilanshi, and Siddhartha Chauhan. "Partly Centralized Partly Distributed Energy Efficient Sleep/Wake Scheduling in Wireless Sensor Networks for Applications Requiring Continuous Sensing." *IETE Technical Review* 2021 Jun: 1-13.
19. Verma, Himanshu, Naveen Chauhan, Narottam Chand, and Lalit Kumar Awasthi. "Buffer-loss estimation to address congestion in 6LoWPAN based resource-restricted 'Internet of Healthcare Things' network." *Computer Communications* 181 (2022): 236-256.
20. Sharma, Nishant, Naveen Chauhan, Narottam Chand, and Lalit Kumar Awasthi. "Secure authentication and session key management scheme for Internet of Vehicles." *Transactions on Emerging Telecommunications Technologies* 2022 Jan 28: e4451.
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53. Singh, Dilbag, Vijay Kumar, Manjit Kaur, Mohamed Yaseen Jabarulla, and Heung-No Lee. "Screening of COVID-19 suspected subjects using multi-crossover genetic algorithm based dense convolutional neural network." *IEEE Access* 9 2021 Oct: 142566-142580.
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61. Kamakshi Rautela, Dinesh Kumar, Vijay Kumar, "A Systematic Review on Breast Cancer Detection using Deep Learning Techniques", *Archives of Computational Methods in Engineering*, Springer, 2022.
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69. K. Susheel Kumar, Nagendra Pratap Singh, "Segmentation of retinal blood vessel structure using Birnbaum-Saunders (fatigue life) probability distribution function", *International Journal of Medical Engineering and Informatics*, 2021

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71. **Radha Rani, Mayank Kumar Singh, Dharmendra Prasad Mahato** , "Game Theory based Consensus Learning in Unidirectional Rings", Turkish Online Journal of Qualitative Inquiry (TOJQI) e-ISSN 1309-659, 2022 Feb
72. Bhagat, P. K., Prakash Choudhary, and Kh Singh. "A novel approach based on fully connected weighted bipartite graph for zero-shot learning problems." *Journal of Ambient Intelligence and Humanized Computing* 12, no. 9 2021 Sep: 8647-8662.
73. Agrawal, Tarun, and Prakash Choudhary. "FocusCovid: Automated COVID-19 detection using deep learning with chest X-ray images." *Evolving Systems* 2021 May: 1-15.
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76. Das, Prasenjit, Jay Kant Pratap Singh Yadav, and Arun Kumar Yadav. "An Automated Tomato Maturity Grading System Using Transfer Learning Based AlexNet." *Journal homepage: <http://iieta.org/journals/isi>* 26, no. 2 2021 Apr: 191-200.

### Books/Book Chapters Publications: -

1. Singh, Rohit, Lalit Kumar Awasthi, and K. P. Sharma. "Distributed denial-of-service attacks and mitigation in wireless sensor networks." *Distributed Denial of Service Attacks: Concepts, Mathematical and Cryptographic Solutions* 6 2021 July 19: 67.
2. Sharma, Nonita, Lalit Kumar Awasthi, Monika Mangla, Krishna Pal Sharma, and Rohit Kumar, eds. *Cyber-physical Systems: A Comprehensive Guide*. CRC Press, 2022 Apr 25.
3. Awasthi, Lalit Kumar, Sushendra Kumar Misra, Dilbagh Panchal, and Mohit Tyagi, eds. *Operations Management and Data Analytics Modelling: Economic Crises Perspective*. CRC Press, 2021 Dec 30.
4. Divakar Yadav, Abhay Bansal, Madhulika Bhatia, Madhurima Hooda, Jorge Lara "Diagnostic Applications of Health Intelligence and Surveillance Systems", IGI Global, USA 2021.
5. Mukat Goyal; Rajalakshmi Krishnamurthi, Divakar Yadav "E-learning Methodologies: Fundamentals, Technologies and Applications", IET (UK) 2021.
6. Mukta Goyal, Divakar Yadav, Mehak Sood "Student Performance Prediction for Adaptive E-learning Systems", IET (UK) 2021.
7. Arti Jain, Archana Purwar and Divakar Yadav "Credit Card Fraud Detection Using K-Means and Fuzzy C-Means", Handbook of Research on Innovations and Applications of AI, IoT, and Cognitive Technologies 2021.
8. Mukat Goyal; Rajalakshmi Krishnamurthi, Divakar Yadav "Introduction of E-learning Methodologies: Fundamentals, technologies and applications" IET (UK) 2021.
9. Riyazveer Singh, Sahil Kumar, Vijay Kumar, "Machine Intelligence-based Approach for Effective Terrorism Monitoring", Taylor & Francis, 2021.
10. Riyazveer Singh, Sahil Sharma, Vijay Kumar, "Green communication technology, IOT, VR, AR in smart environment", Taylor & Francis, 2021.
11. Verma, Pritam, and Vijay Kumar. "Visual Quality Improvement Using Single Image Defogging Technique." *Computer Vision and Recognition Systems: Research Innovations and Trends* 2022 Mar: 1.
12. Rohila, Varan Singh, Vijay Kumar, and Karan Kumar Barnwal. "Distracted Driver Detection System Using Deep Learning Technique." In *Handbook of Research on Machine Learning Techniques for Pattern Recognition and Information Security*, pp. 89-99. IGI Global, 2021.
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17. Mahato, Dharmendra Prasad, and Van Huy Pham. "Antlion optimizer based load-balanced transaction scheduling for maximizing reliability." In *International Conference on Advanced Information Networking and Applications*, pp. 66-79. Springer, Cham, 2021 May.
18. Satya Prakash Yadav, Bhoopesh Singh Bhati, Dharmendra Prasad Mahato and Sachin Kumar, "Federated Learning for IoT Applications", Springer Nature Switzerland AG Gewerbestrasse 11, 6330 Cham, Switzerland, DOI 10.1007, 2021.
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#### Conference Publications: -

1. Agarwal, Neha, Geeta Sikka, and Lalit Kumar Awasthi. "Web service clustering approaches to enhance service discovery: A review." In *The International Conference on Recent Innovations in Computing*, pp. 23-35. Springer, Singapore, 2020 March 20.
2. Sharma, Punit, and Lalit K. Awasthi. "Big Data Storage and Decentralization: A Review." In *2021 2nd International Conference on Secure Cyber Computing and Communications (ICSCCC)*, pp. 546-550. IEEE, 2021 May 21.
3. Sharma, Vakul, and Lalit Kumar Awasthi. "Divergent applications of Blockchain Security: A Survey." In *2021 2nd International Conference on Secure Cyber Computing and Communications (ICSCCC)*, pp. 212-217. IEEE, 2021 May 21.
4. Sheikh, Danish, Akshat Raj Vansh, Himanshu Verma, Naveen Chauhan, Rajeev Kumar, Rajesh Sharma, P. C. Negi, and Lalit Kumar Awasthi. "An ECG Heartbeat Classification Strategy using Deep Learning for Automated Cardiac Application." In *2021 3rd International Conference on Advances in Computing, Communication Control and Networking (ICAC3N)*, pp. 515-520. IEEE, 2021 Dec 17.
5. Katiyar, Neha, Sonam Gupta, Arun Kumar Yadav, and Divakar Yadav. "Wavelet Tree ensembles with Machine Learning and its classification." In *Journal of Physics: Conference Series*, vol. 1998, no. 1, p. 012001. IOP Publishing, 2021 Aug.
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7. Bharadwaj, Aniket, Divakar Yadav, and Arun Kumar Yadav. "Heart Disease Prediction Using Hybrid Classification Methods." In *International Conference on Innovative Computing and Communications*, pp. 565-573. Springer, Singapore, 2022.
8. Gupta, Sonam, Neha Katiyar, Arun Kumar Yadav, and Divakar Yadav. "Index Optimization Using Wavelet Tree and Compression." In *Proceedings of Data Analytics and Management*, pp. 809-821. Springer, Singapore, 2022.
9. Sonam Gupta, Arun Kumar Yadav, Divakar Yadav, Bharti Shukla "Text Summarization of Legal Documents using Reinforcement Learning: A study" 5th International Conference on Intelligent Sustainable Systems (ICISS 2022), 17-18 Feb 2022, Tirunelveli, India

10. Arunima Khunteta and Pardeep Singh "Emotion Cause Extraction - A Review of Various Methods and Corpora, 2021, pp. 314-319, doi: 10.1109/ICSCCC51823.2021.9478079.", 2nd International Conference on Secure Cyber Computing and Communications (ICSCCC) 2021.
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12. Mahato, Dharmendra Prasad, and Van Huy Pham. "Antlion optimizer based load-balanced transaction scheduling for maximizing reliability." In *International Conference on Advanced Information Networking and Applications*, pp. 66-79. Springer, Cham, 2021, May.
13. Rani, Radha, Saurabh Rashpa, Dharmendra Prasad Mahato, and Van Huy Pham. "Scalable Leader Election Considering Load Balancing." In *International Conference on Advanced Information Networking and Applications*, pp. 260-269. Springer, Cham, 2021, May.
14. Muskan, Dharmendra Prasad Mahato, and Van Huy Pham, "Grey Wolf Optimizer for Load Balancing in Cloud Computing", The International Conference on Advanced Network Technologies and Intelligent Computing (ANTIC-2021) to be held during, 2021 Dec 17-18.
15. Kapil, Dharmendra Prasad Mahato, and Van Huy Pham, "The Online k-Taxi Problem", The International Conference on Advanced Network Technologies and Intelligent Computing (ANTIC-2021) to be held during, 2021 Dec 17-18.
16. Sood, Shivam, and Dharmendra Prasad Mahato. "QR-AR based Smart Indoor Navigation with Crowd Management." In *23rd International Conference on Distributed Computing and Networking*, pp. 250-251. 2022 Jan.
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18. Dharmendra Prasad Mahato and Ravi Shankar Singh, "Dependability Analysis for Transaction Processing in On-Demand Computing System", 18th International Conference on Distributed Computing and Intelligent Technology, KIIT University, Bhubaneswar, Odisha, India, 2022 Jan 19-23.
19. Dharmendra Prasad Mahato and Aman Pratap Singh, "A Deterministic Distributed Algorithm for All-Pairs Shortest Paths in Linear Time", 18-th International Symposium on Frontiers of Information Systems and Network Applications (FINA-2022), which will be held together The 36-th International Conference on Advanced Information Networking and Applications (AINA-2022).
20. Dharmendra Prasad Mahato and Pham Van Huy, "On scheduling transactions in grid computing system using Gaussian-ACO considering load", 36-th International Conference on Advanced Information Networking and Applications (AINA-2022)
21. Dharmendra Prasad Mahato, Divyanshu Dhawan, Vishal Parmar and Shubham Thakur, "Mathematical Modeling of COVID-19 using ODEs", 36-th International Conference on Advanced Information Networking and Applications (AINA-2022)
22. B.Subba, A.Singh, "A novel security framework for minimization of false information dissemination in VANETs: Bayesian game formulation", The 18th International Conference on Security and Cryptography (SECRYPT 2021), Italy, 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 & IEEE ComSoc Delhi Chapter	Dr. Nitin Gupta and Dr. Priyanka	Short term course (e-STC) on "Recent Trends in Networks & Communication: Theory & Challenges (RTNC-2021)"	1-6December 2021

**(b) Participated by Faculty Members: NIL****1. RESEARCH Projects:**

Title of the Scheme	Sponsored by	Assistance Received (Rs) in lakh	Investigator
ICT Based Solution to Expedite the Efficient Delivery of Care to the Patient of Heart Attack	HIMCOSTE	INR 6,50,000/-	Dr. Naveen Chauhan Prof. Lalit Kumar Awasthi, Dr. Rajeev Kumar and Dr. Rajesh Sharma (Deptt. of Cardiology IGMC Shimla)
QR-AR based Smart Indoor Navigation with Crowd Management	Faculty Research Programme Grant – Institute of Eminence, University of Delhi	INR 1,75,000/-	Dr. D. P. Mahto

**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	Completed
2.	A novel security framework for minimization of false information dissemination in VANETs: Bayesian game formulation	Dr. Basant Subba	Ayushi Singh	Completed
3.	Host based Intrusion Detection System (IDS) for detection of anomalous system processes in Windows Systems	Dr. Basant Subba	Renuka Jangid	Completed
4.	Intrusion Detection System Using Time Interval	Dr. T.P. Sharma	Anukrit Tiwari	Completed
5.	DDoS Attack Detection in WSNs Using Machine Learning	Dr. T.P. Sharma	Pranjal thakur	Completed
6.	Vehicle Arrival Time Prediction Using Artificial Intelligence	Dr. T.P. Sharma	Hunny Sharma	Completed
7.	Cloud Based Smart Parking Solutions for VANETs	Dr. T.P. Sharma	Vedantham Kartik	Completed
8.	Retinal blood vessel segmentation using novel matched filter with deep learning	Dr. Arun Kumar Yadav	Sanjeevani	Completed
9.	Cyber bullying detection in social media text	Dr. Arun Kumar Yadav	Shubham	Completed
10.	Image caption generation using deep learning	Dr. Arun Kumar Yadav	Akash Verma	Completed
11.	Identifying distributed denial of service attack in IoT devices based on network traffic analysis	Dr. Arun Kumar Yadav	sweta kushvaha	Completed
12.	Instant Encryption Technique Using DNA Cryptography	Dr. Mohit Kumar	Uprant Choudhary	Completed
13.	A Secure Authentication Scheme for IoT using Steganography	Dr. Mohit Kumar	Akanksha Gahalot	Completed
14.	Pruning deep neural networks using reinforcement learning	Dr. Mohit Kumar	Pratibha	Completed

15.	Wheelchair fall detection system	Dr. Mohit Kumar	Suraina Dhiman	Completed
16.	Trend prediction of stock price using Financial News and Technical Indicator	Dr. Jyoti Srivastava	ARUN SHARMA	Completed
17.	Extractive Text Summarizer	Dr. Jyoti Srivastava	Navam Sharma	Completed
18.	Blockchain based Drug Distribution and traceability solution using Hyperledger	Dr. Jatoth Chandrashekar	Sahil Jamwal	Completed
19.	Privacy preserving synthetic data generation using deep learning	Dr. Jatoth Chandrashekar	Tania	Completed
20.	Improved Classification of nodes of Blockchain Transactions using Ensemble learning	Dr. Jatoth Chandrashekar	Rishabh Jain	Completed
21.	Blockchain for future smart grid using cloud computing applications	Dr. Jatoth Chandrashekar	Shurab Patil	Completed
22.	Multi-objective optimization techniques for engineering applications	Dr. Vijay Kumar	Isha Sharma	Completed
23.	Disease detection from chest X-ray using Deep learning techniques	Dr. Vijay Kumar	Rahul Gupta	Completed
24.	Detection of Chest infection using transfer learning	Dr. Vijay Kumar	Saloni Laddha	Completed
25.	Drug discovery using computational techniques	Dr. Vijay Kumar	Nitin Dogra	Completed
26.	Design of Image steganography using GAN	Dr. Vijay Kumar	Aniket	Completed
27.	Grey Wolf Optimizer for Load Balancing in Cloud Computing	Dr. Dharmendra Prasad Mahato	Muskan Saini	Completed
28.	Mobile Charger Tour Planning in Wireless Sensor Network	Dr. Dharmendra Prasad Mahato	Vibhor Sood	Completed
29.	Networks	Dr. Dharmendra Prasad Mahato	Aman Pratap Singh	Completed
30.	The Online K-Taxi Problem	Dr. Dharmendra Prasad Mahato	Kapil	Completed
31.	Wait Free Consensus in Distributed Computing	Dr. Dharmendra Prasad Mahato	Rakesh Kumar Gupta	Completed
32.	Machine Learning techniques for Plant Leaf Disease Detection	Dr Divakar Yadav	Aarushi	Completed
33.	Sentiment Analysis Using BERT and Machine Learning Approach	Dr Divakar Yadav	Nikhil Choudhary	Completed
34.	Sentiment Analysis On Amazon Fine Food Reviews Using Machine Learning Models and LSTM	Dr Divakar Yadav	M. Sahithi	Completed
35.	Video Anomaly Detection Using Contextual Features	Dr Divakar Yadav	Saumya Asati	Completed
36.	Profit Enhancing Resource Allocation in Fog Computing	Dr. Nitin Gupta	Akshita Doad	Completed
37.	Comparative study of task scheduling algorithms for cloud computing	Dr. Nitin Gupta	Ankit Gunavat	Completed
38.	Drone Trajectory Optimization for Data Collection in WSN	Dr. Nitin Gupta	Kartik Saxena	Completed
39.	Effective Task Scheduling for Cloud-fog	Dr. Nitin Gupta	Robin Singh Rana	Completed

	Environment			
40.	Data Analytics Based Caching for Fog Computing	Dr. Nitin Gupta	Shruti Meshram	Completed
41.	Closed Domain Question Answering System using a Multi-Layer Transformer Model	Dr. Sangeeta Sharma	Adnan T Maqbool	Completed
42.	Automatic Generation of Realistic Handwritten Devanagari words using CycleGAN	Dr. Sangeeta Sharma	Pankaj Kamal	Completed
43.	Breast Cancer Detection and Classification Using Hybrid Ensemble Classifier	Dr. Sangeeta Sharma	Neha	Completed
44.	Sugarcane Yield Prediction using Machine Learning Techniques	Dr Rajeev Kumar	Aayush Jain 16MI545 (Dual Degree)	Completed
45.	Analytical Study On Challenges and Models in Cloud Computing	Dr Rajeev Kumar	Paras Sharma 16MI543 (Dual Degree)	Completed
46.	Normalization Of Text Messages	Dr Rajeev Kumar	Pradeep Singh Naruka 16MI534 (Dual Degree)	Completed
47.	A Prodigy Approach for Handwritten Text Recognition using CNN Architecture with Genetic Algorithm	Dr Rajeev Kumar	Deepak Bharti 16MI551 (Dual Degree)	Completed
48.	Framework for Patient Management in a Pandemic Like Situation Using Blockchain	Dr Rajeev Kumar	Yogesh Sharma 19M532 (MTech)	Completed
49.	Energy Conservation Optimal Path Algorithm in Wireless Body Area Network	Dr Priyanka	Mahima Dubey (19M515), MTech CSE	Completed
50.	Using Genetic Algorithms for Deployment of Electric Vehicle Charging Stations	Dr Priyanka	Saurabh Katoch (19M505), MTech CSE	Completed
51.	Junction cross link removal in Vehicular Adhoc Networks	Dr Priyanka	Rakesh Arya (19M512), MTech CSE	Completed
52.	Ranking of e-commerce product reviews using keyword extraction	Dr. Nagendra Pratap Singh	Gopesh Singhal (16MI532), Dual Degree	Completed
53.	English-Hindi Machine Translation Using Attention Mechanism	Dr. Nagendra Pratap Singh	Manjeet Singh Rana (16MI526), Dual Degree	Completed
54.	Detection of Covid by using CT Scans	Dr. Nagendra Pratap Singh	Odedara Krishnaben (16MI552), Dual Degree	Completed
55.	Gender Recognition by voice using Machine Learning	Dr. Nagendra Pratap Singh	Rohit Bhatia (16MI519), Dual Degree	Completed
56.	Left Ventricle Volume Analysis using CNN in Cardiac MRI Images	Dr. Nagendra Pratap Singh	Palakala Sai Krishna Yadhav (19M504) M.Tech. CSE	Completed

**3. DOCTORAL PROGRAMME:****Submitted: 2 & In Progress: 30****Ph.D Degree awarded: 4**

<b>Sr. No</b>	<b>Title</b>	<b>Guide</b>	<b>Name of the student</b>	<b>Brief Report</b>
1.	Kuldeep Singh Jadon	Dr. Nitin Gupta & Prof Lalit Awasthi	Towards IoT for Sustainable Computing	Ongoing
2.	Aschalew Tirulo Abiko	Dr. Siddhartha Chauhan	Machine Learning and Deep Learning methods for detecting stealthy cyber-attacks on Internet-of-Things (IoT) systems	Ongoing
3.	Deepa Rani	Dr. Rajeev Kumar	Energy Efficient and Secure Framework for IoT Environment	Ongoing
4.	Ishana Attri	Dr. T. P. Sharma	Plant disease detection using deep learning	Ongoing
5.	Sourav Mondal	Dr. Prakash Choudhary	Medical image mining	Ongoing
6.	Azmera Chandu Naik	Prof.Lalit Kumar Awasthi Dr.Priyanka	DESIGN OF AN EFFICIENT TRUST AWARE SECURE ROUTING STRATEGY FOR THE INTERNET OF THINGS (IOT) NETWORK	Ongoing
7.	Pooja Rani	Dr. Kamlesh Dutta, Dr. Vijay Kumar	Drug Synergy for Malignant Disease Using Deep Learning	Ongoing
8.	Rakhi	Dr. T. P. Sharma	Improving Data availability in Large Scale wireless sensor networks	Ongoing
9.	Vikas Kashtriya	Dr. Pardeep Singh	Knowledge Extraction from Medical Summary	Ongoing
10.	Rangu Manjula	Dr. Naveen Chauhan	Blockchain Technology for Green Revolution:The Future Agriculture	Ongoing
11.	Vishal Kaushal	Dr. Sangeeta Sharma	Privacy preserving using federated learning	Ongoing
12.	Ankit Verma	Dr. T. P. Sharma	Early Detection of Heart Diseases using Efficient ML Algorithms on ECG Signals	Ongoing
13.	Shobhit Tyagi	Dr. Divakar Yadav	Deep Learning Based Approaches for Fake Image Detection	Ongoing
14.	Tarun Agrawal	Dr. Prakash Choudhary	Classification and Segmentation of Chest Radiography Images Using Deep Convolutional Neural Network	Ongoing
15.	Shubhkirti Sharma	Dr. Vijay Kumar	Development of Dominance based Multi-Objective Algorithms for Engineering Problems	Ongoing
16.	Himanshu Verma	Dr. Naveen Chauhan	Resource-Constraint-6LoWPAN based 'Internet of Healthcare Things'	Ongoing
17.	Radha Rani	Dr. Dharmendra Prasad Mahato	Distributed Computing	Ongoing
18.	Poonam Kashtriya	Dr. Pardeep Singh	Knowledge Extraction	
19.	Pranjal	Dr. Siddhartha Chauhan	Human Activity Recognition (HAR) using Deep Learning Models	Ongoing

20.	Yogendra Kumar	Dr. Basant Subba	Intrusion Detection System frameworks using Machine Learning approaches	Ongoing
21.	K Susheel Kumar	Dr. Nagendra pratap singh	Medical image processing	ongoing
22.	Vishnu Kumar Prajapati	Dr. T. P. Sharma	An Efficient and Fault Tolerant Data Dissemination in IoT Enabled Systems	Ongoing
23.	M Sreenu	Dr. Nitin Gupta & Dr Jatoth	A Novel resilient and responsive Pharmaceutical supply chain through Blockchain and Artificial Intelligence	Ongoing
24.	Namrata Kumari	Dr. Pardeep Singh	Text Summarization	Ongoing
25.	Chetan Agarwal	Dr. Kamlesh Dutta	Anaphora Resolution in English to Hindi Machine Translation	Ongoing
26.	Piyush Rawat	Dr. Siddhartha Chauhan	Energy efficient protocols in Wireless Sensor Networks	Ongoing
27.	Tanuj Wala	Dr. Rajeev Kumar	Efficient Handling of Big Data in Internet of Things	Ongoing
28.	Kusum Lata	Dr. Pardeep Singh	Mention Detection for Hindi using Deep Learning	Ongoing
29.	Parnika Bhat	Dr. Kamlesh Dutta	Malware Detection for android	Ongoing
30.	Nishant Sharma	Dr. Naveen Chauhan	Improving data availability in internet of vehicle environment	Ongoing
31.	Richa	Dr T. P. Sharma and Dr. Ajay Kumar Sharma	Dynamic and Fault Tolerant Topology for Efficient Data Dissemination in IoV	Submitted Thesis
32.	Triveni Lal Pal	Dr. Kamlesh Dutta	Semantic Interplay in Text Data	Submitted Thesis
33.	Nilanshi Chauhan	Dr. Siddhartha Chauhan	Energy Efficient Coverage Techniques for Maximizing the WSN Lifetime	Awarded
34.	Pankaj Kumar	DDPC Convener as a caretaker	Enhancing Security and Privacy for Robust Internet of Things (IoT)	Awarded
35.	Ms. Deepshikha	Dr. Siddhartha Chauhan	Body Area Networks	Awarded
36.	Ms. Anamika	Dr. Siddhartha Chauhan	Surveillance Wireless Sensor Networks	Awarded

#### 4. Visit of Renowned Speakers:

- Prof. Bharat Bhargava, Purdue University, USA (Online)
- Prof. Vijay Kumar, University of Missouri-Kansas City Kansas City, Missouri, USA. (Online)
- Prof. Manoj Misra, IIT Roorkee (Online)

#### 5. CONSULTANCY SERVICES:

Sr. No	Name of the Scheme	Sponsored Agency	Amount Earned
1.	Dharamshala Smart City, HP	DSCL Dharamsala Smart City Ltd	549210

**6. EQUIPMENT ACQUIRED:**

<b>Sr. No</b>	<b>Name of equipment</b>	<b>Name of manufacturer</b>	<b>Cost (Rs. In lakh)</b>
1.	NetSim Simulator (R&D Version)	Tetcos, Bangalore	INR 5,68,937/-
2.	Vinitycs Microcontroller Education Kit	Electronics Shop, New Delhi	INR 3,74,950/-
3.	Arduino Mega 2560	Innovative Engineers, Ambala, Haryana	INR 1,79,950/-

**5. TECHNICAL ASSOCIATION / SOCIETIES:**

- a) GoogleDeveloper Student Club (GDSC)
- b) CSEC: Computer Science Engineers' Community
- c) GLUG: GNU/Linux Users Group

**6. 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

### 3.4 DEPARTMENT OF ELECTRICAL ENGINEERING



#### 1 Academic Staff:

Head:

**Dr. R.K Jarial , Head, Electrical Engineering Department., Associate Prof., EED**

#### *FACULTIES:*

Professor	Associate Professor	Assistant Professor
04 ( 01 on EOL)	05	08

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. Ravinder Nath	Associate Professor	Ph.D	Signal processing & Control Engg.
6.	Dr. Veena Sharma	Associate Professor	Ph.D	Instrumentation & Control Engg.
7.	Dr. R. K. Jarial	Associate Professor	Ph.D	Power Electronic & Drives, High Voltage Engg.
8.	Dr. B. B. Sharma	Associate Professor	Ph.D	Control Engineering
9.	Dr. O. P. Rahi	Associate Professor	Ph.D	Power System

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

## **2. Patents** (Applied for -01 and Patent Granted-02)

<b>Name of Faculty EED Involved in Team Effort</b>	<b>No. of Patents</b>	<b>2021-22</b>
Dr. Ram Niwash Mahia, Assistant Prof. EED, National Institute of Technology Hamirpur (HP)	01	Got one Patent that was filed on 03/06/2021 Entitled: A system and a method for performing secure transaction in ATM ( vide No. 2021103044 )
Dr. Supriya Jaiswal Assistant Prof. EED, National Institute of Technology Hamirpur (HP)	01	Granted one patent (Appl. No. 202111036906 Filed on 14/8/2021 Entitled: IoT based water sprinkler system for urban farming)
Dr. R. K. Jarial, Associate Prof. EED, National Institute of Technology Hamirpur (HP)	01	Applied for one Patent ( Appl. No. 202111034843 Dated 03/08/2021 on Innovative Product developed at NITH Entitled : “Design & Development of Motorized Trolley for carrying Two oxygen Cylinders for COVID19 Centres/ Hospitals”

## **3. Research Publications :**

<b>Publications</b>	<b>2021-22</b>
National Journal	-
International Journals	18
National Conference	02
International Conference	18
No. of Books Published	-
Book Chapters	23

**Annexure - P****1. Seminar Symposia, Summer school, Winter school, Short term course:****a) Conducted in the Department: 03**

Sponsoring Agency	Name of the Coordinators	Title of the seminar/Symposia	Duration	Venue
NIT Hamirpur	Dr. Rajan Kumar, and Dr. Anil Kumar Yadav (Coordinators)	“Challenges and Opportunities in Microgrid”	(One week) January 17-21, 2022	NIT Hamirpur (Online mode)
NIT Hamirpur	Dr. Ram Niwas Mahia & Dr. Supriya Jaiswal (Coordinators)	Smart Cities and Intelligent Systems	(One Week) January 03-07, 2022	NIT Hamirpur (Online mode)
NIT Hamirpur	Er. Rajesh Kumar Er. Bharti Koul (Coordinators)	Software tools for Academicians, Researchers and Scientists	(One week) December 20-24, 2021	NIT Hamirpur (Online mode)

**b) Participated by faculty members:17**

Name of the Faculty / staff Member	Course/Seminar	Organization	Duration	Venue
Dr. R K Jarial	Online Webinars/Programs on varied topics like Electrical Vehicles, Smart Microgrid, Electrical Fires Prevention & Safety, Multi-Physics Modeling, IOT Applications, Smart lighting, EFY webinars, MEGGAR webinars	NIT Hamirpur	12 Hours (Total)	Online
Er. Rajesh Kumar	FDP on “Pursuing Excellence through Managing Stress”	HSSM Department NIT Jamshedpur	5-Days 17 <sup>th</sup> -21 <sup>th</sup> February 2022	Online
Er. Rajesh Kumar	Microsoft Azure AI Fundamentals	Association of Indian Universities (AIU) in	15-17 <sup>th</sup> March, 2022	Online

		collaboration with Microsoft		
Dr. Ram Niwash Mahia	Recent Trends & Challenges in Instrumentation and Control (RTCIC-2021)	NIT Jalandhar	20 <sup>th</sup> - 24 <sup>th</sup> October, 2021	NIT Jalandhar (Online)
Dr. Ram Niwash Mahia	Software Tools for Academicians Researchers and Scientists	NIT Hamirpur	20th - 24th December, 2021	NIT Hamirpur (Online)
Dr. Amit Kaul	Pursuing Excellence through Managing Stress	Department of Humanities, Social Sciences & Management	17 <sup>th</sup> - 21 <sup>th</sup> February 2022	NIT Jamshedpur
Prof. Ashwani Kumar	Battery Management System Circuit Protection Leading the drive towards safe reliable next-gen EVs	Webinar	08 Dec, 2021	Online
Prof. Ashwani Kumar	Online Seminar on Strengthening ICT Supply Chain Resilience	Kaspersky Asia Pacific Policy Forum	20 Jan, 2022	Zoom
Prof. Ashwani Kumar	Alcoholic addiction and drug abuse among youths	Webinar	06 April, 2022	Online
Prof. Ashwani Kumar	Leadership in Healthcare: Challenges for India and the Globe	PG Academy of leadership	25 April, 2022	IIT Kharagpur
Er. Bharti Koul	Microgrid integration and power quality issues	Malla Reddy College Hyderabad	15-17th March, 2022	Online
Er. Bharti Koul	Microsoft Azure AI Fundamental	Association of Indian University(AIU) and Microsoft	15, 16 th and 17 th March 2022	Online
Dr. Veena Sharma	Online International workshop on “In-stream Hydrokinetic Device”	IIT Roorkee	September 27-28, 2021	Online
Dr. Veena Sharma	Online faculty development programme on “ Pursuing excellence through managing stress”	NIT Jamshedpur	February 17-21, 2022	Online
Dr. Veena Sharma	Participated in IP Awareness/	Intellectual Property	February 25,2022	Online

	Training program under NIPAM	Office, India		
Dr. Veena Sharma	Webinar on Provisional patent filing	Turnip innovations, Kolkata	March 4,2022	Online
Dr. Veena Sharma	A Training on Microsoft Azure AI Fundamentals	Gold Microsoft partner	March 14-17,2022	Online

## 2. Research Component:

### (a) Research Scheme: 09 (Sponsored R & D Projects) Details

S. No.	Title of the scheme	Sponsored by	Assistance received (Rs. In lacs)	Investigator	Brief Report
1.	Model Predictive Controller based Automatic Generation Control of Interconnected Power System Integrated with Renewable Energy Sources.”	HIMCOSTE, HP Shimla	5.00 lacs (Ongoing)	Dr. Veena Sharma	1. R & D activities are progressing. <b>2. After data collection and Mathematical modeling, Analysis part of the interconnected power systems including renewable energy resources. is being completed.</b>
2.	Portable Physiological Data Acquisition and Disease Diagnosis System	Himachal Pradesh State Council for Science Technology & Environment (HIMCOSTE)	5.7 lacs (Ongoing)	Dr. Amit Kaul (Principal Investigator) Co-PI: Dr. Ravindra Nath	The literature pertaining to the problem domain has been reviewed and the data acquisition modules (SBCs) required for the proposed system have been shortlisted. The ECG acquisition system has been developed using Arduino. Ms. Priyanka Sharma is appointment as project staff
3.	Synchronization in	DST-SERB	18.91 lacs	Dr. B.B.	The R & D activities

	Complex Interconnected Network of a Class of Systems Using Contraction Theory	Sponsored Project	(Ongoing)	Sharma	are progressing Mr. Yashasvi Chauhan is working as project staff under this project who is also pursuing Ph D in EED.
4.	Power Flow Management in Solar-Wind-Based Micro-Grid Using Artificial Intelligent-Based Control Techniques	HIMCOSTE, Shimla	3.6 lacs (Ongoing)	Dr. Anil Kumar Yadav (PI) & Dr. RajanKumar (Co-PI)	R & D activities are being Progressed. Due to excessive oil prices and more carbon emission, the alternate path is to utilize renewable energy sources. There are some regions in H.P., which are not connected to the conventional grid, or the transmission of electricity is expensive. Mohamed Imran Khan is appointed as project assistant.
5.	Development of Intelligent Controllers for Back-EMF-Based Position Sensorless Brushless DC Motor Drives Employed in Solar Photovoltaic Water Pumping Systems	Science and Engineering Research Board, Government of India	28.71 lacs (Ongoing)	Dr.Rajan Kumar	R & D activities are being Progressed. The efforts are on to procure items / equipments to develop hardware intelligent controllers for back-emf-based position sensor less brushless dc motor drives, employed in SPV water pumping systems. Mr. Prem Kumar is appointed as project assistant.
6.	Solution Technique to Unit Commitment Problems in Power System Integrated with Renewable Energy Sources	Council of Scientific and Industrial Research (CSIR)	10.0 Lacs	PI: Dr Ram Naresh Sharma Co-PI: DrVeena Sharma	A detailed literature survey has been done on unit commitment problems on power systems in cost-based unit commitment (UC)

					problem, profit-based UC problem as well as UC on considering Renewable energy sources. The literature review was done using various sources like reputed journals and books from the institution's library and website Study of UC problems on 10-unit test system 20-unit test system, up to 100-unit test systems using recent metaheuristic approaches like, binary fish swarm algorithm (BFSA), binary particle swarm algorithm (BPSO) and many more.
7.	R & D Project "Solid State Transformer Technology for Emerging Trends in Electric Mobility and DC Micro-Grid"	INAE-DST Under Abdul Kalam Technology Innovation National Fellowship.	57.0 Lacs	Prof. H M Suryawanshi (PI) & Director, NITH with Faculty involved from EED Dr. Rajan Kumar (A.P EED)	R & D Project in Progress after being transferred to NIT Hamirpur. Procurement of project components and appointment of project staff is in progress
8.	Rejuvenating efforts are ongoing for streamlining activities for institutes' first Ever Industry Sponsored TIFAC CORE on Power Transformer Diagnostics, Since its inception 2004	TIFAC Delhi HPSEBL, Shimla & NIT Hamirpur	530 Lacs	PI : Dr. R K Jarial & Co-ordinator, TIFAC CORE	(a) Despite pandemic issues, efforts were made to get repair and Calibration of all earlier procured Equipments by deputing ON-Spot TIFAC Committee by carrying 12 equipment in July 2021. The

	at NITH towards accelerating pace of Field Testing & more Academic field Extension & Outreach Activities towards self sustaining as an Asset of Institute.				<p>committee had visited Suppliers / Vendors Locations in Delhi, Jaipur &amp; Vadodara for estimates of repairs/calibration.</p> <p>(b) Hon'ble BOG, NITH during a Meeting held in Dec 2021 has approved agenda item related to TIFAC-CORE NITH Strengthening &amp; Stream-lining proposal Rs100 lacs towards new equipments towards capacity building.</p> <p>(c ) A New Brochure has been prepared for Marketing / Publicity</p> <p>(d) IIT Mandi Students / Other Team from PEC, Chandigarh, NTPC, Koldam appreciated efforts</p>
9.	Designed & Development of a Semi Automatic Motorized trolley for quick transportation of two oxygen Cylinder at a time for COVID Centres/ Hospitals at any floor within building as life saving innovative product	Ms A. Banik D.C, Hamirpur & District Administration Hamirpur has funded the Innovation Product)	Rs 75000/-	Team consisting of Alumni Mr Rajat (17267) EED & Mentors - -Dr R K Jarial, EED - Dr Rajesh, MED and Dr P K Sood Mech. W/ Shop NITH	Completed (Patent Appli. No. 202111034843 filed in 2021)

**(b) Research Publications: 38 ( Numbers)**

1. Shafqat Nabi Mughal, Yog Raj Sood, **R.K. Jarial** (2022) “ A Novel Hybrid Model for predicting Hourly Global Solar Radiations on the Tilted Surface”, Journal of Environmental Science and Technology, Springer <https://doi.org/10.1007/s13762-021-03903-0>. [SCIE INDEXED]
2. Sagar S Patil Atul Jysing Patil Arush Singh Megharani A. Patil **R.K. Jarial** “Hardware Implementation of a Smart Technique Five Level Inverter Based STATCOM to Mitigate Power Quality Issues:, (2021) International Conference o Smart Genration Computing, Communication and Networking (SMART GENCON) Pune, India. Oct 29-30,2021 DOI 978-1-6654-2503-2/21\$31.00 2021 IEEE
3. **Koul, Bharti**, Singh, Kanwardeep and Brar, Yadwinder Singh, “Improvements in deviation settlement mechanism of Indian electricity grid system through demand response management” in International Journalof Emerging Electric Power Systems, 2021. <https://doi.org/10.1515/ijeeps-2021-0241>,<https://portal.issn.org/resource/ISSN/2194-5756>. (Citation-2)
4. **Veena Sharma**, V. Kumar, Ram Naresh, and Vineet 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), Bhilai, India, April 2021, pp. 1-6, DOI: 10.1109/ICAECT49130.2021.9392546.(Citation-2)
5. **Veena Sharma**, Vineet Kumar, R. Naresh and V. Kumar, “Load Flow unit Commitment Real Time Problem using Modern Optimization Tool,” Emerging Trends in Industry 4.0 (ETI 4.0), 2021, pp. 1-4, DOI: 10.1109/ETI4.051663.2021.9619210.(Citation-0)
6. Vineet Kumar and **Veena Sharma**, “Electric Vehicle Integrated MPC Scheme for Concurrent Control of Voltage and Frequency in Power System Network,” Wind Engineering, Vol. 46, Issue 2, pp. 529-544, August 2021. <https://doi.org/10.1177/0309524X2111036424>. (Citation-0)
7. Vineet Kumar, R. Naresh, and **Veena Sharma**, “GAMS Environment based Solution Methodologies for Ramp Rate Constrained Profit-based Unit Commitment Problem,” Iranian Journal of Science and Technology, Transactions of Electrical Engineering, Vol. 45, Issue 4, pp. 1325-1342, September 2021. (Citation-2)
8. Vineet Kumar, R. Naresh and **Veena Sharma**, “Profit based Unit Commitment Problem Solution using Metaheuristic Optimization Approach,” International Journal of Systems Science: Operations and Logistics, pp. 1-24, January 2022. DOI: 10.1080/23302674.2022.2037026.
9. V. Kumar, **Veena Sharma**, Ram Naresh and Vineet Kumar, “Optimal Voltage and Frequency Control in Solar Integrated Power Network,” Distributed Generation and Alternative Energy Journal, vol. 30, Issue 3, pp.703-724, February 2022.DOI: 10.13052/dgaej2156-3306.37315. (Citation-0)

10. Maloth Ramesh, **Anil Kumar Yadav** and Pawan Kumar Pathak, “Intelligent adaptive LFC via power flow management of integrated standalone micro-grid system”, ISA Transactions, Elsevier vol. 112, pp. 234-250,2021
11. Maloth Ramesh, **Anil Kumar Yadav**, and Pawan Kumar Pathak, “An Extensive Review on Load Frequency Control of Solar-Wind based Hybrid Renewable Energy Systems” Energy Sources, Part A: Recovery, Utilization, and Environmental Effects, Taylor & Francis,2021.
12. Pawan Kumar Pathak, **Anil Kumar Yadav** and PA Alvi, “A state-of-the-art review on shading mitigation techniques in solar photovoltaics via meta-heuristic approach” Neural Computing and Applications, Springer,2021.
13. PK Pathak, S Padmanaban, **AK Yadav**, PA Alvi, B Khan, “Modified incremental conductance MPPT algorithm for SPV based grid-tied and stand-alone system”, IET Generation, Transmission & Distribution,2021.
14. **Rajesh Kumar**& Arun Kumar, "Application of differential evolution for wind speed distribution parameters estimation",WindEngineering,Scopus DOI:10.1177/0309524X21999964,2021.
15. Vineet Kumar and **Veena Sharma**, “Electric vehicle integrated MPC scheme for concurrent control of voltage and frequency in power system network”, Wind Engineering, SCOPUS, doi:10.1177/0309524X211036424,2021.
16. A. K. Verma, C. Subramanian, **R. K. Jarial** and P. Roncero-Sánchez, U. M. Rao, “A Robust Lyapunov’s Demodulator for Tracking of Single-/Three-Phase Grid Voltage Variables & 70”, IEEE Transactions on Instrumentation and Measurement,2021.
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21. Vineet Kumar, **R. Naresh and Veena Sharma**, "Profit based Unit Commitment Problem Solution using Metaheuristic Optimization Approach", *International Journal of Systems Science: Operations and Logistics*, 2022.
22. Rohila, Varan Singh, Nitin Gupta, Amit Kaul, and Uttam Ghosh. "Towards Framework for Edge Computing Assisted COVID-19 Detection using CT-scan Images." In *ICC 2021-IEEE International Conference on Communications*, pp. 1-6. IEEE, 2021.
23. Maloth Ramesh, **Anil Kumar Yadav**, "Wind Contributed Load Frequency Control Scheme for Standalone Microgrid Using Grey Wolf Optimization," *IEEE Delhi Section Conference (DELCON)*, NSUT, New Delhi, 11-13 February 2022.
24. Rahul Gupta, **Anil Kumar Yadav**, Shyama Kant Jha, Pawan Kumar Pathak, "Time Series Forecasting of Solar Power Generation Using Facebook Prophet and XG Boost," *IEEE Delhi Section Conference (DELCON)*, NSUT New Delhi, 11-13 February 2022.
25. Seema Chouhan and **Rajan Kumar**, "Instantaneous PV Array Power-Based Estimation of Reference Speed for Speed Control of Solar PV-Fed BLDC Motor Drive," *IEEE Fifth International Conference on Electrical, Electronics, Communication, Computer Technologies and Optimization Techniques (ICEECCOT)*, Mysuru, India, 2021, pp. 608-613.
26. A. Dubey and **R. K. Jarial**, "Investigation on Power Quality Enhancement in Zigzag Configured High Frequency Solid State Transformer Integrated with 12 Pulse Rectifier and Passive Harmonic Mitigation Circuit," *2022 First International Conference on Electrical, Electronics, Information and Communication Technologies (ICEEICT)*, 2022, pp. 1-7, doi: 10.1109/ICEEICT53079.2022.9768551.
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29. R. K. Rai and **O. P. Rahi**, "Fuzzy Logic based Control Technique using MPPT for Solar PV System," *2022 First International Conference on Electrical, Electronics, Information and Communication Technologies (ICEEICT)*, 2022, pp. 01-05, doi: 10.1109/ICEEICT53079.2022.9768650.
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31. R. M. Bora and **B. B. Sharma**, "Reduced Order Synchronization of Two Different Chaotic Systems Using Nonlinear Active Control with or without Time Delay," 2021 International Conference on Control, Automation, Power and Signal Processing (CAPS), 2021, pp. 1-6, doi: 10.1109/CAPS52117.2021.9730665.
32. R. M. Bora and **B. B. Sharma**, "Control LMI for based Synchronization scheme for LMI scheme for Synchronization for a Class scheme for Synchronization for a Class scheme for Synchronization for a Class Systems for a Class Chaotic for a Class Chaotic," IFAC Pap., vol. 55, no. 1, pp. 253–258, 2022, doi: 10.1016/j.ifacol.2022.04.042.
33. Z. Siddique, **Supriya Jaiswal**, V. Chaturvedi and A. Maheshwari, "Game Theory based EV Charge Scheduling: A Comprehensive Review," 2021 Innovations in Power and Advanced Computing Technologies (i-PACT), 2021, pp. 1-6, doi: 10.1109/i-PACT52855.2021.9696445.
34. Zaid Siddique and **Supriya Jaiswal**, "*Game theory-based EV charge scheduling- A comprehensive review*" accepted and presented at IEEE international conference on Innovation in Power and Advanced Computing Technologies, 27-29 November 2021. [Paper id 396] being published soon.
35. Mona Rani and **Supriya Jaiswal** " *A Brief Review of Different Estimation Methods of SOC for Li-ion Battery*" accepted and presented at (ICSTACE)-International Conference on Sustainable Technology and Advanced Computing in Electrical Engineering, held at SVNIT Surat Gujarat, 11 November 2021 (Paper Id -57) and going to be published in Springer.
36. Ayushi & **Ram Niwas Mahia**, "*Study of Energy Management for Hybrid Energy Storage System Connected to Standalone PV based Microgrid*" accepted and presented at national Conference on Future Electricity System: Challenges and Current Trends (NCEFES2021) & going to be published.
37. Rajat Kumar and **Ram Niwash Mahia** "Maximum Power Tracking with Perturb & Observation Techniques using Single Ended Primary Inductor Converter" accepted and presented at National conference of Electrical Engineers and National conference on the theme "Future Electricity Systems: Challenges and Current Trends" (NCEFES2021), 27-28 November 2021. Paper ID [ 23 NCEFES-2021].
38. A. Maheshwari, **Y. R. Sood, S. Jaiswal, S. Sharma and J. Kaur**, "Ant Lion Optimization Based OPF Solution Incorporating Wind Turbines and Carbon Emissions," 2021 *Innovations in Power and Advanced Computing Technologies (i-PACT)*, 2021, pp. 1-6, doi: 10.1109/i-PACT52855.2021.9696806.

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

Sr. No.	Name of the Candidate with Regn. No.	Name of Supervisor(s)	Title of the Thesis
1	Mr. Anant Kumar Verma	Dr. R K Jarial,	Grid Synchronization

	2K16-Ph.D.-EE-313	Dr Chandrasekaran. S	Techniques for Smart PV Inverters
2.	Neeraj Kumar Mishra 2K16-Ph.D.-EE-304	Dr. Zakir Husain	Modelling Analysis and Implementation of Six-Phase (Multi-Phase) DFIG for Wind Energy Generation

**(d) Doctoral programme (Ongoing): 25**

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 ( Final Viva / Voce Exam Pending)	The candidate got registered in 2018 in EED and worked in area of optimal planning of hybrid green microgrid with islanded mode and grid connected mode using different technologies.. The candidate has submitted Ph D thesis in 2021. After attending to reports of examiners, the corrected thesis has also been submitted and final voce exam is now pending)
3	Forecasting & Techno economical design of SPV based Systems	DrYog Raj Sood & DrR K Jarial,	Mr.Shafqat Mughal (Part Time)	The candidate got registered in 2017 in EED and worked in area of Forecasting techniques for Solar radiations at a given location under several variants and parameters for successful design and development of any SPV interfaced power system applications meant for harnessing solar energy. The Thesis work submitted in

				Nov. 2021 and reports are awaited.
4	Optimal Operation of Deregulated Power Sector incorporating Wind and Solar energy	Dr. Yog Raj Sood & Dr Supriya Jaswal	Ankur Maheshwari (Full Time)	The candidate got registered in 2019 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 and SOA Examination Passed. The research work is in progress.
6	Renewable Energy System	Dr R K Jarial	Bhumaiah Jula	The candidate got registered in 2020 and working in the area of Air Craft Grid Synchronization Techniques.
7	LVRT Capability of Smart Grid	Dr RK Jarial & Dr R Nath Sharma	Manish Kumar	The candidate got registered in 2018 and working in the area of LVRT Capabilities of Grid system. The student has delivered his state of art seminar and submitted papers in Journals
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 evaluation was over in 2021.
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	Dr. Ashwani Kumar	Nimish Bhatt 2K17-Ph.D.-EE-	Ongoing

	Island Detection in Distribution Power System.		355	
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	Design and Development of Improved Power Quality Multi-Functional Grid-Connected Solar Photovoltaic Systems	Dr. Zakir Husain and Dr. Rajan Kumar	Vivek Kumar 2K19-Ph.D.-EE-435	When the solar photovoltaic (PV) generation system is integrated with utility grid, it injects the harmonics and degrades the power quality at the utility. This PhD research deals with the development of various control techniques to enhance the quality of power in grid-tied-solar PV systems.. The Comprehensive exam&. SOA Completed. Research work is ongoing.
17	Power System Optimization Techniques	Dr. O.P. Rahi	Abhishek Saini 2K19-Ph.D.-EE-433	The Comprehensive Exam & SOA Completed and research work is ongoing.
18	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.
19	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.
20	Control of Non-Linear Multi-Agent System using Dynamic Programming Techniques	Dr. Ram Niwash Mahia	Manish Kumar Pandey 2K20-PhD. -EE-502	The Comprehensive exam & SOA work is completed and the research work is ongoing.
21	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
22	Power & Emerging Energy Systems	Dr. Ram Naresh Sharma	Romil Chauhan 2020-REE-001	Completed 16 credit course work The research work is ongoing.
23	Stability and Synchronization of Complex	Dr. Bharat Bhushan Sharma	Yashasvi Chauhan 2020-REE-002	The main focus of this research work is to study synchronization phenomena

	Networked Systems			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. Comprehensive exam is over and SOA is being planned.
24		Dr. Ram Naresh Sharma	Ankit Aharwar 2021REE001	The candidate got registered in 2021 and working in the area of Renewable Power System .
25		Dr. R. K. Jarial	Ajay Swaroop Raturi 2021REE002	The candidate got registered in 2021 and working in the area of Deregulation and Optimum power SPV system

**(e) M.Tech. dissertation Completed: 36 ( Passed out in July 2021)**

Sr.No.	Title	Guide	Name of the student(s)	Brief Report
1	Health monitoring of three phase induction motor using infrared thermography	Dr R K Jarial	Shalinee Badoni (19M251)	In this dissertation, the candidate has focused on exploring Infrared thermography as a diagnostic tool to assess condition of three phase induction motor.

2	Matrix Inverter Fed Induction motor drive	Dr R K Jarial	Madhulika Yadav (19M257)	In this dissertation, the candidate has designed control methodology of a Matrix Inverter fed three phase induction motor.
3	Identifying Oil filled Power Cable Criticality Using Fuzzy Logic Approach	Dr R K Jarial	Shaily Singh (19M255)	In this dissertation, the candidate has explored Fuzzy Logic approach to ascertain criticality level of an oil filled power transformer .
4	Real Time fault & Condition Assessment Practices for Induction Motor drive using IOT Suchandan Das	Dr R K Jarial	Suchandan Das (19M259)	In this dissertation, the candidate has designed and developed an IOT based tool to assess health condition of three phase induction motor.
5	Fault-ride-through capability of grid connected photovoltaic plant	Dr. O.P. Rahi	Mr. Abhishek Singh 19M206	The regulation of single and two stage grid attached voltage source inverter in solar energy stations. Voltage regulator operation includes reactive power assistance throughout the event of potential dips, which is required by grid codes (GCs) to operate through failures and sustain grid potential.
6	Hybrid Renewable Energy Management using Artificial Neural Network	Dr. O.P. Rahi	Mr. Shivshankar Pathak 19M220	A hybrid framework is offered that includes wind, solar, and batteries. The artificial neural network controller methodology is chosen for the hybrid system & energy management, and its performance is tested and assessed in a series of case studies that mimic seasonal variations in weather conditions.
7	PSO Tuned PID Controller for DC Motor Speed Control	Dr. O.P. Rahi	Mr. Aaditya Sharma 19M227	In this dissertation, the candidate has designed PSO Tuned PID Controller for DC Motor Speed Control

8	Design & Analysis of Power Converters for Battery Charging of Electric Vehicle	Dr. Rajan Kumar	AyushPurwar 19M215	A solution to alleviate the health of the electrical grid by means of two goals is provided. The principal objective is to provide a quick-charging point to mitigate the problem of slow charging stations among consumers. The study second goal is to devise a smart charging method that will assist both electric utilities and EV consumers.
9	Power Quality Improvement in Distribution System Using Distributed Static Compensator (DSTATCOM)	Dr. Rajan Kumar	Kirti Kumari 19M254	The DSTATCOM with unit vector template-based control technique has been developed for three-phase distribution system. The power quality on the utility grid has been significantly improved. The non-linear load has been considered to demonstrate the system under various operating conditions.
10	Solar Photovoltaic Array Powered Brushless DC Motor Drive for Industrial Loads	Dr. Rajan Kumar	Seema Chouhan 19M256	The solar PV array-fed Brushless DC (BLDC) motor has been developed. To control the speed of the BLDC motor, reference speed is made dependent on instantaneous-PV array power, corresponding to its MPP operation. The phase current-references are generated from the speed control loop in order to regulate the currents.
11	IoT enabled Condition Monitoring of Low Voltage Industrial Motor	Dr. Supriya Jaiswal	Chaudhary Om Prakash 19M263	In this project, a real time condition monitoring prototype of a low voltage industrial motor has been developed. The prototype is aimed at the monitoring of three main parameters: temperature, vibration and speed of the motor. These sensor data are monitored and

				results are controlled wirelessly through the Zigbee module over the Internet through IoT.
12	Grid Synchronization of DG Systems under distorted Grid Conditions	Dr Sushil Chauhan	Lokesh Bhardwaj, Roll no. 19M201	Distributed Power Generation Systems (DPGS) has been developed. These DPGS must be synchronized with main grid too, for better performance of these distributed generation system. To do synchronism various methods are used but PLLs are widely used. A comparative analysis is done to get better performing PLL.
13	Radial basis function neural network for Power flow studies	Dr Sushil Chauhan	Ajay Kumar, Roll no.19M209	The radial basis function (RBF) neural network with approximation problem function approach is successfully applied to “10 machine and 39 bus New England test system”. RBF method is compared with multilayer perception (MLP) method, through this it is observed that RBF is more convenient or simpler to train as compared to MLP.
14	PV based shunt active harmonic filter for power quality improvement	Dr Sushil Chauhan	Ankit Mishra, Roll no. 19M262	This M.Tech. dissertation presents the performance analysis of two stage solar photovoltaic (PV) systems integrated with Shunt Active Harmonic Filter (SAHF). The SAHF system is constructed with three-leg Voltage Source Converter and DC power extracted from the PV module. In this double stage system the first stage is a DC-DC step up converter which is implemented with maximum power point tracking (MPPT) algorithm.
15	Synchronization of Dynamical Systems in	Dr. Bharat Bhushan Sharma	Baby Diana (19M236)	In this dissertation, the candidate has designed Synchronization of Dynamical

	Complex Networks using Graphical Approach			Systems in Complex Networks using Graphical Approach
16	Combinational and Projective Synchronization among Multiple Chaotic Systems	Dr. Bharat Bhushan Sharma	SamitChangder (19M235)	In this dissertation, the candidate has designed Combinational and Projective Synchronization among Multiple Chaotic Systems
17	Non-Invasive and Cuff-less estimation of BP using PPG signal	Dr. Amit Kaul	Ms. Shilpa Jaiswal	In this dissertation, the candidate has covered Non-Invasive and Cuff-less estimation of BP using PPG signal
18	Frequency analysis using Graph signal processing	Dr. Amit Kaul	Ms. Kavita	In this dissertation, the candidate has designed Frequency analysis using Graph signal processing
19	Observer Based Chaotic and Hyperchaotic System Synchronization and Application using LMI toolbox	Dr. Himesh Handa	Prarit Rajput 19M226	In this dissertation, the candidate has designed Observer Based Chaotic and Hyperchaotic System Synchronization and Application using LMI toolbox
20	PSO Tuned PID Controller For DC Motor Speed Control	Dr. Veena Sharma	Aaditya Sharma 19M227	In this dissertation, the candidate has designed PSO Tuned PID Controller For DC Motor Speed Control
21	Implementation of Multi States in Variable Step Size NLMS & LMS Adaptive Filters	Dr. Ravindra Nath	Meeta Singh 19M230	In this dissertation, the candidate has covered Implementation of Multi States in Variable Step Size NLMS & LMS Adaptive Filters
22	Sliding Mode Control Based Chaotic System Synchronization	Dr. Himesh Handa	Chitranjan Chaudhary 19M233	In this dissertation, the candidate has designed Sliding Mode Control Based Chaotic System Synchronization
23	Synchronization and Anti-synchronization of Chaotic Systems Using Contraction Theory	Dr. Himesh Handa	Arpit Sharma 19M234	In this dissertation, the candidate has designed Synchronization and Anti-synchronization of Chaotic Systems Using Contraction Theory
24	A Novel Design Technique of HESS for Power Management in Electric Vehicle	Dr. Ram Niwash Mahia	Vishwajeet Sinha 19M261	The primary goal of this dissertation is to design a control module using Li-ion battery, super- capacitor and DC-DC converter which controls the power flow in

				Hybrid Electric Vehicle (HEV). Battery will provide power to the EVs when the surface is plane as it has high energy density. But on the inclined plane super-capacitor will also provide power along with battery to the EVs. As the super-capacitor has high power density so the combination of both will lead to make less stress on the battery.
25	Modified SVPWM Technique for Speed Control of PMSM in Electric Vehicles.	Dr. Ram Niwash Mahia	Ashish Kumar 19M264	This work presents a simulation of modified space vector PWM applied to voltage source inverter (VSI). Output from VSI is used to control the speed of Permanent Magnet (PM) Synchronous Motors. This research uses MATLAB simulation to construct, develop and analyze a 3- phase VSI which feeds PMSM drive for control of speed.
26	Design & Analysis of Power Converters for Battery Charging of Electric Vehicle	Dr. Rajan Kumar	Ayush Purwar 19M215	In this dissertation, the candidate has covered Design & Analysis of Power Converters for Battery Charging of Electric Vehicle
27	“Power Management for Hybrid Energy Systems using Droop Control”	Dr. Anil Kumar Yadav	Kamal Singh 19M218	In this work, a power management strategy using PID controller as a droop control and Artificial Neural Network (ANN) controller as secondary controller has been created and performance of both the controllers are compared. To analyze the performance, a Microgrid system is proposed.
28	Power System Frequency Estimation Using	Prof. R.N.Sharma	Shankar Pandit 19M202	This work presents a fundamental frequency estimation technique for

	Teager Energy operator			three-phase and single- phase of grid voltage. The technique is based on the Clark transformation, recursive discrete Fourier transform, Teager energy operator, three consecutive voltage samples, and the band pass filter.
29	Constrained Unit Commitment Using Metaheuristic Algorithm	Prof. R.N.Sharma	Vikas Mishra 19M212	The optimization technique involved in this work is a comparatively modern, advanced, and an influencing that has been experimentally proved to perform remarkable on many of these problems. The modified stage is adjusted in the improved adaptation of SGO, i.e., Modified Social Group Optimization (MSGO), by presenting a mindfulness likelihood part, which improves a person capacity to gain from the most proficient human in the gathering of people to give a more precise wellness esteem.
30	Short Term Hydrothermal Scheduling Using Improved Social Group Optimization	Prof. R.N.Sharma	Akash Gautam 19M219	In the improved version of SGO, i.e. Improved Social Group Optimization (ISGO), the acquiring phase is modified by introducing a self awareness probability component, which improves an individual ability to learn from the best knowledgeable human of social group to give more accurate fitness value. The core goal of using this modification in SGO is to get best minimum total production cost for thermal plant.
31	Power Flow of Multi-Terminal HVDC with	Prof. Y. R. Sood	Nivedita Singh 19M203	In this work, the ac/dc power flow problem in an MT-HVDC system is

	Convertor Control			resolved by using the sequential method and the analysis is presented. The ac-dc load flow problem is resolved by both Gauss-Seidel and Newton-Raphson methods, with results compared. The test cases are a 3-machine, 9-bus WSCC test case along with a 3-terminal MT-HVDC network that is combined with an existing ac system.
32	Modified Droop Control for Parallel Connected Inverter	Prof. Ashwani Kumar Chandel	Arvind Kumar Sagar 19M204	The work suggests a modified droop control technique based on the P-f/Q-V and P-V/Q-f to attain precise power-sharing amongst the parallel-connected inverters. The technique is convenient to keep (V-f) stable, and regulate power flow between the inverters, connected in renewable energy systems.
33	Non-Linear Fractional Order Controllers for Microgrid System	Prof. Ashwani Chandel	Srikanth Bondalapati 19M205	In this work, an Ant-Lion Optimizer (ALO) based Fractional Order PID (FOPID) controllers are used in an islanded voltage source inverter (VSI) based microgrid system to maintain the grid node voltages at the set values. To demonstrate the effectiveness of the designed FOPIDs, a 3-bus microgrid system has been designed having three Distributed Generators (DGs).
34	Evaluation of Power Quality Indices in Island Mode Hybrid Micro-grid System	Ms. Bharti Koul	Rana Kinkar Singh 19M216	In this work, different micro-grid architectures have been studied and analyzed, and power quality performance indices: THD, voltage imbalance, over and under voltage, voltage sag and swell have been evaluated. A hybrid micro-grid system is used in Island mode

				to evaluate power quality indices.
35	Optimal Power Flow Using Conventional and Artificial Neural Network Methods	Prof. Y. R. Sood	Adarsh Kushwaha 19M208	Optimal Power Flow (OPF) issues and resolution approaches in electrical power systems are investigated within this study to improve power system trustworthiness. All system control is performed by the OPF, while system security is maintained.
36	Optimal Placement of DG for Minimizing Loss in Radial Distribution System	Er. Rajesh Kumar	Purushottam Kumar 19M207	The goal of this study is to find a way to reduce active distribution network losses. To decrease network losses, a DG is strategically implemented in the form of modest Renewable energy such as wind, solar PV, and biomass.

(f) ONGOING Guidance for M tech Dissertations ( 4th Semester Ongoing Registered PG Students) – 49 ( To Pass out in July 2022)				
1	Enhancement of voltage profile/stability by optimal placement of FACTS devices	Dr. Ashwani Chandel	Abhay Raj 20MEE001	The Candidate has got employment with HP Technical Education Board) and Full time converted in to Part Time. On going
2	Voltage Profile in a large power system under Power System Contingencies using FACTS Devices	Dr. Ashwani Chandel	Aditya 20MEE002	The Candidate has got employment with HP Technical Education Board) and Full time converted in to Part Time. Dissertation work is On going
3	Energy Management Strategy for Battery and Supercapacitor HESS for Standalone PV Based Microgrid	Dr. Ram Niwash Mahia	Ayushi 20MEE004	On going

4	Optimal scheduling of Hybrid Pumped Hydro Storage Energy with Wind and PV Integration	Er. Rajesh Kumar, Er. Bharti Bakshi Koul	LAWKUMAR 20MEE005	On going
5	Estimation of State of charge of Li-ion battery using Extended Kalman filter	Dr Supriya Jaiswal	MonaRani 20MEE007	On going
6	A Confidence-Aware Online Dynamic security assessment scheme using simple pre-processed input features	Dr. Ashwani Kumar Chandel	Naramu Avinash 20MEE008	On going
7	Controlling PMSG Based Wind Energy Conversion System to Maximise the Power	Dr. Ram Niwash Mahia	Neha Gangwar 20MEE009	On going
8	Extreme Learning Machine Based transient Stability Assessment: An Energy Function Approach	Dr. Sushil Chauhan	Nitish Ojha 20MEE010	On going
9	Application of SEPIC Converter to Design Charging Station for Electric Vehicle Based on PV Source	Dr. Ram Niwash Mahia	Rajat Kumar 20MEE011	On going
10	Comparative Analysis of Battery Charging Circuits using Solar PV System	Dr. Anil Kumar Yadav	Ravi Kumar. 20MEE012	On going
11	Optimal Load Frequency Control of Hybrid Power System	Dr. Anil Kumar Yadav	Rohit Ranjan Kumar 20MEE013	On going
12	Optimal power tracking of DFIG based wind energy conversion system	Dr. Anil Kumar Yadav	Shivanshu Nayak 20MEE015	On going

13	Cost Optimised EV charges scheduling in non-cooperative game theory	Dr. Supriya Jaiswal	Siddique Zaid Ahmed 20MEE016	On going
14	Effect of EV integration on grid stability and power quality	Dr. Supriya Jaiswal	Vaibhav Chaturvedi 20MEE017	On going
15	Designing of PID controller with fuzzy logic for speed control of dc shunt motor using MATLAB	Dr. ANIL K. YADAV	Amarjit Singh Tanwar 20MEE101	On going
16	ECG based cardiac abnormality detection using Machine Learning approach	Dr. Amit Kaul	Amita Singh 20MEE102	On going
17	Heart Disease Prediction using Ensemble of Features extracted from ECG signal.	Dr. Amit Kaul	Anupram Pradeep Kumar 20MEE103	On going
18	An optimized affine projection algorithm for acoustic echocancellation	Dr. Ravinder Nath	Avnish Tanwar 20MEE104	On going
19	Adaptive Synchronization of Chaotic Systems with unknown parameters	Dr. Himesh Handa	Ayush Pratap 20MEE105	On going
20	Synchronization of chaotic system using sliding mode control	Dr. Himesh Handa	Kartikey Singh 20MEE106	On going
21	Synchronisation of Chaotic and Hyperchaotic Systems Using Nonlinear feedback control and Feedback Linearization technique with or without time delay	Dr. Himesh Handa	Kunzang Dolma 20MEE107	On going

22	Classification of EC G Signal using Machine Learning Algorithm	Dr. Veena Sharma	Md. Tarique Anis 20MEE108	On going
23	Synchronization of Nonlinear Multi-Agent Systems	Bharat Bhushan Sharma	Mohammad Mustkeem 20MEE109	On going
24	Projective Synchronization of Chaotic /Hyperchaotic Systems	Dr. Himesh Handa	Nisha Yadav 20MEE110	On going
25	Fuzzy-Logic Based Control of Multi-Fed Electric Vehicles	Dr. Ram Niwash Mahia	Nishant Mishra 20MEE111	On going
26	Reduced Order Synchronization of Chaotic and Hyper chaotic Systems Using Nonlinear Control Design Techniques	Dr. Bharat Bhushan Sharma	Riddhi Mohan Bora 20MEE112	On going
27	Synchronization of discrete time chaotic systems under band limited channel	Dr. Bharat Bhushan Sharma	Ritesh Sandal 20MEE113	On going
28	Waste Segregation Using Multi-Layer CNN	Dr. Veena Sharma	Santanu Ghosh 20MEE115	On going
29	Reduction of Chattering in Buck Converter Based on Sliding Mode Control	Dr. Ram Niwash Mahia	Sarvam Maheshwari 20MEE116	On going
30	Automatic Braking System using Fuzzy Logic Controller	Dr. Anil Kumar Yadav	Somnath Sanket 20MEE117	On going
31	Multi Algorithmic Approach for Photoplethysmogram (PPG) based Disease Diagnosis	Dr. Amitkaur, Mr. Bhukya Ramdas	Vinoth T 20MEE118	The Candidate has got employment with National Wind Power Corpn., Chennai and Full time converted in to Part Time. Research work On going

32	Power Quality enhancement for EV fast charging system using an integrated solid-state transformer and passive harmonic mitigation circuit.	Dr.RK Jarial	AdarshDubey 20MEE201	On going
33	PowerFactorCorrection UsingElectric Spring withFuzzyControl System	Dr.R.Kjarial	Ankita 20MEE202	On going
34	Evaluation of Thermography Inspection Effects on Costs and Power Losses Reduction – A case Study in NIT Hamirpur And Anu Distribution Substation.	Dr.R.K.Jarial	AshokKumar 20MEE203	On going
35	DevelopmentofArtificialIntelligencebasedMPPTtechniquesforsolarPVsystem	Dr.RajanKumar	Asnapuram Pranavi 20MEE204	On going
36	AnintelligentLi-ionbatterycharging systemusingaPVar ray	Dr.O.P.Rahi	Atul Nayan 20MEE205	On going
37	AnImprovementinLVRTcapabilityofDFIGunderfaultcondition	Dr.O.P.Rahi	Binaya KumarBiswal 20MEE206	On going
38	Faultestimationinacmachinesbyusing currentsignatureanalysisadoptingmoderncomputationalalgorithm.	Dr.Y.R.Sood,Dr.R.K.Jarial	Jayant KumarBradiya 20MEE207	On going
39	ApplicationorientedSOCbasedFastandStableChargingSystemusingMultilevelDC-DCBuckConverter	Dr.RajanKumar	KrushnaBasudevRay 20MEE208	On going

	for EVs			
40	Performance analysis of solar photovoltaic system using various MPPT technique	Mr. Rajesh Kumar	Deepti Meena 20MEE209	On going
41	Intelligent DGA based diagnosis of power transformer to find incipient faults	Dr. Ashwani Kumar Chandel	Niharika Verma 20MEE210	On going
42	An Enhancement in Electric Vehicle battery charging system employing SEPIC converter.	Dr. O.P. Rahi	Nirbhay Tiwari 20MEE211	On going
43	Health index evaluation of Power transformer by using Intelligent Technique	Dr. Veena Sharma	Prasant Kumar Samal 20MEE212	On going
44	Control of permanent magnet synchronous motor in electric vehicle application	Dr. Rajan Kumar	Prerna Sahu 20MEE213	On going
45	Harmonic Suppression In Rectifier For Electric Vehicle Charging Station	Dr. O.P. Rahi	Pulkit Bhatnagar 20MEE214	On going
46	Design and Implementation of Fuzzy logic controller for Solar PV system	Dr. O.P. Rahi	Rajnish Kumar Rai 20MEE215	On going
47	Comparison of fundamental frequency estimators in Grid Connected SPV systems	Dr. R.K. Jarial	Sampathi Sai Jithendra 20MEE216	On going
48	Monitoring Smart Grid's security and privacy related aspects using Blockchain	Mrs. Bharti Koul	Subhashree Rout 20MEE217	On going

	Technology			
49	Synchronization of SolarPV-Wind-Battery-Based DCMicrogrid for Brushless DCMotor-DrivenPump	Dr.Rajan Kumar	Sunil K Gautam 20MEE218	On going

### **3. Consultancy services: 07**

Sr .N o.	Name of the scheme	Sponsoring Agency	Amount earned
01	Under TIFAC CORE, NIT Hamirpur, One Consultancy Project was assigned to Co-ordinator, TIFAC CORE NITH on topic “Evaluation of System Improvement Scheme for Low Voltage Pockets in 150 newly constructed substations within 12 districts of Himachal Pradesh was assigned for their Quality Inspection investigations as well as works related to Rotten Wooden Electric Poles replacement with Steel Tubular Electric Poles under HPSEBL, Shimla”. In this consultancy task, 10 number of faculty of EED, 01 Faculty ECED and 10 number of PG Students of M tech Condition monitoring Program, EED were involved.	HP State Electricity Board Ltd. Shimla	Rs 29,95,371.00 ( Completed)
02	Consultancy Assignment Under TIFAC CORE NITH	M/s NTPC Koldam	Rs. 28320/- (Completed)
03	Software for optimal operation scheduling and	M/s BHEL Electronics Division Bangalore	Rs 10,75,000.00 (Ongoing)

	optimization of hydro power plants		
04	Condition Assessment of Liquid Insulations for oil filled Transformers	M/s HPSEBL, Shimla	Rs 1, 31,836/- ( Completed)
05	Flood lighting system design	M/S Ventura Electricals Hindustan ltd.	Rs. 23,600/- (Completed)
06	Imparting mentorship to AMIE (B) Candidates of Himachal Pradesh	M/S (IEI) Kolkata	Rs. 54,140/- [2021 & 22] Completed
07	Designed & Development of a Semi Automatic Motorized for transportation of two oxygen Cylinder at a time for COVID Centres/ Hospitals with the help of our Alumni Mr Rajat (17267), Dr R K Jarial, EED Dr Rajesh, MED and Dr P K Sood Mech. W/ Shop NITH	D.C, Hamirpur funded the Innovation Product	Rs 75000/- Completed (Patent filed in 2021)

#### **4. Technical association / societies :**

Sr. No.	Name of Faculty	Technical association / societies :
1	<b>Prof. YR Sood</b>  (On EOL)	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. Ram Naresh Sharma</b>	Member, IEEE, Member, ISTE, Fellow Institution of Engineers (India)
3	<b>Dr. Ashwani Kumar</b>	Fellow ( IE) India Kolkata LM ISTE Delhi

		Fellow IETE New Delhi
4	<b>Dr. Ravinder Nath</b>	Life member of ISTE (LM-13062) Fellow IEI (F-117078-5)
5	<b>Dr Veena Sharma</b>	ISTE (LM-20570) Instrument Society of India (LM-728) Fellow of Institution of Engineers
6	<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 till 31 <sup>st</sup> Dec 2021.
7	<b>Dr. B.B.Sharma</b>	Member, IEEE and Member IEEE (Control System Society), Member, Robotic Society of India, member institution of Engineers (India)
8	<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
9	<b>Dr. Amit Kaul</b>	Senior Member, IEEE, Life Member ISTE, BMI, Associate Member IE(I), Life Member BSI
10	<b>Er. Rajesh</b>	Member Instrument society Of India (LM-1958) Member THE INSTITUTION OF ENGINEERS(INDIA) (AM-0998683)
11	<b>Er. Bharti Koul</b>	Member, IEEE Member, Instrument Society of India Member Institution of Engineers (India)
12	<b>Dr. Anil Kumar Yadav</b>	Senior Member, IEEE and Member, The Institution of Engineers (India)
13	<b>Dr. Rajan Kumar</b>	International Awards (01) Membership of Societies (02) Member, IEEE Member, IE (India)
14	<b>Dr. Ram Niwash Mahia</b>	Member, IEEE and Member, IE (India)
15	<b>Dr. Supriya Jaiswal</b>	Member, IEEE Member, IE (India)

### **5. Expert Lectures delivered by EED Faculty : 12**

1. Dr. R K Jarial delivered an Expert Talk on Sept. 22<sup>nd</sup> 2021 during a National FDP on “Recent Computational Strategies for Condition Monitoring of High Voltage Equipment(ReCosCom-HiVoE-2021)” conducted by E & ICT Academy EED, NIT Patna on Topic, “Prospective Application of TC research & Experimental Tools for CM and Ageing studies of HV Dielectrics” wef 18-24th Sept. 2021.

2. Dr. R K Jarial delivered an Expert Talk on 8<sup>th</sup> March 2022 for Participants of 05 Day long STTP Entitled, “Diagnostics Techniques on Transformers by Electrical Engineering Deptt., NITTR, Chandigarh, March 3-8, 2022 on Topic, “Emerging Trends in Power Transformer Diagnostics”
3. Dr.O.P Rahi Delivered an Expert Lecture on 21.01.2022 in a five-days online workshop (e-workshop) on “Challenges and Opportunities in Microgrid” held w.e.f. 17- 21 January 2022, organized by the Department of Electrical Engineering , National Institute of Technology Hamirpur (H.P.).
4. Dr Rajan delivered an Expert Talk on 22.11.2021 in Online Faculty Development Program on "Sustainable Transport Sources for Future Mobility Application" organized by Maulana Azad National Institute of Technology Bhopal, India on the topic Operation and Control of Brushless DC Motor and Drive for Sustainable Transportation.
5. Dr Rajan delivered an Expert Talk on 20.12.2021 in Online Short-Term Course on "Grid Modernization: Opportunities and Challenges" organized by National Institute of Technology Kurukshetra, India on the topic Grid-Interactive Solar PV-Based Water Pumping Systems.
6. Dr Rajan delivered an Expert Talk on 02.03.2022 in Induction Programme on “Developments and Applications in Renewable Energy in Power System,” organized by Chhatrapati Shivaji Institute of Technology Durg, India on the topic Back-EMF-based sensorless control of BLDC motor for Solar PV Systems.
7. Dr. SupriyaJaiswal delivered an Expert talk for Webinar organized by Department of Electrical Engineering, Singhgad Institute of Technology and Science, Pune on the topic Aspects of Power Quality.
8. Dr. SupriyaJaiswal delivered an Expert talk for School of Electrical Engineering, MIT WPune on the topic Smart Metering and Power Quality.
9. Amit Kaul delivered a lecture for National Conference on Emerging Trends In Law And Technology ETLT-2021 organized by GNDU Jalandhar Campus on topic Biometric Security - Traditional vs Esoteric.
10. Amit Kaul delivered a lecture for One-Week faculty development program on “Renewable Power: Generation, Control and Applications” (RPGCA-2021), held during June 14-18, 2021 on the topic ANN and other Machine Learning Approaches in Electrical Engineering.
11. Amit Kaul delivered a lecture for AICTE Training And Learning (ATAL) Academy Online Elementary FDP on "Hands-On Workshop on SoftwareDefined Radios" from 07/03/2022 to 11/03/2022 at Shiv Nadar University on the topic Getting Started with Matlab and Simulink.

12. Ravindra Nath delivered a lecture for One-Week STC “Software Tools for Academicians, Researchers and Scientists” (STARS-2021), held during December 20-24, 2021 on the topic Introduction to Probability and Random Variables.

### **6. Book Chapters = 23**

1. Pawan Kumar Pathak, and **Anil Kumar Yadav**, “Control of Standalone Microgrid: SM and FL based MRALFC schemes for solar-wind based Micro-Grid, Elsevier, Pages 217-242, ISBN 9780128230220 <https://doi.org/10.1016/B978-0-12-823022-0.00006>.
2. Vineet Kumar, R. Naresh, **Veena Sharma** and Vineet Kumar “State of the Art on Optimization and Metaheuristic Algorithms” Handbook of Intelligent Computing and Optimization for Sustainable Development, Wiley Scrivener Publishing ISBN 9781119791829,2021.
3. Vineet Kumar, **Ram Naresh, Veena Sharma**, and V. Kumar “Generation Scheduling considering Emissions in Cost-based Unit Commitment Problem” Renewable Energy towards Smart Grid: Select Proceedings of SGESC 2021,ISBN978-9811674716,2022.
4. Vineet Kumar, **Ram Naresh, Veena Sharma**, and V. Kumar “State of the art on Optimization and Metaheuristics Algorithms” Handbook of Intelligent Computing and Optimization for Sustainable Development, WILEY- SCRIVENER,ISBN 9781119791829,2022.
5. Sukriti Tiwari and **Ashwani Kumar**” Big Data in COVID-19 Assistance—Concepts, Motivations, Advances and Applications in Real-World” Artificial Intelligence for COVID-19. Studies in Systems, Decision and Control, vol 358. Springer, ISBN 978-3030697433, 2021.
6. Vineet Kumar, **R. Naresh, Veena Sharma** and V. Kumar “In book: Renewable Energy towards Smart Grid: Select Proceedings of SGESC 2021: Lecture Notes in Electrical Engineering” Wiley, vol. 823, pp. 209-224, January, 2022.DOI:10.1007.
7. Vineet Kumar, **Veena Sharma** and V. Kumar “Tomar A., Malik H., Kumar P., Iqbal A. (eds) Machine Learning, Advances in Computing, Renewable Energy and Communication. Lecture Notes in Electrical Engineering” Springer ,ISBN 978-981-16-2354-7,2022.
8. Vineet Kumar, R. Naresh, Veena Sharma, and Vineet Kumar, “State of the Art on Optimization and Metaheuristic Algorithms,” In book: Handbook of Intelligent Computing and Optimization for Sustainable Development Publisher: WILEY- SCRIVENER, ch-25, pp, 509-536, February, 2022. DOI: 10.1002/9781119792642.ch25
9. Vineet Kumar, R. Naresh, Veena Sharma, and Vineet Kumar, “Assessment of GAMS in Power Network Applications Including Wind Renewable Energy Source,” In book: Renewable Energy Systems Modeling, Optimization and Applications Publisher: WILEY- SCRIVENER, ch-13, pp, 327-364, March, 2022.

10. Vineet Kumar, Veena Sharma, R. Naresh, and V. Kumar, "MVO-Optimized Linear Quadratic Regulator for Automatic Voltage Controller System," In: Mandal, J.K., Hsiung, P.A., Sankar Dhar, R. (eds) *Topical Drifts in Intelligent Computing, ICCTA 2021, Lecture Notes in Networks and Systems*, vol 426. Springer, Singapore. DOI:org/10.1007/978-981-19-0745-6\_59
11. Veena Sharma, A. Dogra, R. Naresh, V. Kumar, "Review on Various Techniques for Load Frequency Control in Deregulated Power Structures," In: Mandal, J.K., Hsiung, P.A., Sankar Dhar, R. (eds) *Topical Drifts in Intelligent Computing, ICCTA 2021, Lecture Notes in Networks and Systems*, vol 426. Springer, Singapore. DOI:org/10.1007/978-981-19-0745-6\_61
12. Vineet Kumar, Veena Sharma, and V. Kumar, "Performance Evaluation of HHO Optimized Model Predictive Controller for AVR System and Its Comparison with Conventional Controllers," In book: *Machine Learning, Advances in Computing, Renewable Energy and Communication, Proceedings of MARC, Lecture Notes in Electrical Engineering*, Springer, Singapore. vol. 768, pp. 151-159, 2021. [https://doi.org/10.1007/978-981-16-2354-7\\_14](https://doi.org/10.1007/978-981-16-2354-7_14)
13. Vineet Kumar, **Ram Naresh**, **Veena Sharma** and Vineet Kumar "HANDBOOK OF INTELLIGENT COMPUTING AND OPTIMIZATION FOR SUSTAINABLE DEVELOPMENT" Wiley-Scrivener, ISBN 9781119791829, 2022.
14. A. Sharma, Veena Sharma, and O.P. Rahi, "PSO Tuned PID Controller for DC Motor Speed Control," In: Suhag, S., Mahanta, C., Mishra, S. (eds) *Control and Measurement Applications for Smart Grid. Lecture Notes in Electrical Engineering*, Springer, Singapore, vol 822, pp. 79-89, 2022. [https://doi.org/10.1007/978-981-16-7664-2\\_7](https://doi.org/10.1007/978-981-16-7664-2_7)
15. G. Vardhan, **O.P. Rahi**, and A.K. Bugaliya "Performance Analysis of Induction Motor Utilizing SPRS Based on MOSFET" Springer, *Lecture Notes in Electrical Engineering*, 723 LNEE, pp. 155–164, (SCOPUS) DOI: 10.1007, 2021.
16. A.K. Bugaliya, G. Vardhan, and **O.P. Rahi** "Design and Analysis of Grounding Grid Performance Using ETAP 16.0.0 Software" Springer, *Lecture Notes in Electrical Engineering*, 723 LNEE, pp. 165–176, (SCOPUS) DOI: 10.1007, 2021.
17. Monika Sahu, Saurabh Ranjan Sharma, **Rajesh Kumar**, and **Yog Raj Sood** "Hotspot Detection in Distribution Transformers Using Thermal Imaging and MATLAB" Springer, Singapore, ISBN 978-981-33-4414-3, 2021.
18. Ashish Kumar, **Ram Niwash Mahia** and Om Prakash Mahela "Modified SVPWM Technique for Speed Control of PMSM in Electric Vehicles" Elsevier, ISBN 978-0-323-85169-5 B978-0-323-85169-5.00002-2, 2021.
19. Vishwajeet Kumar Sinha, **Ram Niwash Mahia** and Om Prakash Mahela "Power Management in Electric Vehicles Using a Hybrid Energy Storage System" Elsevier, ISBN 978-0-323-85169-5 B978-0-323-85169-5.00014-9, 2021.

20. **Supriya Jaiswal** and Gopal Rawat” Smart Agriculture Automation using Advanced Technologies” Springer, Singapore, ISBN 978-981-16-6124-2, 2022.
21. **Supriya Jaiswal**, and Sohit Sharma “Electric Vehicles and Smart Grid Interactions: Infrastructure, Current Trends, Impacts and Challenge, CRC Press, ISBN 02, 2022.
22. **R K Jarial**, Adarsh Dubey and Abhinav Dubey, “*Real Time Health Monitoring Using IOT Sensors*” accepted and going to be published in Apple Academic Press and exclusive co-publishing with CRC press, a Taylor & Francis group.
23. **S. Koul, B. Koul and B. Bakshi**, Influence of AI, Machine learning to empower healthcare sector inMachine Learning, Deep Learning, Big Data and Internet of things for Healthcare (ed.) Govind SinghPatel, Seema Nayak and Sunil Kumar Chaudhary, CRC Press, 2022.(Scopus Indexed) (in Press)

### 3.5 DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



#### 1 Academic Staff:

**HEAD : Dr. Gargi Khanna, Associate Professor**

#### **FACULTIES:**

<b>Professor</b>	<b>Associate Professor</b>	<b>Assistant Professor</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	Sh. Manoranjan Rai Bharti
	Dr. Ashwani Kumar Rana	Sh. 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

## DISTINCTION ACHIEVED

### (a) By student:

Three M.Tech. Dissertations of E&CE students supervised by **Prof. Rajeevan Chandel** are placed as given below:

- i) Samarth Agarwal selected in Qualcom India, Bangalore.
- ii) Sonalika Singh selected in VaysInfotechPvt. Ltd. Bangalore.
- iii) Afreen Haider selected in Qualcom India, Bangalore.

### (b) By faculty Member:

1) **Prof. RajeevanChandel**, Professor E&CE Department NIT Hamirpur HP, won First prize in Hindi Poem recitation in Hindi Pakhwada (Abhyuday-2021) organized by Hindi BhashaPrakoshtha, NIT Hamirpur from 15-30 Sep, 2021.

2) **Prof. RajeevanChandel** received appreciation certificate and a memento for Chairing a Technical Session for the Track: IOT & Embedded Domain, from the organizers of 10<sup>th</sup> International Symposium on Embedded Computing and System Design (ISED-2021), organized by DA-IICT, Gandhinagar, Gujarat, 16<sup>th</sup> -18<sup>th</sup> July 2021.

3) **Prof. RajeevanChandel** received a Letter of Appreciation from Prof. I.K. Bhat, Hon'ble Vice Chancellor MRU, Former Director, NIT Hamirpur HP, for delivering an Online Keynote address on Electronics and Communication in Industry 4.0 in the International Conference on Robotics, Automation & Communication for Industry 4.0, held on 4<sup>th</sup> & 5<sup>th</sup> Feb 2022.

4) **Prof. RajeevanChandel** delivered an Expert Lecture on the topic "*CMOS VLSI Design - Case Studies & Research Avenues*," on 2<sup>nd</sup> June 2021, in the ATAL FDP Sponsored by AICTE Training and Learning (ATAL) Academy on "Recent Advances and Challenges in Nanoscale Devices: Design, Materials, and Applications Perspective" held from 1<sup>st</sup> to 5<sup>th</sup> June 2021, E&CE Department, NIT Hamirpur HP.

5) **Prof. RajeevanChandel** has been reviewer for two prestigious International Conferences namely, 25<sup>th</sup> International Symposium on VLSI Design and Test (VDAT-2021) and 10<sup>th</sup> International Symposium on Embedded Computing and System Design (ISED-2021).

6) Keynote Plenary Lecture was delivered on 12<sup>th</sup> July 2021 by **Prof. RajeevanChandel** on the topic "*CMOS VLSI Design - Case Studies & Emerging Issues*," in AICTE Sponsored Short Term Training Program (STTP) on Emerging Issues of VLSI Design, organized by ITM University Gwalior, Madhya Pradesh, India, held from 12<sup>th</sup> to 17<sup>th</sup> July 2021.

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

1. Amit Bage, Saurabh Kumar, Chandra Shekhar Prasad conducted 5 Days seminar w.e.f. 23/07/2021 to 27/07/2021 on "Recent Advancement in Microwave Filters and Antennas: Design, Techniques and Applications" sponsored by NIT, Hamirpur (HP)
2. Sandeep Kumar Singh, Dharmendra Singh Yadav, Ashok Kumar conducted seminar on Intelligent Device Computing, Communication and Signal Processing on January 10-14, 2022 sponsored by NIT, Hamirpur
3. Sandeep Kumar Singh, Dharmendra Singh Yadav conducted seminar on Internet of Things w.e.f. June 1-5, 2021 sponsored by AICTE ATAL .
4. Dr. Gopal Rawat Recent Advances and Challenges in Nanoscale Devices: Design, Materials, and Applications Perspective w.e.f. June 1-5, 2021 sponsored by AICTE ATAL

#### a) Participated by Faculty Members:

1. Gagnesh Kumar: 5 Days Workshop on Blockchain Technology and its Applications **VITAP at University, Andhra Pradesh w.e.f. 17th January 2022 to 21st January 2022 .**
2. Sandeep Kumar Singh: Azadi ka Amrit Mahotsav Seminar "Science, Technology & Society: The promise for the Next Generation" **Indian Institute of Technology Delhi on 29/03/2022-07/04/2022**
3. Prof. Rajeevan Chandel: Attended Webinar on "GaN on Silicon front-end electronics in advanced microwave and millimeter-wave systems for space and defence", by Prof. Ernesto Limiti, University of Rome, Tor-Vergata, Italy **at NITTTR, Chandigarh on 26th August, 2021**
4. Prof. Rajeevan Chandel: Attended International Colloquium on Technology Readiness for High Volume Semiconductor Chip Manufacturing (Fab) ICTFAB-202 **at IIT Mandi, HP15-16 Nov, 2021.**
5. Prof. Rajeevan Chandel Attended 6th Virtual Awareness Programme on Intellectual Property Rights **Jointly organized by PHD Chamber of Commerce and Industry, Office of CG of Patents, Design & Trademarks, Ministry of Commerce and Industry GoI, and supported by NIT Hamirpur HP on 22 Dec, 2021.**
6. Prof. Rajeevan Chandel Attended International Symposium on History & Future of Transistor - 75 Years of Invention of the Transistor **The National Academy of Sciences India (NASI)-Delhi, Chapter, IEEE EDS and DeenDayalUpadhyaya College, Delhi on 23rd Dec to 31st Dec 2021**
7. Prof. Rajeevan Chandel Attended e-STC on Recent Trends in Networks and Communication: Theory & Challenges (RTNC-2021) **at DoCSE, NIT Hamirpur in collaboration with IEEE Communication Society (IEEEComSoc), Delhi Section1-6 Dec, 2021**
8. Amit Bage, 5 Days Workshop on "Innovation in Design and Development of Hybrid Antennas for 5G Communications" Organized by Technology Innovation and Incubation Centre (TIIC) and ABV-IIITM Gwalior, India. (29 January – 02 February, 2022).
9. Mahesh Angira attended "INTERNATIONAL COLLOQUIUM on TECHNOLOGY READINESS For HIGH VOLUME SEMICONDUCTOR CHIP MANUFACTURING (FAB) (ICTFAB-2021)", conducted by IIT, Mandi during Nov. 15-16, 2021.

10. Mahesh Angira has participated in the INUP - i2i Familiarization Workshop on Nanofabrication Technologies, held at IIT Bombay during January 19-21, 2022.

11. Dr. Gargi Khanna attended International Colloquium on Technology Readiness for High Volume Semiconductor Chip Manufacturing (Fab) ICTFAB-2021, organized by IIT Mandi, HP during Nov. 15-16 2021.

12. Dr. Gargi Khanna attended 6<sup>th</sup> Virtual Awareness Programme on Intellectual Property Rights, jointly organized by PHD Chamber of Commerce and Industry, Office of CG of Patents, Design & Trademarks, Ministry of Commerce and Industry GoI, and supported by NIT Hamirpur HP on 22Dec.,2021

13. Dr. Gargi Khanna attended workshop on 'How to convert innovative ideas or work into a Patent' organized by NIT Hamirpur on 12 March 2022.

#### 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	Science and Engineering Research Board (SERB), DST, India.	3798120	Dr. Gopal Rawat	Ongoing
Development of Quantum Dots and Pb+2 Free Hybrid Perovskite Based Flexible Photovoltaic Devices	SRG, Science and Engineering Research Board (SERB), DST, Funded.	3243900	Dr. Gopal Rawat	Ongoing
Through Package Vias in Glass Interposer for Heterogeneous Three-Dimensional Integration	Core Research Grant of SERB, GoI	Rs. 17.34 Lakh	Dr. Rohit Dhiman	On-going
Young Faculty Research Fellowship	MeitY, GoI	Rs. 7.40 Lakh (First Year)	Dr. Rohit Dhiman	On-going

**(b) Research Publication:**

1. Gagnesh Kumar and Sunil Agrawal, "Suppression of Ambipolar Current in Enhanced Gate Based Schottky Barrier CNTFET Using Ant Lion Optimization," *Silicon*, Springer, March 2022. doi.org/10.1007/s12633-022-01807-3, Springer Nature B.V. 2022.
2. Gagnesh Kumar and Sunil Agrawal, "Ant Lion Optimizer for Suppression of Ambipolar Conduction in Schottky Barrier Carbon Nanotube Field Effect Transistors," *Silicon*, Springer, September 2021, doi.org/10.1007/s12633-021-01353-4 © Springer Nature B.V. 2021.
3. Param Dev, Surendra Kumar Gupta, Amit Bage and Lakhindar Murmu, "High Isolated MIMO Antenna for WLAN Applications" *Journal of Circuits, Systems and Computers* Vol. 31, No. 06, 2250109 (2022).
4. SURENDRA KUMAR R. GUPTA, AMIT M. BAGE, MILKA M. POTREBIĆ, LAKHINDAR R. MURMU, "Ultra-Wideband Slot-Loaded Planar Antenna for Future 5G Millimeter Wave" *TEHNIKA – ELEKTROTEHNIKA*, vol. 70 (5), 2021.
5. Ghosh, I., Angira, M. Q Factor Modeling and Material Selection of a Variable Capacitor based on RF-MEMS Technology. *Trans. Electr. Electron. Mater.* (2021).
6. Sushila kumari, M.Angira, "Selection of Piezoelectric Material for MEMS Technology based Microphone by using MCDM Methods", *IEEE International Conference on Intelligent Technologies (CONIT 2021)* Hubballi, Karnataka, India.
7. Vivek Verma, M.Angira, "A Shunt Capacitive Switch based on RF MEMS Technology for 5G application: Design and Investigation", *IEEE International Conference on Intelligent Technologies (CONIT 2021)* Hubballi, Karnataka, India.
8. R. Kumari, M.Angira, "A Analysis on Maximizing the Performance of RF-MEMS Switches across Multiple Domains through Appropriate Bridge Material Selection, *Microsystem Technologies*.
9. K. Gaur and Sandeep Kumar Singh, "CNN-Bi-LSTM Based Household Energy Consumption Prediction," *2021 3rd International Conference on Signal Processing and Communication (ICPSC)*, 2021, pp. 233-237.
10. N. Garg and Sandeep Kumar Singh, "Machine Learning based Forecasting of Wind Power," *2021 10th IEEE International Conference on Communication Systems and Network Technologies (CSNT)*, 2021, pp. 612-616.
11. K. Wattal and Sandeep Kumar Singh, "Deep Learning based Forecasting of Consumption of Petroleum Products in India," *2021 10th IEEE International Conference on Communication Systems and Network Technologies (CSNT)*, 2021, pp. 565-569.
12. K. Wattal and Sandeep Kumar Singh, "Multivariate Air Pollution Levels Forecasting," *2021 2nd International Conference on Advances in Computing, Communication, Embedded and Secure Systems (ACCESS)*, 2021, pp. 165-169.
13. Priya Kaushal & Gargi Khanna, *The role of 2-Dimensional materials for electronic devices*, vol.143, *Materials Science in Semiconductor Processing*, Elsevier, 2022
14. Priya Kaushal, Tarun Chaudhary & Gargi Khanna, *Effect of Tensile Strain on Performance Parameters of Different Structures of MoS2 Monolayer*, *Silicon* Springer July 2021.

15. Sadhana Singh, T Chaudhary, Gargi Khanna, "Recent advancements in Wide Band Semiconductors (SiC and GaN) Technology for Future Devices," Silicon Springer July 2021
16. G. Vishnu Pavan Reddy, Gargi Khanna, "Design and Implementation of 8-bit Vedic-Wallace Multiplier," IOSR Journal of VLSI and Signal Processing, vol. 11(2), p-ISSN : 2319 – 4197, 2021
17. Prateek Asthana, Apoorva Dwivedi and Gargi Khanna "Design and analysis of a Sensitive Micro-scale Capacitive Accelerometer for Implantable Hearing Aid with autonomous energy harvester system," in International conference on Recent Developments on Materials, Reliability, Safety, and Environmental issues (IMRSE-2021) held at NIT Jalandhar during June 25-27, 2021.
18. Prateek Asthana, Gargi Khanna, Tarun Chaudhary and Sahil Sankhyan, "Design of Reed-Solomon Encoder for Error Detection in DRAM cells," in Women Researchers in Electronics and Computing (WREC), Jalandhar, India, 2021.
19. Maulika Sharma, Hariom Jat, Jayam Verma, Doudikthang and Gargi Khanna, "Satellite Imagery Analysis for Monitoring Vegetation Health," International Conference on Recent Development on Materials, Reliability, Safety and Environmental Issues (IMRSE– 2021), NIT Jalandhar 25-27 June 2021
20. Apoorva Dwivedi, Prateek Asthana, Gargi Khanna and Tarun Chaudhary, "Variation of Sensitivity of MEMS Capacitive Accelerometer Based Microphone with suspension system topology", in Hearing Loss-From Multidisciplinary Teamwork to public Health, Intech Open, 2021 <http://dx.doi.org/10.5772/intechopen.97185>
21. Samritika Thakur, and Aman Kumar. "X-ray and CT-scan-based automated detection and classification of covid-19 using convolutional neural networks (CNN)." Biomedical Signal Processing and Control 69 (2021): 102920.
22. Kavya Sharma, B. Mohan Rao, Puneeta Marwaha, and Aman Kumar" Accurate Detection of Congestive Heart Failure using Electrocardiomatrix Technique" has been assigned the following manuscript number: MTAP-D-21-02922. Submitted to Springer (Multimedia Tools and Applications) (Status: Accepted)-2022.
23. B. Mohan Rao, and Aman Kumar "Machine Learning Techniques used for Bio-medical and Healthcare Systems" Submitted to Advanced Research in Electronic Devices for Biomedical and mHealth, with AAP, CRC Press, Taylor & Francis in Scopus indexed (Status :Accepted)-2021.
24. Karan Singh Parmar and Aman Kumar, "ECG Signal Based Automated Hypertension Detection using Fourier Decomposition Method and Cosine Modulated Filter-bank", Biomedical Signal Processing and Control, 2022(Status: Minor Revision).
25. Mekala Girish Kumar, Yash Agrawal, Vobulapuram Ramesh Kumar, and Rajeevan Chandel, "A prominent unified crosstalk model for linear and sub-threshold regions in mixed CNT bundle interconnects," Microelectronics Journal, <https://doi.org/10.1016/j.mejo.2021.105294>, vol. 118, no.105294, pp. 1-11, Dec 2021.
26. Animesh Srivastava and Rajeevan Chandel, "A Novel Co-planar Five Input Majority Gate Design in Quantum-Dot Cellular Automata," IETE Technical Review, Taylor & Francis Publication, 2021. <https://doi.org/10.1080/02564602.2021.1914205>.
27. Neha Sharma and **RajeevanChandel**, "Variation Tolerant and Stable Low Power FG MOS based SRAM Cell Design," *International Journal of Modeling, Simulation, and Scientific Computing*, <https://doi.org/10.1142/S179396232150029X>, vol. 12, no. 04, 2150029, 2021.

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28. Sunil Jadav, **RajeevanChandel**, MunishVashishath, "Modeling the Impact of Fundamental and Quantum Resistance on the Performance of SWCNT Based RLC Interconnects," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, Wiley*, 33:e2698. <https://doi.org/10.1002/jnm.2698>.
29. Sunil Jadav, **RajeevanChandel**, MunishVashishath, "Modeling the Impact of Fundamental and Quantum Resistance on the Performance of SWCNT Based RLC Interconnects," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, Wiley*, 33:e2698. <https://doi.org/10.1002/jnm.2698>.
30. Sunil Jadav, Shubham Tayal, **Rajeevan Chandel**, Munish Vashishath, "High speed RLC equivalent RC delay model using normalized asymptotic function for global VLSI interconnects," *Microelectronics Journal, Elsevier*, <https://doi.org/10.1016/j.mejo.2020.104941>, vol. 107, pp. 104941, 2021.
31. Ashish Singh, **RajeevanChandel, RohitDhiman**, "Proposal and analysis of relative stability in mixed CNT bundle for sub-threshold interconnects," *Integration- the VLSI Journal*, Elsevier, vol. 80, pp. 29-40, 2021. <https://doi.org/10.1016/j.vlsi.2021.05.004>.
32. NivaliYadav, Umesh Thakur, AkankshaPoonia, **RajeevanChandel**, "Post-Crash Detection and Traffic Analysis," 8th IEEE International Conference on Signal Processing and Integrated Networks (SPIN-2021), DoE&CE, ASET, Amity University, Noida, Delhi-NCR, India, 26-27 August 2021.
33. Samarth Agarwal, **RajeevanChandel**, "Energy Efficient SRAM Design Using FinFETs and Potential Alteration Topology Schemes," 10<sup>th</sup> International Symposium on Embedded Computing and System Design (ISED-2021), DA-IICT, Gandhinagar, Gujarat, 16<sup>th</sup> -18<sup>th</sup> July 2021.
34. Samarth Agarwal, **RajeevanChandel**, "A Comparative Study of Gallium Nitride Field Effect Transistors with Conventional Silicon Devices," International Conference on Recent Development on Materials, Reliability, Safety and Environmental Issues (IMRSE–2021), DR B R Ambedkar NIT, Jalandhar, held from 25-27 June, 2021.
35. Sonalika Singh, **RajeevanChandel**, "Design and Simulation of Low Noise Amplifier using Active Inductor for 100nm CMOS Technology," International Conference on Recent Development on Materials, Reliability, Safety and Environmental Issues (IMRSE–2021), Dr. B R Ambedkar NIT, Jalandhar, held from 25-27 June, 2021.
36. AfreenHaider and **RajeevanChandel**, "Design and Comparative Analysis of a Single Stage Differential Amplifier using FinFETs and MOSFETs," International Conference on Recent Development on Materials, Reliability, Safety and Environmental Issues (IMRSE–2021), Dr. B R Ambedkar NIT, Jalandhar, held from 25-27 June, 2021.
37. RazdaBisen, **RajeevanChandel**, "Machine Learning Usage for Decision Making in Automobile Sector," International Conference on Recent Development on Materials, Reliability, Safety and Environmental Issues (IMRSE–2021), Dr. B R Ambedkar NIT, Jalandhar, held from 25-27 June, 2021.
38. Bharat Kumar Jangid, Dilip Singh, **RajeevanChandel**, and AshwaniRana, "A Novel Approach for Excitation Codebook and Perceptual Weighting Filter Design," 3<sup>rd</sup> IEEE International Conference on Innovations in Power and Advanced Computing Technologies (i-PACT-2021), is jointly organized by University of Malaya (UM), Kuala Lumpur, Malaysia and Vellore Institute of Technology (VIT), Vellore, India, technically co-sponsored by IEEE PES, Malaysia, in association with IEEE NPSS-VIT, IEEE PES-VIT, IEEE IAS-VIT, 27-29, November 2021.

**Book Chapters Published**

Sr. No.	Title of the Chapter	Name (s) of author(s) of chapter	Title of Book	Name(s) of Editor(s)	Year of Publication	Publisher
1.	Energy Efficient SRAM Design Using FinFETs and Potential Alteration Topology Schemes	Samarth Agarwal and <b>RajeevanChandel</b>	Artificial Intelligence Driven Circuits and Systems, Lecture Notes in Electrical Engineering, vol. 811, pp. 65-75. <a href="https://doi.org/10.1007/978-981-16-6940-8_6">https://doi.org/10.1007/978-981-16-6940-8_6</a> . <b>[SCOPUS]</b> .	Mishra B., Mathew J., and Patra P. (Eds)	<b>2022</b>	Springer, Singapore
2.	Fixed-Point Divider Using Newton Raphson Division Algorithm	PawanKumar Pandey, Dilip Singh, and <b>RajeevanChandel</b>	<i>Lecture Notes in Electrical Engineering (LNEE)</i> , ISBN 978-981-16-0275-7, <a href="https://www.springer.com/gp/book/9789811602740">https://www.springer.com/gp/book/9789811602740</a> , vol. 748, Ch.19, pp. 225-234, 2021. <b>[SCOPUS]</b> .	Vijay Nath , and J. K. Mandal (Eds)	<b>2021</b>	Springer, Singapore

(c) Doctoral Programme: 21 ongoing

(d) Ph.D Degree awarded: 08

e) Thesis submitted : 03

**(f) DOCTORAL PROGRAMME:**

Sr. No.	Name of Guide	Name of students
1.	Prof. Rajeevan Chandel	Mr. Deepanshu Kaushal
2.		Mr. Dilip Singh
3.	Dr. Surender Soni	Mr. Rahul Kumar
4.		Ms. Nikita Sandil
5.	Dr. Ashok Kumar	Mr. Pawan Kumar Gupta
6.		Mr. Neeraj Sharma( Part time)
7.	Dr. Ashwani Rana	Ms. Priyanka
8.	Dr. Philemon Daniel	Ms. Shefali Saxena
9.		Ms. Priya Kaushal
10.		Ms. Sachindra Bharti
11.	Dr. Rohit Dhiman	Mr. Ajay Kumar
12.	Dr. M. R. Bharti	Ms. Tanuja Dogra
13.		Ms. Pramila Devi
14.	Dr. Krishan Kumar	Ms. Nidhi Sharma
15.		Mr. Manish Bhatia ( Part time)
16.	Dr. Mahesh Angira	Ms. Raj Kumari
17.	Dr. Rakesh Sharma	Mr. G. Devender ,
18.		Ms. Shakshi Anand
19.	Dr. Aman Kumar	Mr. B. Mohan Rao
20.	Dr. Amit Bage	Mr. Surendra Kumar Gupta
21.	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	Quantity in No.'s	Cost (Rs. In Lakh) in
1.	Analog communication Kit	11Nos.	Rs.990000/-
2.	Net Sim Simulation Software	01 No. 10 Users	Rs.1023750
3.	PCM Modulation and De-Modulation Kit	05 Nos.	Rs.567875/-
4.	ASK/PSK/BPSK/DBPSK Kit	05 Nos.	
5.	Error Correction and Hamming Code development system	05 Nos.	
6.	TDM and Demultiplexing Kit	05 Nos.	
7.	Delta Modulation and De-Modulation Kit	05 Nos.	
8.	Component Development System (Bread Board)	15	96,862/-
9.	Analog DC voltmeter (0-1V)	50	19883.00
10.	Analog DC voltmeter (0-10V)	50	19883.00
11.	Analog DC voltmeter (0-20V)	50	19883.00
12.	Analog DC ammeter (0-25mA)	50	19883.00
13.	Analog DC ammeter (0-50mA)	50	19883.00
14.	Trainer Kit with built in Power supply	50	19883.00
15.	Component development system (Bread Board)	20	120000.00
16.	Trainer Kit with built in Power supply	10	185000.00
17.	Frequency meter	2	21530.00
18.	Tuneable probe	5	17488.00
19.	VSWR	2	22623.00
20.	Slotted line	1	8306.00

5. TECHNICAL ASSOCIATION / SOCIETIES:-NIL –

6. DETAIL OF THE LABORATORIES:

<b>Sr. No.</b>	<b>Name of the Laboratory</b>
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. Sant Ram Chauhan (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 Ku. Sharma	Dr. Mohit Pant	Dr. Param Singh
Dr. Anoop Kumar	Dr. Somesh Ku. Sharma		Dr. Manoj Kumar Sinha
	Dr. Sant Ram Chauhan		Dr. Akhilesh Ku. 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

**(b) ADMISTARATIVE & TECHNICAL STAFF**

Asstt. SG-II	Technical Assistant (SG-II)	Sr. Technical Assistant	Sr. Technician (SG-II)	Technician (Outsource)
Mr. Raman Thakur	Mr. Partap Chand Dhiman	Mr. Dev Raj Thakur	Mr. Surinder Gautam	Mr. Mandeep Sen
				Mr. Dinesh Pathania
				Mr. Ravi Kant

**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
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**4. RESEARCH:**

(a) **Research Scheme:**

Title of the Scheme	Sponsored by	Assistance Received ₹ (in lakh)	Investigator	Brief Report
Drawing Strategy	DST NSTMIS.	11.43 Lakhs	Dr. Somesh	Ongoing

Canvas for the Global trade of High Technology Products: Study of High Defence Systems funded by DST, New Delhi	New Delhi		Sharma	
Health Care Solid Waste Management Practices in HP: An assessment and development of Strategic Tools	DST SCSTE, Shimla	4.80 Lakhs	Dr. Somesh Sharma	Ongoing
Manufacture of pine needle based fibre boards/particle boards	DST (Govt. of India)	41 Lakhs	Dr. Rajesh Sharma (Co-PI)	Ongoing
Numerical Simulation of Thermoelastic Fracture Problems Using Element Free Galerkin Method	DST (Govt. of India)	16.38 Lakhs	Dr. Mohit Pant	Sanction on Apr-2017, Project Ref. No. : ECR/2017/00 0131
Experimental and Numerical Investigation of Pool Boiling and Flow Boiling Enhancement by Surface Modification	Science and Engineering Research Board, Government of India	14,67,400	Dr. Deepak Sharma	Ongoing
Investigation on Atmospheric Water Generator with Air Humidification Unit.	DTE- Research Promotion under Technical Education-STEM, Education Department	2 Lakhs	Dr. Akhilesh Kumar Choudhary (Co-PI)	Ongoing

	Government of Gujarat India			
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**(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. Dilshad Ahmad Khan	Materials and Manufacturing Processes 37, no. 4 (2022): 437-447.		Faiz Iqbal, Zafar Alam, Dilshad Ahmad Khan, and Sunil Jha. "Automated insular surface finishing by ball end magnetorheological finishing process."	2022
2.	Dr. Manoj Kumar Sinha	International Journal of Productivity and Quality Management		Kamal Kishore and Manoj Kumar Sinha, Development of a hierarchical model for significant barriers in grinding technology using an integrated AHP-TISM approach, (accepted for publication)	
3.	Dr. Manoj Kumar Sinha	International Journal of Materials Engineering Innovation (accepted for publication)		Pankaj Sharma, Kamal Kishore, Manoj Kumar Sinha, Vishal Singh, Electrical discharge machining of nickel-based superalloys: a comprehensive review,	
4.	Dr. Rajesh Kumar	," Diamond and Related Materials, vol. 121, p. 108771,		Rajesh Kumar, "Effect of Grain Boundaries' Doping on the Mechanical Properties of Nitrogen-Doped Bicrystalline	2022.

				Graphene	
5.	Dr. Deepak Sharma	International Journal of Heat & Mass Transfer, Elsevier, Vol. 181, pp.-1-27, December, 2021.		Sudhir Kumar Singh, Deepak Sharma, Review of pool and flow boiling heat transfer enhancement through surface modification,	2021
6.	Dr. Varun	Renewable Energy, Volume 189, April 2022, Pages 1259-1277.		Thermohydraulic efficiency and correlation development of an indoor designed jet impingement solar thermal collector roughened with discrete multi arc ribs,	2022
7.	Dr. Varun	Sustainable Energy Technologies and Assessments, Volume 51, June 2022, 101844		A detailed review on the performance of photovoltaic/thermal system using various cooling methods,	2022
8.	Dr. Akhilesh Kumar Choudhary	Energy & Environment SAGE Publications		Analysis of vibrations in a diesel engine produced by Jatropha biodiesel using heterogeneous catalyst	2022
9.	Dr. Akhilesh Kumar Choudhary	Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science SAGE		Optimization and prediction of engine block vibration using micro-electro-mechanical systems capacitive accelerometer, fueled with diesel-bioethanol (water-hyacinth) blends by response surface	2021

		Publications		methodology and artificial neural network	
10.	Dr. Akhilesh Kumar Choudhary	Lecture Notes in Mechanical Engineering <a href="https://doi.org/10.1007/978-981-15-9678">https://doi.org/10.1007/978-981-15-9678</a>		Effect of Bioethanol-Diesel Blends on the Vibrations of Diesel Engine	2021
11.	Dr. Akhilesh Kumar Choudhary	International Journal of Renewable Energy Research (IJRER)		Optimization of Operating Parameters of Diesel Engine Powered with Jatropha Oil Diesel Blend by Employing Response Surface Methodology	2021
12.	Dr. Akhilesh Kumar Choudhary	Case Studies in Thermal Engineering,		An Experimental Investigation Of Emission Performance of Heterogenous Catalyst Jatropha Biodiesel using RSM	2021
13.	Dr. Akhilesh Kumar Choudhary	Energy Conversion and Management: X		Influence of lean premixed ratio of PCCI-DI engine fueled by diesel/biodiesel blends on combustion, performance, and emission attributes; a comparison study	2021
14.	Dr. Akhilesh Kumar Choudhary	Process Safety and Environmental Protection		Experimental study on combustion, performance, and emission behaviours of diesel/WCO biodiesel/Cyclohexane blends in DI-CI engine	2021

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Type	Title	Publisher	Authors	ISBN/ISSN No.	Year
Book	"Magnetic Field Assisted Finishing: Methods, Applications and Process Automation". CRC Press, Taylor & Francis Group.	CRC Press	Dilshad Ahmad Khan, Zafar Alam, Faiz Iqbal	9780367754389	2021

## ii) PAPER

PRESENTED IN CONCERNECE/SEMINAR/SYMPOSIUM:

Sl. No.	Name of Faculty	Details of Conference Proceeding	National / International	Title of the Paper	Year of Publication
1.	Dr. Dilshad Ahmad Khan	Paper presented in 8th International and 29th All India Manufacturing Technology, Design and Research Conference(AIMTDR-2021), Dec. 09-11, 2021, PSG College of Technology & PSG Institute of Technology and applied research, Coimbatore (Tamil Nadu) India.		Belt Type Magnetorheological Finishing Setup-A Novel Design and Simulation Studies"	2021
2.	Dr. Dilshad Ahmad Khan	Paper presented in 8th International and 29th All India Manufacturing Technology, Design and Research Conference		"A Theoretical and Experimental Study on Forces in Ball End	2021

		(AIMTDR-2021), Dec. 09-11, 2021, PSG College of Technology & PSG Institute of Technology and applied research, Coimbatore (Tamil Nadu) India.		Magnetorheological Finishing Process”	
3.	Dr. Dilshad Ahmad Khan	Paper presented in International Conference on 3rd Innovative Product Design and Intelligent Manufacturing Systems (IPDIMS-2021). Dec. 30-31, 2021, National Institute of Technology Rourkela (Odisha), India.		“Enhancement of Magnetic Flux Density using a Novel Electromagnets Configuration in Belt Type Magnetorheological Finishing Setup”	2021
4.	Dr. Deepak Sharma	Futuristic Advancements in Materials, Manufacturing and Thermal Sciences (ICFAMMT-22), IITRAM Ahmedabad. bubble fin using Al <sub>2</sub> O <sub>3</sub> /water nanofluid: Numerical investigation,		Heat transfer characteristics of plate heat exchanger with International Conference on	2022
5.	Dr. Akhilesh Kumar Choudhary	International Conference on Applied Mechanics, Machine Learning and Advanced Computation, AMMLAC 2022, 16th - 17th March 2022, National Institute of Technology, Raipur	International	A review of performance and emission parameters of diesel engines using Bio-diesel fuel blended with hydrogen	2022
6.	Dr. Akhilesh Kumar	International Conference on Thermo Fluids and	International	A Review on Combustion and Performance	2022

	Choudhary	System Design (ICTFSD 2022), 22-23 March 2022, Birla Institute of Technology Mesra, Ranchi-835215, Jharkhand		Characteristics of the Hydrogen Enrichment in Diesel and Biodiesel	
7.	Dr. Akhilesh Kumar Choudhary	International Conference on Thermo Fluids and System Design (ICTFSD 2022), 22-23 March 2022, Birla Institute of Technology Mesra, Ranchi-835215, Jharkhand	International	Performance and emission characteristics of diesel engine fueled with phenolic antioxidant with Jatropha biodiesel blends	2022
8.	Dr. Akhilesh Kumar Choudhary	International Conference on Thermo Fluids and System Design (ICTFSD 2022), 22-23 March 2022, Birla Institute of Technology Mesra, Ranchi-835215, Jharkhand	International	Effect of Antioxidant (Clove Oil) Additive to Evaluate Characteristics of Biodiesel-Fueled engines in terms of Performance and Emissions	2022
9.	Dr. Akhilesh Kumar Choudhary	1 International Conference on Advances in Water Treatment and Management (ICAWTM-22) 25-26 March 2022, PDPU Gandhinagar, Gujarat, India	International	Performance analysis of Atmospheric water generator to generate water from Atmosphere: A case study of Patan district	2022

- (c) Doctoral Programme: .....Nos. ongoing (During Session 2021-2022)
- (d) Ph. D. Degree awarded: ..... Nos. (During Session July, 21-22)
- (e) Master Thesis completed: ..... Nos. (M.Tech in Thermal/CAD- CAM/Energy Technology (Admitted in 2020 and Passed in 2022))

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. Navneet Arya	Dr. Varun	-	2018	Full Time	Passive Heat Transfer Augmentation Techniques	In Progress (19-07-2018)
2.	Mr. Vishal Kumar	Dr. Debasish Das	-	2018	Full Time	Experimental Investigation of Bio Diesel in Modified Diesel Engine	In Progress (19-07-2018)
3.	Mr. Ajay Kumar	Dr. Prashant Dhiman	-	2018	Full Time	Thermal Performance of New Solar Thermal Air Heater	In Progress (19-07-2018)
4.	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)
5.	Mr. Amitesh Sharma (QIP)	Dr. Prashant Dhiman	-	2018	Full Time	Performance of Jet Impingement Type Solar Air Heat	In Progress (01-08-2018)
6.	Mr. Roopak Varshney	Dr. Param Singh	-	2019	Full Time	Assisted Electrical Discharging Machine	In Progress 22-07-2019
7.	Mr. Kamal Kishore	Dr. Manoj Kumar Sinha	-	2019	Full Time	Sustainable Machining of Difficult to Machine Materials	In Progress 22-07-2019

8.	Mr. Sudhir Kumar Singh	Dr. Deepak Kumar Sharma	-	2019	Full Time	Boiling Heat Transfer Enhancement	In Progress 22-07-2019
9.	Mr. Ayush Awasthi	Dr. Mohit Pant	-	2019	Full Time	Computational Fracture Mechanics	In Progress 22-07-2019
10.	Mr. Yogesh Kumar Yadav	Dr. Siddharatha	-	2019	Full Time	Erosion Wear Modelling	In Progress 22-07-2019
11.	Mr. Vivek Singh	Dr. Rajesh Kumar Sharma	-	2019	Full Time	Experimental Investigation on Tribological Behaviour of Material	In Progress 22-07-2019
12.	Ms. Akanksha Maurya	Dr. Santosh B. Bopche	-	2019	Full Time	Investigations on the Performance Improvement of Solar Cavity Receivers	In Progress 22-07-2019
13.	Mr. Vijay Kumar	Dr. Akhilesh Kumar Choudhary	-	2019	Full Time	Condition Monitoring of Mechanical System	In Progress 22-07-2019
14.	Mr. Rajat Kumar	Dr. Varun	-	2019	Full Time	Thermal Management System using Heat Pipes	In Progress 22-07-2019
15.	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)
16.	Mr. Saurabh Thakur	Dr. Parnika Shrivastava	-	2020	Full Time	Incremental Sheet Forming of Polymer Material	In Progress (08-01-2020)
17.	Mr. Sohan Lal Sharma	Dr. Ajoy Debbarma	-	2020	Full Time	Thermal Storage System for Power Generation using TEG Models	In Progress (08-01-2020)

18.	Mr. Prince Oliver Horo	Dr. Dilshad Ahmad Khan	-	2020	Full Time	Magnetorheological Finishing (MRF)	In Progress (08-01-2020)
19.	Mr. Ankur Dwivedi	Dr. Anoop Kumar	-	2020	Full Time	Battery Thermal Management System	In Progress (08-01-2020)
20.	Mr. Ashutosh Kumar Verma	Dr. Laxmikant Yadav	-	2020	Full Time	Solar Assisted Deficient Cooling Tower	In Progress (08-01-2020)
21.	Mr. Love Kumar	Dr. Rajiv Kumar Sharma	-	2020	Full Time	Industrial Engineering	In Progress (08-01-2020)
22.	Mr. Biswajit Sahoo	Dr. Priyadarshi Biplab Kumar	-	2020	Full Time	Robotics	In Progress (08-01-2020)

iv) **PATENT:**

Sr. No.	Title of Patent (CBR No.)	Application Number	Application filing Agency/office	Application Filing date	Present Status
1	Extrusion Pressure Based Magnetorheological Finishing Setup for Improved Finishing of Non-Ferromagnetic Workpieces and the Method Thereof,  by Dr. Dilshad Ahmad Khan, Prince Oliver Horo, Saurabh Singh Rathore & Prabhat Kumar	20221101396 7	---	---	----

2	Solar Tree for Energy Generation By. Dr. Akhilesh Kumar Choudhary	358776001	The Office of the Controller General of Patents, Designs & Trade Marks (CGPDTM)  Govt. of India	17.02.2022	Published
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## (f) DOCTORAL PROGRAMME:

S. No.	Title of Thesis	University / Institute & Year of	Name of the Scholar	Name of the supervisors
1.	--	--	--	--

**5. DISTICTION ACHIEVED:**

- (a) By Student: -
- (b) By Faculty Member: -

**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

### 3.7 DEPARTMENT OF CHEMISTRY



#### 1. ACADEMIC STAFF

**HEAD:** Prof. A.S. Singha upto 27.09.2021 and

Dr. Pamita Awasthi from 28.09.2021 to continue.

#### FACULTIES:-

Professor	Associate Professor	Assistant Professor
Dr. A.S. Singha (Retired on 31.10.2021)	1) Dr.Pamita Awasthi	1) Dr. K.S. Ghosh Gr-I
	2) Dr.Bharti Gaur	2) Dr.Raj Kaushal
		3) Dr. Jai Prakash

2) SEMINAR, SYMPOSIA, SUMMER SCHOOL, WINTER SCHOOL, SHORT TERM

#### COURSES

Sponsoring Agency	Name of the Coordinator	Title of the seminar/symposia etc.	Duration	Venue
Nil				

**3). Research Publication: (w.e.f. 01.04.2021 to 31.03.2022)**

1. P. Sharma, J. Kherb, J. Prakash, • R. Kaushal, “A novel and facile green synthesis of SiO<sub>2</sub> nanoparticles for removal of toxic water pollutants,” Applied Nanoscience, June, 2021 <https://doi.org/10.1007/s13204-021-01898->
2. Jai Prakash, Samriti, A. Kumar, H. Dai, B.C.Janegitz, V. Krishnan, H. C. Swart, S. Sun, Novel rare earth metal doped one dimensional TiO<sub>2</sub> nanostructures: Fundamentals and multifunctional applications, Materials Today Sustainability, 13 (2021) 100066 , <https://doi.org/10.1016/j.mtsust.2021.100066>
3. D. Mathivanan, K. S. Devi, G. Sathiya, A. Tyagi, V. Silva, B. C. Janegitz, Jai Prakash, R. K. Gupta, Novel polypyrrole-graphene oxide-gold nanocomposite for high performance hydrogen peroxide sensing application, Sensors and Actuators A: Physical 328 (2021) 112769 <https://doi.org/10.1016/j.sna.2021.112769>
4. Promod Kumar, M C Mathpal, G. Jagannath, Jai Prakash, J. Maze, W. D. Roos, H. C. Swart, Optical limiting applications of resonating plasmonic Au nanoparticles in a dielectric glass medium, Nanotechnology 32 (2021) 345709. <https://doi.org/10.1088/1361-6528/abfee6>
5. 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, Materials Today Chemistry 20 (2021)100428 <https://doi.org/10.1016/j.mtchem.2021.100428>
6. Vandna Devi, Pamita Awasthi, Synthesis, structural, DFT and bio-assay of novel ethyl 3-(2-(4-chlorophenoxy)acetamido) propanoate on Galleria mellonella (wax moth) -a juvenile hormone mimic as potential insect growth regulator (IGR), India Journal of molecular structure (1248)2022 131464 <https://doi.org/10.1016/j.molstruc.2021.131464>
7. Devi, K., & Awasthi, P. (2021). Isoleucine with secondary sulfonamide functionality as anticancer, antibacterial and antifungal agents. Journal of Biomolecular Structure and Dynamics, 1-19. <https://doi.org/10.1080/07391102.2021.1893818>

8. Rana, S., K.S. Ghosh, Inhibition of fibrillation of human gammaD-crystallin by a flavonoid morin, *J. Biomol. Structure Dynamics* 39 (2021) 4279-4289.
9. S. Rana, M. Panwar, K. S. Ghosh, Docking studies with multiple molecular targets associated with SARSCoV-2 for drug repurposing, *Coronaviruses* 2 (2021) e260721189170.
10. S. Rana, P. Kumar, A. Sharma, S. Sharma, R. Giri , K. S. Ghosh, Identification of naturally occurring antiviral molecules for SARS-CoV-2 mitigation, *The Open COVID Journal*, 1 (2021) 38-46.
11. Jai Prakash, J Cho, YK Mishra, Photocatalytic TiO<sub>2</sub> nanomaterials as potential antimicrobial and antiviral agents: Scope against blocking the SARS-COV-2 spread, *Micro and Nano Engineering*, 14 (2022) 100100 <https://doi.org/10.1016/j.mne.2021.100100>
12. Samriti, Prateek, Manish, Raju Gupta, Jai Prakash, Hydrothermal synthesis and Ta doping of TiO<sub>2</sub> nanorods: Effect of soaking time and doping on optical and charge transfer properties for enhanced SERS activity, *Materials Chemistry and Physics*, 278 (2022) 125642 <https://doi.org/10.1016/j.matchemphys.2021.125642>
13. Jai Prakash, Samrit, D. wijesundera, I. Rajapaksa, Ion beam nano-engineering of surfaces for molecular detection using surface enhanced Raman scattering, *Molecular System Design and Engineering*, (Accepted, 14th March 2022) <https://doi.org/10.1039/D2ME00006G>
14. Samriti, Manish, Z.Chen, S. Sun, Jai Prakash, Design and engineering of graphene nanostructures as independent solar-driven photocatalysts for emerging applications in field of energy and environment *Molecular System Design and Engineering*, 7 (2022) 213 - 238. <https://doi.org/10.1039/D1ME00179E>
15. Samriti, V. Rajput, R. K. Gupta, Jai Prakash, Engineering metal-oxide semiconductor nanostructures for enhanced charge transfer: Fundamentals and emerging SERS applications, *J. Materials Chemistry C* 10 (2022) 73-95 DOI: 10.1039/D1TC04886D
16. Swati Verma, DS Mal, PR de Oliveira, B.C.Janegitz, Jai Prakash, R. K. Gupta, A facile synthesis of novel polyaniline/graphene nanocomposite thin films for enzyme-

free electrochemical sensing of hydrogen peroxide, *Molecular System Design and Engineering*, 7 (2022) 158-170 <https://doi.org/10.1039/D1ME00130B>

17. Z. Chen, G. Zhang, H. Chen, Jai Prakash, Y. Zheng, Shuhui Sun, Multi-metallic catalysts for the electroreduction of carbon dioxide: Recent advances and perspectives, *Renewable and Sustainable Energy Reviews*, 155C (2022) 111922. 10.1016/j.rser.2021.111922
18. Kaur M, Kaushal R. Synthesis and in-silico molecular modelling, DFT studies, antiradical and antihyperglycemic activity of novel vanadyl complexes based on chalcone derivatives. *Journal of Molecular Structure*. 2022 Mar 15;1252:132176
19. Vatsal M, Sharma A, Awasthi P, 1,5- Benzosulfonamide anthracenedione analogues of mitoxatrone as antibacterial and anticancer agents (2022) 61,pp *Indian Journal of Chemistry*.

#### 4. Patents filed: NIL

5. **Doctoral Programme:** - 12 Nos. on going.

Ph. D Degree Awarded: 05

Doctoral Programme :

Sr. No	Title	Supervisor and Co-Supervisor	Name of the student	Brief Report
1	"Synthetic Biological and Computational Studies on Juvenile Hormone Analogs as Potential Insect Growth Regulators"	Dr. Pamita Awasthi	Ms. Vandna Devi	In progress
2	Synthesis Biological Screening and DNA-Interaction studies of 9,10 anthraquinone class of Compounds as potential anticancer agents	Dr. Pamita Awasthi	Ms. Anjali Sharma	In progress
3	"Synthesis Computational and Biological Screening of Phenoxy Acetamide and	Dr. Pamita Awasthi	Ms. Neetika Kumari	In progress

	Sulfonamide Derivatives”			
4	“ Carbon Nano Tubes/Carbon Nano Dots Based Poly (arylene ether) Ketone Sulfone Polymer Nanocomposites as Proton Exchange Membrane”	Dr. Bharti Gaur Dr. A.S. Singha	Ms. Rashi	In Progress
5	“Bio Based Self Healing Coatings Based on Thermo Reversible Diel’s Alder Reactions”	Dr. Bharti Gaur	Ms. Shalini	In Progress
6	“Synthesis and Characterization of Multifunctional Dendritic Polymers in Drug Delivery Applications”	Dr. Bharti Gaur	Mr. Avtar Chand	In Progress
7	“Development of Nanomaterials as Amyloid Inhibitor and Antibacterial agents Elucidation at Molecular level”	Dr. K.S. Ghosh	Ms. Anchal Sharma	In Progress
8	“Schiff base Molecules as Chemosensor Applications in Metal Ion Sensing “	Dr. K.S. Ghosh	Ms. Shivani Sharma	In Progress
9	Carbon Quantum Dots and their Nanocomposites:Fabrication and Applications as Nanosensor	Dr.K.S Ghosh	Ms Sushma	In Progress
10	Chalcone based vanadium complexes, their antibacterial and antidiabetic studies	Dr. Raj Kaushal	Ms. Mandeep Kaur	In progress
11	Synthesis and Functionalization of Silica Nanoparticles for Removal of Water Pollutants”	Dr. Raj Kaushal Dr.Jai Prakash	Ms. Pratibha Sharma	In progress
12	“Synthesis and modification of photocatalyst nanomaterials for water treatment”	Dr.Jai Prakash	Ms.Samriti	In Progress

## 6. Popular Lectures by outside experts:

Sr.	Date	Speaker	Topic
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No.			
1	March 31 <sup>st</sup> , 2022	Prof.M.Packirisamy Concordia, University, Montreal, Canada.	Nano Integrated Bio Microsystems: Synthesis and Applications Including Cancer

7). Equipment procured under equipment Grant OH-35 : (during 1.04.2021 to 31.03.2022)

a)

Sr.No	Name of equipment	Qty	Cost
1	FTIR Spectrophotometer	01 No	Rs.22,01,850.00
2	Magnetic Sterrer with Hot Plate	08 Nos	Rs.69,760.00
3	pH Meter	07 Nos	Rs.80,000.00

Equipment procured under Project PI Dr Jai Prakash : (during 1.04.2021 to 31.03.2022)

b)

Sr.No	Name of equipment	Qty	Cost
1.	Hot Air Oven	01 No	Rs.44397.00
2	Spin Coating Unit	01 No	Rs.1,35,450-00

Equipment procured under WOS Project PI Dr Priyanka Sharma and Scientist Mentor Dr. Pamita Awasthi : (during 1.04.2021 to 31.03.2022)

c)

Sr.No	Name of equipment	Qty	Cost
1.	Rota mantle (100 ml)	2	23,600
2	Rota mantle (250 ml)	2	24,438
3	Magnetic stirrer1 Litre	2	17,040
4	Heating mantle -100 ml	2	3,812
5	Heating mantle -250 ml	2	3,512
6	Digital Ultra-Sonic bath-2.5 ltr	1	14,144
7	Mono Quartz Distillation uni	1	47,998
8	Digital water bath	1	13,869
9	Vacuum pump double stage	1	11,997
10	pH measurement digital	1	23,704
11	Rota evaporators	1	52,350

12	UV-Vis Single beam spectrophotometer	1	1,19,000
13	Autoclave Portable	1	13,330
14	Ultracentrifuge (max speed 16000 rpm) with	1	1,09,799
15	Simulation software Spartan'20	1	1,20,000

## 8. DETAIL OF THE LABORATORIES:

Sr.No.	Name of the Laboratory
1.	Under Graduate (UG) Laboratory-I
2.	Under Graduate (UG) Laboratory-II
3.	PG Organic Chemistry Lab
4.	PG Inorganic Chemistry Lab
5.	PG Physical Chemistry lab-I
6.	PG Physical Chemistry lab-II
7.	Bio Physical Research Lab
8.	Inorganic Chemistry Research lab
9.	Advanced Synthetic Chemistry Research Lab
10	Polymer Synthesis Research lab
11	Organic Synthesis Research Lab
12	Nanomaterials Research Lab
13	Computational Chemistry Lab
14.	Advanced Instrumentation 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. Yogeshwar 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 (2021-22)

## i. Research Scheme (2021-22):

S. No	Name of the Staff	Title of the Scheme	Sponsored by	Assistance Received (Rs.) in lakh	Investigator	Brief Report
1.	<b>Dr. Nidhi Gupta</b>	AI based Automatic Attendance and Behavior Monitoring Solutions	Isnartech Pvt. Ltd	6 Lakhs	Co-Investigator	Ongoing
2.	NA	MATRICS research grant	DST-SERB	Rs. 2,20,000 (first year grant)	<b>Dr. Neha Yadav</b>	A research project entitled "Development of Ensemble algorithms based on Non Gaussian models and deep learning neural networks for time series forecasting" is granted on Feb 2022 for 03 years duration.

## ii. Research Publications: Paper published in National and International Journals/Conferences/Seminars

1. 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) (2021), 4192-4204. **(Dr. R K Vats)**
2. 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. R K Vats)**
3. 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. R K Vats)**
4. Sachin Kumar Verma, Ramesh Kumar Vats, Avadhesh Kumar, Velusamy Vijayakumar Anurag Shukla: A discussion on the existence and uniqueness analysis for the coupled two-term fractional differential equations, Turkish Journal of Mathematics, 46(2022), 516-532. **(Dr. R K Vats)**

5. Jain, Subit K., Swati Tyagi, Neeraj Dhiman, and Jehad Alzabut. "Study of dynamic behaviour of psychological stress during COVID-19 in India: A mathematical approach." *Results in Physics* 29 (2021): 104661. **(Dr. Subit Kumar Jain)**
6. Sudeb Majee, Subit K. Jain, Rajendra K. Ray, Ananta K. Majee. A fuzzy edge detector driven telegraph total variation model for image despeckling. *Inverse Problems & Imaging*, 2022, 16 (2):367-396. doi: 10.3934/ipi.2021054. **(Dr. Subit Kumar Jain)**
7. Preeti Chandrakar, Aashish Kumar, Rifaqat Ali, and R. D. Patidar. "A Secure ECG based Smart Authentication Scheme for IoT Devices." In *2021 Emerging Trends in Industry 4.0 (ETI 4.0)*, pp. 1-7. IEEE, 2021. **(Dr. Rifaqat Ali)**
8. Shritesh Jamulkar, Preeti Chandrakar, Rifaqat Ali, Aman Agrawal, and Kartik Tiwari. "Evidence Management System Using Blockchain and Distributed File System (IPFS)." In *International Conference on Machine Learning and Big Data Analytics*, pp. 337-359. Springer, Cham, 2021. **(Dr. Rifaqat Ali)**
9. Aashish Kumar, Preeti Chandrakar, and Rifaqat Ali. "An Improved Two Factor Authentication Scheme for TMIS Based on Dual Biometrics." In *Cloud Security*, pp. 161-174. CRC Press, 2021. **(Dr. Rifaqat Ali)**
10. Pallavi Bhuarya, 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)**
11. Rifaqat Ali, and Preeti Chandrakar. "Design of Robust Smartcard-Based User Anonymous Authentication Protocol with AVISPA Simulation." In *Architectural Wireless Networks Solutions and Security Issues*, pp. 27-46. Springer, Singapore, 2021. **(Dr. Rifaqat Ali)**
12. Kumar N and Gupta N, Comprehensive Study on Machine Learning Approaches for Emotion Recognition, IEEE 2nd International Conference on Artificial Intelligence & Signal Processing (AISP 2022), Andhra Pradesh, India, February 12-14, 2022. **(Dr. Nidhi Gupta)**
13. Jhala V and Gupta N, Retrospective Review on Object Detection Approaches using Boundary Information, 2nd International Conference on Emerging Trends and Technologies on Intelligent Systems, CDAC, Noida, India. **(Dr. Nidhi Gupta)**
14. Gupta N, An adaptive smart healthcare system to detect tumor from brain MRI using machine learning algorithm, Brain Tumor MRI Image Segmentation Using Deep Learning Techniques, Elsevier, ISBN: 978-0-323-91171-9, 2022. **(Dr. Nidhi Gupta)**
15. N. Yadav, T. T. Ngo, J. H. Kim, An Algorithm for Numerical Solution of Differential Equations using Harmony search and Neural Networks, *Journal of Applied Analysis and Computation*. (Accepted for publication). **(Dr. Neha Yadav)**
16. 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. [https://doi: 10.1080/17455030.2021.1887545](https://doi.org/10.1080/17455030.2021.1887545). **(Dr. Pawan Kumar Sharma)**
17. Ankit Bajpai, P. K. Sharma, Rajneesh Kumar, Modeling of thermoelastic diffusion plate under two temperature, fractional-order, and temperature-dependent material properties,

- ZAMM, 101(10), e20200032, 2021. <https://doi.org/10.1002/zamm.202000321>. **(Dr. Pawan Kumar Sharma)**
18. Ankit Bajpai, P. K. Sharma, Rajneesh Kumar, Transient response of a thermo-diffusive elastic thick circular plate with variable conductivity and diffusivity, *Acta Mech.*, 232(9), 3343-3361, 2021. <https://doi.org/10.1007/s00707-021-03017-1>. **(Dr. Pawan Kumar Sharma)**
  19. Ankit Bajpai, P. K. Sharma, Variable thermal conductivity and diffusivity impact on forced vibrations of thermo-diffusive elastic plate, *J. of Thermal Stresses*, 44(9), 1-22, 2021. <https://doi.org/10.1080/01495739.2021.1955640>. **(Dr. Pawan Kumar Sharma)**
  20. P. K. Sharma, Ankit Bajpai, Rajneesh Kumar, Analysis of two temperature thermoelastic diffusion plate with variable thermal conductivity and diffusivity, *Waves in Random and Complex Media*, 2021, DOI: 10.1080/17455030.2021.1983232 **(Dr. Pawan Kumar Sharma)**
  21. Geetanjali Gilhotra, P. K. Sharma, A spherical cavity problem with nonlocal elastic effect considering memory-dependent thermoelastic diffusion and laser pulse heat source, *Waves in Random and Complex Media*, 2021, DOI: 10.1080/17455030.2021.1976436 **(Dr. Pawan Kumar Sharma)**
  22. Geetanjali Gilhotra, P. K. Sharma, Visco-thermodiffusive elastic interactions in plate within the framework of two temperature fractional thermoelastic models, *Indian J Phys*, 2022, DOI: <https://doi.org/10.1007/s12648-022-02313-3> **(Dr. Pawan Kumar Sharma)**
  23. Geetanjali Geetanjali, Ankit Bajpai, P. K. Sharma, Impact of variable thermal conductivity and diffusivity on two temperature fractional thermodiffusive elastic half space with dual phase lags, *Waves in Random and Complex Media*, 2022, DOI: 10.1080/17455030.2022.2063987 **(Dr. Pawan Kumar Sharma)**
  24. Ankit Bajpai, P. K. Sharma, Waves Propagation in Homogeneous Isotropic plate in Context of Two Temperature Generalized Thermoelasticity - International Conference on Mathematics in Space & Applied Sciences (ICMSAS-2019). (29-30 Nov, 2019) (Presented) **(Dr. Pawan Kumar Sharma)**
  25. 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. Pawan Kumar Sharma)**
  26. 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 & accepted for publication) **(Dr. Pawan Kumar Sharma)**
  27. Ankit Bajpai, P. K. Sharma, Impacts of Two Temperature and Temperature-Dependent Material Properties on Thermoelastic Diffusion Plate-26<sup>th</sup> International Conference of International Academy of Physical Sciences (CONIAPS XXVI) -- Advances in Mechanics (ICAM-2020). (18-20 Dec, 2020). (Presented) **(Dr. Pawan Kumar Sharma)**
  28. Geetanjali Gilhotra, P. K. Sharma, Modelling of visco-thermo-elastic layered structure under classical two temperature, fractional order theory. 9th international conference on

advancement in engineering & technology (ICAET-2021). (25-26 Jun, 2021) (Presented)  
(**Dr. Pawan Kumar Sharma**)

29. Geetanjali Gilhotra, P. K. Sharma, Vibrational analysis of two temperature Thermoelastic annular cylinder using finite difference method. 4th international conference on frontiers in industrial and applied mathematics (FIAM-2021). (21-22 Dec, 2021) (Presented) (**Dr. Pawan Kumar Sharma**)
30. Suket Kumar, INTEGRAL INEQUALITIES IN AMALGAM SPACE, Mathematica (Romanian Academy), 64 (87), 1, 2022, 109 - 116. (**Dr. Suket Kumar**)
31. A. K. Kushwaha, Y. D. Sharma, S. Saini, Impact of vertical vibration and gyrotactic microorganisms on stability of thermo-bioconvection, Mechanics Research Communications 116 (2021) 103769. (**Dr. Y.D. Sharma**)
32. Arpan Garg, Y. D. Sharma, Subit Kumar Jain, An AHP- Based Optimal Distribution Model and its Applications in COVID-19 Vaccination, International of the Analytic Hierarchi Process, DOI: 10.13033/ijahp.v13i2.863. (**Dr. Y.D. Sharma**)
33. A. K. Kushwaha, Y. D. Sharma, S. Saini, An analytic study of development of bioconvection in a suspension of randomly swimming gyrotactic microorganisms and nanoparticles, Int. J. Nanoparticles, Vol. 13, no.4, pp. 205-216. (**Dr. Y.D. Sharma**)
34. A. K. Kushwaha, Y. D. Sharma, Significance of vertical vibration on the stability of thermo-bioconvection in a suspension of oxytactic microorganisms, International Communications in Heat and Mass Transfer, <https://doi.org/10.1016/j.icheatmasstransfer.2022.105943>. (**Dr. Y.D. Sharma**)

### iii. Editorial Work:

1. R. Mathur, C. P. Gupta, V. Katewa, D. S. Jat, N. Yadav, Emerging Trends in Data Driven Computing and Communications, Proceedings of DDClOT 2021, 2021. ISBN: 978-981-16-3914-2, <https://doi.org/10.1007/978-981-16-3915-9>. (Springer). (**Dr. Neha Yadav**)
2. A. K. Singh Pundir, N. Yadav, H. Sharma, S. Das, Recent Trends in Communication and Intelligent Systems, Proceedings of ICRTCIS 2021, [Algorithms for Intelligent Systems](#), ISSN: 2524-7565, 2021 (Springer) (**Dr. Neha Yadav**)

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

### 4. Summer/Winter/FDP Organized

1. 2<sup>nd</sup> Workshop on Applications of MATLAB in Engineering and Science (WAMES-2021), December 15-19, 2021. (**Dr. Subit Kumar Jain and Dr. Om Prakash Yadav**)
2. Coordinated five days e-Workshop on Recent Trends in Information Security and Block Chain Technology during April 28-May 02, 2021 at NIT Hamirpur, India. (**Dr. Rifaqat Ali and Dr. Nidhi Gupta**)
3. Coordinated five days e-Workshop on Recent Advancements in Artificial Intelligence and Internet of Things during September 25-29, 2021 at NIT Hamirpur, India. (**Dr. Nidhi Gupta**)

**5. National/International Conferences Attended:**

1. Attended "Thirty-fifth Conference on Neural Information Processing Systems (NeurIPS 2021)" held during Dec 06-14, 2021. (Virtual) **(Dr. Neha Yadav)**

**6. Workshop Attended:**

1. Two weeks online Faculty Development Programme on Natural Language Processing jointly organized by Electronics and ICT Academies during February 7-18, 2022. **(Dr. Nidhi Gupta)**
2. Two weeks online Faculty Development Programme Deep Learning and Applications (Parallel Architecture) jointly organized by Electronics and ICT Academies during August 23-September 3, 2021. **(Dr. Nidhi Gupta)**

**7. Invited Lecture/Speaker/Expert**

1. Delivered in IIT (BHU) on 23<sup>rd</sup> Dec., 2021. **(Dr. R K Vats)**
2. Delivered in Baba Mastnath University, Rohtak on 28<sup>th</sup> August, 2021. **(Dr. R K Vats)**
3. Delivered in SRM Institute of Science & Tech., Kattankulathur on 16<sup>th</sup> Dec, 2021. **(Dr. R K Vats)**
4. Delivered in GJUS&T, Hisar on 20<sup>th</sup> January, 2022. **(Dr. R K Vats)**
5. Delivered a lecture as an expert on titled "Cyber awareness day", dated 02 march-2022, Venue: Department of Computer Application, Integral University Lucknow, Uttar Pradesh. **(Dr. Rifaqat Ali)**
6. Delivered a lecture as an expert on titled "Role of Cryptographic techniques to defend Modern Security Threats", dated 09 october-2021, Venue: Department of Mathematics, DAV College Jalandhar, Punjab. **(Dr. Rifaqat Ali)**
7. Delivered an expert talk on AI for Real-World Advanced Applications at Bharati Vidyapeeth's College of Engineering, New Delhi, Dec 16-22, 2021 in AICTE-ISTE Sponsored FDP on Advancement in ML & AI. **(Dr. Nidhi Gupta)**
8. Delivered an expert talk on Deep Learning: Concepts and Applications at Graphics Era University, Dehradun, Uttarakhand, February 12, 2022 2022 in Expert Lecture Series. **(Dr. Nidhi Gupta)**
9. Delivered an invited lecture in an International Workshop on "The Symbiosis of Deep Learning and Differential Equations (DLDE)", NeurIPS 2021 Workshop on Dec 13, 2021. **(Dr. Neha Yadav)**
10. Delivered an invited lecture on webinar organized by Department of Data Science, CHRIST (Deemed to be University), Pune Lavasa Campus on Feb 28, 2022. **(Dr. Neha Yadav)**
11. "Foundation course in Mathematics", Sidharth Government College, Nadaun. **(Dr. Pawan Kumar Sharma)**
12. "Career in Mathematics", Government Degree College, Sanjauli. **(Dr. Pawan Kumar Sharma)**
13. "National Mathematics Day", NIT Aurnachal. **(Dr. Pawan Kumar Sharma)**
14. Expert talk on the topic "Solutions of Some Differential Equations by Finite Element Method" delivered on August 25, 2021 in a one week faculty development programme "Recent Techniques for the Solutions of Nonlinear Differential Equations" scheduled from

August 23-28, 2021, being organized by Department of Mathematics, Jaypee Institute of Information Technology, Noida. (Dr. Om Prakash Yadav)

**8. Doctoral Programme: On Going or Completed: (2021-22)**

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-PhD-Math-287	Applications of Fixed-Point Theory in the Existence of Solutions of Fractional Boundary Value Problems	Dr. Ramesh Kumar Vats	Completed
2.	Ankit Kumar	2K17-PhD-Math-344	Controllability of Integer and Non-integer Ordered Differential Systems	Dr. Ramesh Kumar Vats	Thesis Submitted
3.	Ankit Kumar Nain	2K17-PhD-Math-349	Existence of Solutions for Hadamard Fractional Boundary Value Problems	Dr. Ramesh Kumar Vats	Thesis Submitted
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)	Completed
5.	Prachi Agrawal	2K17-PhD-Math-375	Stochastic Optimization using Computational Intelligence Techniques	Dr. Om Prakash Yadav (Caretaker Supervisor)	Completed
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	State-of-art is given in the previous semester. Published two papers.
12.	Arpan Garg	2K19-PhD-Math-494	Mathematical modelling and stability analysis of some bio-convection problems	Prof. Y.D. Sharma and Dr. Subit Kumar Jain	Ongoing (State-of-art Completed)
13.	Bhupendra Kumar	2K19-PhD-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 Kumar	2K19-PhD-Math-496	ANN method for solution of differential equations	Dr. Neha Yadav	Working on development of numerical algorithms based on ANN for differential equations problems arising in Science and Engineering Applications.
15.	Parveen Kumar	2K19-PhD-Math-497	Study on Controllability of	Dr. Ramesh Kumar Vats	Conducted Comprehensive and

			Functional Differential Systems		state of the art seminar
16.	Ankit Kumar	2K20-PhD-Math-518	Development and analysis of deformable models and its applications to Image segmentation	Dr. Subit Kumar Jain	Ongoing (State-of-art Completed)
17.	Anisha Devi	2K20-PhD-Math-519	Numerical solutions of PDEs	Dr. Om Prakash Yadav	State-of-art being given this semester
18.	Pavinder	20RMA002	Object Detection using Deep Neural Network	Dr. Nidhi Gupta Dr. P.K. Sharma	Ongoing
19.	Vipin Kumar	20RMA003	Cryptography and Network Security	Dr. Rifaqat Ali Dr. P.K. Sharma	Ongoing
20.	Bhupendra Ahirwar	21RMA001	Selection of asset and option chaining	Dr. Subit Kumar Jain	Ongoing
21.	Neeraj Kumar	21RMA002	Network Security and Blockchain	Dr. Rifaqat Ali and Dr. Nidhi Gupta	Course Work on Going
22.	Om Prakash Kumar Sharma	21RMA003	Analysis of Fractional Differential Equations	Dr. Ramesh Kumar Vats	Course Work continuing
23.	Vandana Yadav	21RMA004	Study on Controllability of Differential Systems	Dr. Ramesh Kumar Vats	Course Work continuing

#### 9. Detail of the Laboratories:

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

### 3.9 DEPARTMENT OF PHYSICS & PHOTONIC SCIENCE



#### 1. ACADEMIC STAFF

HEAD: Dr. Kuldeep Kumar Sharma

#### FACULTIES

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

#### 2. DISTINCTION ACHIEVED

(b) By student: - 01 student qualified CSIR- JRF national level examination in 2021. 05 students qualified GATE 2022, 01 student qualified the JEST-2022. 01 student placed having package of 9.5-12 lacs. Students have

joined Ph.D. Programme at Jawahar Lal Nehru University (JNU)-New Delhi, NIT-Trichi.

(c) 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**

## PAPER PUBLISHED BY FACULTIES:

1. Photoluminescence and quenching study of the Sm<sup>3+</sup>-doped LiBaPO<sub>4</sub>  
PHOSPHOR, Ishant Kumar, **Arvind K. Gathania**, J. of Materials Science: Materials in Electronics, **33** (1), 328-341, (2021).
- ii) Scrutinization of non-saturation behaviour of reverse current-voltage characteristics in Ni/SiO<sub>2</sub>/p-Si/Al diodes  
Naveen Kumar and Subhash Chand, Superlattices and Microstructures **160**, 107088 (2021).
- iii) Effect of Mg<sup>2+</sup> ions substitution on phase formation, structural, morphological, and optical properties of Zn<sub>0.1-x</sub>Mg<sub>x</sub>O structure, Seema Azad, Naveen Kumar and Subhash Chand  
J Mater Sci: Materials in Electronics **33**, 861-870 (2022).
- iv) Fabrication and electrical characterization of solution processed Ni/MgO/p-Si/Al MIS diodes.  
Naveen Kumar, Seema Azad and Subhash Chand, Appl. Phys. A **128**, 226 (2022).
- v) Role of multi-layered graphene as an additional fuel on energy release of Al/MoO<sub>3</sub> nano-thermite, P Thakur, V Sharma, N Thakur-Philosophical Magazine, 2022-Taylor&Francis
- vi) "Investigation of dielectric properties of Ni/n-TiO<sub>2</sub>/p-Si/Al heterojunction in a wide range of temperature and voltage", International Journal of Engineering, Transactions A : Basics, Arvind Kumar, Ashwani Kumar and K. K. Sharma, Vol. 35, No. 4, 698-705, (2022).
- vii) [Structural and optical studies of Mn<sup>2+</sup> substituted CdO nano-particles](#),  
RK RK Leelavati  
Applied Physics A, Materials Science & Processing 127 (4), 249, (2021).
- viii) [Structural and optoelectronic properties of epitaxial Ni-substituted Cr<sub>2</sub>O<sub>3</sub> thin films for p-type TCO applications](#), J Singh, R Kumar, V Verma, R Kumar, Materials Science in Semiconductor Processing 123, 105483, (2021).
- ix) PAPER PRESENTED IN CONFERENCE/SEMINAR/ SYMPOSIUM: Nil
- x) PAPER ACCEPTED FOR PUBLICATION: Nil

xi) PATENT: Nil

(c) Doctoral Programme:

Sr. No	Title	Guide	Name of the student	Brief Report
1.	Condensed Matter Physics	Dr. Arvind Kumar	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 Heterojunctions	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	Thesis Submitted
8.	Properties of Transtion Metal Oxides	Dr. Rajesh Kumar	Mr. Shivank Kalia	In progress
9.	Study of Nano Ferrites	Dr. Vimal Sharma	Ms. Jyoti	In progress

(d) Ph.D Degree awarded: NIL

(e) Master thesis completed: 17

(f) POPULAR LECTURES BY OUTSIDE EXPERTS:

Sr. No.	Date	Speaker	Topic
-	-	-	-

(g) CONSULTANCY SERVICES:

Sr. No	Name of the Scheme	Sponsored Agency	Amount Earned
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**(i) EQUIPMENT ACQUIRED:**

Sr. No.	Name of equipment	Name of manufacturer	Cost (Rs. In lakh)
1.	Wavelength of Sodium Lamp by Newton Ring Method	Ambala Electronics Instruments Amabala Cantt.	14000/-
2.	Shimadzu Spectrofluorophotome, Ter, Rf	Toshvin Analytical PVT.LTD.Mumbai	21,10,500/-
3.	Brewster's Angel, Complete Set	INSIF INDIA 2817, IQBAL GANJ ROAD, AMBALA CANTT	24500/-
4.	Photo Electric Effect	INSIF INDIA 2817, IQBAL GANJ ROAD, AMBALA CANTT	11950/-
5.	PH Meter	Hanna Equipments (Indai) PVT. LTD/. Kharghar Navi Mumbai Maharashtra	30000/-
6.	Operational Amplifier Curcuit Experiment Panel	Mars Communication East Delhi, Delhi	19950/-
7.	Table Top X-Ray	OSAW INDUSTRIAL PRODUCTS PVT. LTD Ambala Cantt	1948711/-
8.	Malus Law Set Up	Omega Scientific Industries Ambala Haryana	24950/-
9.	Fresnel Bi Prism by Diode Laser	INSIF INDIA 2817, IQBAL GANJ ROAD, AMBALA CANTT	24550/-
10.	Dispersive Powr of Prism with Mercury Lamp set	INSIF INDIA 2817, IQBAL GANJ ROAD, AMBALA CANTT	12329.70/-
11.	Linear Displacement using L.V.D.T.	Gupta Enterprises Near Sood Transport Company, Saproon, Solan (H.P)	22000/-
12.	Bench Top Non-Refrigerated, Certifying Nodal	Deep Distributers Near Rotary Eye Hospital Maranda Palampur	109850/-
13.	Photoelectric Pick up	Gupta Enterprises Near Sood Transport Company, Saproon, Solan (H.P)	16500/-
14.	Measurment of speed using electromegnatic pick up	Gupta Enterprises Near Sood Transport Company, Saproon, Solan (H.P)	16500/-
15.	Temperature Transducer	Satish Brothers Ambala Cantt. Haryana	24900/-
16.	Pressure measurement using pressure cell	Union Scientific Instrument Co. Ambala Cantt.	24500/-
17.	Force using Load cell	Gupta Enterprises Near Sood Transport Company, Saproon, Solan (H.P)	23000/-

18.	Potentiometer Error Detector	Satish Brothers Ambala Cantt. Haryana	22500.47/-
19.	LDR	Union Scientific Instrument Co. Ambala Cantt.	18000/-
20.	Optocular Char	Union Scientific Instrument Co. Ambala Cantt.	12000/-
21.	Fabry Perot Interferometer	Satish Brothers Ambala Cantt. Haryana	155000/-
22.	Torque Transducer	Satish Brothers Ambala Cantt. Haryana	50000/-
23.	Thermal Imager	Satish Brothers Ambala Cantt. Haryana	292000/-
24.	Polarization of Light	K.C. Engineering Limited Ambala Cantt. Haryana	212000/-
25.	Mach Zander Interferometer	Gupta Enterprises Near Sood Transport Company, Saproon, Solan (H.P)	247800/-
26.	Force Sensor	Kistler Instruments India PVT.LTD. Faridabad	482500/-
27.	Muffle Furnance	Matrix Scientific Instruments PVT. LTD. Delhi	160000/-
28.	Weighing Scale Capacity	Research Aid Instruments & Sercvices Prabhui Chhayya Bhawan Palampur	69450/-
29.	Ultrasonic Probe Soniucater	Research Aid Instruments & Sercvices Prabhui Chhayya Bhawan Palampur	210000/-
30.	Planks Constant Appratus by Photo cell	Batra trading Company Ambala Cantt.	10250/-

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

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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
13.	Computational Lab
14.	R&D Lab-I
15.	R&D Lab-II
16.	R&D Lab-III

### 3.10 DEPARTMENT OF MATERIAL SCIENCE & ENGINEERING



#### 1. ACADEMIC STAFF:

HEAD: **Prof. Ravi Kumar**

FACULTIES:

Professor	Associate Professor	Assistant Professors		
Dr. Ravi Kumar	Dr. Vishal Singh	Dr. Rita Maurya	Dr. Raj Bahadur Singh	Dr. Nitesh Kumar
		Dr. Brij Kishor	Dr. Sumeet Kumar Sharma	Dr. Nidhi Khobragade
		Dr. Abhijeet Ojha		

#### 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
-	-	-	-	-

#### 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 Publications:-****PAPER PUBLISHED IN JOURNALS/CONFERENCES BY FACULTIES:**

1. Y.Kumar, R.Kumar, K.Asokan, Ramcharan Meena, R.J. Choudhary and A.P.Singh, "120 MeV Ag<sup>9+</sup> induced modifications in the structural, electrical and optical properties of La-doped SrSnO<sub>3</sub> thin films" Nuclear Inst. And Methods in Physics Research, B 519 (2022) 22-27, <https://doi.org/10.1016/j.nimb.2022.03.006>
2. Ravinder Kumar, Kapil Dev Singh and Ravi Kumar, "Effect of Sr. substitution on Structural properties of LaCrO<sub>3</sub> perovskite" J. Mater Sci: Mater Electron <https://doi.org/10.1007/s10854-022-08164-2>
3. Pankaj Bhardwaj, J.Singh, R. Kumar, D. Kumar, V. Verma and Ravi Kumar, "Oxygen Defects Induced Tailored Optical and Magnetic Properties of Fe<sub>x</sub>Cr<sub>2-x</sub>O<sub>3</sub> (0 ≤ x ≤ 0.1) Nanoparticles" Applied Physics A (2022) 128:135 <https://doi.org/10.1007/s00339-021-05233-x>.
4. Sunaina, P. Chand, A. Joshi, S. Lal and Vishal Singh, "Effect of hydrothermal temperature on structural, optical and electrochemical properties of α-MnO<sub>2</sub> nanostructures for supercapacitor application", *Chemical Physics Letters*, pp. 138472, vol. 777, , Aug. 2021, doi: <https://doi.org/10.1016/j.cplett.2021.138742>
5. Ashish Kaushal and Vishal Singh, "Analysis of mechanical, thermal, electrical and EMI shielding properties of graphite/carbon fiber reinforced polypropylene composites prepared via a twin screw extruder", *Journal of Applied Polymer Science*,139(14), July 2021, doi: 10.1002/app.51444.
6. P. Sharma, K. Kishore, M. K. Sinha and Vishal Singh, "Electrical Discharge Machining of Nickel-based Superalloys: A comprehensive review", *International Journal of Materials Engineering Innovation*, 13(1):1, January 2022, doi: <http://dx.doi.org/10.1504/IJMATEI.2022.10046017>.
7. Lovepreet Singh, P. K. Singh and Vishal Singh, Synthesis and characterization of carbon nanotube reinforced hydroxyapatite ceramics proposed for biomedical applications, *Materials Today: Proceedings*, March 2022, doi: <http://dx.doi.org/10.1016/j.matpr.2022.02.5>
8. P.K. Katiyar, R. Maurya, P.K. Singh "Corrosion behavior of plain carbon steel under different heat treatment conditions in freely aerated 35% NaCl solution", *International Journal of Sustainable Building Technology & Urban Development*,2022,13,44-68.
9. P.K. Katiyar, R. Maurya, P.K. Singh, "Failure behavior of cemented tungsten carbide materials: A case study of mining drill bits", *Journal of Materials Engineering and Performance*, 2021, 30, 6090-6106.

10. S. Ariharan, R. Maurya, "Assessment of plasma sprayed carbon nanotube reinforced  $Al_2O_3$ -based nanocomposite with micro-scratching", *Surface and Coatings Technology*, 2021, 418, 127216.
11. K Jahan, N Kumar, Vivek Verma, Bacterial cellulose/PANi mat for Cr (VI) removal at acidic pH, *Journal of Applied Polymer Science*, Vol 138, July 2021, <https://onlinelibrary.wiley.com/doi/abs/10.1002/app.51309>
12. N Kumar, L Pradhan, B K Jena, Recent progress on novel current collector electrodes for energy storage devices: Supercapacitors, *Wiley Interdisciplinary Reviews: Energy and Environment*, Vol 11, June 2021, <https://wires.onlinelibrary.wiley.com/doi/abs/10.1002/wene.415>
13. N Kumar, S Tyeb, V Verma, Recent advances on Metal oxide-polymer systems in targeted therapy and diagnosis: Applications and toxicological perspective, *Journal of Drug Delivery Science and Technology*, Vol 66, Dec 2021, <https://www.sciencedirect.com/science/article/abs/pii/S1773224721004949>
14. S Tyeb, N Kumar, Gorbil B, A Kumar, V Verma, pH modulating agar dressing for chronic wounds, *Soft Materials*, March 2022, <https://www.tandfonline.com/doi/full/10.1080/1539445X.2022.2049308>
15. Raj Bahadur Singh, N.K. Mukhopadhyay, G.V.S. Sastry, and R. Manna. (2017). "Recovery of ductility in ultrafine-grained low-carbon steel processed through equal-channel angular pressing followed by cold rolling and flash annealing", *Metallurgical and Material Transactions A*. Volume 48, [Issue 3](#), pp 1189–1203.
16. Raj Bahadur Singh, N.K. Mukhopadhyay, G.V.S. Sastry, and R. Manna. (2017) "Development of High-Strength Bulk Ultrafine-Grained Low Carbon Steel Produced by Equal-Channel Angular Pressing", *Metallurgical and Material Transactions A*. Volume 48A, Issue 11, pp 5449-5466.
17. Raj Bahadur Singh, Deepa Verma, N.K. Mukhopadhyay, G.V.S. Sastry and R. Manna. (2019), "Development of texture in ultrafine-grained low carbon steel processed through equal channel angular pressing". *Journal of Materials Engineering and Performance*, Vol. 28, No.6, pp. 3638-3651.
18. Sanjeev Kumar and Raj Bahadur Singh. (2019), Corrosion behavior of newly developed heat treated 10Mn-2Ni-3.5Cr-1.5Cu alloy". *Journal of Materials Research Express*, vol. 6, No. 11, pp. 1-10
19. Sandip Bhoi, Raj Bahadur Singh, A. P. Harsha, R. Manna, (2021) "Effect of Grain Refinement on Tribological Study of Low Carbon Steel, *Trans Indian Inst Met*, volume 74(6) pp. 1489–1499
20. Khemraj Sahu and Raj Bahadur Singh, (2021) "Development of Fine-Grained Complex A356 Aluminum Alloy through Converging Die Compression" [Transactions of the Indian Institute of Metals](#) volume 74, pp. 1689–1699.

#### **Conference Publications:**

1. Raj Bahadur Singh, N.K. Mukhopadhyay, G.V.S. Sastry, and R. Manna. (2020), Development of single phase bimodal microstructure in bulk ultrafine-grained low carbon steel". *Materials Today: Proceedings* 26, pp.1514–1519.
2. Khemraj Sahu, D. Narayane, M. K. Singh, Raj Bahadur Singh, A. Srivastava, (2021) "Microstructural analysis of forged Al-11Si-2.5Cu-0.6Fe alloy at different processing conditions *Materials Today Proceedings*, <https://doi.org/10.1016/j.matpr.2021.05.113>

#### **Books/Reports/Chapters/General articles etc.**

1. Raj Bahadur Singh, N.K. Mukhopadhyay, G.V.S. Sastry, and R. Manna. (2018) "Effect of flash annealing on ultrafine-grained low carbon steel processed through equal-channel angular pressing followed by cryo rolling". Springer Nature Singapore Pte Ltd. pp. 103-113.

iii) PAPER ACCEPTED FOR PUBLICATION: -Nil-

iv) PATENT: -Nil-

v) CONFERENCE PUBLICATIONS: 02

(c) Doctoral Programme: 04 Students, Thesis submitted and 04 Students are Ongoing.

Sr. No.	Title	Guide	Name of the student(s)	Brief Report
1	Structural , Electrical and Magnetic Studies of Transition Metal substituted $\text{RCrO}_3$	Dr. Ravi Kumar	Mr. Kapil Dev Singh	Thesis submitted
2	Metal Matrix Composites	Dr. Ravi Kumar	Sh. Amarjeet Singh	Thesis submitted
3	Swift Heavy Ion Irradiation Induced Modification in Structural , Electrical and Optical Properties in Substituted $\text{RCrO}_3$ Thin Film	Dr. Ravi Kumar	Sh. Ravinder Kumar	Ongoing
4	DMO in TM Ions Substituted $\text{Cr}_2\text{O}_3$ NPs and TFs	Dr. Ravi Kumar	Sh. Pankaj Bhardwaj	Ongoing
5	Synthesis and Characterization of LDPE, HDPE with fillers graphite GE,CNT and study the electrical and mechanical properties	Dr. Vishal Singh	Mr. Ashish	Thesis Submitted
6	Polymer Nanocomposites Based Chemo-Sensors for the Sensitive and Selective Detection of Mercury Ions	Dr. Vishal Singh	Sh. Lovepreet Singh	Thesis submitted
7	Performance Improvement of Inconel 718 in EDM Process	Dr. Vishal Singh	Sh. Pankaj Sharma	Ongoing
8	Metal Matrix Composites (MMC) Coating	Dr. Rita Maurya	Sh. Piyush Priyadarshi	Ongoing

(d) Ph.D Degree awarded: 06

(e) Master thesis completed: -

S.No.	Title	Name of Student	Guide allotted
-	-	-	-

(f) DOCTORAL PROGRAMME: 08 Nos. Thesis submitted/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.	Perceivestar Borrescope- Inspection Equipment with Video Camera.	M/S Vishtar System & Solutions, Mumbai Maharashtra	2,88,000.00
2.	Magnetic Particle testing Kit	M/S Vishtar System & Solutions, Mumbai Maharashtra	23,100.00
3.	Spin Coater	M/S Prolyx Microelectronics, Bangalore	80,325.00
4.	Maintenance & Repair of Raman	M/S Renishaw Metrology Systems, Bangalore	94,400.00
5.	Reeplacement of Parts UV-Vis Spectrometer	M/S PerinElmer (India), Mumbai	4,07,159.00
6.	Spares for Coherent Compex Pro Excimer Laser	M/S Laser Science Service, Mumbai	2,32,575.00
7	Heating Rod for Model No.UAF 14/10 Part Code: 25-0005-461- 1804	M/S Verder Scientific, Hyderabad	2,12,400.00
8	Ultra Sonicator Bath with Chiller	M/S Babba Gurditta Corpn., Roorkee	1,20,750.00
9	Electrochemical Workstation	M/S Sinsil International, Vadodara	10,96,773.00
10	23900: F/G, FEG RETIP	M/S Icon Analytical Eqpt., New Delhi	8,58,521.00
11	Spares for Coherent Compex Pro Excimer Laser Replacement of parts of PLD	M/S Laser Science Service, Mumbai	47,200.00
12	Losses in Pipes Fittings Apparatus	M/S Dinesh Scientific, Ambala Cantt.	34,790.00
13	Fatigue Testing Machine	M/S Innovative Engineers, Ambala Cantt.	4,79,989.00
14	Reynolds Apparatus	M/S New India Scientific, Ambala Cantt.	55,299.00
15	Disc Polisher Machine	M/S New India Scientific, Ambala Cantt.	96,699.00
16	Steel Almirh	M/S R.Sons Furniture Udyog, Mandi	1,66,500.00

4. TECHNICAL ASSOCIATION / SOCIETIES: -Nil-

5. DETAIL OF THE LABORATORIES:

Sr. No.	Name of the Laboratory
1.	FESEM / Nano Indentor Lab
2.	PLD Lab
3.	XRD Lab
4.	Polymer Composites 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
11.	NDT Lab

### 3.11 DEPARTMENT OF ARCHITECTURE



#### 1. ACADEMIC STAFF

**HEAD:** Dr. Vandna Sharma

**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:

### Institute Ranking

Sr. No.	Ranking organization	All India rank	Session year
1	Indian Institutional Ranking Framework (IIRF)	09	2022
2	National Institutional Ranking Framework (NIRF)	23	2021
3	India Today Institutional Ranking	14	2021

a) **By Student:** 20 Students Participated at national level competitions.

b) **By Faculty Member:**

- Three of the faculty members nominated as lead trainer for Infant-Toddler- Caregiver friendly Neighbourhoods (ITCN) Training and Capacity Building Programme
- One faculty member is nominated by NITI Aayog as an expert for “Planning and Architectural framework for hill regions”
- Best Research paper in International Conference on Infrastructure Development (ICID) Adani Institute of Infrastructure Management (AIIM), April 2021

## 3. RESEARCH:

a) **Research Publication by faculties:**

(i) **International journal:**

1. 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).

2. Asim, F., Chani, P. S., & Shree, V. (2021). Impact of COVID-19 containment zone built-environments on students' mental health and their coping mechanisms. *Building and Environment*, 203, 108107. <https://doi.org/10.1016/j.buildenv.2021>.
3. N. Kapoor, V.K. Bansal, Spatial suitability assessment for planning infrastructure facilities at site level in hill areas, *Journal of Urban Management*, Volume 10, Issue 1, 2021, 27-45, 2226-5856, <https://doi.org/10.1016/j.jum.2021.02.003>.
4. Kumari R. (2021) Adaptness assessment of Pedestrian Street during crises like covid-19. *Journal of Urban and Environmental Engineering* 15 1 pp 50-57.
5. A. Sharma, V. Sharma, "Social and Cultural Aspects in Urban Sustainability: A Case of Aloe village in Manali, ". *International Journal of Research in Management & Social Science*, vol. 9, pp. 116-120, Oct-Dec 2021.
6. A. Sharma, V. Sharma, "Study on Movement Patterns in an Educational Institute using Space Syntax, ". *International Journal of Research in Management & Social Science*, vol. 9, pp. 234-241, Oct-Dec 2021.
7. V. Sharma, A. Sharma, "Sustainability Issues in Urban Design of Aloe Village: A Case of Manali, ". *International Journal of Research in Management & Social Science*, vol. 9, pp. 261-265, Oct- Dec 2021.
8. A. Sharma, V. Sharma, "An Approach to Energy Efficient Design for Naturally Ventilated Mass Housing using Life Cycle Energy and Life Cycle Cost Analysis," *International Journal of Advance and Innovative Research*, vol. 8, pp. 70-79, Oct-Dec 2021.
9. V. Sharma, A. Sharma, "Identification of Urban Problems and Sustainability Issues in Small Village of Dungri: A Case of Manali," *International Journal of Research in Management & Social Science*, vol. 9, pp. 192 - 197, Oct-Dec 2021.
10. V. Sharma, A. Sharma, "Investigation into Energy Efficient and Sustainable Aspects of Vernacular Architecture as Comparative with Modern Architecture: A Case Study of Hamirpur District, Himachal Pradesh," *International Journal of Research in Management & Social Science*, vol. 9, pp. 230 - 236, Oct-Dec 2021.

11. A. Sharma, V. Sharma, "Patterns of Urban Development and Their Problems in A Hilly Town of Himachal Pradesh: A Case of Old Manali," *International Journal of Advance and Innovative Research*, vol. 8, pp. 260-265, Oct-Dec 2021.

**(ii) International Conferences:**

1. Akhila N Menon, Puneet Sharma, "Reclaiming and Rejuvenating Urban Water Bodies: Case of Mullassery Canal, Kochi, Kerala", International Conference on Infrastructure Development (ICID): Theory, Practice and Policy, 29-30<sup>th</sup> April 2021, Virtual mode
2. Anindya Dutta, Puneet Sharma, "Feasibility Study of Tourist Destinations in Barak Valley", International Conference on Civil, Architectural and Environmental Sciences ICAES-22, 18<sup>th</sup> March,2022, Virtual mode
3. Nandit Pastariya, Puneet Sharma, "Factors influencing residential satisfaction in non-gated individual housing; case of central India", International Conference on Civil, Architectural and Environmental Sciences ICAES-22, 18<sup>th</sup> March,2022, Virtual mode
4. Kumari R. 2022. Contemplating the traditional rural architecture of Nalanda: A case study IOP Conf. Ser.: Mater. Sci. Eng. 1212 012007 p 8.
5. Akash Pandey, Venu Shree, "Potential of elderly housing in India: A post Pandemic Scenario", International Conference on Civil Engineering, Architecture and Sustainable Infrastructure (2nd ICCEASI - 22) - Virtual Conference, 9th & 10th February 2022 at BBDNITM, lucknow.
6. Venu Shree, Jai Prakash, "Optimization of building orientation and wwr for daylight in residential building in the subtropical highland Climate." International Conference on Civil Engineering, Architecture and Sustainable Infrastructure (2nd ICCEASI - 22) - Virtual Conference, 9th & 10th February 2022 at BBDNITM, lucknow.
7. A. Sharma, V. Sharma, "Social and Cultural Aspects in Urban Sustainability: A Case of Aloe village in Manali, ". 2nd International Conference on Social Science, Management and Technology In Covid Era, 19th Dec 2021, Virtual mode

8. A. Sharma, V. Sharma, "Study on Movement Patterns in an Educational Institute using Space Syntax, ". 2nd International Conference on Social Science, Management and Technology In Covid Era, 19th Dec 2021, Virtual mode.
9. V. Sharma, A. Sharma, "Sustainability Issues in Urban Design of Aloe Village: A Case of Manali, ". 2nd International Conference on Social Science, Management and Technology In Covid Era, 19th Dec 2021, Virtual mode.
10. A. Sharma, V. Sharma, "An Approach to Energy Efficient Design for Naturally Ventilated Mass Housing using Life Cycle Energy and Life Cycle Cost Analysis," International conference on Multidisciplinary Research Towards Sustainable Development, 3rd Oct 2021, Virtual mode.
11. V. Sharma, A. Sharma, "Identification of Urban Problems and Sustainability Issues in Small Village of Dungri: A Case of Manali," International conference on Multidisciplinary Research Towards Sustainable Development, 3rd Oct 2021, Virtual mode.
12. V. Sharma, A. Sharma, "Investigation into Energy Efficient and Sustainable Aspects of Vernacular Architecture as Comparative with Modern Architecture: A Case Study of Hamirpur District, Himachal Pradesh," International conference on Multidisciplinary Research Towards Sustainable Development, 3rd Oct 2021, Virtual mode.
13. A. Sharma, V. Sharma, "Patterns of Urban Development and Their Problems in A Hilly Town of Himachal Pradesh: A Case of Old Manali," International conference on Multidisciplinary Research Towards Sustainable Development, 3<sup>rd</sup> Oct 2021, Virtual mode.

**b) Conferences Organized**

International conference on Building Resilient Urban Communities in transforming cities from 22 - 24<sup>th</sup> Sept. 2021, NIT Hamirpur.

**c) Workshop/ Training:****(i) Organized**

- Five days e-Workshop on 'Understanding change in built form with focus on hill regions' from 14<sup>th</sup> - 18<sup>th</sup> May 2021, NIT Hamirpur.

- A short term course was conducted on “Geographic Information System for Architecture, Engineering and Construction” from 31 May to 4 June 2021.
- Five days e-STC on ‘Sustainable Built-Environment in Hills (SBH-2021)’ from 11<sup>th</sup> - 15<sup>th</sup> Sept. 2021, NIT Hamirpur.

**d) Outreach Activities:**

Sr. no.	Activity	Duration/ dates	Resource person	Event Venue
1.	Conducted CATC-230 at NIT Hamirpur for NCC (Army) cadets as ANO	06 days, 02- 08 Jan 2022	Dr Aniket Sharma	NIT Hamirpur and 4HP(I) COY NCC Hamirpur
2.	External Examiner for Architecture Design, Building Construction and Materials, Architecture Drawing, Graphics and Soft skills	3 Days, 17-19 Jan, 2022	Dr. Vandna Sharma	(Online) State University of Performing and Visual Arts, Rohtak
3.	Autocad training program	3 Days, 07 - 09 Feb. 2022	Dr.Puneet Sharma	HIPA Shimla, HP
4.	Principles of Space Making	12 Feb, 2022	Dr Venu Shree	Lovely School of Architecture & Design
5.	Conducted tour of NCC Cadets to VDC, Mandi for BEE Examination	20 Feb 2022	Dr Aniket Sharma	NIT Hamirpur and 4HP(I) COY NCC Hamirpur
6.	Reviewer of International Conference RAiSE 2022 Recent Advances in Sustainable Environment	25-26 Feb 2022	Dr Neetu Kapoor	S.T.E.M Research Society, Springer

7.	Appointment of External Examiner for conducting Viva-voce of M. Arch 709 (Project Studio-III) and M. Arch 711 (Dissertation Phase I)	28 Feb., 2022	Dr.Sandeep Sharma	Physically visited D. C. R. University of Science & Technology Murthal, Sonipat.
8.	External paper setter for Basic Design & Appreciation of Art & Arch. of Part-I	20 Mar, 2022	Dr Aniket Sharma	IIA Mumbai
9.	Conducted tour of NCC Cadets to Firing Range, Suker Khad for firing practice	05 Apr 2022	Dr Aniket Sharma	NIT Hamirpur and 4HP(I) COY NCC Hamirpur
10.	As an external reviewer of B.Arch 2nd year students	3- 4 May, 2021	Dr.Sandeep Sharma	online mode
11.	Expert lecture on Spatial Planning in hill areas in e-Workshop on Understanding change in built form with focus on hill regions' from	14-18 May 2021	Dr Neetu Kapoor	Department of Architecture, NIT Hamirpur
12.	Practical Hands-on Exercise on GIS Applications in eSTC on Geographic Information System for Architecture,	31 May - 4 June 2021	Dr Neetu Kapoor	Civil Engineering Department, NIT Hamirpur

	Engineering and Construction			
13.	External Examiner for Building Construction and Materials and Advanced building construction	24 June , 2021	Dr. Vandna Sharma	(Online) State University of Performing and Visual Arts, Rohtak
14.	External Jury Member for the subject "Planning and Mapping Studio (PLN121)"of B. Planning,	15-16 July 2021	Dr Neetu Kapoor	SPA Vijaywada
15.	Online training session on Inclusive City Building	27 Oct., 2021	Dr.Puneet Sharma	CBHE Virtual Fair 2021
16.	Panelist for research theme- Climatic design,	29 Sept., 2021	Dr.Puneet Sharma	State level workshop on housing under PMAY(U)-Awas par samvaad
17.	Reviewer for Indoor and Built Environment (Manuscript ID IBE-21-0367)	26 Aug, 2021	Dr Aniket Sharma	Indoor and Built Environment, SAGE
18.	Reviewer of Journal International Review for Spatial Planning and Sustainable Development (Manuscript ID IRSPSD-2021-0112-O)	10 Dec, 2021	Dr Neetu Kapoor	International Review for Spatial Planning and Sustainable Development

19.	Expert lecture on Traditional and Vernacular Building Practices in eSTC on Sustainable Practices in Built Environment-2021	26 Dec, 2021	Dr Vandna Sharma	Department of Architecture, NIT Hamirpur
20.	Practical Hands-on Exercise on GIS Applications in e-STC on Sustainable Practices in Built Environment-2021	29 Dec, 2021	Dr Neetu Kapoor	Department of Architecture, NIT Hamirpur
21.	Reviewer of Environment, Development and sustainability (ENVI) ENVI-D-20-00722R2	3 Dec, 2021	Dr Neetu Kapoor	Environment, Development and sustainability(ENVI) Springer

## 22. Research project

### 1. EXTERNAL SPONSORED R&D PROJECTS

Dr. Inderpal Singh, Dr. Puneet Sharma, and Dr. 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	PI	ongoing	NO	1,39,50,000/- Approx.

	Erasmus + Programme of the European Union				

### 23. Book published

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

Sr. No.	Title	Publisher	Author	ISBN/ISSN No.
1	URBAN STRUCTURE OF HILL TOWNS Case of Himachal Pradesh, India	Lulu.com	Puneet Sharma	978-1-6671-2295-3
2	Rejuvenating Urban Water Bodies Design and perspective of daylighting	Lambert Academic Publishing	Puneet Sharma, Akhila N Menon	978-620-3-92596-8.

### 24. Doctoral Programme: 17 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.	Sustainable Housing for Industrial Workers. Case Study-Noida (U.P.), India	Dr. Bhanu M Marwaha	Ar. Manisha	SOA completed
4.	Role of Fenestration in the daylight availability in Hamirpur	Dr. Aniket Sharma	Ar. Rohit Thakur	SOA completed

5.	To Develop an Energy Prediction Framework from energy consumption pattern of residential buildings of Himachal Pradesh”	Dr. Aniket Sharma	Ar. Rajat Nainwal	SOA completed
6.	Urban intervention model for city core area; case Sagar ( M.P.) India	Dr. Puneet Sharma	Ar. Akansha Soni	SOA completed
7.	Community resilience framework for hill town- A case of Shimla, Himachal Pradesh	Dr. Puneet Sharma	Ar. Geetika Kaundal	SOA completed
8.	Visual Place Quality framework for the Hill Towns of Himachal Pradesh	Dr. Vandna Sharma	Ar. Rahul Bharmauria	SOA completed
9.	Enhancing the thermal performance of slate roof systems of vernacular Houses - a case of Himachal Pradesh	Dr. Vandna Sharma	Ar. Ridima Sharma	SOA completed
10.	Attainment of social sustainability through gender sensitive strategies in urban planning -a case of Kanpur city	Dr. Rashmi Kumari	Ar. Asmita Yadav	SOA completed
11.	Urban mobility in hill towns	Dr. Inderpal Singh	Ar. Gouri	SOA completed
12.	Sustainable Tourism Development in Himachal Pradesh: A paradigm toward Green Economy	Dr. Inderpal Singh	Ar. Kirti Manisha	SOA completed
13.	Planning for water resilient cities	Dr. Puneet Sharma & Dr. Inderpal Singh	Ar. Kalpna Thakur	SOA completed
14.	Assessment of a construction	Dr. Puneet	Ar. Shivani	Comprehensive

	waste quantification model suitable for residential buildings in Indian context- a case of Agra	Sharma & Dr. Rashmi Kumari		stage
15.	Socio-ecological resilience in the coastal ecosystems of Kerala	Dr. Aniket Sharma	Ar. Atul	Comprehensive stage
16.	Quantification of BIPV towards the net zero building	Dr. Venu Shree	Ar. Jay Prakash	SOA completed
17.	Application of vernacular building construction technique to achieve sustainability in modern construction in lahoul region	Dr. Venu Shree	Ar. Shivdayal	SOA completed

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

Sr. No	Date	Speaker	Topic
1.	14.05.2021	Prof Pushplata	Understanding change in built form with focus on built areas
2.	14.05.2021	Ar. Gouri	Future of tourist mobility in hill city of Shimla and its impact on built form
3.	15.05.2021	Dr. Hemant Vinayak	Changing built forms in hilly regions through structural deficiencies and material changes
4.	15.05.2021	Dr. Aanchal	Changes in the landuse of Dehradun and its impact on built form
5.	16.05.2021	Dr. Amitava Sarkar	Study of Energy consumption with changing built-form
6.	16.05.2021	Dr. Sanil and Dr. Vani Saoundrya	Hills as Commons-Case of Nilgiris and its Tribes
7.	17.05.2021	Dr. Vijay Kumar Bansal	Spatial Planning in hill areas-Part I

8.	17.05.2021	Dr. Atul Kant Piyoosh	Working with Raster data and Terrain Analysis using QGIS
9.	11.09.2021	Prof. Minakshi Jain, Director,SPA, Vijayawada	Landscape a tool for sustainable development
10.	18.05.2021	Dr Tarush Chandra	Research on architectural practices in hill areas
11.	18.05.2021	Prof. Minakshi Jain, Director,SPA, Vijayawada	Traditional knowledge system in hill areas
12.	12.09.2021	Prof. Mahua Mukherjee , Arch. & Plng., IIT Roorkee	Role of Sustainable Architecture in risk reduction
13.	13.09.2021	Dr. Deepak Khare , Prof. WRDM, IIT Roorkee	Water resources planning and management for sustainable development
14.	13.09.2021	Dr. Hemant Vinayak, Asso.. Prof. NITTR, Chandigarh	Structural safety in hill towns
15.	14.09.2021	Dr. Umesh Sharma, Prof. Civil engineering, IIT Roorkee	Durability and Service Life of RCC Structures in Hilly Areas
16.	14.09.2021	Dr. Adinarayanane R, Associate Prof. SPA, Vijayawada	Evaluation methods for resilience

#### 5. CONSULTANCY SERVICES:

Sr. No.	Name of the Scheme	Sponsored Agency	Amount earned
1.	Landscape proposal for Bus stand Hamirpur, HP	HP Tourism department Hamirpur	Nil

#### 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		CA/92/15454	National
4.	Associate Member of The Indian Institute of Architects Mumbai	Dr. Bhanu M Marwaha	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 Organization (AUGI)		Lifetime	International
15.	General Member, International Network for Traditional Building, Architecture and Urbanism (INTBAU)		Lifetime	International
16.	Member of The Indian	Dr. Puneet	Lifetime	National

	Institute of Architects Mumbai	Sharma		
17.	Council of Architecture		CA/2004/33626	National
18.	Institute of Urban Design India		Lifetime	National
19.	Council of Architecture		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	Dr. Vandna Sharma	Lifetime (2011- 118)	National
23.	General Member, International Network for Traditional Building, Architecture and Urbanism (INTBAU)		Lifetime	International
24.	Council of Architecture		CA/2001/28647	National
25.	Member of The Indian Institute of Architects Mumbai	Dr. Amanjeet Kaur	Lifetime (A15110)	National
26.	ICOMOS		Lifetime	International
27.	Member of The Indian Institute of Architects Mumbai		Lifetime	National
28.	Council of Architecture		CA/2006/37880	National
29.	General Member, International Network for Traditional Building, Architecture and Urbanism (INTBAU)	Dr. Neetu Kapoor	Lifetime	International
30.	Member of The Indian Institute of Architects	Dr. Sandeep Sharma	Lifetime	National

	Mumbai			
31.	Council of Architecture		CA/2006/37836	National
32.	Council of Architecture	Dr. Venu Shree	CA/2006/38789	National
33.	Member of The Indian Institute of Architects Mumbai		Lifetime	National
34.	Council of Architecture	Dr. Rashmi Kumari	CA/2009/45688	National
35.	Associate Member of Institute of Town Planners, India		2016-242, AITP	National

### 7. EQUIPMENT ACQUIRED:

Sr. No.	Name of Equipment	Grant/ Lab	Cost (Rs./)
	-	-	-

### 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 2021
- ii) Design Competitions at national and international level

<b>Competition Name</b>	<b>Duration</b>	<b>Position/</b>
IPSA design trophy	2021	<b>2<sup>nd</sup> Position</b>
GRIHA sustainability contest	Oct 2021	<b>2<sup>nd</sup> Position</b>
IPSA Design trophy 2022	Jan.22-Mar.22	<b>5<sup>th</sup> Position</b>
IGBC primary healthcare centre design	2021	<b>Short listed entry</b>
IGBC primary healthcare centre design	2021	<b>Short listed entry</b>
Harit Prem Bharat Mahotsav Prem Jain foundation	2021	<b>3<sup>rd</sup> Position in Green Art challenge</b>
IGBC Green Design Competition	2021	<b>Special Recognition</b>
IPSA Design Trophy "WONDERLAND"	2021	<b>2<sup>nd</sup> Position</b>
IPSA DESIGN TROPHY PACE-III	2021	<b>3<sup>rd</sup> Position in Dining Facility</b>
The Brewed Bar	April 21-May21	Participation
Dynamic Machines 3D Community Challenge	Jul. 21	Participation
OAN NASA	Ag.21-Oct.21	Participation
Equim DAM	Sept.21	Participation
School It	Nov.21	Participation
ANDC NASA	Oct.21-Dec.21	Participation
HUDCO Trophy NASA	Jan.22-Mar.22	Participation

### 3.12 DEPARTMENT OF HUMANITIES & SOCIAL SCIENCES



#### 1. ACADEMIC STAFF

##### HEAD (s)

1. Dr. Piar Chand upto 31/01/2022.
2. Dr.Yogesh Gupta w.e.f. 31/01/2022 onwards.

##### FACULTY:

<b>Professor</b>	<b>Associate Professor</b>	<b>Assistant Professor Grade-I</b>	<b>Assistant Professor (On-Contract)</b>
Dr. Piar Chand Retired on 31/01/2022	Dr. Yogesh Gupta	Dr. Manoj Sharma <b>(On-Lien)</b>	Dr. Sunder Kala Negi Dr. Manoj Kumar Yadav

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

(a) Conducted in the Department:

(b) Participated by Faculty Members: 03 online workshops/Webinar

## 2. RESEARCH:

(a) Research Scheme:

(b) Research Publications (National): 01 Published

(I) PAPER PUBLISHED BY FACULTIES:

S.N.	Journal Name	Title of paper	Year in which publish	Author	Journal Pages
1.	Media Watch	Disability and Mental Health: Reflections on the contemporary and Hindi Cinema	2021	Shivaneer Manoj Kumar Yadav	7-19
2.	Kemanusiaan The Asian Journal of Humanities	Disability in Translation: The Indian Experience, by Someshwar Sati & G. J. V. Prasad	To Be Published in 2022.	Shivaneer	Accepted
3.	Architecture and Culture	Students' Park: A Poetic Dispatch as Placemaking Methodology.	To Be Published in 2022	Neha Kumari	Accepted
4.	Translation Studies	Early Nineteenth-Century Hindi/ Urdu/ Hindustani Translations and the Politics of emerging Linguistic Categories.	2021	Manoj Kumar Yadav	2-20

**Paper Published/ Accepted in International Journals: 02 Accepted-01 Published**

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

i) PAPER ACCEPTED FOR PUBLICATION:

ii) PATENT :

(c) Doctoral Programme: 08 (on-going)

(d) Ph.D. Degree awarded: 01

(e) Master Thesis Completed:

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

**3. CONSULTANCY SERVICES:**

**4. EQUIPMENT ACQUIRED:**

Sr. No.	Name of Equipment	Name of Manufacturer	Cost (Rs. In INR)
1.	Computers (Desktop)	HP	33,95,568/-
2.	SPSS (Software)	IBM	3,99,603/-

**5. NAME OF LABORATORIES:**

S.N.	Name of Laboratory
1.	Communication Skills Lab.
2.	Research Scholar Lab.

### 3.13 DEPARTMENT OF MANAGEMENT STUDIES



#### 1. ACADEMIC STAFF

##### HEAD (s)

1. Prof. Lalit Kumar Awasthi 26/03/2021 to 27/05/2021
2. Prof. Piar Chand 27/05/2021 to 03/12/2021
3. Prof. Lalit Kumar Awasthi 03/12/2021 to 20/12/2021
4. Prof. Piar Chand 20/12/2021 to 31/01/2022
5. Prof. Raman Parti 31/01/2022 onwards

##### FACULTY:

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

#### 1. Student Admitted:

(2021-22)	M.B.A
1 <sup>st</sup> Year	19
2 <sup>nd</sup> Year	18

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

(a) **Conducted in the Department:** 02 National e-workshops (05 days) and 01 National Webinar on Financial Awareness: A Key to Financial Well Being

(b) **Participated by Faculty Members:** 09 online workshops/ATAL FDP

## 2. RESEARCH:

(a) **Research Scheme:**

(b) **Research Publications:**

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

**Paper Published in International Journals:**

S.N.	Journal Name	Title of paper	Year in which publish	Author	Journal Pages
1.	Business Strategy and the Environment	Does social influence turn pessimistic consumers green?	2021	M Sadiq, M Adil, J Paul	30(7), pp.2937-2950
2.	International Journal of Productivity and Quality Management	The mediating role of customer satisfaction and its effect on service quality-customer loyalty link	2021	M Sadiq, M Adil,	32(4), pp. 520-535
3.	Journal of Quality Assurance in Hospitality & Tourism	Predicting Online Travel Purchase Behavior: The Role of Trust and Perceived Risk	2021	M Sadiq, N Dogra, M Adil, K Bharti	pp.1-27
4.	International Journal of Mental Health and Addiction	Phobic COVID-19 Disorder Scale: Development, Dimensionality, and Item-Structure Test	2021	M Nasir, M Adil, M Kumar	pp.1-13
5.	Journal of Islamic Marketing	Influence of religiosity on ethical consumption: the mediating role of materialism and guilt	2021	M Adil	--
6.	International Journal of Quality and Service Sciences	The synergetic effect of after sales service, customer satisfaction, loyalty and	2021	M Nasir, M Adil, A Dhamija	13(3), pp. 489-505

		repurchase intention on word of mouth			
7.	Journal of Retailing and Consumer Services	Why do consumers buy green apparel? The role of dispositional traits, environmental orientation, environmental knowledge, and monetary incentive	2021	M Sadiq, K Bharti, M Adil, R Singh	62, pp. 102643.
8.	Processes	Solving the Problem of Class Imbalance in the Prediction of Hotel Cancellations: A Hybridized Machine Learning Approach	2021	M Adil, MF Ansari, A Alahmadi, JZ Wu, RK Chakraborty	9(10), pp.1713
9.	Processes	Attention-Based STL-BiLSTM Network to Forecast Tourist Arrival	2021	M Adil, JZ Wu, RK Chakraborty, A Alahmadi, MF Ansari, MJ Ryan	9(10), pp.1759
10.	International Journal of Productivity and Quality Management	Decoding tourist satisfaction and loyalty at hotels: a Confirmatory Factor Analytic approach	2021	MAdil, M Nasir, K Mukesh	34(4), pp. 561-580
11.	International Journal of Hospitality Management	Eco-friendly hotel stay and environmental attitude: A value-attitude-behaviour perspective	2022	M Sadiq, M Adil, J Paul	100(1), pp. 103094
12.	Community Development	What makes a community sustainably developed? A review of 25 years of sustainable community tourism literature	2022	N Dogra, M Adil, A Dhamija, M Kumar, M Nasir	<a href="https://doi.org/10.1080/15575330.2021.2015606">https://doi.org/10.1080/15575330.2021.2015606</a>
13.	Sustainability	Explanatory or Dispositional Optimism: Which Trait Predicts Eco-Friendly Tourist Behavior?	2022	F Rafiq, SK Chishty, M Adil	14(5), pp. 2994-
14.	Journal of Tourism Futures	Linking the intrinsic and environmental constraints with PwD tourists' behavioral intentions toward a travel	March, 2022	Sarmah, B., Kamboj, S. and Chat terjee, R.	<a href="https://doi.org/10.1108/JT-F-02-">https://doi.org/10.1108/JT-F-02-</a>

		destination: mediating role of learned helplessness			2021-0053
15.	International Journal of Internet Marketing and Advertising	Examining the effects of brand authenticity and brand identification on consumers' willingness to pay premium	2022	R Joshi, P Garg, S. Kamboj	Accepted
16.	Technological Forecasting and Social Change	Big data and firm marketing performance: Findings from knowledge-based view	Oct 2021	S Gupta, T Justy, S Kamboj, A Kumar, E Kristoffersen	Volume 171, 120986
17.	International Journal of Bank Marketing	Impact of mobile banking failure on bank customers' usage behaviour: the mediating role of user satisfaction	Feb, 2022	Kamboj, S., Sharma, M. and Sarmah, B.	128-153
18.	The TQM Journal	Big data-driven supply chain and performance: a resource-based view	Aug, 2021	Kamboj, S & Rana, S.	<a href="https://doi.org/10.1108/TQM-02-2021-0036">https://doi.org/10.1108/TQM-02-2021-0036</a>
19.	International Journal of Emerging Markets	Customer participation in service innovation using SNS Smartphone apps: an investigation of the Indian hotel service industry	Oct, 2021	Sarmah, B., Shukla, Y., Chatterjee, R. and Kamboj, S.	<a href="https://doi.org/10.1108/IJOEM-11-2020-1357">https://doi.org/10.1108/IJOEM-11-2020-1357</a>
20.	Information System Frontier	Role of Risks in the Development of Responsible Artificial Intelligence in the Digital Healthcare Domain	Aug, 2021	Gupta, S., Kamboj, S. & Bag, S.	<a href="https://doi.org/10.1007/s10796-021-10174-0">https://doi.org/10.1007/s10796-021-10174-0</a>
21.	Journal of Asia Business Studies	Modelling the predictors of consumers' willingness to pay premium price for sustainable products	July 2021	Kamboj, S & Matharu, M.	559-583

22.	Results in Physics	Study of dynamic behaviour of psychological stress during COVID-19 in India: A mathematical approach	Oct, 2021	Jain, S. K., Tyagi, S., Dhiman, N., & Alzabut, J. (2021).	<a href="https://doi.org/10.1016/j.rin.2021.104661">https://doi.org/10.1016/j.rin.2021.104661</a>
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**(ii) PAPER PRESENTED IN CONFERENCE/SEMINAR/SYMPOSIUM:**

**International / National Conferences**

Kamboj, S. & Sharma, M. (2021). Enhancing Student Engagement: The Role of Orientation Events Experience in Higher Education. Proceedings of the global conference on education and research: Volume 4, p. 109, <https://www.doi.org/10.5038/2572-6374-v4>.

Kamboj, S. & Matharu, M. (2021). Understanding guests' behavior for green hotels: The moderating role of Involvement. Proceedings of the International Scientific Conference TOURMAN 2021 "Restarting tourism, travel and hospitality: The day after, P. 694-96, ISBN: 978-618-84798-9-0.

Kamboj, S. & Sarmah, B. (2021). Role of Travel Constrains and Personality Traits in Shaping Travel Intention: Traveler with Toddler Perspective. Proceedings of the Global Conference on Services and Retail Management organized by the University of Naples Federico II, Naples, Italy, and the University of South Florida, Tampa, Florida, USA.

Kamboj, S. & Sarmah, B. (2021). Learned Helplessness among People with Disabilities in the Tourism Context: An Empirical Study. Proceedings of the Conference on Managing Tourism Across Continents, p.22, DOI: 10.5038/9781955833011.

Dr. Neeraj Dhiman:

Presented a paper titled "Continuance Intentions of Organic Food Consumption Post Covid: An extended ECM and HBM model Perspective" during ISDSI Global conference 2021 held at Indian Institute of Management, Nagpur from December 27-30, 2021.

Presented a paper titled "Continuance Adoption of Health Care Technology: Integrating health belief model and expectation confirmation model" during ISDSI Global conference 2021 held at Indian Institute of Management, Nagpur from December 27-30, 2021.

- i) **PAPER ACCEPTED FOR PUBLICATION: 03**  
ii) **PATENT :03 (Granted)**

- (c) Doctoral Programme: 09 Ongoing  
 (d) Ph.D. Degree awarded: NIL  
 (e) Master Thesis Completed: 13  
 (f) DOCTORAL PROGRAMME:

(g) POPULAR LECTURES BY OUTSIDE EXPERTS:

3. CONSULTANCY SERVICES:

4. EQUIPMENT ACQUIRED:

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

5. NAME OF LABORATORIES:

S.N.	Name of Laboratory
1.	Managerial Computation and Simulation Lab

### 3.14 Centre for Energy Studies



#### 1. ACADEMIC STAFF

HEAD            Dr. Anoop Kumar  
Professor

#### FACULTIES:

Professor	Associate Professor	Assistant Professor
Dr. Anoop Kumar	--	Dr. Mamta Awasthi
Dr. N.S. Thakur		

#### 1. DISTINCTION ACHIEVED:

By Student: 21

2020-21	M. Tech (Energy Technology)	M. Tech (Environmental Engineering)
	6 no of students passed	15 no of students passed

By Faculty Member: 03

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

(a) Conducted in the Department: NIL

(b) Participated by Faculty Member: NIL

### RESEARCH:

(a) **Research Scheme:** Solar Photovoltaic, Solar Thermal, Bioenergy, Biofuels, Wind, Hybrid Energy Technology, Environmental Engineering

(b) **Research Publications:**

(i) **PAPER PUBLISHED BY FACULTIES:**

Sr. No.	Journal Name	Title of paper	Year in which publish	Author	Journal Pages
1	Alternative Fuels and Advanced Combustion Techniques as Sustainable Solutions for Internal Combustion Engines Publication: Springer nature, Singapore, Scopus, Web of science)	Techno-economic and Environmental Evaluation of Producer Gas-Based IC Engine in a Hybrid Energy	2020-2021	P Malik, M Awasthi (2021)	PP 59-93

		System.			
2	<i>Sustainable Energy Technologies and Assessments</i> 45, Article 101189, Elsevier, IF: 5.353, <a href="https://doi.org/10.1016/j.seta.2021.101189">https://doi.org/10.1016/j.seta.2021.101189</a> ( <b>SCI Indexed</b> )	Techno-economic and environmental analysis of biomass-based hybrid energy systems: A case study of a Western Himalayan state in India,	2020-2021	P Malik, M Awasthi, S Sinha (2021)	
3	<i>International Journal of Algae</i> , Volume 23, Issue 3, pg 223-236, Begell House ( <b>Scopus Indexed</b> )	Distribution of Phytoplankton and Periphyton In The Shallow Rice-Fish Fields Of Arunachal Pradesh, India,	2020-2021	Awasthi, M. (2021)	PG 223-236,
4	<i>International Journal of Energy and Environmental Engineering</i> , Springer ( <b>SCI Indexed</b> ), 12 (2)doi: <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> ,	Techno-economic analysis of decentralized biomass energy	2020-2021	Malik, P., Awasthi, M., & Sinha, S.	PP 239-249

	<i>IF:3.101</i>	system and CO2 reduction in the Himalayan region.		(2021)	
<b>5</b>	<i>International Journal of Energy Research 45 (3)<a href="https://doi.org/10.1002/er.6061">https://doi.org/10.1002/er.6061</a>, Wiley (SCI Indexed), Impact factor:5.164</i>	Biomass-based gaseous fuel for hybrid renewable energy systems: An overview and future research opportunities	<b>2020-2021</b>	Malik, P., Awasthi, M., & Sinha, S. (2021)	PP 3464-3494
<b>6</b>	Energy Sources, Part A: Recovery, Utilization, and Environmental Effects	Impact of multi-staggered rib parameters of the 'W' shaped roughness on the performance of a solar air heater channel	<b>2020-2021</b>	Sushant Thakur, NS Thakur	PP-1-20
<b>7</b>	International Journal of Thermal Sciences	Experimental investigation and multi	<b>2020-2021</b>	Ranchan Chauhan, Tej	PP-106130

		objective optimization of thermal-hydraulic performance in a solar heat collector		Singh, Amar Patnaik, NS Thakur, Sung Chul Kim, Gusztáv Fekete	
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**(ii) PAPER PRESENTED IN CONFERENCE/SEMINAR/SYMPOSIUM:**

i) PAPER ACCEPTED FOR PUBLICATION: NIL

ii) PATENT: NIL

(c) Doctoral Programme: 3 PhD students Registered

(d) Ph.D. Degree awarded: NIL

(e) Master Thesis Completed: 6 (Energy Technology), 15 (Environmental Engineering)

**(f) DOCTORAL PROGRAMME:**

Sr. No.	Title	Guide	Name of Student	Brief Report
1.	Study of Hybrid Renewable Energy Generation System	Dr Mamta Awasthi	Prashant Malik	Verge of completion
2.	Environmental Analysis and Forecasting of E-waste in Himachal Pradesh	Dr Mamta Awasthi	Kumar vaibhav	Completed the course work

3.	Heat Transfer And Friction Characteristics of An Artificially Roughened Solar Air Heater	Prof NS Thakur	Sushant Thakur	Verge of completion

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

**5. CONULTANCY SERVICES: NIL**

**6. EQUIPMENT ACQUIRED:**

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

**7. NAME OF LABORATORIES:**

Sr. No.	Name of Laboratory
1.	Solar Photovoltaic Laboratory
2.	Solar Thermal Laboratory
3.	Energy Simulation Laboratory
4.	Bio Energy Laboratory
5.	Energy Research Laboratory
6.	Environmental Engineering Laboratory

## 4 Staff Details

### 4.1 ADMINISTRATIVE STAFF

No.	Sr.	Title	First Name	Last Name	Designation	Employee Code
1	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	Vasishta	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 (Higher/Lower):

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.	Parkash Chand	Bhardwaj	Sr. Superintendent	S0139
4	Sh.	Raj Kumar	Sharma	Sr. Superintendent	S0136
5	Sh.	Desh Raj	Bansal	Sr. Personal Assistant	S0099
6	Sh.	Parvesh	Kumar	Sr. Personal Assistant	S0282
7	Sh.	Raman	Kumar	Superintendent	S0272
8	Sh.	Kishore	Kumar	Superintendent	S0138
9	Sh.	Pawan Kumar	Sharma	Superintendent	S0145
Ministerial Staff (Lower)					
1	Smt.	Pushpa	Devi	Stenographer (SG- I)	S0164
2	Sh.	Gulab Singh	Thakur	Stenographer (SG- I)	S0117
3	Sh.	Vinod	Kumar	Stenographer SG-II	S0149
4	Smt.	Sangeeta	Kumari	Stenographer SG-II	S0150
5	Sh.	Sanjeev	Mehta	Asst. SG I	S0097
6	Sh.	Joginder	Singh	Asst. SG I	S0141
7	Sh.	Yashpal	Singh	Asst. SG I	S0142
8	Sh.	Jitender	Kumar	Asst. SG I	S0146

9	Sh.	Surinder	Singh	Asst. SG I	S0072
10	Ms.	Surindera	Verma	Asst. SG I	S0147
11	Sh.	SukhDev	Singh	Asst. SG I	S0286
12	Sh.	Raman	Thakur	Asst. SG II	S0158
13	Sh.	Meera	Thakur	Asst. SG II	S0155
14	Smt.	Meena	Devi	Asst. SG II	S0162
15	Sh.	Madan	Lal	Asst. SG II	S0152
16	Smt.	Raj	Kumar	Asst. SG II	S0160
17	Sh.	Ajit	Kumar	Asst. SG II	S0157
18	Ms.	Nazima	--	Asst. SG II	S0159
19	Sh.	Vikas	Dogra	Asst. SG II	S0311
20	Sh.	Ashwani	Kumar	Sr. Assistant	S0314
21	Sh.	Vishal	Narota	Sr. Assistant	S0313
22	Sh.	Vipan	Kumar-I	Sr. Assistant	S0312
23	Sh.	Vipan	Kumar-II	Sr. Assistant	S0315
24	Sh.	Shashi Kant	Ratnakar	Sr. Assistant	S0320
25	Sh.	V.K.	Tippan	Sr. Assistant	S0321
26	Ms.	Neenu	Sharma	Sr. Assistant	S0325
27	Sh.	Suresh	Kumar	Jr. Assistant	S0192
28	Sh.	Ashok	Kumar-I	Jr. Assistant	S0195
29	Sh.	Ravi	Das	Jr. Assistant	S0190

#### 4.4 Supporting Staff:

Sr. No.	Title	First Name	Last Name	Designation	Employee Code
1	Mr.	Bhagwan	Dass	Office Attendant SG-I	S0198
2	Mr.	Suresh Chand	Rangra	Office Attendant SG-I	S0186
3	Mr.	Om	Prakash	Office Attendant SG-I	S0181
4	Mr.	Sunil	Kumar	Office Attendant SG-I	S0180
5	Mr.	Hari	Singh	Office Attendant SG-I	S0219
6	Mr.	Bhupinder	Singh	Office Attendant SG-I	S0210
7	Mr.	Surinder	Kumar	Office Attendant SG-I	S0280
8	Mr.	Suresh	Kumar	Office Attendant SG-I	
9	Mr.	Kashmir	Singh	Office Attendant SG-I	S0196
10	Mr.	Kehar	Singh	Office Attendant SG-I	S0194
11	Mr.	Partap	Chand	Office Attendant SG-I	
12	Mr.	Basant	Singh	Office Attendant SG-I	
13	Mr.	Hem	Raj	Office Attendant SG-I	S0197
14	Mr.	Ravinder	Kumar	Office Attendant SG-II	S0207
15	Mr.	Vijay	Kumar	Office Attendant SG-II	S0202
16	Mr.	Balwant	Chand	Office Attendant SG-II	S0064
17	Mr.	Rajinder	Singh	Office Attendant SG-II	S0213
18	Mr.	Tilak	Raj	Office Attendant SG-II	S0075
19	Mr.	Banka	Ram	Office Attendant SG-II	S0074
20	Mr.	Ashok	Kumar-I	Office Attendant SG-II	S0191
21	Mr.	Lekh	Raj	Office Attendant SG-II	
22	Mr.	Joginder	Singh	Office Attendant SG-II	S0119
23	Mr.	Devinder	Kumar	Office Attendant SG-II	S0214
24	Mr.	Ramesh	Chand-I	Office Attendant SG-II	S0205

25	Mr.	Manmohan	Lal	Office Attendant SG-II	S0089
26	Mr.	Jiwan	Parkash	Office Attendant SG-II	S0206
27	Mr.	Ramesh	Chand-II	Office Attendant SG-II	S0201
28	Mr.	Subhash	Chand	Office Attendant SG-II	S0222
29	Mr.	Chain	Singh	Office Attendant SG-II	S0203
30	Mr.	Jai	Chand	Office Attendant SG-II	S0208
31	Mr.	Vinod	Kumar	Office Attendant SG-II	S0221
32	Mr.	Subhash	Chand	Office Attendant SG-II	S0183
33	Mr.	Roshan	Lal	Office Attendant SG-II	
34	Mr.	Vidya	Sagar	Office Attendant SG-II	
35	Mr.	Subhash	Chand	Office Attendant SG-II	S0279
36	Mr.	Mukesh	Singh	Office Attendant SG-II	S0278
37	Mr.	Manohar	Lal	Office Attendant SG-II	S0188
38	Mr.	Om	Parkash	Office Attendant SG-II	S0276
39	Mr.	Sunil	Kumar	Office Attendant SG-II	S0277
40	Mr.	Anil	Kumar	Sr. Office Attendant	S0262
41	Smt.	Salochna	--	Sr. Office Attendant	S0263
42	Mr.	Jiya	Lal	Sr. Office Attendant	S0274
43	Mr.	Neeraj	Kumar	Sr. Office Attendant	S0271
44	Mr.	Parkash	Chand	Sr. Office Attendant	
45	Mr.	Rajinder	Singh	Sr. Office Attendant	
46	Mr.	Rakesh	Kumar	Sr. Office Attendant	
47	Mr.	Prem	Lal	Sr. Office Attendant	

**Technical Higher:**

Sr. No.	Name of the Post	Sanctioned Strength	In Position					Total
			SC	ST	OBC	PH	Gen	
1	Technical Assistant/ Junior Engineer/ SAS Assistant/ Library Information Assistant	32	00	00	00	01	00	01
2	Sr. Technical Assistant/ Assistant Engineer/ Sr. SAS Assistant/ Sr. Library Information Assistant/ Pharmacist SG-II	22	01	00	00	00	04	05
3	Technical Assistant (SG -II)/ Assistant Engineer (SG-II)/SAS Assistant (SG-II)/ Library Information Assistant SG-II	16	04	00	00	00	04	08
4	Technical Assistant (SG-I) Executive Engineer, SAS Assistant (SG-I)/ Library Information Assistant SG-I	08	01	01	00	00	05	07
<b>Total</b>		<b>78</b>	<b>06</b>	<b>01</b>	<b>00</b>	<b>01</b>	<b>13</b>	<b>21</b>

**Technical Lower:**

Sr. No.	Name of the Post	Sanctioned Strength	In Position				Total
			SC	ST	OBC	Gen	
1	Technician/Lab. Assistant/Work Assistant	30	01	01	00	02	04
2	Sr. Technician/Sr. Lab Assistant/Sr. Work Assistant	23	02	00	02	02	06
3	Technician (SG-II)/Lab Assistant (SG-II)/Work Assistant (SG- II)/Pharmacist	17	03	02	01	09	15
4	Technician (SG-I)/Lab Assistant(SG-I)/Work Assistant (SG-I)	08	02	00	00	03	05
<b>Total</b>		<b>78</b>	<b>08</b>	<b>03</b>	<b>03</b>	<b>16</b>	<b>30</b>

**Supporting Staff:**

Sr. No.	Name of the Post	Sanctioned Strength	In Position				
			SC	ST	OBC	Gen	Total
1	Office Attendant/ Lab Attendant	15	--	--	--	--	--
2	Sr. Office Attendant/ Sr. Lab Attendant	12	03	00	01	04	08
3	Office Attendant (SG-II)/ Lab Attendant SG-II	08	08	01	00	17	26
4	Office Attendant SG-I/ Lab Attendant SG-I	04	05	00	00	08	13
	<b>Total</b>	<b>39</b>	<b>16</b>	<b>01</b>	<b>01</b>	<b>29</b>	<b>47</b>

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 2021 due to ongoing pandemic. However, the students were allowed to carry out the training within the institute itself.

### Placement Statistics for 2021 – 2022 (Up to March 31, 2022)

#### B.Tech. 2021-2022 Batch

2021-2022 (Total 98 Nos. of organizations in which students have been placed during the year 2021-22 Up to March 31, 2022)							
Sr. No.	Discipline	Eligible/ Appeared Candidate	Placed	% placement	Total Jobs Offered	% Jobs offered to NIT Hamirpur	Max. CTC in Lacs per Annum (LPA)
1	Electronics & Comm. Engg.	79	74	93.67	110	139.24	19.4
2	Computer Science & Engg.	94	90	95.74	135	143.62	112
3	Electrical Engg.	84	66	78.57	70	83.33	16
4	Mechanical Engg.	90	72	80.00	79	87.78	14.5
5	Civil Engg.	83	41	49.40	42	50.60	9.9

6	Chemical Engg.	53	34	64.15	37	69.81	10
7	Material Sc. & Engg.	22	17	77.27	20	90.91	18
<b>Total</b>		<b>505</b>	<b>394</b>	<b>78.02</b>	<b>493</b>	<b>97.62</b>	<b>-</b>

**Dual Degree 2021-22 Batch**

**2021-2022 (Total 46 Nos. of organizations in which students have been placed during the year 2021-22 Upto March 31, 2022)**

Sr. No.	Discipline	Eligible/ Appeared Candidate	Placed	% placement	Total Jobs Offered	% Jobs offered to NIT Hamirpur	Max. CTC in Lacs
1	Computer Science & Engg.	54	52	96.30	68	125.93	151
2.	Electronics & communication Engg.	58	49	84.48	76	131.03	16.6
<b>Total</b>		<b>112</b>	<b>101</b>	<b>89.29</b>	<b>144</b>	<b>128.57</b>	<b>-</b>

**B.Arch. 2021-22 Batch**

**2021-2022 (Total Nos. of organization in which students have been placed during the year 2021-22 Upto March 31, 2022)**

	Discipline	Eligible/ Appeared Candidates	Placed	Total Job Offers	Percentage of placement	Max. CTC in Lacs
1	Architecture	33	-	-	-	-

**M.Tech./M.Arch 2021-22 Batch**

**2021-2022 (Total 29 Nos. of organizations in which students have been placed during the year 2021-22 Upto March 31, 2022)**

Sr. No.	Discipline	Eligible/ Appeared Candidates	Placed	Percentage Of Placement (%)	Total Job Offers	% Jobs offered to NIT Hamirpur	Max. CTC in Lacs
1	Geotechnical Engg.(CE)	13	3	23.1	3	23.1	4.8
2	Transportation Systems Engg.(CE)	14	1	7.1	1	7.1	4.8

3	Water Resource Engg.(CE)	10	-	0.0	-	0.0	0
4	Environment Engineering	11	-	0.00	-	0.0	-
5	CIVIL Structure (CE)	15	1	6.7	1	6.7	6.3
6	CSE (AI)	13	13	100.0	18	138.5	22.5
7	CSE	15	14	93.3	19	126.7	21
8	ECE (Communication Systems & Network)	16	7	43.8	8	50.0	16
9	ECE (VLSI)	14	1	7.1	1	7.1	16
10	Electrical (CMPA)	15	7	46.7	8	53.3	12.56
11	Electrical (Power systems)	13	5	38.5	5	38.5	9
12	Electrical (Signal Processing & Control)	14	5	35.7	6	42.9	12.56
13	Mechanical (Design)	17	3	17.6	3	17.6	10.1
14	Mechanical (Energy technology)	8	2	25.0	2	25.0	12.56
15	Mechanical (Manufacturing)	13	4	30.8	5	38.5	12.56
16	Mechanical (Thermal)	13	4	30.8	4	30.8	9.58
17	Material Science	6	1	16.7	1	16.7	3.75
18	Chemical Engineering	1	-	0.00	-	0.0	-
19	M. Arch.	19					
<b>Total</b>		<b>240</b>	<b>71</b>	<b>34.0</b>	<b>85</b>	<b>40.7</b>	

**MBA 2021-22 Batch.****2021-2022 (Total 07 No. of organizations in which students have been placed during the year 2021-22 Upto March 31, 2022)**

Sr. No.	Discipline	Eligible/ Appeared Candidates	Placed	Percentage Of Placement (%)	Total Job Offers	Percentage of placement	Max. CTC in Lacs per Annum
1	Master of Business Administration	16	7	43.75	8	5	8.29

**M.Sc 2021-22 Batch.**

<b>2021-2022 (Total 08 No. of organizations in which students have been placed during the year 2021-22 Upto March 31, 2022)</b>							
<b>Sr. No.</b>	<b>Discipline</b>	<b>Eligible/ Appeared Candidate</b>	<b>Placed</b>	<b>Percentage Of Placement (%)</b>	<b>Total Jobs Offered</b>	<b>% Jobs offered to NIT Hamirpur</b>	<b>Max. CTC in Lacs</b>
1	Math & Computing	14	10	71.43	14	100.0	14.00
2.	Physics	11	1	9.09	1	9.1	12.56
3.	Chemistry	16	1	6.25	1	6.3	6.00
<b>Total</b>		<b>41</b>	<b>12</b>	<b>22.64</b>	<b>16</b>	<b>30.19</b>	<b>-</b>

**Total Nos. of organizations in which students placed from UG = 98 Nos.**

**Highest Package offered = Rs. 112 LPA**  
**Lowest package offered = Rs. 3.6 LPA**  
**Average package offered = Rs. 10.37 LPA**

**Total Nos. of organizations in which students placed from Dual Degree = 46 Nos.**

**Highest Package offered = Rs. 151 LPA**  
**Lowest package offered = Rs. 4.50 LPA**  
**Average package offered = Rs. 12.50 LPA**

**Total Nos. of organizations in which students placed from PG (M.Tech.) = 29 Nos.**

**Highest Package offered = Rs. 22.50 LPA**  
**Lowest package offered = Rs. 3.30 LPA**  
**Average package offered = Rs. 8.20 LPA**

**Total Nos. of organizations in which students placed from PG (M.Sc.) = 08Nos.**

**Highest Package offered = Rs. 14.00 LPA**  
**Lowest package offered = Rs. 3.60 LPA**  
**Average package offered = Rs. 5.98 LPA**

**Total Nos. of organizations in which students placed from PG (MBA) = 07Nos.**

**Highest Package offered = Rs. 8.29 LPA**  
**Lowest package offered = Rs. 5.00 LPA**  
**Average package offered = Rs. 4.29 LPA**

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

<b>Branch</b>	<b>Highest Package offered (CTC in Lacs)</b>	<b>Lowest Package Offered (CTC in Lacs)</b>	<b>Average package offered (CTC in Lacs)</b>
Electronics & Comm. Engg	19.4	6	10.41
Computer Science & Engg	112	5.5	16.44

Electrical Engg	16	3.6	7.28
Mechanical Engg.	14.5	5	6.72
Civil Engg.	9.9	3.6	6.70
Chemical Engg.	10	4.8	7.34
Material Sc. & Engg.	18	3.6	6.98

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

Branch	Highest Package offered(CTC in Lacs)	Lowest Package Offered(CTC in Lacs)	Average package offered(CTC in Lacs)
Computer Science & Engg.	151	8	15.41
Electronics & Comm. Engg.	16.6	4.5	9.71

**Scholarship & Fellowship Details.**

The students of NIT Hamirpur on the basis of their parental income, caste and other eligibility conditions apply for various scholarship schemes offered either by various dept. of Central Govt. or State governments or various other organisation like ONGC, Coal India, SJVN and Samsung etc. during FY 2021-22 amid COVID-19, deadlines of most of the scholarship schemes were extended and payments of scholarship amount under those scholarships were also delayed beyond FY 2021-22. Also as most of scholarship schemes works under DBT mode, exact value of any scholarship scheme may differ from what the Institute has approved and finally disbursed by scholarship disbursing agency into student accounts.

However, based on information received from students and records of this office, the amount of scholarship paid or approved by Institute is given below:-

S.No.	Name of the Scholarship	Name of source from where scholarship funds/grant received	Scholarship amount	No. of students got S/ship	Remarks
1	BSNL Scholarship	BSNL	31250	1	Renewal
2	BSF Scholarship	BSF S/ship out of EDN Fund	20000	1	Renewal
3	Armed forces scholarship	Award of Educational Scholarship to Children of Armed Forces Officers/Personnel below Officer Rank killed/missing/ permanently disabled by MoD.	133950	1	Renewal
4	HP (BOCW) Assistance	Assistance to wards of HP Building & Other Construction Workers (BOCW) under MANREGA by Govt of HP	85000	7	Fresh & Renewal
5	GRPF (Employee's ward) S/ship	GRPF, MHA	30000	1	Renewal
6	FAEA Scholarship	FAEA Scholarship, New Delhi-110016	117750	2	Fresh & Renewal
7	INSPIRE Scholarship	DST, Govt of India	60000	1	Fresh for MSC student
8	IAFBA- Scholarship for ward of Air Force Employee	IAFBA-New Delhi	30000	1	Renewal
9	Delhi Police Scholarship (for ward of Delhi Police Employee)	Delhi Govt.	30000	2	Renewal
10	HPBOSE (MHRD) S/ship	Himachal Pradesh Govt.	204000	17	Renewal
11	MMVY-Scholarship (Mukhyamantri Medhavi Vidvathi Yojna)	Madhya Pradesh Govt.	121732	2	Renewal
12	PMS Telangana State	Telangana Govt.	20800	1	Renewal
13	FFE (Foundation for Excellence) Scholarship	FFE (NGO) Bengaluru	1047050	29	Fresh & Renewal
14	OEC- Post Matric Scholarship	Kelara Govt.	75400	1	Renewal
15	Rajasthan Police Scholarship (for Ward of Rajasthan Police Employee)	Rajasthan Govt.	85000	3	Renewal
16	PMSS for wards of Ex-Serviceman	Kendtiya Sainik Board (KSB)	186000	6	Renewal
17	SJVN Silver Jubilee Merit Scholarship	SJVNL-H.O- Shimla (HP)	840000	35	Fresh & Renewal
18	PMSS for J&K students	AICTE, New Delhi	62850	1	Renewal
19	SPDC (Scholarship Programme for Diaspora Children)	Ministry of External Affairs, Gol	105000	1	Renewal for the year 2020-21
			122587		Renewal for the year 2021-22
20	Indian Railway Ward S/ship	Indian Rly.	61000	4	Fresh & Renewal

21	Samsung Star Scholarship	Samsung	86332	3	Fresh & Renewal
22	ONGC- Scholarship	ONGC- Dehradun	48000	1	Renewal
23	CSSS for College & University Students	Deptt. of Higher Education, Govt.	560000	56	Fresh & Renewal
24	Kaipana Chawia Chhatravrtti Yojana, HP	MHRD	185000	11	Fresh & Renewal
25	PMSS for Central Armed Police and Assam Rifles	MHA	822000	28	Fresh/Renewal
26	EIL (Engineering India Limited)- Scholarship	EIL	72000	2	Renewal
27	Indira Gandhi Utkrist Chatarvarti	Himachal Govt.	15000	1	Renewal
28	BMS (Uttar Pradesh)	UP Govt.	668900	14	Fresh & Renewal
29	Central Sector Scholarship "Top Class Education" for SC- Category Students (Top-10)	GOI, Ministry of Social Justice & Empowerment, New Delhi	4832300	83	Fresh & Renewal
30	Central Sector Scholarship "Top Class Education" for ST -Category Students (now National Fellowship & Scholarship for Higher Education of ST students)	GOI, Ministry of Tribal Affairs, New Delhi	1268950	13	Fresh & Renewal
31	To Class Education for Students with disability	GOI, Ministry of Social Justice & Empowerment, New Delhi	480000	4	Fresh & Renewal
32	M.Tech Stipend to Dual Degree (GATE qualified) students	Govt. of India MHRD, New Delhi	7680351	54	Rs.12,400/- each PM for 2015-20 batch dual degree students (as per actual presence)
33	M.Tech. Stipend (for GATE qualified students)	Govt. of India MHRD, New Delhi	37241645	240	Rs.12,400/- each PM for 2020-21 batch students (as per actual presence)
34	M.Tech. Stipend (for GATE qualified students)	Govt. of India MHRD, New Delhi	20899717	150	Rs.12,400/- each PM for 2021-22 batch students (as per actual presence)
35	Financial Assistance to Ph.D Scholars.	Govt. of India-MHRD, New Delhi	58086032	135	Rs.31,000/- each per month & Rs.35,000/- each per month + HRA @8% (as per actual presence)
		Govt. of India- UGC Scheme	4538000	10	Rs.31,000/- each per month & Rs.35,000/- each per month + HRA @8% (as per actual presence)
		Govt. of India- CSIR Scheme	2268000	5	Rs.31,000/- each per month & Rs.35,000/- each per month + HRA @8% (as per actual presence)
		Deity Scholarship (Visvesvaraya Ph.D Scheme for Electronics & IT)	502200	1	Rs.38,750/- each per month + HRA @8% (as per actual presence)
<b>TOTAL:</b>			<b>143711796</b>	<b>906</b>	

## 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:

Sr. No.	Name & address	Designation
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:

Sr. No.	Name & address	Designation
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          |

	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

## CENTRAL FACILITIES

### 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/200analyse 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-I)	:	Sh. Ravi Singh
Sr. Technician	:	Sh. Rakesh Sharma

4). The detail of the assets/equipment purchased for the Computer Centre during the financial year 2021-2022 is as below:-

Sr. No.	Name of Asset/Equipment	Quantity
1	Matlab Campus / Campus wise Linces	01No.
2.	Deployment of Wireless Network in Academic Area of the Institute(300Nos. WI FI Accespoint, 50 Network Switches	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**

1. Academic Staff:  
Workshop Superintendent = 01
2. Equipment's Acquired:

S.No.	Name of the Equipment	Date of Purchase	Cost (in Rupees)
1.	Nil	Nil	Nil

**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:**

1. No. of print books available up to 31-03-2021 : 87,434.00
2. No. of e-books available up to 31-03-2021 : 151
3. No. of print books added during the year : 736
4. No. of e-books added during the year : 151
  - Cambridge University Press: 11
  - Elsevier : 9
  - Pearson : 69
  - PHI : 36
  - Wiley : 7
5. Expenditure on procurement of Books : 21,43,613.00

e-Books	: 15,30,027.00
Print Books	: 6,13,586.00

6. E-resources subscribed by Institute:

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

7. e-resources subscribed through e-SodhSindhu :

- ASCE Library
- ASME Digital Collection
- ISID (Institute for Studies in Industrial Development)
- Springer Link
- Web of Science

8. Other Facilities

- RFID based Library Management System for self check-in, check-out, renewal etc.
- INFED to provide the facility of Off-Campus Access of e-Resources.
- Institutional Repository for archiving research output.

Wi-Fi services to access e-resources

#### 7.4 DISPENSARY:

- 1) **BACKGROUND:-** Medical facilities are available on working days from 09:00 AM to 07:00 PM daily for the faculty, students, staff & residents of the Institute. Ambulances are available on a telephone call. The following doctors are available on rotation basis in the Health Centre:-

- (i) Dr. Mani Verma, Medical Officer (Incharge)
- (ii) Dr. Vivek Sharma, MD Medicine

- 2) The working hours of the Health Centre is as follows:-  
Monday to Sunday: 09:00 AM to 07:00 PM
- 3) Total patents treated annually = 9190.
- 4) Number of outdoor attendance = 8340.
- 5) Number of day care Patients= 50.
- 6) Number of referral cases=800.
- 7) Immunization camp for new born and kids are being organized time to time in the Institute Health Centre.
- 8) Ambulance Services are available 24X7 with basic facilities.
- 9) Immunizations Camps are being organized for vaccination against COVID-19.

In addition to above, during the COVID-19, the following additional services were provided by the Institute Health Centre:-

- An Isolation facility was created inside the campus for all the positive cases separately for boys & girls as per the protocol. All the COVID +ve patients were provided the Pulse Oximeter and Digital / Clinical thermometer. The facility of Oxygen cylinder was also made available in the Isolation Rooms and thermal Guns was also provided for monitoring of temperature.

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

### 7.5 Sports Activities

National Institute of technology Hamirpur is one of the premier technical Institute 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 been provided. Along with this, the facility of Student Activity Center (SAC) is also handed over to the sports section for the use of student, faculty and staff with indoor facilities of Badminton, Basketball, Table Tennis, Martial Arts Karate hall, Yoga hall, Gymnasium Hall (Male & Female), Squash Court and hall for Drama, Dance & Music etc.

#### (Inter Branch, Inter year Tournament and Annual Athlete Meet 2021-22)

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

#### Participation outside the Institute 2021-2022

Due to COVID-19 Pandemic all these activities/tournament the Institute teams could not be participated.

#### Others Activities:

1. In the month of March, NIT Hamirpur Faculty & Staff cricket team participated (Nalwar fair



fair

Sundernagar, Distt. Mandi) in the Cricket Tournament.

2. Games & Sports Section conducted one week free Yoga Camp for the Faculty, Staff & Students with the collaboration “Ved Urga Yoga Studio” Hamirpur.



3. Sports section organized International day of yoga dated on 21<sup>st</sup> June 2021 (virtually).



4. Sports Section organized fit India Freedom Run/Walk for Faculty, Staff and Student (Azadi Ka Amrit Mahotsav) regarding celebration of 75<sup>th</sup> year of India's Independence on dated 13<sup>th</sup> August 2021.



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

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

1.	Athletic track & fields	200 M track (grass)	01 No.	There is one ground for all these 03 games.
2.	Football ground	Without flood light	01 No.	
3.	Cricket Ground	Without flood light	01 No.	
4.	Volleyball court	Without flood light	02 No.	
5.	Basketball Court	With flood light	02 No.	01 No. Outdoor 01 No. Indoor
6.	Lawn Tennis Court	With flood light	03 No.	Synthetic-01 no. Cemented-02 nos.
7.	Student Activity Center (SAC)	Badminton court, Basketball Court, Table Tennis, Billiards, Squash Court, Karate & Yoga, Gymnasium Hall (Male & Female) etc.		

8. Indoor Games facilities are available inside hostel compounds (Table Tennis, Carom, Chess, Outdoor and Indoor Badminton Court etc.) there are an attractive stadium with the provision for 1500 spectators.



*Student Activity Centre Inaugurated By:-*

*Sh. Anurag Singh Thakur , Hon'ble Minister of State for Finance & Corporate Affairs (G.O.I)  
In the Presence of*

*Prof. Lalit Kumar Awasthi, Director, National Institute of Technology, Hamirpur(HP)*



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## 7.6 OTHER FACILITIES LIKE HOSTELS, MESSES, 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:-

Name of the Hostel	Type (Single/ Double/ 03 Seated/ 04 seated/ 06 seated	Capacity
Kailash Boys Hostel	03 seated	720
Vindhyachal Boys Hostel	Single seated	169
Satpura Hostel	Triplet	250
Mani Mahesh & Aravali Girls Hostel	Single seated	222
Dhauladhar Boys Hostel	Single seated- 91 03 seated- 24 Warden & MMCA office-01	163

	Guest Room=02	
Neelkanth Boys Hostel	03 seated=21 04 Seated=128	575
Himadri Boys Hostel	Triplet	710
Hingiri Boys Hostel		
Udyagiri Boys Hostel	Singlet room 371 Double room 11	489
Parvati Girls Hostel	Single seated-54 03 seated-36 Guest Room=02 Warden & MMCA office= 02	507
Ambika Girls Hostel	Doublet=63 Triplet= 26 Four Let=4 Five let=25 Guest room Doublet=3	352
Shivalik Boys Hostel	Six Seated= 90 Four seated=40	130

#### 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	12	1985.22	31763.52	2952.00
6	Duplex Type-V	4	269.22	1076.88	100.00
7	Director Residence	1	3281.80	3281.80	305.00
8	Garages	97	134.50	13046.50	1213.00
9	Type-IV spacial (Faculty residences)	48	1827.85	87736.80	8154.00
10	Type-IV spacial (Non teaching residences)	16	1827.85	29245.60	2718.00
11	Total nos. of Hostels Buildings wise Area	1	2121818.20	2121818.20	197195.00
12	Total nos. of Academic Buildings Area	1	856313.08	856313.08	79583.00
				Total	308649.00
		Gross plinth area = Qtrs area+Hostel area +Academic area			
		Total = 308649.00 Sqm                      76.26 Acre			
		Total developed area = Plinth area + garden + Road etc.			
		Total 100.84 Acre                                      =408085.00 Sqm			

## 7.8 List of Assets Purchased during the year 2021-22 in Construction &amp; Maintenance Section, NIT, Hamirpur (HP).

"Annexure-A"

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 assets acquired out of the grants as incorporated in the grants -in - aid sactioned.	Particulars of assests actually created or acquired	Qty.	Amount as of 31.3.2022 up to date	Purpose for which utilized
	NIT, Hamirpur	F.No.34-2/2/2013-TS-111 Dated 4/6/2013 & 27/12/2013		Develop the lab/dept for created.	Yes				For lab work by the students.
1	-do-	-do-	-do-	Due to dense forest behind Type-III,IV & V residences to provide the necessary LED street light in the area.	-do-	Proiding LED Streat light fitting in the back side of Type-III, IV & V residence.		1562950.00	Being used in residentials peoples

2	-do-	-do-	-do-	Due to the controls inside has also gone out of order due to continuous use due to which frequent break down of raw supply has to be faced. It is the cable providing UPS supply from the sub-station, No.3 ,Burnt cable feeding UPS supply to the admin. Block and adjacent area need to replaced.	-do-	Replacement & upgradation of feeder pillars at various location and UPS cable from Sub-station No. 3 to Admin.Block at NIT Hamirpur.		1443749.00	Use due to which frequent break down of raw supply has to be faced,due to it is the cable providing UPS supply from the sub-station, No.3 , Burnt cable feeding UPS supply to the administrative block and adjacent area need to replaced.
3	-do-	-do-	-do-	To accommodate VIPs and other persons are coming to the works of NIT and the stay arrangement no any car parking in this building so that R/Wall is required for protect area about 270 Sqm.	-do-	Construction of retaining Wall at Sutpura Hostel in NIT Hamirpur.		1716722.00	Used the area of car parking.
4	-do-	-do-	-do-	Due to the flow of traffic on the road to gate No.1 to Admin Block to accommodate students/faculty with the construction of a footpath to safe guard the life in the campus.	-do-	Construction Footpath at various Locations in NIT Hamirpur (Phase-I)		2171848.00	Used for construction footpath safeguard the life.
						<b>Total Rs:-</b>		6895269.00	

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## 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 2022**

1. We have audited the Balance Sheet of National Institute of Technology, Hamirpur Himachal Pradesh as on 31<sup>st</sup> March 2022, 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. These financial statements are the responsibility of the Institute's Management. Our responsibility is to express an opinion on these financial statements based on our audit.

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

#### **Current Liabilities (Schedule 3)**

##### **A.1.1. Deposits- other (incl. EMD); Security Deposit and other): Rs. 72.53 Crore**

As per the prescribed format of account, where ownership of fixed assets created out of funds vests with the Institute, corresponding amount equal to the value of the assets should be added in Corpus/Capital Funds besides showing fixed assets to the same extent in Assets side.

Above included asset required out of specific funds maintained by the Institute amount to Rs. 5.45 crore. As these funds are being maintained by the Institute, assets created out of specific funds should have been added to Corpus /Capital Fund instead of including under Current Liabilities. This has resulted in understatement of Corpus/Capital Fund and overstatement of Deposits (Current Liabilities) by Rs. 5.45 Crore.

##### **A.1.2 Current Liabilities and Provisions (Schedule 3) Unutilized Grants: Nil**

As per the prescribed format of accounts, capital advances should not be treated as utilization of grants. However, the Institute has booked capital advances amounting to Rs. 11.59 Crore as utilization of grant. This has resulted in understatement of unutilized grants and overstatement of Corpus/Capital Fund by Rs. 11.59 Crore.

This matter was also reported in the previous year Separate Audit Report for the year 2020-21. However, compliance was not made by the Institute.

## **B. Income and Expenditure**

### **Income from Investment (Schedule 11): Rs. 209.33 Lakh**

### **Interest Earned (Schedule 12): Rs. 24.00 Lakh**

**B.1** Above included interest accrued amounting to Rs. 11.99 Lakh. However, as per the bank certificates for the year ending March 2022, total interest accrued was Rs, 126.74 Lakh. This has resulted in understatement of income as well as interest accrued (Assets) by Rs. 114.75 Lakh.

**B.2** Further, as per the bank certificates for the year ending March 2022, total interest earned was amounting to Rs. 222.60 lakh. However, the Institute included interest earned amounting to Rs. 221.34 Lakh, instead of Rs. 222.60 Lakh. This has resulted understatement of bank balances as well as income by Rs. 1.26 Lakh.

## **C. Significant Accounting Policy**

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.

This was also pointed out in previous Separate Audit Report for the year 2020-21. However, compliance was not made in the annual accounts for the year 2021-22

## **D. General**

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

Net impact of audit comments on the annual accounts of the Institute for the year ended 31<sup>st</sup> March, 2022 is as under:

- i) Assets overstated by Rs. 1.16 Crore;
- ii) Liabilities understated by Rs. 6.14 Crore and
- iii) Corpus /Capital Fund overstated by Rs. 4.98 Crore. Besides, Income is understated by Rs. 1.16 Crore.

**D-2** The Institute has not obtained Monthly progress/ expenditure statement received from CPWD for the month upto March 2022, in the absence of which status of capital advances amounting to Rs. 11.59 Crore was not updated in the annual accounts.

**D-3** Deposits – Other (including EMD, Securing Deposit & Other) amounting to Rs. 72.53 crore shown in Schedule 3, included an amount of Rs. 4.98 crore (Rs. 4.90 crore and Rs. 0.08 crore), details of which were not furnished. However, as per previous year annual accounts, out of this amount of Rs. 4.98 crore, the amount of Rs. 4.90 crore was shown under Current Liabilities as Advance Fees Received. Therefore, this amount of Rs. 4.98 crore is needed to be verified and confirmed by the Institute.

**D-4** General Financial Rule 230 (8) (GFR 2017) provides that, all interest 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.

As per Schedule 11 and 12 of the Balance Sheet, the Institute had earned interest on saving accounts as well as FDRs amounting to Rs. 10.84 Crore (4.91 Crore in 2019-20, Rs. 3.60 Crore in 2020-21 and Rs. 2.33 crore in 2021-22) 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.

This observation was also pointed out in the Separate Audit Reports for the year 2019-20 and 2020-21. However, compliance is still awaited.

**D-5** As per the format of accounts prescribed by the Ministry of Education, provision for retirement benefits is to be made on Actuarial Valuation Method.

- (i) The Institute vide its Accounting policy (SI No. 6 schedule 23) had disclosed that future obligations in respect of Leave Encashment and Gratuity as on 31.03.2022 stands at Rs. 29.43 crore and Rs. 28.82 crore respectively. The Institute has worked out these provisions in respect of Leave Encashment and Gratuity, on estimation basis; instead of actuarial valuation basis.

(ii) Further, provisions made in respect of Leave Encashment and Gratuity were to be incorporated in the annual accounts which have financial impact on the financial position of the Institute. However, the Institute had not incorporated these provisions in the annual accounts; instead it had only disclosed financial liabilities on respect of these by way of Significant Accounting Policies.

Form (i) and (ii) above, it was observed that compliance of prescribed format was not made by the Institute. This observation is being included in the Separate Audit Report of the Institute since the year 2015-16. However, compliance is still awaited.

**D. 6** The Institute has shown balance of Rs. 6.52 Crore and Rs. 1.16 Crore under receipts against sponsored projects and Consultancy and Receipts against Sponsored Fellowships' in the Schedule 3. However, contravening the prescribed format, details of these i.e. opening balance, receipts/payments during the year and closing balance at the end of the year in respect of each project/scheme have not been shown in the Schedules 3(a) and 3(b) respectively. This observation is being included in the Separate Audit Report of the Institute since the year 2016-17. However, compliance is still awaited.

**D.7** As per the prescribed format, applicable rate of depreciation on "Site Development" and "Roads & Bridges" is 0 to 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 to be charged.

This observation is being included in the Separate Audit Report of the Institute since the year 2019-20. However compliance is still awaited.

**D.8** National Institute of Technology, Hamirpur campus is constructed on land area measuring 688156 square meter, out of which land measuring 680083 square meter is owned by the Himachal Pradesh Government. Though possession of the land is still pending. This fact has not been disclosed in the accounts.

This was also pointed out in Separate Audit Report for 2020-21. However compliance is still awaited.

#### **D. Grant in Aid**

The position of grants-in-aid received as on 31.3.2022 was under:

(Amount in Rs. Crore)

<b>Particulars</b>	<b>OH-31</b>	<b>OH-35</b>	<b>OH-36</b>	<b>Total</b>
Opening Balance	1.85	9.05	8.08	18.98
Add: Grant received during the year	46.00	22.07	49.34	117.41
<b>Total available funds</b>	<b>47.85</b>	<b>31.12</b>	<b>57.42</b>	<b>136.39</b>
Less Utilization as on 31/03/2022	41.444	8.49	54.54	104.47
Unutilized balance as on 31/03/2022	6.41	22.63	2.88	31.92

Less: Lapsed by RBI on 31.3.2022	6.41	11.04	2.88	20.33
Unutilized Balance at the end of the year	--	11.59	--	11.59

Unutilized balance as per Schedule 3 C nil instead of Rs. 11.59 crore. Grant balance in Schedule 3C is to be corrected to the extent of Rs. 11.59 crore as per the comment at SI. No. A.1.2. of this report.

F. Management letter

Some persistent deficiencies are being regularly included in the Audit report. However, despite being repeatedly pointed out, compliance of these persistent deficiencies is not being made by the Institute, have been brought to the notice of the Institute's management through a management letter issued separately for remedial/corrective action.

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

vi) In our opinion and to the best of our information and according to the explanations given to us, the said financial statements read together with the accordingly 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 2022; 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**

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

Place: Chandigarh

Date: 9/11/2022

<sup>1</sup>8 8.82 (4.82+4.00) as per Receipt & Payment Account + 0.45 Adjustment of advances – 0.52 as per comment at SI no. A.2.3 – 0.26 of project advances included in closing advances of Rs. 2.26 crore of previous year.

### **Annexure to Separate Audit Report**

1. Adequacy of Internal Audit System

An Internal Audit Cell has been constituted looking after the pre-audit of voucher. The Internal audit for the year 2021-22 was conducted by a Chartered Accountant firm.

2. Adequacy of Internal Control System

Internal Control System was found deficient to the following extent:

- a. The Internal Audit manual was not prepared.
- b. Out of sanctioned posts, approximately 39 percent and 49 percent of Teaching and non-teaching staff were lying vacant

3. System of Physical Verification of Fixed Assets

Physical verification of Fixed Assets for the year 2021-22 was conducted.

The Institute has more than 50,000 books in its library, a sample physical verification was conducted during 2020-21, wherein 404 books could not be traced. Detailed verification was under progress.

4. System of Physical Verification of Inventory

Physical verification of Inventory for the year 2021-22 was conducted.

5. Regularity in Payment of Statutory Dues.

There was delay in depositing of GST realized from Consultancy services in some of the cases.

# Annual Accounts

## 2021-22

**NATIONAL INSTITUTE OF TECHNOLOGY, HAMIRPUR (H.P)**  
**BALANCE SHEET AS AT 31st March, 2022**

(Amount----Rs.)			
	Schedule	Current Year	Previous Year
<b><u>SOURCES OF FUNDS</u></b>			
CORPUS/CAPITAL FUND	1	5,875,204,534.60	5,348,598,398.68
DESIGNATED/EARMARKED/ENDOWMENT FUNDS	2	47,435,039.08	43,939,943.08
CURRENT LIABILITIES AND PROVISIONS	3	1,020,372,790.53	984,167,915.83
<b>TOTAL</b>		<b>6,943,012,364.21</b>	<b>6,376,706,257.59</b>
<b><u>APPLICATION OF FUNDS</u></b>			
<b><u>FIXED ASSETS</u></b>			
	4		
Tangible Assets		2,124,293,228.34	2,142,772,287.12
Intangible Assets		3,737,199.40	11,114,677.20
Capital Works-In-Progress		1,409,357,418.00	1,369,380,018.00
<b><u>INVESTMENT FROM EARMARKED/ENDOWMENT FUNDS</u></b>			
	5		
Long Term		47,433,160.00	43,705,068.00
Short Term			
<b><u>INVESTMENT - OTHERS</u></b>			
	6	0.00	0.00
<b><u>CURRENT ASSETS</u></b>			
	7	3,242,401,553.53	2,769,890,484.93
<b><u>LOANS, ADVANCES &amp; DEPOSITS</u></b>			
	8	115,789,804.94	39,8439,722.34
<b>TOTAL</b>		<b>6,943,012,364.21</b>	<b>6,376,706,257.59</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 31/03/2022**

(Amount --Rs.)

<b><u>INCOME</u></b>	<b>Schedule</b>	<b>Current Year</b>	<b>Previous Year</b>
ACADEMIC RECEIPTS	9	211,787,819.00	250,639,780.00
GRANT & SUBSIDIES	10	1,174,135,000.00	831,500,000.00
INCOME FROM INVESTMENTS	11	20,932,956.00	32,954,106.00
INTEREST EARNED	12	2,400,402.00	3,075,846.00
OTHER INCOME	13	21,314,903.00	20,310,259.50
PRIOR PERIOD INCOME	14	2,338,193.00	0.00
<b>TOTAL(A)</b>		<b>1,432,909,273.00</b>	<b>1,138,479,991.50</b>
<b><u>EXPENDITURE</u></b>			
STAFF PAYMENT & BENEFITS (ESTABLISHMENT EXPENSES)	15	646,355,023.50	598,603,105.00
ACADEMIC EXPENSES	16	131,587,588.00	133,393,218.00
ADMINISTRATIVE AND GENERAL EXPENSES	17	138,907,519.00	82,111,614.00
TRANSPORTATION EXPENSES	18	942,666.00	1,799,006.00
REPAIR & MAINTENANCE	19	26,659,451.00	34,900,398.00
FINANCE COSTS	20	767.00	28,470.07
OTHER EXPENSES	21	0.00	0.00
PRIOR PERIOD EXPENSES	22	0.00	0.00

Depreciation (Net Total at the year-end - corresponding to schedule 4)		<b>130,916,554.58</b>	<b>116,525,832.61</b>
<b>TOTAL (B)</b>		<b>1,075,369,569.08</b>	<b>967,361,643.68</b>
<b>Balance being excess of Income over Expenditure (A-B)</b>		<b>357,539,703.92</b>	<b>171,118,347.82</b>
Transfer to /from Designated Fund		<b>0.00</b>	<b>247,044,590.00</b>
Building Fund			
Others (specify)		-----	-----
<b>BALANCE BEING SURPLUS/(DEFICIT) CARRIED TO CAPITAL FUND</b>		<b>357,539,703.92</b>	<b>-75,926,242.18</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 31/03/2022**

(Amount-Rs)

RECEIPTS	CURRENT YEAR	PREVIOUS YEAR	PAYMENTS	CURRENT YEAR	PREVIOUS YEAR
I. Opening Balances			1. Expenses		
a} Cash Balances	430,082.05	412,392.05	a} Establishment Expenses	653,497,180.50	597,376,557.00
b) Bank Balance			b) Academic Expenses	134,547,773.00	129,955,657.00
In Current accounts			c) Administrative Expenses	143,156,792.00	23,237,186.07
In Deposit Accounts	85,765,745.94	73,303,060.56	d) Transportation Expenses	930,519.00	1,799,006.00
Savings accounts	2,726,749,037.00	2,272,275,961.00	e) Repairs & Maintenance	27,705,459.00	77,607,156.00
			f) Prior period expenses	767.00	0.00
			g) Student curricular Activities		
II. Grants Received			II. Payments against Earmarked/Endowment Funds	0.00	0.00
a} From Government of India	1,174,135,000.00	939,121,000.00			
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	211,478,794.00	250,275,030.00	III. Payments against Sponsored Projects/Schemes	0.00	0.00
IV. Receipts against Earmarked/Endowment Funds	0.00	4,105,713.00	IV. Payments against Sponsored Fellowships/Scholarships	0.00	0.00
V. Receipts against Sponsored Projects/Schemes	0.00	0.00	V. Investments and Deposits made		
VI. Receipts against sponsored Fellowships Scholarships	0.00	0.00	a} Out of Earmarked/Endowments funds	0.00	0.00
			b) Out of own funds (Investments- Others	0.00	0.00
			VI. Term Deposits with Scheduled Banks	0.00	0.00
VII. Income on Investments from			VII. Expenditure on Fixed Assets and capital WIP		
a} Earmarked/Endowment funds	0.00	0.00	b) Other investments a} Fixed Assets	48,272,256.00	51,778,550.00
b) Other investments	0.00	0.00	b) Capital Works- in- Progress	39,977,400.00	0.00

VIII. Interest received on			VIII Other Payments including statutory payments	0.00	0.00
a) Bank Deposits	38,116,358.00	52,757,253.00			
b) Loans and Advances	0.00	0.00			
c) Savings Bank Accounts	0.00	3,072,810.00			
d) Project grant	0.00	0.00			
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	893,024,519.23	302,722,584.56
			Student curricular Activities Receipts	579,200.00	418,621.00
XI. Other income (including Prior Period Income)	21,169,578.00	20,257,248.50	XI. Other Payments	0.00	0.00
XII. Deposits, Advances and Stock	1,243,841,338.83	635,819,304.51	XII. Closing balances		
			Tfd to Project Cash book	0.00	0.00
			Tfd to Corpus fund	273,754,802.00	247,044,590.00
Student Curricular Activities Receipt	3,178,775.00	3,385,000.00	a) Cash in hand	6,260.05	430,082.05
			b) Bank balances		
			In Current Accounts	60,834,271.85	0.00
			In Savings Accounts	214,025,047.69	85,765,745.94
			In Deposit Accounts	3,014,552,510.00	2,726,749,037.00
XIII. Miscellaneous Receipts including	0.00	0.00			
Statutory Receipts					
XIV. Any Other Receipts	0.00	0.00			
<b>TOTAL</b>	<b>5,504,864,708.82</b>	<b>4,254,884,772.62</b>	<b>TOTAL</b>	<b>5,504,864,708.82</b>	<b>4,254,884,772.62</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 31/03/22**

(Amount--Rs.)

	Current Year		Previous year	
<b>SCHEDULE 1. CORPUS/ CAPITAL FUND :</b>				
Balance as at the beginning of the year		3,832,519,768.42		4,115,803,866.60
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	67,934,266.00		51,778,550.00	
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	357,539,703.92		-75,926,242.18	
Less: Amount of deposit being tfd a corpus account tfd back	273,754,802.00		247,044,590.00	
Add: Amount of Income of PY parked in Deposit tfd	0.00		0.00	
Add: Depreciation excess Charged PY			0.00	
Total				
(Deduct) unutilized grant opening balance tfd to current liabilities	0.00	151,719,167.42	12,091,816.00	-283,284,098.18
<b>BALANCE AS AT THE YEAR -- END</b>		<b>3,984,238,935.84</b>		<b>3,832,519,768.42</b>

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

**NATIONAL INSTITUTE OF TECHNOLOGY, HAMIRPUR (H.P)**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31/03/2022**

	Current year		Previous Year	
<b>SCHEDULE 1 B. CORPUS:</b>				
Balance as at the beginning of the year		1,516,078,630.26		1,224,029,887.26
Add : Contribution towards corpus	374,886,968.50		45,004,153.00	
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		0.00	
Add: Appropriation of excess/loss in income & expenditure account for corpus funds	0.00		247,044,590.00	
Total		374,886,968.50		292,048,743.00
(Deduct) deficit transferred from the income & expenditure account		0.00		
<b>BALANCE AS AT THE YEAR -END</b>		<b>1,890,965,598.76</b>		<b>1,516,078,630.26</b>

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

**NATIONAL INSTITUTE OF TECHNOLOGY, HAMIRPUR (H.P)**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31/03/2022**

(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	43,939,943.08		43,939,943.08	38,860,153.08
b) Additions during the year	4,105,713.00		4,105,713.00	5,079,790.00
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>48,045,656.08</b>		<b>48,045,656.08</b>	<b>43,939,943.08</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	610,617.00		610,617.00	0.00
<b>Total (B)</b>	<b>610,617.00</b>		<b>610,617.00</b>	<b>0.00</b>
<b>Closing balance at the yearend (A-B)</b>	<b>47,435,039.08</b>	<b>0.00</b>	<b>47,435,039.08</b>	<b>43,939,943.08</b>

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

**NATIONAL INSTITUTE OF TECHNOLOGY, HAMIRPUR (H.P)**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31/03/2022**

(Amount--Rs.)

	Current Year		Previous Year	
<b><u>SCHEDULE 3-CURRENT</u></b>				
<b><u>LIABILITIES AND PROVISIONS</u></b>				
<b>A. CURRENT LIABILITIES</b>				
1. Deposits from staff (TWS)	11,782.00		11,782.00	
2. Deposits from students				
College Caution Money	6,195,350.00		6,999,350.00	
Hostel Caution Money	15,691,911.50		10,557,411.50	
Library Security	6,762,700.00		8,439,450.00	
3. Sundry Creditors				
a) For Goods & Services	2,258,267.00		0.00	
b) Others	0.00		0.00	
4. Deposit-Others (including EMD, Security Deposit and other )	725,278,144.24		610,204,517.44	
5. Statutory Liabilities (GPF, TDS, WC TAX, CPF, GIS, NPS):	0.00	756,198,154.74	0.00	636,212,510.94
<b>B) Others</b>				
6. Other Current Liabilities				
a)Salaries	44,857,111.00		37,458,131.00	
b)Receipts against sponsored projects& consultancy	65,220,337.69		66,001,964.56	
c)Receipts against sponsored fellowships & scholarships SC &ST	2,230,962.00		2,300,448.00	
Receipts against sponsored fellowships & scholarships	9,354,151.00		12,406,218.00	
d)Unutilized Grants	0.00		67,934,266.00	
e) Grants in advance	0.00		0.00	

f) Other funds	19,417,643.00		17,111,944.00	
g) Other liabilities	0.00		0.00	
h) Fees received in advance	57,839,142.00		49,048,800.00	
i) Outstanding Liability UNI	365,353.00		365,353.00	
j) Interest on project Grant payable	0.00		12,759,363.23	
k) Extra Curricular Activities	47,155,330.10		44,864,780.10	
l) Medical Expenses	145,384.00		359,273.00	
m) Legal Fees	66,480.00		0.00	
n) Other Misc	428,768.00		78,768.00	
o) Security Charges	3,046,758.00		3,552,776.00	
p) Seminar Expense payable	0.00		0.00	
q) Professional Development allowance	0.00		0.00	
r) LTC	0.00		151,430.00	
s) Student Welfare expenses	0.00		0.00	
t) Children Education allowances	4,090,500.00		4,455,000.00	
u) Maintenance of Equipment	12,147.00		0.00	
v) Maintenance of Building	0.00		1,089,170.00	
w) Wages	137,500.00		5,276,466.00	
x) Convocation	0.00		0.00	
y) NDCPS	2,424,536.00		2,013,732.00	
z) Hostel furniture account payable	0.00	256,792,102.79	0.00	327,227,882.89
<b>TOTAL (A)</b>		1,012,990,257.53		963,440,393.83
<b><u>B. PROVISIONS</u></b>				
1. For Taxation	0.00		0.00	
2. Gratuity	577,859.00		4,923,508.00	
3. Superannuation Pension	0.00		6,120,643.00	
4. Accumulated Leave Encashment	549,358.00		4,305,188.00	
5. Trade Warranties/Claims	0.00		0.00	
6. Others ( Specify)	0.00		0.00	
Auditors remuneration payable	210,000.00		210,000.00	
Consultancy charges payable	126,480.00		84,000.00	
Telephone charges payable	8,536.00		7,801.00	
Electricity charges payable	1,052,808.00		0.00	
Salary contract/ part time staff	2,046,774.00		2,231,236.00	

Cleaning and Maintenance	1,495,652.00		1,495,966.00	
Water Charges	1,206,731.00		1,200,176.00	
Stationery expenses	0.00		0.00	
Departmental operating cost	0.00		0.00	
Examination expenses	0.00		145,260.00	
Leave salary contribution	0.00		0.00	
TA	0.00		3,744.00	
Provision for contingency, other work & Equipment	0.00		0.00	
E-Journal Capital expenditure	0.00		0.00	
Advertisement Expenses	108,335.00	7,382,533.00	0.00	20,727,522.00
<b>TOTAL (B)</b>		7,382,533.00		20,727,522.00
<b><u>TOTAL (A+B)</u></b>		1,020,372,790.53		984,167,915.83

**ASSISTANT REGISTRAR (A&F)**  
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**NATIONAL INSTITUTE OF TECHNOLOGY, HAMIRPUR (H.P)**  
**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	167,139,186.56	12,091,816.00
Add: Receipts during the year	1,174,135,000.00	107,621,000.00
<b>Total (a)</b>	<b>1,341,274,186.56</b>	<b>119,712,816.00</b>
Less Refunds		
Less: Utilized for Revenue Expenditure	959,838,450.00	0.00
Less: Utilized for Capital expenditure	178,187,906.00	51,778,550.00
Total (b)	1,138,026,356.50	51,778,550.00
<b>Unutilized carried forward (a-b)</b>	<b>203,247,830.06</b>	<b>67,934,266.00</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>	203,247,830.06	

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

## SCHEDULE 2A

## ENDOWMENT FUNDS

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

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

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

Amount in Rupees								
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**

Amount in Rupees							
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 31/03/2022

## 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	31/03/2022	31/03/2021
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	73,546,145.30	49,436.00	0.00	73,595,581.30	55,314,289.00	0.00	0.00	55,314,289.00	18,281,292.30	18,231,856.30
3	Buildings	2,966,811,450.24	10,710,840.00	0.00	2,977,522,290.24	983,938,258.10	59,550,445.80	0.00	1,043,488,703.91	1,934,033,586.33	1,982,873,192.14
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	16,245.00	8,122.50	0.00	24,367.50	138,082.50	146,205.00
8	Plant & Machinery	459,527,258.04	0.00	0.00	459,527,258.04	388,397,203.96	22,976,362.90	0.00	411,373,566.86	48,153,691.18	71,130,054.08
9	Scientific & Laboratory Equipment	24,665,175.00	0.00	0.00	24,665,175.00	2,625,028.24	1,973,214.00	0.00	4,598,242.24	20,066,932.76	22,040,146.76
10	Office Equipment	29,578,008.85	71,301,478.00	0.00	100,879,486.85	17,670,552.03	7,565,961.51	0.00	25,236,513.54	75,642,973.31	11,907,456.82
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	123,693,354.04	1,139,727.00	0.00	124,833,081.04	91,705,441.86	9,362,481.08	0.00	101,067,922.94	23,765,158.10	31,987,912.18
14	Vehicles	8,742,177.00	0.00	0.00	8,742,177.00	8,742,177.00	237,838.88	0.00	8,980,015.88	-237,838.88	0.00
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	62,190,067.05	0.01	0.00
16	Small Value Assets	122,262.00	0.00	0.00	122,262.00	87,349.15	6,113.10	0.00	93,462.25	28,799.75	34,912.85
	Total(A)	3,778,199,673.53	83,201,481.00	0.00	3,861,401,154.53	1,635,427,386.40	101,680,539.77	0.00	1,737,107,926.17	<b>2,124,293,228.36</b>	2,142,772,287.13
	Capital Work in Progress (B)	1,369,380,018.00	39,977,400.00	0.00	1,409,357,418.00					<b>1,409,357,418.00</b>	<b>1,369,380,018.00</b>
									<b>TOTAL</b>	<b>3,533,650,646.34</b>	<b>3,512,152,305.13</b>
S. No.	Intangible Assets	Opening Balance	Additions	Deductions	Closing Balance	Depreciation Opening Balance	Amortization for the year	Deductions / Adjustment	Total Depreciation	31/03/2022	31/03/2021
	Computer Software	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	E-Journals	51,231,500.00	21,858,537.00		73,090,037.00	40,116,822.80	29,236,014.80	0.00	69,352,837.60	3,737,199.40	11,114,677.20
	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>	51,231,500.00	21,858,537.00	0.00	73,090,037.00	40,116,822.80	29,236,014.80	0.00	69,352,837.60	3,737,199.40	11,114,677.20
	<b>Grand Total (A+B+C)</b>		145,037,418.00		5,343,848,609.53	1,675,544,209.19	130,916,554.58	0.00	1,806,460,763.77	3,537,387,845.74	3,523,266,982.33

**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	31/03/2022	31/03/2021
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	73,546,145.30	49,436.00	0.00	73,595,581.30	55,314,289.00	0.00	0.00	55,314,289.00	18,281,292.30	18,231,856.30
3	Buildings	2,966,811,450.24	10,710,840.00	0.00	2,977,522,290.24	983,938,258.10	59,550,445.80	0.00	1,043,488,703.91	1,934,033,586.33	1,982,873,192.14
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 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	162,450.00	0.00	0.00	162,450.00	16,245.00	8,122.50	0.00	24,367.50	138,082.50	146,205.00
8	Plant & Machinery	459,527,258.04	0.00	0.00	459,527,258.04	388,397,203.96	22,976,362.90	0.00	411,373,566.86	48,153,691.18	71,130,054.08
9	Scientific & Laboratory Equipment	24,665,175.00	0.00	0.00	24,665,175.00	2,625,028.24	1,973,214.00	0.00	4,598,242.24	20,066,932.76	22,040,146.76
10	Office Equipment	29,578,008.85	71,301,478.00	0.00	100,879,486.85	17,670,552.03	7,565,961.51	0.00	25,236,513.54	75,642,973.31	11,907,456.82
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	123,693,354.04	1,139,727.00	0.00	124,833,081.04	91,705,441.86	9,362,481.08	0.00	101,067,922.94	23,765,158.10	31,987,912.18
14	Vehicles	8,742,177.00	0.00	0.00	8,742,177.00	8,742,177.00	237,838.88	0.00	8,980,015.88	-237,838.88	0.00
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	62,190,067.05	0.01	0.00
16	Small Value Assets	122,262.00	0.00	0.00	122,262.00	87,349.15	6,113.10	0.00	93,462.25	28,799.75	34,912.85
	<b>Total (A)</b>	3,778,199,673.53	83,201,481.00	0.00	3,861,401,154.53	1,635,427,386.40	101,680,539.77	0.00	1,737,107,926.17	<b>2,124,293,228.36</b>	2,142,772,287.13
	<b>Capital Work in Progress (B)</b>	1,369,380,018.00	39,977,400.00	0.00	1,409,357,418.00					<b>1,409,357,418.00</b>	<b>1,369,380,018.00</b>
									<b>TOTAL</b>	<b>3,533,650,646.34</b>	<b>3,512,152,305.13</b>
S. No.	Intangible Assets	Opening Balance	Additions	Deductions	Closing Balance	Depreciation Opening Balance	Amortization for the year	Deductions / Adjustment	Total Depreciation	31/03/2022	31/03/2021
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	51,231,500.00	21,858,537.00		73,090,037.00	40,116,822.80	29,236,014.80	0.00	69,352,837.60	3,737,199.40	11,114,677.20
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>	51,231,500.00	21,858,537.00	0.00	73,090,037.00	40,116,822.80	29,236,014.80	0.00	69,352,837.60	3,737,199.40	11,114,677.20
	<b>Grand Total (A+B+C)</b>		145,037,418.00		5,343,848,609.53	1,675,544,209.19	130,916,554.58	0.00	1,806,460,763.77	3,537,387,845.73	3,523,266,982.33

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

**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	31/03/2022	31/03/2021
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	31/03/2022	31/03/2021
-	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>										

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

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

Particulars	Opening Balance 01/04/2021	Additions	Gross	Amortization	Net Block 31/03/2022	Net Block 31/03/2021
<b>A. Patents Granted</b>						
1 Balance as on 31.03.14 of Patents obtained in 2008-09 (Original Value - Rs .... /-)	0.00	0.00	0.00	0.00	0.00	0.00
2 Balance as on 31.03.14 of Patents obtained in 2010-11 (Original Value- Rs .... /-)	0.00	0.00	0.00	0.00	0.00	0.00
3 Balance as on 31.03.14 of Patents obtained in 2012-13 (Original Value - Rs .... /-)	0.00	0.00	0.00	0.00	0.00	0.00
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 01/04/2021	Additions	Gross	Patents Granted/ rejected	Net Block 31/03/2022	Net Block 31/03/2021
<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)**

**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	47,433,160.00	43,705,068.00
7 Others (to be specified)	0.00	0.00
Total	47,433,160.00	43,705,068.00

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

Amount in Rupees

	Current Year	Previous Year
1 Endowment Fund Investment Pension FUND	47,433,160.00	43,705,068.00
Total	47,433,160.00	43,705,068.00

**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 31/03/2022**

(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	300,000.00		537,182.00	
e) Building Material	0.00		0.00	
f) Electrical Material	0.00			
g) Stationery	0.00			
h) Water supply material	0.00	300,000.00	0.00	537,182.00
<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	6,260.05		412,392.05	
Current Account/Grant in Transit	60,834,271.85		0.00	
Fixed Deposit	2,967,119,350.00		2,683,043,969.00	
Saving Account Main Account	214,025,047.69		85,765,745.94	
Saving Account Secrecy Fund	116,623.94		113,505.94	
<b>b) With non-Scheduled Banks:</b>				
In term deposit Accounts	0.00		0.00	
In Savings Accounts	0.00	3,242,101,553.53	0.00	2,769,353,302.93
<b>4. Post Office- Savings Accounts</b>				
<b>TOTAL</b>		3,242,101,553.53		2,769,890,484.93

**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	2,230,962.00
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)	53,090.76
9. Sponsored Projects Fund A/c	5,931,167.94
10. Sponsored Fellowship A/c	
11. Endowment & Chair A/c (EMF)	1,879.08
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	2,595,911.91
18. Student Fund A/c	
19. Student Aid Fund A/c	
20. Plan Grants for specific schemes	
I. TSA Balance	203,212,036.00
II. Current Account (Cash in Hand)	60,834,271.85
III Term deposit with Scheme Banks with SBI	3,014,552,510.00
	3,289,411,829.54

**NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR (H.P)**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31/03/2022**

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)	3,648,996.70	3,648,996.70	3,381,457.00	3,381,457.10
<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	110,661,213.24		22,680,070.24	
b) to Suppliers	0.00		0.00	
c) Others	0.00	110,661,213.24	0.00	22,680,070.24
<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	1,199,080.00		13,647,005.00	
c) On Loans and Advances	0.00		0.00	
d) Others (includes income due unrealized) Saving Bank	0.00	1,199,080.00	0.00	13,647,005.00
<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	59,732.00		11,000.00	
License Fees	215,063.00		118,190.00	
Garage Rent	5,720.00		6,000.00	
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	280,515.00	0.00	135,190.00
<b>TOTAL</b>		<b>115,789,804.94</b>		<b>39,843,722.34</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 31/03/2022**

<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		200,568,667.00	240,002,260.00
2. Admission fee		1,281,550.00	1,354,000.00
3. Enrolment fee		0.00	0.00
4. Library Admission fee		1,022,350.00	686,504.00
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>202,872,567.00</b>	<b>242,042,764.00</b>
<b>Examinations</b>			
1. Admission test fee		0.00	0.00
2. Annual Examination fee		4,687,350.00	3,690,125.00
3. Mark sheet certificate fee		76,750.00	37,450.00
4. Entrance examination fee		0.00	0.00
5. Supplementary fees		341,650.00	186,150.00
6. Phd thesis submission		292,500.00	403,500.00
<b>Total (B)</b>		<b>5,398,250.00</b>	<b>5,317,225.00</b>
<b>Other Fees</b>			
1. Identity card fee		309,025.00	334,750.00
2. Fine/ Miscellaneous fee		0.00	30,000.00
3. Medical fee		1,245,850.00	1,300,125.00
4. Transportation fee		0.00	0.00
5. Hostel fee		0.00	0.00
6. Grade Card Fee		687,927.00	466,616.00
7. Common Facility Fee		1,274,200.00	1,148,300.00

<b>Total(C)</b>	<b>3,517,002.00</b>	<b>3,279,791.00</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>211,787,819.00</b>	<b>250,639,780.00</b>

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

**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>	0.00	0.00	0.00	0.00	167,139,186.56	167,139,186.56	107,680,482.63
<b>Add: Receipts during the year</b>	0.00	0.00	0.00	0.00	1,174,135,000.00	1,174,135,000.00	831,500,000.00
<b>Total</b>	0.00	0.00	0.00	0.00	1,341,274,186.56	1,341,274,186.56	939,180,482.63
<b>Less: Refund to UGC</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Balance</b>	0.00	0.00	0.00	0.00	1,341,274,186.56	1,341,274,186.56	939,180,482.63
<b>Less: Utilized for Capital expenditure (A)</b>	0.00	0.00	0.00	0.00	178,187,906.00	178,187,906.00	0.00
<b>Balance</b>	0.00	0.00	0.00	0.00	1,163,086,280.56	1,163,086,280.56	939,180,482.63
<b>Less: utilized for Revenue Expenditure (B)</b>	0.00	0.00	0.00	0.00	959,838,450.50	959,838,450.50	839,975,562.07
<b>Balance C/F (C)</b>	0.00	0.00	0.00	0.00	203,247,830.06	203,247,830.06	99,204,920.56

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

**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				
2. Interest on Term Deposits	0.00	0.00	20,932,956.00	32,954,106.00
3. Income accrued but not due on Term Deposits/Interest bearing advances to employees			0.00	
4. Interest on Savings Bank Accounts			0.00	
5. Others (On Project Grants)				
<b>TOTAL</b>	<b>0.00</b>	<b>0.00</b>	<b>20,932,956.00</b>	<b>32,954,106.00</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 31/03/2022

## SCHEDULE 12- INTEREST EARNED

(Amount-Rs.)

Particulars	Current Year	Previous Year
1 On Savings Accounts With Schedule Bank	2,400,402.00	3,075,845.00
2 On Loans:		
a) Employees/Staff	0.00	0.00
b) Others	0.00	0.00
3. On Debtors and Other Receivables	0.00	0.00
<b><u>TOTAL</u></b>	2,400,402.00	3,075,845.00

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**NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR (H.P)**  
**SCHEDULE FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31/03/2022**

**SCHEDULE 13-OTHER INCOME**

(Amount-Rs)

	Current Year		Previous Year	
1. Hostel Room Rent	15,003,532.50		14,597,967.00	
2. License fee	2,478,390.00		1,885,164.00	
3. Hire Charges of Auditorium/Shop/Convention Centre etc.	1,143,742.00		314,763.00	
4. Electricity charges recovered	0.00		100,781.00	
5. Water charges recovered	0.00		0.00	
6. Rent from Guest House	420,900.00		223,280.00	
7. Rent from Garage	71,600.00		78,890.00	
<b>Total</b>	<b>19,118,164.50</b>	<b>19,118,164.50</b>	<b>17,200,845.50</b>	17,200,845.50
<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>	<b>0.00</b>	<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.)		1,776,520.00		2,211,870.00	
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		412,328.00		897,544.00	
10. Charges for use of transport		0.00		0.00	
	<b>Total</b>	<b>2,196,738.50</b>	<b>2,196,738.50</b>	<b>3,109,414.00</b>	3,109,414.00
<b>Grand Total (A+B+C+D)</b>			<b>21,314,903.00</b>		<b>20,310,259.50</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	2,338,193.00	0.00
4. Other Income	0.00	0.00
<b>Total</b>	<b>2,338,193.00</b>	<b>0.00</b>

**ASSISTANT REGISTRAR (A&F),  
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**SCHEDULE FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31/03/2022**

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

	Current Year			Previous Year		
	Plan	Non-Plan	Total	Plan	Non-Plan	Total
a) Salaries	0.00	490,337,447.00	490,337,447.00	0.00	524,001,981.00	524,001,981.00
b) Allowances and Bonus	0.00	0.00	0.00	0.00	0.00	0.00
c) Contribution to New Pension Fund	0.00	29,054,428.00	29,054,428.00	0.00	11,469,342.00	25,089,520.00
d) Contribution to Other Fund	0.00	0.00	0.00	0.00	0.00	0.00
e) Staff Welfare Expenses	0.00	327,106.50	327,106.50	0.00	176,167.00	176,167.00
D Retirement and Terminal Benefits	0.00	117,848,505.00	117,848,505.00	0.00	23,221,242.00	23,221,242.00
g) LTC facility	0.00	537,264.00	537,264.00	0.00	6,874,614.00	6,874,614.00
h) Medical facility	0.00	3,808,773.00	3,808,773.00	0.00	1,857,147.00	1,857,147.00
i) Children Education Allowance	0.00	4,441,500.00	4,441,500.00	0.00	4,569,750.00	4,569,750.00
j) Honorarium	0.00	0.00	0.00	0.00	0.00	0.00
l) Others (specify) Professional development allowance	0.00	0.00	0.00	0.00	969,352.00	2,846,116.00
Overtime Drivers	0.00	0.00	0.00	0.00	5,494.00	5,494.00
Leave Encashment	0.00	0.00	0.00	0.00	10,856,836.00	9,961,074.00
<b>TOTAL</b>	<b>0.00</b>	<b>646,355,023.50</b>	<b>646,355,023.50</b>	<b>0.00</b>	<b>598,603,105.00</b>	<b>598,603,105.00</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>				

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<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	63,728.00	63,728.00	0.00	0.00	0.00
d) Payment to visiting faculty	0.00	0.00	0.00	0.00	0.00	0.00
e) Examination	0.00	775,612.00	775,612.00	0.00	865,856.00	865,856.00
f) Student Welfare expenses	0.00	255,062.00	255,062.00	0.00	108,352.00	108,352.00
g) Admission expenses --	0.00	0.00	0.00	0.00	0.00	0.00
h) Convocation expenses	0.00	796,800.00	796,800.00	0.00	663,130.00	663,130.00
i) Publications	0.00	0.00	0.00	0.00	0.00	0.00
j) Stipend/means-cum-merit scholarship	0.00	123,263,431.00	123,263,431.00	0.00	128,290,423.00	128,290,423.00
k) Subscription Expenses	0.00	0.00	0.00	0.00	0.00	0.00
l) Others (specify) academic expenses	0.00	49,000.00	49,000.00	0.00	759,110.00	759,110.00
m) Accreditation to AICTE Expenses	0.00	159,000.00	159,000.00	0.00	159,000.00	159,000.00
n) Departmental Operating cost	0.00	6,224,955.00	6,224,955.00	0.00	2,547,347.00	2,547,347.00
<b>Total</b>	<b>0.00</b>	<b>131,587,588.00</b>	<b>131,587,588.00</b>	<b>0.00</b>	<b>133,393,218.00</b>	<b>133,393,218.00</b>

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**SCHEDULE FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31/03/2022**  
**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	12,324,972.00	12,324,972.00	0.00	10,669,649.00	15,536,170.00
b) Water charges	0.00	4,920,438.00	4,920,438.00	0.00	4,866,521.00	
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	100,000.00	100,000.00	0.00	58,161.00	194,651.00
f) Telephone Fax and Internet Charges	0.00	126,223.00	126,223.00	0.00	136,490.00	
<b>C Others</b>						
g) Printing and Stationery (consumption)	0.00	486,699.00	486,699.00	0.00	1,370,775.00	
h) Travelling and Conveyance Expenses	0.00	2,411,147.00	2,411,147.00	0.00	1,509,865.00	
i) Hospitality	0.00	0.00	0.00	0.00	0.00	
j) Auditors Remuneration	0.00	152,670.00	152,670.00	0.00	0.00	
k) Professional Charges	0.00	0.00	0.00	0.00	168,000.00	
l) Advertisement and Publicity	0.00	597,995.00	597,995.00	0.00	1,416,636.00	
m) Magazines & Journals	0.00	0.00	0.00	0.00	0.00	
n) Others Misc. Administrative expenses	0.00	3,258,752.00	3,258,752.00	0.00	1,377,659.00	
o) Security Charges	0.00	34,852,561.00	34,852,561.00	0.00	42,279,957.00	
p) Legal expenses	0.00	1,983,402.00	1,983,402.00	0.00	1,347,918.00	
r) Wages/ Outsourcing	0.00	59,265,063.00	59,265,063.00	0.00	5,444,553.00	
s) Salary Contract/ part time staff	0.00	18,427,597.00	18,427,597.00	0.00	11,465,430.00	66,380,793.00
<b>Total</b>	0.00	138,907,519.00	138,907,519.00	0.00		82,111,614.00

**SCHEDULE 18-TRANSPORTATION EXPENSES**

Particulars	Amount in Rupees					
	Current Year			Previous Year		
	Plan	Non-Plan	Total	Plan	Non-Plan	Total
<b>1 Vehicles (owned by institution)</b>						0.00
a) Running expenses	0.00	593,110.00	593,110.00	0.00	247,395.00	247,395.00
b) Repairs & maintenance	0.00	137,891.00	137,891.00	0.00	1,324,352.00	1,324,352.00
c) Insurance expenses	0.00	211,665.00	211,665.00	0.00	227,259.00	227,259.00
<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>942,666.00</b>	<b>942,666.00</b>	<b>0.00</b>	<b>1,799,006.00</b>	<b>1,799,006.00</b>

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Particulars	Current Year			Previous Year		
	Plan	Non-Plan	Total	Plan	Non-Plan	Total
a) Buildings	0.00	5,537,270.00	5,537,270.00	0.00	13,048,281.00	13,048,281.00
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	2,065,093.00	2,065,093.00	0.00	2,585,862.00	2,585,862.00
e) Computers	0.00	2,900.00	2,900.00	0.00	14,160.00	14,160.00
f) Laboratory & Scientific equipment	0.00	457,159.00	457,159.00	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	18,597,029.00	18,597,029.00	0.00	18,330,292.00	18,330,292.00
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	0.00	0.00	0.00	888,561.00	888,561.00
m) Road	0.00	0.00	0.00	0.00	0.00	0.00
n) Street light/Electric Installation	0.00	0.00	0.00	0.00	33,242.00	33,242.00
o) Oxidation Pond	0.00	0.00	0.00	0.00	0.00	0.00
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	26,659,451.00	26,659,451.00	0.00	34,900,398.00	34,900,398.00

Amount in  
Rupees

**ASSISTANT REGISTRAR (A&F),  
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**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	767.00	767.00	0.00	28,470.07	28,470.07
b) Others (specify)	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>0.00</b>	<b>767.00</b>	<b>767.00</b>	<b>0.00</b>	<b>28,470.07</b>	<b>28,470.07</b>

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

**SCHEDULE FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31/03/2022**

**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%

- 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 Find. Actual amount as on 31/3/2022 stands as below;

Leave Encashment : Rs. 294251142.33

Gratuity: Rs. 288229663.50

## **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 and fix deposit 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 31.3.2022 and the Balance Sheets of earlier years, Fixed Assets created out of plan funds.

**2.3** Fixed assets of Rs. 5023850/-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 the directions of AG Audit.

**6.** During the current year Capital and Corpus fund Schedule bifurcated to Sch1A Capital Fund and Sch1B 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 2022 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 1/4/2021 TO 31/3/2022**

PREVIOUS YEARS (Rs.)	RECEIPTS HEAD OF ACCOUNT	AMOUNT (Rs.)
434,557,916.82	CASH IN BANK	493,423,605.57
67,397,579.00	SUBSCRIPTION	61,389,812.00
3,088,000.00	REFUND OF ADVANCE	1,741,550.00
369,442.00	MIS RECEIPT	369,442.00
23,734,687.75	BANK INTEREST	32,580,166.00
<u>529,147,625.57</u>		<u>589,135,133.57</u>
	<b>PAYMENT</b>	
1,022,000.00	TEM. ADVANCE TO STAFF	655,000.00
34,702,020.00	WITHDRAWAL	118,784,944
0.0	BANK CHARGES	0.00
<u>493,423,605.57</u>	CLOSING BANK BALANCE	<u>469,695,189.57</u>
<u>529,147,625.57</u>		<u>589,135,133.57</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 1/4/2021 TO 31/3/2022**

<b>PREVIOUS YEARS (Rs.)</b>	<b>EXPENDITURE HEAD OF ACCOUNT</b>	<b>AMOUNT (Rs.)</b>
32,104,485.00	Interest credited to the	32,519,253.00
0.00	Subscribers accounts	0.00
	Bank Charges	
-7,235,517.25	Excess of + Income/-loss	- 5,219,984.00
<u>24,868,967.75</u>		<u>27,299,269.00</u>
	INCOME	
	Income from Investment	
23,734,687.75	Bank Interest received	32,580,166.00
20,056,398.00	Add: Interest due for 2021-2022	14,775,501.00
<u>18,922,118.00</u>	Less: Due of year 2020-2021	20,056,398.00
24,868,967.75		27,299,269.00
<u>24,868,967.75</u>		<u>27,299,269.00</u>

**ASSISTANT REGISTRAR (A&F)**  
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**NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR (H.P)**  
**GENERAL PROVIDENT FUND**  
**BALANCE SHEET**  
**AS ON 31/3/2022**

PREVIOUS YEARS (Rs.)	HEAD OF ACCOUNT	AMOUNT (Rs.)	
	<b>LIABILITIES</b>		
	Subscription Account (PF Contribution)		
618,328,787.55	Upto 2021	685,726,366.55	
<u>67,397,579.00</u>		<u>61,389,812.00</u>	
<b><u>685,726,366.55</u></b>		<b><u>747,116,178.55</u></b>	
	Add: Interest		
263,493,322.45	Upot 2021	295,597,807.45	
<u>32,104,485.00</u>	During the year	<u>32,519,253.00</u>	
<b><u>295,597,807.45</u></b>		<b><u>328,117,060.45</u></b>	
	Less : Withdrawal		
439,534,839.00	upto 2021	474,236,859.00	
<u>34,702,020.00</u>	During the year	<u>118,784,944.00</u>	
<b><u>474,236,859.00</u></b>		<b><u>593,021,803.00</u></b>	<b>482,211,436.00</b>
<b><u>507,087,315.00</u></b>			
	<b>Income &amp; Expenditure Account</b>		
16,101,978.82	upto 2021	8,866,461.57	
<u>- 7,235,517.25</u>	During the year	<u>- 5,219,984.00</u>	<b>3,646,477.57</b>
<b><u>8,866,461.57</u></b>			
<b>369,442.00</b>	<b>Wrong credit in GPF Account</b>		<b>369,442.00</b>
<b><u>516,323,218.57</u></b>			<b><u>486,227,355.57</u></b>
	<b>ASSETS</b>		
	Temporary Advance		
43,659,048.00	upto 2021	44,681,048.00	
<u>1,022,000.00</u>	During the year	<u>655,000.00</u>	
44,681,048.00		45,336,048.00	
	Less : Refund		
38,749,833.00	upto 2021	41,837,833.00	
<u>3,088,000.00</u>	During the year	<u>1,741,550.00</u>	
<b><u>41,837,833.00</u></b>		<b><u>43,579,383.00</u></b>	<b>1,756,665.00</b>
2,843,215.00			
	<b>Bank Interest Accrued</b>		
18,922,118.00	Opening Balance	20,056,398.00	
<u>20,056,398.00</u>	Add : (C-Year accrued)	<u>14,775,501.00</u>	
38,978,516.00		<b><u>34,831,899.00</u></b>	
<u>18,922,118.00</u>	Less : Interest received on Maturity	<u>20,056,398.00</u>	<b>14,775,501.00</b>
<u>20,056,398.00</u>			
<b><u>493,423,605.57</u></b>	Closing Balance Bank		<b>469,695,189.57</b>
<b><u>516,323,218.57</u></b>			<b><u>486,227,355.57</u></b>

ASSISTANT REGISTRAR (A&F)  
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**ANNEXURE IV****ANNUAL REPORT**

Group	Representation of SCs/STs/OBCs/EWS (As on 1 <sup>st</sup> January)					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	0	0	0	0	0
Professor GP 10500/-	15	0	0	0	0	0	0	0	0	0
Associate Professor	41	02	01	0	0	0	0	0	0	0
Assistant Professor GP 8000/-	27	04	0	03	0	0	0	0	0	0
Assistant Professor GP 7000/-	10	03	0	01	0	0	0	0	0	0
Assistant Professor (Contract) GP 6000/-	63	09	06	26	0	0	0	0	0	0
<b>Total</b>	<b>160</b>	<b>18</b>	<b>07</b>	<b>30</b>	0	0	0	0	0	0