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

सीनेट की निन्यानवेंवी बैठक हेतु कार्यसूची
AGENDA FOR THE 99th MEETING
OF THE SENATE

बैठक सं0	:	निन्यानवेंवीं
MEETING NO.	**:**	**99th**
स्थान	:	सीनेट हॉल, भा0प्रौ0सं0रूड़की
VENUE	**:**	**Senate Hall, IIT Roorkee**
दिनांक	:	03 जनवरी 2024
DATE	**:**	**03rd January 2024**
समय	:	04.00 बजे अपरान्ह
TIME	**:**	**04.00 P.M.**

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

कार्यसूची / AGENDA

मुद्दा सं0 / Item No.	विवरण / **Particulars**	पृष्ठ / **Page(s)**
99.1	सीनेट की दिनांक 11.10.2023 को आयोजित हुई 98वीं बैठक के कार्यवृत्त की पुष्टि करना। To confirm the minutes of the 98th Senate meeting held on 11.10.2023.	1
99.2	सीनेट की दिनांक 11.10.2023 को आयोजित हुई 98वीं बैठक में लिए गए निर्णयों के क्रियान्वयन पर की गई कार्यवाही को रिपोर्ट करना। To report on the actions taken to implement the decisions of the Senate taken in its 98th meeting held on 11.10.2023.	2-8
99.3	श्री दीप्तांशु राय (एन.आर.सं. 21115047), बी.टेक. (ईई), तृतीय वर्ष के नाम बहाली और कार्यक्रम में निरंतरता के सम्बन्ध में किए अनुरोध पर विचार करना। To consider the request of Mr. Deeptanshu Rai (Enr. No. 21115047), B.Tech. (EE), III Yr regarding name restoration and continuation in programme.	9-14
99.4	अनुचित साधनों में संलिप्तता पर की गई कार्रवाई की समीक्षा करने के निम्नलिखित छात्रों के अनुरोध पर विचार करना। 1. जी.वामशी कृष्णा (एन.आर.नं. 18114023), बी.टेक(सीएस) चतुर्थ वर्ष 2. नागुलापति साईनाथ (एन.आर.न.18116050), बी.टेक.(ईसी), चतुर्थ वर्ष 3. साई रोहन पवार (एन.आर.नं.21114088), बी.टेक (सीएस), तृतीय वर्ष To consider the requests of the following students to review the actions due to involvement in unfair means: 1. G. Vamshi Krishna (Enr. No.18114023), B.Tech. (CS), IV Yr 2. Nagulapati Sainath (Enr. No.18116050), B.Tech. (EC), IV Yr 3. Sai Rohan Pawar (Enr. No.21114088), B.Tech. (CS), III Yr	15-35

99.5	पूर्व–पीएचडी छात्र, श्री संगीथ एस. पिल्लई, (एन.नं. 14902004), वास्तुकला एवम् नियोजन विभाग के अनुरोध पर विचार करना। To consider the request of Mr. Sangeeth S. Pillai, (En. No. 14902004), ex-Ph.D. student, Dept. of Architecture & Planning.	36-41
99.6	निर्धारण वर्ष 2024–25 के लिए JAM 2024 के माध्यम से एमएससी कार्यक्रम में प्रवेश के लिए सीट मैट्रिक्स पर विचार करना। To consider the seat matrix for admission into the M.Sc. programmes through JAM 2024 for the AY 2024-2025.	42-43
99.7	पीजी पाठयक्रम संशोधन समिति (पीसीआरसी) की रिपोर्ट पर विचार करना। To consider the Report of the PG Curriculum Revision Committee (PCRC).	44-62
99.8	बायोसाइंसेज और बायोइंजीनियरिंग विभाग द्वारा नए पी.जी. कार्यक्रम शुरू करने के लिए निम्नलिखित प्रस्तावों पर विचार करना। 1. जीवविज्ञान में एम.टेक संरचनात्मक और कम्प्यूटेशनल 2. बायोटेक्नोलॉजी में एम.टेक. 3. बायोमैन्युफैक्चरिंग में एम.टेक. To consider the following proposals to introduce new P.G. Programmes by the Department of Biosciences and Bioengineering: 1. M.Tech. in Structural and Computational Biology 2. M.Tech in Biotechnology 3. M.Tech in Biomanufacturing	63
99.9	निम्नलिखित विभागों के एम.टेक. कार्यक्रम का नाम बदलने के प्रस्तावों पर विचार करना। 1. भौतिक विभाग के एम.टेक कार्यक्रम का नाम 'सॉलिड स्टेट इलेक्ट्रॉनिक मटेरियल' से 'सॉलिड स्टेट इलेक्ट्रानिक टेक्नोलॉजी' करना। 2. सेंटर फॉर ट्रांसपोर्टेशन सिस्टम्स के एम.टेक कार्यक्रम का नाम 'इंफ्रास्ट्रक्चर सिस्टम्स' से 'ट्रांसपोर्टेशन सिस्टम्स मैनेजमेंट' करना। To consider the proposals for renaming of M.Tech. Programmes of following Departments: 1. Renaming of M.Tech. programme in 'Solid State Electronic Materials' to 'Solid State Electronic Technology' of Department of Physics. 2. Renaming of M.Tech. programme in 'Infrastructure Systems' to 'Transportation Systems Management' of Centre for Transportation Systems.	64
99.10	एम.टेक. (वीएलएसआई) उद्योग पेशेवरों के लिए 30 (तीस) तक सीटों की संख्या बढ़ाने के लिए इलेक्ट्रॉनिक्स और संचार इंजीनियरिंग विभाग के प्रस्ताव पर विचार करना। To consider the proposal of the Department of Electronics and Communication Engineering to increase the number of seats for M.Tech. (VLSI) for industry professionals to 30 (thirty).	65

99.11	जल एवम् नवीकरणीय ऊर्जा विभाग के 'एनर्जी इंजीनियरिंग' में बी.टेक. प्रवेश कार्यक्रम एवम् उसके पाठयक्रम संरचना के प्रस्ताव पर विचार करना। To consider the proposal of the Department of Hydro and Renewable Energy to offer B.Tech. program in 'Energy Engineering' along with its course structure and intake.	66-94
99.12	डिजाइन विभाग के बैचलर ऑफ डिजाइन (बी.डेस.) प्रवेश कार्यक्रम और इसकी पाठयक्रम संरचना के प्रस्ताव पर विचार करना। To consider the proposal of the Department of Design to offer Bachelor of Design (B. Des.) programme along with its course structure and intake.	95-108
99.13	नए संकाय सदस्यों जिन्हें संकाय दीक्षा अनुदान (एफआईजी) प्रदान किया गया है, को प्रोजेक्ट मोड के तहत एक पीएचडी छात्र के प्रवेश की सुविधा हेतु डीन, स्रिक के प्रस्ताव पर विचार करना। To consider a proposal from Dean, SRIC for facilitating admission of one Ph.D. student under project mode to new faculty members who have been granted Faculty Initiation Grant (FIG).	109-110
99.14	पाठयक्रम 'भारतीय ज्ञान प्रणाली' का नाम बदलकर 'भारतीय ज्ञान प्रणाली का परिचय' करने के प्रस्ताव पर विचार करना। To consider a proposal for renaming of the course 'Indian Knowledge System' as 'Introduction to Indian Knowledge system'.	111-113
99.15	ईएमबीए कार्यक्रम के संबंध प्रबंधन अध्ययन विभाग के निम्नलिखित प्रस्तावों पर विचार करना। (i) टर्म 4 ईएमबीए की संरचना से पीसीसी (2 क्रेडिट) यानी बीएमएन–531: व्यवसाय के कानूनी पहलू के एवेज में सतत विकास लक्ष्य(एसडीजी) से बदलने के लिए (ii) ईएमबीए के लिए पीईसी बास्केट के तहत एमबीए के सभी अनुमोदित पीईसी। To consider the following proposals of the Department of Management Studies in respect of the EMBA programme: (i) To replace a PCC (2 credit) i.e. 'BMN-531: Legal Aspects of Business' from Structure of Term 4 EMBA with a new course i.e. 'Sustainable Development Goals (SDG)'. (ii) To offer all approved PECs of MBA under the basket of PECs for EMBA.	114-118
99.16	खेल कोटा के माध्यम से मास्टर्स कार्यक्रम में प्रवेश हेतु आवेदन स्वीकार करने के प्रस्ताव पर विचार करना। To consider the proposal to admit applications through sports quota in the admission for Masters programme.	119-128

Item No. 99.1: To confirm the minutes of the 98th Senate meeting held on 11.10.2023.

The minutes of the 98th Senate meetings held on 11.10.2023 were circulated to the members vide e-mail dated 08.11.2023. No comments have been received.

The Senate may consider and confirm the said minutes.

Item No. 99.2: To report on the actions taken to implement the decisions of the Senate taken in its 98th meeting held on 11.10.2023.

<table>
<tr><th>Item No.</th><th>Reference to the Senate minutes</th><th>Extracts of the Minutes</th><th>Status of action taken</th></tr>
<tr><td>98.3</td><td>To consider the request of following students regarding name restoration and continuation in programme:
1. Gaya Pd. Meena (Enr. No. 19113045), B.Tech.(CE), IV Yr
2. Deeptanshu Rai (Enr. No. 21115047), B.Tech. (EE), III Yr
3. Anmol Raj (Enr. No. 21113019), B.Tech. (CE), III Yr
4. Ankit Gupta (Enr. No. 20117024), B.Tech. (ME), IV Yr</td><td>The Senate considered the student requests and decided the following:<table><tr><th>S. No.</th><th>Name, Enrollment No.</th><th>Accepted/ Not Accepted the request</th></tr><tr><td>1.</td><td>Gaya Prasad Meena (Enr. No. 19113045),B.Tech.(CE), IV Yr</td><td>Accepted the request for name restoration.</td></tr><tr><td>2.</td><td>Deeptanshu Rai (Enr. No. 21115047), B.Tech. (EE), III Yr</td><td>Deferred. The Senate advised to first take his medical fitness certificate so that the request can be examined holistically. The same be routed though IAPC.</td></tr><tr><td>3.</td><td>Anmol Raj (Enr. No. 21113019), B.Tech.(CE), III Yr</td><td>Not accepted.</td></tr><tr><td>4.</td><td>Ankit Gupta (Enr. No. 20117024), B.Tech.(ME),IV Yr</td><td>Not accepted.</td></tr></table></td><td>Notified no.1,3 &4. The deferred item at Point no.2 is listed as an item no. 99.3.</td></tr>
<tr><td>98.4</td><td>To consider the requests for time extension of the following Ph.D. students:
1. Mr. Deepak Maurya (En. No. 13928010), Deptt. of WRDM.
2. Mr. Saptarshi Kolay, (En.</td><td>The Senate considered the SRC recommendations and allowed time extension to submit the thesis upto 31st December, 2023 to the following students:
1. Mr. Deepak Maurya (En. No. 13928010), Deptt. of WRDM.
2. Mr. Saptarshi Kolay, (En. No. 14902011), Deptt. of Architecture & Planning</td><td>Notified</td></tr>
</table>

	No. 14902011), Deptt. of Architecture & Planning	Further, the Senate observed that the first year for research scholars remain crucial so supervisor should not only devote time with their research scholars but also mentor them. The Senate opined that research work be preferably completed within five years. The young faculty members also be sensitized by the senior faculty members and Heads to this effect.	
98.5	To consider the report of the Committee constituted to review the Students' Feedback System.	The Senate considered the report of the Committee and accepted the same. Further, the Senate advised that number of questions in the Feedback Questionnaire be kept minimum to make it simple, compact and crisp. Accordingly, the questionnaires be sent to the Heads of the Departments/ Centres/School for possible suggestions to improve. The Chairman Senate was authorized to approve the revised form on the basis of the inputs received from senators.	Approved & Notified
98.6	To consider the seat matrix for admission into the Ph.D. programmes (Spring Semester) 2023.	The Senate considered and approved the seat matrix for Spring Semester, 2023-2024 for admission into the Ph.D. programmes with the following observations: i. The newly created ICED be allotted the intakes in accordance to the existing provision for a joint faculty in a centre. ii. The Departments/Centres/ School to ensure that the newly joined faculty members are allotted at least one Ph.D. scholar in the first cycle of admission after their joining.	Noted & Incorporated

<table>
<tr>
<td>98.7</td>
<td>To consider the revision in Minimum Educational Qualification (MEQ) for admission to Ph.D. Programmes.</td>
<td>The Senate considered and approved the revision in Minimum Eligibility Criteria (MEC) for admission to Ph.D. Programmes with the modification that the candidates pursuing master's degree in IIT Roorkee will require CGPA 8.0 or more after the first three/two semesters of the M.Sc. or other master's programs as defined the Clause 6 (i) & (ii), respectively, for lateral entry/switch-over to the Ph.D. program</td>
<td>Incorporated</td>
</tr>
<tr>
<td>98.8</td>
<td>To consider the MEQs for the admission into the Ph.D. programme in the following newly established centres:
1. International Centre of Excellence for DAMS.
2. Centre for Space Science and Technology.</td>
<td>The Senate considered and approved the MEQs for admission into the following Ph.D. programmes:
<table>
<tr><th>Programme</th><th>Revised Minimum Educational Qualification</th></tr>
<tr><td>International Centre of Excellence for Dams (ICED)</td><td>(i) Master's degree in Dam Safety and Rehabilitation/ Hydrology/ Water Resources Engineering/ Hydraulics/ Geotechnical Engineering/ Earthquake Engineering/ Geomatics Engineering/ Geology/ Geophysics or Master's in Architecture/ Master in Planning or Equivalent.
OR
ii) B. Tech. in CE/ME/MIE with minimum CGPA ≥ 8.0 from CFTIs OR M. Tech. in Civil / Mechanical/ Industrial / Production Engineering or equivalent.</td></tr>
<tr><td>Centre for Space Science and Technology</td><td>(i) Bachelor's degree of four years duration /Master's degree in Engg.
OR
(ii) Master's degree in Physics / Mathematics / Atmospheric Science /Space Science/ Economics / Management / Geology / Applied Geology (or equivalent in Earth Sciences) / Chemistry or Equivalent.</td></tr>
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<td>Incorporated</td>
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<tr>
<td>98.9</td>
<td>To consider the revision in Minimum Education Qualification for admission to Ph.D. programme in the Electronics & Communication Engineering Department.</td>
<td>The Senate considered the proposal and approved the following Minimum Education Qualification:
<table>
<tr><th>Programme</th><th>Revised Minimum Educational Qualification</th></tr>
<tr><td>Ph.D. in the Electronics & Communication Engineering</td><td>(i) M.E./ M.Tech. in Microelectronics/VLSI / Microwaves/ Communication Systems/ Control Systems/ Instrumentation/ Circuits & Systems /Computer Science or equivalent.
OR
(ii) B.E. / B.Tech. in Electronics & Communication / Electrical Engg./ Computer Science & Engg. or equivalent.
OR
(iii) M.Sc. in Physics/ Instrumentation / Electronics /Computer Science & Engg. or equivalent.</td></tr>
</table>
</td>
<td>Incorporated</td>
</tr>
<tr>
<td>98.10</td>
<td>To consider the proposal of the Department of Electronics and Communication Engg., for switch-over of Part Time-M.Tech. (VLSI) for Industry Professionals to Ph. D. programme.</td>
<td>The Senate considered the proposal and approved the switch-over from M.Tech. (Part time) to Ph.D. Programme subject to fulfilment of the existing criteria for switch-over in M.Tech. programme.</td>
<td>Notified</td>
</tr>
<tr>
<td>98.11</td>
<td>To consider the revision in guidelines for Ph.D. Admission through Rolling Advertisement.</td>
<td>The Senate considered the item and approved the recommendations of IRC on rolling advertisement for Ph.D. admission. Further, the Senate advised that the choice of rolling advertisement however be left to the respective departments.</td>
<td>Notified</td>
</tr>
</table>

<table>
<tr>
<td>98.12</td>
<td>To consider the proposal of the Department of Biosciences and Bioengineering to introduce M.Sc. (Biosciences & Bioengineering) through JAM from the AY 2024-2025 and to discontinue M.Sc. (BT) through GAT B.</td>
<td>The Senate considered and approved the proposal with the following Seat matrix and MEQ of the programme:
a) Intake and Seat Matrix -35
<table>
<tr><th>S.No.</th><th>Dept. Name</th><th>Academic Programmes</th><th>Prog. Code</th><th>JAM paper Code</th><th>Total Intake</th><th>GEN</th><th>OBC</th><th>SC</th><th>ST</th><th>EWS</th></tr>
<tr><td>1.</td><td>BSBE</td><td>M.Sc. in Biosciences and Bioengineering</td><td>1806</td><td>BT</td><td>35</td><td>14</td><td>9</td><td>5</td><td>3</td><td>4</td></tr>
</table>
b) MEQ: Bachelor’s degree in any branch/subject who qualified JAM paper Code BT.</td>
<td>Notified</td>
</tr>
<tr>
<td>98.13</td>
<td>To consider the proposal of the Department of Mechanical and Industrial Engineering to allow degree with 67 credits to eight students of M.Tech. (Production and Industrial Systems Engineering).</td>
<td>The Senate considered the proposal and suggested that the students be advised to earn the required credit by registering additional course(s) to complete the requirement of 68 credits for the degree.</td>
<td>Notified</td>
</tr>
<tr>
<td>98.14</td>
<td>To consider the proposal to introduce a Multi-disciplinary Course Basket (MDC) for one/two credit PG level professional/specialized courses to be offered for half a semester in the curriculum.</td>
<td>The Senate considered and accepted the recommendations of IAPC on Multi-Disciplinary Course (MDC) basket.

Further, the Senate advised to explore introducing courses of 8–10 hours duration under this basket to be completed in a Term. The Senate also observed that few such courses may be offered on chargeable basis with appropriate policy to this effect.</td>
<td>Notified</td>
</tr>
</table>

		The Senate further approved that the students who are falling short of one credit, as mentioned in the Item No. 98.13, be allowed to register course(s) from the MDC basket to earn the required credit as one-time exception.	
98.15	To consider the proposal of the revised name of the IKSHA Centre.	The Senate considered the proposal and suggested that the same be shared with all faculty members inviting their inputs. Based on the inputs, a new name be proposed for the Centre for Indian Knowledge Systems for consideration and approval of the Board of Governors.	Recommendations were approved by the Board.
98.16	To report the approval accorded by the Chairman, Senate.	The Senate noted the items. Further, the Senate advised to constitute a Three-member Committee to review the policy on awards/prizes/scholarships. The Senate also suggested the Committee to consider the following: a) Convocation Award : To be distributed in the Convocation – I. The five Institute Awards: President's Gold Medal, Director's Gold Medal, Institute Silver Medal, Institute Bronze Medal, The President of India Dr. Shankar Dayal Sharma Gold Medal. II. All awards with amount of Rs. 50000/- or more b) Non Convocation Award : Not to be distributed in the Convocation – All other Awards not covered in a) above.	Committee Notified
98.17	To consider the template of students' exit form for outgoing students while obtaining NOC.	The Senate considered the item and approved the template of students' exit form for outgoing students while obtaining NOC.	Notified

98.18	To consider the proposal of Department of Mehta Family School of Data Science and Artificial Intelligence to restrict the number of students in the minor specialization courses.	The Senate considered the proposal and approved the recommendations of IAPC.	Notified
98.20	To consider the report on Accreditation of HEIs, including IITs, in India.	The Senate was informed that the report titled "Transformative Reforms for Strengthening Periodic Assessment and Accreditation of All Higher Education Institutions in India," prepared by the Ministry of Education was circulated to faculty members by the Dean of Academic Affairs. In view of a smaller number of responses, the Senate suggested the report be sent to all Heads to invite their comments through DFC by 17th Oct. 2023, so that a response could be sent to MoE by 20th Oct. 2023.	Circulated & sent the response.
98.19 is reporting items.			

Item No. 99.3: To consider the request of Mr. Deeptanshu Rai (Enr. No. 21115047), B.Tech. (EE), III Yr regarding name restoration and continuation in programme.

As per the existing Regulation, the enrolment of a student in a programme shall stand terminated if he/she fails to earn 14n credits in a semester, where, n in the number of semesters registered. Mr. Deeptanshu, (Enr. No. 21115047), a third year student of B.Tech. (EE) had earned 25 credits during first 4 semesters. Accordingly, his name was removed vide OM No. Acad/4848/NSO-14n (2022-23) dated August 10, 2023. The said student had requested to restore his name. (**Appendix-A**).

His academic records in the previous semesters are:

SGPA: 7.333, 2.000, 0.000, 0.000
CGPA: 7.333, 5.027, 3.875, 2.735
Total earned credits: 25
Required credits: 56
Remaining credits to complete degree: 135

The IAPC, in its 132nd meeting held on 23.08.2023, considered the request of the student on recommendation of the concerned department and did not recommended for name restoration.

The Senate, in its 98th meeting held on 11.10.2023, vide Agenda No 98.3 (2), deferred the matter with the direction to take his medical fitness certificate first so that the request can be examined further.

The IAPC, in its 134th meeting, considered the request again with the report of the medical board (**Appendix-B**) and recommended his request for continuation in the programme.

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

S.No.	Name	Details	Recommendations/ Remarks
1.	**Deeptanshu Rai** (Enr. No. 21115047) B.Tech. (EE), III Yr	-Request received on Aug 16, 2023 for continuation of programme. -NSO vide OM No. Acad./4848/NSO-14n (2022-23) dated August 10, 2023 due to less credits earned than 14n during Spring Semester 2022-23 -Continuous medical challenges -SGPA: 7.333, 2.000, 0.000, 0.000 -CGPA: 7.333, 5.027, 3.875, 2.735 -Total earned credits: 25, Required credits: 56 -Remaining credits to complete degree: 135	**Chairperson, DAPC:** Recommended **IAPC:** Recommended

Fwd: Recommendation for appeal of reinstatement of name in the institute rolls

From : Barjeev Tyagi <barjeev.tyagi@ee.iitr.ac.in> Wed, Aug 16, 2023 04:03 PM
Subject : Fwd: Recommendation for appeal of reinstatement of name in the institute rolls
To : UG AAO <aao-ug@iitr.ac.in>
Cc : DEEPTANSHU RAI <d_rai@ee.iitr.ac.in>

Forwarded and Recommended

Barjeev Tyagi

Professor Electrical Engineering Department Indian Institute of Technology Roorkee Roorkee-247667, Uttarakhand Phone: +91-1332-285894 (O), +91-9759170851 (M) Alternate email: barjeev@gmail.com

From: DEEPTANSHU <d_rai@ee.iitr.ac.in>
To: barjeev <barjeev.tyagi@ee.iitr.ac.in>
Date: Wednesday, 16 August 2023 5:52 AM EDT
Subject: Recommendation for appeal of reinstatement of name in the institute rolls

Good afternoon sir,
I am deeptanshu rai, btech EE branch(3rd year),21115047.My name was struck from the institute rolls due to less earned credits.Sir i am fully committed to pursue my bachelors seriously, I have been facing continuous medical challenges throughout my stay. I have started taking care of myself and will surely rise up and sincerely improve my academics.

I request you to kindly recommend my appeal to **reinstate my name** in the institute rolls.
Thank you sir

HOLOGRAM

TRANSCRIPT VALID ONLY IF IT BEARS INSTITUTE HOLOGRAM

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

OFFICIAL TRANSCRIPT

(Statement of Earned Credits & Grades)

ENROLLMENT NO. OF THE STUDENT: 21115047 **NAME:** DEEPTANSHU RAI

PROGRAMME: BACHELOR OF TECHNOLOGY (ELECTRICAL)

SESSION 2021-22		SEMESTER Autumn		GRADE LETTER	GRADE POINT	CREDIT
SUBJECT CODE	SUBJECT TITLE					
CEN-105	INTRODUCTION TO ENVIRONMENTAL STUDIES			B+		3
EEN-101	INTRODUCTION TO ELECTRICAL ENGINEERING			B		2
EEN-103	PROGRAMMING IN C++			B		4
HSN-001	COMMUNICATION SKILLS			A		2
HSN-002	INTRODUCTION TO PSYCHOLOGY			B		2
MAN-001	MATHEMATICS-I			B+		4
PHN-003	ELECTROMAGNETIC FIELD THEORY			C+		4
EARNED CREDITS	21	TOTAL EARNED CREDITS	21	SGPA	7.333	
REG. CREDITS	21			CGPA	7.333	

SESSION 2021-22		SEMESTER Spring		GRADE LETTER	GRADE POINT	CREDIT
SUBJECT CODE	SUBJECT TITLE					
PHN-00				F		4
EEN-102	NETWORK THEORY			F		4
EEN-104	ELECTRICAL MEASUREMENT AND MEASURING INSTRUMENTS			B+		4
MIN-106	ENGINEERING THERMODYNAMICS			F		4
EARNED CREDITS	4	TOTAL EARNED CREDITS	25	SGPA	2.000	
REG. CREDITS	16			CGPA	5.027	

SESSION 2022-23		SEMESTER Autumn		GRADE LETTER	GRADE POINT	CREDIT
SUBJECT CODE	SUBJECT TITLE					
EEN-203	DIGITAL ELECTRONICS AND CIRCUITS			F		4
EEN-205	DESIGN OF ELECTRONIC CIRCUITS			F		4
HSS-01	ECONOMICS			F		3
EARNED CREDITS	0	TOTAL EARNED CREDITS	25	SGPA	0.000	
REG. CREDITS	11			CGPA	3.875	

SESSION 2022-23		SEMESTER Spring		GRADE LETTER	GRADE POINT	CREDIT
SUBJECT CODE	SUBJECT TITLE					
EEN-102	NETWORK THEORY			F		4
EEN-106	ANALOG ELECTRONICS			F		4
EEN-206	POWER TRANSMISSION AND DISTRIBUTION			FS		4
EEN-208	APPLIED INSTRUMENTATION			F		4
MAN-002	MATHEMATICAL METHODS			F		4
PHN-004	APPLIED PHYSICS			F		4
EARNED CREDITS	0	TOTAL EARNED CREDITS	25	SGPA	0.000	
REG. CREDITS	24			CGPA	2.735	

Total Required - 160

-25

Remaining 135

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

OFFICIAL TRANSCRIPT

(Statement of Earned Credits & Grades)

ENROLLMENT NO. OF THE STUDENT: 21115047 **NAME:** DEEPTANSHU RAI

PROGRAMME: BACHELOR OF TECHNOLOGY (ELECTRICAL)

STUDENT HAS NOT YET COMPLETED THE PROGRAMME

Note:-

1) The medium of Instruction at this Institute is English.

2) Academic Performance is graded on a 10-Point Scale.

3) "S"-Grade: Satisfactory performance during Covid-19 pandemic.

Place: Roorkee **Assistant Registrar (Evaluation)**

Dated: 8/22/2023

INSTITUTE HOSPITAL
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE
ROORKEE

Dated: October 13, 2023

Proceedings of the medical board for candidates / employees requesting accommodation at married hostel / change of hostel /change of house/ etc. on medical grounds.

The Medical Board consisting of Dr. M.K. Jha, CMO, Dr. G. Chandana Manglik, MO, Dr. Praveen Gothi, Part-time Physician and Dr. Harish Kumar, Part-time Orthopaedician was constituted for Physical Checkup of the candidates at **05:00 PM** on **13.10.2023 (Friday).**

The findings of the Medical board are noted below:

Sr. No.	Name of the Candidate	Diagnosis	Recommendations	Recommended Period
1.	Mohd. Ahtesham Misbah A. Shaikh Junior Superintendent Employee No. 201384	PWD Category Both Eye Retinitis Pigmentosa	Recommended for ground floor accommodation with attach Latrine & Bathrooms.	2 years.
2.	Mr. Anmol Raj B.Tech Student Enrolment No. 21113019	Absent		
3.	Mr. Deeptanshu Rai B.Tech Student Enrolment No. 21115047	Moderate depression	On the basis of the medical disease Board 03 members found that he may be reinstated for studies will be better if one attendent/family accompany him & treatment with OT	Attendent/relative recommended by 06 month members Psychiatrist should be cont...
4.	Mr. Vivek Bhadauria B.Tech Student Enrolment No. 20113189	CKD on hemodialysis	Recommended for same accomodation extension.	for 01 year.

Member | Member | Member | CMO & Convener

13/10/23

Item No. 99.4: To consider the requests of the following students to review the actions due to involvement in unfair means:

1. **G. Vamshi Krishna (Enr. No.18114023), B.Tech. (CS), IV Yr**
2. **Nagulapati Sainath (Enr. No.18116050), B.Tech. (EC), IV Yr**
3. **Sai Rohan Pawar (Enr. No.21114088), B.Tech. (CS), III Yr**

The above students were found involved in unfair means in ETE of the course CSN-212 (Dept. of CSE) in the Spring semester 2022-23. Based on the recommendation of the Institute Standing Committee on Unfair Means (UMC), the Director had approved imposition of the following penalties:

S. No.	Name	Penalty imposed	Requests received
1.	**G. Vamshi Krishna** (Enr. No. 18114023) B.Tech. (CS), IV Yr	Not allowed to register before the Autumn Semester, 2024-25.	Request dated 30-10-23 to allow the registration in Spring Semester 2023-24.
2.	**Nagulapati Sainath** (Enr. No. 18116050) B.Tech. (EC), IV Yr (Completed all the credit requirements)	Grade sheet, Transcript and Provisional Degree shall not be issued to him before the convocation 2024.	Request dated 23.09.23 to release the degree.
3.	**Sai Rohan Pawar** (Enr. No. 21114088) B.Tech. (CS), III Yr	Penalty of semester backlog i.e., the running semester (Spring Semester 2022-23).	Request dated 23-08-23 to reconsider the penalty.

The relevant excerpts of the MoM of the UMC is enclosed (**Appendix-A**).

The above students have submitted separate requests to reconsider/reduce the penalties imposed as detailed above.

The Dept. of CSE opined that the matter be referred to the UMC.

The IAPC, in its 136th meeting held on 22.12.2023, considered the matter (**Appendix-B**) and did not recommend the requests of the students.

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

ACADEMIC AFFAIRS OFFICE
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

No.: DAA/UNFMN(SS-AS)2022-23 Dated: May 18 ,2023

Minutes of the meeting of the Institute Standing Committee on Unfair Means held on May 9th, 2023 at 11:00 a.m. in the Committee Room, J.T. Building (Main Building).

A meeting of the Institute Standing Committee on Unfair Means was held on May 9th, 2023 at 11:00 a.m. in the Committee Room, J.T. Building (Main Building) to consider the following cases of Unfair Means reported during the MTE (UG Ist year)/ETE of Spring Semester 2022-23:

The following were present in the meeting:

1.	Dean of Academic Affairs	Chairperson
2.	Associate DoAA (Evaluation)	Member
3.	Head, Department of Chemical Engineering	Member
4.	Head, Department of Computer Sciences	Member
5.	Head, Department of Earth Sciences	Member
6.	Head, Department of Physics	Member
7.	Head, Department of Chemistry	Member
8.	Head, Department of Civil Engineering	Member
9.	Associate DoSW (SW)	Member
10.	Chairperson, Institute Ethics Committee (IAEC)	Special Invitee
11.	Course Coordinator **(ESN-454, CHN-112, CHE-526, CHN-206, CSN-212, CSN-513, ESN-302, PHN-518, PH-212, CYN-306, CYN-008, ESN-102 & PHN-008)**	Special Invitee
12.	General Sec. UG (Academic)	Member

In the meeting following cases of Unfair Means, reported during the MTE (UG Ist year) & ETE of Spring Semester 2022-23, were placed before the Committee for its consideration and recommendations.

1. Case of Mr. Yashdeep Singh (En.No.22113172), B.Tech, Department of Civil Engineering 1st year. Examination CYN-008: General Chemistry-III, held on 21.04.2023 (MTE).

The student was not present. The Committee, after hearing the views of the invigilator, course coordinator and HoD, came to the conclusion that the incident reported falls under the **"Level-2, Offence-1"** category as specified in the (Appendix-A), Senate Item No. 76.7.

It was therefore recommended that **zero marks be awarded to the student in the concerned examination (MTE)** as per the above category. The answer

18. Case of Mr. Gyan Kashyap (En.No. 19311007), IMS-PH, Department of Physics 4th year. Examination PHN-518: Elements of Nuclear and Particle Physics, held on 27.04.2023 (ETE).

The concerned student was asked to present his views before the committee, which he did. The Committee, after hearing the views of the invigilator, course coordinator, student and the HoD, came to the conclusion, the student does not fall under any category as specified in the (Appendix-A), Senate Item No. 76.7 that **'F' grade in the course**.

It was therefore recommended that **'F' grade in the course be awarded**. The answer script of ETE, PHN-518: Elements of Nuclear and Particle Physics be returned to the course coordinator for evaluation as per the normal practice and the student be awarded **'F' grade**.

19. Case of Mr. Sai Rohan Pawar (En.No. 21114088), B.Tech., Department of Computer Science & Engineering 2nd year. Examination CSN-212: Design analysis of algorithm, held on 29.04.2023 (ETE).

The concerned student was asked to present his views before the committee, which he did. The Committee, after hearing the views of the invigilator, course coordinator, student and the HoD, came to the conclusion the student does not fall under any category as per specified in the (Appendix-A), Senate Item No. 76.7 and recommended that **he be penalized with semester backlog**. Further, the committee recommended that the student be advised to continue counselling.

20. Case of Mr. B. Pavan Karthik (En.No. 21114026), B.Tech., Department of Computer Science & Engineering 2nd year. Examination CSN-212: Design analysis of algorithm, held on 29.04.2023 (ETE).

The concerned student was asked to present his views before the committee, which he did. He read the apology letter and submitted. The Committee, after hearing the views of the invigilator, course coordinator, student and the HoD, came to the conclusion that the incident reported falls under the **"Level-2, Offence-1"** category as specified in the (Appendix-A), Senate Item No. 76.7.

It was therefore recommended that **zero marks be awarded to the student in the concerned examination (ETE)** as per the above category**.** The answer script of ETE, CSN-212: Design analysis of algorithm be returned to the course coordinator for evaluation as per the normal practice and the student be awarded zero marks, grading will be carried out accordingly. Further the committee also recommended that the student be advised to continue counselling.

Further more, the committee recommended that Mr. Nagulapati Sainath (En. No.- 18116050), B.Tech.-4th year **(extended year)**, Department of Electronics and Communication Engineering and Mr. G. Vamshi Krishna (En. No.-18114023), B. Tech-4th Year **(extended year)**, Department of Computer Science & Engineering who were also involved in helping Mr. Sai Rohan and Mr. B. Pavan Karthik in

cheating by Smart Phone & Smart Watch, be issued a letter and asked to present before the above Unfair Means Committee on/or before 25th May, 2023.

In case Mr. Nagulapati Sainath and Mr. G. Vamshi Krishna fail to present themselves before the Unfair Means Committee by 25th May, 2023, following be applicable: -

1. Mr. Nagulapati Sainath : He may be penalized with semester backlog as to Mr. Sai Rohan

2. Mr. G. Vamshi Krishna : He may be penalized with semester backlog as to Mr. Sai Rohan.

In all cases, the decision of the Unfair Means Committee be communicated to the parents/guardians of the concerned students.

Further, the committee returned smart phones & smart watch of the students confiscated during the Exam.

Head, Chemical

Course Coordinator (CHN-112)

Course Coordinator (CHE-526)

Course Coordinator (CHN-206)

Head, Computer Sciences

Course Coordinator (CSN-212)

Course Coordinator (CSN-513)

Head, Earth Sciences

Course Coordinator (ESN-454)

Course Coordinator (ESN-302)

Course Coordinator (ESN-102)

Head, Chemistry

Course Coordinator (CYN-306)

Course Coordinator (CYN-008)

Head, Physics

Course Coordinator (PHN-518)

Course Coordinator (PH-212)

Head, Civil

Associate DoSW (SW)

Chairperson, IAEC

ADoAA (E)

Dean, Academic Affairs

8

ACADEMIC AFFAIRS OFFICE
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

No.: DAA/UNFMN(SS-AS)2022-23 Dated: September,2023

Minutes of the third meeting of Institute Standing Committee on Unfair Means held on August 31st, 2023 at 12:00 noon in the office of the Associate Dean, Academic Affairs.

The third meeting of the Institute Standing Committee on Unfair means was held on August 31st, 2023 at 12:00 noon to decide the cases of Mr. Nagulapati Sainath (Enr.No. 18116050), B.Tech.-4th year **(extended year)**, Department of Electronics and Communication Engineering, Mr. G. Vamshi Krishna (En. No.-18114023), B. Tech 4th Year **(extended year)**, Department of Computer Science & Engineering and Mr. Yethipathi Sriram (En. No. 21615024), M.Sc. 2nd Year, Department of Physics 2022-23, who were involved in the unfair means activities by way of helping Mr. Sai Rohan Pawar (21114088), B.Tech., Department of Computer Science & Engineering and Mr. Bandi Pavan Karthik (En. No. 21114026), B.Tech., Department of Computer Science & Engineering in cheating during the ETE of CSN-212 (Spring Semester, 2022-23).

The following were present in the meeting:

1.	Dean of Academic Affairs	Chairperson
2.	Associate DoAA (Evaluation)	Member
3.	Head, Department of Computer Sciences	Member
4.	Head, Department of Electronics and Communication	Member
5.	Head, Department of Physics	Member
6.	Chairperson, Institute Ethics Committee (IAEC)	Member
7.	Course Coordinator **(CSN-212)**	Special Invitee
8.	General Sec. UG (Academic) (Representative)	Member

The committee in its IInd meeting held on 05.07.2023 at 12:00 noon provided one last chance to Mr. Nagulapati Sainath, Mr. G. Vamshi Krishna and Mr. Yethipathi Sriram to present in front of the Unfair Means Committee physically or virtually.

1. Case of Mr. Nagulapati Sainath (En. No. 18116050), B.Tech.-4th year (extended year), Department of Electronics and Communication Engineering who was involved in helping Mr. Sai Rohan Pawar (21114088), B.Tech., Department of Computer Science & Engineering and Bandi Pavan Karthik (En. No. 21114026), B.Tech., Department of Computer Science & Engineering in cheating using Smart Phone & Smart Watch in the ETE of the course CSN-212: Design analysis of algorithm, held on 29.04.2023.

   The student was present. The Committee, after hearing the views of the student, the invigilator, the course coordinator and the HoD, came to the conclusion that the case does not fall under any category as specified in the (Appendix-A), Senate Item No. 76.7 and recommended that **Gradesheet, Transcript and Provisional Degree shall not be issued to him before the convocation 2024.**

2. Case of Mr. G. Vamshi Krishna (En. No. 18114023), B. Tech-4th Year **(extended year)**, Department of Computer Science & Engineering who was involved in helping Mr. Sai Rohan Pawar (21114088), B.Tech., Department of Computer Science & Engineering and Bandi Pavan Karthik (En. No. 21114026), B.Tech., Department of Computer Science & Engineering in cheating using Smart Phone & Smart Watch in the ETE course CSN-212: Design analysis of algorithm, held on 29.04.2023.

The student was present. The Committee, after hearing the views of the student, the invigilator, the course coordinator and the HoD, came to the conclusion that the case does not fall under any category as specified in the (Appendix-A), Senate Item No. 76.7 and recommended that **he shall not be allowed to register before the Autumn Semester, 2024-25**.

3. Case of Mr. Yethipathi Sriram (En. No. 21615024), M.Sc. 2nd Year, Department of Physics who was involved in helping Mr. Sai Rohan Pawar (21114088), B.Tech., Department of Computer Science & Engineering and Bandi Pavan Karthik (En. No. 21114026), B.Tech., Department of Computer Science & Engineering in cheating using Smart Phone & Smart Watch in the ETE of the course CSN-212: Design analysis of algorithm, held on 29.04.2023.

The ex-student was present virtually. The Committee, after hearing the views of the student, the invigilator, the course coordinator and the HoD, came to the conclusion that the case does not fall under any category as specified in the (Appendix A), Senate Item No. 76.7 and recommended that **he will not be considered for reinstatement and no mercy appeal in respect of him to this effect be considered**.

In all cases, the decision of the Unfair Means Committee be communicated to the parents/guardians of the concerned students.

Head, Computer Sciences | Head, Elect. & Commu. | Head, Physics

Course Coordinator (CSN-212) | Gen. Sec. Acads (UG) (Representative) | Chairperson, IAEC

ADoAA (E) | Dean, Academic Affairs

S.No.	Name	Details	Recommendations/ Remarks
1.	**G. Vamshi Krishna** (Enr. No. 18114023) B.Tech. (CS), IV Yr	-On the recommendation of the Unfair means committee, the Director has approved that he shall not be allowed to register before the Autumn Semester, 2024-25. -CGPA: 3.905, 3.622, 3.567, 3.677, 3.512, 4.630, 5.389, 5.769, 6.015, 5.783 -Total earned credits: 156 -Remaining credits to complete degree: 04 -Remaining course: CSN-352 (Compiler Design), PCC, Spring Semester	The Chair, DAPC, Deptt. of CSE has opined that "only the committee members who have examined the case and decided the punishment should decide about the relaxation in the punishment in view of the requests submitted by the students." **IAPC:** Not recommended
2.	**Nagulapati Sainath** (Enr. No. 18116050) B.Tech. (EC), IV Yr	-On the recommendation of the Unfair means committee, the Director has approved that his Gradesheet, Transcript and Provisional Degree shall not be issued to him before the convocation 2024. -CGPA: 3.905, 3.622, 3.049, 3.653, 4.615, 5.266, 5.439, 5.456, 5.507, 5.484, -Total earned credits: 163 -Remaining credits to complete degree: 0	
3.	**Sai Rohan Pawar** (Enr. No. 21114088) B.Tech. (CS), III Yr	-On the recommendation of the Unfair means committee, the Director has approved a penalty of semester backlog i.e., the running semester (Spring Semester 2022-23). -SGPA: 6.571, 6.333, 6.381, 0.000 -CGPA: 6.571, 6.444, 6.424, 4.874 -Total earned credits: 66, Required credits: 164 -Remaining credits to complete degree: 98	

Mercy appeal

From : G.VAMSHI KRISHNA <gkrishna@cs.iitr.ac.in> Sun, Oct 01, 2023 12:09 AM

Subject : Mercy appeal

To : Dean AcademicAffairs <daa@iitr.ac.in>

Cc : Assit RegistrarEvaluation <arevaluation@iitr.ac.in>, Assoc Dean of Academic Affairs, Evaluation <adaa-evaluation@iitr.ac.in>

Respected sir,

My self G.Vamshi krishna B.Tech CSE 5th year(18114023). This mail is regarding the decision made by the committee on the unfair means activity.
The committee decision was not allowing me to write re-examination and not allowing me to register for the singular subject in upcoming spring semester.And also mentioned I won't be able to register for the same before Autumn semester 2024-25.

I'm requesting you sir, **I have left with only one course**(CSN-352 Compiler design)
which is in spring semester, please allow me to register for this course in upcoming spring semester 2023-24. So that I can complete it and will take my degree in 2024 convocation.

Waiting for 3 more semesters to complete my graduation can affect my academics and my career, while I can complete this in the upcoming semester.
We are from a poor financial background my family income is below 1lakh per annum, and my dad being the only income source in the household and me being the next one cannot afford to loose another 2 years involved in this case. So please understand my situation, i'm requesting you to **please grant me permission to register for this course in the upcoming spring semester 2023-24.**

I'm requesting you to please consider my request and do the needful as soon as possible.I'm hoping for your kind consideration

Thanks and regards,

G Vamshi Krishna

18114022

B.Tech CSE 5th year

7997503206

OFFICE OF THE DEAN ACADEMIC AFFAIRS
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

No.: DAA/UM(SS (ET-MT) 2022-23/M/4993 Dated: September 18,2023

Head,
Department of Computer Science & Engineering

Subject: Unfair means of the course CSN-212: Design analysis of algorithm.

Mr. G. Vamshi Krishna (En. No.-18114023), B. Tech-4th Year (extended year), Department of Computer Science & Engineering who was involved in helping Mr. Sai Rohan Pawar (21114088), B.Tech., Department of Computer Science & Engineering and Bandi Pavan Karthik (En. No. 21114026), B.Tech., Department of Computer Science & Engineering in cheating using Smart Phone & Smart Watch in the ETE of the course CSN-212: Design analysis of algorithm, held on 29.04.2023. The matter was enquired by the Institute Standing Committee on unfair means and the committee, after hearing the views of the invigilator, the course coordinator, the student and the HoD, came to the conclusion that the case does not fall under any category as specified in the (Appendix-A), Senate Item No. 76.7.

On the recommendation of the committee, the Director has approved **that he shall not be allowed to register before the Autumn Semester, 2024-25**.

Dean, Academic Affairs

Copy to:

1. Dean of Students' Welfare
2. Student concerned, by email.
3. Student's Guardian:

Mr. Gotu. Lasmamma
F/o G.Vamshi Krishna
House No. 2-22, Pinnamcharla, Atmakur
Mandal, Pinamcherla, Mahabubnagar,
Telangana-509131
Ph. No. :- 7997503206

Dean, Academic Affairs
19/9/23

HOLOGRAM

TRANSCRIPT VALID ONLY IF IT BEARS INSTITUTE HOLOGRAM

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

OFFICIAL TRANSCRIPT

(Statement of Earned Credits & Grades)

ENROLLMENT NO. OF THE STUDENT: 18114023 **NAME:** G.VAMSHI KRISHNA

PROGRAMME: BACHELOR OF TECHNOLOGY (COMPUTER SCIENCE)

SESSION 2018-19 **SEMESTER** Autumn

SUBJECT CODE	SUBJECT TITLE	GRADE LETTER	GRADE POINT	CREDIT
CEN-105	INTRODUCTION TO ENVIRONMENTAL STUDIES	C	5	3
CSN-101	INTRODUCTION TO COMPUTER SCIENCE AND ENGINEERING	D	4	2
CSN-103	FUNDAMENTALS OF OBJECT ORIENTED PROGRAMMING	D	4	4
HSN-001A	COMMUNICATION SKILLS (BASIC)	C	5	2
HSN-002	ETHICS AND SELF AWARENESS	C	5	2
MAN-001	MATHEMATICS-I	D	4	4
PHN-005	ELECTRODYNAMICS AND OPTICS	F	0	4

EARNED CREDITS 17 **TOTAL EARNED CREDITS** 17 **SGPA** 3.905

REG. CREDITS 21 **CGPA** 3.905

SESSION 2018-19 **SEMESTER** Spring

SUBJECT CODE	SUBJECT TITLE	GRADE LETTER	GRADE POINT	CREDIT
CSN-102	DATA STRUCTURES	D	4	4
CSN-106	DISCRETE STRUCTURES	D+		4
ECN-102	FUNDAMENTAL OF ELECTRONICS	D	4	4
ECN-104	DIGITAL LOGIC DESIGN	F	0	4

EARNED CREDITS 12 **TOTAL EARNED CREDITS** 29 **SGPA** 3.250

REG. CREDITS 16 **CGPA** 3.622

SESSION 2019-20 **SEMESTER** Autumn

SUBJECT CODE	SUBJECT TITLE	GRADE LETTER	GRADE POINT	CREDIT
CSN-221	COMPUTER ARCHITECTURE AND MICROPROCESSORS	D	4	4
CSN-291	OBJECT ORIENTED ANALYSIS AND DESIGN	D+		4
ECN-203	SIGNALS AND SYSTEMS	F	0	4
HSS-01	ECONOMICS	D	4	3
MIN-106	ENGINEERING THERMODYNAMICS	D	4	4
PHN-005	ELECTRODYNAMICS AND OPTICS	D	4	4

EARNED CREDITS 19 **TOTAL EARNED CREDITS** 48 **SGPA** 3.478

REG. CREDITS 23 **CGPA** 3.567

SESSION 2019-20 **SEMESTER** Spring (Covid-19)

SUBJECT CODE	SUBJECT TITLE	GRADE LETTER	GRADE POINT	CREDIT
CSN-212	DESIGN AND ANALYSIS OF ALGORITHMS	F	0	4
CSN-232	OPERATING SYSTEMS	S	-	4
CSN-252	SYSTEM SOFTWARE	D+		3
CSN-254	SOFTWARE ENGINEERING	S	-	4
ECN-252	DIGITAL ELECTRONIC CIRCUITS LABORATORY	D+		2
MTN-105	ELECTRICAL AND ELECTRONICS MATERIALS	S	-	4

EARNED CREDITS 17 **TOTAL EARNED CREDITS** 65 **SGPA** 2.778

REG. CREDITS 21 **CGPA** 3.677

SESSION 2020-21 **SEMESTER** Autumn

SUBJECT CODE	SUBJECT TITLE	GRADE LETTER	GRADE POINT	CREDIT
CSN-341	COMPUTER NETWORK	F	0	4
CSN-351	DATA BASE MANAGEMENT SYSTEMS	S	-	4
CSN-353	THEORY OF COMPUTATION	C	5	4
CSN-371	ARTIFICIAL INTELLIGENCE	F	0	4
IBM-314	FINANCIAL STATEMENT ANALYSIS & REPORTING	C	5	3

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

OFFICIAL TRANSCRIPT

(Statement of Earned Credits & Grades)

ENROLLMENT NO. OF THE STUDENT: 18114023 **NAME:** G.VAMSHI KRISHNA

PROGRAMME: BACHELOR OF TECHNOLOGY (COMPUTER SCIENCE)

EARNED CREDITS	11	**TOTAL EARNED CREDITS**	76	**SGPA**	2.800
REG. CREDITS	19			**CGPA**	3.512

SESSION 2020-21 **SEMESTER** Spring

SUBJECT CODE	SUBJECT TITLE	GRADE LETTER	GRADE POINT	CREDIT
CSN-212	DESIGN AND ANALYSIS OF ALGORITHMS	A	9	4
CSN-300	LAB-BASED PROJECT	B+	8	4
CSN-312	PRINCIPLES OF PROGRAMMING LANGUAGES	B	7	3
CSN-361	COMPUTER NETWORK LABORATORY	AP	-	2
CSN-362	COMPILER LABORATORY	B+	8	2
IEQ-301	INTRODUCTION TO EARTHQUAKE ENGINEERING	B+	8	3
PHN-006	QUANTUM MECHANICS AND STATISTICAL MECHANICS	S	-	4

EARNED CREDITS	22	**TOTAL EARNED CREDITS**	98	**SGPA**	9.062
REG. CREDITS	22			**CGPA**	4.630

SESSION 2021-22 **SEMESTER** Autumn

SUBJECT CODE	SUBJECT TITLE	GRADE LETTER	GRADE POINT	CREDIT
CSN-261	DATA STRUCTURE LABORATORY	A	9	2
CSN-341	COMPUTER NETWORK	D+		4
CSN-391	TECHNICAL COMMUNICATION	C	5	2
CSN-400A	B.TECH. PROJECT	B+	8	4
CSN-503	ADVANCED COMPUTER NETWORKS	B	7	4
CSN-528	NATURAL LANGUAGE PROCESSING	D+		4
ECN-203	SIGNALS AND SYSTEMS	D	4	4

EARNED CREDITS	24	**TOTAL EARNED CREDITS**	122	**SGPA**	6.500
REG. CREDITS	24			**CGPA**	5.389

SESSION 2021-22 **SEMESTER** Spring

SUBJECT CODE	SUBJECT TITLE	GRADE LETTER	GRADE POINT	CREDIT
CSN-371	ARTIFICIAL INTELLIGENCE	D+		4
CSN-400B	B.TECH. PROJECT	B+	8	8
CSN-515	DATA MINING AND WAREHOUSING	D	4	4
CSN-523	COMPUTATIONAL GEOMETRY	D+		4
CSN-526	MACHINE LEARNING	D+		4
DISP	DISCIPLINE	A	9	2

EARNED CREDITS	26	**TOTAL EARNED CREDITS**	148	**SGPA**	6.462
REG. CREDITS	26			**CGPA**	5.769

SESSION 2022-23 **SEMESTER** Autumn

SUBJECT CODE	SUBJECT TITLE	GRADE LETTER	GRADE POINT	CREDIT
ECN-104	DIGITAL LOGIC DESIGN	B	7	4

EARNED CREDITS	4	**TOTAL EARNED CREDITS**	152	**SGPA**	8.000
REG. CREDITS	4			**CGPA**	6.015

SESSION 2022-23 **SEMESTER** Spring

SUBJECT CODE	SUBJECT TITLE	GRADE LETTER	GRADE POINT	CREDIT
CSN-352	COMPILER DESIGN	F	0	4
MAN-010	OPTIMIZATION TECHNIQUES	D	4	4

EARNED CREDITS	4	**TOTAL EARNED CREDITS**	156	**SGPA**	2.000
REG. CREDITS	8			**CGPA**	5.783

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

OFFICIAL TRANSCRIPT

(Statement of Earned Credits & Grades)

ENROLLMENT NO. OF THE STUDENT: 18114023 **NAME:** G.VAMSHI KRISHNA

PROGRAMME: BACHELOR OF TECHNOLOGY (COMPUTER SCIENCE)

STUDENT HAS COMPLETED THE PROGRAMME

Note:-

1) The medium of Instruction at this Institute is English.

2) Academic Performance is graded on a 10-Point Scale.

3) "S"-Grade: Satisfactory performance during Covid-19 pandemic.

Place: Roorkee

Dated: 01-11-23

Assistant Registrar (Evaluation)

Prof. Apurbba Kumar Sharma, Ph D, FIE / प्रो. अपूर्बा कुमार शर्मा, पीएचडी, एफआईई
Dean of Academic Affairs / कुलशासक शैक्षणिक अफेयर्स
Indian Institute of Technology Roorkee / भारतीय प्रौद्योगिकी संस्थान रुड़की
ROORKEE - 247 667, Uttarakhand, India / रुड़की -247667, उत्तराखण्ड, भारत
Phone - (+91 / 01332) 28 5255 / 5421 (O), 5479 (R), 9411100286 (M)
E-mail / ई-मेल : daa@iitr.ac.in, aks@me.iitr.ac.in
Webpage / वेबपेज
Office Webpage / ऑफिस वेबपेज

From: NAGULAPATI <nsainath@ec.iitr.ac.in>
To: daa <daa@iitr.ac.in>
Cc: adaa-evaluation <adaa-evaluation@iitr.ac.in>; Assit <arevaluation@iitr.ac.in>
Date: Saturday, 23 September 2023 3:04 PM IST
Subject: Mercy letter

Respected All

This is Nagulapati Sainath (18116050) from ECE 5th year. I have received a mail from the campus on 18th may stating that I've been involved in unfair activity but i was actually not involved in the above mentioned.

The result of the committee meeting on 29th August was I won't be getting my grade sheet , Transcript, provisional degree and Degree shall not to be issued to me before 2024 convocation.

The committee decision was a bit harsh on my part though I wasn't involved in the issue(my mobile was misused) and would request you to revert this decision and please provide me with my Degree which is important to me at this very juncture as I have been attending all govt., as well as central govt., examinations. I need the degree for every part of this process right from application process to very end document verification.

If I get degree in 2024 it would reflect on me poorly while applying for any companies and even I couldn't apply for any examinations (Central/State). I cannot do anything untill or unless my degree is in my hand. It would be huge blow to my academic career and further.
My preparation, my aim ,my time,my life all are gonna spoil. please don't ruin my career by giving degree in 2024 convocation.

I had some health issues (psoriasis) for that I used to visit institute hospital so many times and have taken medication regularly.
We are from a poor financial background and my dad being the only breadwinner in the household and me being the next one cannot afford to loose another year involved in this case. So please understand my situation and provide me with my degree that would be greatful and I'll be returning to my hometown and start looking for a job right away.

I'm requesting you to please consider my request and do the needful as soon as possible.

Thanks and regards
N.Sainath
18116050
ECE 5th Year
9989022980

--
Raj Kumar Sharma
Assistant Registrar (Evaluation)
Academic Affairs Office
IIT Roorkee-247667

OFFICE OF THE DEAN ACADEMIC AFFAIRS
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

No.: DAA/UM(SS (ET-MT) 2022-23/M/4993 Dated: September 18, 2023

Head,
Department of Electronics and Communication Engineering

Subject: Unfair means of the course CSN-212: Design analysis of algorithm.

Mr. Nagulapati Sainath (En. No. 18116050), B.Tech.-4th year (extended year), Department of Electronics and Communication Engineering was involved in helping Mr. Sai Rohan Pawar (21114088), B.Tech., Department of Computer Science & Engineering and Bandi Pavan Karthik (En. No. 21114026), B.Tech., Department of Computer Science & Engineering in cheating using Smart Phone & Smart Watch in the ETE of the course CSN-212: Design analysis of algorithm, held on 29.04.2023.The matter was enquired by the Institute Standing Committee on unfair means and the committee, after hearing the views of the invigilator, the course coordinator, the student and the HoD, came to the conclusion that the case does not fall under any category as specified in the (Appendix-A), Senate Item No. 76.7.

On the recommendation of the committee, the Director has approved **that his Gradesheet, Transcript and Provisional Degree shall not be issued to him before the convocation 2024.**

Dean, Academic Affairs

Copy to:

1. Dean of Students' Welfare
2. Student concerned, by email.
3. Student's Guardian:

Mr. Nagulapati Ramesh
F/o Nagulapati Sainath
House No.-5-106 Ambedkar Nagar
Telangana -507210, Mahabubabad
Ph. No. :- 9989132495

Dean, Academic Affairs
18/9/23

HOLOGRAM

TRANSCRIPT VALID ONLY IF IT BEARS INSTITUTE HOLOGRAM

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

OFFICIAL TRANSCRIPT

(Statement of Earned Credits & Grades)

ENROLLMENT NO. OF THE STUDENT: 18116050 **NAME:** NAGULAPATI SAINATH

PROGRAMME: BACHELOR OF TECHNOLOGY (ELECTRONICS & COMMUNICATION)

SESSION 2018-19 **SEMESTER** Autumn

SUBJECT CODE	SUBJECT TITLE	GRADE LETTER	GRADE POINT	CREDIT
CEN-105	INTRODUCTION TO ENVIRONMENTAL STUDIES	C	5	3
CSN-103	FUNDAMENTALS OF OBJECT ORIENTED PROGRAMMING	D	4	4
ECN-101	INTRODUCTION TO ELECTRONICS AND COMMUNICATION ENGINEERING	D	4	2
HSN-001A	COMMUNICATION SKILLS (BASIC)	C	5	2
HSN-002	ETHICS AND SELF AWARENESS	C	5	2
MAN-001	MATHEMATICS-I	F	0	4
PHN-005	ELECTRODYNAMICS AND OPTICS	D	4	4

EARNED CREDITS 17 **TOTAL EARNED CREDITS** 17 **SGPA** 3.905

REG. CREDITS 21 **CGPA** 3.905

SESSION 2018-19 **SEMESTER** Spring

SUBJECT CODE	SUBJECT TITLE	GRADE LETTER	GRADE POINT	CREDIT
ECN-104	DIGITAL LOGIC DESIGN	F	0	4
EEN-112	ELECTRICAL SCIENCE	D+		4
MAN-006	PROBABILITY AND STATISTICS	D	4	4
PHN-006	QUANTUM MECHANICS AND STATISTICAL MECHANICS	D	4	4

EARNED CREDITS 12 **TOTAL EARNED CREDITS** 29 **SGPA** 3.250

REG. CREDITS 16 **CGPA** 3.622

SESSION 2019-20 **SEMESTER** Autumn

SUBJECT CODE	SUBJECT TITLE	GRADE LETTER	GRADE POINT	CREDIT
CSN-221	COMPUTER ARCHITECTURE AND MICROPROCESSORS	D	4	4
ECN-203	SIGNALS AND SYSTEMS	F	0	4
ECN-242	SEMICONDUCTOR DEVICES	F	0	4
ECN-291	ELECTRONIC NETWORK THEORY	F	0	4
MAN-001	MATHEMATICS-I	D	4	4
MIN-108	MECHANICAL ENGINEERING DRAWING	D+		4

EARNED CREDITS 12 **TOTAL EARNED CREDITS** 41 **SGPA** 2.167

REG. CREDITS 24 **CGPA** 3.049

SESSION 2019-20 **SEMESTER** Spring (Covid-19)

SUBJECT CODE	SUBJECT TITLE	GRADE LETTER	GRADE POINT	CREDIT
CSN-102	DATA STRUCTURES	D+		4
ECN-232	ENGINEERING ELECTROMAGNETICS	D	4	4
ECN-252	DIGITAL ELECTRONIC CIRCUITS LABORATORY	C	5	2
MAN-002	MATHEMATICAL METHODS	C	5	4
MTN-105	ELECTRICAL AND ELECTRONICS MATERIALS	D	4	4

EARNED CREDITS 18 **TOTAL EARNED CREDITS** 59 **SGPA** 4.889

REG. CREDITS 18 **CGPA** 3.653

SESSION 2020-21 **SEMESTER** Autumn

SUBJECT CODE	SUBJECT TITLE	GRADE LETTER	GRADE POINT	CREDIT
ECN-203	SIGNALS AND SYSTEMS	C	5	4
ECN-242	SEMICONDUCTOR DEVICES	D	4	4
ECN-291	ELECTRONIC NETWORK THEORY	C+	6	4
ECN-311	PRINCIPLES OF DIGITAL COMMUNICATION	S	-	4
ECN-333	MICROWAVE ENGINEERING	C	5	3

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

OFFICIAL TRANSCRIPT

(Statement of Earned Credits & Grades)

ENROLLMENT NO. OF THE STUDENT: 18116050 **NAME:** NAGULAPATI SAINATH

PROGRAMME: BACHELOR OF TECHNOLOGY (ELECTRONICS & COMMUNICATION)

EARNED CREDITS	19	**TOTAL EARNED CREDITS**	78	**SGPA**	5.733
REG. CREDITS	19			**CGPA**	4.615

SESSION 2020-21 **SEMESTER** Spring

SUBJECT CODE	SUBJECT TITLE	GRADE LETTER	GRADE POINT	CREDIT
ECN-104	DIGITAL LOGIC DESIGN	D+		4
ECN-312	DIGITAL SIGNAL PROCESSING	D+		3
ECN-341	MICROELECTRONIC DEVICES,TECHNOLOGY AND CIRCUITS	B+	8	2
ECN-343	FUNDAMENTALS OF MICROELECTRONICS	C	5	4
ECN-352	COMMUNICATION SYSTEMS LABORATORY	B+	8	2
ECN-354	MICROWAVE LABORATORY	B	7	2
IEQ-301	INTRODUCTION TO EARTHQUAKE ENGINEERING	B	7	3

EARNED CREDITS	20	**TOTAL EARNED CREDITS**	98	**SGPA**	6.750
REG. CREDITS	20			**CGPA**	5.266

SESSION 2021-22 **SEMESTER** Autumn

SUBJECT CODE	SUBJECT TITLE	GRADE LETTER	GRADE POINT	CREDIT
ECN-316	DIGITAL IMAGE PROCESSING	D	4	4
ECN-331	ANTENNA THEORY	D+		3
ECN-351	IC APPLICATION LABORATORY	C	5	2
ECN-391	TECHNICAL COMMUNICATION	B	7	2
ECN-400A	B.TECH. PROJECT	B	7	4
ECN-515	INFORMATION AND CODING THEORY	D+		4
ECN-554	MICROWAVE AND MILLIMETER WAVE CIRCUITS	C	5	4
HSS-02	SOCIOLOGY	C	5	3
IBM-311	OPERATION AND SUPPLY CHAIN MANAGEMENT	C+	6	3

EARNED CREDITS	29	**TOTAL EARNED CREDITS**	127	**SGPA**	6.000
REG. CREDITS	29			**CGPA**	5.439

SESSION 2021-22 **SEMESTER** Spring

SUBJECT CODE	SUBJECT TITLE	GRADE LETTER	GRADE POINT	CREDIT
ECN-212	COMMUNICATION SYSTEMS AND TECHNIQUES	D+		4
ECN-222	AUTOMATIC CONTROL SYSTEMS	D	4	4
ECN-400B	B.TECH. PROJECT	C	5	8
ECN-550	RADAR SIGNAL PROCESSING	D+		4
ECN-631	RF RECEIVER DESIGN	D+		4
DISP	DISCIPLINE	A	9	2

EARNED CREDITS	26	**TOTAL EARNED CREDITS**	153	**SGPA**	5.538
REG. CREDITS	26			**CGPA**	5.456

SESSION 2022-23 **SEMESTER** Autumn

SUBJECT CODE	SUBJECT TITLE	GRADE LETTER	GRADE POINT	CREDIT
ECN-300	LAB BASED PROJECT	B	7	3

EARNED CREDITS	3	**TOTAL EARNED CREDITS**	156	**SGPA**	8.000
REG. CREDITS	3			**CGPA**	5.507

SESSION 2022-23 **SEMESTER** Spring

SUBJECT CODE	SUBJECT TITLE	GRADE LETTER	GRADE POINT	CREDIT
ECN-205	ANALOG CIRCUITS	D+		4
ECN-342	RF AND MIXED SIGNALS CIRCUITS	D+		3

EARNED CREDITS	7	**TOTAL EARNED CREDITS**	163	**SGPA**	5.000
REG. CREDITS	7			**CGPA**	5.484

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INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

OFFICIAL TRANSCRIPT

(Statement of Earned Credits & Grades)

ENROLLMENT NO. OF THE STUDENT: 18116050 **NAME:** NAGULAPATI SAINATH

PROGRAMME: BACHELOR OF TECHNOLOGY (ELECTRONICS & COMMUNICATION)

STUDENT HAS COMPLETED THE PROGRAMME

Note:-

1) The medium of Instruction at this Institute is English.

2) Academic Performance is graded on a 10-Point Scale.

3) "S"-Grade: Satisfactory performance during Covid-19 pandemic.

Place: Roorkee **Assistant Registrar (Evaluation)**

Dated: 01-11-23

To

The Director, IIT Roorkee

Subject: Mercy Appeal for Reduction of Punishment

Respected Sir,

I am writing you this with a severe sense of apology and regret that I was caught using my phone in one of my end-of-term exams in May. I am truly sorry for what I have done, and I promise that it will never happen again. I am really sorry for this, as it was against the institute's policy. I was punished to repeat the whole semester again. I am pleading for mercy, as I hadn't thought of cheating, but because of the pressure I felt at that moment, I had to commit it. I am facing the consequences of that mistake right now, and they are too harsh.

I believe in doing things right, but this situation is affecting me not only academically but also mentally. I am currently on medication because I have a hard time concentrating. I am going to counselling at the wellness centre to help me deal with it. I want you to know that this is completely out of character for me. I have always been a good student, and my past grades prove that. I have no backlogs in previous semesters, I had decent grades and had cleared all the other courses in that semester. I am sure I will fix my mistake; I just need you to please reconsider the penalty and not punish me with detention. By going through all of this, I learned my lesson.

I know that I have made a mistake, but I am asking for your mercy. I promise that I will never repeat that mistake again. I have not committed any indisciplinary activity before, and I have a bright future ahead of me. I hope that you will give me the opportunity to redeem myself.

Thank you for your time and consideration.

Yours Sincerely,

Sai Rohan Pawar

BTech CSE 3rd year

21114088

OFFICE OF THE DEAN ACADEMIC AFFAIRS
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

No.: DAA/UM(SS (ET-MT) 2022-23/M/ 2405 Dated: June 5 ,2023

Mr. Sai Rohan Pawar
En. No. – 21114088
B.Tech. IInd Year
Deptt. of Computer Science & Engineering

Subject: Unfair means adopted in the ETE of the course CSN-212: Design analysis of algorithm.

On April 29, 2023, you had appeared in the End Term Examination of the course CSN-212: **Design analysis of algorithm** during the Spring Semester 2022-23. You were caught by the invigilator using mobile phone and the same was confessed by you. The matter was enquired by the Institute Standing Committee on unfair means and the committee, after hearing the views of the student, invigilator, Course Coordinator and the HoD, came to the conclusion that the incident does not fall under any category as specified in the (Appendix 'A') Senate Item No. 76.7 and recommended that you be penalized with **semester backlog.**

On the recommendation of the committee, the Director has approved **a penalty of semester backlog i.e. the running semester (Spring Semester 2022-23)** is imposed upon you. Further, you are advised to refrain yourself from such act in future and continue counselling.

Dean, Academic Affairs

Copy to:

1. Dean of Students' Welfare
2. Head, Department of Computer Science and Engineering alongwith answer script.
3. Student's Guardian:

Mr. Ramesh Pawar
F/o Sai Rohan Pawar
H-No.1-35 Subhas Nagar, Ib,
Utnoor, Telangana-504311
Ph No.:- 7569981503

Dean, Academic Affairs

HOLOGRAM

TRANSCRIPT VALID ONLY IF IT BEARS INSTITUTE HOLOGRAM

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

OFFICIAL TRANSCRIPT

(Statement of Earned Credits & Grades)

ENROLLMENT NO. OF THE STUDENT: 21114088 **NAME:** SAI ROHAN PAWAR

PROGRAMME: BACHELOR OF TECHNOLOGY (COMPUTER SCIENCE)

SESSION 2021-22 **SEMESTER** Autumn				**GRADE**	**GRADE**	
SUBJECT CODE	**SUBJECT TITLE**			**LETTER**	**POINT**	**CREDIT**
CEN-105	INTRODUCTION TO ENVIRONMENTAL STUDIES			C+	6	3
CSN-101	INTRODUCTION TO COMPUTER SCIENCE AND ENGINEERING			B	7	2
CSN-103	FUNDAMENTALS OF OBJECT ORIENTED PROGRAMMING			B	7	4
HSN-001	COMMUNICATION SKILLS			B+	8	2
HSN-002	INTRODUCTION TO PSYCHOLOGY			B	7	2
MAN-001	MATHEMATICS-I			C+	6	4
PHN-005	ELECTRODYNAMICS AND OPTICS			C+	6	4
EARNED CREDITS	21	**TOTAL EARNED CREDITS**	21	**SGPA** 6.571		
REG. CREDITS	21			**CGPA** 6.571		

SESSION 2021-22 **SEMESTER** Spring				**GRADE**	**GRADE**	
SUBJECT CODE	**SUBJECT TITLE**			**LETTER**	**POINT**	**CREDIT**
CSN-102	DATA STRUCTURES			B+	8	4
CSN-106	DISCRETE STRUCTURES			C	5	4
ECN-102-I	FUNDAMENTAL OF ELECTRONICS			C+	6	4
ECN-104	DIGITAL LOGIC DESIGN			B	7	4
MAN-010	OPTIMIZATION TECHNIQUES			C+	6	4
PHN-006	QUANTUM MECHANICS AND STATISTICAL MECHANICS			C+	6	4
EARNED CREDITS	24	**TOTAL EARNED CREDITS**	45	**SGPA** 6.333		
REG. CREDITS	24			**CGPA** 6.444		

SESSION 2022-23 **SEMESTER** Autumn				**GRADE**	**GRADE**	
SUBJECT CODE	**SUBJECT TITLE**			**LETTER**	**POINT**	**CREDIT**
CSN-221	COMPUTER ARCHITECTURE AND MICROPROCESSORS			D	4	4
CSN-261	DATA STRUCTURE LABORATORY			A	9	2
CSN-291	OBJECT ORIENTED ANALYSIS AND DESIGN			B	7	4
ECN-203	SIGNALS AND SYSTEMS			B	7	4
HSS-01	ECONOMICS			D	4	3
MIN-106	ENGINEERING THERMODYNAMICS			B+	8	4
EARNED CREDITS	21	**TOTAL EARNED CREDITS**	66	**SGPA** 6.381		
REG. CREDITS	21			**CGPA** 6.424		

SESSION 2022-23 **SEMESTER** Spring				**GRADE**	**GRADE**	
SUBJECT CODE	**SUBJECT TITLE**			**LETTER**	**POINT**	**CREDIT**
CHN-112	ENERGY ENGINEERING			F	0	4
CSN-212	DESIGN AND ANALYSIS OF ALGORITHMS			F	0	4
CSN-232	OPERATING SYSTEMS			F	0	4
CSN-252	SYSTEM SOFTWARE			F	0	3
CSN-254	SOFTWARE ENGINEERING			F	0	4
ECN-252	DIGITAL ELECTRONIC CIRCUITS LABORATORY			F	0	2
EARNED CREDITS	0	**TOTAL EARNED CREDITS**	66	**SGPA** 0.000		
REG. CREDITS	21			**CGPA** 4.874		

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

OFFICIAL TRANSCRIPT

(Statement of Earned Credits & Grades)

ENROLLMENT NO. OF THE STUDENT: 21114088 **NAME:** SAI ROHAN PAWAR

PROGRAMME: BACHELOR OF TECHNOLOGY (COMPUTER SCIENCE)

STUDENT HAS NOT YET COMPLETED THE PROGRAMME

Note:-

1) The medium of Instruction at this Institute is English.

2) Academic Performance is graded on a 10-Point Scale.

Place: Roorkee **Assistant Registrar (Evaluation)**

Dated: 14-11-23

Item No. 99.5: To consider the request of Mr. Sangeeth S. Pillai, (En. No. 14902004), ex-Ph.D. student, Dept. of Architecture & Planning.

Mr. Sangeeth S. Pillai, (En. No. 14902004), was registered as full time Ph.D. student with Institute Assistantship in the Department of Architecture & Planning on 09th July, 2014. He completed the candidacy requirements on 27th October, 2016. His Ph.D. programme was converted from full time to part time w.e.f. 16th August, 2017.

Supervisor(s) of Mr. Sangeeth was changed in June, 2016 and December, 2022 on his own request. His Progress Report for the Spring Semester 2022-23 was received as SATISFACTORY. Due to non- submission of fees and non-completion of academic registration, he was de-registered vide letter no. Research/512/P.F. dated 21.09.2023. **(Appendix-A).**

He has submitted mercy appeal through the Department of Architecture & Planning for reinstatement of academic registration. **(Appendix-B).**

The IRC in its 67th meeting held on 22.12.2023 considered and recommended the reinstatement of academic registration of Mr. Sangeeth S. Pillai. The IRC also recommended that no further mercy appeal regarding reinstatement of his academic registration be considered in future and a warning be issued to him to this effect.

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

शैक्षणिक अफेयर्स कार्यालय
भारतीय प्रौद्योगिकी संस्थान रूड़की
रूड़की - 247 667, हरिद्वार (उत्तराखण्ड), भारत

ACADEMIC AFFAIRS OFFICE
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE
Roorkee – 247 667, Haridwar (Uttarakhand), India
Website: www.iitr.ac.in

नं. रिसर्च /512/पी. एफ. दिनांक :सितम्बर 21,2023

Office Memorandum

You have not deposited your fee nor completed your academic registration for the Autumn Semester 2023-24. Hence, your academic registration is hereby terminated with immediate effect under Ph.D. Rules No. R.9.

In case of any discrepancy you may inform AAO through email (aao-phd@iitr.ac.in), immediately to sort out the anomaly.

Concerned Student.

Assistant Registrar (Evaluation)
सहायक कुलसचिव (मूल्यांकन)
Assistant Registrar (Evaluation)
शैक्षणिक अफेयर्स कार्यालय / Academic Affairs Office
भा0 प्रौ0 सं0 रुड़की / IIT Roorkee
रुड़की / Roorkee-247 667
21/9/2023

Copy Through e-mail to:-

1. Head/Chairperson DRC/CRC concerned Departments/Centres.
2. Dean of Students' Welfare.
3. Dean of Academic Affairs
4. Supervisor Concerned.
5. Associated Dean of Academic Affairs (Evaluation)
6. Finance & Accounts Section
7. Chairman, C.C.B
8. Student Concerned
9. Student File.

Note: 1) Students facing difficult personal circumstances and having adequate promise to complete their academic programme can appeal for reinstatement of their programme as per the process established for the same.

Enroll. No	Student Name	Department	Status_Year
14902004	SANGEETH S PILLAI	ARCH	PART-TIME
18908005	RAVISHA GOSWAMI	CHEMICAL	FULL-TIME
18910038	SAURABH UPADHYAY	CIVIL	FULL-TIME
18911004	MARAM HASAN	CSE	FULL-TIME
15915031	SWARGA MANDAL	E&CE	PART-TIME
21915020	TUSHAR SHIVAM PATHAK	E&CE	FULL-TIME
22915041	TARUN KUMAR SAHU	E&CE	FULL-TIME
18914002	AJIT KUMAR UPADHIYA	ELECTRICAL	FULL-TIME
22914002	ABISHEK R	ELECTRICAL	FULL-TIME
22913006	PANKAJ MAURYA	EQD	FULL-TIME
18912017	ROSHANI SINGH	ESC	PART-TIME
18916035	PADM NABH TRIVEDI	HSS	PART-TIME
18917009	BHANU SHARMA	HYDROLOGY	PART-TIME
22925021	VAIBHAV PACHAULEE	PHYSICS	FULL-TIME
22925028	NEEL SUNIL VADODARIA	PHYSICS	FULL-TIME
22926007	MAYUR	WRDM	FULL-TIME

I had visited IITR in May 2023 and had completed and submitted my Progress Report successfully for the previous spring semester, Jan2023 to June2023.

I further searched up my academics portal profile and found that I missed my registration and fee payment for the semester and on further searching email for registration dates, I found this email, informing me of academic registration termination due to non-submission of fee/ non-completion of academic registration process.

I most sincerely apologise for this grave oversight from my side, as I had to travel to my native place in kerala for a week and half in July 2023 regarding some family issues and got carried away with sorting out things in that regard.
Unfortunately, I have already lost much time due to academic/methodological disagreements in my previous supervision. I had just restarted my work this year with the support of my current supervisor and now with his kind support I am earnestly working towards submission of my thesis as early as possible.

I am otherwise currently an In-Service-PhD.Candidate employed as Assistant professor in regular posting at the Department of Architecture at Malaviya National Institute of Technology Jaipur (MNIT Jaipur) and INI under MoE, and kindly also consider that the expedited completion and submission of this PhD is essential for my career progress and any further promotions.

I hereby humbly request you to kindly and most mercifully consider my request/ appeal for reinstatement of my PhD registration of the semester as per the process
considering my apologies to this unfortunate procedural mistake and the situations causing this grave oversight from my side.
I would be much obliged to the support your office and IITR has given to me during my career so far, as a person coming from very humble economic backgrounds.

Yours faithfully.

Sangeeth

With warm regards,

Ar. Sangeeth S Pillai
(IIC Innovation Ambassador, Ministry of Education, Govt of India)

Assistant Professor, Department of Architecture & Planning,
Malaviya National Institute of Technology, Jaipur.
(An Institute of National Importance under MoE, Govt. of India)
Malaviya Nagar, JLN Marg, Jaipur, Rajasthan 302017
Ph : +919446261422

On Fri, Sep 22, 2023 at 5:02 PM Academic Affairs Office <aao-phd@iitr.ac.in> wrote:

Dear Student,

ua- fjlpZ @512@ih- ,Q- **fnukad %flrEcj 21]2023**

Office Memorandum

वास्तुकला एवं नियोजन विभाग
DEPARTMENT OF ARCHITECTURE & PLANNING
भारतीय प्रौद्योगिकी संस्थान, रुड़की
INDIAN INSTITUTE OF TECHNOLOGY, ROORKEE

Ref: No.Arch/1448/~~F-7 D-4~~ Date: 18-Dec-2023

To
The Dean (Academic Affairs)
IIT Roorkee
Roorkee

Sub: Recommendation of Departmental Research Committee

Dear Sir,

The Departmental Research Committee (DRC) has deliberated on the appeal of **Mr. Sangeeth S. Pillai, Ph.D. Scholar (Enroll. No. 14902004)** vide his email dated 11th December, 2023 for reinstatement for his Ph.D. registration and recommended for favorable consideration by the competent authority.

In view of the above, it is requested that Mr. Sangeeth S. Pillai may be allowed for re-registration for his Ph.D Programme.

Thanking you,

With regards,

(Prof. P.S. Chani)
Officiating Head

वास्तुकला एवं नियोजन विभाग
DEPARTMENT OF ARCHITECTURE & PLANNING
भारतीय प्रौद्योगिकी संस्थान, रुड़की
INDIAN INSTITUTE OF TECHNOLOGY, ROORKEE

No:.Arch./1446/

Date: December 12, 2023
Date: Dec. 15, 2023

To
The Dean (Academic Affairs)
IIT Roorkee

Sub: Recommendation of the Departmental Research Committee

The Departmental Research Committee (DRC) has deliberated on the application (by circulation) of **Mr. Sangeeth S Pillai, PhD Scholar (Enroll. No. 14902004)** vide Email dated 11th December, 2023 regarding his appeal for reinstatement of his PhD registration and recommended to forward his request to DOAA for favorable consideration.

V. Devadas
Prof. V. Devadas
(Member)

- ON Leave -
Prof. Ram Sateesh P.
(Member)

Prof. E. Rajasekar
(Member)

- ON Leave -
Prof. Uttam Kr. Roy
(Member)

MANAVVI
Prof. Manavi Suneja
(Member)

Prof. S. Sadhukhan
(Member)

Mahua Mukherjee
Prof. Mahua Mukherjee
(Chairperson)

Copy to:

1. Head, DAP
2. All Faculty Members
3. Mr. Sangeeth S Pillai

Item No. 99.6: To consider the seat matrix for admission into the M.Sc. programmes through JAM 2024 for the AY 2024-2025.

The IAPC, in its 135th meeting held on 15.12.2023, considered and recommended the seat matrix (**Appendix-A**) for admission into the M.Sc. Programmes through JAM 2024 for Academic Year 2024-25.

The same is submitted for the consideration and approval of the Senate.

Proposed Seat Matrix for M.Sc. Admission through JAM 2024

S.No	Deptt	Programme	Code	Paper code	Gen (Non-PwD)	Gen (Pwd)	EWS (Non-PwD)	EWS (Pwd)	OBC (Non-PwD)	OBC (Pwd)	SC (Non-PwD)	SC (Pwd)	ST (Non-PwD)	ST (Pwd)	Total
1	Earth Sciences	M.Sc. Applied Geology	1801	GG	8	0	2	0	5	0	2	1	1	0	19
2	Chemistry	M.Sc. Chemistry	1802	CY	17	1	4	0	12	0	6	1	3	0	44
3	Humanities and Social Sciences	M.Sc. Economics	1803	EN	13	0	3	0	8	1	5	0	2	1	33
4	Mathematics	M.Sc. Mathematics	1804	MA	15	0	4	0	9	1	6	0	2	1	38
5	Physics	M.Sc. Physics	1805	PH	12	0	3	0	9	0	3	1	2	0	30
6	Biosciences and Bioengineering	M.Sc. Biosciences and Bioengineering	1806	BT	13	1	3	1	9	0	5	0	3	0	35

Note: If PwD candidate is not available then the seat will be allotted to the candidate of respective category. Seats of PwD category are not over and above the sanctioned intake. The above seat distribution is done in order to maintain the total intake (199)
PwD seat are 5% horizontal and followed by category wise rotation

Item No. 99.7: To consider the Report of the PG Curriculum Revision Committee (PCRC).

The current curriculum of the Masters programmes in the Institute was introduced w.e.f. the academic year 2014. In the subsequent years, several new academic departments/centres/ school and new academic programmes have been introduced. Further, the philosophy and the framework of the education system in the country has been revamped through the introduction of the National Education Policy 2020. In the meanwhile, significant changes have been observed in the overall teaching-learning system, mix of the contents, advancements in knowledge etc. Consequently, the Deans Committee in its meeting held on 22.05.2023, resolved that a committee to be constituted to review the PG curriculum of the Institute as a whole.

In order to formulate a revised PG curriculum, a 15-member Postgraduate Curriculum Revision Committee (PCRC) was constituted on June 16, 2023 under the Chairmanship of DoAA **(Appendix-A**). A summary of the activities of the Committee are as under:

Activities	**Date**
PCRC formed	June16, 2023
First Full PCRC Meeting with DoAA and Director	July 03, 2023
Request by DoAA to all Departments/Centres/School for Inputs	July 05, 2023
Second PCRC Meeting with HoDs, Chairpersons DAPC/CAPC/ScAPC and members of the committee	Aug. 18, 2023
Third PCRC Meeting	Oct. 25, 2023
Draft Proposal along with major philosophies and structure was sent to the Depts/Centres/School	Nov. 02, 2023
Open-house Debate	Nov. 09, 2023
Academic Workshop (with Heads/DAPCs/ Academicians (Indiaand abroad)/Industry Experts/ Policy makers/Alumni)	Nov. 28, 2023
Final draft of the Report circulated among the PCRC members for comments, if any	Dec. 08, 2023
Submission of the Report by the PCRC to the Director through the Dean, Academic Affairs	Dec. 13, 2023

The PCRC submitted the its report (**Appendix-B**) suggesting a few changes in the framework of the curriculum, mandatory components, intake policy etc.

The IAPC, in its 135th meeting held on 15.12.2023, considered and recommended the proposal with the suggestion that the option for choosing a Program Model as stated in the clause 4.2, be made available to the students till the end of the first semester.

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

ACADEMIC AFFAIRS OFFICE
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

No. Acd./4431 Dated: June 16, 2023

OFFICE MEMORANDUM

As per the decision of the Deans' Committee Meeting held on 22.05.2023, the following committee is hereby constituted to review the PG curriculum:

1.	Dean of Academic Affairs	- Chairman
2.	Prof. Inderdeep Singh, Deptt. of ME	- Convener
3.	Dr. Amarjeet Singh, CTO, Zenatix (Industry Resource Person)	- Special Invitee
4.	Mr. Akshay Singhal, CEO, Log 9 Materials (Alumnus)	- Special Invitee
5.	Prof. Manish Shrikhande, Head, Deptt. of EQ	- Member
6.	Prof. B.V. Manoj Kumar, Chairperson, DAPC, Deptt. of MT	- Member
7.	Prof. Rajib Chowdhury, Deptt. of CE	- Member
8.	Prof. Meenakshi Rawat, Deptt. of EC	- Member
9.	Prof. Maheshanand, Chairperson, DAPC, Deptt. of MA	- Member
10.	Prof. P. Jeevanandam, Deptt. of CY	- Member
11.	Prof. Ajay Y Deo, Deptt. of PH	- Member
12.	Prof. Rajat Agrawal, Chairperson, DAPC, DoMS	- Member
13.	Prof. Uttam Kumar Roy, Deptt. of AR	- Member
14.	Prof. Rachita Gulati, Deptt. of HS	- Member
15.	General Secretary, Academic Affairs (P.G)	- Member (Ex-officio)

The above committee will have following terms of references:

1. To review the Masters' curriculum i.e., structure and course components of PG programs in parity with curriculum of globally reputed institutes.
2. To consider possibility of merging, renaming, introducing new programs or conducting the programs in a different mode (for example- can it be converted to an executive programme, can it be delivered in hybrid mode, etc.)
3. To see the viability of continuation of existing programmes vis-a-vis its admission status, placement, availability of resources, etc.
4. To review the existing intake of PG programs and suggest modification, if any.
5. To explore the possibility of including internship, community outreach etc. to the curriculum.
6. To review the above in wide consultation with all stakeholders.
7. The committee may conduct a suitable survey, if necessary.
8. To explore to adopt the spirit of the NEP 2020.
9. The committee should submit its review report and recommendations to the DoAA latest by Oct. 31, 2023, for the further consideration of IAPC and Senate.

This has the approval of the Director.

All Members

Assistant Registrar
(Curriculum)

Copy to (through e-mail):-

1. Director
2. Dean, Academic Affairs
3. Registrar
4. ADoAA (IT Systems & Admission)/ (Curriculum)/ (Evaluation)
5. Assistant Registrar (Evaluation)

Report on

PG CURRICULUM REVISION – 2023

Submitted by

Postgraduate Curriculum Review Committee
Indian Institute of Technology Roorkee
Roorkee – 247 667, India

December 7, 2023

1. Background

Periodic Academic curriculum revision is an essential requirement for an educational institution to keep up with the pace of an ever-evolving world. The current PG curriculum of the Indian Institute of Technology Roorkee (IIT Roorkee) was reviewed and implemented in the year 2014. Since then, there have been significant developments in science and technology, learning techniques, options in modes of delivery, academic contents and priorities, research and resources for research, perspectives in sustainability, importance, interests for higher studies and employment sectors to mention a few. The announcement of the National Education Policy in the year 2020 (NEP-2020) also created an opportunity for the academia to review and redesign their curricula. Updating the academic curriculum also brings challenges to the institutions for upgrading and overhauling their resources, while it provides the students themselves with the required skills and knowledge to step forward into the future with the changing societal and technological needs.

1.1 The Committee and Terms of References

A proposal was moved by the Dean of Academic Affairs in the Deans' Committee Meeting held on 22.05.2023 stating the need to review the PG Curriculum of the Institute. Consequently, the following committee was constituted by the Chairman Senate to review the PG curriculum. The Postgraduate Curriculum Review Committee (PCRC) notified on 16th June 2023 is as follows:

1.	Prof. Apurbba Kumar Sharma, Dean of Academic Affairs	-	Chairman
2.	Prof. Inderdeep Singh, Dept. of ME	-	Convener
3.	Dr. Amarjeet Singh, CTO, Zenatix (Industry Resource Person)	-	Special Invitee
4.	Mr. Akshay Singhal, CEO, Log 9 Materials (Alumnus)	-	Special Invitee
5.	Prof. Manish Shrikhande, Head, Dept. of EQ	-	Member
6.	Prof. B.V. Manoj Kumar, Chairperson, DAPC, Dept. of MT	-	Member
7.	Prof. Rajib Chowdhury, Dept. of CE	-	Member
8.	Prof. Meenakshi Rawat, Dept. of EC	-	Member
9.	Prof. Maheshanand, Chairperson, DAPC, Deptt. of MA	-	Member
10.	Prof. P. Jeevanandam, Deptt. of CY	-	Member
11.	Prof. Ajay Y Deo, Deptt. of PH	-	Member
12.	Prof. Rajat Agrawal, Chairperson, DAPC, DoMS	-	Member
13.	Prof. Uttam Kumar Roy, Deptt. of AR	-	Member
14.	Prof. Rachita Gulati, Deptt. of HS	-	Member
15.	General Secretary, Academic Affairs (P.G)	-	Member (Ex-officio)

The terms of reference for the PCRC were identified as follows:

1. To review the Master's curriculum i.e., structure and course components of PG programs in parity with the curriculum of globally reputed institutes.
2. To consider the possibility of merging, renaming, introducing new programs, or conducting the programs in a different mode (for example- can it be converted to an executive program, can it be delivered in hybrid mode, etc.)
3. To see the viability of the continuation of existing programs vis-a-vis its admission status, placement, availability of resources, etc.
4. To review the existing intake of PG programs and suggest modifications, if any.
5. To explore the possibility of including internships, community outreach, etc. in the curriculum.
6. To review the above in wide consultation with all stakeholders.
7. The committee may conduct a suitable survey, if necessary.
8. To explore to adopt the spirit of the NEP 2020.
9. The committee should submit its review report and recommendations to the DoAA by Nov. 25, 2023, for the further consideration of IAPC and the Senate.

1.2 The Methodology

The PG Curriculum Review Committee met on 3rd July 2023. The Committee identified a few aspects, including –placement trends, social needs, the need for entrepreneurs, project-based education, NEP-2020, and the structures of the curricula in a few sister/global institutions to be considered while formulating the recommendations. The PCRC decided on the following as the methodology:

I. Conducting surveys to understand the opinions of the stakeholders. The Committee, the departments/centers/schools, and other stakeholders to collect data to this effect.
II. Suggestions from the stakeholders.
III. Preparation of a draft Proposal
IV. Discussion on the draft Proposal.
V. Sending the draft Recommendation including the proposed Curriculum Structure.
VI. Discussion on the draft proposal at the Departments/Centres/Schools.
VII. Open house debate (Faculty members & Students).
VIII. Workshop on PG Curriculum Development (including External experts)
IX. Submission of the Recommendations on PG Curriculum.

Accordingly, a survey was designed by the committee and circulated among the faculty members, students, and alumni of the institute. Data on academic curricula and structures of a few globally reputed institutes/universities were also collected. The second meeting of the PCRC was held on 18th August 2023 with the heads of the departments/centers/schools and DAPC/CAPC/ScAPC Chairpersons, where the preliminary survey indications and other data were presented. A few notable points from the outcomes of the survey were as follows:

a. The revised curriculum should have more flexibility in selecting core and elective courses.
b. Interdisciplinary learning should be promoted.
c. Internships with industry or research labs are promoted to bridge the gap in learning in academia and the skills required in industry.
d. The study of advanced research/engineering tools should be made open to all specializations. Some examples of such tools/areas include – AI, ML, Programming Skills (Java, Hadoop, Python, C++, etc.), analytical tools, FinTech Domain, Crypto and Blockchain, 3D Printing, Industry 4.0, Smart Manufacturing, and Renewable Energy.
e. Studies on social sciences tools should be made open to all specializations. Some examples suggested include – Design Thinking, Digital Marketing, Psychology, Value Realisation, Ethics, Sustainability, IT Product Management, and Disruptive Innovation.
f. The revised curriculum should consider global practices of curriculum design.

Data regarding the sanctioned intakes, and admission statistics w.r.t. the departments/centers/schools were compiled by the Academic Affairs Office (AAO) and shared.

A summary of the curricula of leading global and national institutes was also presented in the meeting. The Committee also considered the views of PG student representatives (General Secretary, Academics – PG). Outcomes of the meeting were shared with the Heads and the DAPC Chairpersons, and their opinions on the structural framework were requested by 25th August 2023 on the following department-specific points:

1) Launching of new programs (vide survey to be conducted by the Departments/Centres /Schools)
2) Closing/merger of the existing program(s),
3) Structural Framework with component-wise credit requirements for completion of a program
4) Dual-degree program
5) Mode of delivery
6) Intake of students
7) Review of Thesis Evaluation, i.e. whether to consider grades of Thesis Stage I & II during the computation of SGPA/CGPA or not.
8) Other constructive feedback for enriching the PG programs

A draft of the PG curriculum revision proposal, incorporating outcomes from surveys, the study of global curricula, and inputs received from the Departments/ Centres/ Schools, was deliberated in the PCRC meeting on 25th October 2023. The modified draft was discussed in an open house event conducted on 9th November 2023.

A one-day Workshop on PG Curriculum Development was organized on Nov. 28 2023 to discuss the draft curriculum proposal. The participants and resource persons of the Workshop included eminent academicians, experts from industries from India and abroad, policymakers in government organizations, alumni, student representatives, Head of the Departments, Chairpersons of DAPC/CAPC/ScAPC, and the members of the PCRC.

The following resource persons contributed to the workshop:

1. Prof. Shalabh, Dean of Academic Affairs, IIT Kanpur
2. Prof. Narayanan D. Kurur, Dean Academics, IIT Delhi
3. Prof. Saptarshi Majumdar, Ex-Dean Academics, IIT Hyderabad
4. Dr. Meena Mishra, Director, SSPL, DRDO
5. Shri Rajesh Kumar Pathak, Secretary, TDB, DST
6. Shri Kishore Balbadra, DGM, BEL Acad. for Excellence
7. Prof. Francisco Falcone, Head-ISC, UPNA, Spain
8. Prof. Qingguo Li, Queen's University, Canada
9. Dr. Vinod Kumar, Sr. Lecturer, Cranfield University
10. Prof. Shreyas Kumar, Texas A&M University, USA
11. Shri Sreenivasa Rao Pagolu, FM, Everest Ind. Ltd.
12. Shri Yashpal Sardana, Plant Head, Hero MotoCorp Ltd.
13. Shri Anant Vashistha, MBAn, MIT Sloan SoM
14. Shri Somesh Mahapatra, PhD Student, MIT
15. Mr. Somansh Garg, Representative of Gen. Sec. PG

Post discussion in the Workshop, the proposal is revised to include various suggestions.

2. The Philosophy

The PCRC identified the following major philosophies as the basis for the revision of the curriculum. The theme of the PG Curriculum Revision is "**RISE**", where,

- ✓ R – Research
- ✓ I – Inter-disciplinary
- ✓ S – Societal Connect

- ✓ E – Enrichment of practical knowledge

3. Mode of Intake

It is proposed that a department/centre/school may opt for admitting students to their respective PG programs using any of the following two modes:

(a) Option-A: Irrespective of specialization, where specialization of the students is to be chosen later, or

(b) Option B: Specialisation-based.

If chosen Option-A, students shall be admitted to the departments/centres/schools without any allotted specialization. The specialization allotment shall be immediately after the registration in the institute (during the Orientation) or after the first semester. The departments/centres/schools, however, are required to inform their decision regarding the mode of admission of students, the specializations to be offered, and the mechanism for the distribution of the students in various specializations. Such information will be made available to students in the form of a brochure while considering their options for admission to a certain PG program. In this option, there will be flexibility for the departments/centres/schools to merge/drop area(s) of specialization.

If chosen Option-B, the current practice of admission will continue.

4. Proposed Revised PG Curriculum

A basic structure of the Curriculum was developed based on the deliberations in the PCRC. The salient features of the proposed structure are:

- Flexible modes of offering the PG programs
- Flexibility in course selection based on Basket based course-offering
- Inclusion of industrial internships, and social activities in the curriculum
- Flexibility to choose courses on societal impact themes (humanities, management, ethics, sustainability, psychology, IPR policies, innovation, design thinking, etc.)
- Flexibility to choose courses on advanced technology themes (AI, ML, programming languages (for example - Python, C++, Hadoop, Java), cognition technology, UX/UT, advanced 3D Printing, Industry 4.0, Smart Manufacturing, Sustainability, Renewable Energy, etc.)
- Industry-oriented/executive programs are to be encouraged
- Interdisciplinary electives are to be encouraged.
- Practical components within the courses are to be promoted.
- Only practical/project-based courses/self-learning courses are to be encouraged.

4.1. Basket based courses

The revised PG curriculum proposes to offer flexible Basket-based courses from the following baskets:

- Program Core Courses (PCC) basket
- Specialization-based program elective courses (PEC) basket
- Societal impact-themed Social Sciences (SSC) Basket
- Science, Technology, and Advanced Research (STAR) basket
- Internship or Social Activity (ISA) basket
- PPC/PEC/Interdisciplinary (PPI) basket

4.2 PG Program offering models

In line with the NEP-2020 guidelines (Clause #11.5) "Imaginative and flexible curricular structures to enable creative combinations of disciplines for study", it is proposed to offer three models for the award of a Master's Degree. The departments/Schools/ Centre's may opt for any or all of the proposed PG program models. Departments/Schools/ Centre shall declare their adopted PG program models. Students will have the flexibility to select any model offered by their Department/Schools/ Centre during the admission process or later till the end of first semester as per point 3 "Mode of intake" selected by the department.

4.2.1 PG Program Model-1: Course-based Master's Degree

M.Sc., M.B.A., M. Arch., M.U.R.P., and M. Tech. programs can adopt Model-1 of the course-based PG program. Students may choose courses from various pre-approved course baskets in each semester. The evaluation of the Internship or Social Activity (ISA) basket will be carried out in the third semester based on seminar presentation and report submission. Degree shall mention only the name of the parent department/centre/school, no specialisation shall be mentioned. The degree will awarded as "*Masters of/in <stream of the program, e.g. Science/Technology/Business Administration>* in <*name of the department, e.g. Civil Engineering*>". Fig.1(a) and Fig.1(b) show the semester-wise distribution of the course baskets and the minimum credits required for each basket for M.Sc. and M.B.A./M. Arch/M.U.R.P./ M. Tech. programs respectively.

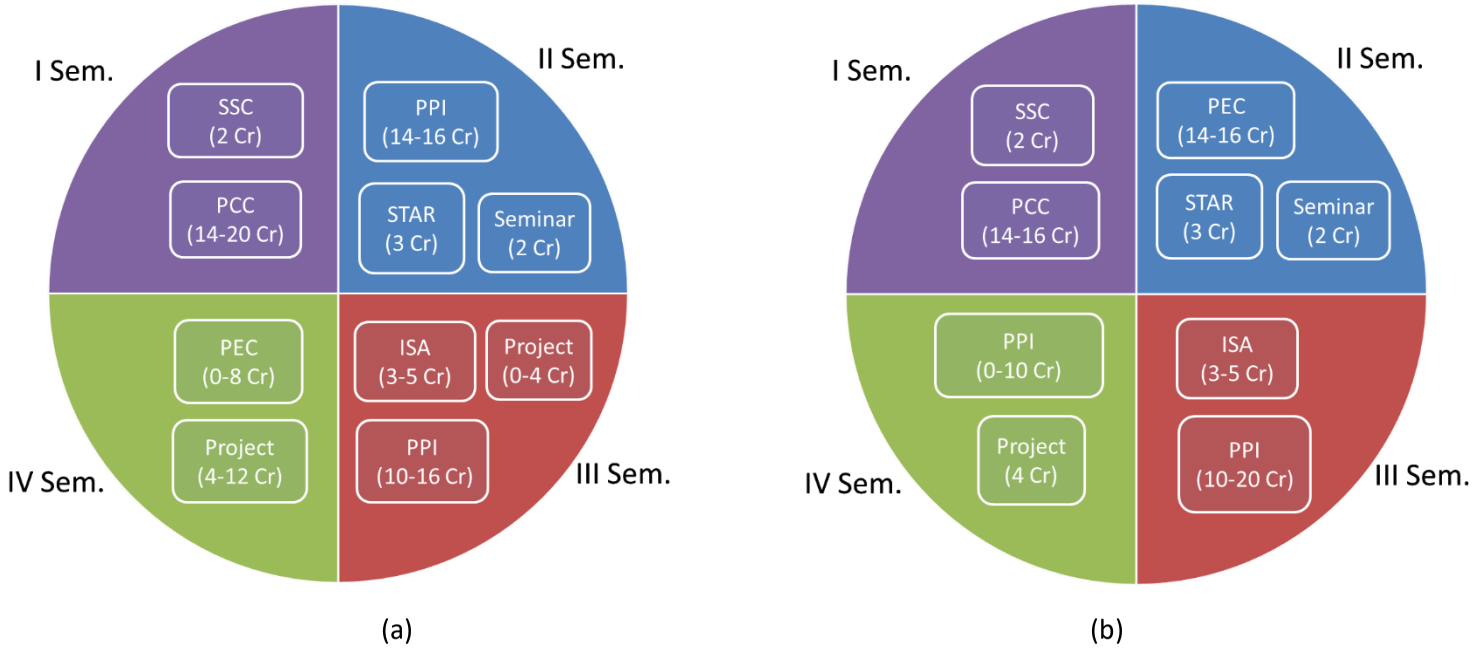

Fig.1. Semester-wise distribution of credits as per Model-1 for (a) M.Sc. and (b) M.B.A., M. Arch., M.U.R.P., and M. Tech. programs.

Table 1 shows the distribution of credits among various course baskets. Departments/centres/schools may select credits for each component within the range suggested. PCC, PEC, and PPI credits may be decided as per the requirement of the program/departments/centres/schools within the limits of the total credits.

Table 1. Credit distribution in various course baskets as per Model-1

S. No.	Credit component	Credits (M.Sc.)	Credits (Others)	Remarks
1.	PCC	14-20	14-16	Department core courses (PCC) basket. – These courses can also be offered in later semesters as PPI courses if required. – Departments/centres/schools may create many PCC baskets within it to cater to the need of their specialisation areas if required. – Practical components within the courses are to be promoted. – Only practical/project-based courses/self-learning courses are to be encouraged.
2.	PEC*	11-12	14-16	Department specialization-based elective courses. – These courses can also be offered in later semesters as PPI courses if required. – Students may opt to earn a maximum of four (04) credits from MOOC courses, such as NPTEL, or from other Institutes/Universities of global repute upon approval from the respective department/centre/school (DAPC/CAPC/ScAPC). – Practical components within the courses are to be promoted. – Only practical/project-based courses/self-learning courses are also to be encouraged.
3.	Seminar	2	2	Students shall earn these credits through a research-based seminar presentation and report submission on a topic of cutting-edge technology/scientific development/other topics of relevance as approved by the department/centre/school. – Departments/centres/schools to develop their mechanism of evaluation.
4.	ISA (4- 8 weeks)	3-5	3-5	Internship Social Activity (ISA) basket. This basket has two components: (a) 2-4 credits be earned via an internship or social activity engagement. A two-weeks internship/social activity engagement will yield in 1 credit. Students may take up capstone projects with an industry to engage in real-time project execution. – The objective of this basket is to provide/create opportunities for students to work with the society/industry/external laboratories/institutes of global repute.

				– Students be encouraged to work with the leading industries/research laboratories/ institutes and learn practical aspects of their area of interest/research work – Students can work for society in the form of community development projects/ teaching/ rural upliftment of the underprivileged etc. – This may also be done in association with NGOs, local government bodies, boot camps, etc. if required. – Departments/centres/schools may develop their mechanism of evaluation. (b) 1 credit be mandatorily earned via IAI (industry-academia interaction) modules. These modules will require 14 hours of interaction with industry, which may be in the form of attending technical workshops and/or expert lectures being held in the institute. Such modules will be approved by respective DAPC/CAPC/ShAPC. – Departments/centres/schools may develop their mechanism of evaluation. For example, evaluation can be in the form of attendance, quiz, active involvement as volunteer etc. – The grades will be submitted at the end of third semester. – This module will provide students/deptt. an opportunity to personally interact with the experts from industry and academia.
5.	SSC	2	2	Social Sciences Course Basket. – This basket will be populated with courses relevant to social sciences. – The suggested themes of such courses will be economics, humanities, management, ethics, sustainability, psychology, IPR policies, Disruptive Innovation, Digital Marketing, Design thinking, etc. – Relevant Departments/Centers, such as – Humanities and Social Sciences, Management Studies, Architecture and Planning, Centres for Sustainable Energy, Centre for Sustainable Rural Development, Centre of Excellence in Disaster Mitigation & Management, Department of Hydro and Renewable Energy (HRED), and Center for Indian Knowledge Systems will mandatorily contribute minimum two

				(2) courses each to this basket. Other departments/centres/schools can also contribute to this basket. – Each department will choose three courses for this basket. – The students from any department/centre/school will have the flexibility to choose any course among the three courses (as per the previous point) from this basket.
6.	STAR	3	3	Science, Technology, and Advanced Research-tools basket. – Each department/centre/school is required to contribute at least one (01) course to this basket based on advanced tools such as Artificial Intelligence (AI), Data Science (DS), Big-Data Analysis (BDA), programming Machine Learning (ML), nanoscience, programming languages (Python, C++, Hadoop, Java, cognition technology, UX/UT, 3D Printing, Industry 4.0, Smart Manufacturing, and Renewable Energy, etc. – Faculty members can use this opportunity to create new elective courses based on their areas of expertise to be offered in this basket. – Maximum number of students in a STAR course will be 60. – Students will be allotted a course based on their SGPA if required.
7.	Project	4-16	4	– Research/Implementation based project – Departments/centres/schools will design a mechanism for 1) Identification of project 2) Allotment of Co-ordinator/Supervisor 3) Model of project evaluation
8.	PPI	24-36	20	PPC/PEC/Interdisciplinary basket. – Departments/centres/schools may create additional courses for this basket. – Students may opt for courses from other departments/centres/schools, subject to approval from their parent departments/centers/schools. – Students may also opt for any courses from the PCC/PEC baskets offered in the autumn and summer semesters respectively.
	Total Credits	72-78	62-68	

Additional considerations while designing the structure of a program as per model 1:

*PEC courses should have a minimum 15% weightage.

* Students should mandatorily earn a minimum of 3 credits from practical components in a program. These practical components can be part of a course or a dedicated practical /laboratory course.

* Care should be taken that the credits assigned for each credit component (PCC, PEC, PPI, etc.) and total credits for the programs should be within the prescribed range in Table 1.

4.2.2 PG Program Model-2: Thesis-based Master's Degree

M. Des., M. Arch., M.U.R.P., and M. Tech. programs can adopt Model-2 of the PG program. Students may choose from various pre-approved program baskets in the first and second semesters. The evaluation of the Internship or Social Activity (ISA) basket will be carried out in the third semester in the form of a seminar presentation and report submission. A degree will be awarded as "Master of/in <*stream of the program, e.g. Design/Technology* >" in "<*name of specialization, e.g. Transportation Engineering*>. Fig.2 shows the semester-wise distribution of the course baskets and minimum credits required for each component for Model-2. Table 2 shows the distribution of credits in various course baskets for Model-2.

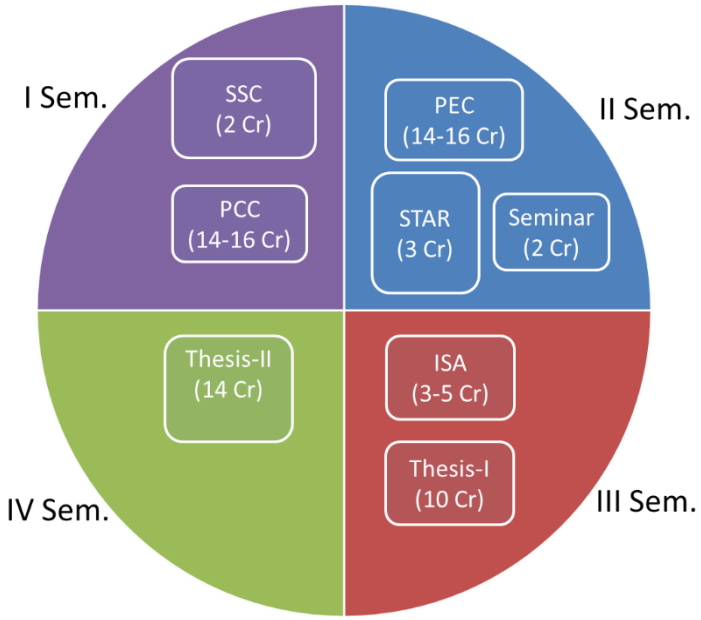

Fig.2. Semester-wise distribution of credits for Model-2

Table 2. Credit distribution among various baskets for Model-2

S. No.	Credit component	Credits	Remarks
1.	PCC	14-16	Similar to Model-1
2.	PEC	14-16	Similar to Model-1
3.	Seminar	2	Similar to Model-1
4.	ISA (4- 8 weeks)	3-5	Similar to Model-1
5.	SSC	2	Similar to Model-1
6.	STAR	3	Similar to Model-1

7.	Thesis Stage I	10	Each student will be evaluated based on the thesis report, seminar(s)/ other modes as decided by departments/Centres/Schools. – The evaluation shall be Satisfactory (S)/ Unsatisfactory (U) – Any evaluation component shall NOT be carried forward to the Thesis Stage II.
8.	Thesis Stage II	14	Each student will be evaluated based on the thesis report, seminar(s)/other modes as decided by departments/Centres/Schools. – Grade points shall be awarded at the end of the semester. – Grade points earned will be used for the calculation of the overall CGPA.
	Total Credits	**62-68**	

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Additional considerations while designing the structure of the program as per model-2:

* Students should mandatorily earn a minimum of 3 credits from practical components in a program. These practical components can be part of a course or a dedicated practical /laboratory course.

4.2.3 PG Program Model-3: M.S. (by Research)

Students in the M. Tech. program can adopt Model-3 of the research-based PG program. After completion of the first semester, students can opt for the M.S. (by Research) program. A degree will be awarded as "Master of Science (by Research)" in "<*Name of dept./Centres/School*>. A Student Advisory Committee (SAC) will be constituted by the concerned Dept./Centre/School research committee (DRC/CRC/ScRC) for each such student. Students opting for this model may be asked to earn additional credits by the SAC based on their research requirements. Students will be allowed to register for MOOC content-based courses, such as those offered by the NPTEL, as additional courses contingent upon approval from the SAC. Fig.3 shows the semester-wise distribution of the course baskets and minimum credit requirement for Model-3. Table 3 shows the distribution of credits in various components.

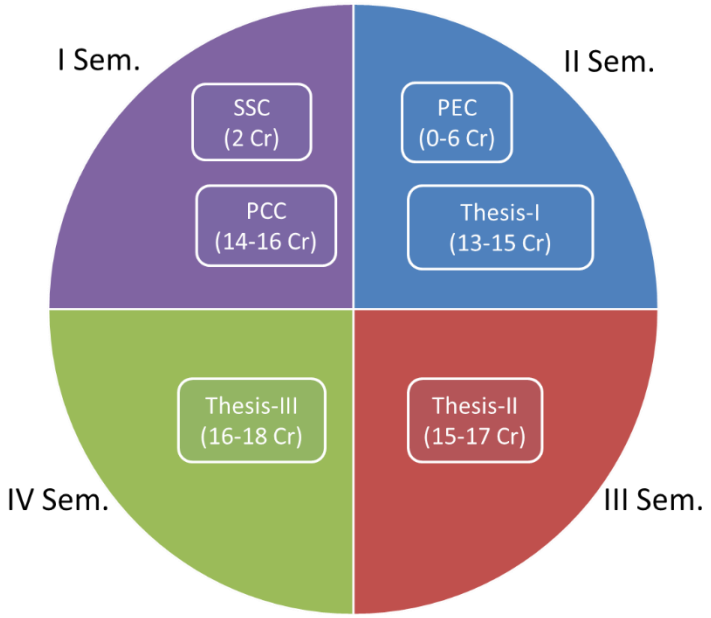

Fig.3. Semester-wise distribution of credits for Model-3

Table 3. Credit distribution among various components of the PG Program for Model-3

S. No.	Credit component	Credits	Remarks
1.	PCC	14-16	Similar to Model-1
2.	SSC	2	Similar to Model-1
3.	PEC	0-6	Two additional elective courses can be offered as decided by Depts./Centres/Schools.
4.	Thesis Stage I	13-15	– Each student will be evaluated by their individual SAC at each stage based on submitted reports, seminars/other modes as decided by Depts./Centres/Schools. – The final thesis will be evaluated by two examiners decided by the Dean of Academic Affairs from a list of examiners proposed by SAC.
5.	Thesis Stage II	15-17	
6.	Thesis Stage III	16-18	
	Total Credits	**66-68**	

* Care should be taken that the credits assigned for each credit component (PCC, PEC, Thesis stages, etc.) and total credits for the programs should be within the defined range in Table 3.

5. Number of Intakes in each department:

Several Departments have requested to increase the seats based on new specializations, or for currently running programs. However, it is observed that several programs had more than 25% of seats empty in the past 3 years. There is a need to optimize the number of seats. Therefore, the following criterion will be followed to distribute the seats optimally:

- If the vacancy is > 25% in any of the specializations in the past three years, the intake of the department/center/school will be reduced by 15%.
- If the vacancy is < 25% in any of the specializations in the past three years, the intake can be increased by a maximum of 15%, provided the concerned department/center/school desires so.
- The above will not apply to the programs that were launched within the past 3 years.
- After following the above rule, for any new program, the maximum number of seats will be 15.

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6. Inclusion of thesis grades in CGPA

The PCRC also deliberated on the inclusion of thesis grades into the final CGPA. A survey was conducted by the PG student representative (General Secretary, Academics – PG). The Committee recommends that the Grades of the thesis stage II be included in the final CGPA calculation for Model-2 of the PG Program.

7. Exit Policy

In line with NEP-2020, as per the Senate notification 1419/Senate-90 dated May 09, 2022, a Certificate can be issued to a student provided she/he has spent at least one year in the program and has earned a minimum of 28 credits.

8. Switching to a Ph.D. program

Students are eligible for switching to a Ph.D. program, provided they have earned at least 40 credits in their PG Program.

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Item No.99.8 **To consider the following proposals to introduce new P.G. Programmes by the Department of Biosciences and Bioengineering and Centre for Space Science and Technology.**

1. M.Tech. in Structural and Computational Biology

Eligibility: B.E./B.Tech. or equivalent (4-year program) in any engineering discipline or Masters in any discipline with mathematics in class 12th standard.

Eligible GATE discipline: CS/DA/BM/BT/XL

Intake: 15

2. M.Tech. in Biotechnology

Eligibility : B.E./B.Tech./B.V.Sc./B.Sc.(Agri.)/B.Pharm./ MBBS /BDS/or Masters in Life Sciences / Allied (related) discipline.

Eligible GATE discipline: BM/BT/XL

Intake: 15

3. M.Tech. in Biomanufacturing

Eligibility: B.E./B.Tech. or equivalent (4-year program) in any engineering discipline with mathematics in class 12th standard exam.

Eligible GATE discipline: BT/XE/CH/CS/ME/ES

Intake: 15

The new programme of M. Tech. in Biomanufacturing will be in lieu of existing M. Tech. in Bioprocess Engineering programme.

4. M.Tech. in Space Science and Technology

Eligibility : Four-year Bachelor's degree or five-year integrated degree in Electronics & Communication/ Electronics/Engineering Physics/ Aerospace Engineering/ Mechanical Engineering /Production and Industrial Engineering/Electrical Engineering/ Instrumentation Engineering/Metallurgical and Materials Engineering /Civil Engineering/Geophysical technology/ Geological technology, or M.Sc. in Physics/ Electronics/ Atmospheric Science / Chemistry/ Mathematics /Earth Sciences (Geology/Applied Geology/Geophysics) with Mathematics at graduation level.

Eligible GATE disciplines: ECE/PH/CY/MA/AE/ME/PI/EE /MT/CE/ GG

Intake: 15

The IAPC in its 136th meeting recommended the proposals in principle with intake in each programme as 15 (fifteen).

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

Item No. 99.9: To consider the proposals for renaming of M.Tech. Programmes of following Departments:

1. Renaming of M.Tech. programme in 'Solid State Electronic Materials' to '**Solid State Electronic Technology**' of Department of Physics.
2. Renaming of M.Tech. programme in 'Infrastructure Systems' to '**Transportation Systems Management**' of Centre for Transportation Systems.

The IAPC in its 136th meeting considered and recommended the above proposals.

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

Item No.99.10: To consider the proposal of the Department of Electronics and Communication Engineering to increase the number of seats for M.Tech. (VLSI) for industry professionals to 30 (thirty).

The BoG in its 62nd meeting held on 08.04.2021 approved the proposal to start an M.Tech. (VLSI) programme for working industry professionals. The programme was started w.e.f. the AY 2021-2022.

The department has submitted a proposal to increase the number of seats for M.Tech. (VLSI) for industry professionals from 20 (twenty) to 30 (thirty). Admission statistics w.r.t. the last three years are:

Programme Name	2023-24			2022-23			2021-22		
	Intake	Applications Received	Filled Seats	Intake	Applications Received	Filled Seats	Intake	Applications Received	Filled seats
M.Tech VLSI (for Industry Professionals	20	85	20	20	62	20	20	45	20

It is mentioned that a similar proposal was recommended by the IAPC in its 118th meeting. However, the Senate in its 91st meeting held on 21-07-2022 decided that a revised proposal be submitted in the next year.

The IAPC in its 136th meeting considered and recommended the above proposal.

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

Item No. 99.11: To consider the proposal of the Department of Hydro and Renewable Energy to offer B.Tech. program in 'Energy Engineering' along with its course structure and intake.

Globally, the energy sector is seen as one of the fast-growing sectors, with predominant growth occurring in renewable energy technologies in the last few years. Consequently, there is a natural need to create skilled manpower at all levels of the energy sector.

In India, there are only few institutions, including IITs, that offer undergraduate programmes specifically in Energy Engineering. A B.Tech. programme in Energy Engineering can cater to the growing need of professionals in the energy sector. These graduates will potentially have the knowledge and skills to lead various roles in the sector and can contribute to the value-chain of the sector.

The Department of Hydro and Renewable Energy has proposed to introduce a new B.Tech. program in 'Energy Engineering' to be offered w.e.f. the academic session 2024-2025. The proposal was circulated to the Heads of all Departments/Centres/Schools for their inputs. The IAPC in its 134th meeting held on 17.11.2023 considered the proposal and suggested the department to modify the proposal in consultation with relevant departments of the Institute, vis-à-vis the data from other IITs offering similar program.

The updated proposal submitted by the department was shared again with the Heads of all Departments/Centres /Schools for their inputs.

The IAPC in its 136th meeting held on 22.12.2023 considered and recommended the proposal with its programme structure, admission process and intake. The details are as under:

I. Programme Structure: Placed as **Appendix-A**.
II. Admission process: Through JEE-Advanced.
III. Intake: 20.

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

Table of Contents

Proposal for B.Tech programme in Energy Engineering

Host Department: Hydro and Renewable Energy Department (HRED)

Preamble

India has pledged to achieve net-zero carbon emissions by 2070. In pursuance of this goal, an ambitious target of 500 GW of non-fossil fuel generation capacity by 2030 has been set. It is estimated that this could create 3.4 million new job opportunities (of short or long duration), or about 1 million direct full-time equivalents. Thus, there is an urgent need of the country to create skilled manpower at all levels of the energy sector. Keeping this in mind, a B.Tech programme in Energy Engineering is developed and proposed to be offered by the Department of Hydro and Renewable Energy at IIT Roorkee.

About the Department

Department of Hydro and Renewable Energy (formerly Alternate Hydro Energy Centre (AHEC)) was established in 1982 with initial support of the then Department of Non-Conventional Energy Sources, Government of India. The department has done extensive work in research and development, advisory, extension support, consultancy, training and academics pertaining to the domain of small hydro power and biomass energy. Parliamentary Standing Committee on Energy (2010-11) and (2015-16) vide their report presented in *Lok Sabha* and placed in *Rajya Sabha* recognized AHEC, now HRED, as a premier institution and guiding star for the small hydro technology sector in the country paving the way for economic and efficient development of the technology and be a torch bearer for other technological institutes.

Over the years, the department has excelled and diversified its expertise in various areas of renewable energy, including solar energy, wind power, biomass energy, hydrogen production, grid integration of renewable energy, electric vehicles, and policy and regulations for renewable energy as well as environmental management of water bodies. Well-equipped and state of art laboratories are the unique strength of department and are being utilised to impart hands-on training in all the above aspects of renewable energy, as follows:

- Hydraulic Performance Laboratory
- Hydro-mechanical System Laboratory
- SHP Simulator
- Electrical Machines Laboratory
- Solar Energy Laboratory

- Environmental and Biofuels Research Laboratory
- Sediment Monitoring and Abrasion Testing Laboratory
- Green Hydrogen Laboratory
- Bioenergy and Water Research Laboratory
- Energy Systems Modelling Laboratory
- Renewable Energy Grid Integration Laboratory
- Instrumentation Laboratory
- GIS Laboratory

HRED has two full-time Masters programmes, running for more than two decades. The M.Tech. programme in Renewable and Hydro Energy (RHE) (formerly Alternate Hydro Energy Systems) was started in 1997, while the M.Tech. programme in Environmental Management of Rivers and Lakes (EMRL) was started in the year 2004. Moreover, HRED has been imparting training to field engineers and technologists including participants from neighbouring and developing countries, through national and international short-term training courses to create trained human resources in the field of hydropower, renewable energy sources, energy storage technologies, grid integration of renewable energy, regulations, policies and tariff for power sector, and environmental management of water bodies.

Need for B.Tech Programme in Energy Engineering

As per an International Energy Agency report (2022), over 65 million people were employed in the energy and related sectors globally and 7.9 million in India during 2019. As per an International Renewable Energy Agency report (2023), the renewable energy sector employed 13.7 million people, directly and indirectly, in 2022.

India has a fast growing energy sector, with predominant growth occurring in renewable energy technologies in the last few years. The Government of India had envisaged a target of 175 GW of installed capacity of renewable energy technologies by 2022. It helped accelerate the growth of the sector in a major way, and the current installed capacity of non-fossil fuel generation stands at 179 GW. Further, the country has taken a very ambitious target of having 500 GW of non-fossil fuel generation capacity by 2030.

Reaching India's goal of 500 GW of non-fossil-fuel energy sources by 2030 could create 3.4 million new job opportunities (of short or long duration), or about 1 million direct full-time equivalents. Most would be in the localised deployment of distributed renewable energy. This goal can be achieved with continuous deployment, sufficient skills development, upgrading and retraining, and enhancement of domestic manufacturing of various components.

Thus, there is an urgent need to create skilled manpower at all levels of the energy sector. Keeping this in mind we are proposing to offer a B.Tech programme in Energy Engineering at IIT Roorkee, hosted by the Department of Hydro and Renewable Energy. The focus of the B.Tech programme in Energy Engineering is to cater to the growing need of professionals who understand the entire spectrum of energy sector comprehensively. These graduates will have the knowledge and skills to lead various roles in the energy sector and provide value addition across the entire value chain of this sector.

The programme will skill the graduates to steer and lead the clean energy transition, helping the country manoeuvre its way towards the net-zero goal of 2070. Given India's rapid march towards a clean energy future, and commitment to a cleaner and greener future for this planet, an undergraduate programme in Energy Engineering is the need of the hour.

Similar Initiatives in Sister Institutions

Currently, three IITs are offering B.Tech programs in Energy Engineering, viz. IIT Bombay, IIT Delhi, and IIT Guwahati. The table below gives an overview of these programs.

Table: Details of UG programs in Energy Engineering in IITs

Name of Programme	Institution	Department	Starting year	Intake (No. of seats)
B.Tech (Energy Engineering)	IIT Bombay	Department of Energy Science and Engineering	Changed to 4-year programme in 2022 from a Dual Degree programme started in 2008	47
B.Tech (Energy Engineering)	IIT Delhi	Department of Energy Science and Engineering	2021	40
B.Tech (Energy Engineering)	IIT Guwahati	School of Energy Science and Engineering	2022	20

Interaction with Academia

IIT Bombay conducted an "Energy Education Outreach Workshop" on March 20-21, 2023, where representatives of Energy departments of six IITs, one NIT, few universities and some of the industries working in the domain of Energy deliberated on the need for having a dedicated UG programme in Energy Engineering. A standard format and identity of the discipline across the institutions was also deliberated, so as to establish Energy Engineering

as a core discipline. This could lead to having papers in Energy Engineering in GATE and other Central Government examinations in the future.

Following the suggestions of IAPC on this matter, in its meeting held on November 17, 2023, discussions with the representatives of five IITs, viz. IIT Bombay, IIT Delhi, IIT Guwahati, IIT Kanpur and IIT Kharagpur were held on the relevance, challenges and operational details of B.Tech programme in Energy Engineering.

Representative from Department of Energy Science and Engineering, IIT Bombay informed that in the initial years there were some struggles related to placement, as the industry was not aware of B.Tech programme in Energy Engineering. However, over the last decade it has picked up very nicely. One of the initiatives taken by IIT Bombay to enhance the industry visibility of this programme has been the annual event known as "Energy Day", wherein industry representatives are invited to present their state-of-art work in energy domain; simultaneously, the students, researchers and the faculty from the Energy department present their research work as well.

Due to the ongoing energy transition and the positive trajectory of the energy sector, now the acceptance of this programme by the industry is very good. Now companies are coming for placement seeking the graduates of the Energy branch exclusively. Energy consulting, energy auditing, energy management, energy transition jobs are unique jobs for B.Tech Energy Engineering graduates and good number of students are getting employed in these areas. The popularity and the positive outcome of this programme has been improving incessantly over the last few years, and hence the intake of the programme has been revised upwards to the current level of 47 seats, starting from 30 seats originally. It was emphasized that it is the right time to have such programs because there is a substantial need for dedicated energy engineers in the industry. The placement statistics for B.Tech + M.Tech (dual degree programme) in Energy Engineering at IIT Bombay are given in the table below:

Table: Placement Statistics of Energy Engineering at IIT Bombay

S. No.	Year	No. of students			
		Registered	Participated	Placed	% Placed
1	2018-19	24	22	22	100
2	2019-20	22	13	10	76.92
3	2020-21	24	20	16	80
4	2021-22	29	24	22	91.67
5	2022-23	29	22	21	95.45

IIT Delhi started the B.Tech programme in Energy Engineering in the year 2021. The representative from Department of Energy Science and Engineering, IIT Delhi said that it was felt that the time is now apt for such programmes due to the increasing criticality of the

Energy sector, and the ongoing energy transition. The first batch admitted to the programme is currently in the third year of the programme and the students are getting good internship offers from the industry. As far as the operational insights for the programme are concerned, it was opined that it would be better if distinct buckets of electives could be offered, so that different students could specialize in distinct areas of the Energy sector. However, this would need a sizeable faculty strength in the department.

IIT Guwahati started the B.Tech programme in Energy Engineering in the year 2022. They have witnessed an upward trend in the popularity of the programme – in the first year of the programme, the opening JEE rank of the branch was ~6500, which jumped to around ~5500 in the second year. The branch closed at around an AIR of ~7100, while the closing AIR for IITG is around ~8800 – 9000. They are currently having an intake of 20, which, hopefully, will be increased after successful placement of one or two batches. They have already contacted and got positive response from some of the prospective recruiters, like, TATA, OLA EV, Reliance New Energy, etc. As far as the B.Tech (Energy Engineering) proposal of IIT Roorkee is concerned, the representative from the School of Energy Science and Engineering, IIT Guwahati opined that it is a very relevant programme for the current times with regard to the ongoing energy transition. They suggested a minor change in the course structure: a course on Energy Management or Energy Auditing should be made part of the program core. This suggestion, coupled with the observation from IIT Bombay that Energy Management / Energy Auditing / Energy Consulting are some of the core and unique employment areas for B.Tech Energy Engineering graduates, has motivated us to change our proposed course structure slightly, so as to include Energy Conservation and Management as a program core course.

Interaction with Department of Sustainable Energy Engineering, IIT Kanpur representative helped us understand that IIT Kanpur is also in the process of preparing a B.Tech programme in Energy Engineering, and they hope to launch the said programme from the 2025-26 academic year.

Interaction with representative from School of Energy Science and Engineering, IIT Kharagpur was focused around their past experience with B.Tech in Energy Engineering, which was running in 1990s and early 2000s. It was learnt that despite the programme being ahead of its time, its acceptance by the industry and the placement of the graduating students was good. However, the programme ran into difficulty mainly due to operational constraints. There was no dedicated Energy department in IIT Kharagpur at that point of time, and hence there were no dedicated faculties nor any dedicated building/ labs/ operational space for this programme. It was being hosted by the Electrical Engineering department; the programme was interdisciplinary in nature and hence the host department found it to be divergent from its

vision and focus areas, seeing it more of a liability than an asset. Hence the programme had to be discontinued after a few years.

Industry Interaction and Response

To gauge the perspective and mood of industry on B.Tech programme in Energy Engineering, an interaction meeting with industry from hydro power, solar energy, distribution sector, bio energy and consultancy firms was organized by the department of Hydro and Renewable Energy in New Delhi on 31st August 2023. The proposal for starting a B.Tech programme in Energy Engineering was overwhelmingly welcomed by the industry delegates.

The industry representatives expressed a keen interest in supporting such a programme through various means, summarized below:

- Providing internship opportunities to B.Tech (Energy Engineering) students and suggested that:
    - internship programmes to start right from the first year of the B.Tech programme, and to have continued engagement for the entire duration.
    - To provide provision to increase the duration of the industry internships to up to six months.
- Industry representatives showed remarkable interest in engaging students to work on real-world problems from industry for their B.Tech projects.
- Industry can support the establishment of dedicated lab facilities for training students in advanced energy technologies.
- Industry is willing to provide support to the B.Tech students for participating in international energy competitions like Solar Decathlon, Net-zero Carbon Challenge Project, MathWorks Minidrone Competitions, Simulink Student Challenge, etc.
- Industry is willing to provide start-up support to entrepreneurial ideas from B.Tech students.

In addition to the above, industry representatives gave some suggestions regarding the approach and delivery of the courses in the proposed B.Tech programme, viz.:

- Utility of the courses in the industry should be emphasized.
- Lab experiments to provide practical knowledge should be incorporated.
- Lectures from industry experts to be included as a part of the course delivery.
- Real-world problems from industry as assignments.
- Consumer product design and systems thinking approach to be incorporated in the courses, wherever applicable.

- To the extent possible, courses should include exposure to programming skills and software.
- Giving some exposure to students to allied topics like Project management, Environmental justice, Interface of technology, society and policy etc. during the B.Tech programme, over and above the technical knowledge of the subjects.

Placement

The industry is keen to employ students with B.Tech in Energy Engineering. Moreover, they are forthcoming in engaging with the students and the department in honing and streamlining the programme delivery during the four years of the B.Tech programme. The industry representatives emphasised to deliver the programme in line with their expectations leading to numerous placement opportunities for B.Tech (Energy Engineering) graduates.

Currently, the entire energy sector is undergoing a landmark transition from fossil-fuels to renewable energy. Apart from the energy sector, other segments of the industry – be it transportation, fertilizers, steel, chemicals, or manufacturing sector – all of them are at the cusp of transition toward net-zero emissions. At such a juncture, the demand for professionals who understand the technology, financing, policy and regulations of clean energy transition is going to multiply manifold over the next two to three decades.

Programme Scheme and Structure

The detailed course structure of the proposed B.Tech programme is in accordance with the new UG programme structure of IIT Roorkee and honouring the spirit of NEP 2020. The teaching scheme, years wise courses (institute, programme and optional), the course descriptions with need and broad contents, of the proposed courses are presented in the following tables. Keeping in view, the strength of the department and its long industrial interactions, the courses have been designed and proposed so that unique departmental infrastructure supports the students.

Intake of students: 20

Structure of the B. Tech. (Energy Engineering) Programme

Main Curriculum Components	Sub Components	Approved Credits for B. Tech.	Approved Credits Range	Proposed Credits for B. Tech. by Department	Proposed Credits Range
Institute Core Course	HSSC	5	52-58	**5**	**53**
	HSSEC	6		**6**	
	MC	3		**3**	
	BSC	12-20		**12**	
	ESC	8-20		**16**	
	DSC	4		**4**	
	ESSC	3		**3**	
	TM	4		**4**	
Programme Core Course	CCCC	40-48	87-91	**47**	**91**
	AI/ML	2		**2**	
	Engg. Analysis and design (design thinking based project)/Industry Oriented Problem Solving/ Lab based Project/ Practical Problem/ Case study	4		**4**	
	Technical Communication	2		**2**	
	BTP/Entrepreneurship/ Project-based internship/PEC	6-10		**6**	
	PEC	22-26		**24**	
	TEB	6-8		**6**	
Other Course	OEC	9-12	9-12	**9-12**	**9-12**
	CORE	2	2	**2**	**2**
	Total	**150-160**	**150-160**	**155-158**	
	MSC/DHC	**18/20**		**18/20**	
	Grand Total			**173-178**	

DEPARTMENT OF HYDRO AND RENEWABLE ENERGY

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Programme Code	:	**XXX**	**B. Tech. (Energy Engineering)**	
Department	:	**HRE**	**Department of Hydro and Renewable Energy**	

Teaching Scheme

Year	Credits in Autumn Semester	Credits in Spring Semester	Credits (Year – wise)
1	23	23	46
2	23/24	20/21	43/45
3	21/22	19	40/41
4	16	10	26
Grand Total			**155/158**
Total with MSC/DHC	**With addition 18-20 credits**		**173/178**

Non-Credit Elements	Components	Maximum Units	Minimum Units	Comments
(NCE)	Discipline (DIS)	16	8	To be evaluated by DoSW
	NCC/NSS/NSO	8	4	To be evaluated by DoSW
	Internship (INT)	24	8	1-week internship= 1 unit
				(to be coordinated by the deptt. /Centres/School)
	Participation in professional development programs by Industry experts/ field experts (PPD-1 & PPD-2)	8	4	To be coordinated by the departments/Centres/school (2nd& 3rd Years)
Minimum non-credit units to be earned: 24				

DEPARTMENT OF HYDRO AND RENEWABLE ENERGY

Programme Code : XXX B. Tech. (Energy Engineering)
Department : HRE Department of Hydro and Renewable Energy
Year : I

Teaching Scheme					Contact Hours/ Week			Exam Duration (Hrs.)		Relative Weights(%)				
S. No.	**Subject Code**	**Course Title**	**Subject Area**	**Credits**	**L**	**T**	**P**	**Theory**	**Practical**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
(Autumn)														
1	HSI-101	Soft Skills	HSSC	3	2	0	2	2	0	10-25	25	15-25	30-40	-
2	MAI-101	Mathematics-I	BSC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
3	PHI-101	Physics-I	BSC	4	3	1	2/2	3	0	15-30	20	15-25	30-40	-
4	ECE-101	Fundamentals of Electronics	ESC	4	3	1	0	3	0	20-35	-	20-30	40-50	
5	TMI-101	Tinkering and Mentoring	TMI	4 T-2	-	-	-	-	-	70	30	-	-	-
				M-2	2	0	0	2	-	50	-	-	50	-
6	HRC-101	Computer Programming	PCC	4	3	0	2	3	0	10-25	25	15-25	30-40	-
		Total		**23**										
(Spring)														
1	HSI-102	Indian Knowledge System	HSSC	2	2	0	0	2	0	20-35	-	20-30	40-50	-
2	MAI-102	Mathematics-II	BSC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
3	ESS-101	Environmental Science and Sustainability	ESSC	3	3	0	0	3	0	20-35	-	20-30	40-50	-
4	MIE-103	Engineering Thermodynamics	ESC	4	3	1	2/2	3	0	15-30	20	15-25	30-40	-
5	EEE-102	Basic Electrical Engineering	ESC	4	3	1	2/2	3	0	15-30	20	15-25	30-40	-
6	HRC-102	Energy Resources, Economics and Environment	PCC	3	3	0	0	3	0	20-35	-	20-30	40-50	-
7	HRC-104	Renewable Energy Resources, Development and Technology	PCC	3	3	0	0	3	0	20-35	-	20-30	40-50	-
		Total		**23**										

DEPARTMENT OF HYDRO AND RENEWABLE ENERGY

Programme Code : XXX B. Tech. (Energy Engineering)
Department : HRE Department of Hydro and Renewable Energy
Year : II

Teaching Scheme					Contact Hours/Week			Exam Duration (Hrs.)		Relative Weights(%)				
S. No.	**Subject Code**	**Course Title**	**Subject Area**	**Credits**	**L**	**T**	**P**	**Theory**	**Practical**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
(Autumn)														
1	OEC-I	Open Elective Course-I	OEC	3/4										
2	HRC-201	Solid and Fluid Mechanics	PCC	4	3	1	2/2	3	0	15-30	20	15-25	30-40	-
3	DAI-101	Data Science	DSC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
4	HRC-203	Heat and Mass Transfer	PCC	4	3	1	2/2	3	0	15-30	20	15-25	30-40	-
5	HRC-205	Materials for Energy Applications	PCC	4	3	1	0	3	0	20-35	-	20-30	40-50	
6	EEE-101	Control Systems	ESC	4	3	1	0	3	0	20-35	-	20-30	40-50	
		Total		**23/24**										
(Spring)														
1	MSI-101	Fundamentals of Management	MC	3	3	0	0	3	0	20-35	-	20-30	40-50	
2	HRC-202	Power Systems and Network Analysis	PCC	4	3	1	0	3	0	20-35	-	20-30	40-50	
3	HRC-204	Energy Conservation and Management	PCC	3	3	0	0	3	0	20-35	-	20-30	40-50	
4	HRC-206	Hydropower Engineering	PCC	4	3	1	2/2	3	0	15-30	20	15-25	30-40	
5	OEC-II	Open Elective Course-II	OEC	3/4										
6	HSSEC-I	HSS Elective Course	HSSEC	3										
		Total		**20/21**										

DEPARTMENT OF HYDRO AND RENEWABLE ENERGY

Programme Code : XXX B. Tech. (Energy Engineering)
Department : HRE Department of Hydro and Renewable Energy
Year : III

Teaching Scheme					Contact Hours/Week			Exam Duration (Hrs.)		Relative Weights(%)				
S. No.	**Subject Code**	**Course Title**	**Subject Area**	**Credits**	**L**	**T**	**P**	**Theory**	**Practical**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
(Autumn)														
1	HRC-351	AI/ ML Applications in Energy Systems	PCC	2	2	0	0	2	0	20-35	-	20-30	40-50	-
2	HRC-301	Power Electronics and Electrical Machines	PCC	4	3	1	2/2	3	2	15-30	20	15-25	30-40	-
3	HRC-303	Energy Economics, Policy, and Regulations	PCC	3	3	0	0	3	0	20-35	-	20-30	40-50	-
4	HRC-399	Community Outreach	CORE	2								100		
5	HRT-I	Talent Enhancement Course-I	TEB	3	0	0	6	-	-	-	50	-	-	50
6	HRL-I	Programme Elective Course-I	PEC	4										
7	OEC-III	Open Elective Course-III	OEC	3/4										
		Total		**21/22**										
(Spring)														
1	HRT-II	Talent Enhancement Course-II	TEB	3	0	0	6				50	-	-	50
2	HRC-302	Energy Systems Modelling and Simulation	PCC	4	3	1	2/2	3	0	15-30	20	15-25	30-40	-
3	HRC-304	Energy Storage Systems	PCC	3	3	0	0	3	2	20-35	-	20-30	40-50	-
4	HRC-300	Engineering Analysis and design	PCC	4	2	0	4	0	0	-	50	-	-	50
5	HSSEC-II	HSS Elective Course-II	HSSEC	3										
6	HRC-391	Technical Communication	PCC	2	0	0	4	0	0	-	-	-	100	
7	MSC/DHC-I	Minor Specialization Course - I / Departmental Honours Course - I	MSC/ DHC	3/4										
		Total		**19/ 22-23**										

DEPARTMENT OF HYDRO AND RENEWABLE ENERGY

Programme Code : XXX B. Tech. (Energy Engineering)
Department : HRE Department of Hydro and Renewable Energy
Year : IV

Teaching Scheme					Contact Hours/Week			Exam Duration (Hrs.)		Relative Weights(%)				
S. No.	**Subject Code**	**Course Title**	**Subject Area**	**Credits**	**L**	**T**	**P**	**Theory**	**Practical**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
(Autumn)														
1	HRL-II	Programme Elective Course -II	PEC	4										
2	HRL-III	Programme Elective Course -III	PEC	4										
3	HRL-IV	Programme Elective Course -IV	PEC	4										
4	HRL-V	Programme Elective Course -V	PEC	4										
5	MSC/DHC-II	Minor Specialization Course - II / Departmental Honours Course – II	MSC/ DHC	3/4										
6	MSC/DHC-III	Minor Specialization Course - III / Departmental Honours Course – III	MSC/ DHC	3/4										
		Total		**16/22-24**										
(Spring)														
1	HRP- 400/PEC*	BTP/Project/Internship/Entrepreneurship/PEC*	PCC/ PEC*	6						100				
2	HRL-VI	Programme Elective Course -VI	PEC	4										
3	MSC/DHC-IV	Minor Specialization Course - IV / Departmental Honours Course – IV	MSC/ DHC	3/4										
4	MSC/DHC- V	Minor Specialization Course - V / Departmental Honours Course – V	MSC/ DHC	3/4										
		Total		**10/16-18**										

DEPARTMENT OF HYDRO AND RENEWABLE ENERGY

List of Program Elective Courses

S. No.	Sub Code	Teaching Scheme	Contact Hours/Week					Exam. Duration			Relative Weight (%)			
		Course Title	Sub. Area	Credits	L	T	P	Th	Practical	CWS	PRS	MTE	ETE	PRE
1.	HRL-401	Alternate Fuels	PEC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
2.	HRL-402	Biomass Energy	PEC	4	3	1	2/2	3	0	15-30	20	15-25	30-40	-
3.	HRL-403	Electric Vehicle Technology	PEC	4	3	1	2/2	3	0	15-30	20	15-25	30-40	-
4.	HRL-404	Energy and Climate Change	PEC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
5.	HRL-405	Energy System Dynamics	PEC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
6.	HRL-406	Geothermal Energy	PEC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
7.	HRL-407	Grid Integration of Renewable Energy	PEC	4	3	1	2/2	3	0	15-30	20	15-25	30-40	-
8.	HRL-408	Hydrogen Economy	PEC	4	3	1	2/2	3	0	15-30	20	15-25	30-40	-
9.	HRL-409	Hydropower Planning and Management	PEC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
10.	HRL-410	Hydropower Structures	PEC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
11.	HRL-411	Mechanical & Electrical Equipment for Hydropower	PEC	4	3	1	2/2	3	0	15-30	20	15-25	30-40	-
12.	HRL-412	Nuclear Power Engineering	PEC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
13.	HRL-413	Semi-Conductors for Energy Systems	PEC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
14.	HRL-414	Solar PV Concepts, Technology and Applications	PEC	4	3	1	2/2	3	0	15-30	20	15-25	30-40	-
15.	HRL-415	Solar Thermal Energy Generation and Storage	PEC	4	3	1	2/2	3	0	15-30	20	15-25	30-40	-
16.	HRL-416	Wind Energy Technology	PEC	4	3	1	2/2	3	0	15-30	20	15-25	30-40	-

List of Department Honors Courses

S. No.	Sub Code	Teaching Scheme	Contact Hours/Week					Exam. Duration		Relative Weight (%)			
		Course Title	Sub. Area	Credits	L	T	P	Th	Practical	CWS	PRS	MTE	ETE	PRE
1.	HRL-501	Cyber Security for Energy Systems	PEC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
2.	HRL-502	Energy-Food-Water Nexus	PEC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
3.	HRL-503	Environmental Planning and Management	PEC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
4.	HRL-504	Risk Assessment and Management	PEC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
5.	HRL-505	Waste to Energy	PEC	4	3	1	2/2	3	0	15-30	20	15-25	30-40	-
6.	HRL-506	Advanced Grid Modelling for High RE Systems	PEC	4	3	1	2/2	3	0	15-30	20	15-25	30-40	-

List of Minor Courses

S. No.	Sub Code	Course Title	Credits	Semester
1.	HRC-304	Energy Storage Systems	3	Spring
2.	HRL-414	Solar PV concepts, technology and application	4	Both
3.	HRC-XXX	Hydrogen Energy and Fuel cells	4	Spring
4.	HRC-302	Energy Systems Modelling and Simulation	4	Spring
5.	HRC-XXX	Policy, Regulations and Financing for Energy	3	Autumn
6.	HRL-405	Energy System Dynamics	4	Both
7.	HRL-403	Electric Vehicle Technology	4	Both
8.	HRC-XXX	Hydro Power Planning and Management	4	Autumn
9.	HRC-XXX	Biomass Production and Utilization	4	Autumn
10.	HRL-416	Wind Energy Technology	4	Both
11.	HRC-XXX	Energy-Food-Water Nexus	4	Spring
12.	HRL-503	Environmental Planning and Management	4	Both
13.	HRC-XXX	Renewable Energy Mini Project	4	Spring

List of Engineering Science Courses

S. No.	Sub Code	Teaching Scheme	Contact Hours/Week					Exam. Duration			Relative Weight (%)			
		Course Title	Sub. Area	Credits	L	T	P	Th	Practical	CWS	PRS	MTE	ETE	PRE
1.	HRE -101	Energy Resources, Economics and Sustainability	ESC	3	3	0	0	3	-	20-35	-	20-30	40-50	-
2.	HRE -102	Introduction to Renewable Energy Resources Technology	ESC	3	3	0	0	3	-	20-35	-	20-30	40-50	-

List of Open Elective Courses

S. No.	Sub Code	Teaching Scheme	Contact Hours/Week					Exam. Duration			Relative Weight (%)			
		Course Title	Sub. Area	Credits	L	T	P	Th	Practical	CWS	PRS	MTE	ETE	PRE
1.	HRO -101	Small Hydro Power Development	OEC	3	3	0	0	3	-	20-35	-	20-30	40-50	-
2.	HRO -102	Energy Conservation and Management	OEC	3	3	0	0	3	-	20-35	-	20-30	40-50	-

List of Talent Enhancement Basket Courses

Teaching Scheme					Contact Hours/Week			Exam Duration		Relative Weight (%)				
S. No.	Course Code	Course Title	Area	Cr.	L	T	P	Th.	Pr.	CWS	PRS	MTE	E T E	PRE
TEB-A														
1.	HRT-101	Hydropower Simulator	TEB	3	0	0	6	-	-	-	50	-	-	50
2.	HRT-102	Industry 4.0 application in Energy Systems	TEB	3	0	0	6	-	-	-	50	-	-	50
TEB-B														
1.	HRT-103	Energy Project Formulation	TEB	3	0	0	6	-	-	-	50	-	-	50
2.	HRT-104	Entrepreneurship in Energy Sector	TEB	3	0	0	6	-	-	-	50	-	-	50
TEB-C														
1.	HRT-105	Electrochemistry Lab	TEB	3	0	0	6	-	-	-	50	-	-	50
2.	HRT-106	Renewable Energy Lab	TEB	3	0	0	6	-	-	-	50	-	-	50

Course Descriptions with Need and Broad Contents

Sl. No.	Course	Need	Broad contents
Program Core Courses			
1.	AI/ ML Applications in Energy Systems	The energy systems of the future will have increasingly higher levels of integration of artificial intelligence and machine learning. It can be deployed for system identification, forecasting, understanding system dynamics, understanding human interaction with the energy systems and the like	• Role of AI/ ML in energy systems • Fundamentals of AI/ ML • Programming for AI/ ML • Ethics in AI/ ML
2.	Energy Economics, Policy, and Regulations	Comprehensive overview of basics and consideration of policies, regulations for renewable energy growth under net zero carbon goal.	• Energy strategies and balances, impact of energy and energy use on economy • Energy demand, forecasting energy demand, tools and techniques • Power markets, power purchase agreement and market risks, • Energy regulations, regulatory mechanism and governance, electricity act and electricity regulatory commission, Role of stakeholders • Financing and risk Assessment
3.	Energy Resources, Economics, and Environment	The course aims to explain the present global energy demand, the environmental effects of energy use, and what can be accomplished to alleviate the environmental effects of energy use and ensure an adequate energy supply. A technical and quantitative approach using simple algebra would be undertaken to explore the energy sources, usage, economics, and policy.	• Overview of the global energy scenario • Fundamental concepts of economics • Financial analysis of renewable energy projects • Environmental effects of energy production and utilization • Life cycle assessment (LCA): theory and application.
4.	Energy Storage Systems	Reason: Development of RETs and their penetration into the grid has underlined the importance of storage systems. The students, therefore, shall be exposed to different energy storage systems.	• Pumped hydro • Solar thermal • Capacitors • Batteries • Hydrogen storage
5.	Energy Systems Modelling and	Real-world energy systems are too complex to be	• Overview of modelling • Solution of linear and nonlinear

Sl. No.	Course	Need	Broad contents
	Simulation	implemented in hardware at lab scale. Hence, modelling and simulation of these systems is critical for validating their performance under normal conditions and extreme events.	equations • Numerical solution of DAEs, ODEs, PDEs • Optimization – constrained, unconstrained • Statistical techniques for energy systems modelling • Case studies
6.	Heat and Mass Transfer	For understanding the basic principle of working any component. This is, in fact, the basis for understanding the concept of reversibility and, in turn, helps to understand the efficiency of any system.	• Introduction to heat and mass transfer • Theory and principles of conduction, convection and radiation • Heat exchangers • Mass diffusion
7.	Hydropower Engineering	Hydropower being part of water and power storage management is becoming important in energy transition.	• Hydrology and water power studies • Elements and types of hydropower plants • Design of Civil structures viz dam, barrages, water conductor system, penstock, power house building, gates • Electromechanical equipment - turbine, generator, governor, control and switchyard • Environment, health and safety
8.	Introduction to Computer Programming	To give an introduction to fundamental concepts of programming to first year UG students, as programming is a crucial skill for success in engineering careers.	• Introduction to programming logic and algorithms • Key components of programming • Fundamentals of data structures • File handling • Object oriented programming
9.	Introduction to Renewable Energy Technologies	This course will provide knowledge about various renewable energy technologies, their potential, applications, and the status of development	• Solar • Wind • Biomass • Hydro • Other renewable energy sources (geothermal, ocean, hydrogen)
10.	Materials for Energy Applications	The material synthesis/selection for various energy sources or conversion devices is of paramount importance. The students shall be exposed to different domains viz. electrochemical energy conversion and storage devices, solar cells etc.	• Materials for batteries • Catalyst synthesis for electrolysis • Catalyst synthesis for fuel cells • Materials for solar cells
11.	Power Electronics and Electrical	Power electronics is a core component of modern energy	• Fundamentals of signal processing

Sl. No.	Course	Need	Broad contents
	Machines	systems. It finds application across the generation, transmission, distribution and utilization systems for electrical energy, viz. renewable energy generating systems, electric vehicles, smart grids.	• Solid state power electronic devices • Power electronic converters • Transformers and DC machines • AC machines
12.	Power Systems and Network Analysis	Energy systems are increasingly moving towards deep electrification. In such a scenario, knowledge of circuit analysis, structure, operation and criticalities of the power grid is of crucial importance for energy engineers	• Overview of basic electrical science • Network analysis and synthesis • Basics of transmission and distribution systems • Load flow analysis and short circuit analysis • Power system stability and control
13.	Solid and Fluid Mechanics	This is an important subject that helps to understand the strength of any system in terms of its resistance to the natural laws of conservation	• Analysis of stresses and strain • Mechanical properties of materials • Introduction to Fluid Mechanics • Kinematics and dynamics of fluids • Compressible flow • Flow measurement
Program Elective Courses			
1.	Alternate Fuels	To provide the basic knowledge about the potential alternative fuels for transportation, the need for them and the challenges in the development of alternative fuels.	• Overview of the fuel sector • Biofuels • Hydrogen and derived fuels • Engine technology • Economic and environmental aspects
2.	Biomass Energy	This course will impart knowledge about biomass resources, different conversion technologies, and utilization of bioproducts for energy and other applications	• Biomass sources and properties • Thermochemical and Biochemical conversion processes • Environmental and Economic aspects • Supply-chain • Case studies from agriculture, forestry, food industry
3.	Cybersecurity for Energy Systems	Energy infrastructure is being increasingly digitized. This exposes the energy assets to cyberattacks. Energy engineers must understand the fundamentals of cybersecurity and the associated risks and mitigation measures	• Introduction to computer networks • Fundamentals of digital communication and control • Fundamentals of information security • Vulnerability assessment of energy systems • Measures to improve

Sl. No.	Course	Need	Broad contents
			cybersecurity
4.	Design of Hydropower Structures	Cost Effective and standard compliance structures are key to success to the hydropower plant having long life	• National and international standards and codes of practices • Design of dams / diversion, Water conductor system, channel, tunnel, pipes • Sediment management • Penstock, surge tank, anchor blocks • Power house building, layouts • Underground powerhouses
5.	Electric Vehicle Technology	Transportation systems across the world are being electrified. The Indian government has a major thrust towards transport electrification due to energy security. This course will introduce the students to the various aspects of electric vehicle technology.	• Need for transportation electrification • Electric vehicle architectures • Drives for electric vehicles • Batteries, battery pack management and fuel cells • Charging infrastructure, standards and policies
6.	Energy and Climate Change	Introduction to the theoretical and practical understanding of how energy and climate change policies are designed, shaped, advocated, and implemented. As energy markets go truly global, domestic energy policies are becoming more and more entangled with wider issues of international governance.	• The future of fossil fuels • Scaling up of renewable energy • Energy and climate governance • Energy security and climate change • International agreement on climate change
7.	Energy Conservation and Management	Industries are primarily interested in saving energy for cost-effective products. The course highlights various ways of energy conservation and management techniques particularly in mechanical and electrical industries.	• Energy conservation programme • Assessments of technical merits of energy conservation methods • Methods of cost estimation for potential savings of fuel and electricity • Energy conservation in steam boilers • Energy conservation in electrical motors, transformers and conductors • buildings heat losses
8.	Energy System Dynamics	Energy systems are complex interdisciplinary entities, involving complex dynamics. This course will equip the students with the conceptual understanding of complex dynamic systems and the tools needed for modelling and decision making in situations	• Introduction: Purpose and concepts of system dynamics • Problem definition and model purpose; building causal loop diagrams • Dynamics of stocks and flows; linking feedback with stock and flow structure • Understanding the dynamics of

Sl. No.	Course	Need	Broad contents
		involving such systems.	energy systems • Analyzing systems and creating robust policies for energy systems
9.	Energy-Food-Water Nexus	This course will provide knowledge and understanding of interrelationships and interdependencies of energy, water, and food, and their impact on agriculture, economy, and environment.	• Global and Indian energy, water, and food scenario • Methods and models for E-W-F nexus • Energy-Water and Energy-Food interrelationship • Interdisciplinary case studies • National and global policies •
10.	Environmental Planning and Management	This course imparts knowledge about environmental planning and management concepts, EIA, sustainability, economics, standardization, and their relevance to energy projects.	• Environmental Management System / ISO 14001 • Environmental Planning • Life cycle assessment and EIA • Sustainable Development, Circular Economy • Case Studies in energy sector
11.	Grid Integration of Renewable Energy	The future electric grid is going to be increasingly dependent on variable renewable energy, creating challenges for grid reliability and stability. This course presents the challenges and associated mitigation measures for reliable grid integration of renewable energy technologies.	• Introduction, current state of variable renewable energy (VRE) • Sensing and measurement approaches for high VRE grids • VRE generation and demand forecasting • Methods for modelling and analysis of high VRE grids • Polices and regulations for VRE integration
12.	Hydrogen Economy	Reason: Hydrogen being the cleanest source of energy needs to be taught to students in terms of generation, storage and transportation.	• Generation of hydrogen through various methods • Transportation of hydrogen • Storage of hydrogen • Thermodynamics of electrochemistry
13.	Hydropower Planning and Management	An overview for planning, process of development and management of hydropower systems for integration with other power and water uses.	• Development and purpose of water resources, hydropower policy. • Site selection, topographical, geological and power evacuation surveys and investigations • Environmental impact and assessment, cumulative impact assessment, environmental flows • Financing of projects, financial and economic analysis, tariff computation • Project implementation, Operation and maintenance,

Sl. No.	Course	Need	Broad contents
			Management of hydropower plants
14.	Mechanical & Electrical Equipment for Hydropower	Hydropower and pumped hydro storage are going to play a vital role in India's energy transition towards a net-zero energy systems. The understanding of mechanical and electrical equipment used in a hydropower plant is important for energy engineers.	• Types of hydro turbines • Design aspects of mechanical components • Cavitation and erosion in hydro turbines • Hydro-generators: types and testing • Control of hydropower plants • Auxiliary equipment, protection and grounding
15.	Nuclear Power Engineering	This will help students acquire fundamental knowledge on nuclear power engineering and it's application in the energy industry.	• Nuclear reserves and potential • Nuclear reactors • Nuclear Plant Components and layout • Nuclear Plant to Power Utility Grid • Nuclear waste, safety, and policies
16.	Risk Assessment and Management	In competitive market and high expectation and stakes, risk assessment and management are critical for energy sector in view of climate change.	• Risk engineering, hardware system, management system and emergency response system • Risk identification, quantification and transfer • Industry benchmarking, business interruptions, loss drivers • Mitigation: Insurance at different stages, claim management under different conditions
17.	Semiconductors for Energy Systems	Semiconductors find a wide application in energy systems, ranging from solar PV cells to power electronic devices. Indigenous production of semiconductors is critical for India's energy security.	• Fundamentals of semiconducting materials • Semiconductor junctions and metal-semiconductor contacts • Optical processes in semiconductors • Semiconductor devices for energy applications • Manufacturing of semiconductors
18.	Solar PV Concepts, Technology and Applications	Solar PV is the most prominent renewable energy technology in the Indian context. This course will introduce the fundamental concepts of this technology and further lead the students toward understanding its applications and design aspects.	• Solar resource fundamentals • Structure and working of solar cells • Solar cell technologies • Components and types of solar PV systems • Applications and design of solar PV systems
19.	Solar Thermal and	Solar energy is a renewable	• Solar Collectors

Sl. No.	Course	Need	Broad contents
	Storage	form of energy, but solar thermal energy storage is essential for ensuring a continuous energy supply, even when the sun is not shining. Thus, again, this will have an impact on making our society more sustainable and less pollutant.	• Solar Power Plants • Thermal Energy Storage (TES) Systems: Sensible heat storage, Latent heat storage using phase-change materials (PCMs) • Thermochemical Storage • Economic and Environmental Considerations • System Design and Modeling
20.	Waste to Energy	This course is important to understand approaches to waste management and the potential usage of waste as feedstock or resource for generating power and energy.	• Waste sources, types and characterization • Segregation and sorting of MSW • Policies and Environmental aspects • Incineration, gasification, pyrolysis • WtE power plant components
21.	Wind Energy Technology	Wind is a renewable form of energy; thus, its inclusion in the Energy curriculum will help to strengthen the coming generation to shift the focus from non-renewable energy to renewable energy.	• Different causes of wind flow: Solar radiation, Earth Rotation, Terrain, sea and water masses • Suitability of wind extraction sites: Off-source and on source sites of wind energy • Types of wind turbines: Vertical axis and Horizontal axis turbine • Limitation in terms of the highest efficiency: Betz limit, limitations of Betz limit • Components of wind turbines • Measurement tools for wind turbines
Talent Enhancement Basket Courses			
1.	Circuit Design	This course will equip the students with practical hands-on skills for circuit design and implementation.	• Introduction to software for circuit design • Best practices for circuit design and implementation • Microcontroller programming • Hardware-in-the-loop simulation
2.	Data Structures and Algorithms	This course will give an introduction to C/C++ programming. This course also gives an insight into Data structure and Algorithms.	• C Language: basics and programming with pointers • Basic data structures: Lists, Stacks, Queues, Heaps and Hashing • Time and space complexity of an algorithm • Trees: Tree traversals, Binary search trees • Sorting
3.	Electrochemistry Lab	The lab is intended to help students understand cell fabrication and	• Membrane electrode assembly for PEM fuel cells • Membrane electrode assembly

Sl. No.	Course	Need	Broad contents
		characterization of fuel cells and electrolyzers.	for PEM electrolysers • IV curve • Contact pressure measurement
4.	Energy Project Formulation	Project development starts from site selection, investigation and planning which is part of project formulation. This course will equip students with hands on skills to prepare energy project proposal.	• Investigation including data collection / measurements • Analysis of data for capacity determination • Sizing of components • Cost estimates and financial analysis • Time scheduling techniques.
5.	Entrepreneurship in Energy Sector	To enable students to understand the overall process of entrepreneurship and prepare them to create and lead energy businesses.	• Overview of energy entrepreneurship and its significance, Identifying market gaps and energy needs. • Business Development and Models including financing options and strategic partnerships. • Energy Policy, Regulation, and Sustainability • Planning, managing, and scaling energy projects, Pitching and securing funding for energy startups. • Future Trends and Global Expansion (international markets and opportunities).
6.	Hydropower Simulator	This course will expose the students to real controls used in hydropower plants	• Principles for designing hydropower simulators • Operation of Hydropower plants under normal conditions • Simulation of electrical and mechanical anomalies in Hydropower plants
7.	Industry 4.0 Application in Energy Systems	Manufacturers are integrating new technologies, including Internet of Things (IoT), cloud computing and analytics, and AI and machine learning into their production facilities and throughout their operations.	• 3D printing • Computer vision • AI/ML applications in Energy sector • Digital communication
8.	Performance Evaluation of Hydropower	Performance evaluation of equipment before manufacturing and after installation are important aspect for hydropower plant having a very long life as any deficiencies cause perpetual losses.	• Parameter for evaluation • Performance Measurements • Uncertainty and errors • Analysis and evaluation
9.	Renewable Energy Lab	To give hands-on experience to students on various forms of	• Solar PV and thermal • Bio energy

Sl. No.	Course	Need	Broad contents
		renewable energy generation and storage	• Pumped storage • Hydrogen energy • Battery storage • Grid integration of renewable energy

Item No. 99.12: To consider the proposal of the Department of Design to offer Bachelor of Design (B. Des.) programme along with its course structure and intake.

The Government of India launched a major initiative to boost design and innovation activities in the country under the scheme – "National Initiative on Design and Innovation (NIDI)". Twenty (20) Design Innovation Centers (DICs) were established in the country under the scheme, including one at IIT Roorkee. The DICs played a significant role in enhancing awareness on innovation and need for design education. Several higher educational institutes, including IITs, consequently, launched academic programmes related to design.

The Department of Design (DoD) at IIT Roorkee was established in the year 2021 which offers Master of Design (M. Des.) and Doctoral programmes. However, there exists a gap in creating designers to fill the requirements owing to increasing competitions among the industries to launch innovative products with best design.

With the basic objective to impart design-based education and to create an ambience of systematic design practice, the Department of Design has proposed to introduce Bachelor of Design (B. Des.) program to be offered w.e.f. the academic session 2024-2025. The programme output is expected create a culture of innovation and creative problem-solving apart from catering to the growing need for design professionals.

The proposal was shared with the Heads of all Departments/Centres/ School for their inputs.

The IAPC in its 136th meeting held on 22.12.2023 considered and recommended the proposal with its programme structure, admission eligibility criteria, admission process and intake of the program.

The IAPC further recommended that the B. Des. students shall not be eligible for branch change.

Other details are:

I. Programme Structure: Placed as **Appendix-A**.
II. Admission process: Through UCEED (Undergraduate Common Entrance Examination in Design) score-Jointly conducted by IITs.
III. Eligibility: 10+2 with Science (Physics, Chemistry, Mathematics as Compulsory Subjects).
IV. Intake : 30

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

Structure of the B. Des. Programme

Main Curriculum Components	Sub Components	Approved Credits for B. Tech.	Approved Credits Range	Proposed Credits for B. Des. by Department	Proposed Credits Range
Institute Core Course	HSSC	5	52-58	5	57
	HSSEC	6		6	
	MC	3		3	
	BSC	12-20		16	
	ESC	8-20		16	
	DSC	4		4	
	ESSC	3		3	
	TM	4		4	
Programme Core Course	CCCC	40-48	87-91	43	89
	AI/ML	2		2	
	Engg. Analysis and design (design thinking-based project)/Industry Oriented Problem Solving/ Lab based Project/ Practical Problem/ Case study	4		4	
	Technical Communication	2		2	
	BTP/Entrepreneurship/ Project-based internship/PEC	6-10		10	
	PEC	22-26		22	
	TEB	6-8		6	
Other Courses	OEC	9-12	9-12	9/12	9/12
	CORE	2	2	2	2
	Total	**150-160**	**150-160**	**157-160**	
	MSC/DHC	**18/20**		**18/20**	18/20
	Grand Total			**175/180**	

DEPARTMENT OF DESIGN

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Programme Code	**:**	**XXX**	**B. Des.**	
Department	**:**	**DOD**	**Department of Design**	

Teaching Scheme

Year	Credits in Autumn Semester	Credits in Spring Semester	Credits (Year – wise)
1	23	19	41
2	24/25	24/25	48/50
3	21/22	20	41/42
4	13	13	26
Grand Total			**157/160**
Total with MSC/DHC	**With addition 18/20 credits**		**175/180**

Non-Credit Elements	Components	Maximum Units	Minimum Units	Comments
(NCE)	Discipline (DIS)	16	8	To be evaluated by DoSW
	NCC/NSS/NSO	8	4	To be evaluated by DoSW
	Internship (INT)	24	8	1-week internship= 1 unit
				(to be coordinated by the deptt. /Centres/School)
	Participation in professional development programs by Industry experts/ field experts (PPD-1 & PPD-2)	8	4	To be coordinated by the departments/Centres/school (2nd& 3rd Years)
Minimum non-credit units to be earned: 24				

DEPARTMENT OF DESIGN

Programme Code : XXX B. Des.
Department : DOD Department of Design
Year : I

Teaching Scheme					Contact Hours/ Week			Exam Duration (Hrs.)		Relative Weights (%)				
S. No.	**Course Code**	**Course Title**	**Subject Area**	**Credits**	**L**	**T**	**P**	**Theory**	**Practical**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
(Autumn)														
1	HSI-101	Soft Skills	HSSC	3	2	0	2	2	0	10-25	25	20-30	30-40	-
2	MAI-101	Mathematics-I	BSC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
3	PHI-101	Physics-I	BSC	4	3	1	2/2	3	0	15-30	20	20-30	30-40	-
4	TMI-101	Tinkering and Mentoring	TMI	4 T-2	-	-	-	-	-	70	30	-	-	-
				M-2	2	0	0	2	-	50	-	-	50	-
5	MIE-101	Engineering Mechanics	ESC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
6	DEC-101	Basic Programming for Designers	PCC	4	1	0	4	2	0	15-30	20	15-25	30-40	-
		Total		**23**										
(Spring)														
1	HSI-102	Indian Knowledge System	HSSC	2	2	0	0	2	0	20-35	-	20-30	40-50	-
2	MAI-102	Mathematics-II	BSC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
3	EEE-102	Basic Electrical Engineering	ESC	4	3	1	2/2	3	0	15-30	20	15-25	30-40	-
4	ESS-104	Environmental Science and Sustainability	ESSC	3	3	0	0	3	0	20-35	-	20-30	40-50	-
5	DEC-102	Engineering Drawing	PCC	4	3	1	2/2	3	0	15-30	20	15-25	30-40	-
6	DEC-104	Introduction to Design	PCC	2	1	0	2	2	0	15-30	-	15-25	30-40	-
		Total		**19**										

DEPARTMENT OF DESIGN

Programme Code : XXX B. Des.
Department : DOD Department of Design
Year : II

Teaching Scheme					Contact Hours/Week			Exam Duration (Hrs.)		Relative Weights (%)				
S. No.	**Course Code**	**Course Title**	**Subject Area**	**Credits**	**L**	**T**	**P**	**Theory**	**Practical**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
(Autumn)														
1	OEC-I	Open Elective Course-I	OEC	3/4										
2	DAI-101	Data Science	DSC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
3	MTE-103	Material Science	ESC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
4	ECE-101	Fundamental of Electronics	ESC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
5	DEC-203	Elements and Principles of Design	PCC	3	1	0	4	2	0	10-25	25	15-25	30-40	-
6	DEC-205	Product Form and Sketching	PCC	3	1	0	4	2	0	10-25	25	20-30	30-40	-
7	DEC-207	Visual Communication Design Studio	PCC	3	1	0	4	2	0	10-25	25	20-30	30-40	-
		Total		**24/25**										
(Spring)														
1	OEC-II	Open Elective Course-II	OEC	3/4										
2	HSSEC-I	HSS Elective Course	HSSEC	3										
3	MSI-101	Fundamentals of Management	MC	3	3	0	0	3	0	20-35	-	20-30	40-50	-
4	BEB -102	Biosciences for Engineers	BSC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
5	DEC-202	Fundamental Ergonomics in Design	PCC	3	1	0	4	2	0	15-30	20	15-25	30-40	-
6	DEC-204	Design Methodology	PCC	3	1	0	4	2	0	15-30	20	15-25	30-40	-
7	DEC-206	Design Thinking for Products and Systems	PCC	3	2	0	2/2	2	0	15-30	20	15-25	30-40	-
8	DET-I	Talent Enhancement Course-I	TEB	2										
		Total		**24/25**										

DEPARTMENT OF DESIGN

Programme Code : XXX B. Des.
Department : DOD Department of Design
Year : III

Teaching Scheme					Contact Hours/Week			Exam Duration (Hrs.)		Relative Weights (%)				
S. No.	**Course Code**	**Course Title**	**Subject Area**	**Credits**	**L**	**T**	**P**	**Theory**	**Practical**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
(Autumn)														
1	OEC-III	Open Elective Course-III	OEC	3/4										
2	DEC-351	Fundamentals of AI/ML	PCC	2	1	0	2	2	0	20-35	-	20-30	40-50	-
3	DEC-301	User Experience Design	PCC	3	1	0	4	2	0	15-30	20	15-25	30-40	-
4	DEC-303	Materials and Manufacturing Processes	PCC	3	1	0	4	2	0	15-30	20	15-25	30-40	-
5	DEC-391	Design Communication	PCC	2	0	2	0	0	2	100	-	-	-	50
6	DEC-305	Design Studio (Prototyping)	PCC	2	0	0	4	-	-	-	30-50	-	-	40-60
7	DEC-307	Art and Craft Design	PCC	2	1	0	2	2	0	20-35	-	20-30	40-50	-
8	DEC-399	Community Outreach	CORE	2	0	0	4	-	-	100				
9	DET-II	Talent Enhancement Course-II	TEB	2										
		Total		**21/22**										
(Spring)														
1	HSSEC-II	HSS Elective Course	HSSEC	3										
2	DEC-302	User Interface Design	PCC	3	1	0	4	2	-	100	-	-	-	-
3	DEC-304	Product Innovation Management and IPR	PCC	2	2	0	0	2	0	10-25	25	15-25	30-40	-
4	DEC-300	Design Thinking based Project	PCC	4	0	0	8	-	-	100	50	-	-	-
5	DEL-I	Program Elective Course-I	PEC	3										
6	DEL-II	Program Elective Course-11	PEC	3										
7	DET-III	Talent Enhancement Course-III	TEB	2										
8	MSC/DHC-I	Minor Specialization Course-I / Departmental Honours Course-I	MSC/ DHC	3/4										
		Total		**20/23-24**										

DEPARTMENT OF DESIGN

Programme Code : XXX B. Des.
Department : DOD Department of Design
Year : IV

Teaching Scheme					Contact Hours/Week			Exam Duration (Hrs.)		Relative Weights (%)				
S. No.	**Course Code**	**Course Title**	**Subject Area**	**Credits**	**L**	**T**	**P**	**Theory**	**Practical**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
(Autumn)														
1	DEP-401	Design Project Phase -I	PCC	5	-	-	-	-	-	100				
2	DEL-III	Program Elective Course-III	PEC	4										
3	DEL-IV	Program Elective Course-IV	PEC	4										
4	MSC/DHC-II	Minor Specialization Course-II / Departmental Honours Course-II	MSC/ DHC	4										
5	MSC/DHC-III	Minor Specialization Course-III / Departmental Honours Course-III	MSC/ DHC	4										
		Total		**13/21**										
(Spring)														
1	DEP-402	Design Project Phase-II	PCC	5	-	-	-	-	-	100				
2	DEL-V	Program Elective Course-V	PEC	4										
3	DEL-VI	Program Elective Course-VI	PEC	4										
4	MSC/DHC-IV	Minor Specialization Course-IV / Departmental Honours Course-IV	MSC/ DHC	4										
5	MSC/DHC-V	Minor Specialization Course-V / Departmental Honours Course-V	MSC/ DHC	4										
		Total		**13/21**										

DEPARTMENT OF DESIGN

List of Program Elective Courses

Teaching Scheme					Contact Hours/Week			Exam Duration (Hrs.)		Relative Weight (%)				
S. No.	Course Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
1.	DEL-401	Typography	PEC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
2.	DEL-402	Design for Excellence	PEC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
3.	IDN-551	Introduction to Emotional Design	PEC	3	2	1	0	2	0	20-35	-	20-30	40-50	-
4.	DEL-403	Frugal Product and Process Design	PEC	4	3	1	0	3	0	20-35		20-30	40-50	-
5.	IDN-506	Design for Sustainability and Social Impact	PEC	3	2	1	0	2	0	20-35	-	20-30	40-50	-
6.	DEL-404	Value Engineering	PEC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
7.	IDN-547	Manufacturing Guidelines for Product Design	PEC	3	3	0	0	3	0	20-35	-	20-30	40-50	-
8.	DEL-405	Strategic Design Thinking for Concentric Innovation	PEC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
9.	IDN-548	Inter-Disciplinary Design	PEC	3	2	0	2/2	2	0	15-30	20	15-25	30-40	-
10.	IDN-542	Product Detailing	PEC	3	3	0	0	3	0	20-35	-	20-30	40-50	-
11.	IDN-543	Contemporary Visual Design	PEC	3	3	0	0	3	0	20-35	-	20-30	40-50	-
12.	IMN-506	Intellectual Property Management	PEC	3	2	1	0	2	0	20-35	-	20-30	40-50	-
13.	IDN-532	Systems Thinking	PEC	3	3	0	0	3	0	20-35	-	20-30	40-50	-
14.	DEL-406	Design and Society	PEC	4	3	1	2/2	3	0	15-30	20	15-25	30-40	-
15.	DEL-407	Universal Design for Digital Accessibility	PEC	4	3	1	2/2	3	0	15-30	20	15-25	30-40	-
16.	DEL-408	Design Storytelling and Narratives	PEC	3	1	0	2	2	0	10-25	25	15-25	30-40	-
17.	DEL-409	Inclusive Design Systems	PEC	4	3	1	2/2	3	0	15-30	20	15-25	30-40	-
18.	DEL-410	Design Thinking for Digital Media	PEC	4	3	1	2/2	3	0	15-30	20	15-25	30-40	-
19.	DEL-411	Design Futures	PEC	4	3	1	2/2	3	0	15-30	20	15-25	30-40	-

DEPARTMENT OF DESIGN

List of Department Honors Courses

Teaching Scheme					Contact Hours/Week			Exam Duration (Hrs.)		Relative Weight (%)				
S. No.	**Course Code**	**Course Title**	**Subject Area**	**Credits**	**L**	**T**	**P**	**Theory**	**Practical**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
1.	DEL-	Frugal Product and Process Design	DHC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
2.	DEL-	Value Engineering in Product Design	DHC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
3.	DEL-	Research Methods in Design	DHC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
4.	DEL-	Design Thinking for Complex Societal Challenges	DHC	4	3	1	0	3	0	20-35	-	20-30	40-50	-
5.	DEL-	Innovation and Market Development for Value Networks	DHC	4	3	1	0	3	0	20-35	-	20-30	40-50	-

List of Minor Specialization Courses

Teaching Scheme					Contact Hours/Week			Exam. Duration		Relative Weight (%)				
S. No.	**Course Code**	**Course Title**	**Subject Area**	**Credits**	**L**	**T**	**P**	**Theory**	**Practical**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
1.	IDN-503	Design Thinking	MSC	3	1	0	4	2	0	10-25	25	15-25	-	30-40
2.	IDN-505	Elements and Principles of Visual Design	MSC	3	2	1	0	2	0	20-35	-	20-30	40-50	-
3.	IDN-506	Design for Sustainability and Social Impact	MSC	3	2	1	0	2	0	20-35	-	20-30	40-50	-
4.	DEC-303	Materials and Manufacturing Processes	MSC	3	1	0	4	2	0	15-30	20	15-25	30-40	-
5.	DEC-102	Engineering Drawing	MSC	4	3	1	2/2	3	0	15-30	20	15-25	30-40	-
6.	DEC-204	Design Methodology	MSC	3	1	0	4	2	0	15-30	20	15-25	30-40	-
7.	DEC-206	Design Thinking for Products and Systems	MSC	3	2	0	2/2	2	0	15-30	20	15-25	30-40	-

DEPARTMENT OF DESIGN

TALENT ENHANCEMENT COURSES

Teaching Scheme					Contact Hours/Week			Exam. Duration		Relative Weight (%)				
S. No.	**Course Code**	**Course Title**	**Sub. Area**	**Credits**	**L**	**T**	**P**	**Theory**	**Practical**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
TEB-A (DESIGN)														
J	DET-101	Solid Modelling	TEB	2	0	0	4	-	-	-	50	-	-	50
2	DET-102	CAE	TEB	2	0	0	4	-	-	-	50	-	-	50
3	DET-103	Design Optimization	TEB	2	0	0	4	-	-	-	50	-	-	50
TEB-B (ADDITIVE MANUFACTURING)														
1	DET-104	Solid Modeling & Reverse Engineering	TEB	2		0	2	-	-	-	50	-	-	50
2	DET-105	Data Processing for Additive Manufacturing	TEB	2	1	0	2	-	-	-	50	-	-	50
3	DET-106	Rapid Prototyping	TEB	2	1	0	2	-	-	-	50	-	50	-
TEB-C (INDUSTRIAL AUTOMATION)														
1	DET-107	Introduction to Automation	TEB	2	1	1	0	-	-	25	-	25	50	-
2	DET-108	System Integration	TEB	2	1	0	2	-	-	-	50	-	-	50
3	DET-109	Cloud Computing	TEB	2	1	0	2	-	-	-	50	-	-	50
TEB-D (WELDING ENGINEERING)														
I	DET-110	Design Guidelines for Welding	TEB	2	1	0	2	-	-	-	50	-	-	50
2	DET-111	Advanced Welding Processes	TEB	2	1	0	2	-	-	-	50	-	-	50
3	DET-112	Quality Assurance in Welding	TEB	2	1	0	2	-	-	-	50	-	-	50
TEB-E (COMPUTATIONAL THERMO-FLUIDS)														
I	DET-113	Basics of Computational Thermo-fluids	TEB	2	2	0	0	-	-	20-35	-	20-30	40-50	-
2	DET-114	Thermofluid Simulation Software	TEB	2		0	2	-	-	-	50	-	-	50
3	DET-115	Problem-based Learning with Simulation Tools	TEB	2	0	0	4	-	-	-	50	-	-	50

TEB-F (MEASUREMENT IN THERMAL SYSTEMS)														
1	DET-116	Basics of Measurements	TEB	2	2	0	2/2	-	-	-	50	-	-	50
2	DET-117	Data Acquisition and Analysis	TEB	2	1	0	2	-	-	-	50	-	-	50
3	DET-118	Instrumentation and measurement techniques	TEB	2	2	0	2/2	-	-	-	50	-	-	50
TEB-G (FLUID MACHINERY & FLUID POWER)														
1	DET-119	Introduction to Fluid Machines and Fluid Power	TEB	2	2	0	0	-	-	20-35	-	20-30	40-50	-
2	DET-120	Hydrodynamic Machines	TEB	2	2	0	2/2	-	-	-	50	-	-	50
3	DET-121	Fluid Power Systems	TEB	2	2	0	0	-	-	20-35	-	20-30	40-50	-

Item No. 99.13: To consider a proposal from Dean, SRIC for facilitating admission of one Ph.D. student under project mode to new faculty members who have been granted Faculty Initiation Grant (FIG).

At present, a faculty member can supervise 08 (Eight) Ph.D. students with Institute Assistantship. Faculty members join in a department/ centre/ school throughout the year. However, Ph.D. students under Institute Assistantship join in the institute only during the registration for the Autumn and Springs semesters in a year. Also, the number of Ph.D. students joining a department/ centre/ school is usually significantly less than the assistantships available in the department. Thus, a newly joined faculty member may be required to wait for Ph.D. student(s) for a considerable period. This results in delay in starting their research activities and/or project implementation.

A proposal has been received from Dean SRIC to create a provision for admission of a Ph.D. student in the project mode through the FIG project without any financial liability to the project (FIG).

In view of the above, a new scheme for Ph.D. admission, called Rapid Research Reinforcement (RRR), is proposed as follows:

a. A newly joined faculty member shall be allowed to induct a Ph.D. student in project mode under the FIG project awarded to him/her in the RRR Scheme.
b. A faculty member will be facilitated to select a Ph.D. candidate as per the existing procedure of selecting Project Fellows (JRF/SRF) under project within ONE YEAR of sanction of the FIG project to him / her. Such candidates are required to fulfil all eligibility criteria for Ph.D. admission to the concerned department/ centre/ school.
c. A project fellow under the RRR Scheme will be allowed to join Ph.D. with immediate effect.
d. A Ph.D. student joined under the RRR Scheme shall be awarded Institute Assistantship as per the existing norms. There shall not be any financial liability on the part of the FIG project.

e. Existing Ph.D. Rules and Regulations shall be applicable to all Ph.D. students under the RRR Scheme.
f. A Ph.D. research scholar under the RRR Scheme shall be considered in the Institute Assistantship category for the supervisor.

The IRC in its 68th meeting held on 22.12.2023 considered and recommended the proposal.

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

Item No. 99.14: To consider a proposal for renaming of the course 'Indian Knowledge System' as 'Introduction to Indian Knowledge system'.

As per the approved structures of UG programmes under new UG curriculum, the course HSI-102 'Indian Knowledge System' is part of 1st year Spring Semester under the HSSC basket for all UG programmes.

The IAPC in its 134th meeting held on 17.11.2023 considered and recommended the syllabus for the course. The IAPC further recommended that the course may be renamed as 'Introduction to Indian Knowledge System'. The subject code may also be changed from HSI-102 to IKS-102 as the course is now proposed to be offered by the Centre for IKS. The syllabus is placed as **Appendix-A**.

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

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE
NAME OF DEPT. /CENTRE: Centre for Indian Knowledge System

Subject Code: IKS-102 **Course Title:** Introduction to Indian Knowledge System

L-T-P: 2-0-0 **Credits:** 02 **Subject Area:** HSSC

Course Outlines:

Overview of various streams of knowledge in India and classification of ancient Indian texts, Psychology from Indian perspective, Yoga and Indian Linguistics, Indian Mathematics and Astronomy, Medicinal traditions in India- An Introduction to Āyurveda, Indian Architecture and Planning- Traditional measurement system used in Vāstuśāstra, Economics, Management and Governance-An overview of Indian economic thought–Arthaśāstra and Nitiśāstra, Leadership and Motivation.

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPARTMENT / CENTRE: Centre for Indian Knowledge System

1. **Subject Code:** IKS-102 **Course Title:** Introduction to Indian Knowledge System
2. **Contact Hours/Week: L:** 2 **T:** 0 **P:** 0
3. **Exam Duration (Hrs.): Theory:** 2 **Practical:** 0
4. **Relative Weightage: CWS:** 20-35 **PRS:** 0 **MTE:** 20-30 **ETE:** 40-50 **PRE:** 0
5. **Credits:** 2 **6. Semester:** Spring **7. Subject Area:** HSSC
8. **Pre-requisite:** Nil
9. **Objective:** To provide an overview of different knowledge systems originated in India.
10. **Details of the Course:**

S.No.	Contents	Contact Hours
1.	**Introduction and foundational concepts of IKS:** Overview of various streams of knowledge in India and classification of ancient Indian texts; Various philosophical systems of India and fundamental principles inlaid in them	04
2.	**Psychology from Indian perspective, Yoga and Indian Linguistics:** Introduction to Ashtānga Yoga; Rasa Siddhānta of Nātyaśāstra (theory of emotions), Pāṇini's contribution to linguistics; Contributions of the Vākyaśāstra and Pramāṇaśāstra to linguistics	05
3.	**Indian Mathematics and Astronomy:** An overview of Indian mathematics, Development of arithmetic geometry and Trigonometry; Introduction to spherical geometry and calculus in India. Vedic system of arithmetic computation, Vedic sutra for arithmetic computation An introduction to Indian Astronomy, Pre and Post Siddhantic period	09

4.	**Medicinal traditions in India:** An Introduction to Āyurveda; Distinct features of Āyurveda, as compared to Alopathy; Excerpts from Sūtrasthāna	03
5.	**Indian Architecture and Planning:** Traditional measurement system used in Vāstuśāstra; Prescriptions for residential Vāstu, City planning as per Vāstuśāstra	03
6.	**Economics, Management and Governance:** An overview of Indian economic thought–Arthaśāstra and Nitiśāstra, Leadership and Motivation, Planning and Organizing, Financial Management etc.	04
Total		28

11. Suggested Books:

S.No.	Name of Authors /Books / Publishers	Year of Publication/Reprint
1.	Introduction to Indian Knowledge System, B. Mahadevan, V. R. Bhat, Nagendra Pavana R. N., PHI.	2022
2.	Yoga System of Patanjali, J. H. Woods, Bharatiya Kala Prakashan	2009
3.	Indian Philosophy – Vol I and II, S. Radhakrishnan, Oxford University Press.	2009
4.	Mayamatam – Indian Treatise on Housing, Architecture and Iconography (2 volumes), Bruno Daegens, Indira Gandhi National centre for Arts.	2007
5.	Vedanta and Management: Relevance of Vedantic Concepts in Modern Management Practices, N. V. Dave, Deep & Deep.	2002
6.	Tantrasaṅgraha with detailed Mathematical Explanatory Notes, K. Ramasubramanian, M. S. Sriram, Hindustan Book Agency.	2011
7	Karanapadhati of Putumana Somayaji, Venkateswara Pai, Ramasubramanian, M. S. Sriram and M.D. Srinivas, Hindustan Book Agency	2018
8	Pāṇini's grammar: An overview, Bhate. S, Sahitya Academy, New Delhi	2002
9	The Nighaṇṭu and the Nirukta of Śrī Yāskācārya, Sarup. L, Motilal Banarsidass Publishers	2015
10	The Vedāṅga Literature, Archak K.B. Kaveri Books, New Delhi,	2012
11	Textbook of Ayurveda: Volume 1 - Fundamental Principles of Ayurveda, Vasant Lad, Ayurvedic Press; UK ed. Edition	2002
12	Glimpse into Kautilya's Arthashastra, Ramachandrudu P., Sanskrit Academy, Hyderabad.	2010
13	Vedic Mathematics, Jagadguru Swami Sri Bharati Krsna Tirathji Maharaj, Motilal Banarsidass Publishers, Delhi	1965
14	Lilavati Bhaskaracarya: A Treatise of Mathematics of Vedic Tradition, K S Patwardhan, S A Naimpally and Shyam Lal Singh, Motilal Banarsidass Publishers Pvt Ltd, Delhi	2006

Item No. 99.15: To consider the following proposals of the Department of Management Studies in respect of the EMBA programme:

(i) To replace a PCC (2 credit) i.e. 'BMN-531: Legal Aspects of Business' from Structure of Term 4 EMBA with a new course i.e. 'Sustainable Development Goals (SDG)'.

(ii) To offer all approved PECs of MBA under the basket of PECs for EMBA.

The EMBA programme is being offered by the Department of Management Studies w.e.f. the year 2022. The programme is delivered virtually for working executives. Considering the growing importance of sustainable practices globally, especially in the context of the announcement of the 'Sustainable Development Goals (SDG) by the United Nations, the department proposed that a course to this effect be included in the teaching structure. The following proposals were received in respect of the Executive-MBA programme:

(i) To replace a PCC (2 credit) i.e. 'BMN-531: Legal Aspects of Business' from Structure of Term 4 of EMBA with a new course i.e. 'Sustainable Development Goals (SDG)'. The syllabus is placed as **Appendix-A.**

(ii) To offer all approved PECs of MBA under the basket of PECs for EMBA. The list of PECs is placed as **Appendix-B**.

The IAPC in its 134th meeting held on 17.11.2023 recommended the above proposals.

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

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPARTMENT/CENTRE/SCHOOL: Department of Management Studies

1. **Subject Code:** BMN-537 **Course Title:** Sustainable Development Goals
2. **Contact Hours:** **L:** 4 **T:** 0 **P:** 0
3. **Examination Duration (Hrs.):** **Theory:** 2 **Practical:** 0
4. **Relative Weightage:** **CWS:** 50 **PRS:** 0 **MTE:** 0 **ETE:** 50 **PRE:** 0
5. **Credits:** 2 **6. Term:** Fourth **7. Subject Area:** PCC
8. **Pre-requisite:** Nil
9. **Objective:** To develop an understanding of the sustainable development goals.
10. **Details of the Course:**

S.No.	Contents	Contact Hours
1.	**Introduction to Sustainable Development Goals (SDGs):** Overview of the SDGs and their significance in the global context, Suitable case studies from global and local context	2
2.	**Business Case for Sustainable Development:** Introduction to the role of business in achieving the SDGs , Overview of the business benefits of sustainable development, Cost-benefit analysis of sustainability initiatives, suitable case studies.	5
3.	**SDGs and Corporate Social Responsibility (CSR),** Overview of CSR and its role in promoting sustainable development, Legal and regulatory frameworks for CSR, Suitable case studies	4
4.	**Sustainable Supply Chains:** Overview of sustainable supply chains and their importance in achieving the SDGs, Key issues in sustainable supply chains, including labor rights, environmental impact, and transparency,	4
5.	**SDGs and Innovation:** Overview of the role of innovation in achieving the SDGs, suitable case studies, Key challenges and opportunities for innovation within SDG framework.	4
6.	**SDGs and Financial Markets:** Overview of the role of financial markets in promoting sustainable development, Introduction to sustainable finance and responsible investment	5
7.	**Implementation of SDGs in Business :** Strategies for integrating the SDGs into business operations and decision-making, Best practices for stakeholder engagement and reporting on SDG progress	4
Total		**28**

11. Suggested Books:

S.No.	Name of Authors/Books/Publisher	Year of Publication/Reprint
1.	Alain Verbeke, Rob van Tulder, Roger Strange (Ed.), International business and sustainable development, Emerald	2014
2.	Julia Walker, Alma Pekmezovic, Gordon Walker; Sustainable development goals - Harnessing businesses to achieve the SDGs through Finance, Technology, and Law Reform, Wiley	2019
3.	Michael Blowfield, Business and Sustainability, Oxford	2013
4.	Norma Schönherr, André Martinuzzi, Business and the Sustainable Development Goals- Measuring and managing corporate impacts, Palgrave Macmillan	2019

Human Resource Management

1	BMN-642 Training of Trainers
2	BMN-643 Leadership and Team Management
3	BMN-644 Talent Acquisition and Management
4	BMN-645 Future of Work
5	BMN-646 Managing Workforce Diversity

Sl. no. 1 to 5 approved in MBA Structure. Proposed to be added in eMBA structure

Operations

1	BMN-654 Operations Analytics
2	BMN-655 Essential AI for Managers
3	BMN-656 Advanced AI for Managers
4	BMN-657 Game theory for strategic advantage
5	BMN-658 Quality Management

Sl. no. 1 to 7 already approved in eMBA Structure.

6	BMN-659 Queuing Systems and Simulation
7	BMN-660 Advanced Quality Management
8	BMN-669 Case studies in application of decision models
9	BMN-670 Circular supply chain for Sustainability
10	BMN-620 Industrial Internet of Things for Managers
11	BMN-621 Spreadsheet Modelling
12	BMN-622 Business Analytics
13	BMN-649 Logistics Management
14	BMN-650 Logistics Analytics

Sl. no. 6 to 14 approved in MBA Structure. Proposed to be added in eMBA structure

Marketing

1	BMN-671 Advanced Consumer Behaviour Analysis
2	BMN-672 Brand Management
3	BMN-673 Integrated Marketing Communications
4	BMN-674 Sales and Distribution Management
5	BMN-675 Pricing Strategies
6	BMN-676 Business to Business Marketing
7	BMN-677 Services Marketing

Sl. no. 1 to 7 already approved in eMBA Structure.

8	BMN-678 Digital Marketing
9	BMN-623 Global Marketing Management
10	BMN-679 Retail Management
11	BMN-680 Rural Marketing
12	BMN-647 Marketing Strategy
13	BMN-648 AI in Marketing

Sl. no. 8 to 13 approved in MBA Structure. Proposed to be added in eMBA structure

Financial

1	BMN-681 Basics of Quantitative Finance
2	BMN-685 International Corporate Finance
3	BMN-686 Financial Engineering
4	BMN-687 Applications of Quantitative Finance
5	BMN-688 Financial Risk Management
6	BMN-689 Financial Modelling
7	BMN-690 Banking and Bank Finance
8	BMN-691 Modern Financial Markets and Market Microstructure

Sl. no. 1 to 8 already approved in eMBA Structure. S. no. 8 is approved in marketing specialization

9	BMN-692 Behavioral Finance
10	BMN-693 Business Valuation
11	BMN-694 Infrastructure and Project Finance
12	BMN-695 Money and Central Banking
13	BMN-696 Portfolio Management
14	BMN-697 Foreign Exchange Risk Management

Sl. no. 6 to 12 approved in MBA Structure. Proposed to be added in eMBA structure

Item No. 99.16: To consider the proposal to admit applications through sports quota in the admission for Masters programme.

A communication was received from the Ministry to explore admission in IITs/CFTIs through sports quota. (**Appendix–A**)

The Deans' Committee during its meeting held on Aug 21, 2023 decided that in PG admission through JAM 2024, applicant under sports quota be admitted on similar lines like the decision taken in the 96th Senate for UG programme.

In the UG programmes, if adopted centrally (JAB/MoE), one Supernumerary seat in each programme/discipline under sports quota was decided to be reserved for candidate who qualify JEE (advanced) and have a rank in Common Rank List, provided such candidate also satisfy a set of eligibility criteria.

The proposal was circulated to all Departments/ Centres/School for consideration in their DFC/CFC/ScFC and to provide their views/comments for consideration of the IAPC/Senate. The inputs received from the departments are placed as in **Appendix–B**.

The IAPC, in its 135th meeting held on 15.12.2023 considered the proposal along with the inputs received from the departments and did not recommend the proposal.

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

F . No. 5-18/2022-T.S.-I
Government of India
Ministry of Education
Department of Higher Education
Technical Section-I

Shastri Bhawan, New Delhi
Dated the 31st October, 2022

To,
Directors, All IITs (excluding IIT Madras)

Subject: Proposal for consideration of admission through sports quota in IITs/ CFTIs.

Sir,

I am directed to forward herewith a copy of letter no. DIR/2022 dated 21-10-22 on the above mentioned subject, received from Director, IIT Madras and to request that comments on the proposal may please be furnished to this Ministry at the earliest.

Yours faithfully,

(Kavita Chauhan)
Under Secretary to the Government of India
Ph No. 23381698

Encl: As above

Copy for information to: Director, IIT Madras

Indian Institute of Technology Madras
Chennai – 600 036

Phone : 0091-44-2257 0694 / 0091-44-2257 8001
Fax : 0091-44-2257 8003 / 0091-44-2257 0509

भारतीय प्रौद्योगिकी संस्थान मद्रास
चेन्नै – ६०० ०३६

Email : kama@cse.iitm.ac.in / director@iitm.ac.in
Web : http://www.iitm.ac.in

प्रो. वी. कामकोटि
Prof. V. Kamakoti
निदेशक
Director

Additional Secretary (TE)
FTS No 116037
Date 24/10/22
DG Higher Education

DIR/2022
October 21, 2022

To
Shri Rakesh Ranjan
Additional Secretary
Department of Higher Education
Ministry of Human Resource Development, GoI
Shastri Bhawan,
NEW DELHI – 110 115.

Dear Sir,

Sub: Proposal for consideration of admission through sports quota in IITs /CFTIs – reg.

***

Of late IITs are witnessing increased interest in the field of sports among our students. Given this, it will be nice if we could accommodate candidates well trained and accomplished in sports as part of our under-graduate programs.

I propose a sports quota for the B.Tech admissions :

- Each Institute may allot one supernumerary seat in each course/discipline in which they admit undergraduate students. For example, IIT Madras has 13 such courses/disciplines and hence shall have 13 supernumerary seats, one each per course/discipline.
- Candidates seeking admission under this quota for the IITs must qualify JEE (Advanced) and have a rank in the Common Rank List and also satisfy the eligibility criteria (guidelines followed by the Tamil Nadu Government is enclosed as an example).
- The courses will be allotted to such eligible candidates based on their JEE (Advanced) rank.
- The same process may be considered for admissions to other CFTIs using JEE (Mains) rank.

I believe this will be a solid first step towards the larger goal of "A CFTI-ian winning a Olympic Medial". As an immediate effect, this will also encourage parents to permit their children to play a bit along with their studies.

With warm regards,

Sincerely yours,

V. Kamakoti
(V Kamakoti)

Encl: as above

ALLOTMENT OF SEATS FOR CANDIDATES UNDER QUOTA FOR EMINENT SPORTS PERSONS

1. The purpose of this quota is to recognise and give weightage to the sports eminence of the candidates and hence marks for sports achievements alone will be considered in ranking the candidates. The candidates are expected to continue their good performance in sports, even after admission.
2. The candidate shall submit **all the sports certificates along with participation certificates and relevant forms** issued by Association / Federation recognised, but only one highest achievement in a tournament (among the International, National, State, Divisional and District) in an academic year in the sports disciplines listed in Table VIII will be considered for awarding marks.
3. Selection of the candidate will be based on the marks obtained by the candidate strictly following the guidelines, given in the tables.

Table (I) - Marks for Recognised International Achievement

Sl. No	Competition	Gold	Silver	Bronze	Participation
1.	International (Representing India **Category – I**)	1000	850	650	300
2.	International (Representing India **Category – II**)	500	450	400	150

Table (II) – Marks for Recognised National Achievement

Sl. No.	Competitions	Allocation of Marks			
		Gold	Silver	Bronze	Participation
1.	National Championships / National Games – Organised by National Federations / IOA	190	160	130	50
2.	School Games Federation of India (SGFI) Meet (National Level)	190	160	130	50
3.	All India Rural Sports Meet/ PYKKA National Level Rural Competition /KHELO-India.	190	160	130	50
4.	National Sports Festival for Women / PYKKA National Level Women Competition/KHELO-India.	190	160	130	50
5.	National Inter School Competition (National Level)	190	160	130	50

Table (III) – Marks for Recognised State Championship

Sl. No.	Competitions	Allocation of Marks			
		Gold	Silver	Bronze	Participation
1.	State championship representing revenue district-organized by state associations	95	80	65	20

Table (IV) – Marks for Recognised State Level Achievements

Sl. No.	Competitions	Allocation of Marks			
		Gold	Silver	Bronze	Participation
1.	Bharathiar day Sports Meet (State Level)	80	65	50	15
2.	Republic days Sports Meet (State Level)	80	65	50	15
3.	State Inter School Competition (State Level)	80	65	50	15
4.	KVS/CBSE National Sports Meet (State Level)	80	65	50	15
5.	PYKKA (Panchayat Yuva Krida Aurkhel Abhiyan) State Rural Competition/ KHELO - India	80	65	50	15
6.	Chief Minister Trophy/ SDAT State Games (State Level)	80	65	50	15

Table (V) – Marks for Recognised Division Level Achievements

Sl. No.	Competitions	Allocation of Marks			
		Gold	Silver	Bronze	Participation
1.	Bharathiar day Sports Meet (Division Level)	60	45	30	10
2.	Republic days Sports Meet (Division Level)	60	45	30	10
3.	KVS/CBSE National Sports Meet (Division Level)	60	45	30	10

Table (VI) – Marks for Recognised District Level Achievements

Sl. No.	Competitions	Allocation of Marks			
		Gold	Silver	Bronze	Participation
1.	District Tournaments/ Sports Meet/ Championships conducted by District sports Associations (Recognized by SDAT/TNOA)	45	30	15	5
2.	District Inter School Competition/ SAI promotion Games (District Level)	45	30	15	5
3.	PYKKA - District level Rural Competition/ KHELO - India	45	30	15	5
4.	PYKKA - District level Women Competition/ KHELO – India	45	30	15	5
5.	Chief Minister Trophy/ SDAT State Games (District Level)	45	30	15	5

Gold (I Position) **Silver (II Position)** **Bronze (III Position)**

4. (a) For International Tournaments:

Category – I	Olympics, World Cup, Commonwealth Games and Asian games (Games organised in 4 years frequency by the International Olympic Committee).
Category – II	A minimum of six countries must have participated for International tournaments which are not covered under Category I and such tournaments should have been approved by Indian Olympics Association(IOA), Sports Authority of India (SAI) and Ministry of Youth Affairs and Sports(MYAS),Government of India. Open or Invitational or Memorial or any indifferent nomenclature or title of tournaments or Championships at International level, not approved by any of the above authority will not be considered for marks.

1. **Participation or achievement in International tournaments will be considered only with earlier achievements at National and State level tournaments. Direct participation in any International or National tournaments will not be considered for award of marks.**
2. The highest achievement in only one annual regular tournament, officially conducted in a regular manner by the member National Olympic Committee (NOCs) authorised by the International Olympic Committee (IOC) or International Sports Federations affiliated to the IOC will be considered for award of marks. The players/sports persons representing the Country in such tournaments through Indian Olympic Association (IOA) or respective National Sports Federations recognised by the Ministry of Youth Affairs and Sports, Government of India or IOA will be considered for award of marks in each year.
3. Only tournaments officially recognised by the Indian Olympic Association / respective official National Federations will be considered for the award of marks (for each year) from **01.06.2018 to Last date of submission of application (01.06.2018 to 31.05.2019, 01.06.2019 to 31.05.2020, 01.06.2020 to 31.05.2021 and 01.06.2021 to Last date of submission of application).**
4. Certificates of Participation or Achievements in tournaments, submitted along with Form I alone are eligible for marks indicated in Table (I) above (should be submitted before the last date for submission of application).
5. Players who participated in any of the categories I and II, in Table(I) should produce the copies of the following:-
   i. VISA, Immigration entry in passport, clearance from Ministry of Youth Affairs and Sports (Government of India), Indian Olympic Association and respective National Sports Federations including BCCI.
   ii. The fixture, draw, schedule of events, players' accreditation, National Medal, Merit, Diploma, Participation

certificate and Form–I issued by the respective National Sports Federation and certificates signed and issued in the prescribed format by the President or Secretary General of the National Olympic Committee of the Organising Country and International Federation.

4 (b). For National Tournaments

1. National tournaments should have been officially be recognised as the regular annual championship / tournament by MYAS or IOA or SAI or SDAT or respective official National Sports Federation will be considered (for each year) for the award of marks.
2. Marks will not be awarded for selection trials and coaching camps.
3. Tournaments conducted by the Federations which are not recognized by the IOA or MYAS, TNOA or SDAT at National level for a particular period will not be considered for award of marks.
4. Candidates must have participated at Zonal, District, Divisional, National, and International in a particular Game/Sport in the same hierarchical order as per the existing norms applicable for a particular Game/Sports.

4 (c) For State Tournaments

1. State level tournaments should officially be recognized as the regular annual championship or tournament by respective official State Association or SAI or SDAT will be considered (for each year) for the award of marks.
2. Marks will not be awarded for selection trials and coaching camps.
3. Any tournaments conducted by the Association which are de-recognised by the TNOA or SDAT at State level for a particular period will not be considered for award of marks.

4 (d) For CBSE/KV Schools Sports Achievements

1. The number of KV and CBSE Schools, when compared to State Board Schools in TamilNadu, is very less. Hence, the cluster level achievements are not considered.
2. The candidates participated in the tournament conducted by CBSE and KV Schools, at Regional / South Zone are equated to Divisional Level Achievements, and the National Level Achievements are equated to State Level of State Board Schools.

5. General Conditions

1. For consideration of candidates seeking admission under the category of eminent sports person, he/she should enclose all the attested photo copies of participation certificates and the relevant forms issued by the competent sports authorities. **The application along with all the sports certificates /relevant forms/**documents as given in 4(a) 5 (page number 28), **should be presented for certificate verification which will be done at Central Polytechnic College, Tharamani, Chennai.**
2. Participation / achievements in each academic year **from** 01.06.2018 to Last date of submission of application (01.06.2018 to 31.05.2019, 01.06.2019 to 31.05.2020, 01.06.2020 to 31.05.2021 and 01.06.2021 to Last date of submission of application). in sports / games shown in the list alone will be considered for the award of marks. National or State Level Championships or Tournaments conducted by Sports Federations or Associations recognized by MYAS or IOA or SDAT or TNOA alone will be considered for the award of marks. (Recognition of State Associations / National Federations should be relevant to the year concerned).
3. Relevant attested copies of certificates issued by the competent authorities as detailed below are to be submitted along with the application before the last date for receiving the applications.

TABLE (VII) – Competent authority to issue Forms / Certificates

Category	Competent Authority	Form / Certificates
International (Representing Nation)	President or Secretary of the National Sports Federation (recognised by Ministry of Youth Affairs and Sports or IOA)	Certificate and Form – I
	Participation certificate / Diploma should be signed by the President or Secretary General or Chairman of the organising Committee of the host Nation	
National (Representing State)	Member Secretary, SDAT or Secretary of the State Association (recognised both by SDAT and TNOA)	Certificate and Form – II
National Games (Representing the State)	President or Secretary of IOA and Chairman of the organising committee	Certificate and Form – II

National (Representing State)	Chief Inspector of Physical Education for National School Games competitions	Certificate and Form – IV
School Games Federation of India (SGFI) National Level	President / Hon. Gen. Secretary, SGFI	Certificates and Forms
National Inter School Competition (National Level)	Executive Director or Director-General, Sports Authority of India	Certificates and Forms
All India Rural Sports (National Level)	Executive Director or Director-General, Sports Authority of India	Certificates and Form – II
National Sports Festival for Women(National Level)	Executive Director or Director-General, Sports Authority of India	Certificates and Form – II
PYKKA(Panchayat Yuva Krida aur Khel Abhiyan) National Level Rural Tournament	Executive Director or Director-General, Sports Authority of India	Certificates
KVS Nationals (State Level)	Commissioner or Joint Commissioner of KVS	Certificates
CM Trophy (State Level)	Member Secretary, Sports Development Authority of Tamilnadu	Certificates
SDAT approved State Level Tournaments	Member Secretary, Sports Development Authority of Tamilnadu	Certificates
CBSE National Sports Meet (State Level)	A. E. O. – Sports or Secretary, CBSE	Certificates
Bharathiar Day Sports Meet (State Level)	Regional Inspector of Physical Education and Chief Inspector of Physical Education	Certificates
Republic Day Sports Meet (State Level)	Regional Inspector of Physical Education and Chief Inspector of Physical Education	Certificates
State Inter School Competitions (State Level)	Member Secretary, Sports Development Authority of Tamilnadu	Certificates
PYKKA State Rural Competition	Member Secretary, Sports Development Authority of Tamilnadu	Certificates
Bharathiar Day Sports Meet (Divisional Level)	Regional Inspector of Physical Education and Chief Education Officer	Certificates
Republic Day Sports Meet (Divisional Level)	Regional Inspector of Physical Education and Chief Education Officer	Certificates
KVS Regional Level (Divisional Level)	Assistant Commissioner of KVS	Certificates
CBSE South Zone Sports Meet (Divisional Level)	A.E.O. – Sports or Secretary, CBSE	Certificates
District Inter School Competitions (Divisional Level)	District Sports Officer	Certificates
PYKKA District Rural Competition	Member Secretary and District Sports	Certificates
District Level Competitions	Officer RIPE and District Education Officer	Certificates

4. These Certificates are not valid unless signed personally in ink by the authorities mentioned above.
5. Open or Invitational or Memorial or any indifferent nomenclature or title of tournaments or Championships at District or State or National or International level will not be considered for marks.
6. District or Inter-District Championship means the championships conducted by the respective recognized District or State Sports Association for a Revenue District or Revenue Districts in the State of TamilNadu.
7. Direct participation or achievement at any level without participating in the qualifying level competitions such as District or State or National or direct selection conducted by District or State Sports Association or National Sports Federation to represent the District or State or National or International tournaments or championships will not be considered for award of marks.
8. For International achievements in Tennis, marks for Gold, Silver and Bronze will be awarded to players who are ranked first, second and third respectively in the ATP or WTA rankings of International Tennis Federation for awarding participation marks for the top **5 ranked** players will be considered from the ATP or WTA list published by the International Tennis Federation. Necessary document and proof should be enclosed by the candidate.

   For National or State level achievement in Tennis, marks for Gold, Silver and Bronze will be awarded to players

who are ranked first, second and third respectively in the AITA or TNTA at National or State. For awarding participation mark the top 5 ranked players will be considered from the list published by AITA or TNTA at National or State level based on the ranking. Necessary document and proof should be enclosed by the candidate.

9. Certificates should be in printed form and necessary Form-I and II should be in prescribed format. (Certificates or forms issued in letter pads will be invalid).
10. All other sport disciplines in which ranking is the criteria for assessment of achievement, rules indicated in item 8 above will be applicable for the award of marks.
11. For Cricket, the annual official Championships or tournaments conducted within the country under the auspices of TNCA or BCCI at District or State or National Level alone will be taken into consideration for that year.
12. Multiple events in a particular sport must be standardized events and in accordance with the events organized by the approved International Federations. Events newly created and not in accordance with the requirement will not be considered for award of marks.
13. **Participation or achievements of candidates with nativity of Tamil Nadu who represented Tamil Nadu alone are eligible for marks under National Category.**
14. Only Tamil Nadu candidates are eligible to apply for admission under Sports Quota and only the KVS and CBSE schools within Tamil Nadu are eligible for marks.
15. A Common Committee for Engineering and Medicine constituted for this purpose will rank the candidates based on the marks assigned to the certificates enclosed along with the application. Candidates with a minimum sports mark of 5 and above alone will be considered for ranking.
16. **All the achievement certificates are to be supported necessarily by the relevant participation certificates and appropriate forms.**
17. No further enclosures or certificates will be entertained after the last date for submission of completed application, in person.
18. Highest achievement or participation certificates obtained by candidate at different levels such as District or State or National or International in each year along with earlier achievements should be enclosed without fail. (A candidate shall enclose copy of all eligible certificates for scrutiny).
19. Candidates in proportion to the available seats will be called to appear before the Common Committee for Engineering or Medicine for verification of the Originals, followed by counseling after ranking.
20. If any candidate fails to produce the requisite Original Certificates or Forms, his/her place will be allotted to the candidate next in rank and so on. The consequential vacancy at the end of the rank list will be filled up from among the additional candidates according to their ranks.
21. All the highest level of participation or achievement should be supported by earlier achievements at all levels of competition.
22. Short listed candidates will be called for counselling based on their rank and branches and colleges will be allotted according to their choices from the number of seats reserved under sports quota based. Sports quota counselling will be held before the commencement of general counselling.
23. Candidates securing admissions under Eminent Sports Persons quota should sign an undertaking at the time of receiving allotment order assuring participation in sports activities in the college preferred by them.
24. Legal action would be taken on parents and candidates for furnishing bogus documents. They should ensure that the certificates obtained are from competent authorities.
25. A candidate can utilise the Sports Quota only once for Engineering or Medicine.

TABLE (VIII) – SPORTS QUOTA (2022 – 2023) LIST OF SPORTS DISCIPLINES

1.	Archery	31.	Korf Ball
2.	Athletics	32.	Mallakhamb
3.	AtyaPatya	33.	Motor Sports
4.	Badminton	34.	Netball
5.	Ball Badminton	35.	Polo
6.	Baseball	36.	Powerlifting
7.	Basketball	37.	Roll Ball
8.	Beach Volleyball	38.	Roller Skating
9.	Bridge	39.	Rowing
10.	Billiards and Snookers	40.	Rugby
11.	Body Building	41.	Sailing
12.	Boxing	42.	Sepak Takraw
13.	Canoeing & Kayaking	43.	Shooting
14.	Carom	44.	Silambam
15.	Chess	45.	Soft Ball
16.	Cricket	46.	Soft Tennis
17.	Cycle Polo	47.	Squash Rackets
18.	Cycling	48.	Swimming
19.	Deaf Sports	49.	Table Tennis
20.	Equestrian for Parasports (sports discipline included in para-olympic and para Asisian games)	50.	Taek–won–do
		51.	Tennikoit
21.	Fencing	52.	Tennis
22.	Football	53.	Throwball
23.	Golf	54.	Triathlon
24.	Gymnastics	55.	Volleyball
25.	Handball	56.	Weightlifting
26.	Hockey	57.	Wrestling
27.	Judo	58.	Wushu
28.	Karate – Do	59.	Yachting
29.	Kabaddi	60.	Yogasanas
30.	Kho – Kho		

Inputs received from all Department/Centres/School for admission in Masters Programme through Sports Quota

S.No.	Department/Centres/School	Inputs Received
1.	ICED	The ICED is in favour of the **sports quota in the admission for the Masters programme** to boost the sports culture in the country.
2.	Civil	There is mix opinion in Civil Engg Deptt. Majority is of the view not to fix any quota of sports in M Tech Admissions as it will lower down the Academic Level of the IITs. One faculty has suggested that instead of quota, we can give some additional marks for sports candidates while finalising the merit list.
3.	AMSC	DAMSC supports the idea of sports quota for admission to Master's Program. Weightage may be given to candidates who have participated at State or National level championships. However, it should also be ensured that there is no compromise on the quality of the candidate.
4.	Physics	1. There can be one supernumerary seat for sports quota in each program. 2. The candidate should have participated in the National-level sports event. 3. The candidate must have qualified JAM or GATE examination as per the eligibility criteria for admission to the program.
5.	Design	The Departmental Academic Programme Committee (DAPC) and Department Faculty Committee (DFC) recommends that admission through sports quota will not add value to the Masters programme of the institute.
6.	Hydrology	The Hydrology Department is in strong favour of the sports quota in the admission for the Masters programme to further boost the sports culture of our country.
7.	Chemical	The proposal for M.Tech. admission related to sports quota was agreed.
8.	MIED	DFC discussed the proposal to admit the applications through sports quota in master's program, and deliberated not to recommend the same.

Item No. 99.17: To consider the intake/Seat Matrix for the UG Programmes for the Academic Session 2024-2025.

The total UG intake admitted through JOSAA (JEE-Advanced) is 1353. Considering the changes due to introduction of new UG program(s) and the requests of changes in UG intakes by few Academic Departments, the UG Seat Matrix for the Academic Session 2024 – 2025 is proposed as in the **Appendix-A**.

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

UG Seat Matrix for the Session 2024-2025		
Programmes through JoSAA		
Programme Name	**Seats approved during 2023-24**	**Proposed Seats for 2024-25**
B. Tech Biosciences and Bioengineering (4-year Bachelor of Technology)	46	46
B. Tech Chemical Engineering (4-year Bachelor of Technology)	117	117
B. Tech Civil Engineering (4-year Bachelor of Technology)	174	150
B.Tech. Computer Science and Engineering (4-year Bachelor of Technology)	109	109
B.Tech. Electrical Engineering (4-year Bachelor of Technology)	165	150
B.Tech. Electronics and Communication Engineering (4-year Bachelor of Technology)	109	109
B.Tech. Engineering Physics (4-year Bachelor of Technology)	50	50
B.Tech. Mechanical Engineering (4-year Bachelor of Technology)	150	150
B.Tech. Metallurgical and Materials Engineering (4-year Bachelor of Technology)	82	82
B.Tech. Production and Industrial Engineering (4-year Bachelor of Technology)	58	58
Bachelor of Architecture (5-year Bachelor of Architecture)	30	30
M.Tech. (Geological Technology) (5-year Integrated Master of Technology)	38	38
M.Tech. (Geophysical Technology) (5-year Integrated Master of Technology)	41	41
BS-MS (Mathematics and Computing) {5-year (4+1) Dual Degree}	49	49
BS-MS (Chemical Sciences) {5-year (4+1) Dual Degree}	35	35
BS-MS (Physics) {5-year (4+1) Dual Degree}	27	27
BS-MS (Economics) {5-year (4+1) Dual Degree}	33	33
B.Tech. in Data Science & Artificial Intelligence (4-year Bachelor of Technology)	40	40
B. Tech in Energy Engineering (4-year Bachelor of Technology)	-	20
Total	**1353**	**1334**
Programmes through other Exams (UCEED)		
B. Design (4-year Bachelor of Design)	-	20
Grand Total of UG seats	**1353**	**1354 (+1)**

Item No. 99.18: To report the following decisions by the Chairman, Senate.

[A] Recommendations of IAPC and IRC:

(i) Approval on the Questionnaires for Students' Feedback form on the recommendation of the IAPC (Item No. 134.2.1). The Senate had authorized the Chairman in this regard in its 98th meeting held on 11.10.2023.

(ii) Approval on the requests of the following ex-Ph.D. students for reinstatement of their academic registration on the recommendation of the IRC (Item No. 66.2.2):

a. Mr. Habib Ullah Siddiqui, (En. 17918008), ex-Ph.D. student, Dept. of Management studies.
b. Ms. Bushra Shahwar, (En. No. 18902004), ex-Ph.D. student, Dept. of Architecture & Planning.
c. Mr. Ammar Hafeez, (En. No. 15918006), ex-Ph.D. student, Dept. of Management Studies.
d. Ms. Ravisha Goswami, (En. No.18908005), ex-Ph.D. student, Dept. of Chemical Engineering.
e. Mr. Tushar Shivam Pathak, (En. No.21915020), ex-Ph.D. student, Dept. of Electronics & Communication Engineering.
f. Mr. PadmNabh Trivedi, (En. No. 18916035), ex-Ph.D. student, Dept. of Humanities and Social Sciences.

(iii) Approval on exemption from submitting the Progress & Performance Report of Mr. Tewele Gerlase Haile Ph.D. student, Dept. of Humanities & Social Sciences on the recommendation of the IRC (Item No. 66.2.3). The Progress Report to be submitted by the Supervisor/Department.

(iv) Approval on recommendation of 66th IRC (Item No. 66.2.4) on facilitation for National Institute of Design Haryana (NIDH) Faculty Members and Graduating Students for doing Ph.D. from IIT Roorkee.

(v) Nomination of two faculty members as the Senate nominees for the IAPC.

(vi) IRC in its 66th IRC held on 22.11.2023 had approved the following MoUs:

a. Memorandum of Understanding (MoU) between Skyroot Aerospace Pvt. Ltd., Hyderabad, Telangana and Indian Institute of Technology Roorkee (IITR).

b. Memorandum of Understanding (MoU) between Physical Research Laboratory (PRL), Navrangpura, Ahmedabad and Indian Institute of Technology Roorkee (IITR).

c. Memorandum of Understanding (MoU) between VYOM Space Exploration And Services Pvt. Ltd., Hyderabad, Telangana and Indian Institute of Technology Roorkee (IITR).

d. Memorandum of Understanding (MoU) between Indian Institute of Space Science & Technology, Thiruvananthapuram, Keralaand Indian Institute of Technology Roorkee (IITR).

e. Memorandum of Understanding (MoU) between Indian National Space Promotion and Authorization Centre Department of Space, Government of India, Ahmedabad and Indian Institute of Technology Roorkee (IITR).

f. Memorandum of Understanding (MoU between Indian Institute of AADYAH Aerospace Pvt. Ltd. Bangalore, Karnataka and Indian Institute of Technology Roorkee (IITR).

g. Memorandum of Understanding (MoU between AnisotopicPvt. Ltd. Hyderabad, Telangana and Indian Institute of Technology Roorkee (IITR).

h. Memorandum of Understanding (MoU between NAL-National Aerospace Laboratories, Bangalore and Indian Institute of Technology Roorkee (IITR).

i. Memorandum of Understanding (MoU between Brahmos Aerospace Thiruvananthapuram Ltd., Kerala and Indian Institute of Technology Roorkee (IITR).

j. Memorandum of Understanding (MoU between Spacelabs Analytics and Dynamics Pvt. Ltd., Thrivananthapuram and Indian Institute of Technology Roorkee (IITR).

(vii) IRC in its 67th IRC held on 22.12.2023 had approved the following MoUs:

a. Dual Ph.D. degree consortium agreement between Michigan State University and Indian Institute of Technology Roorkee (IITR).

b. Memorandum of Understanding (MoU) between Department of Chemical and Biological Engineering University of Saskatchewan, Canada and Department of Chemical Engineering, Indian Institute of Technology Roorkee.

c. Memorandum of Understanding (MoU) between Department of Electrical and Computer Engineering University of Saskatchewan, Canada and Department of Electrical Engineering, Indian Institute of Technology Roorkee.

(viii) On the recommendation / justification provided by the Special SRC w.r.t. Ms. Lipi Mishra (13914014), Ph.D. student, Department of Civil Engg. the Chairman Senate, on behalf of the Senate, accorded approval as a ONE TIME special case for evaluation of her Ph.D. thesis with short of publications.

B. Institution of new awards/prizes/scholarships.

1. Mr. Gaurav Agrawal, representative of a group of Alumni of batch 1997, has established a corpus through IIT Roorkee Foundation, Inc. (USA) to create the following scholarship and award:

a. **Sesquicentennial (1997) Batch Scholarship for Academic Excellence:** Three (03) scholarships of Rs. 50,000/- each per year to the students of B.Tech./B.Arch., one each from 2nd, 3rd, and 4th year, for academic excellence.

Eligibility: All 2nd, 3rd, and 4th year students of B.Tech./B.Arch. having a minimum CGPA of 8.0.

Selection Process: The selection process will be based on inviting applications from the interested students at the individual level. The applicants having at least one research publication in a conference/journal among their respective class will be awarded this scholarship, otherwise the applicants with the highest CGPA among their respective class will be awarded this scholarship.

b. **Sesquicentennial (1997) Batch Silver Jubilee Award for Excellence in Sports:** Two (02) awards of Rs. 25,000/- each per year to the students of B.Tech./B.Arch., one each male and female, for exceptional achievement in sports.

Eligibility: All students of B.Tech./B.Arch. having a minimum CGPA of 7.0.

Selection Process: The applicants having the best performance (higher number of medals) in inter IIT sports meet will be given this award in each category. In case of tie, the applicants with the highest CGPA will be given this award. The recommendation for this award will be received from the Institute Sports Council.

2. **Krishan Gopal Garg Awards:** Mr. Krishan Gopal Garg, an alumnus of 1968 batch of B.E. (Metallurgical Engineering), has established a corpus through his organization NVT Quality Certification Pvt. Ltd., Bangalore to create three (03) awards of Rs. 10,000/- each per year to the students of B.Tech., one each from 2nd, 3rd, and 4th year, based on their academic and overall performance.

   Eligibility: All 2nd, 3rd, and 4th year students of B. Tech. having a minimum CGPA of 8.0.

   Selection Process: The selection process will be based on inviting applications from the interested students at the individual level. The applicants will be asked to submit a brief description on their achievements in different activities indicating their overall performance (sports, social-services, etc.) during their stay at IIT Roorkee along with supporting documents. These applications will be shortlisted by SCSP and top three deserving candidates in each category will be informed to the Organization to decide one awardee in each category.

3. Prof. Kewal K. Saluja, an alumnus of 1967 batch of B.E. (Electrical Engineering), and his spouse, Mrs. Neeta Saluja have revised the existing MoU to support four (04) MCM scholarships to financially constrained and meritorious undergraduate students at IIT Roorkee as per the following details:

   a. **Maheshwari and Lal Bahadur Mathur Scholarship**: One (01) scholarship of Rs. 40,000/- per year to the female student of second year of B.Tech. (Biosciences and Bioengineering) programme.

   b. **Kailash Wanti and Diwan Chand Saluja Scholarship**: One (01) scholarship of Rs. 40,000/- per year to the student of second year of B.Tech. (Electronics and Communication Engineering) programme.

   c. **Durga Devi Memorial Scholarship**: One (01) scholarship of Rs. 20,000/- per year to the student of third year of B.Tech. (Electronics and Communication Engineering) programme.

d. **Vidya Wanti Memorial Scholarship**: One (01) scholarship of Rs. 20,000/- per year to the student of third year of B.Tech. (Computer Science and Engineering) programme.

The students with the highest CGPA in their respective branches as above will get above-mentioned scholarships.

4. **Smt. Santosh Rani Tandon Memorial Award:** Prof. Mahesh C. Tandon, has revised his corpus to support one (01) a cash prize of Rs. 50,000/- to a female student of 4th year of B.Tech. (Civil Engineering) for securing the highest total marks/grades in the two compulsory courses, "Design of Reinforced Concrete Elements" and "Design of Steel Elements" amongst the girl students. Tie (if any) will be broken on the basis of overall CGPA up to 3rd year. The recommendation for this award will be received from the concerned department.

5. **Bagchi Prize for Environmental Sustainability:** Mr. Niranjan Bagchi, an alumnus of 1968 batch of B.E. (Chemical Engineering), has established a corpus to create one (01) cash prize of Rs. 10,000/- per year to a graduating student of B.Tech. (Chemical Engineering). This cash prize will be awarded based on outstanding work in the final year project with the most significant contribution and benefit in environmental sustainability. The recommendation for this award will be received from the concerned department.

6. **Mrs. Kanta Nirmla-Tirlokchand Garg Memorial MCM Scholarship:** Mrs. Kumkum Aggarwal w/o Mr. Narendra Kumar, an alumnus of 1968 batch of B.E. (Electronics and Communication Engineering), has established a corpus to create one (01) MCM scholarship of Rs. 10,000/- every year to the financially constrained female UG student from the Department of Electronics and Communication Engineering.

The above-mentioned awards/prizes/scholarships will be awarded from academic year 2024-25.

Status of grade point in the second examinations.

The grading, under the Regulation no 29 and 30 for the UG/PG/IDD programmes regarding the Second Examination and Re-examination, respectively states as follows:

i. **Re-examination**: The highest grade that can be awarded in the re-examination shall be 6 (letter grade: C+).
ii. **Second Examination (on Medical/Extraordinary Ground)**:

a. The grades awarded shall not be lowered if the student falls sick being in-station and is unable to appear in examination as recommended by the CMO of the Institute Hospital. The student falls sick being out-station with the permission of DOSW and timely informs the AAO.
b. In all other cases of second examination of MTE or ETE on medical grounds, a student shall be awarded one grade lower than the one which he/she would have otherwise obtained as per procedures adopted for normal grading. However, D grade shall not be lowered.

Here, there is no cap on the highest grade that can be awarded in the Second Examination due to medical reasons.

Facts:-

It is noted that there is a consistent increase in the number of students registering for the second examination of ETEs each semester. The data for the applications received for the second examination over the last three semesters are as follows:

Semester	**Students registered for the Second Examination due to medical reasons/ extra-ordinary reasons**
Autumn Semester 2022-23	330
Spring Semester 2022-23	556
Autumn Semester 2023-24	776

In the recently held examinations, date for opening and closing of the portal for applying for reexamination/second examination were December 6,2023 and December 27, 2023 respectively.

Proposal:

In order to ensure that the provision is used sparingly and only under unavoidable circumstances, it is proposed that the students who are registering for the second examinations (on Medical/Extraordinary Ground) shall be awarded one grade lower than the one which he/she would have otherwise obtained as per the procedures adopted for normal grading. The maximum grade point awarded be eight (8). However, grade point 4 (letter grade-'D') shall not be lowered.

Regulations of second examination and re-examination

Second Examination on Medical/ Extra Ordinary Grounds	**29**	(1)	A student, who fails to appear in the Mid Term Examination due to sudden illness or mishap/ accident and is supported by Medical Certificate of the Institute Medical Superintendent or in his/her absence by the Medical Officer of the Institute, may be allowed to take another examination with the permission of Dean, Academic Affairs. However, any such request for second examination for the Mid Term Examination should be submitted by a student within one week of the completion of the Mid Term Examination.
		(2)	If a student is absent during End Term Examination of a course due to medical reasons or other special circumstances, he/ she may apply for the award of 'I' grade to the Chairman DAPC/CAPC of the concerned department/ academic centre offering the course, through the Course Coordinator and Programme Advisor, provided that he/she has attended 75% of the classes held. The Chairman DAPC/CAPC may forward this request to Dean, Academic Affairs. Second examination shall be normally held along with the re-examination of End Term Examination to convert 'I' grade to proper letter grade.
		(3)	The application for second examination on medical grounds should be supported by a Medical Certificate of the Institute Medical Superintendent or in his/her absence by the Medical Officer of the Institute. If, however, a student is outside the campus at the time of illness or a mishap/ accident, his/ her application should be supported by a Medical Certificate issued by a Medical Officer of the rank of the Deputy Chief Medical Officer or above, of the concerned District. The Institute reserves the right to accept or reject such an application and the decision of the Dean, Academic Affairs shall be final in this respect.
		(4)	If any student is allowed to take second examination of MTE or ETE on medical grounds, the grades awarded shall not be lowered in the following conditions: 1. The student falls sick being in-station and is unable to

			appear in examination as recommended by the Chief Medical Officer of the Institute Hospital. 2. The student falls sick being out-station with the permission of DOSW and timely informs the office of Dean, Academic Affairs. In all other cases of second examination of MTE or ETE on medical grounds, a student shall be awarded one grade lower than the one which he/she would have otherwise obtained as per the procedures adopted for normal grading. However, 'D' grade shall not be lowered.
		(5)	In special cases and on the specific recommendation of the Institute Medical Superintendent, a student may be permitted to appear in his/ her regular examination in the Institute Hospital.
Re-examination	**30**	(1)	Re-examination in any course(s) shall be permissible only in the semester(s) in which the course(s) is/ are run. Re-examination will be held on pre-designated dates in December/ January for the Autumn Semester courses, and in July for the Spring Semester courses.
		(2)	Re-examination will be subject to a maximum limit of two courses in a semester. In case a student fails in three or more courses, he/she will be allowed to get re-examined in any two courses, as chosen by the concerned student, and repeat the remaining courses, when they are offered in the subsequent semesters. Re-examination will not be permissible for the self-study courses.
		(3)	A student will carry the marks obtained by him/her in the Mid Term Examination, Practical Examination and Sessionals.
		(4)	The highest grade that can be awarded in the re-examination shall be 'C+'.
		(5)	Re-examination will be allowed only if a student has not been disqualified earlier, either due to shortage of attendance or use of unfair means.