भारतीय प्रौद्योगिकी संस्थान मण्डी
कमांद–175075, हिमाचल प्रदेश

INDIAN INSTITUTE OF TECHNOLOGY MANDI
KAMAND – 175075, HIMACHAL PRADESH

कार्य सूची
AGENDA

बत्तीसवीं सीनेट बैठक सूची
AGENDA FOR THE 32nd SENATE MEETING

बैठक सं0	:	बत्तीसवीं
MEETING NO.	:	THIRTY SECOND
स्थान	:	ए 1, एनकेएन कक्ष, आई0आई0टी मण्डी, कमांद
VENUE	:	A1- NKN ROOM, IIT MANDI, KAMAND
दिनांक	:	22 सितंबर 2021
DATE	:	22nd September, 2021
समय	:	04:00 अपरान्ह
TIME	:	04:00 P.M.

INDIAN INSTITUTE OF TECHNOLOGY MANDI
KAMAND, HIMACHAL PRADESH

Indian
Institute of
Technology
Mandi

32nd SENATE MEETING
WEDNESDAY, 22nd SEPTEMBER, 2021

AGENDA

Item No.	Agenda items	Page No.
	PART – A	
32.1	To confirm the minutes of the 31st Senate meeting held on 10th June, 2021.	5
32.2	To receive a report on the actions taken for the decisions taken in the 31st Senate meeting held on 10th June, 2021.	5-6
32.3	To consider minimum performance in M.Tech./M.S. (by Research)/Ph.D/I-Ph.D etc. programmes for continuation of Assistantship/Fellowship/Scholarship.	6
32.4	To consider modification in the degree requirement for Integrated Ph.D (Physics) programme.	6-7
32.5	To consider the proposal for calculation of Cumulative Grade Point Average (CGPA).	7
32.6	To consider the proposal of Double Major B.Tech. degree.	8
32.7	To consider modification of the minimum requirements of HSS course credits in B.Tech. and Integrated Dual Degree (IDD) programmes.	8
32.8	To consider proposal on resolving the issue of registration of IC142 as a 4 credit course by B.Tech. (2018-22) batch.	8-9
32.9	To consider modification in the IC Engineering basket for students of B.Tech. in Engineering Physics.	9
32.10	To consider the proposal for modification in Branch Change rules for UG programme.	9-10
32.11	To review the request of a B.Tech. 2020 batch student for Branch Change.	10
32.12	To consider the proposal to start a new programme, M.Tech. in Electric Transportation.	10-11
32.13	To consider award of Ph.D., I-Ph.D.(Physics), M.S. (by Research), M.Tech., M.Sc., M.A. and B.Tech degree.	11
32.14	To consider the award of Medals and Prizes to the winners among the graduands, which are to be awarded during the 9th Convocation of the Institute.	11

32.15	Any other agenda item with the permission of the Chairman, Senate.	11
32.16	To report decisions/action taken by the Chairman, Senate.	11-25
32.17	New courses approved by the BoA in the 41st meeting held on 13th August, 2021.	25-26
	PART – B	
32.18	Issues to be discussed by the Senate without Student Members being present.	28

PART – 'A'

Item No. 32.1: **To confirm the minutes of the 31st Senate meeting held on 10th June, 2021.**

The minutes of the 31st Senate meeting held on 10th June, 2021 at IIT Mandi Kamand Campus were circulated to members of the Senate on 12th July, 2021 (through email) for comments, if any. No comments have been received on the minutes.

In view of the above, the Senate may consider confirming the minutes of 31st Senate meeting of the Institute.

Item No. 32.2: **To receive a report on the actions taken for the decisions taken in the 31st Senate meeting held on 10th June, 2021.**

Given below are the details of actions taken for the decisions taken in 31st Senate meeting held on 10th June, 2021.

Item No.	Particulars	Status of Action Taken
31.1(ii)	To consider Semester Long Internship for B.Tech./B.Tech-M.Tech Integrated Dual Degree Programme.	Approved and Notified vide Notification No. IIT Mandi/Acad/Senate/2021/1719-26 dated 04-08-2021, this superseded the previous notification No. IITMandi/Acad/Senate/2021/104-111 dated 09-04-2021
31.3	To consider the modification of course execution during the remainder of the Feb-June 2021 semester, upcoming summer (June-Aug 2021/ AS3), grade change exams., and to declare Aug – Dec 2021 as an online semester.	Approved and Notified vide Notification No. IIT Mandi/Acad/Senate/2021/2172-75 dated 26-08-2021
31.4	To consider the provision of making curricular internship optional for the B.Tech 2018/M.Tech 2020 students and the concomitant relaxation in credit requirements (for both B.Tech 2018(and B.Tech 2017) and M.Tech 2020 (and M.Tech 2019) batches of students.	Approved and Notified vide Notification No. IIT Mandi/Acad/Senate/2021/2176-82 dated 26-08-2021
31.5	To consider modification in Core Course list of B.Tech. Data Science and Engineering.	Approved and Notified vide Notification No. IIT Mandi/Acad/Senate/2021/2341-48 dated 08-09-2021
31.6	To record the closure of M.Tech. in Electrical Engineering with specialization in VLSI programme.	Approved and Notified vide Notification No. IIT Mandi/Acad/Senate/2021/2199-2202 dated 26-08-2021

31.7	To consider the revised proposal for Independent Study Course.	Approved and Notified vide Notification No. IIT Mandi/Acad/Senate/2021/1727-30 dated 04-08-2021
31.8	To consider revision in the curriculum for B.Tech.-M.Tech. Integrated Dual Degree in Bio-Engineering programme.	Approved and Notified vide Notification No. IIT Mandi/Acad/Senate/2021/2183-88 dated 26-08-2021
31.9	To consider procedure and norms for approval of the courses.	Approved and Notified vide Notification No. IIT Mandi/Acad/Senate/2021/1731-36 dated 04-08-2021
31.10	To consider the modification in M.Tech. in Computer Science and Engineering (CSE) programme.	Approved and Notified vide Notification No. IIT Mandi/Acad/Senate/2021/2189-93 dated 26-08-2021
31.11	To consider relaxation in norms regarding minimum residential requirement for MS/PhD (Part-Time/ERP) Scholars due to COVID-19).	Approved and Notified vide Notification No. IIT Mandi/Acad/Senate/2021/2194-98 dated 26-08-2021

Item No. 32.3:   **To consider minimum performance in M.Tech./M.S. (by Research)/Ph.D/I-Ph.D etc. programmes for continuation of Assistantship/Fellowship/Scholarship.**

In the 41st meeting of the Board of Academics (BoA) held on 13th August, 2021, Prof. Chayan K. Nandi, Associate Dean (Research) presented the following proposal regarding minimum performance in M.Tech./M.S. (by Research)/I-Ph.D/Ph.D etc. programmes for continuation of Assistantship/Fellowship/Scholarship:

- Minimum CGPA requirement for continuation of Assistantship/ Fellowship in M.Tech/M.S. (by Res.)/Ph.D/I-Ph.D will be 6.5.
- On obtaining CGPA less than 6.5, the student will be considered under probation.
- Student on probation will not be allocated TA duties and no fellowship will be given.
- Fellowship discontinued due to poor academic performance may be resumed only on attaining a minimum CGPA of 6.5.
- Arrears will not be paid for the discontinued period.

After discussions, the BoA recommended the above proposal for consideration of the Senate.

Item No. 32.4:   **To consider modification in the degree requirement for Integrated Ph.D (Physics) programme.**

The Senate in it's 10th Meeting held on 29th June 2016 vide Item No. 10.4 resolved the following:

'*Any 12 credits in this program will be considered as equivalent to Ph.D. course work for any purpose where credits of Ph.D. course are considered.*'

In 42nd Board of Academics (BoA) meeting held on 3rd September, 2021, the PFG Chair, Dr. Ajay Soni presented the proposal regarding revision in the I-PhD credit requirements, as follows:

'*Any 9 credits in this program will be considered as equivalent to Ph.D. course work for any purpose where credits of Ph.D. course work are considered.*'

After brief discussion, the BoA recommended the proposed revision for consideration of the Senate.

Item No. 32.5:   **To consider the proposal for calculation of Cumulative Grade Point Average (CGPA).**

In 42nd Board of Academics (BoA) meeting held on 3rd September, 2021, Dr. Srikant Srinivasan, Associate Dean (Courses) presented a proposal for revising the CGPA calculation for course-based programs, as under:

(i) The final CGPA, calculated upon the completion of all credit requirements towards the fulfillment of a degree, shall include all credits earned against a letter grade, including those credits that are in excess of the minimum requirements.

(ii) The rule shall be applicable to all programs under the category of course-based programs.

(iii) The final CGPA calculation shall not include any 'F' grade once all the credit requirements are completed, including the minimum credit requirement per basket such as IC/ DC/ DE/ FE etc.

(iv) The Semester GPA calculation shall include 'F' grade in continuation of existing provision.

(v) The intermediate CGPA calculation, i.e. CGPA calculated during the course of the program before completion, shall also include 'F' grade, except for those cases where the course has been replaced by an equivalent course that has been successfully completed.

The BoA recommended the proposal with the caution that a student shall not be permitted to register for any additional semesters after the completion of the minimum requirements towards graduation, so that the registration of excess credits be not misused for the purpose of continued stay on campus.

The Senate may consider the recommendations of the BoA.

Item No. 32.6: **To consider the proposal of Double Major B.Tech. degree.**

A proposal regarding Double Major B.Tech. Degree was proposed during the 41st and 42nd meeting of the Board of Academics (BoA). After due deliberations, the BoA recommended the proposal, as placed at **Annexure- A; Page No. 29 to 35** to the Senate for consideration.

Item No. 32.7: **To consider modification of the minimum requirements of HSS course credits in B.Tech. and Integrated Dual Degree (IDD) programmes.**

In 42nd Board of Academics (BoA) meeting held on 3rd September, 2021, Dr. Tushar Jain, presented a proposal regarding modification in the minimum requirements of HSS course credits for B.Tech. and Integrated Dual Degree programmes, as follows:

Existing	Proposed

• HSS courses are distributed among four baskets, namely
 	
  o Creative Understanding (CU)
 	
  o Language Competence (LC)
 	
  o Communicative Competence (CC)
 	
  o Social Competence (SC)
 	
  o Managerial Competence (MC)	

• 1 compulsory credit from the CU basket, covered equivalently through the 5WIP modules.	• 1 compulsory credit from the CU basket, covered equivalently through the 5WIP modules. *(To remain as it is)*
• 1 course (3 credits) per basket equivalent to 12 credits (total) should be done from the rest of the baskets.	• 12 compulsory credits can be done **from any of the baskets (LC, CC, SC, MC)**
• 5 compulsory <u>HSS elective courses</u>	• 5 compulsory HSS electives shall be converted to <u>free electives</u>
• Overall, a UG student is supposed to do 18 HSS credits.	

After detailed deliberations, the BoA recommended above proposal to the Senate for consideration.

Item No. 32.8: **To consider proposal on resolving the issue of registration of IC142 as a 4 credit course by B.Tech. (2018-22) batch.**

In 41st meeting of the Board of Academics (BoA) held on 13th August, 2021, Dr. Shubhajit Roy Chowdhury, Chairperson of the Committee presented a proposal to the Board of Academics regarding the issue of registration of IC142 as a 4 credit course by B.Tech (2018-22) batch. After due deliberations, the BoA recommended the proposal for consideration of the Senate, as under:

'The students may be given a waiver of 1 credit in the basket of free electives, which means they would be required to complete 21 credits instead of 22 credits of free electives.'

Item No. 32.9:   **To consider modification in the IC Engineering basket for students of B.Tech. in Engineering Physics.**

In 42nd Board of Academics meeting held on 3rd September, 2021, Dr. Pradeep Kumar, Programme Coordinator for B.Tech. in Engineering Physics presented the proposal regarding modification in the IC Engineering basket for the B.Tech. in Engineering Physics programme.

As per the senate approved guidelines, a student is required to take atleast one course from each of the IC baskets (Science I, Science II and Engineering). Currently, Engineering Physics (EP) students have to compulsorily take 'Measurement and Instrumentation' course from the Engineering basket. It is proposed to remove the compulsory requirement of 'Measurement and Instrumentation' course. Thereafter, a student may take any course from the Engineering basket.

The BoA recommended the revised proposal to the Senate for consideration.

Item No. 32.10:   **To consider the proposal for modification in Branch Change rules for UG programme.**

Dr. Arpan Gupta, Associate Professor presented a proposal regarding modifications in the Branch Change rules for UG programmes. After detailed deliberations on the proposal, the BoA resolved the following:

a) To be considered for a branch change, the student needs to submit an application before the end of the second semester of the programme, and specify the choices, in order of preference.

b) Branch change applications will be considered in order of merit as established by the CGPA of first-year courses (excluding HSS electives) and only to the extent of the applicant's choices and in the order of the preferences expressed in the application. If a seat opens up at any later stage in the process, it will be offered to the applicant with the highest CGPA in the waiting list.

c) While granting branch change to a student, the strength of a class shall not exceed the sanctioned strength by more than

25% and shall not fall below the existing strength by more than 10%. (Any fraction will be rounded off to the nearest whole number).

d) Minimum CGPA to be eligible for branch change is 8.0

e) The student should have no backlog and should not have been found guilty of any severe academic or disciplinary misconduct.

f) In case of tie of CGPA, the students will be treated equally and will be jointly considered for branch change subject to condition (c) above.

The BoA recommended the above proposal for consideration of the Senate.

Item No. 32.11:   **To review the request of a B.Tech. 2020 batch student for Branch Change.**

In response to the branch change allocation for the B.Tech. 2020 batch in the month of Aug, 2021, one of the students has requested a review of the application for branch change in the context of the guideline No. 3 of branch change, stated below:

"In granting the change of branch of a student, the strength of a class shall not fall below the sanctioned strength by more than 50% and shall not exceed the sanctioned strength by more than 50%. Also, the strength of any branch shall not be allowed to fall below a minimum strength of 20 students because of the branch change. Notwithstanding this provision, the top-ranking students of each discipline may be awarded a branch change if she/he has a CGPA of at least 8.0"

As the student was the second ranker in the discipline, the original application was denied. However, the top ranker of the discipline did not apply for the branch change and as the student was the top-ranker among the applicants, a review of the case was requested.

In the past, committee had considered that "as the top-ranking student of the branch had not applied for the branch change, therefore, the 2nd ranking student *(the top ranker of the branch among the applicants)* was allowed for the branch change."

The matter is placed before the Senate for consideration.

Item No. 32.12:   **To consider the proposal to start a new programme, M.Tech. in Electric Transportation.**

Dr. Narsa Reddy Tummuru, Programme Coordinator for M.Tech (PED) presented the proposal to start a new programme, M.Tech. in Electric Transportation. After detailed deliberations the BoA

recommended the proposal, placed at **Annexure-B; Page No. 36 to 41** for consideration of the Senate.

Item No. 32.13:   **To consider award of Ph.D., I-Ph.D.(Physics), M.S. (by Research), M.Tech., M.Sc., M.A. and B.Tech degree.**

The list of the students who have completed all the requirements for the award of the degree during 9th Convocation will be tabled during the meeting.

Item No. 32.14:   **To consider the award of Medals and Prizes to the winners among the graduands, which are to be awarded during the 9th Convocation of the Institute.**

The awards committee will present the recommendation during the meeting.

Item No. 32.15:   **Any other agenda item with the permission of the Chairman, Senate.**

Item No. 32.16:   **To report decisions/action taken by the Chairman, Senate:**

(i) **Increase in the maximum number of credits that may be registered in the Aug-Dec 2021 semester by the B.Tech 2019 and B.Tech 2020 batch: (*Approved on 25th August, 2021*)**

Dr. Srikant Srinivasan, Associate Dean (Courses) presented a proposal to the Board of Academics (BoA) regarding increase in the maximum number of credits may be registered in the Aug-Dec 2021 semester by the B.Tech 2019 and B.Tech 2020 batch. After due deliberations, the BoA resolved that only those students with good academic standing and CGPA be allowed to register up to 26 credits in the Aug-Dec 2021 semester. Further, if the student is able to maintain SGPA of 8.0 with 26 credits of coursework, then the student may be allowed to pursue semester internship and continue registering for a maximum of 26 credits in the remaining semesters, so that they can complete their B.Tech program in a timely manner. For the B.Tech 2020 batch, the students may be allowed to register for 24 credits for the Aug-Dec 2021 semester and continue to register 24 credits per semester if they are able to maintain good SGPA.

(ii) **One-Time relaxation for B.Tech 2018 admitted batch to undergo semester internship in their final semester: (*Approved on 13th September, 2021*)**

Dr. Srikant Srinivasan, Associate Dean (Courses) presented a proposal to the Board of Academics regarding One-Time relaxation for B.Tech.2018 admitted batch to undergo semester internship in their final semester.

According to the current rules, a semester internship is not allowed in the last semester. But a good number of companies, especially in Core EE and ME (and a few in CSE), are interested in hiring B.Tech students as interns in the 8th semester followed by immediate joining as full-time employees. Considering the fact that for batch '18, semester internships were allowed when the internship season was almost over, therefore, a one-time relaxation may be provided to them to take up semester internship during their final semester, only if the semester is in online mode.

(iii) **Excess credits of Pass Fail courses for M.Sc. in Applied Mathematics 2019 batch students:** *(Approved on 19th July, 2021)*

Dean (Academics) has recommended an exemption for 2019 graduating batch of M.Sc. Applied Mathematics students from the maximum 3 credit requirement of 'P' grade courses to 4 credit course having 'P' grade.

According to the current rules, M.Sc. students are required to complete minimum 80-82 credits, including maximum 3 credits of Pass/Fail courses to fulfil their degree requirements. But some students of 2019 graduating batch of M.Sc. Applied Mathematics have opted for a 4 credit course under Pass/Fail category.

(iv) **Relaxation of mandatory 'P' grade courses for graduating batch of M.A. in Development Studies:** *(Approved on 19th July, 2021)*

Dean (Academics) has recommended an exemption for 2019 graduating batch of M.A. students without Pass/Fail courses be computed on the overall earned credits, grades and a waiver for Pass/Fail courses.

According to the norms, M.A. students are required to complete minimum 80-82 credits, including a maximum of 3 credits of Pass/Fail courses to fulfil their degree requirements. But some students of 2019 graduating batch of M.A. have not opted Pass/Fail course during the programme.

(v) **Branch Change for B.Tech. 2020 batch:** *(Approved on 14 August, 2021)*

The Chairman Senate approved the recommendations of the committee regarding branch change of B.Tech. 2020 batch. Consequent to the branch change, the status of students' strength in the branches are given below:

Branch	Students recommended to join the branch	Students recommended to leave the branch	Total Strength after Branch Change
BE	0	0	16
CE	0	20	25

CSE	40	0	105
DSE	17	4	43
EE	25	25	67
EP	1	6	20
ME	0	28	29
Total	83	83	305

(vi) **Provisionally admitted students during AY 2021-22 (Odd Semester):**

Students as detailed below were admitted provisionally in the Academic Year 2021-22. Their admission is PROVISIONAL subject to fulfillment and verification of all the Academic and Non-academic requirement. Student must comply with the Eligibility and shortlisting criteria as per the advertisement. Failure to meet eligibility and/or other criteria and/or furnishing any false information/documents will lead to suo-moto cancellation of their admission.

Programmes	Provisionally Admitted Student strength
MS (including ERP/PTD)	16
PhD (including ERP/PTD)	54
M.Sc.	131
M.Tech.	150
M.A.	21
I-Ph.D.	1
Total	373

(a) **Provisionally admitted students in M.S. (by Research):**

Sl.No.	Roll No.	Name	School
1	S21002	Sowmyashree S	SCEE
2	S21003	Gopal sai krishna chamarthi	SCEE
3	S21004	Ritwik Ghosal	SCEE
4	S21005	Rajesh R	SCEE
5	S21006	Shivani Thakur	SCEE
6	S21007	Aadhar Gupta	SCEE
7	S21008	Arjun H Kumar	SCEE
8	S21010	Govind Rajendran	SCEE
9	S21011	Megha Sharma	SCEE
10	S21012	Pandya Naisarg Jayantkumar	SE
11	S21013	Govind Kant Mishra	SE
12	S21014	Aditi Rana	SE
13	S21016	Shivank Kumar	SE
14	S21017	Shubham	SCEE
15	S21018	Arka Samanta	SCEE
16	ERPS21001	Suvranil Banerjee	SBS

(b) Provisionally admitted students in Ph.D. Programme:

Sl.No.	Roll No.	Name	School
1	D21001	Kalyani Sanjay Mujumdar	SHSS
2	D21002	Archana Pathak	SHSS
3	D21003	Chalantika Chakraborty	SHSS
4	D21004	Gayathri B	SHSS
5	D21005	Utkarsha Negi	SHSS
6	D21006	Soma Chakraborty	SCEE
7	D21007	Prashant Shah	SCEE
8	D21008	Nitin Chauhan	SCEE
9	D21009	Sonalika Singh	SCEE
10	D21010	Hanumanthu Ravi Teja	SCEE
11	D21011	Ashutosh Rai	SCEE
12	D21012	Abhishek Singhal	SCEE
13	D21013	Mohd Saif Ali Khan	SCEE
14	D21015	Devendra Sharma	SBS
15	D21016	Annu	SBS
16	D21018	Sonu Kumari	SBS
17	D21019	Pallavi	SBS
18	D21020	Sarikul Islam	SBS
19	D21021	Shivam Kumar Mishra	SBS
20	D21022	Arishi Orra	SBS
21	D21023	Nikhil Chanauria	SBS
22	D21024	Himanshu Choudhary	SBS
23	D21025	Sanket Nemichand Teli	SBS
24	D21026	Alok Kumar	SBS
25	D21027	Aditi Rana	SE
26	D21029	Varun Sharma	SE
27	D21030	Kshitij Tandon	SE
28	D21031	Utsav Rajput	SE
29	D21032	Dhanasree Suresh	SE
30	D21033	Nitesh	SE
31	D21034	Vinod Kumar Solet	SE
32	D21035	Saurabh Tiwari	SE
33	D21036	Pushpendra Kumar	SE
34	D21037	Ankur Kaundal	SE
35	D21038	Naveen Kumar Bankapalli	SE
36	D21039	Rampal	SE
37	D21040	Akumalla Ravi Kiran	SE
38	D21041	Subham Prasad	SE
39	D21042	Manish Singh Rajput	SE
40	D21043	Arpit Kumar Pandey	SE
41	D21044	Sayali Kawade	SE
42	D21045	Bijay Sharma	SE
43	D21046	Harshul Kapoor	SBS
44	D21047	Sanchita Sarkhel	SBS
45	D21048	Khushal Singh	SBS
46	D21049	Abhishek Kapoor	SBS
47	D21050	Vanshika Saxena	SBS
48	D21051	Koppaka Omkar Parleshwar	SBS
49	D21052	Richa Joshi	SBS

50	D21054	Kajal Jaswal	SBS
51	D21055	Riya Joseph	SBS
52	D21056	Bodhidipra Mukherjee	SBS
53	D21057	Akash Rao	SHSS
54	PTD-21001	Yogita Bala	SBS

(c)   Provisionally admitted students in M.Sc. Programme:

Sl.No.	Roll No.	Name	Branch
1	V21001	AAKASH YADAV	Chemistry
2	V21002	SACHIN RAUTELA	Chemistry
3	V21003	BHAWNA	Chemistry
4	V21004	SANYAM CHHETRI	Chemistry
5	V21005	NILANJAN BHADURI	Chemistry
6	V21006	JANAVI RAJPUT	Chemistry
7	V21007	ROHIT	Chemistry
8	V21008	MONIKA KANWAR	Chemistry
9	V21009	CHIRAG GOYAL	Chemistry
10	V21010	SUBHADIP GOSWAMI	Chemistry
11	V21011	ADARSH SHUKLA	Chemistry
12	V21012	AYUSH SHUKLA	Chemistry
13	V21013	SAMRIDHI SURIAL	Chemistry
14	V21014	LAGAN ARYA	Chemistry
15	V21015	NAVEEN KUMAR	Chemistry
16	V21016	ROHAN LAMBA	Chemistry
17	V21017	MANJOT KAUR	Chemistry
18	V21018	ARUN KUMAR	Chemistry
19	V21019	BRIJESH PATEL	Chemistry
20	V21020	KAJOL PRASAD	Chemistry
21	V21021	ANKIT KUMAR	Chemistry
22	V21022	HARAJYOTI THAUSEN	Chemistry
23	V21023	MUSKAN SHARMA	Chemistry
24	V21024	PALAK GARG	Chemistry
25	V21025	HIMANSHU GUPTA	Chemistry
26	V21026	JIBAN MONDAL	Chemistry
27	V21027	SHUBHANGI GOYAL	Chemistry
28	V21028	HEMANT LATTA	Chemistry
29	V21029	HARSH YADAV	Chemistry
30	V21030	AASTHA	Chemistry
31	V21031	AKHILESH NAGRA	Chemistry
32	V21032	SEEMA SUTHAR	Chemistry
33	V21033	SHIVANI CHOUDHARY	Chemistry
34	V21034	RAHUL	Chemistry
35	V21035	CHIRAG	Chemistry
36	V21036	ASHISH KUMAR	Chemistry
37	V21037	ANIMESH MANDAL	Chemistry
38	V21038	RIMANSHU BHARTI	Chemistry
39	V21039	NAVNEET KUMAR	Chemistry
40	V21040	SUSHMITA BARO	Chemistry
41	V21041	UDISHA SAHRAWAT	Chemistry
42	V21042	EKTA	Chemistry
43	V21043	SHIV NARAYAN	Chemistry

44	V21044	LOVE KUMAR MEENA	Chemistry
45	V21045	ABINASH DOLEY	Chemistry
46	V21046	PAWAN	Chemistry
47	V21047	PIYUSH SHARMA	Chemistry
48	V21048	KAUSHIK KAHALI	Chemistry
49	V21101	SATYANAND KUWAR	Physics
50	V21102	ANANT BIR SINGH VIRK	Physics
51	V21103	NITIN JASWAL	Physics
52	V21104	NEHA BHATIA	Physics
53	V21105	RAKSHA	Physics
54	V21106	BANSHI LAL	Physics
55	V21107	TRISHU VERMA	Physics
56	V21108	ASHISH CHHIMPA	Physics
57	V21109	LOKESH KUMAR	Physics
58	V21110	ROBIN KAROTHIYA	Physics
59	V21111	TITLI ROY BARMAN	Physics
60	V21112	SHEVO LOHE	Physics
61	V21113	AJIT MEENA	Physics
62	V21114	SIVA SANKAR P M	Physics
63	V21115	SIMRAT PAL SINGH	Physics
64	V21117	SHARMISTHA	Physics
65	V21118	ARPAN GUPTA	Physics
66	V21119	AAKASH SINGH	Physics
67	V21120	YASIR UL SADIQ	Physics
68	V21121	RAVI	Physics
69	V21122	AMAN	Physics
70	V21123	ANU	Physics
71	V21124	SAGAR GAUR	Physics
72	V21125	SUBHAM GHOSH	Physics
73	V21126	ADITY	Physics
74	V21127	UMASHANKAR PARDHI	Physics
75	V21128	YOGITA JANGIR	Physics
76	V21129	AADARSH SAVITA	Physics
77	V21130	MUSKAN YADAV	Physics
78	V21131	TANU SONI	Physics
79	V21132	SHAILESH KUMAR VERMA	Physics
80	V21133	NARAYAN LAL BALAI	Physics
81	V21134	ANKIT MUDGAL	Physics
82	V21135	HARSH NISHANT RAJORIYA	Physics
83	V21136	SANIA AYOUB	Physics
84	V21137	APURAV	Physics
85	V21138	AMARNATH T	Physics
86	V21051	MOHIT SINGH KARKI	Applied Mathematics
87	V21052	MUKUL KUMAR	Applied Mathematics
88	V21053	KRISHNA GARG	Applied Mathematics
89	V21054	NANCY	Applied Mathematics
90	V21055	MOHIT KUMAR JAIN	Applied Mathematics

91	V21056	SIMRAN	Applied Mathematics
92	V21057	HANUMAN SHUKLA	Applied Mathematics
93	V21058	VAISHNAV KUMAR SONI	Applied Mathematics
94	V21059	MANISH SHRIVASTAVA	Applied Mathematics
95	V21060	SHUBHAM GARG	Applied Mathematics
96	V21061	MUKESH PRAJAPAT	Applied Mathematics
97	V21062	N ZEESHAN MOUZAM	Applied Mathematics
98	V21063	KARTIK	Applied Mathematics
99	V21064	VIKRAM	Applied Mathematics
100	V21065	NIKITA RANI	Applied Mathematics
101	V21066	YASHI YADAV	Applied Mathematics
102	V21067	AASTHA	Applied Mathematics
103	V21068	SHUBHNEESH	Applied Mathematics
104	V21069	SHUBHAM KUMAR	Applied Mathematics
105	V21070	PRATEEK	Applied Mathematics
106	V21071	VIPULKUMAR BAKULBHAI CHAUDHARI	Applied Mathematics
107	V21072	NEHA GUPTA	Applied Mathematics
108	V21073	ARUN SINGH	Applied Mathematics
109	V21074	HIMANSHU GUPTA	Applied Mathematics
110	V21075	AMIT KUMAR PARIDA	Applied Mathematics
111	V21076	SAKSHI VYAS	Applied Mathematics
112	V21077	AABHA JAIN	Applied Mathematics
113	V21078	PRACHI SHARMA	Applied Mathematics
114	V21079	SOUVIK DEY	Applied Mathematics
115	V21080	HIMANSHU SOAM	Applied Mathematics
116	V21081	MITHLESH SAINI	Applied Mathematics
117	V21082	NISHA KHANDELWAL	Applied Mathematics

118	V21083	ROVIN SHARMA	Applied Mathematics
119	V21084	PANKAJ HEMNANI	Applied Mathematics
120	V21085	ANCHAL JANGIR	Applied Mathematics
121	V21086	ADITYA CHOUDHARY	Applied Mathematics
122	V21087	MOHD FAIZAN	Applied Mathematics
123	V21088	PARSHANT	Applied Mathematics
124	V21089	RAHEES	Applied Mathematics
125	V21090	HIMANSHU	Applied Mathematics
126	V21091	RAVI KUMAR MEENA	Applied Mathematics
127	V21092	ANKITA MEENA	Applied Mathematics
128	V21093	AYUSH DWIVEDI	Applied Mathematics
129	V21094	MOHIT	Applied Mathematics
130	V21095	PAWAN	Applied Mathematics
131	V21096	SAKSHI AGARWAL	Applied Mathematics

(d) Provisionally admitted students in M.Tech. Programme:

Sl.No.	Roll No.	Name	Branch
1	T21001	ANSHUMAN KUMAR	CSP
2	T21003	AJIN VINOD K	CSP
3	T21004	RAKESH VAISHNAV	CSP
4	T21005	ANAMIKA KUMARI	CSP
5	T21006	VINAY VISANJI FARIA	CSP
6	T21007	UDIT SINGHAL	CSP
7	T21008	GAURAV	CSP
8	T21009	PRAJYOT PRABHAKAR MOREY	CSP
9	T21010	SWECHCHHA OJHA	CSP
10	T21011	LAKSHAY BANSAL	CSP
11	T21012	SATYAM SINGH	CSP
12	T21013	AMIT KUMAR	CSP
13	T21014	SAMARTH M	CSP
14	T21015	NANDAN KUMAR	CSP
15	T21016	RAJAN SHUKLA	CSP
16	T21017	VIKAS SINGH	CSP
17	T21018	RUPAM BISWAS	CSP
18	T21019	DEEPIKA	CSP
19	T21020	RAHUL KUMAR	CSP
20	T21041	HARSH GAHLOT	CSE

21	T21042	UTSAV BANSAL	CSE
22	T21043	ARCHIT BALIYAN	CSE
23	T21044	NIKHIL SHARMA	CSE
24	T21045	ANMOL AGRAWAL	CSE
25	T21046	SUCHETA PANDA	CSE
26	T21047	SRIJAN SINGH	CSE
27	T21048	MAHENDRA AANJNA	CSE
28	T21049	HIMANSHU RANJAN	CSE
29	T21050	RAVI PRATAP YADAV	CSE
30	T21051	ADITYA KUMAR	CSE
31	T21081	SANCHAYAN DAS	PED
32	T21082	ABHAYA KOTNALA	PED
33	T21084	ROUNAK CHAKRABORTY	PED
34	T21085	HARSHITA MEENA	PED
35	T21086	CHITRA BISHT	PED
36	T21088	LAXMAN SINGH	PED
37	T21089	ABHISHEK RANJAN	PED
38	T21090	ARNAB KUMAR PAL	PED
39	T21091	ASIF KHAN KAYAMKHANI	PED
40	T21092	SAKET	PED
41	T21093	SUBHRANIL MONDAL	PED
42	T21094	RAMAVATH RAKESH	PED
43	T21095	RAVI KETAN	PED
44	T21096	ABHISHEK MUKHERJEE	PED
45	T21097	RAHUL DINDA	PED
46	T21098	NITINKUMAR NAGNATHRAO REDDY	PED
47	T21099	SHAILENDRA KARKI	PED
48	T21100	ROHIT SINGH	PED
49	T21101	ROHIT KUMAR GOYAL	PED
50	T21102	KURAPATI SAI KARTHIK	PED
51	T21103	SAURAV MAMGAIN	PED
52	T21121	ARJUN SAHA	VLSI
53	T21122	PRAKASH KUMAR	VLSI
54	T21123	KAMAL RAJ	VLSI
55	T21124	PRASHANT BHATT	VLSI
56	T21125	PALAK MAHAJAN	VLSI
57	T21126	SHAKTI SINGH	VLSI
58	T21127	RATNESH KUMAR YADAV	VLSI
59	T21128	ARGHYADIP DE	VLSI
60	T21129	JOYAL BASIL PAUL	VLSI
61	T21130	AMIT KUMAR	VLSI
62	T21131	VISHNU SISODIA	VLSI
63	T21132	TANAY SRIVASTAVA	VLSI
64	T21133	ANAND SHEKHAR KAUSHIK	VLSI
65	T21134	CHANDAN KUMAR MAURYA	VLSI
66	T21135	LOVEJEET SINGH RAWAT	VLSI
67	T21136	HITARTH ALKESHKUMAR PATEL	VLSI
68	T21137	HIMANSHU TIWARI	VLSI
69	T21138	AMAN	VLSI
70	T21139	SATENDRA SINGH NEGI	VLSI
71	T21140	ANKIT PANDEY	VLSI
72	T21201	SASANKA SEKHAR K DEKA	MES

73	T21202	SUDHANSHU GANGWAR	MES
74	T21203	SHIVANAND MISHRA	MES
75	T21204	MAYAND MALIK	MES
76	T21205	AMAR BARE SHANKARANARAYANA	MES
77	T21206	KULDEEP YADAV	MES
78	T21207	ANKIT KUMAR PANDEY	MES
79	T21208	SMIT MAHENDRA KANSAGARA	MES
80	T21209	ASHISH JHA	MES
81	T21210	UDATHA RAM SAI ROHITH	MES
82	T21211	PRASHANT KUMAR	MES
83	T21212	ASHISH GUPTA	MES
84	T21213	SHIBLI KHAN	MES
85	T21214	SHUBHAM CHAUHAN	MES
86	T21215	MISHRA ANURAG BRIJBIHARI	MES
87	T21216	HUSSAIN BADSHAH	MES
88	T21217	PRASANT SHARMA	MES
89	T21218	VIKKI KUMAR SHARMA	MES
90	T21219	SHARIQUE HUSSAIN	MES
91	T21220	VAIBHAV BHARDWAJ	MES
92	T21222	SHUBHAM PATEL	MES
93	T21241	YOGESH SHRIVASTAVA	MEE
94	T21242	PURNYENDU GAIN	MEE
95	T21243	YOGESH DEEPAK DESHMUKH	MEE
96	T21244	VIVEK KUMAR SINGH	MEE
97	T21245	MUKESH KUMAR YADAV	MEE
98	T21246	PRIYA SINGH	MEE
99	T21247	SUHAS S	MEE
100	T21248	ARPIT KSHIRSAGAR	MEE
101	T21249	PRATUL KANT CHOUDHARY	MEE
102	T21250	AAYUSH MITTAL	MEE
103	T21251	CHAYAN MAZUMDAR	MEE
104	T21252	NITESH KUMAR	MEE
105	T21253	NAMEET HITENDRAKUMAR DALAL	MEE
106	T21254	VIJAY KUMAR PATEL	MEE
107	T21255	RITESH PATRE	MEE
108	T21256	MOHAMMAD FAISAL KHAN	MEE
109	T21257	UMME RUMMAN	MEE
110	T21258	AVINASH YADAV	MEE
111	T21259	NEHA KHOKHER	MEE
112	T21260	DEEPAK KUMAR SAH	MEE
113	T21281	SUBHRAJIT ROY	STE
114	T21282	TARUN KUMAR	STE
115	T21283	DEEPAK KUMAR	STE
116	T21284	GAURAV SHARMA	STE
117	T21285	ROHIT KACHHAWA	STE
118	T21286	KALA J PRASAD	STE
119	T21287	GUNTROTHU SAI MANIKANTA	STE
120	T21288	ABHISHEK SEMWAL	STE
121	T21289	AJEY SINGH	STE
122	T21290	MD ARMANUL HODA	STE
123	T21291	PRASAD PRADEEPRAO	STE

		DESHMUKH	
124	T21292	DEEPAK BHARDWAJ	STE
125	T21293	ANURAG BARTHWAL	STE
126	T21294	VIKAS PRASAD	STE
127	T21295	HIMANSHU RANA	STE
128	T21296	BHAWESH LOHANI	STE
129	T21311	PAL AKASH GYANPRAKASH	FTE
130	T21312	AYUSH SAHU	FTE
131	T21313	SHUBHANKAR SINGH	FTE
132	T21314	ANKUSH KASAUDHAN	FTE
133	T21151	MEGHANA KUSHWAHA	Biotechnology
134	T21152	RITAMA BASU	Biotechnology
135	T21153	VISHWAJEET RAJ	Biotechnology
136	T21154	NANCY CHOUDHARY	Biotechnology
137	T21155	JENIFER JULIA S	Biotechnology
138	T21156	DIPANJANA DOLUI	Biotechnology
139	T21157	AAKASH RAM KARAN VERMA	Biotechnology
140	T21158	SWETA MONDAL	Biotechnology
141	T21159	JYOTIRMAYEE M K SAHOO	Biotechnology
142	T21160	JITESH ADWANI	Biotechnology
143	T21161	SAUMYA SHUKLA	Biotechnology
144	T21162	SANDEEP VEDANARAYANA M S	Biotechnology
145	T21163	VIPIN KUMAR KUMAR JHA	Biotechnology
146	T21164	NANDHANA E	Biotechnology
147	T21165	ARJITA ROY	Biotechnology
148	T21166	RAJ KARAN PANDEY	Biotechnology
149	T21167	DEEPA MEHTA	Biotechnology
150	T21169	SHUBHAM KUMAR ABHISHEK	Biotechnology

(e) **Provisionally admitted students in M.A.:**

Sl.No.	Roll No.	Name
1	A21001	ABHISHEK PRIYADARSHI
2	A21002	AVINASH SHARMA
3	A21003	DISHA KHURANA
4	A21004	DIVYAL BHUSHAN GUPTA
5	A21005	LALITA WALDIA
6	A21006	MADHAVI PALEPU
7	A21007	NITIN DHIMAN
8	A21008	SAMPOORNA SARKAR
9	A21009	SHALINI JOSE
10	A21010	SUSHIL CHAKMA
11	A21011	TARUN KUMAR
12	A21012	SHASHI RAJ
13	A21013	MADKE NEERAJ MANOHAR
14	A21014	SHELJA
15	A21015	SHEETAL PRIYADARSHINI
16	A21016	MITHUNA P M
17	A21017	NANDINI SINGH
18	A21018	KUMARI SUMAN
19	A21019	SHREYA SHARMA

20	A21001	ABHISHEK PRIYADARSHI
21	A21002	AVINASH SHARMA

(f) Provisionally admitted student in I-Ph.D. in Physics:

Sl.No.	Roll No.	Name
1	DI-21001	KARTIK MADAN

(vii) Withdrawal from the programme during 18th June – 3rd September, 2021:

The following students resigned and requested for withdrawal which was recommended by their Faculty Advisor/Guide/DC/School Chair:

Sl.No	Roll No.	Student Name	School/ Branch	Program	Date of Joining	Date of Resignation Accepted
1	B20003	Akshita Garg	Bio-Engg.	B.Tech	September, 2020	03rd September, 2021
2	B20076	Aditya Maheshwari	SCEE	B.Tech	September, 2020	18th June, 2021
3	B20107	Kamlesh	CSE	B.Tech	September, 2020	03rd September, 2021
4	B20250	Kishita	EP	B.Tech	September, 2020	03rd September, 2021
5	T19026	Praveen Kumar	SE	M.Tech.	01st August, 2019	26th August, 2021
6	T20204	Diwakar Sinha	SCEE	M.Tech	16th September, 2020	23rd August, 2021
7	T21002	Chandan Kumar	SCEE	M.Tech	9th August, 2021	23rd August, 2021
8	T21081	Sanchayan Das	SCEE	M.Tech	9th August, 2021	23rd August, 2021
9	T21083	Batchu Sri Harshitha	SCEE	M.Tech	9th August, 2021	23rd August, 2021
10	T21084	Rounak Chakraborty	SCEE	M.Tech	9th August, 2021	23rd August, 2021
11	T21219	Sharique Hussain	SE	M.Tech.	9th August, 2021	03rd September, 2021
12	T21281	Subhrajit Roy	SE	M.Tech.	9th August, 2021	26th August, 2021
13	V20068	Piyush Dixit	SBS	M.Sc.	16th September, 2020	31st August, 2021
14	S20003	Adarsh Prakash Pandey	SCEE	M.S.	16th September, 2020	03rd September, 2021
15	S20019	Aqif Khyrsheed Bhat	SE	M.S.	15th February, 2021	25th August, 2021
16	S21017	Shubham	SCEE	M.S.	9th August, 2021	23rd August, 2021
17	D16065	Rajneesh Kashyap	SBS	Ph.D.	1st February, 2017	31st August, 2021
18	D18020	Anmol Jalali	SE	Ph.D.	01st August, 2018	30th June, 2021
19	D20016	Ayishe Sanyal	SE	Ph.D.	16th September, 2020	17th July, 2021

| 20 | D20044 | Apuroop Kumar Bhattaram | SCEE | Ph.D. | 15th February, 2021 | 18th June, 2021 |
| 21 | D20048 | Siddhant Kumar | SCEE | Ph.D. | 15th February, 2021 | 25th August, 2021 |

(viii) **Termination/Cancellation from Ph.D./PG Programme during 24th June – 6th September, 2021):**

Sl.No	Roll No.	Student Name	School	Date of Joining	Programme	Date of Termination	Reasons
1	D15009	Tushar Kant Swain	SE	27th July, 2015	Ph.D.	24th June, 2021	Not reported/not paid the fee/Unsatisfactory performance
2	T17142	Suman Kumar	SCEE	12th August, 2017	M.Tech.	6th September, 2021	Minimum CGPA requirement to continue the programme not completed and Programme duration was also expired
3	V19063	Deepak Kumar	SBS	1st August, 2019	M.Sc.	17th July, 2021	Not reported/not paid the fee/non-completion of course requirement
4	D19061	Nived Pareek	SCEE	3rd February, 2020	Ph.D.	17th August, 2021	Unsatisfactory performance

(ix) **Conversion from Ph.D. to M.S.(by Research) programme:**

Sl.No	Roll No.	Student Name	School	Date of Joining	Date of Conversion
1	D17040	Raktim Bhattacharya	SCEE	1st February, 2018	17th August, 2021

(x) **Provisional Certificate issued to M.S./I-Ph.D./Ph.D. scholars (after 8th Convocation):**

On completion of all requirements of M.S./Ph.D Provisional Degree Certificates have been issued to following students:

Sl.No	Roll No.	Student Name	Programme	School	Date of Joining	Provisional Certificate issued on
1	S17012	Deepak Kumar Singh	M.S.	SE	1st February, 2018	12th August, 2021
2	S18010	Anurag	M.S.	SE	01st August, 2018	17th July, 2021
3	S18013	Neeraj Kumar Singh	M.S.	SE	1st August, 2018	27th July, 2021
4	S20008	Dikshita Nath	M.S.	SE	1st February, 2017	28th July, 2021

5	PTS1801	Rahul Dogra	Part-time M.S.	SCEE	26th July, 2018	27th July, 2021
6	DI1505	Saravanan R	I-Ph.D.	SBS	17th August, 2015	27th July, 2021
7	D14001	Fauzul Mobeen	Ph.D.	SBS	01st August, 2014	08th July, 2021
8	D14005	Archana Sharma	Ph.D.	SCEE	01st August, 2014	08th July, 2021
9	D15008	Gaurav Tripathi	Ph.D.	SE	27th July, 2015	24th July, 2021
10	D15050	Gaurav Sharma	Ph.D.	SCEE	01st February, 2016	31st August, 2021
11	D15052	Mona Subramaniam A	Ph.D.	SCEE	01st February, 2016	17th July, 2021
12	D15053	Monika Sharma	Ph.D.	SCEE	01st February, 2016	08th July, 2021
13	D15061	Tarun Kumar	Ph.D.	SE	16th February, 2016	08th July, 2021
14	D16025	Vikas Kumar	Ph.D.	SBS	3rd August, 2016	11th August, 2021
15	D16027	Avantika Singh	Ph.D.	SCEE	03rd August, 2016	18th June, 2021
16	D16060	Prem Singh	Ph.D.	SBS	1st February, 2017	2nd August, 2021
17	D16069	Abhinav Choubey	Ph.D.	SBS	1st February, 2017	29th July, 2021
18	D17048	Gurpreet Singh	Ph.D.	SE	1st February, 2018	12th August, 2021
19	D17052	Saurav Sharma	Ph.D.	SE	1st February, 2018	23rd July, 2021
20	D16016	Ashish Kumar	Ph.D.	SBS	1st August, 2016	13th September, 2021
21	D16075	P Vineeth Daniel	Ph.D.	SBS	1st February, 2017	13th September, 2021

(xi) Transfer of courses and credits done by the scholar at other Institute to IIT Mandi programme:

Sl.No	Roll No.	Student Name	Programme	School	Date of Joining	Institute Name
1	PTD1902	Rajesh Kumar	Ph.D.	SBS	23rd August, 2019	IIT Kanpur

Confidential

Item No. 32.17: The BoA in the 41st meeting held on 13th August, 2021 has approved following new courses:

Sl. No.	Course No.	Course Title	Credits (L-T-P-C)
1	BE 203	Enzymology and Bioprocessing	2-0-2-3
2	BY 527	Gene silencing and genome editing: principles and applications	3-0-0-3
3	CE 403	Wastewater Engineering	3-0-0-3
4	CE 512	Advanced Soil Mechanics	3-0-0-3
5	CE 513	Advanced Foundation Engineering	3-0-0-3
6	CS 563	Scalable Data Science	3-1-0-4
7	CY 647	Organic Spectroscopy	3-0-0-3
8	EE 582	Nonlinear Analysis and Control of Power Electronic Converters	3-0-0-3
9	EE623P	Practicum on Digital Control of Power Electronics and Drives	1-0-4-3
10	EE 641	Next Generation Wireless Technologies	3-0-0-3
11	PH 604	Optical Properties of Solids	3-0-0-3
12	CS 550	Computer Graphics and Geometric Design	2-0-2-3
13	CS 611	Program Analysis	3-1-0-4
14	CS 662	Mobile Virtual Reality and Artificial Intelligence	3-0-0-3
15	EE 583	Smart Grids	3-0-0-3
16	EE 584	Power System Protection	3-0-0-3
17	EE 630	HVDC Transmission and Flexible AC Transmission Systems	3-0-0-3
18	EP 401P	Engineering of Instrumentation	1-0-5-4
19	EP 402P	Engineering Physics Practicum	1-0-5-4
20	PH 606	Quantum Field Theory	3-0-0-3
21	BE 301	Biomechanics	3-0-2-4
22	BE 303	Applied Biostatistics	3-0-2-4
23	BE 304	Bioinformatics	2-0-2-3
24	CE 561	The Science of Climate Change	3-0-0-3
25	CS 672	Advanced Topics in Deep Learning	3-0-2-4
26	EE 551	Applied Photonics for Scientists and Engineers	2-1-0-3
27	IC 131	Applied Chemistry for Engineers	2-0-2-3
28	EE 560	Reconfigurable Computing	3-0-2-4
29	ME 310*	System Dynamics and Controls	3-0-0-3
30	ME 501P	Practicum-I	0-0-6-3
31	ME 514	Fundamentals of Multiphase Flow	3-0-0-3
32	ME 516	Polymer Technology for Engineers	3-0-0-3
33	ME 627	Mesh Independent Computational Techniques	3-0-0-3
34	ME 628	Impact Mechanics	3-0-0-3
35	CS 514	Data Structures and Algorithms-II	3-0-2-4
36	CS 515	Advanced Computer Science Practicum	2-0-2-3
37	EP 302	Computational Methods for Engineering	2-0-2-3
38	EP 403	Physics of atoms and molecules	3-0-0-3
39	EE 528	Modelling and Analysis of Electrical Machines	2-0-2-3
40	ME 517	Advanced Analytical Techniques for Engineers	3-1-0-4
41	ME 518	Conduction and Radiation	3-0-0-3

The Senate may kindly note the above.

PART – 'B'

Item No. 31.18: **Issues to be discussed by the Senate without Student Members being present.**

-None-

Double Major proposal
at IIT Mandi

Abstract

A double major at IIT Mandi is proposed. Under this option, the student will be able to major in a secondary branch, along with a BTech (or dual degree -- BTech+MTech) in their primary branch (which the student got during selection at IIT Mandi / after branch change). For this the student will be required to complete additional coursework, which will include core and elective courses, in the secondary discipline. An additional one year, typically, will be permitted for the student to complete these additional requirements. A degree certificate stating B.Tech. (or Btech+MTech) in <ABC> with second Major in <XYZ> shall be awarded. This is practised at three other IITs as of date, including IIT Kanpur, IIT Gandhinagar and IIT Hyderabad.

Rationale

- Common modules of curriculum for all IIT Mandi engineering students are:
  - IC compulsory (54)
  - ISTP (4)
  - HSS core (13)
  - HSS electives (5)
  - Free electives (22)
- Fair amount of fundamental and common subjects amongst the engineering curriculum (98 credits) - this excludes the IC baskets of 9 credits.
- Disciplines are distinguished by B.Tech. project (8 credits), Discipline core (33) and Discipline electives (12). Thus, a total of 53 credits.
- Some additional work can make a student eligible for major requirements of two disciplines.

Note:

- A double major is not a dual degree (BTech + MTech).
- A double major is not a double degree (two BTechs). This is because the requirements of a second BTech degree (53 credits) would also include a second B.Tech. project, and is much more than that of the proposed second major (36-40 credits).

Benefits:

- Students with a second major in "X" can sit for intern/placement in "X" profiles too.

- Alleviates the pressing need of individual students to change their branch to the generally "most preferred" branch. This will reduce the stress on the students significantly.
- Double major will impart multidisciplinary research, increasing the scope for higher education in interdisciplinary fields.

Application

1. Eligibility criteria: CGPA $\geq$ 7.0, not more than one F grade. If someone is struggling with the parent branch, a double major will be an added pressure.
2. Application period:
   a. At the end of 4th and 6th semester for four-year BTech programs. Applications will be considered subject to the availability of seats in the program.
   b. At the end of 6th and 8th semester for five-year BTech+MTech dual degree programs. Applications will be considered subject to the availability of seats in the program.
3. In case the number of applicants exceeds the number of available vacancies, the process of selection into the second major shall be determined by a faculty committee constituted by the Dean academics for this purpose.
4. The Dean (Academics) shall decide a cap on the maximum number of students who can avail this option for any particular (second) discipline, based on the advice tendered by the respective Schools/PFG Chairs.
5. Student applications must be recommended by the Faculty Advisor.

Courses/Baskets

1. A basket of courses that contribute towards the second major is identified by the PFG of each (second) discipline that may comprise some combination of discipline core and discipline elective courses from the second discipline. The PFG of the (second) discipline may also list an additional set of prerequisite courses in some cases. A minimum number of core credits may be decided for all second majors.
2. Between 36 and 40 credits from this basket need to be completed by the student.
3. For the purpose of completion of the 36-40 credits required for the second major, a maximum of 12 FE credits may be used from the parent program. The remaining FE credits from the parent program should be applied towards courses that do not count towards the second major basket requirement.
4. Students may start accumulating course credits in the form of additional courses (even before they officially enrol into a Double Major program) and convert them to be counted in favour of Double Major requirements at the time of enrolling into this program. This will help them learn the disciplines gradually over the five years and also reduce load on the administration while offering courses to the students without clashes.

5. Courses that are a part of the common core (including HSS)/Discipline Core/Discipline Elective for a student's parent discipline cannot count towards their second Major requirement.
6. If a core/foundation course of second discipline Y is a part of parent program X's discipline core/elective:
    a. Eg:- DSE student wants to second major in CSE.
    b. "CS202 - Data Structures & Algorithm" is a discipline core for both CSE and DSE.
    c. Solution: Compensation of such credits can be done through:
        i. Possible replacements (from a pool of courses), suggested by PFG of the second discipline
        ii. Courses that count as DE for the second discipline Y

Pass/Fail rules

The enrollment into a second major shall not influence the Pass/Fail credit requirements of the parent discipline. However, it may be noted that none of the courses that count towards the second major may be taken under the Pass/Fail category

Completing the program

Only one CGPA will be reported on all official documents, calculated upon the performance of the student in all courses credited, including the requirement of BTech and second major. The overall grade report, in addition to the primary discipline courses, will also display the discipline of the second Major and courses done to complete the second Major along with the grades awarded.

Voluntary opting-out from the program is not allowed.

Termination of the program

1. After enrolling into a double major program, if a student gets an "F" grade in two or more than two courses, his/her enrollment to the double major program will be terminated.
2. The second Major part of the program will be automatically discontinued at the end of the tenth semester if the student is not able to complete the requirements of double major.
3. In the case of termination, the courses which were credited for completion of the second major basket can be counted towards the Free Electives (if required).

Felicitation and Awards

The double major program is a 5-year UG program. Hence, the following is proposed:

Foundation Day

A program-wise award for outstanding academic excellence will be given at the 4th year for the students seeking Double Major in addition to a 4-year BTech degree, based on their parent program.

Convocation

Four-year BTech students enrolled in the Double major program admitted into the institute in year x compete with 4-year BTech students admitted in year x + 1 for the following medals:

- President of India Gold Medal
- Institute Silver Medals
- Rani Gonsalves Memorial Medal
- Balasundaram Endowment Prize in German
- Director's Gold medal

CnP rules

BTech students doing double major will be allowed to sit for placements in the 5th year, not 4th. BTech + MTech dual degree students will be allowed to sit in the placements in the 6th year, not 5th. CnP will have the final say in any case.

Implementation:

The following types of programs can be taken as second major:
- All engineering programs (CE, ME, CSE etc.)
- Science programs (Maths, Physics, Chemistry etc.)
- Engineering science (EP)

All participating PFGs will be requested to develop a template of courses for second major in their discipline.

Important notes:

1. The B.Tech. (Honours) program will only be applicable to the parent Major discipline, and not the second Major discipline. Furthermore, no waiver of Free Elective credits shall be provided to the student, in order to remain consistent with the pre-existing B.Tech. (Honours) requirement.
2. A student cannot undertake a second Major and minor in the same discipline.
3. Internship rules (including the time of internship) shall be the same as that for the regular B.Tech. program.
4. Timely completion of the course and credit requirements will solely be the students' responsibility.

References

For IIT Kanpur (since 2009):
- Common info: https://www.iitk.ac.in/doaa/data/Double-Major.pdf
- Course template: https://www.iitk.ac.in/doaa/data/Course-Template-B.Tech-BS.pdf
- Award rules: https://iitk.ac.in/sspc/sspc-convocation-awards

For IIT Hyderabad (since 2014):
- Common info: Page 27, point 4.3.4 https://ai.iith.ac.in/files/20200306-Academics-Handbook.pdf
- Course template: https://www.iith.ac.in/academics/assets/files/pdf/20200227-Courses-of-Study-Bachelors.pdf
- https://www.cse.iith.ac.in/assets/pdf/CSE-Minor-DoubleMajor-Curriculum-Aug2016.pdf

For IIT Gandhinagar:
- https://iitgn.ac.in/admissions/dmbtech

Comparison matrix

	IIT K	IIT Hyd	IIT Gn	IIT Mandi proposed
Disciplines for 2nd major	All engineering programs, science programs (PCM, Eco)	All engineering programs; Maths, Physics	All engineering programs only	All engineering programs; all science programs
Application	At the end of 4th or 7th sem	Anytime after 3rd sem	Anytime after 3rd sem	Anytime after the end of 4th semester

Seats/Cap	Not mentioned	At dept discretion (10% for CSE)	10 seats or 20%, whichever is higher	To be discussed
Merit/CGPA requirement at time of application	Min 7.0 CGPA	No CGPA and no backlog	Min 6.5 CGPA and no fail grade (F or E grade)	Min 7.0 CGPA and not more than one F grade
Credits allowed to be used from parent dept graduation requirements *, for the second major requirements (or credit waiver)	A maximum of 36 IIT K FE credits may be used (out of 54) == 66% of FE credits == 12 IIT Mandi credits	Not mentioned	Exactly 4 IIT Gn FE credits must be used (out of 16) == 25% of FE credits == 3 IIT Mandi credits	A maximum of 12 FE credits may be used (out of 22) ; == ~50% of FE credits
Credits for 2nd major	~100 IITK credits == 40 IIT Mandi credits	~24 IITH credits == 36 IIT Mandi credits	~54 IITGn credits == 50 IIT Mandi credits	36-40 credits

* Double Major students are allowed to use some FE slots for the second Major requirements.
  1. For IIT Gn: **Exactly** 4 (out of 16 total) credits are **compulsorily** waived from the parent department graduation requirements to be used for the second Major requirements of Double Major students.
  2. For IIT K: **At most** 36 (out of 54 total) credits may be waived from the parent department graduation requirements to be used for the second Major requirements of Double Major students.
  3. For IIT H: Not mentioned
  4. IIT Mandi proposed: **At most** 12 (out of 22 total) credits may be waived from the parent department graduation requirements to be used for the second Major requirements of Double Major students.

Appendix

Points to be discussed:
  1. Convocation Award rules: discuss with the Awards committee
     o Requirement for a double major is ~ 184 credits, and for Dual degree it is 206 credits. Do we require to normalize the credits for the purpose of CGPA calculation during felicitation of awards? For discussion with the Chairperson, Awards Committee.
  2. R.3.3 and R.3.4 (threshold credits beyond which extra courses do not count towards CGPA)

- What should be the maximum number of credits beyond which extra courses will not count towards the CGPA calculation? For discussion with the Academic Section.

3. CnP chair: placement registration for double major students in the 5th year for BTech and 6th year for dual degree students.

Proposal

for

Master of Technology in Electric Transportation

Indian Institute of Technology Mandi,
Himachal Pradesh, India

Name of the Degree Program:

Master of Technology in **Electric Transportation**

Abbreviation

Master of Technology is abbreviated as M.Tech.

Categories of Admission:

Candidates will be admitted to the M.Tech. Program of the Institute under one of the following categories:

i) Regular full-time students with Half-teaching Research Assistantship (HTRA) assistantship

ii) Regular full-time students without HTRA assistantship

iii) Full time sponsored students by the Industries, established Institutes/R&D Organizations/National laboratories without HTRA assistantship.

Duration:

The duration of this program is two years. Each year consists of two semesters, summer and winter terms. However, Half-teaching Research Assistantship (HTRA) duration will be governed as per Institute norms.

Credits to be earned:

The students have to earn minimum of 70 -72 credits for the degree of Master of Technology in this specialization. For more details on credit distribution please refer to ordinance and regulations for M.Tech./M.Sc. of IIT Mandi.

Eligibility:

a) Candidates who have qualified for the award of Bachelor's degree in Engineering / Technology with minimum first class or 60% aggregate marks (or Equivalent CGPA) in all the four yearsfrom a recognized University or Institute in **Electrical Engineering (EE), Electrical & Electronics Engineering (EEE), Instrumentation and Control, Electronics & Communication, Mechanical Engineering, Automobile,Production, Aeronautical Engineering**and who have qualified and have a valid score in Graduate Aptitude Test in Engineering (GATE) in the **EE/ME**disciplinesare eligible to apply for admission to the this program.

b) For all B.Techs from IITs graduated with a CGPA of 8.0 or above, the requirement of GATE qualification is waived off.

c) A student sponsored by a recognized R&D organization, academic institution, government organization or industry with minimum first class or 60% aggregate marks (or Equivalent CGPA) in their Bachelor's degree in the aforementioned disciplinesare eligible to apply for this program on a full-time basis. The Institute does not provide any assistantship to such students.

d) A candidate with Associate Membership of Professional Bodies equivalent to B.Tech in the aforementioned disciplines with minimum first class or 60% aggregate marks (or Equivalent CGPA), as approved by the Senate and having valid GATE score in **EE/ME** stream shall also be eligible to apply for admission to this program with assistantship, subject to regulations approved by the Senate.

For more details on eligibility criteria please refer to ordinance and regulations for M.Tech./M.Sc. of IIT Mandi.

Number of Seats:

The number of seats shall be as approved by the Senate.

Assistantship (Fellowship/Scholarship):

The award of assistantship shall be in accordance with prevailing norms of the Institute.

Award of Degree:

Award of this M. Tech. degree shall be in accordance with the regulation of the Senate in relation to the requirements of the given program.

Campus Stay:

Students admitted to this program are required to stay in campus and to participate and complete all requirements of the program.

Exception:

Any exception to above clauses will require approval of the Senate or by the Chairman, Senate.

Note: For detailed information, please refer to ordinance and regulations for M.Tech./M.Sc. of IIT Mandi.

Motivation and objectives:

India, along with several other rapidly growing economies, has recognized the imminent need for electrification of transport systems. The benefit derived from this transition will two-fold: first, it will help the country to reduce the dependence on fossil fuel that is primarily imported and has significant budgetary implications; second, with a penetration of clean fuel and renewables in the electricity generation sector, this transition will be able to contribute to mitigation of greenhouse emissions. To this end, the Government (GoI) of India has already put schemes, e.g., FAME, in action, and is actively looking for collaboration with the relevant industries and academia. While the industry is expected to focus on the production and distribution of electric vehicles, the responsibility of training the manpower for this cause is assigned to the academia.

The M.Tech in Electric transportation at IIT Mandi has been designed in alignment with the objectives of the initiative taken by the GoI and to cater to the growing demand of skilled personnel in the EV industry---both the new EV entrepreneurs and the existing ones.

Objectives of the program:

- Equipping the students with both the conceptual and practical knowledge pertaining to the electric transport industry.

- Exposing the students to cutting-edge research on electric transportation through various course projects, systems design (winter/summer short project), and dissertation.

- Enhancing their employability in the EV industry by engaging them in solving problems that originated in the industry in their year-long dissertation.

39

Course Structure

Overall Curriculum Structure:

Sr. No.	Curriculum Structure Details	Credits
1.	Discipline Core Courses (DC)	27
2.	Discipline Electives (DE)	06
3.	Open Electives from outside discipline (OE)	06
4.	Technical Communication(TC)	01
5.	Post Graduate Project (PGP-I and PGP-II)	15+15=30
	Total No. of Credits	**70**

SuggestedCourse Sequence:

FIRST SEMESTER (1st Sem)

Title of the course	L-T-P-C	Remarks
Power Electronic Applications in Electric Transportation	3-0-0-3	DC
Electrical Machine and Drives in Electric Transportation	3-0-0-3	DC
Laboratory course on Power Electronics and Electrical Drives	0-0-3-2	DC
Vehicle Design and Dynamics	3-0-0-3	DC
Modeling, Simulation and Control of HEV	3-0-0-3	DC
Laboratory course on Vehicle Design and Control	0-0-3-2	DC
Technical Communication	1-0-0-1	TC

Summer/Winter Break

Title of the course	C	Remarks
Systems Design: EVs	0-0-3-2	DC

(40)

SECOND SEMESTER (2ⁿᵈSem)

Title of the course	L-T-P-C	Remarks
Embedded Systems and IoT for E-Transportation	3-0-0-3	DC
Laboratory course on Embedded Systems and IoT for E-Transportation	0-0-2-1	DC
Energy Storage Technologies	3-0-0-3	DC
Laboratory course on Energy Storage Technologies	0-0-3-2	DC
Discipline Elective- I	6	DE
Discipline Elective II		DE
Open Elective-I	6	OE
Open Elective - II		OE

THIRD SEMESTER (3rd Sem)

Title of the course	L-T-P-C	Remarks
PGP - I	0-0-30-15	
Total	15	

FOURTH SEMESTER (4ᵗʰSem)

Title of the course	L-T-P-C	Remarks
PGP - II	0-0-30-15	
Total	15	

- **Open Electives**

  Open electives are to be taken from outside the discipline of program and should be at least of 6 credits in total[As per the IIT Mandi M Tech ordinance]

List of Discipline Electives:

- Impact of E-vehicle on Power Grids
- Special Electrical machine
- Wide band gap devices for power electronics applications
- Nonlinear Analysis and Control of Power Electronic Converters
- Smart Grids
- Nonlinear Stability and Control
- Solar Photovoltaic Energy Systems
- Power quality problems and mitigation techniques in Microgrids
- Computer Aided Design of Power Electronic systems and Electrical Drives
- Finite Element Method
- Computational fluid dynamics
- Mechanical Vibration
- Design of Energy System
- Electric Vehicles: Economics, Policy and Social Embedding

A few more electives will be added as DEs.