भारतीय प्रौद्योगिकी संस्थान रूड़की
रूड़की – २४७ ६६७ (भारत)

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE
ROORKEE - 247 667 (INDIA)

सीनेट की बहत्तरवीं बैठक हेतु कार्य सूची

AGENDA FOR THE 72nd MEETING OF THE SENATE

बैठक सं0	:	बहत्तरवीं
MEETING NO.	:	**72nd**
स्थान	:	सीनेट हॉल, भा0प्रौ0सं0रूड़की
VENUE	:	**Senate Hall, IIT Roorkee**
दिनांक	:	22 मार्च 2018
DATE	:	**22nd March 2018**
समय	:	3.30 बजे अपरान्ह
TIME	:	**3.30 P.M.**

भारतीय प्रौद्योगिकी संस्थान रूड़की
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A G E N D A /कार्यसूची

Item No. / मुद्दा सं0	Particulars /विवरण	Page(s)/ पृष्ठ
72.1	28.12.2017 को आयोजित हुई सीनेट की 71वी बैठक के कार्यवृत्त की पुष्टि करना । To confirm the minutes of 71st meeting of the Senate held on 28.12.2017.	1
72.2	28.12.2017 को आयोजित हुई सीनेट की 71वी बैठक में लिए गए निर्णयों के क्रियान्वयन हेतु की गई कार्रवाई को रिपोर्ट करना। To report on the actions taken to implement the decisions taken by the Senate in its 71st meeting held on 28.12.2017.	2-7
72.3	निम्नलिखित पर विचार करना : (i) प्रोजेक्ट फैलो का पीएचडी प्रोग्राम में पंजीकरण। (ii) प्रोजेक्ट की अवधि पूरी होने के बाद प्रोजेक्ट फैलो को संस्थान असिस्टेंटशिप To consider the following: (i) Registration of a Project fellow in Ph.D. programme (ii) Institute assistantship to project fellow after completion of project duration	8
72.4	एक फेकल्टी के द्वारा सुपरवाईज करने के लिए रिसर्च स्कोलर्स की सीमा संख्या पर विचार करना। To consider the limit on number of research scholars to be supervised by a faculty	9
72.5	पीएमआरएफ की राष्ट्रीय संचालन समिति दवारा प्रस्तावित प्रधान मंत्री अनुसंधान फैलोशिप (पीएमआरएफ) के लिए प्रवेश मानदंड और चयन दिशानिर्देशो को अपनाना। To adopt the admission criteria and selection guidelines for Prime Minister's Research Fellowship (PMRF) as	10-11

	proposed by the National Steering Committee of PMRF.	
72.6	शैक्षणिक वर्ष 2018–19 कें लिए पीएचडी प्रवेश में संस्थान असिस्टेंटशिप और प्रधानमंत्री अनुसंधान फैलोशिप (पीएमआरएफ) की सीट मैट्रिक्स पर विचार करना। To consider seat matrix for Ph.D. admissions with Institute Assistantship and under Prime Minister's Research Fellowship (PMRF) for the academic year 2018-2019.	12-15
72.7	पार्ट टाईम पीएचडी में सीधे प्रवेश के लिए मानदंड में संशोधन पर विचार करना। To consider the revision in the criteria for direct admission in Part-time Ph.D. programme.	16
72.8	शैक्षणिक वर्ष 2018–19 कें लिए पीजी प्रोग्रामस की सीट मैट्रिक्स पर विचार और अनुमोदन करना। To consider and approve the seat matrix of PG programs for the academic year 2018-2019.	17-19
72.9	2018–19 से मेरिट कम मीन्स (एमसीएम) छात्रवृत्ति को बहाल करने पर विचार करना। To consider to reinstate the Merit Cum Means (MCM) Scholarship from 2018-19.	20-21
72.10	पीएचडी रिसर्च स्कोलर्स का, यदि आवश्यकता हो, प्रमाण पत्र जारी करने पर विचार करना। To consider the issuance of a certificate to the Ph.D. research scholars, if required.	22-23
72.11	एम.टेक / एम.आर्क / एमयूआरपी प्रोग्राम में आनलाईन आवेदन की प्रकिया और सीट आबंटन पर विचार करना। To consider the online procedure for application and seat allocation (to candidates) related to M.Tech./M.Arch./MURP.	24
72.12	सीजीपीए की आवश्यकता को पूरा करने के लिए स्प्रिंग सेमेस्टर में एक अतिरिक्त विषय लेने की अनुमति देने के लिए श्री महेशभाई जे0 वनजारा, नामांकन सं0 1790027,यांत्रिकी एवं अभियांत्रिकी विभाग में क्युआईपी पीएचडी स्कोलर, की दया याचिका पर विचार करना। To consider the mercy request of Mr. Maheshbhai J. Vanajara, Enrolment No. 17920027, QIP Ph.D. Scholar in Mech. & Indl. Engg. Department to allow taking one additional subject in Spring Semester so as to fulfill course work CGPA requirement.	25

72.13	आईआईटी रूड़की या किसी अन्य आईआईटी या आईआईएससी से पीजी डिग्री (एमटेक/एमआर्क/एमयूआरपी) प्राप्त उम्मीदवारों के लिए कोर्स वर्क की आवश्यकता में छूट करने पर विचार करना। To consider waiving off of course work requirement for the candidates who have completed P.G. degree requirements (M.Tech./M.Arch/MURP) from IITR or any other IIT or IISc.	26
72.14	बीटेक/बीआर्क/इंटिग्रेटिड एमएससी/आईडीडी/एमएससी को यूजी नियमों और विनियमों के अन्तर्गत तथा एमटेक और पीएचडी को पीजी विनियमों के अन्तर्गत शामिल करने के प्रस्ताव पर विचार करना। To consider the proposal of including B.Tech./B.Arch./ Int. M.Sc./ IDD/ M.Sc. under UG Rules and Regulations and M.Tech. & Ph.D. program under PG Regulation.	27
72.15	क्रेडिट आवश्यकता की आंशिक पूर्ति के लिए ऑनलाइन मूक्स कोर्स को पाठ्यक्रम में शामिल करने के लिए समिति की रिपोर्ट पर विचार करना। To consider the report of the committee to recommend inclusion of online MOOCs courses for partial fulfillment of credit requirement.	28-29
72.16	अनुमन्य क्रेडिट सीमा से अधिक विषय पंजीकरण के संबंध में छात्रों के अनुरोधों पर विचार करना। To consider the requests of students regarding subject registration beyond permissible credit limit.	30
72.17	आईआईटी रूड़की में डिजरटेशन के एक भाग को करने के लिए एनआईटी कुरूक्षेत्र के एमटेक के छात्र के लिए एक संकाय सदस्य के अनुरोध पर विचार करना। To consider the request of a faculty member to allow an M. Tech. Student of NIT Kurukshetra to carry out a part of the dissertation thesis at IIT Roorkee.	31
72.18	श्री अवध किशोर शर्मा, नामांकन सं0 15117016 के प्रथम वर्ष कोर्स को तृतीय वर्ष में पंजीकरण करने की पेनल्टी छूट पर विचार करना। To consider the penalty waiver for Mr. Avadh Kishor Sharma (Enrl. No. 15117016) to register for 1st year course in 3rd year.	32
72.19	पाठयक्रम के मूल्यांकन घटको के संबंध में लचीलेपन और उपस्थिति के लिए अंक देने पर विचार करना। To consider the flexibility regarding evaluation components of a course and awarding marks for attendance.	33-34
72.20	वर्ष 2018 से पीजी में प्रवेश के लिए निम्नलिखित विभागों/केन्द्रों की शैक्षणिक योग्यताओं में परिवर्तन की पुष्टि एवं विचार करनाः	35-37

	1. सिविल इंजिनियरिंग विभाग 2. घातुकर्म एवं पदार्थ इंजिनियरिंग विभाग 3. आपदा निवारण एवं प्रबंधन केन्द्र 4. परिवहन प्रणाली केन्द्र 5. सूक्ष्म (नैनों) प्रौद्योगिकी केन्द्र To consider and ratify the changes in Educational Qualifications of the following Departments/Centres for PG admission 2018 onwards: 1. Civil Engineering Department 2. Metallurgical & Materials Engineering Department 3. Centre for Disaster Mitigation and Management 4. Centre for Transportation Systems 5. Centre for Nanotechnology	
72.21	राष्ट्रीय अकादमिक डिपोजटरी (एनएडी), भारत सरकार के उपक्रम में शामिल होने की प्रक्रिया को रिपोर्ट करना । To report starting of process for joining National Academic Depository (NAD), a GOI initiative.	38

Item No. 72.1:   **To confirm the minutes of the 71ˢᵗ meeting of the Senate held on 28.12.2017.**

The minutes of the 71ˢᵗ meeting of the Senate held on 28.12.2017 were circulated to the members vide e-mail dated 31.01.2018.

The Senate may consider confirming the said minutes.

Item No.72.2: **To report on the actions taken to implement the decisions of the Senate taken in its 71st meeting held on 28.12.2017.**

The minutes of the 71st meeting of the Senate held on 28.12.2017 were circulated to the members vide e-mail dated 31.01.2018. The status of actions taken to implement the decisions of the Senate are as under:

Item No.	Reference to the Senate minutes	Abstract of the Minutes	Status of action taken
71.3	Finalization of title at the time of thesis submission for Masters' students.	The Senate approved the proposal.	Communicated through e-mail vide Notification No. Acd./7304/UG-15 dated 15th February 2018 and uploaded on Channel-i.
71.4	Proposal of closing the following proficiencies: 1. Gardening 2. Philately and Numismatics	The item was withdrawn in view of item No. 71.6.	Action not required.
71.5	Proposal regarding rules/norms for change of branch.	The Senate approved the proposal with minor changes.	Communicated through e-mail vide Notification No. Acd./6764/UG-15 dated 15th February 2018 and uploaded on Channel-i.

71.6	Proposal regarding revision of rules of proficiency.	The Senate approved the proposal.	Communicated through e-mail vide Notification No. Acd./7309/UG-15 dated 15th February 2018 and uploaded on Channel-i.
71.7	Proposal for introducing "Dean's Appreciation for Achieving Highest Increase in CGPA & HoD's Appreciation for Achieving Highest Increase in SGPA".	The Senate approved the proposal.	Communicated through e-mail vide Notification No. Acd./7308/UG-15 dated 15th February 2018 and uploaded on Channel-i.
71.8	2nd mercy appeals of students to continue their study for this academic year 2017-18.	The Senate approved the proposal.	Communicated through e-mail vide Notification No. Acd./6594/UG-15 dated 16th January 2018.
71.9	Academic program of Integrated M.Sc. Chemistry upto 2nd year as proposed by Chemistry Department. CYN-101: Introduction of Chemical Science CYN-103: Computer Programming CYN-102: Physical Chemistry-I CYN-104: General Organic and Inorganic Chemistry CYN-106: Basic Analytical	The Senate approved the academic program.	Communicated through e-mail vide Notification No. Acd./6765/UG-15 dated 15th February 2018 and uploaded on Channel-i.

	Chemistry CYN-201: Thermodynamics CYN-203:Coordination Chemistr Organometallics CYN-205: Organic Chemistry-I CYN-202: Main Group and Cluster Chemistry CYN-204: Organic Chemistry-II CYN-206: Chemical Kinetics		
71.10	Academic program of Integrated M.Sc.(Physics).	The Senate approved the academic program with minor changes.	Communicated through e-mail vide Notification No. Acd./6766/UG-15 dated 15th February 2018 and uploaded on Channel-i.
71.11	Academic program of the elective courses of M.Tech. (Solid State Electronic Materials) and M.Tech. (Photonics).	The Senate approved the academic program.	Communicated through e-mail vide Notification No. Acd./6760/UG-15 dated 15th February 2018 and uploaded on Channel-i.
71.12	Request of Mr. R. Gokul Krishnan (En. No. 1211034) for allowing BTN-302 and BTN-300 as self study courses in the current semester to complete his degree requirements.	The Senate approved the request.	Communicated through e-mail vide Notification No. Acd./6808/UG-15 dated 21st February 2018.
71.13	Request of Electrical Engineering Department for modifications in the academic program of	The Senate approved the academic program.	Communicated through e-mail vide Notification No.

	M.Tech. (Electric Drives & Power Electronics).		Acd./6761/UG-15 dated 15th February 2018 and uploaded on Channel-i.
71.14	Relaxation in course credit requirements for candidacy of Ph.D. if the candidate has B.Tech. Degree and has completed requirements for Minor Specialization/ Honours Departmental courses.	The Senate approved the proposal with the following change: Based on SRC's recommendation, upto a maximum of 12 credits can be waived.	Communicated through e-mail vide Notification No. Acd./7305/UG-15 dated 15th February 2018 and uploaded on Channel-i.
71.15	Criteria regarding applicability of Ph.D. rules at the time of submission of thesis and regarding evaluation of the thesis.	The Senate approved the following: (i) Eligibility criteria for submission of thesis regarding minimum duration of submission and number of papers to be published shall be as per the Ordinances & Regulations in force at the time of admission. (ii) Criteria to be adopted for evaluation of thesis shall be as per the Ordinances & Regulations in force at the time of submission of the thesis.	Communicated through e-mail vide Notification No. Acd./7306/UG-15 dated 15th February 2018 and uploaded on Channel-i.
71.16	Operational discrepancies observed at the time of conversion from Full Time to Part-time Ph.D. with respect to fixing of local supervisor.	The Senate approved that an organization as a whole and not one of its units be considered while approving change of status from full time to Part-Time. Further, there shall not be any requirement of obtaining NOC nor having a local supervisor mandatory.	Communicated through e-mail vide Notification No. Acd./7307/UG-15 dated 15th February 2018 and uploaded on Channel-i.
71.17	Admission eligibility criteria, category nomenclature, process	The Senate accepted the proposal in principle. Further, suggested that keeping in view the	Agenda Item No. 72.9 is placed.

	of admission and pre-Ph.D. course requirements for candidates having long professional experience with qualification as B.Tech. or equivalent.	suggestions received the matter be reconsidered by the Committee and revised recommendations be brought before the Senate for consideration.	
71.18	Request of a contractual employee of the Institute for admission in the Ph.D. program.	The proposal was not accepted.	Communicated through e-mail vide Notification No. Acd./6778/UG-15 dated 15th February 2018 and uploaded on Channel-i.
71.20	(i) To ratify change in minimum education qualification for admission to Ph.D. programme in the Department of Applied Science & Engineering, Department of Pulp & Paper Technology, Department of Polymer & Process Engineering, Saharanpur Campus and Centre for Nanotechnology for the session 2017-18. (ii) To consider and approve the same for subsequent years.	The Senate ratified the item and approved the same for subsequent years.	Communicated through e-mail vide Notification No. Acd./6777/UG-15 dated 15th February 2018.

71.21	(i) To ratify adopting MHRD Notification F.No. 17-2/2014-TS.I dated 2nd March 2015 regarding the eligibility criteria for Ph.D. admission. (ii) To consider and approve the same for subsequent years.	The Senate ratified the item and approved the same for subsequent years. Further, the Senate decided that MBA may not be considered as a professional course for Ph.D. admission in Engineering Departments.	Communicated through e-mail vide Notification No. Acd./6767/UG-15 dated 15th February 2018 and uploaded on Channel-i.
71.22	(i) To ratify guidelines for Ph.D. admission through Rolling Advertisement. (ii) To consider and approve the same for subsequent years.	The Senate ratified the item and approved the same for subsequent years.	Communicated through e-mail vide Notification No. Acd./6807/UG-15 dated 21st February 2018.
Reported Item No. 71.19, 71.23 & 71.24 were only for ratification of the Senate.			

Item No. 72.3: **To consider the following:**
1. Registration of a Project Fellow in Ph.D. programme
2. Institute assistantship to Project Fellow after completion of project duration

IRC in its 19th meeting held on February 16, 2018 recommended as follows:

1. Registration of a Project Fellow in PhD Programme

a. Project fellows may be allowed to join PhD programme subject to:

(i) Total duration of the project is at least 2 years.
(ii) At least one year is left in the project at the time of registration.

b. The student can register for PhD programme in between the dates of registration. The student has to register for course work in the next semester, if sufficient time is not left for registering in the courses at the time of PhD registration.

2. Institute Assistantship after completion of project duration:

a) On recommendation of the SRC and completion of project funding, the project fellow already registered under PhD programme can get institute assistantship for a maximum period of 3 years, subject to the condition that the total duration of project fellowship and institute assistantship shall not be more than 5 years from the date of registration in PhD programme.

b) Such a change shall be considered as over and above case i.e. this will not be counted in the calculation of institute assistantships with respect to category/ faculty/ department.

The recommendations are placed for the consideration and approval of the Senate.

Item No. 72.4: **To consider the limit on number of research scholars to be supervised by a faculty.**

IRC in its 19th meeting held on February 16, 2018 recommended as follows:

i. There should not be any limit on the total number of research scholars which can be supervised by a faculty.

ii. The research scholars with institute assistantship can be maximum 8 (eight) per faculty, singly or jointly, or a combination of both.

The recommendations are placed for the consideration and approval of the Senate.

Item No. 72.5 : **To adopt the admission criteria and selection guidelines for Prime Minister's Research Fellowship (PMRF) as proposed by the National Steering Committee of PMRF.**

The admission criteria and selection guidelines for Prime Minister's Research Fellowship (PMRF), as proposed by the National Steering Committee, are placed for information and adoption. **(Appendix-A)**

Eligibility

The applicants for the PMRF should:

• have completed or be pursuing the final year of four (or five) year undergraduate or five year integrated M.Tech or five year integrated M.Sc. or five year undergraduate-postgraduate dual degree programs in Science and Technology streams from IIEST/IISc/IITs/NITs/IISERs and centrally funded IIITs;

• have secured at least CGPA/CPI of 8.0 (in scale of 10.0). For applicants in five year integrated or dual degree programs if separate CGPAs/CPIs are awarded for UG and PG parts of the program then the CGPA/CPI of UG part (first four year) will be considered.

• have completed the required academic qualification in the last five years.

Merely satisfying the eligibility requirement does not guarantee admission. Final selection for admission of applicants will be done following a rigorous selection process.

Selection Process

The selection process for the PMRF will be a rigorous two stage process with screening by the Reviewers and final selection by the Selection Committee for each broad discipline to ensure selection of the best talent.

An applicant may apply for more than one combination of broad discipline and institute. An applicant will be required to provide preferences in case the applicant wishes to apply for more than one combination of discipline and institute.

The shortlisting and selection will be done in the following manner:

1. Each nodal institute will have a team of experts who will assess the applications and prepare a shortlist of applicants for written test and/or interview at the nodal institute.

2. Shortlisted applicants will be called for a written and/or interview at the nodal institute.

3. Final selection of shortlisted applicants will be made based on the performance in the interview.

Item No. 72.6: **To consider seat matrix for Ph.D. admissions with Institute Assistantship and under Prime Minister's Research Fellowship (PMRF) for the academic year 2018-2019.**

The seat matrix for Ph.D. admissions with Institute Assistantship **(Table 1 in Appendix 'A')** and under PMRF **(Table 2 in Appendix 'A')** for the academic year 2018-2019 is placed for the consideration and approval of the Senate.
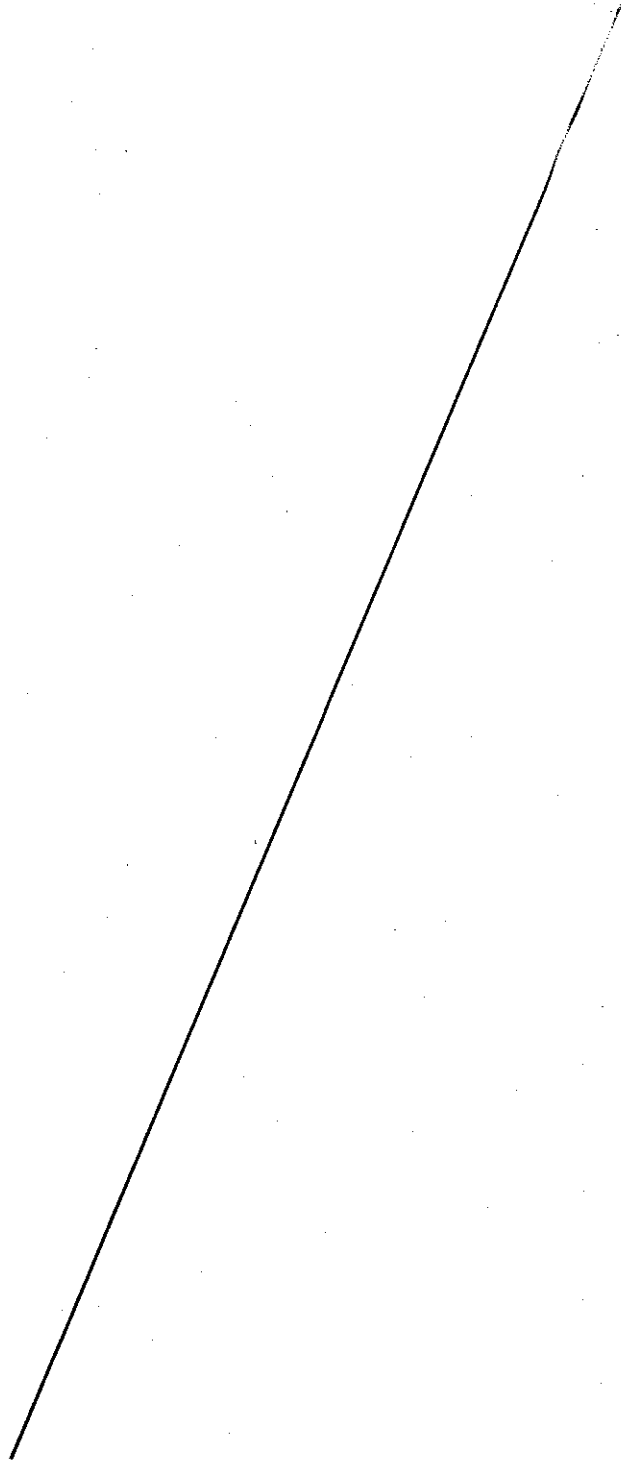
TABLE-1

Category wise vacancy i.e. 27% for OBC, 15% for SC, 7.5% for ST for admission to Ph.D program for Autumn Semester of the session 2018-19 under Institute Assistantship

Deptt/ centre	Faculty Position (01.02.18)	Total seats @4.0 x faculty	Total seats				Seats Filled					Vacancy				
			Gen	OBC	SC	ST	Gen	OBC	SC	ST	Total filled	Total vacancy	Gen	OBC	SC	ST
(Roorkee Campus)																
AHEC	7	28	14	8	4	2	7	5	3	1	16	12	7	3	1	1
Arch & Plng	18	72	37	19	11	5	22	11	8	0	41	31	15	8	3	5
Biotechnology	26	104	52	28	16	8	42	15	8	1	66	38	10	13	8	7
C-Trans	4	16	9	4	2	1	6	2	2	1	11	5	3	2	0	0
Dis. Mit. &Magnt	4	16	9	4	2	1	6	4	2	0	12	4	3	0	0	1
Nanotechnology	4	16	9	4	2	1	5	3	2	0	10	6	4	1	0	1
Chemical Engg	21	84	42	23	13	6	24	24	9	1	58	26	18	0	4	5
Chemistry	23	92	46	25	14	7	29	13	6	0	48	44	17	12	8	7
Civil Engg	44	176	89	48	26	13	54	35	18	4	111	65	35	13	8	9
Computer Sc. & Engg	12	48	24	13	7	4	16	5	3	0	24	24	8	8	4	4
Earth Sciences	22	88	44	24	13	7	18	8	6	2	34	54	26	16	7	5
Earthquake Engg	11	44	22	12	7	3	19	4	2	1	26	18	3	8	5	2
Electrical Engg	31	124	63	33	19	9	39	19	8	2	68	56	24	14	11	7
E&CE	20	80	40	22	12	6	25	14	3	0	42	38	15	8	9	6
Hum &Soc. Sciences	15	60	30	16	9	5	23	14	4	0	41	19	7	2	5	5
Hydrology	7	28	14	8	4	2	8	4	1	0	13	15	6	4	3	2
Inst. Instr. Centre	1	4	2	1	1	0	1	2	0	0	3	1	1	0	1	0
Management Studies	14	56	32	13	7	4	20	8	4	0	32	24	12	5	3	4
Mathematics	25	100	50	27	15	8	21	19	9	1	50	50	29	8	6	7
Mech&Indl Engg	41	164	83	44	25	12	55	34	16	5	110	54	28	10	9	7
Met & Mat Engg	21	84	42	23	13	6	28	17	12	1	58	26	14	6	1	5
Physics	32	128	64	35	19	10	44	21	7	0	72	56	20	14	12	10
WRD & M	5	20	10	5	3	2	6	5	3	1	15	5	4	0	0	1
	408	1632	827	439	244	122	518	286	136	21	961	671	309	153	108	101
(Saharanpur Campus)																
Applied Sc. & Engg	5	30	15	8	5	2	15	6	1	0	22	8	0	2	4	2
Paper Technology	6	36	18	10	5	3	15	7	5	0	27	9	3	3	0	3
Polymer & Process Engg	12	72	36	19	12	5	27	12	13	0	52	20	9	7	0	5
	23	138	69	37	22	10	57	25	19	0	101	37	12	12	3	10

Table - 2

Proposed PMRF seat distribution for IIT Roorkee

Department/Centre	Seats
AHEC	1
ARCHITECTURE & PLANNING	2
BIOTECHNOLOGY	6
CIVIL ENGINEERING	7
CHEMICAL ENGINEERING	2
COMPUTER SCIENCE & ENGINEERING	2
CHEMISTRY	5
DISASTER MITIGATION & MANAGEMENT	1
ELECTRONICS & COMMUNICATION ENGINEERING	4
ELECTRICAL ENGINEERING	4
EARTHQUAKE ENGINEERING	1
EARTHSCIENCES	3
HYDROLOGY	1
MATHEMATICS	3
MECHANICAL & INDUSTRIAL ENGINEERING	5
METTALURGICAL & MATERIALS ENGINEERING	2
NANOTECHNOLOGY	1
PHYSICS	3
APPLIED SCIENCES	1
POLYMER & PROCESS ENGINEERING	1
PAPER TECHNOLOGY	1
TRANSPORTATION SYSTEMS	1
WATER RESOURCE DEVELOPMENT & MANAGEMENT	1
Total	58

Item No. 72.7: To consider the revision in the criteria for direct admission in Part-time Ph.D. programme.

IRC in its 19th meeting held on February 16, 2018 recommended as follows:

(i) Organisation shall be considered by the DRC, on case-to-case basis.

(ii) Organisation/institution shall not be a degree awarding organisation/institution or shall not be affiliated to any such organisation/institution.

(iii) The requirement of a co-supervisor at the place of work or in the organization is not mandatory.

(iv) NOC shall be required for such candidates.

The recommendation is placed for the consideration and approval of the Senate.

Item No. 72.8: **To consider and approve the seat matrix of PG programs for the academic year 2018-2019.**

The IAPC in its 60th meeting recommended the seat matrix of PG programs for the academic year 2018-2019 **(Appendix 'A')**

The above recommendation of IAPC is submitted for consideration and approval of the Senate.

Annexure-A

Proposed Breakup for PG Admission 2018-19

S.No	Academic Department/ Centre & (Code)	Name	Code	Main Gate Discipline(s) GATE Discipline Code	GEN	OBC	SC	ST	Other GATE Disciplines GATE Discipline Code	GEN	OBC	SC	ST
1	Architecture and Planning (ARD)	M.Arch.	10	AR(12)	6	3	2	1	-	-	-	-	-
		M.U.R.P.	11	AR(9)	5	2	1	1	CE(2)	1	1	0	0
2	Alternate Hydro Energy Centre (AHC)	M.Tech. Alternate Hydro Energy Systems	12	CE(2)	1	1	0	0	AG/CH/EE/EC/ME/PI/XE (13)	6	4	2	1
		M.Tech. Environmental Management of Rivers and Lakes	13	CE(3)	1	1	1	0	AG/CH/EE/ME/PI/XE/AR/CY/BT/PH/MA/XL/EY(7)	3	2	1	1
3	Chemical Engineering (CHD)	M.Tech. Chemical Engineering	14	CH(20)	10	5	3	2	-	-	-	-	-
4	Civil Engineering (CED)	M.Tech. Environmental Engg.	16	CE(9)	5	2	1	1	CH(2)	1	1	0	0
		M.Tech. Geomatics Engg.	17	CE(7)	3	2	1	1	AR/CS/EC/EE/AG/MN(7)	4	2	1	0
		M.Tech. Geotechnical Engg.	18	CE(13)	7	3	2	1	MN (2)	1	1	-	-
		M.Tech. Hydraulic Engg.	19	CE(11)	5	3	2	1		-	-	-	-
		M.Tech. Structural Engg	20	CE(21)	10	6	3	2	-	-	-	-	-
		M.Tech. Transportation Engg.	21	CE(14)	7	4	2	1	-	-	-	-	-
5	Earthquake Engineering (EQD)	M.Tech. Soil Dynamics	22	CE(11)	5	3	2	1	-	-	-	-	-
		M.Tech. Structural Dynamics	23	CE(18)	9	5	3	1	-	-	-	-	-
		M.Tech. Seismic Vulnerability and Risk Assessment	24	CE(10)	5	3	1	1	-	-	-	-	-
6	Electrical Engineering (EED)	M.Tech. Electric Drives & Power Electronics	25	EE(15)	8	4	2	1	-	-	-	-	-
		M.Tech. Instrumentation and Signal Processing	26	EE(9)	5	2	1	1	EC/IN(5)	3	1	1	0
		M.Tech. Power System Engg.	27	EE(15)	8	4	2	1	-	-	-	-	-
		M.Tech. Systems and Control	28	EE(11)	5	3	2	1	EC/IN(3)	1	1	1	-
7	Electronics and Communication Engineering (ECD)	M.Tech. Communication Systems	29	EC(12)	6	3	2	1	-	-	-	-	-
		M.Tech. R.F. & Microwave Engg	30	EC(9)	5	2	1	1	-	-	-	-	-
		M.Tech. Microelectronics and VLSI	31	EC(10)	5	3	1	1	-	-	-	-	-
8	Computer Science and Engineering (CSD)	M.Tech. Computer Science & Engg	32	CS(30)	16	8	4	2	-	-	-	-	-
9	Hydrology (HYD	M.Tech. Hydrology	33	CE/AG(11)	6	3	1	1	GG/XE/PH/ EY(1)	0	1	0	0
10	Mechanical and Industrial Engineering (MED)	M.Tech. CAD, CAM & Robotics	34	ME/PI(10)	5	3	1	1	-	-	-	-	-
		M.Tech. Machine Design Engg.	35	ME/PI(12)	6	3	2	1	-	-	-	-	-
		M.Tech. Production & Industrial Systems Engg.	36	ME/PI(12)	6	3	2	1	-	-	-	-	-
		M.Tech. Thermal Engg.	37	ME/PI(11)	5	3	2	1	-	-	-	-	-
		M.Tech. Welding Engg.	38	ME/PI(11)	5	3	2	1	-	-	-	-	-
11	Metallurgical and Materials Engineering (MTD)	M.Tech. Industrial Metallurgy	39	MT(4)	2	1	1	0	ME/PI/XE (7)	3	2	1	1
		M.Tech. Materials Engg.	40	MT(4)	2	1	1	0	PH/ME/PI/CY/XE (7)	3	2	1	1
12	Paper Technology Saharanpur Campus (PPD)	M.Tech. Pulp & Paper	41	CH(8)	4	2	1	1	ME/BT/TF/EY (4)	2	1	1	0
		M.Tech. Packaging Technology	42	CH(7)	3	2	1	1	BT/CY/ME/TF (5)	3	1	1	0
13	Water Resources Development and Management (WRD)	M.Tech. Irrigation Water Management	43	CE/AG(5)	3	1	1	0	-	-	-	-	-
		M.Tech. Water Resources Development	48	CE/EE/ME (9)	5	2	1	1	-	-	-	-	-

S.No	Academic Department/ Centre & (Code)	Name	Code	GATE Discipline Code	GEN	OBC	SC	ST	GATE Discipline Code	GEN	OBC	SC	ST
		Academic Programmes		**Main Gate Discipline(s)**					**Other GATE Disciplines**				
14	Chemistry (CYD)	M.Tech. Advanced Methods of Chemical Analysis	45	CY(8)	4	3	1	0	CH(2)	1	0	0	1
15	Physics (PHD)	M.Tech. Solid State Electronic Materials	46	PH(7)	3	2	1	1	EE/EC/MT (3)	1	1	1	0
		M.Tech. Photonics	47	PH(7)	3	2	1	1	EE/EC/MT/IN (3)	1	1	1	0
16	Nanotechnology (NTC)	M.Tech. Nanotechnology	48	MT/ME/EC/CH/BT/CE (5)	3	1	1	0	CY/PH/XL (5)	2	1	1	1
17	Disaster Mitigation and Management (DMC)	M.Tech. Disaster Mitigation and Management	49	CE(5)	2	1	1	1	ME/PI/CS/CH/AR/GG/PH/MA/XL/XE/EY/BT (5)	3	1	1	0
18	Transportation Systems (TSC)	M.Tech. Infrastructure Systems	50	CE(2)	1	1	0	0	ME/PI/CH/EE/EC/CS/AR (8)	4	2	1	1
19	Biotechnology (BTD)	M.Tech. Bioprocess Engineering	51	CH (5)	3	1	1	0	BT/AG/XE/TF (5)	2	1	1	1

Item No. 72.9: **To consider to reinstate the Merit Cum Means (MCM) Scholarship from 2018-19.**

An MCM scholarship beneficiary UG student gets tuition fee waiver and Rs 1000 per month for 10 months.

Tuition fee of students admitted in 2014-15 is Rs 50,000 per year while it is Rs 90,000 per year for students admitted in 2015-16. From the session 2016-17, tuition fee of UG programs was revised to Rs 2,00,000 per year along with the introduction of some fee waivers. Accordingly, SC/ST/PH students get complete fee waiver. Those SC/ST students whose family income does not exceed Rs 5,00,000/- per annum can apply for free messing (only basic menu) and a pocket allowance of Rs 250/- per month. Such students are also exempt from payment of Hostel Room Rent. In case a student does not seek free messing, he/she gets a pocket allowance of Rs 1000/- per month. Further, all students whose family income is less than Rs 1,00,000 per annum get full fee waiver while students whose family income is between Rs 1,00,000 to Rs 5,00,000 per annum get $2/3^{rd}$ fee waiver.

In 2016, there was a proposal to start Vidyalaxmi scheme which would have put additional financial burden on the institute. As a result, the institute discontinued MCM scholarship from 2016-17 onwards. But Vidyalaxmi scheme could not be started. As a result, presently only III and IV year UG students are getting MCM while I and II students are neither getting MCM nor Vidyalaxmi.

It is proposed to reinstate MCM scholarship from the academic year 2018-19. It should be given to General/OBC category students who fulfill the following conditions:

(i) Gross Income of parents (Father/ Mother/ Both) for the previous financial year is not more than Rs 5,00,000/- per annum.

(ii) CGPA and YGPA should be more than 7.00.

(iii) All registered courses should have been cleared.

(iv) Available only for the normal duration of the program. For dual degree students, it will be available only up to the 4th year.

(v)   The student should not have been penalized due to unfair means/ indiscipline.

(vi)   Available up to 25% of the actual strength of the class.

For new students, JEE-Adv or JAM AIR, whichever is applicable, will be the criterion. In subsequent years, their academic performance in the preceding academic year will be the criterion. ITR of the parents (both mother and father) of the current assessment year will be used as proof of income. A student whose family income falls below the prescribed limit at any point during the course of his/her program is eligible to be considered for an award of MCM scholarship from the next academic year.

Item No. 72.10: To consider the issuance of a certificate to the Ph.D. research scholars, if requested.

IRC in its 19th meeting held on February 16, 2018 recommended issuing a certificate, if requested, to the Ph.D. scholars. This is given as **Appendix 'A'.**

The certificate is placed for the consideration and approval of the Senate.

Certificate for Ph.D. students after completion of degree, if requested

To whom it may concern

This is to certify that:

a. Mr/Ms XXXXXXXXXXX, Enrolment No. YYYYYYYYYY has worked on topic '_____' as a Ph.D. student in the Department of _____ at Indian Institute of Technology Roorkee under the supervision of Dr. _____ from _____ to _____ as Regular/Part-Time student.

b. The thesis was submitted on _____ and open viva-voce examination was held on _____ through circulation of the notice.

c. The student has published _____ research papers in referred journals and has made ____ presentations in conferences till final viva-voce examination.

d. The PhD students are admitted to the Ph.D. programme on the basis of academic record, test/interview or both and guidelines as in force in the institute from time to time.

e. The academic performance during Ph.D. programme is evaluated by a Student Research Committee (SRC). The studentneeds to complete the requirements of pre-Ph.D. courses and research proposal (through presentation)to the SRC.

f. The student makes a Pre-synopsis presentation to SRC and the thesis is examined by external examiners.

g. The institute preserves a soft copy of the thesis.

h. The institute is an autonomous institution created by an Act of Parliament. Institute follows Government of India guidelines on reservation as applicable from time to time.

This certificate is issued on the request of the student.

AR-Evaluation

(_____)

Note- (i) In case of Ph.D. degree registered before 10ᵗʰ July, 2009 six criteria must be fulfilled.
(ii) In case of Ph.D. degree registered after 10ᵗʰ July, 2009 all the eleven criteria must be fulfilled
(iii) Eleven criteria as per UGC (minimum standard and procedure for award of Ph.D. degree) Regulation, 2009 given in next page.

List of 11 criteria as per UGC (minimum standard and procedure for award of Ph.D. degree) Regulation, 2009

Sr. No.	Particular
1.	Admission by entrance test or interview or both.
2.	Maximum number, M.Phils : 5, Ph.D.: 8 /Supervisor.
3.	National/ Reservation Policy.
4.	Course work/Research Methodology Theory.
5.	Research Advisory Committee- Review of the progress
6.	Part-1 methodology exam.
7.	Pre-Ph.D. presentation before synopsis submission.
8.	Publication of at least 1 paper before theis submission.
9.	Presentation of 2 papers in conferences or seminar.
10.	Evaluation of thesis by two experts other than Supervisor, one out of the State.
11.	Soft copy of the Thesis in the University

Item No. 72.11: **To consider the Online procedure for application and seat allocation (to candidates) related to M.Tech/M.Arch/MURP**

Last year IIT Roorkee joined COAP portal from second round onwards wherein the seats in different programmes of M.Tech./M.Arch/MURP were allocated centrally to the applicants across all IITs. This helped in minimizing the vacancies in these PG programmes across the country.

This year IIT Roorkee is going to adopt online procedure for getting applications from prospective students and to allocate a seat in a programme to the students as per the criteria formalised. The allocation matrix will be made available to COAP portal so that no student freezes seats simultaneously in different institutes. To make the online system of application and seat allocation smooth certain changes have been made in the overall procedure of admission.

The IAPC in its 60th meeting had recommended the proposal. Approval of Chairman Senate was taken to report the procedure in Admission Brochure 2018.

The proposal is submitted for the ratification and approval of the Senate.

Procedure for admission to M.Tech/M.Arch/M.U.R.P. program 2018 onwards

- Notification for admission to M.Tech/M.Arch/MURP programme will be made online only.

- The process for admission to PG programme 2018 will be online including counseling and upgradation .

- All the application will be invited online and scrutiny will also be done by online mode.

- Resubmission of online application by the scrutiny fail candidates

- Final scrutiny to be done by admission office

- Online counseling will done by common portal of all IITs in several rounds

- In case of Tie break Normalized GATE rank will be considered for allotment of seat. The Normalized GATE Rank will be calculated as follows:

$$\text{Normalized GATE Rank In the Paper} = \frac{\text{GATE Rank}}{\text{Total number of candidates appeared in that Paper in that year}} \times 100$$

- 2nd criterion for tie-breaker, as preference to a person with higher age, should be introduced in the admission guidelines

- Offer letter to be issued to the eligible candidates

- Those candidates who have frozen the seat allotted will be required to deposit Rs. 5000/- seat booking fee (nonrefundable). It will be adjusted in total fee at the time of registration.

- After the final round of counseling, the candidates who have booked their seats will be registered in the Institute as per schedule.

- No further upgradation will be done for the registered candidates.

- Final counseling-cum-registration (spot counseling) will be done as per merit for remaining vacant seats after registration, if any. Remaining eligible candidates will be considered in the spot counseling-cum-registration. No admission will be given after spot counseling-cum-registration for PG Admission.

Item No. 72.12: **To consider the mercy request of Mr. Maheshbhai J. Vanajara, Enrolment No. 17920027, QIP Ph.D. Scholar in Mech. & Indl. Engg. Department to allow taking one additional subject in Spring Semester so as to fulfil course work CGPA requirement.**

IRC in its 19th meeting held on February 16, 2018 considered the late registration of the student in Autumn semester and recommended as follows:

Mr. Maheshbhai J. Vanajara, 17920027, QIP PhD Scholar, MIED, may be allowed to take one additional course in the next semester as sufficient time is not left to complete the course in the current semester. The CGPA will be estimated considering all the courses being recommended by SRC.

The recommendation is placed for the consideration and approval of the Senate.

Item No. 72.13: **To consider waiving off of course work requirement for the candidates who have completed PG degree requirements (M.Tech./M.Arch./MURP) from IITR or any other IIT or IISc.**

IRC in its 19th meeting held on February 16, 2018 recommended that a waiver in course work requirement can be given to a student if the student satisfies the following:

a.   Student has done M. Tech./M.Arch./MURP from IITs or IISc and has CGPA 8.5 or more.

b.   The student has started PhD within TWO years of the completion of M.Tech./M.Arch./MURP.

The waiver will be applicable if admission is sought within the relevant stream or discipline with respect to the post-graduate degree and is recommended by the SRC.

The recommendations are placed for the consideration and approval of the Senate.

Item No. 72.14: **To consider the proposal of including B.Tech./B.Arch./ Int. M.Sc./ IDD/ M.Sc. under UG Rules and Regulations and M.Tech. & Ph.D. program under PG Regulation.**

At present various programs running in the Institute are classified into three categories - UG, PG and Ph.D. For operational ease, It is proposed that we should have only TWO categories. Thus B.Tech./ B.Arch. /Int. M.Sc./ IDD /M.Sc. be governed by UG rules & regulations while M.Tech./ M.Arch./ MURP/ MBA/ Ph.D. be governed by PG rules & regulations. Accordingly, the existing rules can be adopted/ revised for these two categories only.

The issue is placed before the Senate for consideration and approval.

Item No. 72.15: **To consider the report of the committee to recommend inclusion of online MOOCs courses for partial fulfillment of credit requirement.**

The proposal **(Appendix-A)** has been recommended in the 60th meeting of IAPC and is placed for the consideration and approval of the Senate.

Report of the Committee to Recommend Inclusion of Online Courses for Partial Fulfillment of Credit Requirement in Academic Programs

The committee of Dean Academic Affairs, Coordinator Education Technology Cell and Associate Dean Academic Affairs (Curriculum) recommended the following:

1. The online courses for various programs can be taken in lieu of the courses without laboratory work as per the following norms.

Program	No. of courses/Credits allowed	Remarks
UG	Up to 8 credits (max. 2 courses)	Courses should be approved by DAPC of the concerned department
PG	Up to 4credits(max. 1 course)	Courses should be approved by DAPC of the concerned department
PhD	Up to 4 credits (max. 1 course)	Courses should be approved by SRC

A course will need approval by DAPC once only.

2. The credit equivalence would be as follows:

Duration of course (hrs)	Credits
10	2
20	3
30	4

3. For grading, the marks obtained by the registered students of IITR as per the procedure of NPTEL guidelines would be requested from NPTEL central team. The grading procedure of IIT Roorkee will be followed. For no. of IITR students less than 30 in a course, the marks obtained by the student(s) would be normalized by maximum marks (obtained by student of any Institute) and then the grading would be done as per absolute grading system of IIT Roorkee on normalized marks.

4. The above procedure will be reviewed after 2 years.

Item No. 72.16: **To consider the requests of students regarding subject registration beyond permissible credit limit.**

The following students are in their extended duration of study and have requested to register for the credits as shown below:

1. Mr. Mohit Kumar Bagdi (En. No. 10211017) – 33 credits
2. Mr. Aditya V. S. Gehlot (En. No. 12115007) – 47 credits
3. Mr. Neeraj Kumar Meena (En. No. 13118046) - 35 credits
4. Mohammed Umair Khan (En. No. 14116042) - 31 credits

IAPC in its 59th meeting recommended the request of Mr. Mohit Kumar Bagdi as he would be able to complete his program with 33 credits, while Mr. Aditya V. S. Gehlot was advised to split the requested credits across two semesters.

Similarly, the requests of Mr. Neeraj Kumar Meena and Mr. Mohammed Umair Khan have also been recommended in 60th meeting of IAPC as they would be able to complete the program in the current semester if allowed to register for the pending credits.

The above recommendations are submitted for the consideration and approval of the Senate.

Item No. 72.17: **To consider the request of a faculty member to allow an M. Tech. Student of NIT Kurukshetra to carry out a part of the dissertation thesis at IIT Roorkee.**

The thesis and project work is not allowed for casual students as per the current rules. A faculty member has sought permission to allow a student from NIT Kurukshetra to carry out part of the dissertation thesis at IIT Roorkee.

The IAPC in its 60th meeting recommended that if the student has to do a part of his dissertation work at IIT Roorkee, he may be allowed to do so after depositing the fee at par with the fee for casual students.

The above recommendation of IAPC is submitted for consideration and approval of the Senate.

Item No. 72.18: **To consider the penalty waiver for Mr. Avadh Kishor Sharma (Enrl. No. 15117016) to register for 1st year course in 3rd year.**

First year backlogs are to be cleared in 2nd year, and 2nd year backlogs are to be cleared in 3rd year. If a student fails to do so and has backlog only in one paper, he can be allowed to clear the backlog in the subsequent year after depositing one semester additional fee as penalty.

Mr. Avadh Kishor Sharma requested waiver of the penalty as he was placed in slow-pace program and was not permitted to register for extra credits, which prevented him from clearing the backlog within stipulated time.

The IAPC in its 59th meeting accepted the request and recommended that he may be allowed to register for the course PHN-008 in 3rd year without depositing any penalty as he was placed under slow-pace programme.

The above recommendation is submitted for consideration and approval of the Senate.

Further, as there are a few more such students, it is submitted to consider and approve removal of the clause of one semester additional fee as penalty for the students placed under slow pace program.

Item No. 72.19: **To consider the flexibility regarding evaluation components of a course and awarding marks for attendance.**

The IAPC in its 60th meeting considered and recommended the proposal **(Appendix- A)** of flexibility in the weightage of various course components. However, the IAPC could not reach a conclusion on the proposal of removing the 75% attendance requirement for appearing in the end term examination and introducing marks for attendance in CWS component.

This is submitted for the consideration and approval of the Senate.

Attendance and Course Evaluation Components of a Course

It has been observed that many times in the evaluation of a course the teacher wishes to include mini project, programming assignments, field work etc., which may require substantial efforts from students. However, due to the rigid boundaries on the relative weightages of various components of a course, the students cannot be awarded marks in proportion of the efforts put in. It has also been observed that quite often the students are not able to meet the requirement of 75% attendance for appearing in ETE due to various reasons including medical exigencies. Such students are awarded the failing grade FS without even being given a chance to get evaluated through ETE. An alternative deterrent for not attending classes may be a penalty of marks, which can be accommodated in CWS component of the course. Creating a range for various course components will make it easier to address all the aforementioned issues. It will give flexibility to a teacher in evaluating his/her course according to his teaching scheme. In view of these, the following relative weightages of various course components are proposed.

Existing Weightages

S. No.	Course Type			Relative Weightages				
	L	T	P	CWS	PRS	MTE	ETE	PRE
1.	3 or 2	1 or 0	0	25	-	25	50	-
2.	3 or 2	1 or 0	2/2	20	20	20	40	-
3.	3 or 2	1 or 0	02	15	25	20	40	-
4.	-	-	4 or 6	-	50			50

Proposed Weightages

S. No.	Course Type			Relative Weightages				
	L	T	P	CWS	PRS	MTE	ETE	PRE
1.	3 or 2	1 or 0	0	20-35	-	20-30	40-50	-
2.	3 or 2	1 or 0	2/2	15-30	20	15-25	30-40	-
3.	3 or 2	1 or 0	02	10-25	25	15-25	30-40	-
4.	-	-	4 or 6	-	50			50

The penalty in marks for not attending the classes and the criterion may be decided by the course teacher. The course teacher will have to make it public (by displaying it on the Website/Channel-I) within the first week of the beginning of the course. The maximum penalty can be of 20 marks.

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Item No. 72.20: **To consider and ratify the changes in Educational Qualifications of the following Departments/ Centres for PG admission 2018 onwards:**

1. Civil Engineering Department
2. Metallurgical & Materials Engineering Department
3. Centre for Disaster Mitigation and Management
4. Centre for Transportation Systems
5. Centre for Nanotechnology

On the recommendation of 60th IAPC, the Chairman Senate approved the proposal **(Appendix 'A')** for the session 2018-19. This is submitted for the ratification of the Senate.

Further, item is placed for the consideration and approval of the Senate for subsequent years.

To consider the changes in Educational Qualification suggested by Departments/Centre for PG Admissions 2018

Academic Department/ Centre & (Code)	Academic Programmes		No. of Seats	Minimum Educational Qualifications
	Code	Name		
Civil Engineering (CED)	18	M.Tech. Geotechnical Engg.	15	Bachelor's degree in Civil Engg./Infrastructure/Construction Engineering.

Academic Department/ Centre & (Code)	Academic Programmes		No. of Seats	Minimum Educational Qualifications
	Code	Name		
Metallurgical and Materials Engineering (MTD)	39	M.Tech. Industrial Metallurgy	11	B.Tech./B.E. in Metallurgy/Materials Engineering/Mechanical Engineering/Production Engg/ Production and Industrial Engg /Ceramic Engineering
	40	M.Tech. Materials Engg.	11	B.Tech./B.E. in Metallurgy/Materials Engineering, Mechanical Engineering/Production Engineering/ Production and Industrial Engg /Ceramic Engineering/Polymer Engg./Nanotechnology; or M.Sc. in Physics/Chemistry /Material Science/Polymer / Nanotechnology with Mathematics course at B.Sc. level

Academic Department/ Centre & (Code)	Academic Programmes		No. of Seats	Minimum Educational Qualifications
	Code	Name		
Disaster Mitigation and Management (DMC)	49	M.Tech. Disaster Mitigation and Management	10	B.Tech. (Civil, Structural, Mechanical, Industrial, Chemical, and Engineering/Computer Science & Engineering and Biotechnology; B.Arch. & B. Planning, M.Tech. in Geological Technology and Geophysical Technology, M.B.A.; M.C.A.; M.Sc. in Physics/ Geophysics/ Geology/ Mathematics, Computer Science ,Environmental Sciences (with Maths in B.Sc.).

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Academic Department/ Centre & (Code)	Academic Programmes		No. of Seats	Minimum Educational Qualifications
	Code	Name		
Transportation Systems (TSC)	60	M.Tech. Infrastructure Systems	10	B.E./B.Tech. (Civil/ Mechanical & Industrial/ Electrical/ Chemical Engineering/Electronics & Communication Engg/ Computer Science and Information Technology/ B.Arch./ B.Planning/B.Design.

Academic Department/ Centre & (Code)	Academic Programmes		No. of Seats	Minimum Educational Qualifications
	Code	Name		
Nanotechnology (NTC)	48	M.Tech. Nanotechnology	10	B.Tech. (Met. & Mat. Engg./Mech. Engg./E&C/Electronics/ Chemical Engg./ Biotechnology/ Civil Engineering/ Biochemical Engineering/ Biomedical Engineering/ Bioengineering/ Polymer Engg/ Polymer Technology/ Pharmaceutical Technology/ Industrial Biotechnology/ Nanotechnology); M.Sc. (Physics/Chemistry/ Biotechnology/Life Science/nanotechnology), with Mathematics at 10+2 or higher level.

Item No. 72.21: **To report starting of process for joining National Academic Depository (NAD), a GOI initiative.**

A proposal to join National Academic Depository (NAD) for 24 x 7 online storage, access, retrieval and verification of academic awards for maintaining transparency and transformation through digitization as recommended by IAPC was approved by the Senate in its 68th meeting.

In this process the following in underway:

(a) Designating a Nodal Officer to represent the institute at national level deliberations and discussions on NAD processes.

(b) Designating two officers, one each as Marker and Verifier, who will operate on behalf of the institute.

(c) Taking services of either of the two depositories, through letter of intent and signing of MOU.

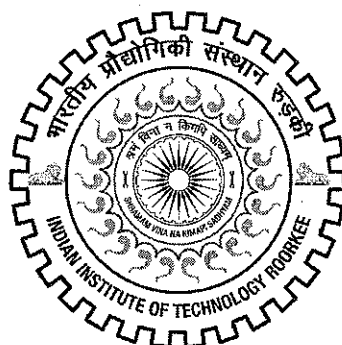At present the following user charges are FREE up to September 30, 2019:

(a) For Academic Institution (AI) - Registration, Annual Maintenance Charges, Initial training, Upload of awards in specified format, Mapping of awards to students' registered NAD account, and Misc reports

(b) For Students - Registration and Viewing of awards, Annual usage fee and first download of academic awards up to the age of 27 years.

The verification of academic records will be chargeable as decided by AI and depository.

The matter is placed for the information of the Senate.

भारतीय प्रौद्योगिकी संस्थान रूड़की
रूड़की – २४७ ६६७ (भारत)

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE
ROORKEE - 247 667 (INDIA)

सीनेट की बहत्तरवीं बैठक हेतु अनुपूरक कार्य सूची

SUPPLEMENTARY AGENDA FOR THE
72nd MEETING OF THE SENATE

बैठक सं0 : बहत्तरवीं
MEETING NO. : **72nd**

स्थान : सीनेट हॉल, भा0प्रौ0सं0रूड़की
VENUE : **Senate Hall, IIT Roorkee**

दिनांक : 22 मार्च 2018
DATE : **22nd March 2018**

समय : 3.30 बजे अपरान्ह
TIME : **3.30 P.M.**

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

SUPPLEMENTARY AGENDA /अनुपूरक कार्यसूची

Item No. / मुद्दा सं0	Particulars /विवरण	Page(s)/ पृष्ठ
72.22	संस्थान में पुरस्कारों के प्रतिष्ठापन के प्रस्तावों पर विचार करना । To consider proposals for institution of awards in the Institute.	39-41
72.23	दीक्षांत समारोह पर दिए जाने वाले मेड़लों और पुरस्कारों के लिए संषोधित मानदंड के प्रस्ताव पर विचार करना । To consider the proposal of modifying the criteria for Convocation Medals and Awards.	42-47
72.24	निम्नलिखित पुरस्कारों, जिनके लिए एमओयूज पहले ही साईन हो चुके है, की पुष्टि करना: (1) ग्रामीण भारत प्रौद्योगिकी आधारित उत्थान (आरआईटीयू) पुरस्कार। (2) सेवा उन्मुखी प्राकृतिक विज्ञान अभिनव और अनुप्रयोग (एसओएनआईए) पुरस्कार। (3) अनूप सिहं खुराना स्क्वैश चैम्पियनशिप पुरस्कार। (4) एनकोर (रूड़की एडोमेंट के एटी नाइन क्लास) पुरस्कार। (5) संचार में उत्कृष्टता के लिए नय्यर पुरस्कार। To ratify the following awards for which the MoUs have already been signed: (i) Rural India Technology based Upliftment (RITU) Award (ii) Service Oriented Natural-Science Innovation & Application (SONIA) Award (iii) Anoop Singh Khurana Squash Championship Prize (iv) ENCORE (Eighty Nine Class of Roorkee Endowment) Awards (v) Nayyar Award for Excellence in Communication	48-52

V

72.25	निम्नलिखित की पुष्टि करनाः (1) वर्ष 2017–18 के लिए एनकोर पुरस्कारों के विजेता। (2) वर्ष 2018 के लिए मानवीय मूल्यों के लिए मनोज जैन पुरस्कारों के विजेता। To ratify the following: (1) Winners of ENCORE awards for year 2017-18. (2) Winners of Manoj Jain Award for Human Values for year 2018.	53
72.26	विभागों/केंद्रों द्वारा सुझाए गए एमटेक/एमआर्क/एमयूआरपी में संशोधित शैक्षणिक योग्यता की पुष्टि करनाः To ratify the changes in M.Tech./ M.Arch./ MURP Educational Qualification suggested by the Departments/ Centre.	54-57
72.27	आईआईटी रूड़की में जेईई (एडवान्सड)–2018 के द्वारा बीटेक/बीआर्क/आईडीडी और इंटिग्रेटिड एमएससी में सत्र 2018 से प्रवेश के लिए सीट मैट्रिक्स को अपनाना। To adopt the Seat Matrix for the admission in B.Tech./ B.Arch./ IDD and Integrated M.Sc. for the session 2018-19 in IIT Roorkee through JEE (Advanced)-2018.	58-60
अन्य मुद्दे अध्यक्ष की अनुमति से। Under any other items with the permission of the Chair.		

Item 72.22: **To consider proposals for institution of awards in the Institute.**

(i)   Ar. Rohit Agarwal award.

Ar. Savita Agarwal, Lucknow has created a fund at IIT Roorkee to initiate Late Ar Rohit Agarwal award.

The award of Rs. 10,000/- will be given each year to a deserving student of Department of Architecture and Planning in the form of a Merit-Cum-Means Scholarship. This will be awarded to a first year student who is at the first place in the list of MCM awardees prepared for all the students who will get MCM scholarships from the Department of Architecture & Planning.

(ii)   Shri Tirath Ram Agarwal Award

Er. Sumer Agarwal, Lucknow has created a fund at IIT Roorkee to initiate Shri Tirath Ram Agarwal Award.

The award of Rs. 10,000/- will be given each year to a deserving student of Department of Mechanical & Industrial Engineering in the form of a Merit-Cum-Means Scholarship. This will be awarded to a second year student who is at the first place in the list of MCM awardees prepared for all the students who will get MCM scholarship from the Department of Mechanical & Industrial Engineering.

(iii)   Prof. C. L. Toshniwal Environmental Engineering Award

Mrs. Laxmi Toshniwal, Roorkee has created a fund at IIT Roorkee to initiate Prof. C.L. Toshniwal Environmental Engineering Award.

The award of Rs. 10,000/- will be given each year to the graduating student who obtains overall highest CGPA in Environmental Engineering specialization in M.Tech. Civil Engineering.

(iv) Prof C.L. Toshniwal Award in Civil Engineering

Prof. Durga Toshniwal, Roorkee has created a fund at IIT Roorkee to initiate Prof C.L. Toshniwal Civil Engineering Award.

The award of Rs. 10,000/- will be given each year to the graduating student of B.Tech. Civil Engineering who obtains highest marks in the compulsory courses of Environmental Engineering. In case there is a tie for highest marks, then out of these students, the student obtains overall higher CGPA in B.Tech. (Civil) Programme will be chosen for the Award.

(v) Smt. Kailash Kambo NASA Fund

Prof. Kuldip Chand Kambo, Roorkee has created a fund at IIT Roorkee to support deserving students of Department of Architecture and Planning, IIT Roorkee for participating in prestigious events / activities of National Association of Students of Architecture (NASA).

The maximum amount of support to be provided in a year would not exceed Rs. 1,00,000/- (Rs. One Lac Only). A committee headed by the Head of Architecture and Planning Department would decide the activities/events of NASA for which support would be available from this fund.

(vi) Shri Ravindra Nath Chaturvedi Scholarship

Mr. Anupam Chaturvedi, Mumbai has created a fund at IIT Roorkee to initiate Shri Ravindra Nath Chaturvedi Scholarship.

A Merit-Cum-Means (MCM) scholarship of Rs. 10,000/- (Rs. Ten Thousand Only) will be given each year to a student of Civil Engineering discipline. This will be awarded to first year student who is at the first place in the list of MCM awardees prepared for all the students who will get MCM scholarship from the Department of Civil Engineering.

(vii) **Modification in the James Thomason Scholarship (JTS) from 2018**

JTS was introduced in 2017 to attract top JEE rankers to IIT Roorkee. In its first year, it has been awarded as per the following criteria:

For the students having AIR up to 300 in JEE Adv-2017 and to the best ranked student joining in each department provided his/her AIR is within 500. The scholarship is paid @ Rs. 25000/- (Rs. Twenty Five Thousand only) per month for 10 months in each academic year for the entire course of study subject to securing a minimum of 8.00 CGPA in each academic year. To retain the attractiveness of JTS no further conditions were proposed. The initial proposal had a review clause after one year.

Five students with ranks upto 300 joined IITR in 2017 in contrast to only one student in the five years preceding it. Hence, it is proposed to continue with JTS with the following simplified criteria: For the students having All India Rank up to 300 in JEE Adv 2018.

Item No. 72.23: **To consider the proposal of modifying the criteria for Convocation Medals and Awards.**

Institute recognizes the meritorious performance of students in the field of academics and all round achievements at the time of annual Convocation by conferring various medals and awards. In order to rationalize these awards, some changes are proposed in the table below:

S. No.	Medal	Existing	Proposed
1	Institute Gold Medal	To be awarded to a student securing a CGPA of 10, other than the who has been awarded the President Gold Medal	TO BE DISCONTINUED
2	President's Gold Medal	To be awarded to the student who obtains the highest marks/ CGPA among all students obtaining a B. Tech. degree in that year from the 4/5 year B. Tech./ B.Arch., 5 year Integrated M. Tech. and 5 year Dual degree programmes. For the purpose of this award, marks/CGPA for the 4 year programme, students will be computed without including the major project grades, while those for the dual degree students will be based on the UG credits. In case there is a tie, the medal will be awarded to the student with the largest earned credits.	To be awarded to the student having the highest CGPA amongst the B. Tech./ B.Arch./ IDD/ Int. M.Sc./ Int M Tech. graduating students admitted though JEE.
3	Institute Silver Medal	Not available	To be awarded to the student having the second highest CGPA amongst the B. Tech./ B. Arch./ IDD/ Int. MSc./ Int. M. Tech. graduating students admitted though JEE.
4	Institute Bronze Medal	Not Available	To be awarded to the student having the third highest CGPA amongst the B. Tech./ B. Arch./ IDD/ Int. M.Sc./ Int. M. Tech. graduating students

			admitted though JEE.
5	Director's Gold Medal	(1) As per Senate minutes of 2002 (4th Senate) To be awarded to a student who is adjudged as the best all rounder from amongst the graduating students of the 4/5 years B.Tech./ B. Arch./ 5 year Int. M. Tech. And 5 year dual degree programmes (2) As per modification done in year 2013 The student having CGPA 9 and above in the final year Proficiency / extra curricular activities including social activities other than the sports activities will be taken into account For the best all rounder other than sports, amongst the B. Tech./ B.Arch./ IDD/ Int. M.Sc./ Int. M. Tech. passing out students entered through JEE and having good character.	To be awarded to the best all rounder amongst the B. Tech./ B. Arch./ IDD/ Int. M.Sc./ Int. M. Tech. graduating students admitted through JEE. CGPA upto 7th or 9th semester will be considered and nominations will be invited from those students who are maintaining CGPA 9 or above. In the application student should highlight his/ her all-roundership. A committee proposed by SCSP and approved by the Director will recommend the name of the awardee. The Committee will invite shortlisted applicants for a short presentation/ interview.
6	Institute Silver Medal (One for Each UG/ dual degree programme)	To be awarded to a student (one in each programme) who obtains the highest marks/ CGPA amongst the graduating class of UG students of the institute in his/her programme. A separate (additional) Institute Silver Medal will be awarded for each dual degree programme to a student who obtains the highest marks/ CGPA amongst the graduating students of that programme. For the purpose of this award, the marks/ CGPA will be calculated on the basis of the cumulative performance in both B. Tech./ B. Arch. and M. Tech. credits. In the case there is a tie the medal is awarded to a student with the largest earned credits. No silver medal will be awarded in the discipline from which a student gets the President Gold Medal and Institute -Gold- Medal. A	Senate approved renaming it to **Department Gold Medal** for Annual convocation 2017. It is proposed to continue it as Department Gold Medal. One Department Gold medal for each UG programmes and One Department Gold medal for PG programmes offered from one Department/ Centre. The eligibility to get DGM is to score CGPA 9.0 or above.

		minimum marks/ CGPA of 8.5 or its equivalent is required for award of the Institute Silver Medal; In case no graduating student satisfies this criterion, the student with the highest marks/ CGPA will be given a certificate.	
7	Institute Medal	For Best project in Engineering & Architecture amongst the UG students in their respective disciplines.	To be renamed as **"Best Project Award"** Each department will recommend a project for the "Best Project Award". It is proposed to give a cash prize of Rs. 20,000 to the best project award. This cash will be equally divided amongst the team members of the selected project. In case, donors are willing to support this award, specific department's award can be named as per the donor's wish.
8	The President of India Dr Shankar Dayal Sharma Gold Medal	For Excellent performance in academics, extra curricular activities including social service and having good character amongst all passing out UG and PG students.	Nominations will be invited from all graduating UG/PG students who are maintaining CGPA 8.5 or above. In the application student should highlight his/her contribution in the area of social service. A committee proposed by SCSP and approved by Director will recommend the name of awardee. The committee will invite shortlisted applicants for a short presentation/ interview.
9	Dr Jai Krishna Gold Medal	For the best students in B. Tech./ B. Arch./ IDD/ Int. M. Tech. courses for outstanding performance in academics and sports who does not get any other Gold medal44 -	For the best students in B. Tech./ B. Arch./ IDD/ Int. M. Tech. courses for outstanding performance in academics and youth leadership.

			Nominations will be invited from eligible graduating students who are maintaining CGPA 8.5 or above. In the application the student should highlight his/her contributions in the area of youth leadership. A committee proposed by SCSP and approved by Director will recommend the name of awardee. The committee will invite shortlisted applicants for a short presentation/ interview.
10	Smt Kaushalaya Arya Cash prize of Rs4000	For the next best girls students in B. Tech./ B. Arch.	Nominations will be invited from all female graduating UG (B. Tech. and B. Arch.) students who are maintaining CGPA 8.5 or above. In the application student should highlight her achievements. A committee proposed by SCSP and approved by the Director will recommend the name of awardee. The committee will invite shortlisted applicants for a short presentation/ interview.
11	Dr A S Arya Cash prize of Rs4000	For the second best boy student in B. Tech./ B. Arch.	Nominations will be invited from all male graduating UG (B. Tech. and B. Arch.) students who are maintaining a CGPA 8.5 or above. In the application student should highlight his achievement. A committee proposed by SCSP and approved by Director will recommend the name of awardee. Committee will invite applicants for short presentation/ interview.

12	Sri M A Rao cash prize of Rs1000	For the all-round best performances in studies and sports in B. Tech. Courses.	Committee constituted for Director Gold Medal will recommend name of the second best student for this award.
13	Laxmi Devi and Shri Banadri Das Cash Prize of Rs5000	For the best and outstanding girl student with excellence in academics amongst all girls in B.Tech./B.Arch. courses.	Committee constituted for Smt. Kaushalya Arya Cash Prize will recommend the name for this prize.
14	Durga Award of Rs. 5000/-	For girl student for outstanding proficiency including character, conduct and excellence in academics performance, extra-curricular activities and social services.	Committee constituted for Smt. Kaushalya Arya Cash Prize will recommend the name for this prize.
15	Om Bala Thapar Cash Prize of Rs.12,000/-	For the best all round girl student in the B.Tech. Degree Programme.	Nominations will be invited from all female graduating UG (B. Tech.) students who are maintaining CGPA 8.5 or above. In the application student should highlight justification for this award. A committee proposed by SCSP and approved by Director will recommend the name of awardee. The committee will invite shortlisted applicants for a short presentation/ interview.
16	Kedar Nath Agarwala I.S.E Memorail trophy and cash Award of Rs. 5000/-	For Academic Excellence and outstanding Community Service	The committee constituted for The President of India Dr Shankar Dayal Sharma Award will recommend the name for this award.
17	Sarojini Naidu Cup	For work and play	The committee constituted for Dr Jai Krishna Gold Medal will recommend the name for this award.
18	Tara Chand kanti Devi Cash Prize of Rs.	For the best student of M.Tech. (Civil)	For the student obtaining highest CGPA in M Tech. among various specializations of

			Department of Civil Engineering.
	3000/-		Department of Civil Engineering.
19	Tara Chand Kanti Devi Cash Prize of Rs.2000/-	For the best student of M.Tech. (Geotech)	For the student obtaining highest CGPA in M. Tech. (Geotechnical)
20	The Indian Service of Engineers Cash Prize of Rs.2000	For outstanding first in class in "Structural Dynamics"	For the student obtaining highest CGPA in M. Tech. (Structural Dynamics)
21	The Indian Service of Engineers Cash Prize of Rs.2000	For outstanding first in class in "Soil Dynamics"	For the student obtaining highest CGPA in M. Tech. (Soil Dynamics)
22	Laxmi Devi and Shri Bandari Das Cash Prize of Rs.5000/-	For the best student with excellence in academic amongst all the student in M.Tech. Engg./ M.Arch. courses	For the student obtaining highest CGPA among all graduating M.Tech./ M.Arch. students
23	Meenakshi Power Award of Rs.20000/- p.a	For the best passing out female student of M.Tech. (AHES)	For the female student obtaining highest CGPA in M.Tech. (AHES)
24	Meenakshi Power Award of Rs.20000/- p.a	For the best passing out female student of M.Tech. (EMRL)	For the female student obtaining highest CGPA in M.Tech. (EMRL)

Item No. 72.24: **To ratify the following awards for which the MoUs have already been signed:**

(i) **Rural India Technology based Upliftment (RITU) Award**

Mr. Vinay Kumar Goswami, Australia (Alumnus of IITR, M.E. Industrial Metallurgy, 1993) has created a fund at IIT Roorkee in year 2015 to initiate RITU award of Rs. 15000/- each. Two awards will be given each year as per following criteria:

Applications/ nominations will be invited from all graduating students of B.Tech., Int. M.Sc., M.Sc. and M.Tech. and dual degree courses, who have made significant contribution for the development of rural India either in the form of a final year project or part of any other initiative at IIT Roorkee. Applications/ nominations can be made individually or in a group. In case, some work is done in group but application is made individually, consent of other group members for the same should be submitted.

After initial screening of the nominations/ applications, a committee recommended by SCSP and approved by the Director will conduct interviews/ presentation of few shortlisted candidates.

(ii) **Service Oriented Natural-Science Innovation & Application (SONIA) Award**

Mr. Vinay Kumar Goswami, Australia has created a fund at IIT Roorkee in year 2015 to initiate SONIA award of Rs. 15000/- each. Two awards will be given each year as per following criteria:

Applications/ nominations will be invited from all graduating students of M.B.A., B.Arch., M.Arch., MURP, M.Sc. Economics., Integrated MBA courses, who have made significant contribution for the development of rural India either in the form of a final year project or part of any other initiative at IIT Roorkee. Applications/ nominations can be made individually or in a group. In case, some work is done in group but application is made individually, consent of other group members for the same should be submitted.

After initial screening of the nominations/ applications, a committee recommended by SCSP and

approved by the Director will conduct interviews/ presentation of few shortlisted candidates.

(iii) Anoop Singh Khurana Squash Championship Prize

E & C students of 1980 batch has created a fund in year 2016 at IIT Roorkee for giving cash prize to winners of squash championship.

Winner and runner up of the squash tournament for boys

1 Winner (Boys) Rs. 30,000/-
1 Runner (Boys) Rs. 20,000/-

(iv) ENCORE (Eighty Nine Class of Roorkee Endowment) Awards

The UG batch of engineers graduated in 1989 and architects graduated in 1990 created a fund in year 2014 to initiate ENCORE awards with guidelines and criteria already enumerated in the MoU.

1. Encore Awards will be awarded once each year on a recurring basis.

2. Encore Awards will consist of the following –

(a) One Encore Scholarship of Rs. 50000/- for sustained overall excellence for Fourth Year boys.
(b) One Encore Scholarship of Rs. 50000/- for sustained overall excellence for Fourth Year girls.
(c) Three means-and-merit Encore Grants of Rs. 30000/- each for First Year boys.
(d) Three means-and-merit Encore Grants of Rs. 30000/- each for First Year girls.

TOTAL value of awards = Rs. 280000/-

Encore Scholarships for all-round achievement (2 in all)

Encore Scholarships will honour undergraduates, both male and female, who have demonstrated sustained scholastic achievement, cultural or literary accomplishment, sporting proficiency, and leadership and social service of a high order. Applicants will be from the Fourth Year class and their track record over all three

preceding years of campus life shall be taken into consideration for these scholarships.

Selection process and criteria

- Selectors : Three senior faculty including the Dean of Student Welfare and at least one Benefactors' Representative or someone nominated by him/her.

- Minimum CGPA of 8 at the end of the Third Year.

- In addition to the CGPA for course-work, selectors will award special weightage for research studies or project work related to Engineering/Architecture undertaken in addition to the stipulated coursework.

- Evidence of excellence in fine arts, performing arts or literary activities – painting, sculpture, theatre, comedy, music, dance, debates, quizzing, writing etc.

- Evidence of excellence in sports – team or individual. Sports may include indoor sports such as chess, billiards etc.

- Evidence of leadership and organizational skills – of IITR student bodies or external organizations, hobby clubs or, event organization. Participation in political activities other than IITR student government will not be accepted.

- Evidence of concern for and contribution to social causes – social, environmental etc. Religious memberships and/or contributions will not be admitted as evidence.

- Application process to begin at the start of the seventh semester and include a detailed application form, including a personal statement of 250 words that describes the applicant's experiences and aspirations for the future.

- Shortlisted candidates to be interviewed in person by the Selectors.

Guidelines for means-and-merit Encore Grants for First Year Boys and Girls (6 in all)

The primary aim of these grants is to provide a meaningful level aid to financially challenged students in their first year at the Institute, thus improving their chances of doing well academically and continuing into the higher years, subject to a threshold level of academic proficiency.

Selection process and criteria

(a) Selectors: Dean, Alumni Affairs and at least one Benefactor Representative.

(b) Threshold academic proficiency : Minimum CGPA of 7 after first semester. Higher GPA would be used as a tie-breaker between applicants of similar economic background.

(c) Candidates to submit an application form drawn up by the Selectors stating personal details and facts about family background, whether first generation in college, whether beneficiaries of any loan etc.

(d) Candidates must also submit a 250 word personal statement describing economic circumstances, family background and aspirations for the future.

(e) Candidates may provide additional documents such as a BPL card or a reference letter from High School Principal or evidence of a loan.

(f) Shortlisted candidates to be personally interviewed by the Selectors in-person or over video-conference.

(g) Selectors may conduct follow-up phone calls to applicants' families or school officials to verify authenticity of their background. Deliberate misrepresentation of economic status should be treated as a violation of the IITR code of conduct and face appropriate disciplinary action.

Other Terms

(h) The grants shall be non-exclusive i.e. the recipients are not precluded from receiving aid or grants from sources other than IITR.

(i) Awarded funds to be deposited in the Scholars' bank accounts in one lumpsum.

(v)   Nayyar Award for Excellence in Communication

Mr. Mohinder L. Nayyar, USA (Alumnus of IITR, B.E. Mechanical, 1966) has created a fund at IIT Roorkee to initiate Nayyar Award for Excellence in Communication. Three cash prizes of Rs.50,000, Rs. 30,000 and Rs. 20,000 will be given every year. In case a female student is not among the first three, one additional prize of Rs11000 will be given to a best girl student. The process of selection will be as follows:

Students in 3rd, 4th and 5th years of UG, IDD courses and all students of PG courses are eligible to compete provided they fulfill any of the following condition:

(a) Student has a good record of writing in different types of publications or Institute magazines. Student needs to submit copies of their publications.

(b) Student has authored a research publication. A reprint/ copy of the publication is to be submitted.

(c) Student has participated in debate/ declamation/ elocution competitions at IIT Roorkee. Student needs to submit copies of certificate or other acceptable evidence.

(d) Student represented IIT Roorkee in an event where communication skills matter.

(e) If a student does not fit in any of the above categories from (a) to (d), he/ she can still nominate himself/ herself. In this case, student is required to submit an essay of around 1500 words on a given topic.

Selection Process:

(1) Primary screening of submitted applications

(2) Essay writing on a given topic - Only shortlisted candidates will be eligible for this round.

(3) Open Public debate- only shortlisted candidates of essay round will be eligible for this round.

Item No. 72.25: To ratify the following:

(1) Winners of ENCORE awards for year 2017-18.

(i) Following students of B.Tech./ B.Arch. 4th year were awarded with Encore award for all round excellence (cash prize of Rs. 50,000/- each) on the basis of academics, sports, arts, social services and overall leadership.

Somesh Mohapatra   -   MMED

Parinishtha Yadav   –   Architecture & Planning

Ankit Alok Bagaria   –   Chemical Engineering

(ii) Following students of B.Tech. 2nd Year were awarded Encore Award for Merit cum Means (cash prize of Rs. 30,000/- each) on the basis of all round excellence and means.

Aby Jose   -   MIED

Layan Kaushik   -   Civil Engg.

Samagra Sharma   -   CSE

Shaivy Adhikari   -   MMED

Tanya Ratra   -   Chemical Engg.

(2) Winners of Manoj Jain Award for Human Values for year 2018.

Manoj Jain Award for Human Values (Cash prize of Rs. 50,000/-) is awarded to one Fourth year student every year. It was discussed with donors to give this award in third year so that students can highlight it in their CVs. Therefore, this year it was presented to Mr. Sambhav Anand Jain, B.Tech. III Year Civil Engineering and Ms. Yeola Shrutika Subhash, B.Tech. IV Year, Metallurgical and Materials Engineering. Both the winners got cash prize of Rs. 50,000/- each.

Now onwards, this will be awarded to one III year student.

Item No. 72.26: **To ratify the changes in M.Tech./ M.Arch./ MURP Educational Qualification suggested by the Departments/ Centre.**

The Chairman Senate has approved the changes in the educational qualification suggested by the Departments/ Centre in the M.Tech./ M.Arch./ MURP from the session 2018. The detailed Academic Programmes leading to M.Tech./ M. Arch./ M.U.R.P. is given at **Appendix 'A'.**

The above is placed before the Senate for ratification.

Table – 1

Details of Academic Programmes leading to M.Tech./M.Arch./M.U.R.P.

Sl. No	Academic Department/ Centre & (Code)	Academic Programmes		Eligible GATE Disciplines	Minimum Educational Qualifications
		Code	Name		
1	Architecture and Planning (ARD)	10	M.Arch.	AR	B.Arch. or its equivalent
		11	M.U.R.P.	AR/CE	B.Arch. or its equivalent or Bachelor's degree in Civil Engg./ B.Planning
2	Alternate Hydro Energy Centre (AHC)	12	M.Tech. Alternate Hydro Energy Systems	CE/AG/CH/EE /EC/ME/PI/XE	Bachelor's degree in Civil/Electrical/Mechanical/ Industrial/Chemical/Electronics/Computer/Agricultural/ Environmental Engg. or equivalent.
		13	M.Tech. Environmental Management of Rivers and Lakes	CE/AG/CH/EE /ME/PI/XE/AR /CY/BT/PH/M A/XL/EY	Bachelor's degree in Civil/Electrical/Mechanical/ Industrial/ Chemical/Agriculture/Environmental Engg./Biotechnology/Arch. /Town Planning or its equivalent or Master in Science in any subject with Mathematics at graduation level.
3	Chemical Engineering (CHD)	14	M.Tech. Chemical Engineering	CH	**B.Tech./B.E. in Chemical Engineering/ Chemical Technology**
4	Civil Engineering (CED)	16	M.Tech. Environmental Engg.	CE/CH	Bachelor's degree in Civil Engg./Chemical Engg./Environmental Engg. or equivalent
		17	M.Tech. Geomatics Engg.	CE/AR/CS/EC /EE /AG/MN	Bachelor's degree in Civil Engg./Electronics Engg./Electrical Engg./Computer Science/ Information Technology/Marine Engg./Mining Engg./Environmental Engg/Agricultural Engg/ Communication Engg/Architecture or equivalent
		18	M.Tech. Geotechnical Engg.	CE/MN	Bachelor's degree in Civil Engg./ **Infrastructure/ Construction Engineering** or equivalent.
		19	M.Tech. Hydraulic Engg.	CE	Bachelor's degree in Civil Engg. or equivalent.
		20	M.Tech. Structural Engg	CE	Bachelor's degree in Civil Engg. or its equivalent.
		21	M.Tech. Transportation Engg.	CE	Bachelor's degree in Civil Engg. or its equivalent.
5	Earthquake Engineering (EQD)	22	M.Tech. Soil Dynamics	CE	Bachelor's degree in Civil/Structural Engg. or equivalent.
		23	M.Tech. Structural Dynamics	CE	Bachelor's degree in Civil/Structural Engg. or equivalent.
		24	M.Tech. Seismic Vulnerability and Risk Assessment	CE	Bachelor's degree in Civil/Structural Engg. or equivalent.
6	Electrical Engineering (EED)	25	M.Tech. Electric Drives & Power Electronics	EE	Bachelor's degree in Electrical Engg. or its equivalent.
		26	M.Tech. Instrumentation and Signal Processing	EE/EC/IN	Bachelor's degree in Electrical/Electronics & Communication/Instrumentation Engg. or its equivalent.
		27	M.Tech. Power System Engg.	EE	Bachelor's degree in Electrical Engg. or its equivalent.
		28	M.Tech. Systems and Control	EE/EC/IN	Bachelor's degree in Electrical Engg. or Electronics & Communication/Instrumentation Engg. or its equivalent.

Sl. N0	Academic Department/ Centre & (Code)	Academic Programmes		Eligible GATE Disciplines	Minimum Educational Qualifications
		Code	Name		
7	Electronics and Communication Engineering (ECD)	29	M.Tech. Communication Systems	EC	Bachelor's degree in Electronics & Communication Engg. or its equivalent
		30	M.Tech. R.F. & Microwave Engg	EC	Bachelor's degree in Electronics & Communication Engg. or its equivalent
		31	M.Tech. Microelectronics and VLSI	EC	Bachelor's degree in Electronics & Communication Engg. or its equivalent M.Sc. (Physics); M.Sc. (Electronics)
8	Computer Science and Engg **(CSD)**	32	M.Tech. Computer Science & Engg.	CS	B.E./B.Tech. degree in Computer Science & Engineering/ Information Technology
9	Hydrology (**HYD**	33	M.Tech. Hydrology	CE/AG/GG/XE/ PH/ EY	Bachelor's degree in Civil/ Agricultural Engg./ Hydrology or equivalent. M.Sc./M.Tech. in Chemistry/Geology/ Geophysics/ Applied Geology/Applied Geophysics/Physics/ Meteorology/ Geography Atmospheric Physics/Environmental Science with Mathematics in B.Sc. as one of the subjects or M.Sc. (Master's) degree in Statistics with Physics or Mathematics at B.Sc. or M.Sc. degree in Mathematics with Physics in B.Sc. or its equivalent.
10	Mechanical and Industrial Engineering (**MED**)	34	M.Tech. CAD, CAM & Robotics	ME/PI	Bachelor's degree in Mechanical/Industrial/Production Engg. or its equivalent
		35	M.Tech. Machine Design Engg.	ME/PI	Bachelor's degree in Mechanical/Industrial/Production Engg. or its equivalent
		36	M.Tech. Production & Industrial Systems Engg.	ME/PI	Bachelor's degree in Mechanical/ Industrial/Production Engg. or its equivalent
		37	M.Tech. Thermal Engg.	ME/PI	Bachelor's degree in Mechanical/Industrial/Production Engg or its equivalent
		38	M.Tech. Welding Engg.	ME/PI	Bachelor's degree in Mechanical/Industrial/Production Engg. or its equivalent
11	Metallurgical and Materials Engineering (**MTD**)	39	M.Tech. Industrial Metallurgy	MT/ME/PI/XE	B.Tech./B.E. in Metallurgy/Materials Engineering/ Mechanical Engineering/Production Engg/ Production and Industrial Engg /**Ceramic Engineering**
		40	M.Tech. Materials Engg.	MT/PH/ME/PI/ CY/XE	B.Tech./B.E. in Metallurgy/Materials Engineering, Mechanical Engineering/Production Engineering/ Production and Industrial Engg /Ceramic Engineering/**Polymer Engg./Nanotechnology**; or M.Sc. in Physics/Chemistry /**Material Science/Polymer / Nanotechnology** with Mathematics course at B.Sc. level
12	Paper Technology Saharanpur Campus(**PPD**)	41	M.Tech. Pulp & Paper	CH/ME/BT/TF/ EY	Bachelor's degree in Pulp & Paper Engg./ Chemical Engg./ Mechanical Engg./ Polymer Engg./ Cellulose Technology/ Biotechnology or equivalent. **Note:** The two years post B.Sc. diploma awarded by the IPT/DPT plus a minimum of two years relevant experience in Industry/ Research Organization will be considered equivalent to a B.Tech/B.E. degree
		42	M.Tech Packaging Technology	CH/BT/CY/ME/ TF	M.Sc. in Chemistry(PCM at B.Sc. level)/ Polymer Science (PCM at B.Sc. level)/ or B.Tech. in Pulp and Paper Technology/ Biotechnology/ Chemical Engg Chemical Technology/ Polymer Engg/ Process Engg/ Mechanical Engg/ Production Engg/ Packaging Technology/Printing Technology/ Textile Technology/ PG Diploma in Packaging/ Biochemical Engg. Industry sponsored candidate with aforesaid academic qualifications along with two years experience in Paper/Polymer /Packaging Technology. **Additional Requirement:** GATE qualified except for industry sponsored candidate.

SI. NO	Academic Department/ Centre & (Code)	Academic Programmes		Eligible GATE Discipline	Minimum Educational Qualifications
		Code	Name		
13	Water Resources Development & Management (WRD)	43	M.Tech. Irrigation Water Management	CE/AG	Bachelor's degree in Civil Engg. or its equivalent / Agricultural Engg. or M.Sc. Agriculture in Agronomy, Soil Science, Agrometeorology, with Mathematics as one of the papers at the level of B.Sc./B.Sc. Agriculture.
		44	M.Tech. Water Resources Development	CE/EE/ME	Bachelor's degree in Civil/Electrical/Mechanical/ Electronics & Telecommunication Engg. or equivalent.
14	Chemistry (CYD)	45	M.Tech. Advanced Methods of Chemical Analysis	CY/CH	B.Tech. (Chemical Engg.)/M.Sc.(Chemistry)/ M.Sc. (Environment Science) with Mathematics at least at 10+2 level.
15	Physics (PHD)	46	M.Tech. Solid State Electronic Materials	PH/EE/EC/MT	B.Tech. (Engg. Physics)/M.Sc. (Physics)/Bachelor's degree in Electrical/Electronics/Metallurgical Engg. or its equivalent.
		47	M.Tech. Photonics	PH/EE/EC/MT/ IN	M.Sc. (Physics/ Electronics/ Applied Physics/ Photonics/ Engineering Physics), B.Tech. (Engineering Physics/ Electronics/ Communication/ Electrical/ Instrumentation/ materials/ Metallurgy/ Nanotechnology)
16	Nanotechnology (NTC)	48	M.Tech. Nanotechnology	MT/ME/EC/CH/ BT/CE/CY/PH/ XL	B.Tech. (Met. & Mat. Engg./Mech. Engg./ E&C/Electronics/ Chemical Engg./ Biotechnology/**Civil Engg/ Biochemical Engineering/ Biomedical Engineering/ Bioengineering/ Polymer Engg/ Polymer Technology/ Pharmaceutical Technology/Industrial Biotechnology/ Nanotechnology**) or equivalent; M.Sc. (Physics/ Chemistry/ Biotechnology/ **Life Science/ nanotechnology**), with Maths at 10+2 or higher level.
17	Disaster Mitigation and Management (DMC)	49	M.Tech. Disaster Mitigation and Management	CE/ME/PI/CS/ CH/AR/GG/PH/ MA/XL/XE/EY/ BT	B.Tech. (Civil, Structural, Mechanical, Industrial, Chemical Engineering and **Biotechnology** /Computer Science & Engineering or equivalent,; B.Arch. & B. Planning, M.Tech. in Geological Technology and Geophysical Technology or equivalent, M.B.A.; M.C.A.; M.Sc. in Physics/ Geophysics/ Geology/ Mathematics, Computer Science, Environmental Sciences, or equivalent (with Maths in B.Sc.).
18	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** or equivalent.
19	Biotechnology (BTD)	51	M.Tech. Bioprocess Engineering	CH/BT/AG/XE/ TF	B.E./B.Tech. or equivalent degree in Chemical Engineering/ Biochemical Engg/ Bioprocess Engg/ Chemical Technology/ Food Technology/ Agricultural Engg./ Biomedical Engg/ Bioengineering/ Polymer Engg./ Polymer Technology/ Plastic Technology/ Paper Technology/Ceramic Technology/ Petrochemical Engineering/ Textile Engineering/ Biotechnology or in allied field with maths in 10+2 level.

Item No. 72.27: **To adopt the Seat Matrix for the admission in B.Tech./ B.Arch./ IDD and Integrated M.Sc. for the session 2018-19 in IIT Roorkee through JEE (Advanced)-2018.**

Seat matrix for gender balance in the Undergraduate programmes for the session 2018-19 as given in **Appendix 'A'** be adopted as reported in the 69th meeting of the Senate vide item No. 69.40.

Seat Matrix for JEE (Advanced)-2018 for the session 2018-19

S. No.	Programe	Prog Code	GE	GE-PwD	OBC	OBC-PwD	SC	SC-PwD	ST	ST-PwD	Total
1	BT	R4-4104	18	0	8	1	5	1	2	0	35
2	CH	R4-4107	43	2	24	1	13	1	6	1	91
3	CE	R4-4109	71	4	39	2	21	1	11	1	150
4	CSE	R4-4110	41	1	22	1	11	1	6	1	84
5	EE	R4-4111	62	2	32	2	18	1	8	1	126
6	ECE	R4-4114	40	2	21	1	12	1	6	0	83
7	EPH	R4-4117	16	0	7	1	4	1	2	0	31
8	ME	R4-4125	55	3	30	2	16	1	10	0	117
9	MT	R4-4127	41	2	21	2	13	0	7	0	86
10	PSE	R4-4135	15	1	7	1	4	0	3	0	31
11	PI	R4-4136	22	1	12	0	7	0	3	0	45
12	AR	R4-5101	14	1	8	0	5	0	2	0	30
13	GT	R4-5302	15	1	8	0	4	0	2	0	30
14	GPT	R4-5303	14	2	8	0	5	0	2	0	31
15	MSM	R4-5502	15	2	9	0	5	0	2	0	33
16	MSC	R4-5503	9	1	6	0	3	0	1	0	20
17	MSP	R4-5507	10	1	6	0	2	0	1	0	20
		TOTAL	501	26	268	14	148	8	74	4	1043*

* This includes supernumerary seats to make the female enrolment as 14% as reported in the 69th meeting of the Senate.

Item No. 72.28: **To consider allowing students to register for extra Credit/ Audit courses from 3rd Semester onwards.**

The IAPC in its 60th meeting considered and recommended the proposal to allowing students to register for extra Credit/ Audit courses from 3rd Semester onwards

The above recommendation of IAPC is submitted for consideration and approval of the Senate.

Item No. 72.29: **To consider revision in the fees (other than academic fee) structure of UG/PG/Ph.D. programs from 2018-19.**

Due to increase in the cost of food items and cooking gas, implementation of GST, increase in the salary of workers and privatization of mess, revision is proposed in the fees structure of UG/PG/Ph.D. programs from 2018-19:

One time payments at the time of admission			
Item	**Existing**	**Proposed**	**Justification**
Mess Admission Fee (Non-refundable)	Rs. 2000/-	Rs. 4000/-	To meet the deficit towards establishment charges of CCB employees
Career Development Fund	Rs. 2000/-	0	Over the years, this Fund has grown because the expenses are less. The expenses will be continued with support from other sources, if required.
Examination Fees (Ph.D.)	Rs. 300/- per semester	Rs. 300/- per semester (for first year only)	Usually the course work is over in the first year
Proposed changes in the Headings (title)			
Hostel Rent (UG)		Hostel Seat Rent	Changed for uniformity across programs
Bhawan Fund (UG)		BRP Fund (Bhawan Receipts & Payments)	Changed for uniformity across programs

Existing Structure of Mess Advance:

Presently mess advance of Rs. 12000/- per semester is charged from dining students of UG, M.Sc. & MBA while Rs. 14400/- per semester is charged from M.Tech& Ph.D. students. This is inclusive of both Food charges and Establishment charges.

Proposed Structure of Mess Advance:

Mess advance is separated into two heads as Food charges and Establishment Charges.Food Charges for UG, M.Sc. & MBA Students to be Rs. 9000/- per semesterwhile Food Charges for M.Tech& Ph.D. students to be Rs. 10800/- per semester while Establishment charges to beRs. 9000/- per semester for all dining students. This will total to Rs 18000/- for UG, IDD M.Tech, and

Integrated M.Sc. M.B.A. &M.Sc. while it will total to Rs. 19800/- for M.Tech& Ph.D. students.

Existing Mess Advance				Proposed		
	Mess Advance (Food charges +Establishment charges)	Subsidy	**Total**	Mess Advance towards Food charges	Mess Establishment Charges	**Total Mess Charges**
For UG, IDD M.Tech, Integrated M.Sc., MBA & M.Sc. Students	Rs. 12000/- per semester	Rs. 2000/- per semester	**Rs. 14000/- per semester**	9000/- per semester	9000/- per semester	**Rs. 18000/- per semester**
For M.Tech& Ph.D. students	Rs. 14400/- per semester	Rs. 2000/- per semester	**Rs. 16400/- per semester**	10800/- per semester	9000/- per semester	**Rs. 19800/- per semester**

The Mess Advance towards Food charges is subject to adjustment as per actual.

The matter is placed before the Senate for consideration and approval.

Item No. 72.30: **To consider the proposal of Chemical Engineering Department for M.Tech. programme in Chemical Engineering in place of two existing specializations in Computer Aided Process Plant Design (CAPPD) and Industrial Pollution Abatement (IPA).**

The IAPC in its 60th meeting considered and recommended the proposal of starting a new program M.Tech.(Chemical Engineering) in place of two existing specializations in Computer Aided Process Plant Design (CAPPD) and Industrial Pollution Abatement (IPA).

The proposal alongwith the course structure of M.Tech. (Chemical Engineering **(Appendix 'A')** is placed for consideration and approval of the Senate.

Appendix 'A'
Item No. Senate/72.30

Department of Chemical Engineering, IIT Roorkee

No. 585   Date: 7/12/2017

Dean, Academic Affairs

IIT Roorkee

Subject: Proposal for M.Tech. program in Chemical Engineering in place of two existing specializations in Computer Aided Process Plant Design (CAPPD) and Industrial Pollution Abatement (IPA)

Department of Chemical Engineering is currently running two M.Tech. programs with following specializations:
a. Computer-Aided Process Plant Design (CAPPD)
b. Industrial Pollution Abatement (IPA)

It is proposed to replace these two M.Tech programs with a single M.Tech. program in Chemical Engineering. Following are the reasons for the same:

i.   Faculty expertise in the Chemical Engineering department has substantially diversified in last ten years, which has resulted in many faculty members doing research in areas not relevant to CAPPD and IPA specializations. Therefore, many CAPPD and IPA specialization students have to do their M.Tech. dissertation in areas different from their specialization. The proposed program will resolve these issues and therefore provide students the opportunity to do coursework in areas relevant to their dissertation. Apart from improving overall quality of M.Tech. dissertations, this is expected to help students interested in doing a PhD in diverse areas of Chemical Engineering.

ii.   Placement statistics of existing specializations is below average (Annexure I). This is because many core Chemical Engineering companies do not allow students of CAPPD and IPA specializations to appear in their placement process. As per several informal interactions with students and employers (e.g., Reliance, SRF, oil and gas companies, cement industries, etc.) over last few years, a degree in Chemical Engineering without specializations is expected to improve the placement scenario.

iii.   The proposed program is in sync with existing M.Tech. programs run in Chemical Engineering departments across country (Annexure II) and worldwide. Since the Chemical Engineering discipline has diversified into areas beyond its conventional definition, specializations have been replaced with single Chemical Engineering program.

It is also proposed that the number of seats in the new program be 56, which is the sum total of seats in existing CAPPD and IPA specializations. We expect that the new curriculum will be able to attract students with higher GATE scores than the existing students.

The course structure for the proposed program (Annexure III) is included, along with detailed syllabus of the courses (Annexure IV). The course structure and the syllabi have been prepared and approved by the DFC of Chemical Engineering Department (Annexure V).

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In view of the above mentioned points, I request you to consider our request for the proposed new program in M.Tech. (Chemical Engineering) in place of existing M.Tech. programs, as an agenda item for the next IAPC meeting and further consideration in a senate meeting.

6/12/17

Head of the Department

Chemical Engineering Department

IIT Roorkee

Enclosures

Annexure I: Placement statistics of CAPPD and IPA programs

Annexure II: List of PG programs run by Chemical Engineering Departments in IITs/IISc

Annexure III: Course structure for proposed program

Annexure IV: Syllabus for proposed program

Annexure V: DFC Minutes

Annexure –I: Placement statistics of the two existing M. Tech. programs

Session	No. Placed/Total (CAPPD)	No. Placed/Total (IPA)
2016-17	3/22	5/24
2015-16	2/21	1/24
2014-15	6/22	4/24
2013-14	1/22*	0/22*
2012-13	10/22*	4/22*
2011-12	0/21	0/18

* Approximate

Annexure II: List of PG programs run by Chemical Engineering Departments in IITs/IISc

Institute	M.Tech. program	Specialization	Intake
IISc Bangalore	Chemical Engineering	No	20
IIT Kanpur	Chemical Engineering	No	40
IIT Bombay	Chemical Engineering	No	61
IIT Delhi	Chemical Engineering	No	41*
IIT Madras	Chemical Engineering	No	32
	Catalysis Technology	Yes	10
IIT Kharagpur	Chemical Engineering	No	75*
IIT BHU	Chemical Engineering	No	47*
IIT Guwahati	Petroleum Science and Technology	Yes	30*
	Materials Science and Technology	Yes	30*
IIT Gandhinagar	Chemical Engineering	No	40
IIT Hyderabad	Chemical Engineering	No	16*

* Approximate

DEPARTMENT OF CHEMICAL ENGINEERING

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

| Program Code | 14 | M.Tech. (Chemical Engineering) | Specialization | None |
| Department | CH | Department of Chemical Engineering | Duration | 2 years |

Department   Chemical Engineering

Degree Program   Master of Technology (M.Tech.) in Chemical Engineering

Specialization   None

Duration   2 years

Course Scheme

First Year		Second Year	
Semester I (Autumn)	Semester II (Spring)	Semester I (Autumn)	Semester II (Spring)
Core Course – I	Elective Course – II		
Core Course – II	Elective Course – III		
Core Course – III	Elective Course – IV		
Core Course – IV	Elective Course – V		
Elective Course – I	Seminar	Dissertation (Stage-I)	Dissertation (Stage-II)
Credits: 20	18	12	18
Total Credits: 68			

Note:
1. Dissertation Stage is continued to next semester
2. Seminar is not necessarily related to the dissertation. Through seminar, student is expected to learn to review the literature and prepare a report as well as presentation in an effective way.
3. There will also be an additional zero-credit course on "Lecture Series" in all semesters. Students will attend the guest lectures in the department. Additional sessions by faculty members of the department will be conducted focussing on research methods on special topics of relevance to chemical engineers, scientific communication, publication process, etc.
4. In addition to above course, students may take one or two audit courses as advised by the supervisor, if required.

| Program Code | 14 | M.Tech. (Chemical Engineering) | Specialization | None |
| Department | CH | Department of Chemical Engineering | Duration | 2 years |

Year-I

Teaching Scheme					Contact Hrs. per week			Exam Duration		Relative Weightage (%)				
S. No.	Course Code	Course Title	Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
Semester I (Autumn)														
1	CHE-501	Mathematical Methods in Chemical Engineering	PCC	4	3	1	0	3	0	25	-	25	50	-
2	CHE-503	Advanced Transport Phenomena	PCC	4	3	1	0	3	0	25	-	25	50	-
3	CHE-505	Advanced Reaction Engineering	PCC	4	3	1	0	3	0	25	-	25	50	-
4	CHN-507	Advanced Thermodynamics and Molecular Simulations	PCC	4	3	1	0	3	0	25	-	25	50	-
5		Program Elective – I	PEC	4	3	1	0	3	0	25	-	25	50	-
Semester II (Spring)														
1		Program Elective – II	PEC	4	3	1	0	3	0	25	-	25	50	-
2		Program Elective – III	PEC	4	3	1	0	3	0	25	-	25	50	-
3		Program Elective – IV	PEC	4	3	1	0	3	0	25	-	25	50	-
4		Program Elective – V	PEC	4	3	1	0	3	0	25	-	25	50	-
5	CHE-700	Seminar	PEC	2	-	-	-	-	-	-	-	-	100	-

Year-II

Teaching Scheme					Contact Hrs. per week			Exam Duration		Relative Weightage (%)				
S. No.	Course Code	Course Title	Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
Semester I (Autumn)														
1	CHE-701A	Dissertation Stage I	DIS	12	-	-	-	-	-	-	-	-	100	-
Semester II (Spring)														
1	CHE-701B	Dissertation Stage II	DIS	18	-	-	-	-	-	-	-	-	100	-

Summary	Semester	I	II	III	IV									
Total Credits: 68	Semester wise total credits	20	18	12	18									

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Program Code	14	M.Tech. (Chemical Engineering)					Specialization		None				
Department	CH	Department of Chemical Engineering					Duration		2 years				

Teaching Scheme					Contact Hrs. per week			Exam Duration		Relative Weightage (%)				
S. No.	Course Code	Course Title	Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
Program Elective – I (Choose ANY ONE Course)														
1	CHE-511	Process Integration	PEC	4	3	1	0	3	0	25	-	25	50	-
2	CHE-513	Biochemical Engineering	PEC	4	3	1	0	3	0	25	-	25	50	-
3	CHE-515	Computational Fluid Dynamics	PEC	4	3	1	0	3	0	25	-	25	50	-
4	CHE-517	Optimization of Chemical Processes	PEC	4	3	1	0	3	0	25	-	25	50	-
Program Elective – II (Choose ANY FOUR Courses)														
1	CHE-510	Advanced Process Control	PEC	4	3	1	0	3	0	25	-	25	50	-
2	CHE-512	Solid and Hazardous Waste Management	PEC	4	3	1	0	3	0	25	-	25	50	-
3	CHE-514	Pollution Control Systems	PEC	4	3	1	0	3	0	25	-	25	50	-
4	CHE-516	Kinetics of Polymerization	PEC	4	3	1	0	3	0	25	-	25	50	-
5	CHE-518	Waste to Energy Conversion	PEC	4	3	1	0	3	0	25	-	25	50	-
6	CHE-520	Oil and Gas Transport	PEC	4	3	1	0	3	0	25	-	25	50	-
7	CHE-522	Nanotechnology in Chemical Engineering	PEC	4	3	1	0	3	0	25	-	25	50	-
8	CHE-524	Microfluidics	PEC	4	3	1	0	3	0	25	-	25	50	-
9	CHE-524	Multiphase Flow	PEC	4	3	1	0	3	0	25	-	25	50	-
10	CHE-526	Supercritical Fluids: Theory and Applications	PEC	4	3	1	0	3	0	25	-	25	50	-
11	CHE-528	Introduction to Granular Rheology	PEC	4	3	1	0	3	0	25	-	25	50	-
12	CHE-530	Drug Delivery	PEC	4	3	1	0	3	0	25	-	25	50	-
13	CHE-532	Colloids and Interfacial Science	PEC	4	3	1	0	3	0	25	-	25	50	-
14	CHE-534	Novel Separation Techniques	PEC	4	3	1	0	3	0	25	-	25	50	-
15	CHE-536	Design of Experiments and Parameter Estimation	PEC	4	3	1	0	3	0	25	-	25	50	-
16	CHE-538	Industrial Safety and Hazard Management	PEC	4	3	1	0	3	0	25	-	25	50	-

Item No. 72.31: To ratify modifications in the Academic Calendar 2017

Sl. No.	Existing	Modification
1	March 20, 2018 (Saturday)- Friday Time Table April 10, 2018 (Saturday)- Wednesday Time Table	April 14, 2018 (Saturday)- Friday Time Table April 07, 2018 (Saturday)- Wednesday Time Table
2.	April 3&4 2018, Ph.D. Interview	April 19-21, 2018 Ph.D. Interview

The above is placed before the Senate for ratification.