

छत्तीसवीं सिनेट बैठक का कार्यवृत्त

**MINUTES OF THE 36th SENATE MEETING OF
IIT MANDI**

15th SEPTEMBER, 2022



भारतीय प्रौद्योगिकी संस्थान मण्डी
कमांद— 175075, हिमाचल प्रदेश

**INDIAN INSTITUTE OF TECHNOLOGY MANDI
KAMAND – 175075, HIMACHAL PRADESH**

**INDIAN INSTITUTE OF TECHNOLOGY MANDI
KAMAND, HIMACHAL PRADESH**



36th SENATE MEETING OF IIT MANDI

THURSDAY, 15th SEPTEMBER, 2022

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INDIAN INSTITUTE OF TECHNOLOGY MANDI

Minutes of the 36th Senate Meeting of IIT Mandi held on 15th September, 2022 at 03:30 PM in Conference Room, C.V. Raman Guest House, IIT Mandi, Kamand.

The following were present:

In the Chair

Prof. Laxmidhar Behera, Director, IIT Mandi

Members:

Prof. Siddhartha Mukhopadhyay, Dept. of Electrical Engineering, IIT Kharagpur
 Prof. Suman Kalyan Pal, Professor and Chairperson Erstwhile SBS, IIT Mandi
 Prof. C. K. Nandi, Professor, Erstwhile SBS and Dean (Resource Gen. & Alumni Relations), IIT Mandi
 Prof. Rajeev Kumar, Professor, Erstwhile SE and Dean (I&S), IIT Mandi
 Prof. Satinder Sharma, Professor, SCEE, Dean (Faculty) & Co-ordinator C4DFED, IIT Mandi
 Prof. Rahul Vaish, Professor, Erstwhile SE and Dean (Academics), IIT Mandi
 Dr. Viswanath Balakrishnan, Associate Professor, Erstwhile SE and Dean (F&A), IIT Mandi
 Dr. Venkata Krishnan, Dean (SRIC & IR), IIT Mandi
 Dr. Hitesh Shrimali, Associate Professor, SCEE, and Dean (Students), IIT Mandi
 Dr. Samar, Chairperson, SCEE, IIT Mandi
 Dr. Atul Dhar, Chairperson, Erstwhile SE, IIT Mandi
 Dr. Shyamasree Dasgupta, Chairperson, SHSS, IIT Mandi
 Dr. C.S. Yadav, Co-ordinator, AMRC, IIT Mandi
 Dr. Prosenjit Mondal, Co-ordinator, Bio-X Centre, IIT Mandi
 Dr. Satyajit Thakor, Associate Professor, SCEE, IIT Mandi
 Dr. Shyam Kumar Masakpalli, Associate Professor, Erstwhile SBS, IIT Mandi
 Dr. Surya Prakash Upadhyay, Assistant Professor, SHSS, IIT Mandi
 Mr. Rajesh Sinha, Chief Scientist & Head - Smart Machines Research Program, TCS
 Mr. Hemachandra Bhat, General Manager and Practice Head, Robotics Platforms, Wipro
 Dr. P. Anil Kishan, Associate Dean (Courses), IIT Mandi
 Dr. Rajanish Giri, Associate Dean (Research), IIT Mandi
 Dr. Tushar Jain, Head, CCE, IIT Mandi
 Mr. Naresh Singh Bhandari, Deputy Librarian, IIT Mandi
 Mr. Vivek Tiwari, Assistant Registrar (Academics), IIT Mandi
 Kamal Kumar Bajre, then Registrar & Secretary, Senate, IIT Mandi
 Mr. Naveen Saisreenivas Thota, Student Academic Affairs Secretary, IIT Mandi (Special Invitee)
 Mr. Shubham Ranjan, Student Research Affairs Secretary, IIT Mandi (Special Invitee)
 Ms. Hiya Jain, Student General Secretary, IIT Mandi (Special Invitee)

Invitees:

Dr. Amit Shukla, Assistant Professor, Erstwhile SE, IIT Mandi

Following Senate members/invitees could not attend the meeting due to prior commitments:

Prof. Binay Kumar Pattnaik, Dept. of HSS, IIT Kanpur
 Prof. Sandeep Verma, Dept. of Chemistry, IIT Kanpur & Secretary (SERB)
 Prof. Subrata Ghosh, Professor, Erstwhile SBS, IIT Mandi
 Prof. Prem Felix Siril, Professor, Erstwhile SBS, IIT Mandi

Prof. Pradeep C. Parameswaran, Professor, Erstwhile SBS, IIT Mandi
 Prof. Bharat Singh Rajpurohit, Professor, SCEE, IIT Mandi
 Dr. Deepak Swami, Associate Professor, Erstwhile SE, IIT Mandi
 Dr. Arti Kashyap, Associate Professor, Erstwhile SBS, IIT Mandi
 Dr. Rajeshwari Dutt, Associate Professor, SHSS, IIT Mandi

The Chairman Senate extended a warm welcome to all the Senate members for attending the 36th Senate meeting of the Institute. He welcomed Prof. Satinder Sharma, Registrar I/c and Secretary to the Senate and appreciated the appreciable services rendered by Mr. K. K. Bajre, outgoing Registrar and Secretary to the Senate.

Thereafter, following agenda items were taken up.

Item No. 36.1: To confirm the minutes of the 35th Senate meeting held on 2nd June, 2022.

The minutes of the 35th Senate meeting held on 2nd June, 2022 at IIT Mandi were circulated to members of the Senate on 21st June, 2022 (through email) for comments, if any. No comments have been received on the minutes. Therefore, minutes of the 35th Senate meeting held on 2nd June 2022 were confirmed, as circulated.

Item No. 36.2: To receive a report on the actions taken for the decisions taken in the 35th Senate meeting held on 2nd June, 2022.

The Senate noted the actions on the decisions taken in its 35th meeting held on 2nd June, 2022.

Item No. 36.3: To consider the recommendations regarding Awards and Medals.

On the recommendation of the Board of Academics, the Senate considered the proposal of Awards and Medals for graduating batches presented by Dr. C. S. Yadav.

After detailed deliberation, the Senate resolved to approve the proposal, as placed at **Annexure – A; Page No. 7.**

The Senate recommended the same to BoG for approval.

Item No. 36.4: To consider award of Ph.D., I-Ph.D. (Physics), M.S. (by Research), M.Tech. M.Sc., M.A. and B.Tech. degree.

The 10th Convocation of the Institute will be organized soon. The Senate considered the students, who have fulfilled all the requirements for award of the degree during 10th Convocation as detailed below:

Programme	No. of students
Ph.D.	37
I-Ph.D. (Physics)	4
M.S. (by Research)	19
M.Sc. in Chemistry	39
M.Sc. in Applied Mathematics	31
M.Sc. in Physics	25
M.Tech in Mechanical Engineering with Specialization in Energy Systems	9 + 1 (2019 batch)

M.Tech in Energy Engineering with Specialization in Materials	12
M.Tech in Structural Engineering	10 + 1 (2019 batch)
M.Tech in VLSI	14
M.Tech in Power Electronics and Drives	13
M.Tech in Communication and Signal Processing	3 + 1 (2019 batch)
M.Tech in Biotechnology	12
M.A. in Development Studies	10
B.Tech in Civil Engineering	20
B.Tech in Computer Science and Engineering	85 + 1 (2017 batch)
B.Tech in Electrical Engineering	59
B.Tech in Mechanical Engineering	23
Total	429

The Senate congratulated the students on successful completion of the degree requirements and recommended to the Board of Governors (BoG) to award the degree. The complete list of students qualified for various degrees are placed as **Annexure – B; Page No. 8 to 28.**

Further, the Senate authorized the Chairman, Senate to approve the conferment of degree also on those students who complete all the requirements before seven days of commencement of the 10th Convocation.

Item No. 36.5:

To consider the award of Medals and Prizes to the winners among the graduands, which are to be awarded during the 10th Convocation of the Institute.

The Chairperson of the Awards and Prizes Committee presented the award of Medals and Prizes to the following winners among the graduands:

Sl.No.	Roll No.	Name	Medal/Prize
1	B18077	PIYUSH GOYAL	President of India Gold Medal
2	B18036	VISHAL KUMAR	Institute Silver Medal: B.Tech. Civil Engineering
3	B18077	PIYUSH GOYAL	Institute Silver Medal: B.Tech. Computer Science & Engineering
4	B18106	ASHISH ANAND	Institute Silver Medal: B.Tech. Electrical Engineering
5	B18156	ABHISHEK SINGH	Institute Silver Medal: B.Tech. Mechanical Engineering
6	B18012	BHUMANYU GOYAL	Director's Gold Medal
7	B18143	SHRIKHA	Rani Gonsalves Memorial Medal
8	T20211	SOUMYA RANJAN NAYAK	Institute Gold Medal: Among PG Programmes: M.Tech. Power Electronics and Drives
9	V20003	ANJALI SAINI	Institute Silver Medal: M.Sc. (Chemistry)
10	DI20028#	PRAKASH PANDEY	Institute Silver Medal: M.Sc. (Physics)& I-Ph.D. (Physics)

11	V20080*	BHAWNA	Institute Silver Medal: M.Sc. (Applied Mathematics)
12	T20005	RAHUL DOGRA	Outstanding Academic Achievement Award: M.Tech. in Structural Engineering
13	T20249	MEGHVERN PATHAK	Outstanding Academic Achievement Award: M.Tech. in VLSI
14	T20413	SNEHLATA RAO	Outstanding Academic Achievement Award: M.Tech. in Biotechnology
15	T20211	SOUMYA RANJAN NAYAK	Outstanding Academic Achievement Award: M.Tech. Power Electronics and Drives
16	T20045	PREMKUMAR M	Outstanding Academic Achievement Award: M.Tech. Energy Engineering with Specialization in Materials
17	T20042	SHUBHAM RODWAL	Outstanding Academic Achievement Award: M.Tech. Energy Engineering with Specialization in Materials
18	A20007	GAUTAM MISHRA	Outstanding Academic Achievement Award: M.A. in Development Studies
19			Ms. Kiran Bala Arora Memorial Award The committee has asked for the nominations, and will be submitting its recommendation separately. Chairman senate is authorized to take decision the submitted recommendation.)

* Her medal may be awarded only after the completion of her M.Sc.+Ph.D. dual degree program.

#The medal would be given at the time of his graduation after the successful completion of the I-PhD program.

The Senate congratulated and recommended the award of Medals and Awards to all the students mentioned above in various streams, for approval by the Board of Governors (BoG).

Item No. 36.6: To consider the proposal for establishment of Centre for Artificial Intelligence and Robotics (CAIR).

Dr. Amit Shukla, presented a proposal to establish a Center for Artificial Intelligence and Robotics (CAIR) at IIT Mandi.

After discussion, the Senate resolved to recommend the proposal to the Board for consideration, placed at **Annexure – C; Page No. 29 to 33.**

Item No. 36.7: Any other agenda item with the permission of the Chairman, Senate.

None.

Item No. 36.8: To report decisions/action taken by the Chairman, Senate.

The Senate noted the decisions taken by the Chairman, Senate on behalf of the Senate, as given in the agenda.

Item No. 36.9: Issues to be discussed by the Senate without Student Members being present.

None.

The meeting concluded with a vote of thanks to the Chair and to the Members.


Chairman, Senate


Registrar I/c & Secretary-Senate

Annexure - A

Minutes related to Students awards_36th Senate meeting

15th Sept 2022

1. A new award named as 'The Institute Gold Medal' is introduced for the graduating postgraduate students (M.Sc., M.A., M.Tech etc.). The criterion for the Institute Gold Medal is as follows:
"Institute Gold Medals shall be awarded to the graduating students with the best record of academic excellence among the Postgraduate students (M.A., M.Sc., M.Tech. etc.), will be considered for Institute Gold Medals. " The phrase 'best record of Academic Excellence' means 'best overall record of performance, considering all areas of study'. Thus, besides achievements in chosen discipline, significant academic performance in other areas such as the publications in journals and/or conferences, research-oriented projects will also be considered.
2. The PG students who have converted their program to PhD program will also be eligible for the Institute Gold Medal and Institute Silver medal, subjected to the fulfillment of all the requirement of the master program, they were enrolled in. However the medals to these students would be awarded only at the completion of their Master + PhD degree.
3. The Integrated PhD students, who do their course work along with the Master students would also be eligible for the Institute Gold Medal and Institute Silver medal. However, these students would be competing with master students, and only one award/medal would be given to the MSc and Integrated PhD students of the same batch.
4. There is slight modification in the eligibility condition for "The President of India Gold Medal' and 'The Director's Gold Medal' given for the B.Tech students. These medals are open to dual degree programs (B.Tech + M.Tech, BS+ MS) as well. The students enrolled in the 5 year B.Tech + M.Tech Program or the BS+ MS program will also be eligible to complete for the award. For such cases, student enrolled in the integrated program in 'y' year will complete with the B.Tech students enrolled in 'y+1' year.

ANNEXURE - B

37 Ph.D., 4 I-Ph.D., 19 M.S. (by Research), 39 M.Sc. (Chemistry), 31 M.Sc. (Applied Mathematics), 25 M.Sc. (Physics), 76 M.Tech (including 73 from 2020, 03 from 2019), 10 M.A. (Development Studies) and 188 B.Tech (including 187 from 2018, 01 from 2017 batch) which includes 74 B.Tech with Minor students, who fulfilled all the requirement for the award of the degree are as under:

a) Doctor of Philosophy (Ph.D.)

The following 37 Ph.D. scholars have completed all the requirements for the award of the degree of "Doctor of Philosophy" including submission of the final approved thesis.

Sl. No	Name & Roll No.	Date of Joining/ Date of Completion	Guide	Thesis Title	Viva- Voce Board	Thesis Examiners
1	Prateepsingh Sagara (D12089)	DoJ: 28-02-2013 DoC: 23-06-2022 (9 years, 4 months)	Prof. Prem Felix Siril (Guide) Dr. P.C. Ravikumar (External Co-Guide) Prof. Subrata Ghosh (Internal Co-Guide)	<i>N</i> -Amino-7-Azaindole as the <i>N,N</i> -Bidentate Directing Group: <i>C</i> (<i>sp</i> ²)-H Activation by Ruthenium (II) Catalysis	Prof. Suman Kalyan Pal (Chair) Prof. Prem Felix Siril (Guide) Prof. Subrata Ghosh (Internal Co-Guide) Dr. P.C. Ravikumar (External Co-Guide) Dr. Beeraiah Baire (Thesis Examiner) Dr. Amit Balkrishna Pawar (Subject Expert)	Dr. Beeraiah Baire (IIT Madras) Prof. Martin E. Maier (Universitat Tübingen Institute für Organische Chemie)
2	Monika Kaushik (D14035)	DoJ: 09-02-2015 DoC: 10-08-2022 (7 years, 6 months)	Dr. Suman	Identities at the Crossroads: Probing Gendered Bodies through A Play of Language in Mahesh Dattani's Select Plays	Dr. Shyamasree Dasgupta (Chair) Dr. Suman (Guide) Dr. Kamayani Kumar (Thesis Examiner) Dr. Manu V Devadevan (Member Expert from the discipline) Dr. Amit Jaiswal (Member from Outside the discipline)	Dr. Kamayani Kumar (Aryabhata College, University of Delhi) Dr. Vandana Saxena (University of Malaya, Lumpur)
3	Prabhjot Kaur (D15004)	DoJ: 22-07-2015 DoC: 23-04-2022 (6 years, 9 months)	Dr. Anil Kumar Sao	Novel Unsupervised Approaches for Quality Improvement of Structural Brain Magnetic Resonance Images	Dr. Samar (Chair) Dr. Anil Kumar Sao (Guide) Prof. Suyash P. Awate (Thesis Examiner) Dr. Anubha (Subject Expert) Prof. Rajeev Kumar (Special Nominee of Chairman, Senate)	Prof. Suyash P. Awate (IIT Bombay) Prof. Vijayan K Asari (University of Dayton, Ohio, USA)
4	Moumita Ganguly (D15020)	DoJ: 27-07-2015 DoC: 12-04-2022 (6 years, 9 months)	Dr. Aniruddha Chakraborty	Theoretical Investigations of Looping of a Long Chain Polymer Molecule in Dilute Solution	Prof. Suman K Pal (Chair) Dr. Aniruddha Chakraborty (Guide) Prof. Swapan K Ghosh (Thesis Examiner) Dr. Prasanth P Jose (Subject Expert) Dr. Rajesh Ghosh (Special Nominee of Chairman, Senate)	Prof. Swapan Kumar Ghosh (University of Mumbai) Prof. Vasudev M Kenkre (University of New Mexico, USA)
5	Afsal Thuppilakkadan	DoJ: 27-07-2015	Dr. Hari Varma R	Photoionization Studies of Endohedral Atoms	Dr. Sudhir Kumar Pandey (Chair) Dr. Hari Varma R (Guide)	Prof. Aravind G. (IIT Madras)

Sl. No	Name & Roll No.	Date of Joining/ Date of Completion	Guide	Thesis Title	Viva- Voce Board	Thesis Examiners
	(D15032)	DoC: 23-06-2022 (6 years, 11 months)			Prof. Aravind G. (Thesis Examiner) Dr. Pradyumna Pathak (Member Expert from the discipline) Dr. Padmanabhan Rajan (Member from Outside the discipline)	Prof. Jean-Patrick Connerade (South Kensington Campus, Imperial College, London)
6	Paromita Dutta (D15033)	DoJ: 27-07-2015 DoC: 02-02-2022 (6 years, 6 months)	Dr. Sudhir Kumar Pandey	Investigating the Effect of Electronic Correlation on the Physical Properties of Late 3d Transition-metal Based Systems using <i>ab-initio</i> Methods	Dr. Rajendra Ray (Chair) Dr. Sudhir Kumar Pandey (Guide) Dr. Sanjeev Kumar (Thesis Examiner) Dr. C.S.Yadav (Subject Expert)	Dr. Sanjeev Kumar (IISER Mohali, Punjab) Prof. Arun Bansil (Northeastern University, Boston, MA, USA)
7	Suman (D15037)	DoJ: 17-08-2015 DoC: 09-04-2022 (6 years, 8 months)	Prof. Pradeep C Parameswaran	Development of New Styryl Quinoline Derivatives as Chemosensors, Organic Thin Film Transistor Materials and Anticancer Agents	Prof. Suman K Pal (Chair) Prof. Pradeep C Parameswaran (Guide) Prof. Kaushik Ghosh (Thesis Examiner) Dr. Santanu Kumar Pal (Subject Expert) Dr. Subhajit Roy Chowdhury (Special Nominee of Chairman, Senate)	Prof. Kaushik Ghosh (IIT Roorkee) Prof. Cheal Kim (Seoul National University of Science and Technology, Korea)
8	Akansha Garg (D15039)	DoJ: 18-08-2015 DoC: 20-06-2022 (6 years, 10 months)	Dr. Narsa Reddy Tummuru (Guide) Prof. Ramesh Oruganti (Co-Guide)	Real-Time Power Management in DC Microgrid using DC Bus Signaling	Dr. Samar (Chair) Dr. Narsa Reddy Tummuru (Guide) Prof. Ramesh Oruganti (Co-Guide) Dr. Thanga Raj Chelliah (Thesis Examiner) Prof. Bharat Singh Rajpurohit (Member Expert from the discipline) Dr. Chandan Kumar (Member from Outside the discipline)	Dr. Thanga Raj Chelliah (IIT Roorkee) Dr. Jose Luis Rueda (Delft University of Technology, Netherlands)
9	Vyoma Singh (D15040)	DoJ: 18-08-2015 DoC: 11-01-2022 (6 years, 5 months)	Dr. Tushar Jain (Guide) Dr. Birupaksha Pal (Co-Guide)	State and Parameter Estimation for Spark-Ignition Engines	Dr. Samar (Chair) Dr. Tushar Jain (Guide) Dr. Birupaksha Pal (Co-Guide) Prof. Arun D Mahindrakar (Thesis Examiner) Dr. Shaikshavali C (Subject Expert) Dr. Aditi Halder (Special Nominee of Chairman, Senate)	Prof. Arun D Mahindrakar (IIT Madras) Prof. Didier Maquin (Universite de Lorraine, France)
10	Chandrasekhara Pratap G C (D15059)	DoJ: 08-02-2016 DoC: 01-04-2022 (6 years, 1 month)	Dr. Pradeep Kumar	Numerical Analysis of Natural Convection Coupled with Diffuse and Collimated Beam Radiation in a Participating Medium	Dr. Atul Dhar (Chair) Dr. Pradeep Kumar (Guide) Prof. K. Muralidhar (Thesis Examiner) Prof. K Srinivas Reddy (Subject Expert) Prof. Prem Felix Siril (Special Nominee of Chairman, Senate)	Prof. K Muralidhar (IIT Kanpur) Prof. Yogesh Jaluria (Rutgers University, NJ)
11	Mohammad Ishtiyaq Qureshi (D15063)	DoJ: 22-02-2016 DoC: 10-02-2022 (6 years)	Dr. Satyajit Thakor	On the Information Flow in Undirected Unicast Networks	Dr. Samar (Chair) Dr. Satyajit Thakor (Guide) Prof. Navin Kashyap (Thesis Examiner) Prof. Adrish Banerjee (Subject Expert) Dr. Bindu Radhamany (Special Nominee of Chairman, Senate)	Prof. Navin Kashyap (IISc Bangalore) Dr. Viveck Cadambe (Pennsylvania State University PA, USA)
12	Pooja	DoJ: 25-07-2016	Dr. Shyamasree	Access to Modern Fuels for	Dr. Rajeshwari Dutt (Chair)	Prof. K Narayanan

Sl. No	Name & Roll No.	Date of Joining/ Date of Completion	Guide	Thesis Title	Viva- Voce Board	Thesis Examiners
	Sankhyayan (D16001)	DoC: 30-11-2021 (5 years, 4 months)	Dasgupta	Cooking and Lighting in Indian Households: An Economic and Policy Discourse	Dr. Shyamasree Dasgupta (Guide) Prof. K. Narayanan (Thesis Examiner) Prof. Patricia E. Perkins (Subject Expert) Dr. Atul Dhar (Special Nominee of Chairman, Senate)	(IIT Bombay) Prof. Patricia Elaine Perkins (York University, Toronto, Canada)
13	Avinash Kumar (D16005)	DoJ: 25-07-2016 DoC: 03-02-2022 (5 years, 6 months)	Dr. Tushar Jain	Optimal Control Design in Krotov Framework	Dr. Samar (Chair) Dr. Tushar Jain (Guide) Dr. Mangal Kothari (Thesis Examiner) Dr. Yogesh Vijay Hote (Subject Expert) Dr. Syed Abbas (Special Nominee of Chairman, Senate)	Dr. Mangal Kothari (IIT Kanpur) Prof. Vicenc Puig Cayuela (Universitat Politècnica de Catalunya, Barcelona, Spain)
14	Arshdeep Singh (D16006)	DoJ: 25-07-2016 DoC: 24-03-2022 (5 years, 8 months)	Dr. Padmanabhan Rajan (Guide) Dr. Arnav Bhavsar (Co-guide)	Audio Scene Classification using Learning-based Frameworks	Dr. Samar (Chair) Dr. Padmanabhan Rajan (Guide) Dr. Arnav Bhavsar (Co-guide) Prof. C. V. Jawahar (Thesis Examiner) Dr. Goutam Saha (Subject Expert) Dr. Viswanath Balakrishnan (Special Nominee of Chairman, Senate)	Prof. C. V. Jawahar (IIIT Hyderabad) Prof. Sri Krishnan (Ryerson University, Canada)
15	Mohamad Ghulam Moinuddin (D16007)	DoJ: 25-07-2016 DoC: 26-07-2022 (6 years)	Prof. Satinder Kumar Sharma (Guide) Dr. Srikant Srinivasan (Co-Guide)	Emerging Tunnel Barrier and Layered 2D Magnets for Low Power Spintronics	Dr. Tushar Jain (Chair) Prof. Satinder Kumar Sharma (Guide) Dr. Srikant Srinivasan (Co-Guide) Prof. Anil Prabhakar (Thesis Examiner) Dr. Gopi Shrikanth Reddy (Member Expert from the discipline) Dr. Ajay Soni (Member from Outside the discipline)	Prof. Anil Prabhakar (IIT Madras) Prof. Rajdeep Singh Rawat (National Institute of Education, Nanyang Technological University, Singapore)
16	Aditi Jangid (D16009)	DoJ: 28-07-2016 DoC: 25-04-2022 (5 years, 9 months)	Dr. Tulika P Srivastava	Role Of Gut Microbiota Composition and Functions: Impact of Host Genes, Dietary Factors & Bacterial Taxa on Intestinal Immunity	Prof. Suman K Pal (Chair) Dr. Tulika P Srivastava (Guide) Prof. Pinaki Sar (Thesis Examiner) Dr. Prasad Kasturi (Subject Expert) Dr. Shubhajit Roy Chowdhury (Special Nominee of Chairman, Senate)	Prof. Pinaki Sar (IIT Kharagpur) Dr. Francois Blachier (Universite Paris-Saclay, INRAE, Paris France)
17	Lalita Sharma (D16011)	DoJ: 01-08-2016 DoC: 23-12-2021 (5 years, 4 months)	Dr. Aditi Halder	Defect Engineering in Transition Metal-Based Oxides for Energy Conversion Applications	Prof. Suman K Pal (Chair) Dr. Aditi Halder (Guide) Dr. Muhammed Musthafa O T (Thesis Examiner) Dr. Pravin P Ingole (Subject Expert) Dr. Rik Rani Koner (Special Nominee of Chairman, Senate)	Dr. Muhammed Musthafa O T (IISER, Pune) Prof. Emiliana Fabbri (Paul Scherrer Institute, Switzerland)
18	Harpreet Kaur (D16012)	DoJ: 01-08-2016 DoC: 02-08-2022 (6 years)	Dr. Rik Rani Koner (Guide) Dr. Venkata Krishnan (Co-Guide)	Multifunctional Metal-Organic Frameworks for Water Treatment: Detection, Adsorption and Photocatalytic Remediation of Toxic Contaminants	Prof. Prem Felix Siril (Chair) Dr. Rik Rani Koner (Guide) Dr. Venkata Krishnan (Co-Guide) Dr. Raju Kumar Gupta (Thesis Examiner) Dr. Ritu Gupta (Member Expert from	Dr. Raju Kumar Gupta (IIT Kanpur) Prof. Christian Serre (Institute of Porous Materials of Paris)

Sl. No	Name & Roll No.	Date of Joining/ Date of Completion	Guide	Thesis Title	Viva- Voce Board	Thesis Examiners
					the discipline) Dr. Moumita Das (Member from Outside the discipline)	(IMAP) France)
19	Maneesh Lingwan (D16020)	DoJ: 01-08-2016 DoC: 10-12-2021 (5 years, 4 months)	Dr. Shyam Kumar Masakapalli	Systems Analysis of Plant Metabolism Under UV-B Radiation by Integrating Metabolomics and ¹³ CO ₂ Labeling	Prof. Suman K Pal (Chair) Dr. Shyam K Masakapalli (Guide) Dr. Harsh Chauhan (Thesis Examiner) Dr. Kasturi Prasad (Subject Expert) Dr. Shubhajit Roy Chowdhury (Special Nominee of Chairman, Senate)	Dr. Harsh Chauhan (IIT Roorkee) Prof. Robert Hansch (Technische Universitat Braunschweig, Germany)
20	Nishith Mohan (D16021)	DoJ: 02-08-2016 DoC: 28-12-2021 (5 years, 4 months)	Dr. Nitu Kumari	Nonlinear Analysis of Reaction Diffusion Systems Describing Ecological Phenomenon	Prof. Suman K Pal (Chair) Dr. Nitu Kumari (Guide) Prof. Ranjit Kumar Upadhyay (Thesis Examiner) Dr. Rajendra Kumar Ray (Subject Expert)	Prof. Ranjit Kumar Upadhyay (IIT (ISM) Dhanbad)) Prof. Christina Kuttler (Technical University of Munich, Germany)
21	Korakuti Hanumanthu (D16030)	DoJ: 05-08-2016 DoC: 08-07-2022 (5 years, 11 months)	Dr. Kaustav Sarkar	Improved Modelling of Sorptivity and Hydraulic Diffusivity based on Efficient Phenomenological Considerations	Prof. Rajeev Kumar (Chair) Dr. Kaustav Sarkar (Guide) Prof. Abdelghany Ali El Abd (Thesis Examiner) Prof. Balthasar Novak (Member Expert from the discipline) Prof. Bharat Singh Rajpurohit (Member from Outside the discipline)	Prof. Shashank Bishnoi (IIT Delhi) Prof. Abdelghany Ali El Abd (Nuclear Research Center, Atomic Energy Authority, Cairo, Egypt)
22	Ajay Kumar (D16033)	DoJ: 5-08-2016 DoC: 2-09-2022 (6 years, 1 month)	Dr. Rajesh Ghosh (Guide) Dr. Rajeev Kumar (Co-Guide)	Biomechanical Performance and Interface Failure Analysis of Cemented Acetabular Cup for Total Hip Replacement	Dr. Vishal Singh Chauhan (Chair) Dr. Rajesh Ghosh (Guide) Dr. Rajeev Kumar (Co-Guide) Prof. Debabrata Chakraborty (Thesis Examiner) Dr. Himanshu Pathak (Member Expert from the discipline) Dr. Prosenjit Mondal (Member from Outside the discipline)	Prof. Debabrata Chakraborty (IIT Guwahati) Prof. Mark Taylor (Flinders University, Tonsley, South Australia)
23	Diksha Gambhir (D16037)	DoJ: 15-11-2016 DoC: 23-06-2022 (5 years, 7 months)	Dr. Rik Rani Koner	Amino Acid Based Chiral Supramolecular Systems for Visual Enantiomeric Recognition	Dr. Venkata Krishnan (Chair) Dr. Rik Rani Koner (Guide) Prof. Arindam Banerjee (Thesis Examiner) Dr. Tapasi Sen (Member Expert from the discipline) Dr. Sayantan Sarkar (Member from Outside the discipline)	Prof. Arindam Banerjee (Indian Association for the Cultivation of Science, Jadavpur, Kolkata) Prof. Jeffery Davis (University of Maryland, MD, USA)
24	Shailja Sharma (D16045)	DoJ: 01-02-2017 DoC: 20-06-2022 (5 years, 4 months)	Dr. C. S. Yadav	Electronic Properties of Transition Metal Doped Bi ₂ Se ₃ and Bi ₂ Te ₃ Topological Insulators	Dr. Rajendra K Ray (Chair) Dr. C.S. Yadav (Guide) Prof. Satyabrata Patnaik (Thesis Examiner) Dr. Kaustav Mukherjee (Member Expert from the discipline) Dr. Viswanath Balakrishnan (Member	Prof. Satyabrata Patnaik (JNU, New Delhi) Dr. Ramanathan Mahendiran (National University of Singapore (NUS, Singapore)

Sl. No	Name & Roll No.	Date of Joining/ Date of Completion	Guide	Thesis Title	Viva- Voce Board	Thesis Examiners
					from Outside the discipline)	
25	Chethana (D16049)	DoJ: 01-02-2017 DoC: 08-08-2022 (5 years, 6 months)	Prof. Chayan Kanti Nandi	Carbogenic Fluorescent Nanodots as Versatile Probe for Microscope Imaging to Directly Visualize and Map the Biological Events	Dr. Ajay Soni (Chair) Prof. Chayan Kanti Nandi (Guide) Prof. Prmit K. Chowdhury (Thesis Examiner) Prof. Pradeep C. Parameswaran (Expert from the discipline) Dr. Viswanath Balakrishnan (Faculty from outside discipline)	Prof. Prmit K. Chowdhury (IIT Delhi) Prof. Lorenzo Albertazzi (Institute of Bioengineering of Catalonia in Barcelona, Spain)
26	Tripti Chhabra (D16056)	DoJ: 01-02-2017 DoC: 26-07-2022 (5 years, 5 months)	Dr. Venkata Krishnan	Green and Sustainable Conversion of Biomass Derivatives to Biofuel Precursors using Single Component Solid Acid Catalysts	Prof. Rahul Vaish (Chair) Dr. Venkata Krishnan (Guide) Prof. Sanjay Kumar Singh (Thesis Examiner) Prof. Pradeep C. Parameswaran (Expert from the discipline) Dr. Sunny Zafar (Faculty from outside discipline)	Prof. Sanjay Kumar Singh (IIT Indore) Prof. Carsten Sievers (Georgia Institute of Technology, Atlanta, USA)
27	Divya Verma (D16057)	DoJ: 01-02-2017 DoC: 13-08-2022 (5 years, 6 months)	Dr. Viswanath Balakrishnan	Mechanical Behavior Analysis of CVD Grown Functional Materials and their Composites	Prof. Rahul Vaish (Chair) Dr. Viswanath Balakrishnan (Guide) Dr. Debrupa Lahiri (Thesis Examiner) Dr. Prateek Saxena (Expert from the discipline) Dr. Mohammad Talha (Faculty from outside discipline)	Dr. Debrupa Lahiri (IIT Roorkee) Prof. Shriram Ramanathan (Purdue University, West Lafayette)
28	Dinesh Kumar B (D16066)	DoJ: 01-02-2017 DoC: 02-09-2022 (5 years, 6 months)	Dr. Hitesh Shrimali	Design and Optimization of High-Speed Hybrid Analog-to-Digital Converters	Dr. Dileep A D (Chair) Dr. Hitesh Shrimali (Guide) Prof. Santosh Kumar Vishvakarma (Thesis Examiner) Dr. Shubhjit Roy Chowdhury (Expert from the discipline) Dr. Dericks P Shukla (Faculty from outside Discipline)	Prof. Santosh Kumar Vishvakarma (IIT Indore) Prof. Linga Reddy Cenkeramaddi (University of Agder, Norway)
29	Niraj Kumar Singh (D16078)	DoJ: 01-02-2017 DoC: 06-04-2022 (5 years, 2 months)	Dr. Ajay Soni	Structure-Property Correlation in Layered Bi-Ge-Te Topological Insulators for Thermoelectric Applications	Prof. Suman K Pal (Chair) Dr. Ajay Soni (Guide) Prof. Satyajit Sahu (Thesis Examiner) Prof. Satinder Kumar Sharma (Subject Expert)	Prof. Satyajit Sahu (IIT Jodhpur) Prof. Subhendra D Mahanti (Michigan State University, East Lansing, Michigan, USA)
30	Poonam Jyoti (D16079)	DoJ: 01-02-2017 DoC: 28-12-2021 (4 years, 10 months)	Dr. Shyam Kumar Masakapalli (Guide) Dr. Tulika P Srivastava (Co-Guide)	Metabolic Systems Biology of <i>Ralstonia Solanacearum</i> by Integrating Genomics and ¹³ C Metabolic Flux Analysis	Prof. Suman K Pal (Chair) Dr. Shyam K Masakapalli (Guide) Dr. Tulika P Srivastava (Co-Guide) Prof. Sudip Kundu (Thesis Examiner) Dr. Ajay Soni (Subject Expert)	Prof. Sudip Kundu (University of Calcutta) Dr. Maurice Cheung (Yale-NUS College Singapore)
31	Rimanpreet Kaur	DoJ: 10-02-2017	Dr. Amit Prasad	Exploring Vaccine Potential and Therapeutic Targets of <i>Taenia</i>	Prof. Suman K Pal (Chair) Dr. Amit Prasad (Guide)	Prof. Rakesh Sehgal (PGIMER, Chandigarh)

Sl. No	Name & Roll No.	Date of Joining/ Date of Completion	Guide	Thesis Title	Viva- Voce Board	Thesis Examiners
	(D16082)	DoC: 01-04-2022 (5 years, 2 months)		<i>Solium</i> Cyst Fluid Antigens for Neurocysticercosis	Prof. Rakesh Sehgal (Thesis Examiner) Prof. Ujjala Ghosal (Subject Expert) Dr. Subhajit Roy Chowdhury (Special Nominee of Chairman, Senate)	Prof. Siddappa N Byrareddy (University of Nebraska Medical Center, Omaha, NE)
32	Partha Sarathi Nayek (D16083)	DoJ: 14-02-2017 DoC: 11-01-2022 (5 years)	Dr. Maheshreddy Gade	Advanced Models for Prediction of Earthquake Induced Slope Displacement and Hazard Assessment	Dr. Viswanath Balakrishnan (Chair) Dr. Maheshreddy Gade (Guide) Prof. Subhadeep Banerjee (Thesis Examiner) Dr. Kala Venkata Uday (Subject Expert)	Prof. Subhadeep Banerjee (IIT Madras) Dr. Xueyu Geng (University of Warwick, UK)
33	Smriti Sharma (D17007)	DoJ: 03-08-2017 DoC: 23-04-2022 (4 years, 8 months)	Dr. Subhamoy Sen	Structural Health Monitoring under Varying Temperature Conditions using Deep Learning-Based Approaches	Dr. Atul Dhar (Chair) Dr. Subhamoy Sen (Guide) Dr. Sushanta Chakraborty (Thesis Examiner) Prof. Ajit P Annachhate (Subject Expert) Dr. Syed Abbas (Special Nominee of Chairman, Senate)	Dr. Sushanta Chakraborty (IIT Kharagpur) Prof. LI, Dongsheng (Shantou University, China)
34	Chaurasiya Rohit Buddhiram (D17018)	DoJ: 18-08-2017 DoC: 02-09-2022 (5 years)	Dr. Rahul Shrestha	Hardware Efficient VLSI- Algorithms and Digital- Architectures of Standalone and Cooperative Spectrum Sensors for Cognitive Radio Network	Dr. Samar (Chair) Dr. Rahul Shrestha (Guide) Prof. Nitin Chandrachoodan (Thesis Examiner) Dr. Hitesh Shrimali (Expert from the discipline) Dr. Himanshu Pathak (Faculty from outside Discipline)	Prof. Nitin Chandrachoodan (IIT Madras) Dr. Anupam Chattopadhyay (National Technical University, Singapore)
35	Bhupinder Singh (D17055)	DoJ: 01-02-2018 DoC: 04-07-2022 (4 years, 5 months)	Dr. Sunny Zafar	Development of Erosion Resistant Surfaces through Microwave Cladding for Hydro Turbine Application	Prof. Rajeev Kumar (Chair) Dr. Sunny Zafar (Guide) Prof. J. Ramkumar (Thesis Examiner) Dr. Prateek Saxena (Member Expert from the discipline) Dr. Manoj Thakur (Member from Outside the discipline)	Prof. J Ramkumar (IIT Kanpur) Prof. Tanvir Hussain (University Park, Nottingham University, UK)
36	Shivprasad Shivaram Shastri (D18025)	DoJ: 01-08-2018 DoC: 08-02-2022 (3 years, 6 months)	Dr. Sudhir Kumar Pandey	First-principles Study of Semiconducting Heusler Alloys for High Temperature Thermoelectric Applications	Dr. Viswanath Balakrishnan (Chair) Dr. Sudhir Kumar Pandey (Guide) Prof. Manish Kumar (Thesis Examiner) Dr. C.S.Yadav (Subject Expert)	Prof. Manish Kumar (Jawaharlal Nehru University, New Delhi) Prof. Subhendra D Mahanti (Michigan State University, USA)
37	Mritunjay Kumar Shukla (ERPD1302)	DoJ: 02-04-2014 DoC: 04-07-2022 (8 years, 3 months)	Dr. Atul Dhar (Guide) Dr. Thallada Bhaskar (Co-Guide)	Development of Low-Cost Catalytic Systems for Emission Control from CI Engines	Prof. Rajeev Kumar (Chair) Dr. Atul Dhar (Guide) Dr. Thallada Bhaskar (Co-Guide) Prof. Sudarshan Kumar (Thesis Examiner) Dr. Viswanath Balakrishnan (Subject Expert) Dr. Arnav Bhavsar (Special Nominee of	Prof. Sudarshan Kumar (IIT Bombay) Prof. Akinori Muto (Osaka Prefecture University, Japan)

Sl. No	Name & Roll No.	Date of Joining/ Date of Completion	Guide	Thesis Title	Viva- Voce Board	Thesis Examiners
					Chairman, Senate)	

b) Integrated Ph.d in Physics (I-Ph.D)

The following 4 scholars have completed all the requirements for the award of the degree of “Integrated Ph.D. in Physics’ including submission of the final approved thesis.

Sl. No	Name & Roll No.	Date of Joining/ Date of Completion	Guide	Thesis Title	Viva- Voce Board	Thesis Examiners
1	Chinmoy Samanta (DI1501)	DoJ: 17-08-2015 DoC: 14-09-2022 (7 years, 1 month)	Dr. Aniruddha Chakraborty	Generalized Multistate Systems in Statistical and Quantum Mechanics: Analytical and Semi-Analytical Method Development	Dr. C. S. Yadav (Chair) Dr. Aniruddha Chakraborty (Guide) Prof. V. Balakrishnan (Thesis Examiner) Dr. Prasanth P Jose (Expert from the discipline) Dr. Kunal Ghosh (Faculty from Outside discipline)	Prof. V. Balakrishnan (IIT Madras) Prof. Bernardo Spagnolo (University of Palermo, Italy)
2	Kavita Yadav (DI1503)	DoJ: 17-08-2015 DoC: 11-02-2022 (6 years, 6 months)	Dr. Kaustav Mukherjee	Probing the Correlation between Valence Electron Count and Physical Properties of Heusler Alloys	Prof. Suman K Pal (Chair) Dr. Kaustav Mukherjee (Guide) Prof. Sugata Ray (Thesis Examiner) Dr. Sudhir K Pandey (Subject Expert)	Prof. Sugata Ray (IACS, Kolkata) Prof. Paolo Mele (Shibaura Institute of Technology, Japan)
3	Swati Mudra (DI1506)	DoJ: 17-08-2015 DoC: 26-07-2022 (6 years, 11 months)	Dr. Aniruddha Chakraborty	New Analytically Solvable Models for Multi-State Problems in Quantum and Statistical Mechanics	Prof. Suman K Pal (Chair) Dr. Aniruddha Chakraborty (Guide) Prof. Swapan K Ghosh (Thesis Examiner) Dr. Prasanth P Jose (Expert from the discipline) Dr. P Anil Kishan (Faculty from Outside discipline)	Prof. Swapan K Ghosh (Bhabha Atomic Research Centre, University of Mumbai) Prof. Raphael D. Levine (The Hebrew University of Jerusalem, Israel)
4	Sheetal Devi (DI1601)	DoJ: 08-08-2016 DoC: 14-09-2022 (6 years, 1 month)	Dr. C.S. Yadav	Spin Ice and Spin Freezing in Disordered Pyrochlore Zirconates	Dr. Hari Varma (Chair) Dr. C.S.Yadav (Guide) Dr. Vivek Kumar Malik (Thesis Examiner) Dr. Kaustav Mukherjee (Expert from the discipline) Dr. Rik Rani Koner (Faculty from Outside discipline)	Dr. Vivek Kumar Malik (IIT Roorkee) Prof. Philipp Gegenwart (University of Augsburg, Germany)

c) Master of Science (MS.(by Research))

The following 19 M.S. scholars have completed all the requirements for the award of the degree of Master of Science (M.S. (by Research)) including submission of the final approved thesis.

Sl. No	Name & Roll No.	Date of Joining/ Date of Completion	Thesis Title	Guide	Academic Progress Committee	External Examiners
1	Preethi S (S18001)	DoJ: 01-08-2018 DoC: 23-04-2022 (3 years, 8 months)	Medical Imaging Techniques for Transformation and Inference using Deep Learning	Dr. Aditya Nigam (Guide) Dr. Arnav Bhavsar (Co-guide)	Dr. Samar (Chair) Dr. Aditya Nigam (Guide) Dr. Arnav Bhavsar (Co-Guide) Dr. Dileep A D Dr. Sriram Kailasam Dr. Rajesh Ghosh	Prof. Suyash P. Awate (IIT Bombay) Dr. Gaurav Harit (IIT Jodhpur)
2	Mohana Singh (S18002)	DoJ: 01-08-2018 DoC: 26-07-2022 (4 years)	Learning-Based Light Field Image Compression	Dr. Renu M Rameshan	Dr. Samar (Chair) Dr. Renu M Rameshan (Guide) Dr. Dileep A D Dr. Arnav Bhavsar Dr. Tushar Jain Dr. Gaurav Bhutani	Dr. Purushottam Kar (IIT Kanpur) Dr. Ajit Rajwade (IIT Bombay)
3	Ganesan P (S18005)	DoJ: 01-08-2018 DoC: 02-09-2022 (4 years, 1 month)	Design and Evaluation of Event Streaming Data Pipeline and Distributed Training Strategies	Dr. Sriram Kailasam (Guide) Dr. Dileep A D (Co-guide)	Prof. Bharat S Rajpurohit (Chair) Dr. Sriram Kailsam (Guide) Dr. Dileep A D (Co-Guide) Dr. Varun Dutt Dr. Manas Thakur Dr. Kaustav Sarkar	Dr. V. Mahendran (IIT Tirupati) Dr. Sandeep Kumar Garg (IIT Roorkee)
4	Mohit (S18006)	DoJ: 01-08-2018 DoC: 03-03-2022 (3 years, 6 months)	Analytical and Numerical Nonlinear Vibration Analysis and Sensitivity Measurement	Dr. Arpan Gupta	Dr. Rajeew Kumar (Chair) Dr. Arpan Gupta (Guide) Dr. Sandip Saha Dr. Himanshu Pathak Dr. Padmanabhan Rajan	Prof. Jayanta Kumar Dutt (IIT Delhi) Dr. Navin Kumar (IIT Ropar)
5	Mundupalam Nikhil Mathew (S18008)	DoJ: 01-08-2018 DoC: 14-11-2021 (3 years, 3 months)	On-Board Hydrogen Generation using Heat Recovered from the Exhaust of a 4-Stroke Diesel Engine for HHO-Assisted Combustion	Dr. Atul Dhar	Dr. Rahul Vaish (Chair) Dr. Atul Dhar (Guide) Dr. Gaurav Bhutani Dr. Muslim Malik	Prof. Sudarshan Kumar (IIT Bombay) Dr. Dhananjay Kumar Srivastava (IIT Kharagpur)
6	Gajjar Margi Atulbhai (S18011)	DoJ: 01-08-2018 DoC: 24-12-2021 (3 years, 4 months)	Elasto-Plastic Fracture Modeling by Extended Finite Element Method	Dr. Himanshu Pathak	Dr. Mohammad Talha (Chair) Dr. Himanshu Pathak (Guide) Dr. Parmod Kumar Dr. Subhamoy Sen Dr. Gopi Shrikanth Reddy	Prof. P S Robi (IIT Guwahati) Prof. B. Nageswara Rao (IIT Madras)
7	Manish Chandra Bisht (S18012)	DoJ: 01-08-2018 DoC: 14-09-2022 (4 years, 1 month)	Discrete Element Modelling of Two-Dimensional Granular Flows with Breakage of Particles	Dr. Gaurav Bhutani (Guide) Dr. Prasanth P Jose (Co-guide)	Prof. Rajeew Kumar (Chair) Dr. Gaurav Bhutani (Guide) Dr. Prasanth P Jose (Co-guide) Dr. Pradeep Kumar Dr. Mousumi Mukherjee Dr. Hari Varma	Prof. Devang V Khakhar (IIT Bombay) Prof. Ishan Sharma (IIT Kanpur)

Sl. No	Name & Roll No.	Date of Joining/ Date of Completion	Thesis Title	Guide	Academic Progress Committee	External Examiners
8	Shreesh S Parvatikar (S18017)	DoJ: 02-08-2018 DoC: 19-11-2021 (3 years, 3 months)	Estimation of Realistic Radiation Losses/Emissions in Combustion Systems	Dr. Pradeep Kumar	Dr. P Anil Kishan (Chair) Dr. Pradeep Kumar (Guide) Dr. Gaurav Bhutani Dr. Atul Dhar Dr. Aniruddha Chakraborty	Prof. Amrit Ambirajan (IISc, Bangalore) Dr. Santanu De (IIT Kanpur)
9	Rushiraj Sunil Jawale (S18022)	DoJ: 01-02-2019 DoC: 02-09-2022 (3 years, 7 months)	Frequency Reconfigurable Printed Monopole Antennas	Dr. Gopi Shrikanth Reddy	Dr. Samar (Chair) Dr. Gopi Shrikanth Reddy (Guide) Dr. Hitesh Shrimali Dr. Adarsh Patel Dr. Himanshu Pathak	Dr. Raghendra Kumar Chaudhary (IIT (ISM) Dhanbad) Dr. Rohit Sharma (IIT Ropar)
10	Dhanunjaya Varma D (S18023)	DoJ: 01-02-2019 DoC: 30-11-2021 (2 years, 9 months)	Classification of Acoustic Scenes using Background and Foreground	Dr. Padmanabhan Rajan	Dr. Samar (Chair) Dr. Padmanabhan Rajan (Guide) Dr. Rameshwar Pratap Dr. Aditya Nigam Dr. Manoj Thakur	Prof. Rajbabu Velmurugan (IIT Bombay) Dr. Nithin V George (IIT Gandhinagar)
11	Kamalpreet Singh (S18026)	DoJ: 04-02-2019 DoC: 08-07-2022 (3 years, 5 months)	Influence of Poling Orientation on Piezoelectric Characteristics for Sensing, Actuation, and Vibration Control	Dr. Rajeev Kumar	Dr. Arpan Gupta (Chair) Dr. Rajeev Kumar (Guide) Dr. Mohd. Talha Dr. Rajesh Ghosh Dr. Siddhartha Sharma	Prof. S. H. Upadhyay (IIT Roorkee) Dr. Navin Kumar (IIT Ropar)
12	Sourabh Dogra (S19001)	DoJ: 01-08-2019 DoC: 26-05-2022 (2 years, 9 months)	Acoustic Characterization of Helmholtz Resonators based Metamaterial	Dr. Arpan Gupta	Dr. Mohammad Talha (Chair) Dr. Arpan Gupta (Guide) Dr. Himanshu Pathak Dr. Pradeep Kumar	Prof. Jayanta Kumar Dutt (IIT Delhi) Prof. Ashish Kamalakar Darpe (IIT Delhi)
13	Debarshi Debnath (S19003)	DoJ: 01-08-2019 DoC: 14-09-2022 (3 years, 1 month)	Drop Spreading and Impact Dynamics on Different Wettability Surfaces	Dr. Parmod Kumar	Dr. P Anil Kishan (Chair) Dr. Parmod Kumar (Guide) Dr. Gaurav Bhutani Dr. Rahul Shrestha	Prof. Kirti Chandra Sahu (IIT Hyderabad) Prof. Rajneesh Bhardwaj (IIT Bombay)
14	Charu Chauhan (S19009)	DoJ: 01-08-2019 DoC: 07-07-2022 (2 years, 11 months)	Application of Nature-Based Soil Reinforcement for Erosion Control	Dr. Kala Venkata Uday	Dr. Rajesh Ghosh (Chair) Dr. Kala Venkata Uday (Guide) Dr. Maheshreddy Gade Dr. Amit Jaiswal	Prof. Satyendra Mittal (IIT Roorkee) Prof. Chandan Ghosh (NIDM, New Delhi)
15	Tushar Saini (S19011)	DoJ: 01-08-2019 DoC: 28-01-2022 (2 years, 5 months)	Modelling Air Quality via Machine Learning and IoT Technologies	Dr. Varun Dutt	Dr. Samar (Chair) Dr. Varun Dutt (Guide) Dr. Dileep A D Dr. Shyamasree Dasgupta	Dr. Bhaskaran Raman (IIT Bombay) Dr. Vimal Chandra Srivastava (IIT Roorkee)

Sl. No	Name & Roll No.	Date of Joining/ Date of Completion	Thesis Title	Guide	Academic Progress Committee	External Examiners
16	Abhishek Dhyani (S19013)	DoJ: 01-08-2019 DoC: 08-03-2022 (2 years, 7 months)	Minimal-Norm Globally Non-Overshooting/Undershooting Control of Linear Multivariable Systems	Dr. Tushar Jain	Dr. Samar (Chair) Dr. Tushar Jain (Guide) Dr. Amit Singha Dr. Sreelakshmi Dr. Amit Shukla	Dr. Shaunak Sen (IIT Delhi) Dr. Yogesh Vijay Hote (IIT Roorkee)
17	Arpit Nandi (S19017)	DoJ: 01-08-2019 DoC: 08-07-2022 (2 years, 11 months)	Engineering GaN/Ga ₂ O ₃ Heterojunction for High Power Diodes	Dr. Ankush Bag	Dr. Samar (Chair) Dr. Ankush Bag (Guide) Dr. Srikant Srinivasan Dr. Kunal Ghosh Dr. Himanshu Pathak	Prof. Subhananda Chakrabarti (IIT Bombay) Prof. Rajendra Singh (IIT Delhi)
18	Sahil Verma (S20023)	DoJ: 01-08-2018 (in Ph.D) Converted to M.S. on 12-05-2021 DoC: 23-08-2022 (4 years)	An Investigation on Vibration Energy Harvesting for Organic Pollutants Remediation	Dr. Aditi Halder (Guide) Prof. Rahul Vaish (Co-Guide)	Dr. Sudhir K Pandey (Chair) Dr. Aditi Halder (Guide) Prof. Rahul Vaish (Co-guide) Dr. Jaspreet Kaur Randhawa Dr. C.S. Yadav Dr. Rik Rani Koner	Dr. Satyendra Singh (JNU, New Delhi) Dr. Deepak Kumar (IIT Delhi)
19	Yeturi Pramodkumar Reddy (S20024)	DoJ: 01-02-2019 (in Ph.D) Converted to M.S. on 02-06-2021 DoC: 13-06-2022 (3 years, 4 months)	Temperature Robust Health Bench-Marking and Monitoring of a Heritage Suspension Bridge	Dr. Subhamoy Sen	Dr. Kaustav Sarkar (Chair) Dr. Subhamoy Sen (Guide) Dr. Sandip Saha Dr. Himanshu Pathak Dr. Manoj Thakur	Prof. Aparna (Dey) Ghosh (IEST, Shibpur) Prof. Damodar Maity (IIT Kharagpur)

d) Master of Science in Chemistry (M.Sc. (Chemistry))

The following 39 students have completed all the requirements for the award of the degree of Master of Science (M.Sc. (Chemistry)). Their names and Roll Nos. are as given below:

Sl. No.	Roll.No.	STUDENT NAME
1	V20001	KOUSTAV KUNDU
2	V20002	SUSOVON GHOSH
3	V20003	ANJALI SAINI
4	V20004	JATIN SAXENA
5	V20005	SWAPNIL VERMA
6	V20006	MAINAO JULI BASUMATARY
7	V20007	AJAY KUMAR
8	V20008	MEGHA GARG
9	V20009	RISHABH GOSWAMI

10	V20010	MUSKAN KAUR
11	V20011	SAMIKSHA
12	V20012	AMAN YADAV
13	V20013	MOHIT
14	V20014	AANCHAL HURMADE
15	V20015	AMIT KUMAR NAYAK
16	V20016	SOURAV MANDAL
17	V20017	MASRAKUL ALAM
18	V20018	PIYUSH RANA
19	V20019	BALENDU BISHT
20	V20020	SAMEER SEKHAR MOHANTY
21	V20021	USHMA GANGWAR
22	V20024	LALNUNENGA
23	V20025	CHHAYA THADHANI
24	V20026	RITESH KUMAR BAG
25	V20027	MRATYUNJAY SINGH JADAUN
26	V20028	ROHIT YADAV
27	V20029	VIJENDRA SINGH
28	V20030	SUBHARTHA SARKAR
29	V20031	AMBIKA
30	V20032	SOURAV
31	V20033	RITUNJOY BARUAH
32	V20034	ARUN SINGH
33	V20035	ABHISHEK SAHU
34	V20036	SNEHASIS MONI
35	V20037	BIKASH RAUT
36	V20038	SHOBHIT PANWAR
37	V20039	GAYATRI
38	V20040	AMAN
39	V20041	VAIBHAV SACHDEVA

e) Master of Science in Applied Mathematics (M.Sc. (Applied Mathematics))

The following 31 students have completed all the requirements for the award of the degree of Master of Science (M.Sc. (Applied Mathematics)). Their names and Roll Nos. are as given below:

Sl. No.	Roll No.	STUDENT NAME
1	V20043	NAMAN KAROL
2	V20044	ADARSH SUBHASH NARENDULWAR
3	V20045	MANOJ CHAUDHARY
4	V20046	SAHIL SHARMA
5	V20047	VARUUN A DESHPANDE
6	V20048	TARUN KUMAR
7	V20049	PAYAL SHARMA
8	V20051	PANKAJ SAHU
9	V20053	RITU
10	V20054	ABHISHEK
11	V20055	PRATISHTHA WADHWA
12	V20056	SAHEB MONDAL
13	V20057	MANOJ KUMAR
14	V20058	THACKER SONIYA LAXMIDAS
15	V20059	IFTIKHAR BASHIR GOJRI
16	V20061	VIKAS KALSIA
17	V20062	RAJA KANNAVJIYA
18	V20063	HEMENT KUMAR
19	V20064	ANGHA AGARWAL
20	V20065	MAHESH KUMAR SHESHMA
21	V20066	NITIN
22	V20067	DEEPAK SAHU
23	V20069	SATNAM SINGH
24	V20070	SUSHIL PRAJAPAT
25	V20071	VIKAS RAJPAL
26	V20073	KHRIESAVINYU TERHUJA
27	V20074	KOMAL KUMAR
28	V20075	AJAY
29	V20076	RESHMA
30	V20077	SURJIT KUMAR
31	V20079	ZAFAR HOSSAIN

f) Master of Science in Physics (M.Sc. (Physics))

The following 25 students have completed all the requirements for the award of the degree of Master of Science (M.Sc. (Physics)). Their names and Roll Nos. are as given below:

Sl. No.	Roll No.	STUDENT NAME
1	V20082	ANANNYA MUKHERJEE
2	V20083	DIKSHA PRAJAPATI
3	V20084	SUSHIL
4	V20085	BHIMANI YOGIN JITENDRABHAI
5	V20086	ANJALI
6	V20088	ANSHU TYAGI
7	V20089	ARUNA
8	V20090	ROHIT GUPTA
9	V20091	SANDHYA A K
10	V20092	NALINIKANTA PRADHAN
11	V20093	SANDEEP PATEL
12	V20094	AFRA NAVAS
13	V20095	GUNJAN
14	V20097	BISWARUP BISWAS
15	V20098	ARUN PANDIYAN
16	V20099	NITIN KUMAR
17	V20100	PANKAJ KUMAR
18	V20101	ANKUSH KAMAL
19	V20102	ANAYAT ULLAH
20	V20103	SANKALP SHARMA
21	V20105	SREESHYAM V A
22	V20106	SAHIL KUMAR
23	V20107	SHAD MOHAMED A K
24	V20108	VINOD KUMAR
25	V20109	LIZA HELEN K

g) Master of Technology in Mechanical Engineering with specialization in Energy Systems (MES)

The following 10 students have completed all the requirements for the award of the degree of Master of Technology in MES. Their names and Roll Nos. are as given below:

Sl. No.	Roll No.	STUDENT NAME
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1	T20071	SHARAD PARDHE
2	T20072	NITIN KUMAR PATHAK
3	T20073	VINAY KUMAR
4	T20074	MUKESH KUMAWAT
5	T20076	RAHUL GUPTA
6	T20080	ANJANI KUMAR SAGAR
7	T20081	SACHIN VERMA
8	T20084	MRIDUL AGARWAL
9	T20086	MAITRAYO BRAHMACHARI
10	T19051	ROHIT VERMA

h) Master of Technology in Energy Engineering with specialization in Materials (EEM)

The following 12 students have completed all the requirements for the award of the degree of Master of Technology in EEM. Their names and Roll Nos. are as given below:

Sl. No.	Roll No.	STUDENT NAME
1	T20031	NARESH SHARMA
2	T20032	VINEET KUMAR
3	T20033	MANISH KUMAR
4	T20035	RUSHIKESH SHIRISH JADHAV
5	T20036	JITENDRA CHOUDHARY
6	T20038	SHIVAM DUBEY
7	T20040	SHIV SHANKAR TIWARI
8	T20041	RAHUL RAJ
9	T20042	SHUBHAM RODWAL
10	T20043	SAIRAJ AMRUT SALUNKE
11	T20044	SHASHYABH RAY
12	T20045	PREMKUMAR M

i) Master of Technology in Structural Engineering (SE)

The following 11 students have completed all the requirements for the award of the degree of Master of Technology in Structural Engineering. Their names and Roll Nos. are as given below:

Sl. No.	Roll No.	STUDENT NAME
1	T20001	SAMRUL HODA
2	T20003	HARSHIT NAYAK

3	T20005	RAHUL DOGRA
4	T20006	RISHABH SHARMA
5	T20007	SURAJ
6	T20010	SHERIFF CHADHA
7	T20011	AKSHIT NEGI
8	T20012	AMMAR AHMED
9	T20013	PRACHI VERMA
10	T20015	ADITYA MAHAJAN
11	T19022	DEEPAK KUMAR

j) Master of Technology in VLSI:

The following 14 students have completed all the requirements for the award of the degree of Master of Technology in VLSI. Their names and Roll Nos. are as given below:

Sl. No.	Roll No.	STUDENT NAME
1	T20241	PRITIKSHA CHAND
2	T20243	PANASA SRIKANTH
3	T20244	BALRAM PATIDAR
4	T20245	VISHNU KUMAR SHARMA
5	T20246	CHAITANYA ANAND
6	T20247	DEEPANK
7	T20248	ASHKAND KUMAR
8	T20249	MEGHVERN PATHAK
9	T20250	NISHANTH KUMAR V
10	T20251	MD. MUSHFIQUR RAHMAN CHOWDHURY
11	T20252	SWETANK TRIPATHI
12	T20254	KUSHAGRA NAINWAL
13	T20256	DIVYA AGRAWAL
14	T20258	BHARATH MOHAN K

k) Master of Technology in Power Electronics and Drives (PED)

The following 13 students have completed all the requirements for the award of the degree of Master of Technology in PED. Their names and Roll Nos. are as given below:

Sl. No.	Roll No.	STUDENT NAME
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1	T20201	TUHIN MITRA
2	T20202	KULDEEP SINGH
3	T20205	SURAJ S
4	T20208	ANKIT KUMAR RANJAN
5	T20210	HETAL SHARMA
6	T20211	SOUMYA RANJAN NAYAK
7	T20214	CHIRAG GUPTA
8	T20215	CHANDAN KUMAR MAHTO
9	T20216	VELICHETI SIVAJI GANESH
10	T20217	VENKATA ADITYA DUGGARAJU
11	T20218	VIVEK SINGH
12	T20220	MAHENDRA KUMAR
13	T20221	VIVEK KUMAR

l) Master of Technology in Communication and Signal Processing (CSP)

The following 4 students have completed all the requirements for the award of the degree of Master of Technology in CSP. Their names and Roll Nos. are as given below:

Sl. No.	Roll No.	STUDENT NAME
1	T20282	SHRUTI SINGH (<i>With specialization in Communication</i>)
2	T20283	VINEET KUMAR MISHRA (<i>With specialization in Machine Learning</i>)
3	T20287	LENKA VASUDEVARAO
4	T19160	AARTESH SHEKHAR SINGH

m) Master of Technology in Biotechnology:

The following 12 students have completed all the requirements for the award of the degree of Master of Technology in Biotechnology. Their names and Roll Nos. are as given below:

Sl. No.	Roll No.	STUDENT NAME
1	T20401	DEEPALI BISHT
2	T20402	HIMANSHU SHARMA
3	T20403	RIYA NAGER
4	T20404	CHANDAN KUMAR PRADHAN
5	T20405	ARPITA PRASAD
6	T20406	PRERNA VERMA
7	T20409	RITIKA JAIN

8	T20411	UJJAWAL SHARAN
9	T20413	SNEHLATA RAO
10	T20414	VISHALI DHIMAN
11	T20415	SHIMPY NIGAM
12	T20416	NISTHA SAINI

n) Master of Arts in Development Studies:

The following 10 students have completed all the requirements for the award of the degree of Master of Arts in Development Studies. Their names and Roll Nos. are as given below:

Sl. No.	Roll No.	STUDENT NAME
1	A20001	AKASH SHARMA
2	A20002	AKSHIT SIROHI
3	A20004	ANAGHA TV
4	A20006	NIHARIKA BATRA
5	A20007	GAUTAM MISHRA
6	A20008	HIMANI SINGH
7	A20011	KESHAV TADIA
8	A20012	KULDIP KAILAS MESHRAM
9	A20013	NEENA SREEKUMAR S
10	A20017	VIKAS GAUTAM SHINDE

(o) Bachelor of Technology (B.Tech.) in Civil Engineering

The following 20 students have completed all the requirements for the award of Bachelor of Technology in Civil Engineering. Their Names and Roll Number are as given below:

Sl. No.	Roll No.	Student Name
1	B18001	ABHISHEK GAUTAM
2	B18004	AMAN SINGH (<i>With Minor in Management</i>)
3	B18005	AMIT KUMAR JATAV
4	B18006	ANIMESH CHOUDHARY
5	B18008	ANKIT GUPTA
6	B18009	ASHISH SAGAR (<i>With Minor in Management</i>)
7	B18015	JAY PRAKASH

8	B18017	KUNAL SENGAR
9	B18018	MISHA SAGAR (<i>With Minor in Management</i>)
10	B18020	NISHA (<i>With Minor in Management</i>)
11	B18022	RADHA
12	B18023	SAGAR TOMAR
13	B18024	SHAH SAUD ALI
14	B18029	TORAL GOGIYA
15	B18032	URVASHEE MEENA
16	B18033	VIKASH KUMAR MEENA
17	B18035	VIKRAM SINGH MEENA
18	B18036	VISHAL KUMAR
19	B18039	YATIN KUMAWAT
20	B18189	RAKESH MEENA

o) Bachelor of Technology (B.Tech.) in Computer Science and Engineering

The following 86 students have completed all the requirements for the award of Bachelor of Technology in Computer Science and Engineering. Their Names and Roll Number are as given below:

Sl. No.	Roll No.	Student Name	Sl. No.	Roll No.	Student Name
1	B18003	AMAN MAHESHWARI (<i>With Minor in Management</i>)	44	B18077	PIYUSH GOYAL (<i>With Minor in Management</i>)
2	B18007	ANKIT BALUNI (<i>With Minor in Management</i>)	45	B18078	RAHUL ANAND
3	B18010	ASHUTOSH SHARMA (<i>With Minor in Management</i>)	46	B18079	RAHUL KUMAR
4	B18012	BHUMANJU GOYAL	47	B18080	RAHUL SAINI
5	B18019	MUSKAN GUPTA (<i>With Minor in Management</i>)	48	B18081	RASHIKA RATHI
6	B18030	TUSHAR GOYAL (<i>With Minor in Management</i>)	49	B18083	S KALYAN RAM
7	B18031	UJJWAL SONI (<i>With Minor in Management</i>)	50	B18084	SAATVIK CHUGH
8	B18040	ZAIDAN MOHAMMAD BHAT	51	B18085	SHIKHA SUMAN
9	B18041	A DILSHAAD T M ABDUL MUTHALIF	52	B18086	SIDDHARTH MITTAL (<i>With Minor in German Language</i>)
10	B18042	AAKASH MAURYA (<i>With Minor in Management</i>)	53	B18088	SUBHASH SUMAN
11	B18043	ABHIJEET MANHAS (<i>With Minor in Management</i>)	54	B18089	UMESH
12	B18044	ADITYA BRAJESH PANDEY (<i>With Minor in Management</i>)	55	B18090	VINAYAK SHIVAM GUPTA (<i>With Minor in Management</i>)
13	B18045	AKSHIT KUMAR	56	B18091	VISHAL SIWACH
14	B18046	ANAM SIDDIQUI (<i>With Minor in Management</i>)	57	B18092	VIVEK KUMAR

Sl. No.	Roll No.	Student Name	Sl. No.	Roll No.	Student Name
15	B18048	ASHWIN GINORIA	58	B18093	VYOM GOEL
16	B18049	BOKKA KANAKA KEERTHI	59	B18094	YASH CHAUDHARY
17	B18050	CHANDAN PRAKASH (<i>With Minor in Management</i>)	60	B18095	YASH SANJAY BANSOD
18	B18051	CHIRUMARRI VENKATA SIVA NAGA MEDHA	61	B18096	YASHIKA BAAN
19	B18052	DEBAJYOTI NATH (<i>With Minor in Management</i>)	62	B18097	YASHWINDER KUMAR (<i>With Minor in Management</i>)
20	B18053	DINESH BHAGAT	63	B18098	YOGESH DEVERTH (<i>With Minor in Management</i>)
21	B18054	DIPANSHU VERMA	64	B18099	ABHINAV KUMAR
22	B18055	HARJOT SINGH (<i>With Minor in Applied Physics</i>)	65	B18115	HARISH JAGLAN
23	B18056	HARSHIT KUMAR (<i>With Minor in Management</i>)	66	B18118	KARTIK KATHURIA
24	B18057	HRIDAYESH AKHAND	67	B18119	KESHAV GARG
25	B18058	INDERJEET (<i>With Minor in Management</i>)	68	B18124	NIDHI JAIN (<i>With Minor in Management</i>)
26	B18059	ISHAN DAHIYA (<i>With Minor in Management</i>)	69	B18126	NITESH (<i>With Minor in Management</i>)
27	B18060	JAHNVI	70	B18128	PRAKHAR UNIYAL
28	B18061	JAI LUTHRA (<i>With Minor in Management</i>)	71	B18135	RUCHIKA SHARAN
29	B18062	KAIRAV BANSAL	72	B18138	SAHIL GARG
30	B18063	KALYANI KUMARI	73	B18143	SHRIKHA MAHANTY (<i>With Minor in Management</i>)
31	B18064	KHYATI AGARWAL (<i>With Minor in Management</i>)	74	B18149	VASU GUPTA
32	B18065	KSHITIZ JAIN	75	B18150	VISHAL KUMAR SINGH
33	B18066	KUMAR HARSH (<i>With Minor in Management</i>)	76	B18158	ANJALI DEEP (<i>With Minor in Management</i>)
34	B18067	MALVI ADITYA PARITOSH	77	B18161	ANUJ GOEL (<i>With Minor in Management</i>)
35	B18068	MEHAK JAIN (<i>With Minor in Management</i>)	78	B18164	AYUSHMAN DIXIT (<i>With Minor in Management</i>)
36	B18069	MILIND TOPNO	79	B18175	MANAV MEHTA (<i>With Minor in Management</i>)
37	B18070	MOHIB QURESHI (<i>With Minor in Management</i>)	80	B18177	MOHD ASIM ANSARI
38	B18071	MOHIT (<i>With Minor in Management</i>)	81	B18181	NISHITA
39	B18072	MOHIT KUMAR	82	B18182	OM PANDEY (<i>With Minor in Management</i>)
40	B18073	MOOD VIKRAM	83	B18187	PRATIK KUMAR
41	B18074	MRINAL TYAGI (<i>With Minor in Management</i>)	84	B18190	SAKSHAM BARARA (<i>With Minor in Management</i>)
42	B18075	MUDIT GOSWAMI (<i>With Minor in Management</i>)	85	B18191	SARANSH JAIN
43	B18076	MUKUL DHIMAN	86	B17065	VAIBHAV SAHARAN

p) Bachelor of Technology (B.Tech.) in Electrical Engineering

The following 59 students have completed all the requirements for the award of Bachelor of Technology in Electrical Engineering. Their Names and Roll Numbers are as given below:

Sl. No.	Roll No.	Student Name	Sl. No.	Roll No.	Student Name
1	B18002	AMAN KUMAR	31	B18129	PRATIK GODBOLE
2	B18014	GOURAV GOEL (<i>With Minor in Management</i>)	32	B18130	RAHUL KUMAR MEENA
3	B18016	PATEL KENA KAMALESH (<i>With Minor in Management</i>)	33	B18131	RAHUL KUMAR MEENA
4	B18025	SHIKHAR KUSHWAH	34	B18132	RAJAN GARHWAL (<i>With Minor in Management</i>)
5	B18026	SUNIL KUMAR SINGH (<i>With Minor in Management</i>)	35	B18133	RAJEEV RAJ
6	B18027	SURAJ	36	B18134	RAMAN SONI
7	B18028	SWPNIL ENGLA	37	B18136	RUPANSHI (<i>With Minor in Management</i>)
8	B18037	VIVEK MOAR	38	B18137	SACHIT BATRA
9	B18038	YASH VARSHNEY	39	B18139	SAKET LALLA
10	B18100	ADARSH RAJ (<i>With Minor in Computer Science Engineering</i>)	40	B18140	SANSKAR GUPTA (<i>With Minor in Computer Science Engineering</i>)& (<i>With Minor in Management</i>)
11	B18102	ADITYA MISHRA (<i>With Minor in Management</i>)	41	B18141	SARTHAK JAIN
12	B18103	AKSHAY KUMAR (<i>With Minor in Management</i>)	42	B18142	SHRAWAN KUMAR
13	B18104	AMIN-UL-HISAAM	43	B18144	SHRINIVAS KHATAVKAR
14	B18105	ARSHITA KALRA (<i>With Minor in Management</i>)	44	B18145	SHUBHAM KUMAR (<i>With Minor in Management</i>)
15	B18106	ASHISH ANAND (<i>With Minor in Management</i>)	45	B18146	SOURAV KUMAR MEENA
16	B18108	B SAI SHIVANI	46	B18147	CHAUHAN SUDHANSHU RADHEYSHYAM
17	B18109	DEEKSHA SINGH	47	B18148	VARSHA MEENA
18	B18110	DEEPTI SINGH	48	B18151	VISHAL RAJ
19	B18111	DHANANJAY VERMA	49	B18152	VISHAL VERMA (<i>With Minor in Management</i>)
20	B18112	EKANSH SHARMA (<i>With Minor in Management</i>)	50	B18153	VIVEK MITTAL (<i>With Minor in Management</i>)
21	B18113	FINAVIA YASH	51	B18159	ANKIT KARAN (<i>With Minor in Computer Science Engineering</i>)& (<i>With Minor in Management</i>)
22	B18114	GARIMA CHAHAR (<i>With Minor in Management</i>)	52	B18168	DESAI VIDHI NIKUNJBHAI
23	B18116	HEMRAJ PARMAR	53	B18170	GANDI GAHAN
24	B18117	DOSHI KARAN SUNIL	54	B18174	MANAS PATEL
25	B18120	KUSHAGRA SAHNI	55	B18183	PARTH AGGARWAL (<i>With Minor in Management</i>)
26	B18121	MANVENDRA RATHORE	56	B18186	PRANJAL SONI (<i>With Minor in Management</i>)
27	B18122	MD TARIQUE ASAD RIZWEE	57	B18192	SHASHANK SHEKHAR DWIVEDI (<i>With Minor in</i>

Sl. No.	Roll No.	Student Name	Sl. No.	Roll No.	Student Name
					<i>Management)</i>
28	B18123	NAMAN TAYAL (<i>With Minor in Management</i>)	58	B18194	PANDEY SHUBHAMKUMAR KAMAKHYANARAYAN (<i>With Minor in Computer Science Engineering</i>)
29	B18125	NISHANT VEDWAL (<i>With Minor in Management</i>)	59	B18195	SHUBRAH GUPTA (<i>With Minor in Management</i>)
30	B18127	PAMULA SHASHIDHAR			

q) Bachelor of Technology (B.Tech.) in Mechanical Engineering

The following 23 students have completed all the requirements for the award of Bachelor of Technology in Mechanical Engineering. Their Names and Roll Number are as given below:

Sl. No.	Roll No.	Student Name	Sl. No.	Roll No.	Student Name
1	B18021	RACHIT KATEWA	13	B18179	NEHA
2	B18154	ABHAY SINGH RATHORE	14	B18180	NIKHIL KATNOUR
3	B18155	ABHISHEK SEHARA	15	B18184	PRADYUMNA PRATAP SINGH (<i>With Minor in Management</i>)
4	B18156	ABHISHEK SINGH	16	B18185	PRAGYANSHU CHAUDHARY
5	B18160	ANKUSH MAHER	17	B18188	RAJPAL MAHICH
6	B18162	AVULA SHANDILYA	18	B18193	SHIKHA CHAUDHARY (<i>With Minor in Management</i>)
7	B18163	AWANTIKA SINGH	19	B18196	SURINDERPAL SINGH
8	B18165	BALKAR SINGH	20	B18197	UDIT SINGH CHAUHAN
9	B18166	BEGARI VARAPRASAD	21	B18198	VAIBHAV MONGIA (<i>With Minor in Management</i>)
10	B18167	CHINMAY PATIL	22	B18199	VANGARA KARTHIK KUMAR (<i>With Minor in Intelligent Systems</i>)
11	B18172	KARAN SINGH	23	B18200	VISHESH MONGIA (<i>With Minor in Management</i>)
12	B18176	MAYANK SINGH (<i>With Minor in Management</i>)			

**Centre for Artificial Intelligence& Robotics (CAIR)
@ IIT Mandi**

Introduction

For several decades, the development of intelligent machines that help humans in various tasks has been a mainstay in science fiction. Many aspects of science fiction have been accelerating to science fact. Powering this change are recent developments in artificial intelligence, robotics and drone technology. In recent years, these fields have exploded into fast-paced research fields, and their applications are significantly transforming day-to-day life. A myriad of applications ranging from healthcare to autonomous vehicles has been powered by AI and associated algorithms. To address the technological advancements and their potential to vitalize the economy and the quality of life, the Indian Institute of Technology Mandi (IIT Mandi) conducted a Workshop on Healthcare Robotics and Drone Applications (WHRDA) between 27th and 29th May 2022. The workshop was widely attended by renowned researchers in the field of Robotics, Artificial Intelligence (AI), and Drone Technology from India and abroad. Also, 20+ faculty and staff from IIT Mandi participated in this Workshop. As a part of the deliberations that took place in the Workshop, several topics emerged under three main themes: a) Robotics, b) Artificial Intelligence, and c) Drone Technology. To mention a few are: AI based robotics, Medical/Healthcare robotics, Haptics and Teleoperation robotics, Systems for AI, Neuroscience and Cognitive science, and applications related to drone technology, etc.

Consequent to the WHRDA Workshop, it is proposed to establish a **Centre for Artificial Intelligence&Robotics**(referred to as “CAIR”) at IIT Mandi. IIT Mandi being situated in the foothills of Himalayas presents a unique opportunity to develop and test Robotics & Drone technology in the most challenging geography of the world. Seeing difficult terrain and geography at high altitudes, advanced UAV-based technologies can be a boon for the purpose of health, safety, and rescue missions in case of natural calamities and unfortunate accidents. The CAIR will focus on research on topics concerning Robotics, AI, and Drone technology, which has several benefits such as: developing systems that complement and augment human capabilities, with an increasing focus on the future of work, understanding and addressing the ethical, legal, and societal implications of this research, creating robust and trustworthy robotics and AI systems, supporting the development of related technical standards and tools, better understand the national R&D workforce needs, and enable long-term investments in these research areas.

Objectives

The Centre’s primary objectives are:

- To be a leading center for robotics and AI research in the country, with visible recognition in terms of projects and developing systems useful to society at large.
- To contribute to core research aspects in robotics, AI, and drone technology.
- To seamlessly integrate with robotics and drone technology to provide AI-based solutions for sensing, learning, and inference.
- To provide a stimulating environment to the students, researchers, visitors, and faculty members to carry out world-class research, teaching, and product development in a team, so

that the technology can be brought to the household level and reach the needy people who are economically challenged.

- To train the next generation of students and practitioners of robotics, AI, and drone technology.
- Bridge gap between industry needs and available skills through industry-oriented learning- Develop certificate programs for people in industry for hands-on training in the field.

Figure 1 shows the components of the research areas under the proposed Centre. The center is intended to be designed under three main themes: (a) Robotics, (b) Artificial Intelligence, and (c) Drone Technology.

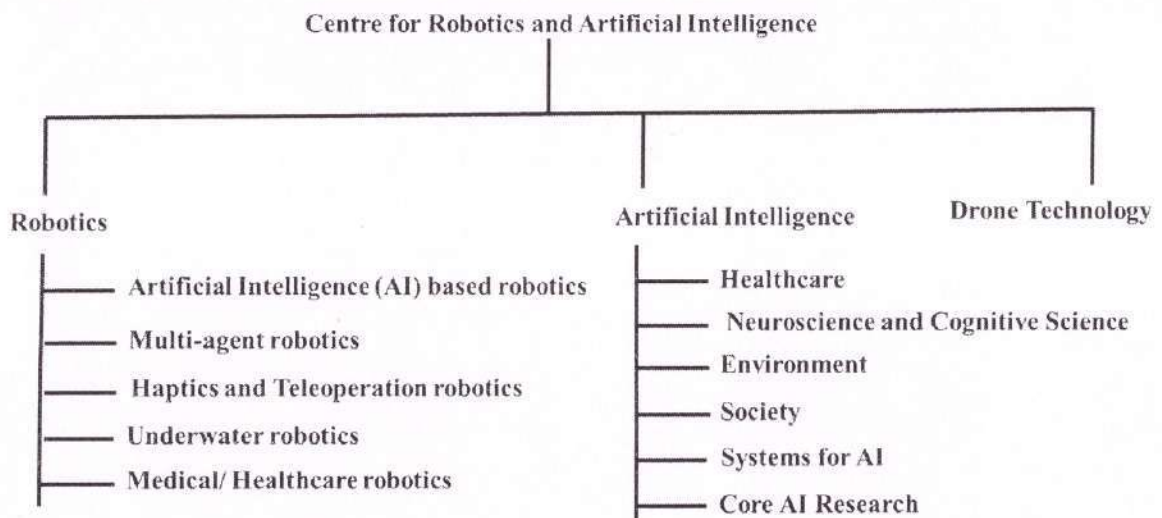


Fig. 1: The conceptualization of the center is grounded in robotics, artificial intelligence, and drone technology.

Uniqueness

Some of the unique aspects where the proposed center would focus on are:

- Significantly enable the development of robotics, AI, and drone technology-based solutions for societal benefits, and collaborate with partners (e.g. Industry, defense, hospitals, education, environment, etc.) to translate the research coming out of the center.
- Introduce new undergraduate and postgraduate specializations in robotics, AI, and drone technology, and create dedicated facilities and labs for such program
- Develop AI and robotics-based frameworks for contributing to some fundamental research areas such as neuroscience, cognitive science, biological sciences, and environmental science which are considered important in the coming decades.
- Making robotics, AI, and drone technology platforms scalable, efficient, and easily upgradable, and compatible across system architectures and OS and library upgrades
- Robotics, AI, and drone technology deployment for low-resource environments (e.g. mobile phones and other edge devices), and enabling mixed cloud-edge applications.

Research and Labs

The Centre would establish research labs like: AI-based robotics lab, multi-Agent robotics lab, Haptics and Teleoperation lab, Underwater robotics lab, Medical/Healthcare robotics lab, Indoor Drone testing facility, Outdoor/Field robotics lab, AI lab, Tinkering lab, and teaching labs. The Centre would

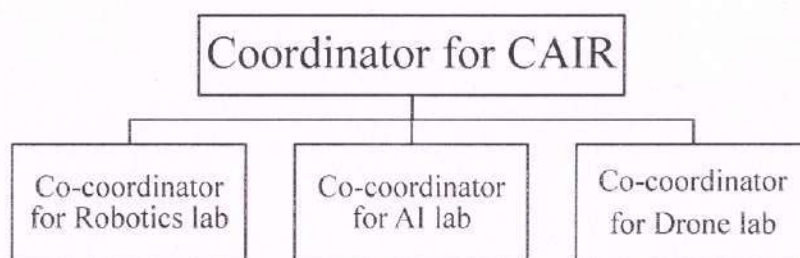
also cater to several degree programs at the undergraduate and postgraduate levels. These programs include B. Tech. (Minor) in Robotics and the Master's degree program in Robotics with (a) Minor in Intelligent Systems and b))Minor in Unmanned Aerial System. The Centre will also include a Ph.D. program in Robotics and AI areas with Postdocs pursuing advanced research. The teaching programs would be supported via a number of teaching labs.

Mandates & Deliverables

The CRAI will have certain mandates and plans to have several deliverables/outcomes that are going to be beneficial to society. Some of the outcomes are detailed below:

- Center will offer M.Tech and PhD degree programs
- Center will also support minor specialization for B.Tech programs
- Center can hire faculties, staff, and postdoctoral candidates to conduct research, technology demonstration and teaching programs like Robotics, AI and Data sciences
- Center will conduct skill development activities to produce next-generation CAIR researchers, which include undergraduate students, postgraduate students, doctoral, postdoctoral, and faculty.
- Center will organize national-international conferences, competitions, seminars, workshops, and others such activities to promote knowledge and research culture.
- Center will collaborate with academic institutes, research centers and industry to promote innovations and product development.
- Building state-of-the-art facility for research in areas of Robotics, AI, and Drone Technology in India, which can be leased by other researchers and labs in India and abroad for research.
- Center will provide a bouquet of technological developments and know-how for improving healthcare, industrial automation, and other facets of society. This Centre could be utilized by both national and international visitors, who would like to experience, learn, and work on several research areas of CAIR in the pristine Himalayan environment.

Structure of the Center



Collaborations

Some of the Academic institutes and Industries in India and abroad with whom CAIR will collaborate include:

Industry:

Samsung
Gail India
Reliance
ABB
DEWA

Academia:

IISC
IIT Kanpur
IIT Delhi
IIT Palakkad
IIT Ropar

ADNOC
HCL Technologies
TCS Research

IIT Jodhpur
IIT KGP
IIIT Hyderabad
Stanford
CMU
ETH Zurich
KU
Queen Mary University, London
Royal Institute of Technology K
Stockholm
University of Pittsburgh
PGIMER Chandigarh
AIIMS Bilaspur
AIIMS Delhi

M.Tech. and Ph.D. Programs

The M.Tech. and Ph.D. programs in Robotics will equip students with the skills necessary to analyze, design, and control complex technical systems such as robots and other systems with significant autonomous capabilities. These systems are important today and will become even more important as new technology makes its way into our workplaces, homes, and shared public spaces.

The program will start with a few core courses that provide a solid foundation in the area of systems, control, and robotics, as well as scientific methodology in general. In addition to core courses, there are a large number of elective courses within the broad areas of AI, machine learning, and control. In order to be prepared for a diversity of future careers, students will also take a project course and a non-technical course of choice, and participate in a seminar series in which an opportunity is provided to reflect on the societal context of systems, control, and robotics, such as sustainability and ethics.

Some of the highlights of these programs are:

Firm Theoretical Foundation: Students develop a strong theoretical base through coursework in foundational topics including Linear Algebra, Probability, Control, Optimization, AI and ML, Signal Processing, Perception, Planning and Decision, Kinematics and Dynamics.

Extensive Hands-on Training: Students gain a variety of experimental skills via experimental lab modules on several topics including Programming of Mobile, Legged and Aerial Robots, Simulation Frameworks like Gazebo, VR/AR and Speech Interfaces for Robots, ROS Software Stacks, Robot Hardware for Sensor and Actuator Systems, 3D Design and Prototyping for Robots, and Game Engine Programming.

Industry Exposure: Students will participate in industry-academia collaborative research projects.

Exciting Careers: The program is tailored to meet the ever-growing demand for quality robotics engineers by companies and start-ups focused on developing drones, autonomous cars, robotic arms, and mobile robot systems.

List of tentative Courses

Core Courses

- Robot Kinematics, Dynamics, and Control
- Mechatronics
- Robot Programming, Modeling, and Simulation
- Perception, Navigation, and Planning

Elective Courses

- Cognitive Robotics
- Probabilistic Robotics
- Marine Robotics
- Deep Learning for Robotics
- Underactuated Robotics
- Autonomous Mobile Robots
- Rapid Prototyping and Tooling