### सीनेट की आपातिक बैठक पिचानबेवीं का कार्यवृत्त MINUTES OF THE EMERGENT MEETING 95<sup>TH</sup> OF THE SENATE

31 मार्च 2023 31<sup>st</sup> MARACH 2023



भारतीय प्रौद्योगिकी संस्थान रूड़की रूड़की — 247 667 (भारत) INDIAN INSTITUTE OF TECHNOLOGY ROORKEE ROORKEE – 247 667 (INDIA)

# भारतीय प्रौद्योगिकी संस्थान रूड़की INDIAN INSTITUTE OF TECHNOLOGY ROORKEE रूड़की 247 667 ROORKEE – 247 667



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	To deliberate & invite the opinion and suggestions of the Senate on the below listed items:	
	<ol> <li>Vision of IITs for the next 25 years.</li> <li>Outreach activities of IITs for inclusive growth of other technical Institutions and sharing the benefit of research to society.</li> <li>Reservation policy – existing policy and the challenges</li> </ol>	
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## INDIAN INSTITUTE OF TECHNOLOGY ROORKEE MEETING SECTION



Minutes of the Emergent Meeting (95<sup>th</sup> Meeting) of the Senate held on 31.03.2023 at 4.00 P.M. in the Gargi Block, Room no.002.

The list of participants who attended the meeting and those could not attend are appended at **Annexure-I & Annexure-II** respectively.

At the outset, the Chairman welcomed the members to the 95<sup>th</sup> meeting of the Senate.

The Agenda was then taken up:

Item No. 95.1: To consider award of 19 PhD Degrees, received after the 94<sup>th</sup> Senate for the students who have completed the requirements for award of degrees w.e.f. 22.02.2023.

The Senate considered and recommended to the Board of Governors to include 19 PhD Degrees to the students who have duly qualified for the award in 22<sup>nd</sup> Convocation as given in **Appendix-A**.

Item No 95.2: To consider a proposal to rename the recently created "Centre for Flexible and Smart Energy Device" (CFSE) to "Centre for Sustainable Energy" (CSE)."

The Senate deliberated in detail and accepted the proposal to recommend and rename the "Centre for Flexible and Smart Energy Device" (CFSE) to "Centre for Sustainable Energy" (CSE) to the Board of Governors for approval.



Item No 95.3: To deliberate & invite the opinion and suggestions of the Senate on the below listed items:

1. Vision of IITs for the next 25 years.

The Senate deliberated on the theme and evolved that there should be a connect between Education, Research, Industry and Society. The Senate observed that keeping this as the central theme, a comprehensive vision document should be prepared. The document can also be used in preparation of a proposal for Institute of Eminence. An Equitable Society with Gender Diversity should invariably be focused in the vision of the Institute.

2. Outreach activities of IITs for inclusive growth of other technical Institutions and sharing the benefit of research to society.

The Senate suggested that the curriculum should be designed in such a way that the students spend a semester or two in industry and/or rural area to get exposed to the real world problems and to enable them to find out feasible solutions to the identified problems. This approach will align the curriculum with the spirit of the NEP-2020, as well as will build an empathy in the young minds once they enter in their profession. It will empower the students to work with a clear vision for the industry in particular, and for the society at large.

3. Reservation policy – existing policy and the challenges in implementing the CEI Reservation in faculty recruitment, specifically in securing the due representations in IITs and measures to overcome these challenge.

The Senate recommended that the departments should consider inclusivity more diligently while screening the applications for faculty positions. Further, it was suggested that a Committee be constituted to suggest the way to increase the percentage of faculty members in the departments across the categories.



#### ANY OTHER ITEM

Item No 95.4: To consider the medals, awards and cash prizes for Convocation-2022.

Chairman, SCSP presented the recommendations on the Awards, Medals and Cash Prizes for the Convocation 2022. The Senate approved the awards, medals and prizes listed in **Appendix-B**.

The meeting ended with a vote of thanks to the Chair.

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#### Annexure -I

#### Following were present

1.	Prof. K.K. Pant	Director & Chairman
2.	Prof. U.P. Singh	Dy. Director
3.	Prof. (Mrs.) Milli Pant	Applied Math. and Scientific Computing
4.	Prof. V. Devdas	Architecture & Planning
5.	Prof. Mahua Mukherjee	Architecture & Planning
6.	Prof. Sanjay Ghosh	Biosciences & Bioengineering
7.	Prof. Pravindra Kumar	Biosciences & Bioengineering
8.	Prof. Naveen Kumar Nawani	Biosciences & Bioengineering
9.	Prof. Gopinath Packirisamy	Biosciences & Bioengineering
10.	Prof. Ranjana Pathania	Biosciences & Bioengineering
11.	Prof. Ashwani Kumar Sharma	Biosciences & Bioengineering
12.	Prof. Shailly Tomar	Biosciences & Bioengineering
13.	Prof. Prakash Biswas	Chemical Engineering
14.	Prof. Amit Kumar Dhiman	Chemical Engineering
15.	Prof. Prasenjit Mondal	Chemical Engineering
16.	Prof. Vimal Chandra Srivastava	Chemical Engineering
17.	Prof. Naseem Ahmad	Chemistry
18.	Prof. R.K. Dutta	Chemistry
19.	Prof. Kaushik Ghosh	Chemistry
20.	Prof. M.R. Maurya	Chemistry
21.	Prof. Paritosh Mohanty	Chemistry
22.	Prof. Jeevanandam P.	Chemistry
23.	Prof. Anuj Sharma	Chemistry
24.	Prof. Rahul Dev Garg	Civil Engineering
25.	Prof. P.K. Garg	Civil Engineering
26.	Prof. Kamal Jain	Civil Engineering
27.	Prof. Praveen Kumar	Civil Engineering
28.	Prof. G.D. Ransinchung R.N.	Civil Engineering
29.	Prof. Rajat Rastogi	Civil Engineering
30.	Prof. N.K. Samadhiya	Civil Engineering
31.	Prof. Vishwas Sawant	Civil Engineering
32.	Prof. Mahendra Singh	Civil Engineering
33.	Prof. Sugata Gangopadhyay	Computer Science & Engineering
34.	Prof. Rajdeep Niyogi	Computer Science & Engineering
35.	Prof. Pankaj Agrawal	Earthquake Engineering
36.	Prof. Bal Krishna Maheshwari	Earthquake Engineering
37.	Prof. Manish Shrikhande	Earthquake Engineering
38.	Prof. G.J. Chakrapani	Earth Sciences
39.	Prof. Anand Joshi	Earth Sciences
40.	Prof. Sandeep Singh	Earth Sciences
41.	Prof. B.R. Bhalja	Electrical Engineering
42.	Prof. Mukesh Kumar Pathak	Electrical Engineering

43.	Prof. P. Sumathi	Electrical Engineering
44.	Prof. Anand Bulusu	Electronics & Communication Engg.
45.	Prof. Sanjeev Manhas	Electronics & Communication Engg.
46.	Prof. N.P. Pathak	Electronics & Communication Engg.
47.	Prof. Rashmi Gaur	Humanities & Social Sciences
48.	Prof. Nagendra Kumar	Humanities & Social Sciences
49.	Prof. Sukh Pal Singh	Humanities & Social Sciences
50.	Prof. D.S. Arya	Hydrology
51.	Prof. N.K. Goel	Hydrology
52.	Prof. M.K. Jain	Hydrology
53.	Prof. Brijesh Kumar Yadav	Hydrology
54.	Prof. Arun Kumar	Hydro & Renewable Energy
55.	Prof. Sunil Kumar Singhal	Hydro & Renewable Energy
56.	Prof. Ramesh Chandra	Institute Instrumentation Centre
57.	Prof. M.K. Barua	Management Studies
58.	Prof. Vinay Sharma	Management Studies
59.	Prof. Sandip Banerjee	Mathematics
60.	Prof. Premananda Bera	Mathematics
61.	Prof. Kusum Deep	Mathematics
62.	Prof. Tanuja Srivastava	Mathematics
63.	Prof. A. Swaminathan	Mathematics
64.	Prof. S.P. Yadav	Mathematics
65.	Prof. Akshay Dvivedi	Mechanical & Industrial Engg.
66.	Prof. P.K. Jha	Mechanical & Industrial Engg.
67.	Prof. Manish Mishra	Mechanical & Industrial Engg.
68.	Prof. V.H.Saran	Mechanical & Industrial Engg.
69.	Prof. Apurbba Kumar Sharma	Mechanical & Industrial Engg.
70.	Prof. Andallib Tariq	Mechanical & Industrial Engg.
71.	Prof. S.H. Upadhyay	Mechanical & Industrial Engg.
72.	Prof. Gajanan Prabhakar Chaudhuri	Metallurgical & Materials Engg.
73.	Prof. B.S.S. Daniel	Metallurgical & Materials Engg.
74.	Prof. B.V.M. Kumar	Metallurgical & Materials Engg.
75.	Prof. Ujjwal Prakash	Metallurgical & Materials Engg.
76.	Prof. Anjan Sil	Metallurgical & Materials Engg.
77.	Prof. Dharm Dutt	Paper Technology, Saharanpur Campus
78.	Prof. Ajay	Physics
79.	Prof. P. Arumugam	Physics
80.	Prof. Rajdeep Chatterjee	Physics
81.	Prof. Aalok Misra	Physics
82.	Prof. Vipul Rastogi	Physics
83.	Prof. Ajay Wasan	Physics
84.	Prof. Kanhaiya Lal Yadav	Physics
85.	Prof. Sujay Chattopadhyay	Polymer Science & Engineering
86.	Prof. M.L. Kansal	WRD&M
87.	Prof. Deepak Khare	WRD&M
88.	Prof. S.K. Mishra	WRD&M



89. Prof. Ashish Pandey WRD&M

- 90. Prof. Sanjeev Kumar, Head, Institute Computer Centre
- 91. Prof. Gaurav Manik, Head, Deptt. of Polymer & Process Engineering
- 92. Prof. Uttam Kumar Roy, Head of the Centre of Transportation Systems.
- 93. Prof. Sumit Sen, Head, Head, CEDMM
- 94. Prof. Prof. Soumitra Satapathi, Head, Centre for Flexible and Smart Energy Device (CFSE).
- 95. Prof. Mukesh Kumar Singhal, Head, Department of Hydro & Renewable Energy
- 96. Prof. Aklokita Agarwal, Associate DOSW (Student Wellness)
- 97. Prof. C.N. Ramchandran, ADOAA (Curriculum)
- 98. Prof. Ramudu, Associate Dean for Corporate Interaction.
- 99. Dr. C. Jayakumar, Librarian
- 100. Chairman, SCSP
- 101. Mr. Prashant Garg, Registrar & Secretary, Senate

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#### Annexure -II

#### The following members conveyed their inability to join the meeting.

- 1. Prof. P.S. Chani, Department of Architecture & Planning
- 2. Prof. Gaurav Raheja, Department of Architecture & Planning
- 3. Prof. Partha Roy, Department of Biosciences and Bioengineering
- 4. Prof. R. K. Peddinti, Department of Chemistry
- 5. Prof. K.R. Justin Thomas, Department of Chemistry
- 6. Prof. Muniappan Sankar, Department of Chemistry
- 7. Prof. Pradeep Bhargava, Department of Civil Engineering
- 8. Prof. S.K. Ghosh, Department of Civil Engineering
- 9. Prof. Priti Maheshwari, Department of Civil Engineering
- 10. Prof. Yogendra Singh, Department of Earthquake Engineering
- 11. Prof. R Krishnamurthi, Department of Earth Sciences
- 12. Prof. G N Pillai, Department of Electrical Engineering
- 13. Prof. Sudeb Dasgupta, Department of Electronics and Communication Engineering
- 14. Prof. Amalendu Patnaik, Department of Electronics and Communication Engineering
- 15. Prof. Dharmendra Singh, Department of Electronics and Communication Engineering
- 16. Prof. Binod Mishra, Dept. of Humanities & Social Sciences
- 17. Prof. Sanjit Kumar Mishra, Deptt of Humanities & Social Sciences
- 18. Prof. Himanshu Joshi, Department of Hydrology
- 19. Prof. Maheshanand, Department of Mathematics
- 20. Prof. Rajat Agarwal, Department of Management Studies
- 21. Prof. S. Rangnekar, Department of Management Studies
- 22. Prof. Sushanta Dutta, Department of Mechanical and Industrial Engg.
- 23. Prof. Dheerendra Kumar Dwivedi, Department of Mechanical & Industrial Engg.
- 24. Prof. Kaushik Pal, Department of Mechanical and Industrial Engineering,
- 25. Prof. Subhash C Sharma, Paper Technology, Saharanpur Campus
- 26. Prof. Chhava Sharma, Department of Paper Technology
- 27. Prof. M.V. Sunil Krishna, Assoc. DOSW (Students' Activities)
- 28. Prof. E. Rajasekar, Associate Dean, Infra. (Civil)

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#### Senate approved PDC List

SI.No.	Name	Deptt.	Topic	Supervisor	Examiner (For./Ind.)	PDC Date
1	Mr. Natthan Singh	AMSC	ENHANCING THE PERFORMANCE OF MULTI-CRITERIA DECISION-MAKING TECHNIQUES THROUGH HYBRIDIZATION LECTRON AND POSITRON SCATTERING FROM ATOMIC AND MOLECULAR SYSTEMS	Prof. Millie Pant	Prof. Xiao-Zhi Gao, University of Eastern Finland, Finland Prof. Pradip Kumar Bala, IIM Ranchi	20.03.23
2	Mr. Mukesh Kumar Meher	B&B	HEPARIN BASED NANOCOMPOSITES FOR BIOMEDICAL APPLICATIONS	Prof. K. M. Poluri	Prof. HarishkumarMadhyastha, Univ. of Miyazaki, Japan Prof. Umesh R. Desai, Virginia Commonwealth Univ., US	16.03.23
3	Ms. Pooja Agarwal	CE	FLOW AND AMMONIUM TRANSPORT THROUGH VARIABLY SATURATED POROUS MEDIA	Prof. P. K. Sharma	Prof. Sekhar Muddu, IISc. Bangalore Prof. Ashok Sharma, Victoria Univ., Australia	09.03.23
4	Mr. Gaurav Bhardwaj	CSE	BIPED ROBOT TRAJECTORY PLANNING, SIMULATION AND CONTROL FOR NON-FLAT TERRAINS	Prof. R. Balasubramanian	Prof. Dhirendra Bahuguna, IIT Kanpur Prof. V. Vetrivel, IIT Madras	23.02.23
5	Mr. Rishabh Kishore	ECE	SPUTTERED INDIUM-GALLIUM-ZINC-OXIDE (IGZO) FILM FOR ELECTRONIC AND PHOTONIC DEVICES: MATERIAL ASSESSMENT, DEVICE FABRICATION AND CHARACTERIZATION	Prof. Arnab Datta	Prof. M. M. De Souza, Univ. of Sheffield, UK Prof. V. Ramgopal Rao, IIT Delhi	24.02.23
6	Mr. Jadhav Aakash Vilas Vaishali	ECE	INVESTIGATION OF GAN HIGH ELECTRON MOBILITY TRANSISTOR FOR HIGH FREQUENCY APPLICATION	Prof. Biplab Sarkar	Prof. Y. S. Chauhan, IIT Kanpur Prof. V. Ramgopal Rao, IIT Delhi	06.03.23
7	Mr. MohdFiroj	EQ	3D NONLINEAR SEISMIC RAFT-PILE- SOIL-STRUCTURE INTERACTION FOR NUCLEAR POWER PLANTS	Prof. B. K. Maheshwari	Prof. Madhavi LathaGali, IISc Bangalore Prof. S. P. Gopal Madabhushi, University of Cambridge, UK	16.03.23
8	Mr. Taye Tesfaye Fisiha	HSS	CLIMATE CHANGE ADAPTATION PRACTICES IN AGRICULTURE, THE STATUS OF FOOD SECURITY AND CHILD NUTRITION: A STUDY OF SMALLHOLDER FARMERS IN RURAL ETHIOPIA	Prof. Diptimayee Nayak	Prof. Surendra Kumar, Univ. of Delhi, Delhi Prof. John G. Mcpeak, Syracuse University, US	06.03.23
9	Mr. Ravikant	IIC	SYNTHESIS AND CHARACTERIZATION OF NANOSTRUCTURED METAL NITRIDE ELECTRODES FOR ENERGY STORAGE APPLICATIONS		Prof. Bharat B. Kale, CMET Pune Prof. Rabah Boukherroub, Institute of Electronics Microelectronics & Nanotechnology, France	20.03.23
10	Ms. Shobha Rani	MA	PERFORMANCE MODELING AND	Prof. Madhu Jain	Prof. N. Hemachandra, IIT Bombay	20.03.23

Appendix 'A'
Item No. Senate / 95.1

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				ANALYSIS OF STATE DEPENDENT MARKOVIAN QUEUES		Prof. Dinesh K. Sharma, University of Maryland Eastern Shore, USA	
,	11	Mr. Ramver	MIE	INVESTIGATIONS ON TANDEM MICRO-EDM AND MICROECM PROCESSES	Prof. AkshayDvivedi Prof. Pradeep Kumar	Prof. Saurav Goel, London South Bank Univ.,UK Prof. Ramkumar J., IIT Kanpur	23.02.23
	12	Mr. Ramandeep Singh	MIE	EXPERIMENTAL INVESTIGATIONS AND MODELLING FOR SUSTAINABLE MACHINING OF DIFFICULT-TO-CUT MATERIALS USING ULTRASONICALLY ATOMIZED NANOCUTTING FLUIDS	Prof. Varun Sharma	Prof. Harpreet Singh, IIT Ropar Prof. Vadim Silberschmidt, Univer. Loughborough, UK	06.03.23
	13	Ms. Meenakshi	NT	SYNTHESIS AND CHARACTERIZATION OF METAL OXIDE THIN FILMS FOR SUPERCAPACITOR APPLICATION	Prof. Ramesh Chandra	Prof. Mahesh Kumar, IIT Jodhpur Prof. Rajesbdra S. Dhaka, IIT Delhi	06.03.23
	14	Mr. Sandeep Saini	PH	INVESTIGATION OF FERRITES AS ENERGY MATERIAL FOR HYDROELECTRIC CELL DEVICE FABRICATION	Prof. K. L. Yadav Dr. R. K. Kotnala	Prof. Santosh K. Kurinec, Rochester Institute of Tech., US Prof. Salvador Pane Vidal, Swiss Federal Institute of Tech. (ETH) Zurich, Switzerland	06.03.23
	15	Mr. Brahma Prakash Dubey	PH	NANOSTRUCTURED LITHIUM CERAMIC AND POLYMER COMPOSITE ELECTROLYTES FOR ALL SOLID-STATE LITHIUM BATTERIES	Prof. Yogesh K. Sharma Prof. V. Thangadurai	Prof. K. Ramesha, CSIR-CECRI-Madras Complex, Chennai Prof. Amartya Mukhopadhyay, IIT Bombay	21.03.23
	16	Mr. Bhavesh Jain	TRS	DEVELOPMENT OF ROAD ASSET MANAGEMENT SYSTEM (RAMS) FOR SMART CITIES OF INDIA	Prof. M. Parida Prof. M. Ramesh Dr. Devesh Tiwari	Prof. Arun Kumar, RMIT University, Australia Prof. Rajan Choudhary, IIT Guwahati	06.03.23
	17	Mr. Priyabrata Mandal	PPE	ION TRANSPORT BEHAVIOUR THROUGH ELECTRO-MEMBRANES LEADING TO INDUSTRIAL PROCESS OPTIMIZATION	Prof. Sujay Chattopadhyay	Prof. Jayant M. Modak, IISc Bengaluru Prof. Matthias Wessling, RWTH Aachen Univer., Germany	16.03.23
	18	MODELING, OPTIMIZATION, AND CONTROL OF PARABOLIC TROUGH SOLAR COLLECTOR FOR INDUSTRIAL PROCESS HEATING APPLICATIONS		Prof. Gaurav Manik	Prof. Manojkumar C. Ramteke, IIT Delhi Prof. Srinivas Palanki, West Virginia Univer., USA	17.03.23	
	19	Mr. Sabyasachi Swain	WRDM	A CRITICAL INVESTIGATION OF DROUGHT CHARACTERIZATION UNDER CLIMATIC AND ANTHROPOGENIC ALTERATIONS	Prof. S. K. Mishra Prof. Ashish Pandey	Prof. Eldho T. I., IIT Bombay Prof. Ronny Berndtsson, Lund University, Sweden	22.03.23



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# Appendix 'B' Item No. Senate / 95.

#### Medals, Awards and Cash Prizes for 22<sup>nd</sup> Convocation

#### 1. Excellence in Doctoral Research Award:

Under this award, a maximum five awards are to be given every year, each of Rs. 50,000/-. A committee, comprising Prof. Himanshu Joshi (Chairperson), Prof. Naveen Kumar (Member), Prof. Vimal C. Srivastava (Member), Prof. Peddoju Sateesh Kumar (Member), Prof. Biswarup Das (Member), Prof. Amalendu Patnaik (Member), Prof. M.K. Singhal (Member), Prof. S.H. Upadhyay (Member), Prof. Vivek Pancholi (Member), Prof. Sanjay Palsule (Member), Prof. Deepak Khare (Member), Prof. Sunil Bajpai (Member), Prof. Shiv K Gupta (Member), Prof. Vivek K. Malik (Member), Prof. S.N. Rangnekar (Member), Prof. Prof. Prof. Binod Mishra (Member), Prof. Indrajit Ghosh (Convener) & Prof. Puneet Gupta (Convener), shortlisted the applications received; interviewed the shortlisted students; and made the following recommendations:

S.	Details of Awardees		Details of Awardees Title of Thesis		Department	Stream	Category
No.	Enroll. No.	Name of Student	Title of Thesis	Supervisor(s)			
1	17903002	ASHISH KALKAL	Nano-enabled Biosensors for Efficient	Prof. P. Gopinath	Biosciences and	Engineering	Applied
			Detection of Cancer Biomarkers		Bioengineering		Research
2	16924013	PRIYABRATA MANDAL	Ion Transport Behaviour through	Prof. Sujay	Polymer and	Engineering	Fundamental
			Electro-Membranes Leading to Industrial	Chattopadhyaya	Process		Research
	1		Process Optimization		Engineering		
3	18926008	SABYASACHI SWAIN	A Critical Investigation of Drought	Prof. S.K. Mishra,	Water Resources	Engineering	Applied
	1032000		Characterization under Climatic and	Prof. Ashish Pandey	Development		Research
	*		Anthropogenic Alterations		and Management		
4	16912008	PIR MOHAMMAD	Urban Heat Island Study and Modelling	Prof. Ajanta	Earth Sciences	Science	Fundamental
			Optimal Urbanization Pattern in	Goswami			Research
			Selected Indian Cities				
5	17925026	NAVEEN KUMAR TAILOR	Lead-Free Perovskite Single Crystal for	Prof. Soumitra	Physics	Science	Applied
	17525525		Optoelectronic Applications	Satapathi		1	Research

#### Note:

1. The student at S. No. 5 will receive Excellence in Doctoral Research Award as Dr. Sushil Sharma Excellence in Doctoral Research Award.



#### 2. A.K. Goel Green Energy Prize and Gold Medal

This award carries a gold medal and cash prize of Rs. 1,00,000/- for significant contribution towards green/renewable energy sector amongst the graduating students of UG/PG (including Ph.D.) programmes. A committee, comprising Prof. S.K. Singal (Chairperson), Prof. Manish Mishra (Member), Prof. Ashish Pandey (Member), Prof. Anand Bulusu (Member), Prof. Avlokita Agrawal (Member), Prof. A. Ramesh (Member) and Prof. Indrajit Ghosh (Convener) shortlisted the applications received; interviewed the shortlisted students; and made the following recommendation:

S.	Details of Student			Title of Thesis	
No.	Enroll. No.	Name of Student		Department	
1	16924007	PRAGYA GUPTA	Ph.D.		Preparation and Properties of Nanofibrillated Cellulose based Aerogel
				Engineering	with Particular Reference to Thermal Super Insulation Application

#### 3. Hari Krishna Mittal Leadership Award for Enhancing Entrepreneurship Culture at IIT Roorkee

This award carries a cash prize of Rs. 20,000/- for significant contribution towards enhancing the entrepreneurship culture at IIT Roorkee amongst the graduating students of UG/PG (including Ph.D.) programmes. A committee, comprising Prof. Rajat Agrawal (Chairperson), Mr. Azam Ali Khan (Member) and Prof. Punnet K Gupta (Convener) shortlisted the applications received; interviewed the shortlisted students; and made the following recommendation:

S			Details of Student
No.	Enroll. No.	Name of Student	Programme
1	18118029	GAGNEET KAUR	B.Tech. (Metallurgical and Materials Engineering)

