

सीनेट की इक्यासीवीं बैठक का कार्यवृत्त  
MINUTES OF THE 81<sup>st</sup> MEETING OF THE SENATE

08 जनवरी 2020  
8<sup>th</sup> JANUARY 2020



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

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



**Minutes of the 81<sup>st</sup> Meeting of the Senate held on 08.01.2020 at 3.30 P.M. in the Senate Hall of the Institute.**

The lists of participants and the members who had informed of their inability to attend the meeting are appended at **Annexure-I** & **Annexure-II**, respectively.

At the outset, the Chairman wished Happy New Year and welcomed the members.

The Chairman thanked and placed on record the valuable contributions of the following outgoing members:

1. Dr. Sharad K. Jain, Director, National Institute of Hydrology, Roorkee
2. Prof. Pushplata, Architecture & Planning
3. Prof. M. Perumal, Hydrology
4. Prof. Rajesh Srivastava, Physics

The Chairman also welcomed the following new members of the Senate and wished for their active participation in the proceedings of the Senate:

1. Prof. Gaurav Raheja, Architecture & Planning
2. Prof. Naveen Kumar Navani, Biotechnology
3. Prof. Ranjana Pathania, Biotechnology
4. Prof. Shailly Tomar, Biotechnology
5. Prof. Prasenjit Mondal, Chemical Engineering
6. Prof. Vimal C. Srivastava, Chemical Engineering
7. Prof. J.K. Ghosh, Civil Engineering
8. Prof. Satyendra Mittal, Civil Engineering
9. Prof. Mohd. Ashraf Iqbal, Civil Engineering
10. Prof. V.A. Sawant, Civil Engineering
11. Prof. Kamal, Earth Sciences
12. Prof. Barjeev Tyagi, Electrical Engineering
13. Prof. Mukesh Kumar Pathak, Electrical Engineering

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14. Prof. Sanjeev Kumar Manhas, Electronics & Communication Engineering
15. Prof. Anand Bulusu, Electronics & Communication Engineering
16. Prof. Vinay Sharma, Management Studies
17. Prof. Premanand Bera, Mathematics
18. Prof. K.M. Singh, Mechanical & Industrial Engineering
19. Prof. Inderdeep Singh, Mechanical & Industrial Engineering
20. Prof. Andallib Tariq, Mechanical & Industrial Engineering
21. Prof. Binoy Krishna Patra, Physics
22. Prof. Ajay Wasan, Physics
23. Prof. Ashish Pandey, Water Resource Development & Management
24. Prof. Sunil Kumar Singhal, Hydro & Renewable Energy
25. Prof. R.K. Dutta, Chemistry
26. Prof. Mukesh Kmar Barua, Management Studies
27. Prof. P. Arumugam, Physics

The agenda was then taken up.

**Item No. 81.1: To confirm the minutes of the 80<sup>th</sup> meeting of the Senate held on 26.09.2019.**

The Senate confirmed the minutes as circulated on 24.10.2019 with the addition that the best project award in Integrated M.Sc. Physics be awarded to Mr. Kedarsh Kaushik (14111017) and his name be included in the list given in Appendix-D of item No. 80.7.

**Item No. 81.2: Report on the actions taken to implement the decisions of the Senate taken in its 80<sup>th</sup> meeting held on 26.09.2019.**

The Senate noted the actions taken on the minutes.

**Item No. 81.3: To consider the proposal to introduce a provision for repeating a credit course in B.Tech./IDD/IMS/IMT.**

The Senate approved the proposal with the modification that the condition regarding CGPA be removed.

Further, issues regarding appearance of the earlier and new grades on the transcript and computation of SGPA/CCPA be considered by the IAPC.

  
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**Item No. 81.4: To consider the proposal of Department of Electrical Engineering to modify the course structure of the following specializations of M.Tech.:**

- 1. System and Control**
- 2. Instrumentation and Signal Processing**
- 3. Power System Engineering**
- 4. Electric Drives and Power Electronics**

The item was withdrawn as the Senate in its 69<sup>th</sup> meeting has delegated to IAPC the authority to decide on such proposals.

**Item No. 81.5: To consider the requests of the students for name restoration due to non-submission of documents.**

The Senate did not accept the request of Mr. Anargha Rakesh (Sl. No. 1).

The Senate accepted the request of Mr. Ajay Handa (Sl.No. 2)

**Item No. 81.6: To consider the proposal to revise the UG regulation on self-study courses.**

The Senate accepted the proposal with minor modifications as given in **Appendix-A**

**Item No. 81.7: To consider the proposed revision in the regulation on minor specialization courses in terms of CGPA criteria.**

The Senate approved the proposal.

**Item No. 81.8: To consider the proposal of Department of Management Studies to offer minor specialization courses in Management.**

The Senate approved the proposal with minor modifications as given in **Appendix-B**.

**Item No. 81.9: To report the admission given to the candidates admitted in Ph.D. Programs under the Extensive Professional Experience Scheme.**

The Senate noted the item.

  
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**Item No. 81.10: To report the format of Degrees awarded to a Dual Degree (M.Tech. + Ph.D.) student in Convocation 2019 and to consider the same for subsequent Convocations.**

The Senate approved the degree format as given in **Appendix-C.**

**Item No. 81.11: To ratify the award of provisional Ph.D. Degree certificates to the students who have completed the requirements for the award of Ph.D. Degree in various disciplines from 25<sup>th</sup> September 2019 to date.**

The Senate ratified the item as given in **Appendix-D.**

**Item No. 81.12: To consider the requests of students regarding continuation of program and extension beyond permissible time limit.**

The Senate considered the requests of students under various categories:

**Category-A: Continuation of program in spite of not fulfilling the minimum requirements**

1. Mr. Vinay Singhwal (Enr. No. 19560006), M.Tech. (PH) I Yr
2. Mr. Prem Singh (Enr. No. 19553005), M.Tech. (EQ) I Yr
3. Mr. Ye Yint Naung (Enr. No. 19538012), M.Tech. (ME) I Yr
4. Mr. Uday Pratap Singh (Enr. No. 19611036), M.Sc. (CY) I Yr
5. Mr. Manoj Tirkey (Enr. No. 19611016), M.Sc. (CY) I Yr
6. Mr. Yan Naing Win (Enr. No. 19539013), M.Tech. (ME) I Yr
7. Mr. Praveen Kumar (Enr. No. 19527008), M.Tech. (EE) I Yr
8. Mr. Kyaw Nyan MyintSoe (Enr. No. 19541012), M.Tech. (ME) I Yr
9. Mr. Raj Kumar Meena (Enr. No. 19530012), M.Tech. (EE) I Yr
10. Mr. Shivendra Singh (Enr. No. 19519011), M.Tech. (CE) I Yr
11. Mr. Pankaj Panchal (Enr. No. 19526015), M.Tech. (EQ) I Yr
12. Mr. Shailesh Kumar (Enr. No. 19539009), M.Tech. (ME) I Yr
13. Mr. Tushar Rangari (Enr. No. 18535028), M.Tech. (CS), II Yr
14. Mr. Gadekar Akshay Tanaji (Enr. No. 18542003), M.Tech. (ME) II Yr
15. Mr. Godase Santosh Ashok (Enr. No. 18544001), M.Tech. (MT) II Yr

  
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The Senate decided as under:

Sl. No. 1-5	The Senate accepted the requests of students if they earn SGPA $\geq 4$ after second/re-exam.
Sl. No. 6-11	The Senate accepted the requests of students.
Sl. No. 12	The Senate accepted the request for continuation of program. His Autumn Semester 2019-20 will be treated as withdrawn.
Sl. No. 13&14	The Senate did not accept the requests.
Sl. No. 15	The Senate accepted the request.

**Category-B: Extension beyond permissible limit**

1. Mr. Mr. Nikhil Bansal (Enr. No. 17520007), M.Tech. (CE), II Yr
2. Mr. Anand Suryavanshi (Enr. No. 15523007), M.Tech. (CE) II Yr

The Senate did not accept the requests of students of Category-B.

**Item No.81.13: To consider the formulation of policy regarding course work completion requirement in the case of professionals (working at senior positions) joining Ph.D. program.**

The Senate approved the proposal with modifications (Appendix-E).

**Item No.81.14:To consider the request for permission to submit Ph.D. thesis before minimum stipulated period (02 years from the date of candidacy for full time students).**

The Senate approved the request.

**Item No. 81.15: To consider the requests for extension in time beyond –**

- A. Maximum stipulated period of 06 years (Full-Time) for submission of Ph.D. thesis.**

The Senate approved the request. The student may submit the thesis upto last date of registration in Autumn Semester 2020-21.

  
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**B. Maximum stipulated period of candidacy and possible extension afterwards.**

The Senate approved the request.

**C. Extension given by the Senate for Ph.D. Thesis submission.**

The late submission of thesis beyond last date of previous extension given by the Senate to Mr. Veerendra Yadav (Enrol. No. 13914026), Ms. Jahnavi K. (Enrol. No. 13914012) and Mr. Amrish Kumar (Enrol. No. 12926015) is approved.

The Senate also approved extension in time to submit thesis upto last date of registration in the Autumn Semester 2020-21 to Ms. Lipi Mishra (Enrol. No. 13914014), Mr. Susheel Kumar Katariya, (Enrol. No. 12914013) and Mr. Nikhil Kant Kulshrestha (Enrol. No. 13918009).

**Item No. 81.16: To consider mercy appeals for reinstating Ph.D. registration as name was struck off due to not making request for extension within time frame.**

**A. Thesis submission cases.**

The Senate approved reinstatement of academic program and extension in time to submit thesis upto last date of registration in the Autumn Semester 2020-21.

**B. Candidacy cases:**

The Senate approved reinstatement of academic program and completion of candidacy by June 30, 2020 to Mr. Mohd. Shoaib (Enrol. No. 17909027) and Mr. Vivek Kumar Yadav (Enrol. No. 17922009).

**Item No.81.17: To consider Mercy appeals for reinstating Ph.D. registration as name was struck off due to.**

**A. Completion of maximum stipulated period for candidacy.**

The Senate approved reinstatement of academic program and completion of candidacy by June 30, 2020 to Mr. Sandeep kumar Singh (Enrol. No. 17906005), Mr. Piyush (Enrol. No. 17912017) and Mr. Saurabh Singhal (Enrol. No. 17915016).

  
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**B. Non submission of mandatory documents related to Ph.D. admission.**

The Senate approved reinstatement of academic program of Mr. Deepak (Enrol. No. 19920007) and Mr. Yogesh Kumar (Enrol. No. 19909015).

**C & D:** The Senate did not accept the requests.

**Item No.81.18: To consider requests from students to re-join Ph.D. program.**

The Senate did not accept the requests.

**Item No. 81.19: To consider the change(s) in minimum academic qualification for Ph.D., M.Tech./M.Arch./MURP programs.**

The Senate approved the proposals as given in **Appendices-F&G**. The same will be effective w.e.f. Spring Semester 2019-20.

**Item No. 81.20: To consider the changes in the selection criteria for MBA Admission from 2020-21 onwards.**

The Senate approved as under:

<b>Selection Criteria</b>	<b>Selection Criteria for JEE qualified IIT Graduates with CGPA equal to 7.0 or above but less than 8.0.</b>	<b>Selection Criteria for JEE qualified IIT graduates with CGPA 8.0 and above</b>
(a) CAT percentile: 60% (b) Written Aptitude Test (WAT): 10% (c) Personal Interview (PI): 25% (d) Relevant Work Experience: 5%	(a) CAT percentile: Waived off (b) Written Aptitude Test (WAT): 40% (c) Personal Interview (PI): 55% (d) Relevant work experience: 5%	Direct admission

Further, the Senate approved 10% relaxation in the CAT score cut-off for the short-listing of female candidates of all categories.

  
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**Item No. 81.21: To consider allowing deferred admission to:**

- (A) International Students and Sponsored Indian Students in Master Programs (M.Tech./M.Arch./MURP/M.Sc./MBA)**
- (B) International Students in the Ph.D. Program**

The Senate approved the proposal.

**Item No. 81.22: To consider addressing similarity-check report alerts at the time of submission of Bachelors, Masters and Ph.D. thesis.**

The Senate decided that the current practice in this regard be replaced as under:

1. All Bachelors, Masters and Ph.D theses should be subject to a similarity-check using appropriate software. With the help of the supervisor, the candidate should address the similarities flagged by the software which merit corrective action.
2. Point 10 of Ph.D. Thesis submission form "Copy of plagiarism check enclosed" be revised to "Copy of similarity-check report enclosed".
3. The Bachelors and Masters thesis/report similarity-check reports be submitted to the concerned DAPC/CAPC.

**Item No.81.23: To report the MoU for Dual-Doctoral Degree Program between IIT Roorkee and Michigan State University, USA.**

The Senate noted the item.

**Item No. 81.24: To report the corrigendum in the Academic Calendar for Spring Semester 2019-20.**

The Senate noted the item.

**Item No. 81.25: To report the approval of the revised structure of IMT programs of the Department of Earth Sciences after including minor specialization.**

The Senate noted the item.

**Item No. 81.26: To report the approvals accorded by the Chairman Senate on new scholarships.**

The Senate noted the item.

  
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**UNDER ANY OTHER ITEM:**

**Item No. 81.27: To consider the Seat Matrix for MBA admission from the academic year 2020-21 onwards.**

The Senate approved the following seat matrix:

DEPTT	CODE	Program	Total Intake	GEN	GEN-EWS	OBC	SC	ST
Management Studies (BM)	810	MBA	95	38	10	26	14	7

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

  
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## Annexure-I

Following were present:

1.	Prof. Ajit K. Chaturvedi	Director & Chairman
2.	Prof. M. Parida	Deputy Director
3.	Prof. V. Devadas	Architecture & Planning
4.	Prof. Mahua Mukherjee	Architecture & Planning
5.	Prof. Gaurav Raheja	Architecture & Planning
6.	Prof. Sanjay Ghosh	Biotechnology
7.	Prof. Pravindra Kumar	Biotechnology
8.	Prof. Naveen Kumar Nawani	Biotechnology
9.	Prof. Ranjana Pathania	Biotechnology
10.	Prof. Partha Roy	Biotechnology
11.	Prof. Ashwani Kumar Sharma	Biotechnology
12.	Prof. Shailly Tomar	Biotechnology
13.	Prof. Prasenjit Mondal	Chemical Engineering
14.	Prof. B. Prasad	Chemical Engineering
15.	Prof. Shishir Sinha	Chemical Engineering
16.	Prof. Vimal Chandra Srivastava	Chemical Engineering
17.	Prof. R.K. Dutta	Chemistry
18.	Prof. Bina Gupta	Chemistry
19.	Prof. P. Jeevanandam	Chemistry
20.	Prof. M.R. Maurya	Chemistry
21.	Prof. Mala Nath	Chemistry
22.	Prof. R.K. Peddinti	Chemistry
23.	Prof. U.P. Singh	Chemistry
24.	Prof. K.R. Justin Thomas	Chemistry
25.	Prof. P.K. Garg	Civil Engineering
26.	Prof. Rahul Dev Garg	Civil Engineering
27.	Prof. S.K. Ghosh	Civil Engineering
28.	Prof. J.K. Ghosh	Civil Engineering
29.	Prof. P.K. Gupta	Civil Engineering
30.	Prof. B.R. Gurjar	Civil Engineering
31.	Prof. M.A. Iqbal	Civil Engineering
32.	Prof. Satyendra Mittal	Civil Engineering
33.	Prof. C.S.P. Ojha	Civil Engineering
34.	Prof. K.S. Hari Prasad	Civil Engineering
35.	Prof. Rajat Rastogi	Civil Engineering
36.	Prof. N.K. Samadhiya	Civil Engineering
37.	Prof. Vishwas Sawant	Civil Engineering
38.	Prof. Akhil Upadhyay	Civil Engineering
39.	Prof. Durga Toshniwal	Computer Science & Engineering
40.	Prof. R. Balasubramanian	Computer Science & Engineering

  
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41.	Prof. Pankaj Agarwal	Earthquake Engineering
42.	Prof. B.K. Maheshwari	Earthquake Engineering
43.	Prof. M.L. Sharma	Earthquake Engineering
44.	Prof. Yogendra Singh	Earthquake Engineering
45.	Prof. Anand Joshi	Earth Sciences
46.	Prof. R. Krishnamurthi	Earth Sciences
47.	Prof. Biswarup Das	Electrical Engineering
48.	Prof. M.K. Pathak	Electrical Engineering
49.	Prof. N.P. Padhy	Electrical Engineering
50.	Prof. Barjeev Tyagi	Electrical Engineering
51.	Prof. N.P. Pathak	Electronics & Commn. Engineering
52.	Prof. Nagendra Kumar	Humanities & Social Sciences
53.	Prof. M.K. Jain	Hydrology
54.	Prof. Himanshu Joshi	Hydrology
55.	Prof. Arun Kumar	Hydro & Renewable Energy
56.	Prof. R.P. Saini	Hydro & Renewable Energy
57.	Prof. Sunil Kumar Singhal	Hydro & Renewable Energy
58.	Prof. M.K. Barua	Management Studies
59.	Prof. S. Rangenekar	Management Studies
60.	Prof. Vinay Sharma	Management Studies
61.	Prof. Premanada Bera	Mathematics
62.	Prof. Rama Bhargava	Mathematics
63.	Prof. Sunita Gakkhar	Mathematics
64.	Prof. Tanuja Srivastava	Mathematics
65.	Prof. N. Sukavanam	Mathematics
66.	Prof. B.K. Gandhi	Mechanical & Industrial Engg.
67.	Prof. Ravi Kumar	Mechanical & Industrial Engg.
68.	Prof. M.K. Mishra	Mechanical & Industrial Engg.
69.	Prof. Andallib Tariq	Mechanical & Industrial Engg.
70.	Prof. G.P. Chaudhuri	Metallurgical & Materials Engg.
71.	Prof. B.S.S. Daniel	Metallurgical & Materials Engg.
72.	Prof. S.K. Nath	Metallurgical & Materials Engg.
73.	Prof. Anjan Sil	Metallurgical & Materials Engg.
74.	Prof. Ujjwal Prakash	Metallurgical & Materials Engg.
75.	Prof. Dharam Dutt	Paper Technology
76.	Prof. Y.S. Negi	Paper Technology
77.	Prof. S.C. Sharma	Paper Technology
78.	Prof. P. Arumugam	Physics
79.	Prof. Aalok Misra	Physics
80.	Prof. Tashi Nautiyal	Physics
81.	Prof. Vipul Rastogi	Physics
82.	Prof. G.D. Varma	Physics
83.	Prof. Ajay Wasan	Physics
84.	Prof. K.L. Yadav	Physics
85.	Prof. Deepak Khare	WRD&M
86.	Prof. S.K. Mishra	WRD&M

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- 87. Prof. Ashish Pandey WRD&M
- 88. Prof. Chhaya Sharma, Head, Paper Technology
- 89. Prof. Sujay Chattopadhyay, Head, Polymer & Process Engineering
- 90. Prof. P. Gopinath, ADOAA (Admission)
- 91. Dr. C. Jayakumar, Librarian
- 92. Dr. Sharad K. Jain, Director, NIH, Roorkee

**Students' representatives:**

- 93. Mr. Divyansh Jain, Convenor, Students' Affairs Council
- 94. Mr. V.Kalyan Kumar, General Secretary, Academic Affairs (UG)
- 95. Ms. Saloni Agarwal, Nominee of ECSS
  
- 96. Mr. Prashant Garg, Registrar & Secretary, Senate

  
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## **Annexure-II**

**Communication received from the following members for not attending the meeting:**

1. Prof. K.M. Singh, Mechanical & Industrial Engineering
2. Prof. Anand Bulusu, Electronics & Communication Engineering
3. Prof. A.K. Sen, Earth Sciences
4. Prof. Umesh Kumar Sharma, Civil Engineering
5. Prof. R.P. Singh, Biotechnology
6. Prof. Ramesh Chandra, Institute Instrumentation Centre
7. Prof. Navneet Arora, Mechanical & Industrial Engineering
8. Prof. Inderdeep Singh, Mechanical & Industrial Engineering
9. Prof. M.L. Kansal, Water Resources Development & Management
10. Prof. Dharmendra Singh, Computer Science & Engineering
11. Prof. Kusum Deep, Mathematics
12. Prof. Sunil Bajpai, Earth Sciences
13. Prof. A.K.Sharma, Mechanical & Industrial Engineering
14. Prof. Sugata Gangopadhyay, Computer Science & Engineering

  
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**Appendix – A**  
**Item No. Senate/ 81.6**

Regulation for taking self-study courses for UG students

- (i) Students shall be allowed to take up the self-study courses in any semester.
- (ii) Maximum two self-study courses can be taken in the entire duration of the program and maximum one self-study course in a semester.
- (iii) Any self-study course taken up to the pre-final semester can only be a course in which the student has failed earlier.

**Appendix – B**  
**Item No. Senate/81.8**

Regulation for taking minor specialization courses for UG students

- (i) The number of courses to be completed for Minor Specialization Courses (MSCs) shall be 4-6 courses.
- (ii) The number of slots for MSCs in III year Spring Semester has been retained as 1 and those in IV year Autumn and Spring semesters can be maximum 3 within the limit of total allowed credits in a semester.

**List of courses for Minor Specialization in Management**

<b>Semester</b>	<b>Course Code and Title</b>	<b>Credits</b>
Autumn	BM-503 Management Process and Organization Behavior	3
Autumn	BM-505 Managerial Economics	3
Autumn	BM-511 Marketing Management	3
Spring	BM-504 Financial Management	3
Spring	BM-506 Business Environment	3
Spring	BM-512 Production and Operations Management	3
Autumn	BM-601 Management Information System	3

  
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## भारतीय प्रौद्योगिकी संस्थान रुड़की

अभिषद् की अनुशंसा पर  
सिविल अभियांत्रिकी में प्रौद्योगिकी निष्णात  
की उपाधि प्रौद्योगिकी निष्णात-विद्या वाचस्पति द्वि उपाधि कार्यक्रम के अन्तर्गत  
**शशांक भातरा**

को, जिन्होंने सम्मान सहित प्रथम श्रेणी में इस उपाधि की अवाप्ति हेतु विनियम विहित अपेक्षाओं को सन् 2019 में सफलतापूर्वक पूरा कर लिया है,  
एतद्वारा प्रदान करता है। 10 अंकीय मापक्रम में इनका संचित कोटि अंक माध्य 9.053 है।  
भारतीय गणराज्य के अन्तर्गत रुड़की में आज, दिनांक अक्टूबर 4, 2019, संस्थान की मुद्रा अंकित यह उपाधि दी गई।

## INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

on the recommendation of the Senate hereby confers the degree of

**Master of Technology in Civil Engineering**

under the Master of Technology-Doctor of Philosophy Dual Degree Programme upon

**SHASHANK BHATRA**

who has successfully completed in the year 2019 the requirements prescribed under the regulations for the award of this degree  
in First Division with Distinction with a Cumulative Grade Point Average of 9.053 on a 10 point scale.

Given this day, October 4, 2019, under the seal of the Institute at Roorkee in the Republic of India.

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कुलसचिव  
Registrar

अध्यक्ष, अभिषद् एवं निदेशक  
Chairman, Senate & Director

Appendix-C  
Item No. Senate/81.10

भारतीय प्रौद्योगिकी संस्थान रुड़की

अभिषद् की अनुशंसा पर

विद्या वाचस्पति

की उपाधि प्रौद्योगिकी निष्णात-विद्या वाचस्पति द्वि उपाधि कार्यक्रम के अन्तर्गत

शशांक भातरा

को

शोध प्रबन्ध शीर्षक: आयन इम्प्लानटेशन एण्ड केमिकल मोडिफिकेशन ऑफ CuO नैनोपार्टिकल्स एण्ड देयर इलेक्ट्रोकेमिकल एप्लीकेशन्स  
भारतीय गणराज्य के अन्तर्गत रुड़की में आज, दिनांक अक्टूबर 4, 2019, संस्थान की मुद्रा अंकित यह उपाधि दी गई।

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

on the recommendation of the Senate hereby confers the degree of

Doctor of Philosophy

under the Master of Technology-Doctor of Philosophy Dual Degree Programme upon

SHASHANK BHATRA

Thesis Title: ION IMPLANTATION AND CHEMICAL MODIFICATION OF CuO NANOPARTICLES AND THEIR ELECTROCHEMICAL APPLICATIONS

Given this day, October 4, 2019, under the seal of the Institute at Roorkee in the Republic of India.

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कुलसचिव  
Registrar

अध्यक्ष, अभिषद् एवं निदेशक  
Chairman, Senate & Director

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### Senate approved PDC List

Appendix 'A'

Sl.No.	Name	Deptt.	Topic	Supervisor	Examiner (For./Ind.)	PDC Date
1	Ms. Ananya Neogy	BT	AUXIN-CYTOKININ RESPONSES AND FUNCTIONAL SIGNIFICANCE OF AUXIN DURING RICE CROWN ROOT DEVELOPMENT	Prof. Shri Ram Yadav	Prof. P. Prakash Kumar, National Univ., Singapore Prof. Utpal Nath, IISc Bangalore	19.11.19
2	Ms. Apurva Chatrath	BT	ANTIBIOFILM ACTIVITIES AND PROTEOMIC ANALYSIS OF CANDIDA TROPICALIS IN RESPONSE TO TERPENES	Prof. R. Prasad	Prof. Prashant Mishra, IIT Delhi Prof. Rayala Suresh Kumar, IIT Madras	06.12.19
3	Ms. Sofia Pilli	BT	STUDIES ON HUMAN LINE-1 RETROTRANSPOSON ENCODED ORF2 PROTEIN	Prof. P. K. Mandal Prof. Vikas Pruthi	Prof. G. Narayan, IIT Varanasi Dr. Mitali Mukerji, CSIR Delhi	28.11.19
4	Mr. Kasiviswanathan M	CE	BUCKLING BEHAVIOUR OF FRP BOX-BEAMS: GOVERNING PARAMETERS AND THEIR EFFECT	Prof. Akhil Upadhyay	Prof. C. Mittelstedt, Tech. Univ. Darmstadt, Germany Prof. S. Arul Jayachandran, IIT Madras Prof. Yogesh M. Desai, IIT Bombay	25.10.19
5	Mr. John MohdWani	CE	INFERRING PERMAFROST AND ITS CHARACTERISTICS IN THE COLD-ARID HIMALAYA	Prof. C. S. P. Ojha Dr. Renoj J. Thayyen	Prof. Venkataraman Lakshmi, Virginia Univ., USA Prof. Raaj Ramsankaran, IIT Bombay	28.11.19
6	Mr. Shujaat Hussain	CE	FIRE RESISTANCE OF REINFORCED CONCRETE COLUMNS	Prof. Umesh K. Sharma	Prof. Mitsuo Ozawa, Gunma University, Japan Prof. Sudip Talukdar, IIT Guwahati	16.12.19
7	Mr. Manoj Kuri	DMM	STUDIES ON LANDSLIDE MOVEMENTS IN PARTS OF HIMALAYA IN UTTARAKHAND USING DINSAR TECHNIQUES	Prof. M. L. Sharma Prof. M. K. Arora	Prof. Manfred F. Buchroithner, Tech. Univ. Dresden Prof. Y. S. Rao, IIT Bombay Prof. Onkar Dikshit, IIT Kanpur	29.11.19
8	Ms. Sujata Swain	CSE	CONTEXT-AWARE SERVICE COMPOSITION WITH FUNCTIONALLY EQUIVALENT SERVICES	Prof. Rajdeep Niyogi	Prof. Miroslaw Malek, SDG Switzerland Prof. Saroj Kaushik, IIT Delhi	28.11.19
9	Mr. Dogga Raveendhra	EE	IMPROVED POWER QUALITY TRANSFORMERLESS POWER CONVERTERS FOR SOLAR PV SYSTEM	Prof. M. K. Pathak	Prof. Bimal K. Bose, University of Tennessee, USA Prof. Ranjit Mahanty, IIT Varanasi	31.10.19
10	Ms. Sneha Singh	EE	FUSION OF MULTIMODAL NEUROLOGICAL IMAGES	Prof. R. S. Anand	Prof. Olaf Hellwich, Tech. University Berlin, Germany Prof. Sumantra Dutta Roy, IIT Delhi	26.11.19
11	Ms. Kiran Singh	EE	INVESTIGATION ON SIX-PHASE SELF-EXCITED INDUCTION GENERATOR	Prof. G. K. Singh	Prof. Gerard-Andre Capolino, Univ. of Picardie, France Prof. K. Gopakumar, IISc Bangalore	17.12.19
12	Ms. Neha Singh	ECE	DEVELOPMENT OF SIGNAL PROCESSING TECHNIQUES FOR ENHANCEMENT OF ENERGY CONCENTRATION IN TIME-FREQUENCY REPRESENTATION OF S-TRANSFORM	Prof. P. M. Pradhan	Prof. Hee-Cheol Kim, Inje University, South Korea Prof. Ram Bilas Pachori, IIT Indore	20.12.19

Appendix-D  
Item No. Senate/81.11

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F5

13	Mr. Atul Kumar Rastogi	ES	GENESIS OF HIGH GRADE IRON ORE FROM BIF IN DALLI-RAJHARA, CHATTISRAGH, INDIA	Prof. A. K. Sen Prof. D. K. Mukhopadhyay	Prof. Jens Gutzmer, TUBF Germany Prof. G. N. Jadhav, IIT Bombay Prof. Joydip Mukhopadhyay, PU Kolkata	07.11.19
14	Ms. Anita Devi	ES	3D MAGNETOTELLURIC AND DCR INVESTIGATIONS AT SELECTED SITES IN UTTARAKHAND	Prof. M. Israil	Prof. Shalivahan, IIT Dhanbad Prof. N. P. Singh, IIT Varanasi	27.11.19
15	Ms. Bharathi M.	EQ	DYNAMIC BEHAVIOUR OF BATTER PILES GROUPS	Prof. R. N. Dubey	Prof. Hesham El Naggar, Western University, Canada Prof. T. G. Sitharam, IIT Guwahati	20.11.19
16	Mr. P. Pravin Kumar Venkat Rao	EQ	OUT-OF-PLANE SEISMIC BEHAVIOUR AND STRENGTHENING OF UNREINFORCED MASONRY WALLS	Prof. Yogendra Singh Prof. Sreekanta Das	Prof. Carlos A. Cruz-Noguez, Alberta Univ., Canada Prof. Sajal K. Deb, IIT Guwahati	10.12.19
17	Mr. Vineet Kumar Singh	HRE	OPTIMAL OPERATION OF RUN OF RIVER SMALL HYDRO POWER PLANT	Prof. S. K. Singal Prof. Chandra Shekher	Prof. H. Gwyn Rees, WRCEH, UK Prof. Suryanarayana Doola, IIT Bombay Prof. Dhiman Chatterjee, IIT Madras	16.12.19
18	Mr. Satyendra Kumar Mourya	IIC	FABRICATION OF SILICON CARBIDE THIN FILMS FOR ELECTRON DEVICES BY SPUTTERING	Prof. Ramesh Chandra Prof. Brijesh Kumar	Prof. Yogendra K. Mishra, Kiel Univ., Germany Prof. Sujeet Chaudhary, IIT Delhi	16.12.19
19	Mr. Jitender Kumar	MS	ACHIEVING CUSTOMER BRAND ENGAGEMENT THROUGH BRAND COMMUNITIES	Prof. J. K. Nayak	Prof. Linda Hollebeek, Tallinn Univ. of Tech., France Prof. Usha Kiran Rai, IIT Varanasi	31.10.19
20	Ms. Snehal Bawre	MS	AN ANALYSIS OF FINANCIAL LITERACY FROM THE PERSPECTIVES OF INDIVIDUALS AND FINANCIAL INSTITUTIONS USING SOCIAL MEDIA	Prof. Sujata Kar	Prof. P. Vigneswarallavarasan, IIT Delhi Prof. Ruchi Sharma, IIT Indore	19.11.19
21	Mr. Pramod Sharma	MS	EXAMINING TOURISTS' EMOTIONS AND ITS IMPACT ON TOURISTS' BEHAVIOUR	Prof. J. K. Nayak	Prof. Charles Arcodia, Griffith University, Germany Prof. M. P. Gupta, IIT Delhi Prof. Devashish, IIM Lucknow	09.12.19
22	Mr. Clement Cabral	MS	GREEN COMPETENCIES: CONCEPTUALISATION, CONSTRUCT DEVELOPMENT AND MEASUREMENT VALIDATION	Prof. R. L. Dhar	Prof. Werner Menski, London University, UK Prof. Saumya Singh, IIT Dhanbad	10.12.19
23	Ms. Mamta Saxena	MA	A STUDY ON PROPAGATION OF FLOOD WAVE IN A STREAM CONSIDERING STREAM-AQUIFER INTERACTION USING VARIABLE PARAMETER MUSKINGUM METHODS	Prof. T. R. Gulati Prof. M. Perumal	Prof. Rao S. Govindaraju, Lyles School of Civil Engg., USA Prof. Bhabagrahi Sahoo, IIT Kharagpur	27.11.19
24	Mr. Hemant Kumar	MA	FUZZY MULTI-OBJECTIVE RELIABILITY ANALYSIS USING NSGA-II	Prof. S. P. Yadav	Prof. Abdullah Konak, Information Sci. & Tech., USA Prof. T. Som, IIT Varanasi	05.12.19
25	Mr. Ankit Saxena	MIE	FABRICATION AND ANALYSIS OF AN ARTIFICIAL HUMAN HIP JOINT FOR SQUAT POSTURE	Prof. Rahul S. Mulik	Prof. Stefanos Zaoutsos, Univ. of Thessaly, Greece Prof. Manas M. Mahapatra, IIT Bhubaneswar	25.10.19

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26	Mr. Sachin Balsara	MIE	AN ASSESSMENT OF CLIMATE CHANGE MITIGATION STRATEGIES OF THE INDIAN CEMENT INDUSTRY	Prof. P. K. Jain Prof. A. Ramesh	Prof. Uday Shanker Dixit, IIT Guwahati Prof. Ravi Shankar, IIT Delhi	19.11.19
27	Mr. Gaikwad Sharad Vasantrao	MIE	PERFORMANCE STUDY OF TREPANNING TOOL FOR DEEP ANNULAR GROOVING	Prof. Rahul S. Mulik	Prof. Pulak M. Pandey, IIT Delhi Prof. Pankaj Baswas, IIT Guwahati	20.12.19
28	Mr. Veeranjanyulu Rayapudi	MME	BENEFICIATION STUDIES OF BANDED IRON ORES	Prof. Nikhil Dhawan	Prof. Philipp Hartlieb, Montabun Univ. Leoben, Austria Prof. Gour Gopal Roy, IIT Kharagpur	16.12.19
29	Mr. Rohit Kumar	PH	INVESTIGATIONS ON SYNTHESIS, STRUCTURAL AND SUPERCONDUCTING PROPERTIES OF FE(TE, SE) SUPERCONDUCTORS	Prof. G. D. Verma	Prof. Neeraj Khare, IIT Delhi Prof. S. Ravi, IIT Guwahati	05.12.19
30	Ms. Ankita Singh	PH	STRUCTURAL, MAGNETIC AND THERMAL PROPERTIES OF DOPED ORTHOFERRITE MATERIALS	Prof. Vivek K. Malik	Prof. Lambert Alff, Tech. Univ. Darmstadt, Germany Prof. Sujeet Chaudhary, IIT Delhi	16.12.19
31	Mr. Rajesh Chandra	PPE	REMEDIATION OF WASTEWATER AND BIOFUEL PRODUCTION USING MICROALGAE	Prof. U. K. Ghosh	Prof. Anshumali, IIT Dhanbad Prof. S. K. Singh, DTU Delhi	25.11.19
32	Mr. Swapnil Divekar	PT	SEPARATION FROM GASEOUS STREAMS BY PRESSURE SWING ADSORPTION	Prof. S. P. Singh Prof. I. M. Mishra Dr. Anshu Nanoti	Prof. T. J. Bandosz, The City College New York Prof. Sirshendu De, IIT Kharagpur Prof. Sasidhar Gumma, IIT Guwahati	20.12.19
33	Mr. Ayush Chandrakar	WRDM	HYDROLOGICAL MODELLING OF A TROPICAL WATERSHED UNDER LAND USE AND CLIMATE CHANGE SCENARIOS	Prof. Deepak Khare	Prof. Qin Xiaosheng, Nanyang Tech. Univ., Singapore Prof. B. R. Chahar, IIT Delhi	20.12.19

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FD



**Appendix-E**  
**Item No. Senate/81.15**

Following be read in place of point 5 in notification No. ITR/PG Admn/2018/2650 dated 27.09.2018:

The credit requirements as recommended by the SRC can be completed in the form of project for Professionals (8 credits)/Thesis for Professionals (16 credits) and NPTEC PG course/Self-study PG course, along with a course seminar. The project/ thesis credits can be completed across the semesters, within the stipulated period of candidacy.



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**Appendix-F**  
**Item No. Senate/81.19**

**M.Tech admission qualification change (w.r.t. HRED & TSC)**

Sl. NO	Academic Department/ Centre & (Code)	Academic Programmes		Eligible GATE Disciplines	Minimum Educational Qualifications
		Code	Name		
1.	Hydro and Renewable Energy (HRED)	12	M.Tech. Alternate Hydro Energy Systems	CE/AG/CH/EE/EC/ME/PI/XE/IN	Bachelor's degree in Civil/Electrical/Mechanical/Instrumentation/Industrial/Chemical/Electronics/Computer/Agricultural/ Environmental Engg. or equivalent.
2.	Transportation Systems (TSC)	50	M.Tech. Infrastructure Systems	CE/ME/PI/CH/EE/EC/CS/AR	B.E./B.Tech. (Civil/ Mechanical & Industrial/ Electrical/ Chemical Engineering/Electronics & Communication Engg/ Computer Science and Information Technology/ B.Arch./ B.Planning/ B.Design/ <b>Automobile Engg./ Mechatronics Engg.</b> or equivalent.



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**Academic Qualification for Ph.D. Admission for Autumn Semester 2020-21 onwards**

S.No.	Department/Centre	Approved qualification
1.	Hydro & Renewable Energy	(i) B. Tech. / M. Tech. or equivalent in Civil / Electrical / Mechanical/ Industrial / Chemical / Electronics/ Computer/ Agricultural/ Environmental/ <b>Biotechnology/ Instrumentation Engineering</b> or Equivalent and related disciplines. (ii) M.Sc. in disciplines consistent with research areas of the department.
2.	Physics	(i) M.Sc. in Physics/ Applied Physics (ii) M.Sc. in Chemistry/ Mathematics/ Biophysics/ Geophysics/ Computer Science/ <b>Electronics</b> , provided Physics was a subject at B.Sc. level. (iii) B. Tech. or equivalent in Electrical / Electronics / Chemical/ Metallurgical / <b>Nanotechnology</b> / Engineering Physics. Candidates at Category (ii) and (iii) may be considered for research area consistent with the academic background and special interests.
3.	Centre for Nanotechnology	(i) B.E./B. Tech or M.E./M. Tech. in <b>Nanotechnology</b> / Metallurgy / Chemical / Polymer / Mechanical / Biotechnology / <b>Engineering Physics /Engineering Chemistry / Electronics / Electrical /Computer Science and Engineering/Civil/Energy/ Environmental/ Agriculture</b> or equivalent. (ii) M.Sc. / <b>Int. M.Sc.</b> / M.S. in Science / Engineering, B. Pharm /M. Pharm. (iii) <b>MBBS/MD/BDS/MDS or equivalent.</b>
4.	Centre for Transportation Systems	M.Tech./ M.Arch./ M.Planning/ M.Des./ MBA or equivalent degree in Civil Engg./ Mechanical Engg/ Industrial Engg./ Production Engg./ Computer Science &Engg./ Chemical Engg./ Infrastructure Systems/ Biotechnology/ Architecture/ Planning/ Urban Engg./ Business Administration/ <b>Automobile Engg./Mechatronics Engg</b>



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