

सीनेट की तिरानबेवीं बैठक का कार्यवृत्त

MINUTES OF THE 93RD MEETING OF THE SENATE

28 दिसम्बर 2022
28th DECEMBER 2022



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

भारतीय प्रौद्योगिकी संस्थान रुड़की
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**INDIAN INSTITUTE OF TECHNOLOGY ROORKEE
MEETING SECTION**



**Minutes of the 93rd Meeting of the Senate held on 28.12.2022 at
04.00 P.M. in the Senate Hall.**

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

Meeting was organised in hybrid mode to enable, this time a large out-stationed senators who otherwise expressed their inability to attend the meeting.

At the outset, the Chairman welcomed the members to the 93rd meeting of the Senate.

The agenda was then taken up.

Item No. 93.1: To confirm the minutes of the 92nd meeting of the Senate held on 10.11.2022.

Since no comments were received, the Senate confirmed the minutes as circulated on 14.12.2022.

Item No. 93.2: To report on the actions taken to implement the decisions of the Senate taken in its 92nd meeting held on 10.11.2022.

The Senate noted the actions taken on the minutes.

Item No. 93.3: To consider the proposal to review the provision of assigning ' * ' sign on the grade sheet for courses appeared during second examination on medical ground.

The Senate considered the proposal and approved to remove ' * ' sign from the grade sheet for the courses in case of 'Second Examination' w.e.f. the Autumn semester, 2022-2023 onwards; previous cases be considered on request.

Item No. 93.4: To consider the proposal of the Department of Electronics and Communication Engineering to introduce a M.Tech. programme on "Terahertz Communication and Sensing" along with its course structure and admission eligibility criteria.

The Senate approved the M.Tech. programme on 'Terahertz Communication and Sensing' alongwith its course structure as given in **Appendix A**.

The Senate further approved the following w.r.t the programme:

Name of Programme	Minimum Educational Qualification	GATE Disciplines & Seats				Reser- vation
		Main Discip- line	Intake	Other Discip- line	Intake	
M.Tech. (Terahertz Commu- cation and Sensing)	B.E., B.Tech. in ECE, EE, Engineering Physics or equivalent; M.Sc. (Physics), M.Sc. (Electronics/Electronic Science).	EC	10	PH, EE	8	As per the GoI norms

Item No. 93.5: To consider the joining of preparatory students in UG programmes at IIT Roorkee beyond one year of seat allotment.

The Senate considered the cases and allowed only Mr. Abhinav Pandey (Enr. No.2021PRK0013) to join IIT Roorkee in the academic year 2023-24, provided he is declared as 'pass' after completion of the "Preparatory Course" by the Institute which conducted the "Preparatory Course". This shall be treated as a one-time exception as Mr. Abhinav Pandey (Enr. No.2021PRK0013) did not register in the second semester of the "Preparatory Course" on health grounds.


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Item No. 93.6: To consider the proposal to offer Two-degrees (M.Tech. and Ph.D.) to students who register for Ph.D. and meet certain additional criteria.

The Senate considered and approved the proposal as follows:

- (i) A student admitted in a Ph.D. program with a Master's Degree in an allied discipline, will be awarded M.Tech. degree along with the Ph.D. degree, provided the student earns the course credits (excluding the thesis) required for a M.Tech. program, offered by the parent department/centre/school, with CGPA 8.5 or more.
- (ii) A student admitted in a Ph.D. program with a Bachelor's degree will also be awarded M.Tech. degree along with the Ph.D. degree, provided the student meets the requirements as at point (i) above.
- (iii) *Candidates shall earn all credits for the course work (excluding thesis) of a M.Tech. Programme offered by the parent department/centre/school. The requirement of earning credits for pre-Ph.D. courses will be waived-off for such candidates.
- (iv) Fellowship will be allowed for five years from the date of initial registration in the Ph.D. program.
- (v) Other requirements for award of Ph.D. degree shall apply.
- (vi) On meeting the requirements, the students shall be eligible for two degrees (M.Tech. & Ph.D.) on defending their Ph. D. theses.
- (vii) The exit policy relevant to the Ph.D. program shall be applicable to the students who leave the program prior to completion.

Item No. 93.7: To consider the proposal of a Joint Master Program in Semiconductor Technology with Taiwan Universities.

The Senate considered and approved the proposal for a Joint Master's Program in principle.

Further, the senate suggested that the modalities of this program and course structure be routed through IAPC.

* As modified in 94th Senate.


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Item No. 93.8: To consider the following proposals of the Department of Management Studies regarding the Executive-MBA (E-MBA) programme:

- 1. No. of seats to be 30 with Supernumerary seats for foreign candidates.**
- 2. To conduct evaluation of the EMBA program in an Online Proctoring and continuous assessment/Assignments.**

The Senate considered and approved the following w.r.t. the Executive-MBA (E-MBA) programme:

1. The distribution of seats shall be as follows:

UR	EWS	OBC	SC	ST	PD	Total
30	7	20	11	6	4*	74
*Horizontal sliding						

2. Seats will be supernumerary for foreign candidates.
3. Admissions will be twice a year.
4. Evaluation: Evaluation is through continuous assessment and proctored online examinations.

Item No. 93.9: To consider the proposal of the Library Advisory Committee (LAC) regarding uploading of the Ph.D. Theses in the national SODHGANGA repository hosted by the INFLIBNET Centre, Gandhinagar.

The Senate considered and approved the following:

1. All theses be uploaded in the SODHGANGA repository, subject to the consent of the student and the supervisor(s) with a possible delay period not exceeding 12 (twelve) months w.e.f. the date of Defence.
2. The student and the Thesis Supervisor(s) shall submit a desired convenable period (0-12 months) in the Open Defence Committee Report (**Appendix – B**).
3. All Thesis older than 12 months from the date of the Open Defence be uploaded with immediate effect. The AAO shall provide the link of the submitted Theses to the MGCL for uploading.
4. The Senate suggested that the theses be uploaded either as an image file or in a password/download protected format, provided the repository allows for the same.


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Item No. 93.10: To consider the mercy appeals of ex-Ph.D. students regarding re-instatement of their academic registration.

The Senate considered the mercy appeals of the following ex-Ph.D. students regarding re-instatement of their academic registration and decided the following:

S. No.	Name, Enrollment No.	Request Accepted/ Not Accepted
1.	Mr. Aseem Tigga, (En.No.: 16907002), Centre for Transportation Systems	Accepted
2.	Ms. Pragyan Bharti Das, (En.No.: 18918005), Deptt. of Management Studies.	Not accepted
3.	Mr. Rajesh Sharma, (En.No.: 15912005), Deptt. of Earth Sciences.	Accepted
4.	Mr. Sunil Yadav, (En.No.: 14917006), Deptt. of Hydrology	Accepted

The Senate further suggested that the mercy appeals on name struck-off due to late fee payments should be disposed-off by the Dean, Academic Affairs.

Item No. 93.11: To consider the request of Ms. Aparna Dutta (En.No.: 14910005), Department of Civil Engg. for time extension for Ph.D. thesis submission.

The Senate considered and approved the recommendations of IRC.

Item No. 93.12: To consider the requests for early submission of Ph.D. Thesis of the following students:

1. Mr. Krishna Kumar (Enr.No.: 19901001), Ph. D. student, Department of Hydro and Renewable Energy.
2. Mr. Mohale Vijay Pandurang (Enr.No.: 20926009), Ph. D. student, Department of Water Resources Development and Management.

The Senate considered and approved as follows:

- (i) Accepted the request of Mr. Krishna Kumar, (Enr.No.19901001) for early submission of Ph.D thesis as recommended by SRC and IRC.
- (ii) Not accepted.

Item No. 93.13: To consider the request of Mr. Rahul Saini (En.No.: 19909017), ex-Ph.D. student, Dept. of Chemistry, to restore his resignation tendered in Ph.D. programme.

The Senate considered and approved the request to allow him to rejoin the Ph.D. program as a part time candidate.

Item No. 93.14: To consider award of 33 PhD Degrees, received after the 92nd Senate for the students who have completed the requirements for award of degrees w.e.f. 10.11.2022.

The Senate considered and recommended to the Board of Governors to include these 33 PhD Degrees for the award to the students who have duly qualified for the same
Appendix-C.

Item No. 93.15: To report the following:

- a) Approvals on Institution of new scholarships/awards /prizes accorded by the Chairman, Senate,
- b) Approval on the Academic Calendar for the E-MBA program for the Term-I and Term – II accorded by the Chairman, Senate, on behalf of the Senate.

The Senate noted the items.

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. Pravindra Kumar	Biosciences & Bioengineering
4.	Prof. Naveen Kumar Nawani	Biosciences & Bioengineering
5.	Prof. Gopinath Packirisamy	Biosciences & Bioengineering
6.	Prof. Ranjana Pathania	Biosciences & Bioengineering
7.	Prof. Ramasare Prasad	Biosciences & Bioengineering
8.	Prof. Partha Roy	Biosciences & Bioengineering
9.	Prof. Ashwani Kumar Sharma	Biosciences & Bioengineering
10.	Prof. Amit Kumar Dhiman	Chemical Engineering
11.	Prof. Prasenjit Mondal	Chemical Engineering
12.	Prof. B. Prasad	Chemical Engineering
13.	Prof. R.K. Dutta	Chemistry
14.	Prof. M.R. Maurya	Chemistry
15.	Prof. Paritosh Mohanty	Chemistry
16.	Prof. Jeevanandam P.	Chemistry
17.	Prof. R.K. Peddinti	Chemistry
18.	Prof. Muniappan Sankar	Chemistry
19.	Prof. Anuj Sharma	Chemistry
20.	Prof. Satish Chandra	Civil Engineering
21.	Prof. Rahul Dev Garg	Civil Engineering
22.	Prof. S.K. Ghosh	Civil Engineering
23.	Prof. Bhola Ram Gurjar	Civil Engineering
24.	Prof. Kamal Jain	Civil Engineering
25.	Prof. Praveen Kumar	Civil Engineering
26.	Prof. Priti Maheshwari	Civil Engineering
27.	Prof. Rajat Rastogi	Civil Engineering
28.	Prof. N.K. Samadhiya	Civil Engineering
29.	Prof. Vishwas Sawant	Civil Engineering
30.	Prof. Umesh Kumar Sharma	Civil Engineering
31.	Prof. Mahendra Singh	Civil Engineering
32.	Prof. Sugata Gangopadhyay	Computer Science & Engineering
33.	Prof. Rajdeep Niyogi	Computer Science & Engineering
34.	Prof. Pankaj Agrawal	Earthquake Engineering
35.	Prof. Jashodhir Das	Earthquake Engineering
36.	Prof. Bal Krishna Maheshwari	Earthquake Engineering
37.	Prof. Jay Prakash Narayan	Earthquake Engineering
38.	Prof. M.L. Sharma	Earthquake Engineering
39.	Prof. Manish Shrikhande	Earthquake Engineering
40.	Prof. Sunil Bajpai	Earth Sciences
41.	Prof. G.J. Chakrapani	Earth Sciences
42.	Prof. Mohd. Israil	Earth Sciences
43.	Prof. R. Krishnamurthi	Earth Sciences

44.	Prof. Sagarika Mukhopadhyay	Earth Sciences
45.	Prof. Pramod Agarwal	Electrical Engineering
46.	Prof. Mukesh Kumar Pathak	Electrical Engineering
47.	Prof. P. Sumathi	Electrical Engineering
48.	Prof. Barjeev Tyagi	Electrical Engineering
49.	Prof. Anand Bulusu	Electronics & Communication Engg.
50.	Prof. Sudeb Dasgupta	Electronics & Communication Engg.
51.	Prof. Debashish Ghosh	Electronics & Communication Engg.
52.	Prof. Brajesh Kumar Kaushik	Electronics & Communication Engg.
53.	Prof. Sanjeev Manhas	Electronics & Communication Engg.
54.	Prof. N.P. Pathak	Electronics & Communication Engg.
55.	Prof. Amalendu Patnaik	Electronics & Communication Engg.
56.	Prof. Dharmendra Singh	Electronics & Communication Engg.
57.	Prof. (Mrs.) Smita Jha	Humanities & Social Sciences
58.	Prof. Binod Mishra	Humanities & Social Sciences
59.	Prof. Sanjit Kumar Mishra	Humanities & Social Sciences
60.	Prof. Sukh Pal Singh	Humanities & Social Sciences
61.	Prof. N.K. Goel	Hydrology
62.	Prof. M.K. Jain	Hydrology
63.	Prof. Himanshu Joshi	Hydrology
64.	Prof. Arun Kumar	Hydro & Renewable Energy
65.	Prof. R.P. Saini	Hydro & Renewable Energy
66.	Prof. Sunil Kumar Singhal	Hydro & Renewable Energy
67.	Prof. Ramesh Chandra	Institute Instrumentation Centre
68.	Prof. Rajat Agarwal	Management Studies
69.	Prof. Anil Kumar Sharma	Management Studies
70.	Prof. Kusum Deep	Mathematics
71.	Prof. Maheshanand	Mathematics
72.	Prof. Tanuja Srivastava	Mathematics
73.	Prof. A. Swaminathan	Mathematics
74.	Prof. Navneet Arora	Mechanical & Industrial Engg.
75.	Prof. Akshay Dvivedi	Mechanical & Industrial Engg.
76.	Prof. S.P. Harsha	Mechanical & Industrial Engg.
77.	Prof. P.K. Jha	Mechanical & Industrial Engg.
78.	Prof. Ravi Kumar	Mechanical & Industrial Engg.
79.	Prof. Manish Mishra	Mechanical & Industrial Engg.
80.	Prof. V.H.Saran	Mechanical & Industrial Engg.
81.	Prof. Apurbba Kumar Sharma	Mechanical & Industrial Engg.
82.	Prof. Indra Vir Singh	Mechanical & Industrial Engg.
83.	Prof. Inderdeep Singh	Mechanical & Industrial Engg.
84.	Prof. K.M. Singh	Mechanical & Industrial Engg.
85.	Prof. Andallib Tariq	Mechanical & Industrial Engg.
86.	Prof. Gajanan Prabhakar Chaudhuri	Metallurgical & Materials Engg.
87.	Prof. B.V.M. Kumar	Metallurgical & Materials Engg.
88.	Prof. Vivek Pancholi	Metallurgical & Materials Engg.
89.	Prof. Ajay	Physics

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| 90. | Prof. P. Arumugam | Physics |
| 91. | Prof. Rajdeep Chatterjee | Physics |
| 92. | Prof. Aalok Misra | Physics |
| 93. | Prof. Tashi Nautiyal | Physics |
| 94. | Prof. Vipul Rastogi | Physics |
| 95. | Prof. Ghanshyam Das Verma | Physics |
| 96. | Prof. Davinder Kaur Walia | Physics |
| 97. | Prof. Ajay Wasan | Physics |
| 98. | Prof. Kanhaiya Lal Yadav | Physics |
| 99. | Prof. M.L. Kansal | WRD&M |
| 100. | Prof. Deepak Khare | WRD&M |
| 101. | Prof. S.K. Mishra | WRD&M |
| 102. | Prof. Gaurav Manik, Deptt. Of Polymer & Process Engineering | |
| 103. | Prof. Sumit Sen, Head, Centre of Excellence in Disaster Mitigation and Management | |
| 104. | Prof. Mukesh Kumar Singhal, Department of Hydro & Renewable Energy | |
| 105. | Prof. Anubrata Dey, Associate Dean, Infra. (Electrical & A/C) | |
| 106. | Prof. Anil K. Gourishetty, Assoc. DOSW (Students' Activities) | |
| 107. | Prof. E.Rajasekar, Associate Dean, Infrs. (Civil) | |
| 108. | Prof. C.N. Ramchandran, ADOAA (Curriculum) | |
| 109. | Prof. Ramudu Meka, Associate Dean for Corporate Interaction | |
| 110. | Dr. C. Jayakumar, Librarian | |
| 111. | Chairman, SCSP | |

Students' representatives:

112. Mr. Akshay Pandey, General Secretary Academic Affairs (PG)
113. Mr. Prashant Garg, Registrar & Secretary, Senate



02 JAN 2023

Annexure -II

The following members conveyed their inability to join the meeting.

1. Prof. V. Devadas, Department of Architecture & Planning
2. Prof. Mahua Mukherjee, Department of Architecture & Planning
3. Prof. Gaurav Raheja, Department of Architecture & Planning
4. Prof. Sanjoy Ghosh, Department of Biosciences & Bioengineering Deptt.
5. Prof. Naseem Ahmed, Department of Chemistry
6. Prof. Kaushik Ghosh, Department of Chemistry
7. Prof. K.R. Justin Thomas, Department of Chemistry
8. Prof. Z. Ahmad, Department of Civil Engineering
9. Prof. Pradeep Bhargava, Department of Civil Engineering
10. Prof P.K. Garg, Department of Civil Engineering
11. Prof. A.A. Kazmi, Department of Civil Engineering
12. Prof. G.D. Ransinchung R.N., Department of Civil Engineering
13. Prof. C.S.P. Ojha, Department of Civil Engineering
14. Prof. Akhil Upadhyay, Department of Civil Engineering
15. Prof. Manoj Misra, Department of Computer Science & Engineering
16. Prof. Durga Toshniwal, Department of Computer Science & Engineering
17. Prof. Yogendra Singh, Department of Earthquake Engineering
18. Prof. Anand Joshi, Department of Earth Sciences
19. Prof. Bhavesh kumar Bhalja, Department of Electrical Engineering
20. Prof. Rashmi Gaur, Department of Humanities and Social Sciences
21. Prof. Nagendra Kumar, Department of Humanities and Social Sciences
22. Prof. Anindya Jayanta Mishra, Department of Humanities and Social Sciences
23. Prof. Brijesh Kumar Yadav, Department of Hydrology
24. Prof. S. Rangnekar, Department of Management Studies
25. Prof. Vinay Sharma, Department of Management Studies
26. Prof. Sandip Banerjee, Department of Mathematics
27. Prof. Dheerendra Kumar Dwivedi, Department of Mech. & Ind. Engineering
28. Prof. B.K. Gandhi, Department Mech. & Industrial Engineering
29. Prof. Krishnan Murugesan, Department of Mech. & Industrial Engineering
30. Prof. Kaushik Pal, Department of Mech. and Industrial Engineering
31. Prof. P.M. Pathak, Department of Mech. & Industrial Engineering
32. Prof. S H Upadhyay, Department Mech. & Industrial Engineering
33. Prof. B.S.S. Daniel, Department of Metallurgical & Material Engineering
34. Prof. Anjan Sil, Department of Metallurgical and Materials Engineering
35. Prof. Dharam Dutt. Department of Paper Technology
36. Prof. S.C. Sharma, Department of Paper Technology
37. Prof. Binoy Krishna Patra, Department of Physics
38. Prof. Kanhaiya Lal Yadav, Department of Physics
39. Prof. Sujay Chattopadhyay, Department of Polymer Science & Engg.
40. Prof. Ashish Pandey, Department of Water Resources Dev. & Management
41. Prof. Sanjeev Kumar, Head, Institute Computer Centre

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Program Code: XXX M.Tech. (Terahertz Communication and Sensing)
Department: EC Department of Electronics and Communication Engineering
Year: I

Teaching Scheme																
S. No.		Subject Code	Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration		Relative Weight (%)					
						L	T	P	Theory	Practical	CWS	PRS	MTE	EFE	PRE	
Semester-I (Autumn)																
1.	ECN-501		Electromagnetic Field Theory and Scattering	PCC	4	3	1	-	3	-	20-35	-	20-30	40-50	-	
2.	ECN-503		Terahertz Electronics	PCC	4	3	1	-	3	-	20-35	-	20-30	40-50	-	
3.	ECN-509		Terahertz Design Lab. -I	PCC	2	-	-	3	-	-	-	100	-	-	-	
4.	ECN-511		Linear Algebra and Random Processes	PCC	4	3	1	-	3	-	20-35	-	20-30	40-50	-	
5.	ECN-519		Wireless Communication Systems	PCC	4	3	1	-	3	-	20-35	-	20-30	40-50	-	
			Total		18											
Semester-II (Spring)																
1.	ECN-502		Terahertz Design Lab. -II	PCC	2	-	-	3	-	-	-	100	-	-	-	
2.	ECN-700		Seminar	SEM	2	-	-	-	-	-	-	-	-	100	-	
3.			Program Elective-I	PEC	4	-	-	-	-	-	-	-	-	-	-	
4.			Program Elective-II	PEC	4	-	-	-	-	-	-	-	-	-	-	
5.			Program Elective-III	PEC	4	-	-	-	-	-	-	-	-	-	-	
6.			Program Elective-IV	PEC	4	-	-	-	-	-	-	-	-	-	-	
			Total		20											

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Program Code: XXX M.Tech. (Terahertz Communication and Sensing)
Department: EC Department of Electronics and Communication Engineering
Year: II

Teaching Scheme										Contact Hours/Week		Exam Duration		Relative Weight (%)				
S. No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	EFE	PRE				
Semester-I (Autumn)																		
1.	ECN-701A	Thesis Stage-I (to be continued next semester)	DIS	12	-	-	-	-	-	-	-	-	100	-				
		Total		12														
Note: Students can take 1 or 2 audit courses as advised by the supervisor, if required.																		
Semester-II (Spring)																		
1.	ECN-701B	Thesis Stage-II (continued from III semester)	DIS	18	-	-	-	-	-	-	-	-	100	-				
		Total		18														

Summary					
Semester	1	2	3	4	
Semester-wise Total Credits	18	20	12	18	
Total Credits	68				

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Program Elective Courses for M.Tech. (Terahertz Communication and Sensing)

Teaching Scheme					Contact Hours/Week		Exam Duration		Relative Weight (%)					
S. No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	EFE	PRE
1.	ECN-504	High Frequency Measurements and Instrumentation	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
2.	ECN-514	Detection and Estimation Theory	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
3.	ECN-554	Microwave and Millimeter-Wave Circuits	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
4.	ECN-602	Terahertz Communication Systems	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
5.	ECN-603	Millimeter-Wave and Terahertz Antenna Design	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
6.	ECN-604	High Speed Semiconductor Devices	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
7.	ECN-605	Surface Electromagnetics	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
8.	ECN-606	High-Frequency Dielectric Guides	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
9.	ECN-607	Terahertz Sensing and Imaging	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
10.	ECN-618	Wireless Technologies: 5G and Beyond	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
11.	ECN-620	Advanced Wireless Communication	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
12.	ECN-622	Nonionizing Radiations and Health Risks	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
13.	ECN-637	Microwave Photonic ICs	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-


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INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

REPORT OF THE VIVA-VOCE EXAMINATION FOR THE AWARD OF Ph.D. DEGREE

1. Name of the Ph.D. student:
2. Name of the Department / Centre:
3. Title of the Thesis:
.....
.....
4. Date of Submission of the Thesis: 5. Date of Thesis Defense:
6. Ph.D. student has submitted her/his responses to the questions raised by the examiners: **YES**
7. ODC report on Viva-Voce Examination:

The Presentation and Viva-Voce Examination of the Ph.D. student has been conducted. The examination board has put to him/her all the questions raised by the thesis examiners in their reports. Based on the responses given by the Ph.D. student the members of the examination board are:

- (A) Satisfied with the performance of the Ph.D. student and recommend that the Ph.D. student be awarded Ph.D. Degree.

OR

- (B) Of the opinion that the Ph.D. student be asked to undergo another Viva-Voce Examination for the reasons given below:

- (i) The Ph.D. student is not sufficiently acquainted with the area of this research.
- (ii) The Ph.D. student has not shown a capacity for critical examination.
- (iii) The Ph.D. student does not appreciate the implications of his/her work.

8. Convenable period after which the Full-Text of the thesis shall be published (0-12 months):

The members of the board certify that the modification/correction suggested by the examiners before the viva-voce examination and accepted by Ph.D. student have been incorporated in the thesis.

1.
(Name & Signatures)

2.
(Name & Signatures)
Supervisor(s)

3.
(Name & Signatures)

Chairperson, SRC

External Examiner

Chairperson, DRC/CRC
Dated :

Head of the Department / Centre

Note: Attach Supervisor(s) certificate before sending the report to Academic Affairs Office.

Senate approved PDC List

Appendix 'A'					Appendix 'A'	
Sl.No.	Name	Deptt.	Topic	Supervisor	Examiner (For./Ind.)	PDC Date
1	Mr. Shlok Jindal	B&B	DEVELOPMENT OF NANOFIBERS AND HYDROGEL FOR DELIVERY OF ANTICANCER AGENTS	Prof. P. P. Gopinath	Prof. Harishkumar Madhyaastha, University of Miyazaki, Japan Prof. Clare Hoskins, Univ. of Strathclyde, UK	23.11.22
2	Mr. Kartik Gehlot	B&B	BIOETHANOL PRODUCTION FROM LIGNOCELLULOSIC BIOMASS HYDROLYSATE BY CO-FERMENTATION	Prof. Sanjoy Ghosh	Prof. P. K. Mishra, IIT (BHU) Varanasi Prof. Debasish Das, IIT Guwahati	23.12.22
3	Mr. Ankit Sharma	CE	EVALUATION OF AGED BITUMINOUS PAVING MIXTURES REJUVENATED WITH DIFFERENT RECYCLING AGENTS	Prof. G. D. Ransinchung R.N. Prof. Praveen Kumar Dr. DSNV Amar Kumar	Prof. Rajan Choudhary, IIT Guwahati Prof. Dharamveer Singh, IIT Bombay Prof. Aravind Krishna Swamy, IIT Delhi	13.12.22
4	Ms. Shalini	CSE	DATA SANITIZATION APPROACHES FOR SENSITIVE ITEMSET HIDING	Prof. Durga Toshniwal	Prof. Jerry Chun-Wei Lin, Professor, Nottveitvegen Norway Prof. Pabitra Mitra, IIT Kharagpur	22.12.22
5	Ms. Abhilasha Chauhan	CY	VANADIUM, MOLYBDENUM AND TUNGSTEN COMPLEXES, THEIR REACTIVITY AND CATALYTIC APPLICATIONS	Prof. M. R. Maurya	Prof. A. K. Singh, IIT Delhi Prof. Rajendra Srivastava, IIT Ropar	30.11.22
6	Ms. Dimpal	CY	SYNTHESIS OF METAL FERRITE NANOPARTICLES AND STUDIES ON THEIR MAGNETIC PROPERTIES	Prof. P. P. Jeevanandam	Prof. Ryan M. Richards, Colorado School of Mines, USA Prof. Ashok Kumar Mishra, IIT Madras Prof. Debabrata Pradhan, IIT Kharagpur	01.12.22
7	Mr. Hari Shankar	CY	CONTROLLING THE PHOTOPHYSICAL PROPERTIES OF FLUORESCENT PEROVSKITE NANOCRYSTALS BY SHAPE, SIZE AND DIMENSIONALITY	Prof. Prasenjit Kar	Prof. Raju Kumar Gupta, IIT Kanpur Prof. Lorenzo Malavasi, University of Pavia & Instm, Italy	08.12.22
8	Mr. Inderpal Yadav	CY	SYNTHESIS, SPECTRAL AND ELECTROCHEMICAL REDOX PROPERTIES OF MESO?-FUNCTIONALIZED CORROLES FOR SENSING, NLO AND CATALYTIC APPLICATIONS	Prof. M. Sankar	Prof. Claude P. Gros, Universite de Bourgogne, France Prof. Dillip Kumar Chand, IIT Madras	23.12.22
9	Mr. Pravin Kumar	EE	ISLANDING DETECTION AND VOLTAGE-FREQUENCY CONTROL OF MICROGRID	Prof. Vishal Kumar Prof. Barjeev Tyagi	Prof. Suresh Chandra Srivastava, IIT Kanpur Prof. Wencong Su, Univ. of Michigan-Dearborn, USA	21.11.22
10	Mr. Harshit Mohan	EE	DIRECT POWER CONTROL OF INDUCTION MOTOR DRIVES	Prof. M. K. Pathak Dr. Sanjeet Dwivedi	Prof. Ranjit Mahanty, IIT (BHU) Varanasi Prof. G. Bhuvaneswari, IIT Delhi Prof. Praveen Kumar, IIT Guwahati	21.11.22
11	Mr. Jitendra Sharma	EE	PID CONTROLLER DESIGN FOR INTERVAL TYPE SYSTEMS USING STABILITY BOUNDARY LOCUS	Prof. Rajendra Prasad Prof. Yogesh Vijay Hote	Prof. Biao Huang, University of Alberta, Canada Prof. Matthew Joordens, Deakin University, Australia	23.11.22

12	Mr. Jaspreet Singh	ES	ASSESSMENT OF ROCK MASS CHARACTERISTICS AND SLOPE STABILITY USING 3D NUMERICAL MODELING AND DISCRETE FRACTURE NETWORK IN GARHWAL HIMALAYA, INDIA	Prof. S. P. Pradhan Prof. Mahendra Singh	Prof. Arindam Basu, IIT Kharagpur Prof. Kripamoy Sarkar, IIT (ISM) Dhanbad	02.12.22
13	Mr. Saurabh Sangal	HRE	STUDY OF HYDRO-ABRASIVE EROSION OF HYDRO TURBINE UNDER DIFFERENT OPERATING CONDITIONS	Prof. M. K. Singhal Prof. R. P. Saini Dr. G. S. Tomar	Prof. Ujjwal K. Saha, IIT Guwahati Prof. Eduard Doujak, Fluid-Flow-Machinery, Austria Prof. Arindam Banerjee, Lehigh University, USA	22.11.22
14	Mr. Rajesh Kumar	HRE	INTEGRATED SCHEDULING OF SOLAR AND WIND ENERGY WITH PUMPED STORAGE	Prof. Arun Kumar	Prof. Akhtar Kalam, College of Engineering & Science, Victoria University, Australia Prof. Praveen Kumar, IIT Guwahati	30.11.22
15	Ms. Deepshikha Paliwal	HSS	CONFIDENCE CALIBRATION IN PERCEPTUAL AND INTELLIGENCE TASKS: ROLE OF NEED FOR CLOSURE, GENDER, AND ACADEMIC DOMAIN	Prof. R. M. Singh	Prof. Kamlesh Singh, IIT Delhi Prof. Indramani Lal Singh, BHU Varanasi	11.11.22
16	Ms. Neha Rai	MA	CERTAIN RESULTS ON THE MAXIMAL DENSITY OF SETS WITH MISSING DIFFERENCES FROM A GIVEN SET	Prof. R. K. Pandey	Prof. Georges Grekos, Univ. Jean Monnet de Saint-Etienne, France Prof. Rupam Barman, IIT Guwahati	10.11.22
17	Mr. Sarvesh Saini	MIE	MODELING, DEVELOPMENT AND CONTROL OF A BILATERAL MASTER-SLAVE ROBOTIC SYSTEM AIMING NATURAL ORIFICE TRANSLUMINAL ENDOSCOPIC SURGERY	Prof. P. M. Pathak	Prof. Asokan Thondiyath, IIT Madras Prof. Shyamanta M. Hazarika, IIT Guwahati	16.11.22
18	Mr. Vineet Kumar	MIE	STRUCTURAL RESPONSE OF FGM PLATE WITH VARIABLE THICKNESS	Prof. S. P. Harsha Prof. V. H. Saran	Prof. Timon Rabczuk, Bauhaus Univ. Weimar, Germany Prof. Marco Di Sciuva, Politecnico di Torino Corso Duca degli Abruzzi, Italy	16.11.22
19	Mr. Subodh Khullar	MIE	NUMERICAL STUDY OF FORMATION AND MITIGATION OF VORTEX ROPE IN ELBOW DRAFT TUBE	Prof. K. M. Singh Prof. B. K. Gandhi Prof. Michel J. Cervantes	Prof. Eldad Avital, Queen Mary University of London, UK Prof. Chunming Ji, Tianjin University, China	05.12.22
20	Mr. Sandeep Kumar Singh	MIE	ATOMISTIC SIMULATIONS TO STUDY STATIC AND DYNAMIC BEHAVIOUR OF MULTI-ELEMENTAL ALLOYS	Prof. Avinash Parashar	Prof. Pavan Kumar Kankar, IIT Indore Prof. Rajnesh Tyagi IIT (BHU) Varanasi	13.12.22
21	Mr. Anurag Deepak	MIE	MODELLING AND ANALYSIS OF A REVERSE LOGISTICS DECISION SUPPORT SYSTEM FOR BIOMEDICAL WASTE MANAGEMENT	Prof. Dinesh Kumar Prof. Varun Sharma	Prof. Amol Singh, IIM Rohtak Prof. J. Paulo Davim, University of Aveiro, Portugal	14.12.22
22	Mr. Shubham Sharma	MIE	SEDIMENT EROSION OF HYDRODYNAMIC MACHINES	Prof. B. K. Gandhi	Prof. Ole Gunnar Dahlhaug, Norwegian Univ. of Sci. & Tech., Norway Prof. A. P. Harsha, IIT (BHU) Varanasi	19.12.22

23	Mr. Yashpal	MME	TRIBOLOGICAL BEHAVIOR OF SPARK PLASMA SINTERED ZRB2-SiC BASED COMPOSITES	Prof. B. V. Manoj Kumar	Prof. Young-Wook Kim, University of Seoul, South Korea Prof. Amartya Mukhopadhyay, IIT Bombay	23.11.22
24	Mr. Ashutosh Samadhiya	MS	SUSTAINABILITY THROUGH TPM AND DESIGN THINKING	Prof. Rajat Agrawal	Prof. Athanasios (Thanos) Papadopoulos, The University of Kent, UK Prof. Dinesh K. Sharma, University of Maryland Eastern Shore, USA	22.11.22
25	Mr. Shubham Sharma	MS	UNLEARNING AS A MECHANISM TO TRANSFORM HIGHER EDUCATIONAL INSTITUTIONS: A CASE OF CENTRALLY FUNDED TECHNICAL INSTITUTIONS IN INDIA	Prof. Usha Lenka	Prof. Susmita Mukhopadhyay, IIT Kharagpur Prof. Neharika Vohra, IIM Ahmedabad	09.12.22
26	Mr. Farhan Mustafa	MS	MARKET Pervasiveness Driven by Belief and Ethics Based Marketing Practices	Prof. Vinay Sharma	Prof. Raj Agnihotri, Iowa State University-Ivy College of Business, USA Prof. Dinesh Kumar Sharma, University of Maryland Eastern Shore, USA Prof. Devashish Das Gupta, IIM Lucknow	16.12.22
27	Mr. Himanshu Agarwal	MS	A STUDY OF IMPACT OF INFORMATION TECHNOLOGY USAGE ON COGNITIVE ASPECTS IN MOBILE COMMERCE CONTEXT	Prof. Gaurav Dixit	Prof. Veena Bansal, IIT Kanpur Prof. Hemlata Sharma, Sheffield Hallam Univ., UK	21.12.22
28	Mr. Jignesh Gangdasbhai Hirpara	NT	SYNTHESIS AND STUDY OF METAL OXYNITRIDES THIN FILMS FOR ANTICORROSIVE APPLICATIONS	Prof. Ramesh Chandra	Prof. Dawid Janas, Silesian Univ. of Technology, Poland Prof. Joondong Kim, Incheon National Univ., Korea Prof. Yogendra K. Mishra, Univ. of Southern, Denmark	23.12.22
29	Mr. Dibyendu Mahato	PH	ELECTRON AND POSITRON SCATTERING FROM ATOMIC AND MOLECULAR SYSTEMS	Prof. Lalita Sharma Prof. Rajesh Srivastava	Prof. Man Mohan, Univ. of Delhi, Delhi Prof. Murtadha A. Khakoo, California State University, USA	09.12.22
30	Mr. Ramesh Kumar	PH	IONTRONICS IN HALIDE PEROVSKITES FOR OPTOELECTRONICS AND OFF-GRID ENERGY APPLICATIONS	Prof. Monojit Bag	Prof. Dinesh Kabra, IIT Bombay Prof. Bjorn Lussem, Universitat Bremen, Germany Prof. D. Venkataraman, University of Massachusetts Amherst, US	09.12.22
31	Ms. Alisha Banga	PT	HYBRID MACHINE LEARNING MODELS FOR ENHANCING AIR QUALITY AND ENERGY EFFICIENCY IN SMART CITIES	Prof. S. C. Sharma	Prof. Ravi Shankar Singh, IIT (BHU) Varanasi Prof. Abhishek Bichhawar, IIT Gandhinagar	21.11.22
32	Mr. Avinash Kumar	PT	DEVELOPMENT OF SUSTAINABLE ETHYLENE SCAVENGING PACKAGING MATERIAL BASED ON PINE NEEDLES BIOMASS	Prof. Kirtiraj K. Gaikwad Prof. S. P. Singh Prof. Ashish A. Kadam	Prof. Youn Suk Lee, Univ. Mirae, South Korea Prof. Pramod V. Mahajan, Leibniz Institute for Agricultural Engg. & Bio-economy, Germany	28.11.22
33	Mr. Laxman Kumar Pandey	PT	MODIFIED PULPING OF EUCALYPTUS TERETICORNIS AND LEUCAENA LEUCOCEPHALA FOR ENERGY AND CHEMICAL SAVING	Prof. Dharm Dutt Prof. S. P. Singh	Prof. Yonghao Ni, Univ. of New Brunswick, Canada Prof. Vivek Kumar, IIT Delhi	14.12.22