Minutes of the 58th meeting of the Senate of IIIT-D held in Hybrid mode on May 18, 2023 at 03.00 PM (in-person/video-conference).

The following were present:

·	Prof. Ranjan Bose	Chairman
·	Prof. Basabi Bhaumik	External Member
·	Prof. Dheeraj Sanghi	External Member
.	Prof. Kaushik Saha	External Member
.	Dr. Mythili Vutukuru	External Member
.	Dr. Lipika Dey	External Member
·	Dr. Gautam Shroff	External Member
·	Prof. Pushpendra Singh	Ex-Officio Internal Member
·	Dr. Anuj Grover	Ex-Officio Internal Member
·	Prof. Sujay Deb	Ex-Officio Internal Member
·	Dr. Paro Mishra	Ex- Officio Internal Member
·	Prof. Anuradha Sharma	Ex-Officio Internal Member
.	Dr. Sumit J Darak	Ex- Officio Internal Member
.	Dr. Debajyoti Bera	Ex-Officio Internal Member
.	Dr. Vinayak Abrol	Ex-Officio Internal Member
.	Dr. Gayatri Nair	Ex-Officio Internal Member
·	Dr. Pravesh Biyani	IIITD Faculty
·	Dr. Sneh Saurabh	IIITD Faculty
.	Dr. Tavpritesh Sethi	IIITD Faculty
.	Dr. Anmol Srivastava	IIITD Faculty (Spl. Invitee)
.	Dr. Venkata Ratnadeep Suri	IIITD Faculty (Spl. Invitee)
.	Dr. Smriti Singh	IIITD Faculty (Spl. Invitee)
.	Dr. Arjun Ray	IIITD Faculty (Spl. Invitee)
.	Dr. Syamantak Das	IIITD Faculty (Spl. Invitee)
.	Mr. Anupam Saronwala	Advisor
.	Mr. Utkarsh Gupta	Alumni
·	Dr. Ashok Kumar Solanki	Secretary
·	Mr. K.P. Singh	Academic In-charge
.	Ms. Anshu Dureja	Deputy Manager (Academics)
·	Ms. Nisha Narwal	Asstt. Manager (Academics)

FIFTY-EIGHTH (58th) MEETING OF THE SENATE OF IIIT-DELHI (HELD IN HYBRID MODE THROUGH ZOOM ON MAY 18, 2023)

MINUTES OF THE MEETING

58.1 WELCOME AND OPENING REMARKS BY THE CHAIRPERSON

At the outset, the Chairman, Senate welcomed all the members/special invitees to the 58th meeting of the Senate participating in-person or online. Thereafter, he requested Prof. Pushpendra Singh, the Dean of Academic Affairs to present the agenda items.

58.2 CONFIRMATION OF MINUTES OF THE 57th MEETING OF THE SENATE

The Dean of Academic Affairs informed that no comments were received on the Minutes of the 57th meeting of the Senate held on February 17, 2023. However, after the circulation of the minutes of the 57th meeting the following changes/corrections were made in the minutes already circulated:

(1) Item No. 57.5.1.1 – For the admission year 2023-24, the number of seats shown against B.Tech. CSD, under the JAC column i.e. 35+25 was corrected to read as 35.

(2) Item No. 57.5.3.4 – The Senate had approved the changes in the Academic Calendar for Winter 2023 Semester. However, recently the NBA confirmed its visit dates (15th April – 17th April) for the accreditation of B.Tech. CSE & M.Tech. ECE programs where the classes were required to be functional.

It was noted that in the current Academic Calendar for the Winter 2023 semester, we had two Saturdays (i.e. 18th March and 1st April) as working days. Because of the above visit, it was decided to have them as non-working (off days). Accordingly, the 15th April (Saturday) was declared to have the Tuesday Timetable (18th March schedule) and 16th April (Sunday) was declared to have the Friday Timetable (1st April schedule). The above change was announced to students with prior approval from the Chairman of, Senate.

The Senate noted the above changes and confirmed the Minutes of the 57th meeting as circulated.

Action: Academic Section

58.3 ACTION TAKEN REPORT

The Dean of Academic Affairs apprised the members of the action taken on the various decisions taken by the Senate in its 57th meeting held on February 17, 2023. The Senate noted the position.

58.4 ITEMS FOR INFORMATION/ RATIFICATION

58.4.1 *General Matters*

58.4.1.1 To report the status of Cycle 3 NAAC accreditation

The Dean of Academic Affairs informed that for Cycle 3 NAAC accreditation, the AQAR for the AY 2020-21 has been submitted on February 21, 2023 and AQAR for AY 2021-22 is under preparation.

Action: Academic Section

58.4.1.2 To report the status of Suit No. CS SCJ/116/19, filed by Nikhil Gautam in the District Court Saket South, Saket, District Court, New Delhi

The Senate noted the position.

58.4.1.3 To report the status of the Compliance Affidavit filed by the Institute in the matter of Courts on its Motion in re: Suicide Committed by Sushant Rohilla, Law Student of I.P. University (W.P.(CRL) 793/2017)

The Senate noted the position.

58.4.1.4 To report the status of Writ Petition [WP (C) 8397/2022] filed by Shivam Chaudhary & Ors. in the Hon'ble High Court of Delhi seeking admission to 2nd year of the B.Tech. programs through the Lateral Entry process

The Senate noted the position.

58.5 ITEMS FOR DISCUSSION AND CONSIDERATION

58.5.1 UG Matters

58.5.1.1 To consider the recommendation of the Academic Affairs Committee (AAC) regarding the review of the changes proposed by SSH Department in the Regulations of Minor in Entrepreneurship

The Dean of Academic Affairs apprised the members of the background and informed that the Academic Affairs Committee (AAC) in its 27th meeting held on April 14, 2023 considered a proposal of the SSH Department for review of changes proposed in the Regulations of Minor in Entrepreneurship and observed/recommended as under:

"Prof. Pankaj Vajpayee proposed the following two options for a student to complete the requirements to earn a degree with a Minor in Entrepreneurship:

A B.Tech. student can earn a minor certification in entrepreneurship by completing a total of 24 credits from entrepreneurship courses including a BTP and or IP/IS plus a compulsory apprenticeship.

There are 2 options in the minor program

Option 1	***Option 2***
24 credits of course work	*16 credits coursework*
	8 credit BTP registered under ENT track
Compulsory apprenticeship (pre-approved)	*Compulsory apprenticeship (pre-approved)*

The minor program is designed to provide students with basic training in entrepreneurship and to nudge them towards entrepreneurial ventures and incubation.

Courses for a Minor in Entrepreneurship:

- *Foundations of Entrepreneurship*
- *New Venture Planning (ENT 415 renamed to ENT3xx),*
- *Entrepreneurial Communication (ENT 411)*
- *Creativity Innovation and Inventive Problem Solving (Ent 416/ENT 516)*
- *Social Entrepreneurship (ENT 3xx)*
- *Foundations of Marketing (ENT xxx)*
- *Foundations of Finance (ECO 331/ENTxxx)*
- *Effective Supply Chain for e-commerce (MGT 310)*
- *Entrepreneurial Finance (ENT 413)*
- *Valuation and Portfolio Management (ECO 332/ENTxxx)*
- *Micro-economics (ECO 301),*
- *Healthcare Innovation and Entrepreneurship Essentials (ENT 421/BIO 571*
- *Relevance of Intellectual Property for Startups (ENT 414)*

- *Other courses will be added to this basket on the recommendation of the faculty-in-charge (Entrepreneurship). The request to add a new course will be forwarded to AAC. The AAC will be empowered to add a new course.*

***BTP**: A student can earn a maximum of 8 credits for a BTP. The BTP must be registered under the Entrepreneurship track only.*

***Apprenticeship:** This is expected to be an immersive experience for students during the Summer term (minimum 8 weeks), either working at a startup or towards incubating a startup. The eight-week requirement can also be met by working for a cumulative period of eight weeks during summer + winter break or over 2 summer breaks at the same startup. In case the startup is wound up for any reason whatsoever the student in such a case can do the remainder part of apprenticeship in a new startup. However, in case the startup refuses a student to continue after a break then the period already spent in case it is less than 4 weeks will not be counted towards the fulfillment of the 8-week requirement.*

This should NOT be considered as an internship at any company or organization. Students can enroll for this project only after seeking due approval from the faculty-in-charge of Entrepreneurship. Students can register for an Apprenticeship during the summer term. Apprenticeship is compulsory for an ENT minor.

After detailed deliberation, the AAC agreed to the proposed changes and recommended for approval by the Senate. The change will apply from the next Academic Year. However, for students who are graduating this year, they will be given the option to opt for old or new rules to complete the requirements for a Minor in Entrepreneurship."

During the course of discussions, it was clarified that apprenticeship is compulsory and during apprenticeship, the students will not be permitted to register for any other course in the summer semester. However, the graduating students can be allowed to register in the summer to complete the requirement. The changes made in the regulation for Minor in Entrepreneurship were noted. After detailed deliberation, the Senate approved the recommendation of the AAC. Updated regulations of Minor in Entrepreneurship are placed at **Appendix I**

Action: Academic Section

58.5.2 PG Matters

58.5.2.1 To consider the recommendation of the Academic Affairs Committee (AAC) regarding the review of bucket courses for M. Tech. CSE Program

The Dean of Academic Affairs informed the members that the Academic Affairs Committee (AAC) in its 27th meeting held on April 14, 2023, reviewed the bucket courses for M.Tech. CSE program and observed/recommended as under:

"Dr. Debajyoti Bera, Associate Head, CSE presented the background of the proposal and informed the members that the Department of CSE has reviewed the bucket courses for M.Tech. CSE program. Now there will be no Software bucket. Instead, there will be a new Math bucket. The CSE department also proposed the following:

1) The M.Tech. program should have three core course buckets: Theory, Systems, Math. Each bucket should always contain at least 3 courses.

2) The committee does not propose any change to the current Theory bucket. The students need to take at least one course from this bucket.

3) The Systems bucket should keep only the courses that are related to the foundations of hardware and software systems. Moreover, the courses that the dept. offers should be regular elective courses that are normally offered or planned to be offered every year. As a consequence, the following courses are recommended in the bucket:

Wireless Networks, Computer Architecture, Compiler, Advanced Operating Systems. The students need to take at least one course from this bucket.

4) The Math bucket is intended to build a solid mathematics foundation required to learn advanced courses in the students' streams or other courses in their program. The students are expected to take one or more math courses accordingly. The following courses are recommended:

1. Probability and Random Processes (ECE 501) 2. Linear Optimization (MTH 374/574) 3. Convex Optimization (CSE528). 4. Advanced Linear Algebra (MTH510) (or preferably Graduate Linear Algebra since MTH510 is more advanced than required) 5. Graduate Discrete Mathematics (New) or a new hybrid course on mathematics that covers 2-3 topics. The last course would be particularly useful to the students under the general stream. The students will be required to take at least one course from this bucket.

It was agreed that there should be a provision to add new courses to these three buckets with the approval of AAC.

During the course of discussions, the DoAA informed that Dr. Saket Anand had proposed to include AOMML (Applied Optimization Methods for Machine Learning (ECE666)) course in the Math Bucket but has been suggested to first

have a discussion on the inclusion of AOMML in the Math bucket in the CSE department.

After detailed deliberation, the AAC agreed to the above proposal and recommended it for Senate approval."

After detailed deliberations, the Senate approved the above reocmmendations of the AAC.

Action: Academic Section

58.5.2.2 To consider the recommendation of the Academic Affairs Committee (AAC) for review of M.Tech. CSE Internship Rule

Consideration of this item was deferred to the next meeting of the Senate.

Action: Academic Section/Department

58.5.2.3 To consider the recommendation of the Academic Affairs Committee (AAC) regarding the delay in the Ph.D. thesis evaluation process

The Dean of Academic Affairs apprised the members of the background and informed that the Academic Affairs Committee (AAC) in its 27th meeting held on April 14, 2023, considered the issue of delay in the Ph.D. thesis evaluation process and observed/recommended as under:

"The AAC Chair informed the members that some Ph.D. thesis examiners do not respond even after repeated reminders from the Academic section, PG Chair, and the DoAA. As a result, the thesis defense gets delayed and our students lose postdoc/job offers. Our current Ph.D. regulations allow us to schedule the defense with reports from two examiners in such cases.

After detailed deliberations, the AAC recommended that the Academic Section will maintain a list of all such examiners who inordinately delay in sending the report and keep the Chair PGC informed if these names are nominated by the Advisors.

It was also recommended that after the stipulated timeline for thesis evaluation (as mentioned in the Guidelines), a reminder may be sent every week subject to a maximum of 4 reminders. If two reports are already received, then we will send weekly reminders to the third examiner and wait for about one month for the third report. If the third examiner neither submits the report nor responds to the reminders, then the defense may be scheduled with the two satisfactory Ph.D. thesis reports ((i.e. category A or B). The third examiner should be informed immediately that in the interest of the student, we have decided to go ahead with the Ph.D. defense seminar and that no report is required from his/her side. In this case, the third examiner should not be paid any honorarium."

After detailed deliberations, the Senate approved the above recommendations of the AAC.

The suggestion made by Dr. Gautam Shroff, an external Senate member to provide the video recording of the work done by the student to facilitate the examiners to expedite the report was noted for further discussion at the appropriate forum.

Action: Academic Section

58.5.3 Other Matters

58.5.3.1 To consider the recommendation of the Academic Affairs Committee (AAC) regarding the review of the IIITD Course Description format

The Dean of Academic Affairs apprised the members of the background and informed that the Academic Affairs Committee (AAC) in its 27th meeting held on April 14, 2023 reviewed the existing course description format and observed/recommended as under:

> "Dr. Debajyoti Bera presented this item and apprised the members of the shortcomings of the current course description document which has information that keeps on changing every year (e.g., textbook, weekly schedule, etc.). This creates confusion among students and future instructors as to what is mandatory and what is suggestive. After detailed deliberation, it was decided to divide the course description into two parts:
>
> **Mandatory part** (changes require approval): Name, description, credits, presence of lecture-tutorial-lab components (not necessarily the schedule), Course Objectives, and list of topics.
>
> The "**Suggested plan**" component includes a weekly schedule of labs-lectures-tutorials, (where mentioning the week number in the course plan can be avoided), mapping with COs, books, evaluation plan, etc.; this component is required during course approval to understand the feasibility and intended workload + rigor of a course, but may not be necessary for students (information could be retained for guiding future instructors). Further, guidelines should be laid down for core and elective courses on which components require further approval when modified in a future semester.
>
> Also, it is proposed that the current taxonomy be updated with the revised "Bloom's taxonomy" (Given below) from "Computing Curricula 2020" which has more actions/verbs which will allow more flexibility to design the COs. Further, it is proposed that at least half of the COs associated with any course should use the verbs associated with Analyzing, Evaluating, and Creating levels. The course description template would contain detailed instructions along with examples to guide course designers, and each CO would be checked for adherence to the taxonomy
>
> . *Link to Computing Curricula 2020: https://www.acm.org/binaries/content/assets/education/curricula recommendations/cc2020.pdf*

Levels of Cognitive Skills Based on Bloom's Taxonomy

	B-I	B-II	B-III	B-IV	B-V	B-VI
	Remembering	**Understanding**	**Applying**	**Analyzing**	**Evaluating**	**Creating**
Definitions	Exhibit memory of previously learned materials by recalling facts, terms, basic concepts, and answers.	Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions.	Solve problems to new situations by applying acquired knowledge, facts, techniques, and rules in a different way.	Examine and break information into parts by identifying motives or causes; make inferences and find evidence to support.	Present and defend opinions by making judgments about information, validity of ideas, or quality of material.	Compile information together in a different way by combining elements in a new pattern or by proposing alternative solutions.
Verbs	Choose, Define, Find, How, Label, List, Match, Name, Omit, Recall, Relate, Select, Show, Spell, Tell, What, When, Where, Who, Why	Classify, Compare, Contrast, Demonstrate, Explain, Extend, Illustrate, Infer, Interpret, Outline, Relate, Rephrase, Show, Summarize, Translate	Apply, Build, Choose, Construct, Develop, Experiment, with, Identify, Interview, Make, use, of, Model, Organize, Plan, Select, Solve, Utilize	Analyze, Assume, Categorize, Classify, Compare, Conclusion, Contrast, Discover, Dissect, Distinguish, Divide, Examine, Function, Inference, Inspect, List, Motive, Relationships, Simplify, Survey, Take part in, Test for, Theme	Agree, Appraise, Assess, Award, Choose, Compare, Conclude, Criteria, Criticize, Decide, Deduct, Defend, Determine, Disprove, Estimate, Evaluate, Explain, Importance, Influence, Interpret, Judge, Justify, Mark, Measure, Opinion, Perceive, Prioritize, Prove, Rate, Recommend, Rule on, Select, Support, Value	Adapt, Build, Change, Choose, Combine, Compile, Compose, Construct, Create, Delete, Design, Develop, Discuss, Elaborate, Estimate, Formulate, Happen, Imagine, Improve, Invent, Make up, Maximize, Minimize, Modify, Original, Originate, Plan, Predict, Propose, Solution, Solve, Suppose, Test, Theory

It may also be desirable to upfront list which program objective (POs) this course satisfies; this helps during accreditation and could in general be beneficial to understand where this course fits with respect to a program."

During the course of discussions, Dr. Debajyoti Bera clarified the points raised by the members. He also informed that some more changes have been made to the format and the revised format placed in Appendix II will be shared with the departments for use in the future. After detailed deliberations, the Senate approved the above reocmmendations of the AAC.

Action: Academic Section

58.5.3.2To consider the recommendation of the Academic Affairs Committee (AAC) for replacing the mandatory 2-credit OOPD course

The Dean of Academic Affairs apprised the members of the background and informed that the Academic Affairs Committee (AAC) in its 28th meeting held on May 08, 2023, considered the recommendation of the Department of CSE for converting the mandatory 2-credit OOPD course and observed/recommended as under:

"Ms. Nisha Narwal, AM(Academics) presented the item and informed that feedback from ECE and CB departments has been sought and the same is awaited. During the course of discussions, Dr. Sumit Darak informed that the matter is under discussion in the ECE Department, and clarification is required if the M.Tech. ECE students could take the DPM course instead of the OOPD. Dr. Ganesh Bagler informed that the matter is under discussion and he will update soon. After detailed deliberations, the AAC recommended to the Senate for running two flavors of OOPD courses with C++ as a programming language, viz. OOPD of 2 credits - code ECE600A/CSE600A and OOPD of 4 credits – code CSE600 (2 additional credits). While the MTech (CSE) students will have to take only the 4-credit OOPD course (i.e., CSE600), the MTech (ECE) and MTech (CB) students will have the option to take either 2 or 4 credits of the OOPD course. Prof. Pushpendra Singh was requested to update the syllabus in light of the discussions held in the meeting.

Further, the ECE and CB departments were requested to deliberate the above in their respective department and if they have any objection to the above recommendation, they should inform the AAC latest by 16th May 2023."

During the course of discussions, Dr. Sumit J. Darak informed that the EC department is fine with 2 credits of OOPD course for the graduation requirement. However, students will also have the choice of doing 4 credits of the OOPD course as well. Students will be required to choose amongst the option of 2 credits of OOPD / 4 credits of OOPD course at the time of add/drop period only. Students with 2 credit OOPD course will complete the OOPD course requirement by the Mid Semester and students who will register for 4 credits of OOPD will be required to continue with the course till End Semester Exam. A

student cannot switch credits from 4 credits to 2 credits or visa versa after the add/drop duration.

It was noted that CB Department feel the need of designing a new course as per the CB program requirements. Dr. Tarini Shankar Ghosh and Dr. Jaspreet Kaur Dhanjal have agreed to design and offer a new 2-credit course in replacement of the existing OOPD course. A few names such as Programming for Computational Biologists or Programming for Bioinformatics were suggested.

After detailed deliberations, the Senate approved the above recommendations of the AAC

Action: Academic Section

58.5.3.3 To consider a proposal for revision of criteria for selection of faculty for Prof. Rajeev Sanghal Faculty Fellowship Award

The Dean of Academic Affairs informed the members that the Board of Governors in its 50th meeting held on 09.09.2020 had approved the criteria for the award of Prof. Rajeev Sanghal Faculty Fellowship, placed at Annexure (below).

Subsequently, the external evaluation committee constituted to recommend the name of IIITD faculty for the "Prof. Rajeev Sanghal Faculty Fellowship Award" for the year 2022 had made some observations about the insignificant number of nominations. It was noted by the committee that the number of nominations received from the students was insignificant and needs to be increased in the future. Accordingly, we discussed the matter in consultation with the donor, Prof. Ponnurangam Kumaraguru, (PK) , and came out with the following suggestions to increase the number of feedback from the students and improve the guidelines:

1. Nominations may be invited from IIIrd and IVth year B.Tech, IInd year M.Tech. and graduating Ph.D. students

2. The process for inviting nominations may be started early in the Winter Semester

3. The name of the faculty selected for the fellowship along with his/her one pager write up may be shared with Prof. PK every year through his personal email id.

In view of the above, it is proposed to partially revise the existing criteria for the selection of faculty for Prof. Rajeev Sanghal Faculty Fellowship Award as under:

Existing criteria	**Proposed revised criteria**
Sl. 1 to 5 of the BoG agenda (50.6.1.4)	No change
Sl. 6. Graduating batch+ last two graduating batches will vote i.e. for # class of 2020, class of 2019, 2018 and 2020 will vote. This is to help capture the impact over the medium term.	Sl. 6. Nominations may be invited from IIIrd and IVth year B.Tech,, IInd year M.Tech. and graduating Ph.D. students The process for inviting nominations may be started early in the Winter Semester
Sl. 7 to 10	No change

Sl. 11 -	Sl.11. The name of the faculty selected for the fellowship along with his/her one pager write up may be shared with Prof. PK every year through his personal email id.

During the course of discussions, the DoAA clarified the points raised by the members. After detailed deliberations, the Senate agreed to the above recommendations for partial revision of the existing criteria and recommended the same for approval of the Board of Governors.

Action: Academic Section/BoG

Annexure

50.6.1.4 Criteria for Prof Rajeev Sanghal Fellowship

The board in its 47th meeting noted the receipt of Rs. 25 lakh from Dr. P. Kumaraguru (PK) as funds that he got through the Wombat acquisition. In March 2018, Wombat Security Technologies was acquired by Proof Point for $225 Million. PK's Ph.D. thesis contributed in creating Wombat in 2008. Further to the receipt of funds, Dr. PK decided that out of the funds received, fellowships will be awarded each year to a faculty member having a wholesome impact on students. This fellowship will be called Prof. Rajeev Sangal's Faculty Fellowship.

Given below are the proposed criteria for awarding the fellowship:

1. Teaching - value 3.5 or above (as per the current criteria), Research - 'Good' or above (for 3 past years, i.e. from the time the batch started, E.g. for the class of 2020, August 2016 onwards)
    a. Only regular faculty members are eligible.
    b. Faculty members should have spent at least 3 years with IIIT-D.
    c. Prof. PK will not be eligible for this fellowship.
2. If received once, the same faculty member will not be eligible for the award next year.
3. This fellowship is open to faculty members of all disciplines.
4. Faculty members who qualify for this criterion will be selected further based on the votes of such B.Tech. students as detailed below.
5. Students can choose only one faculty member for the fellowship.
6. Graduating batch + last 2 graduating batches will vote, i.e. for # the class of 2020, class of 2019, 2018, and 2020 will vote. This is to help capture the impact over the medium term.
7. All eligible faculty members will be requested to submit a one-pager on what they think their impact on the campus among students is, including what they will do with the fellowship if they get it.
8. A committee of 3 or 5 faculty members (preferably majority / all being external) will look at the eligible faculty members, with student rating, and the one-pager to decide on the faculty member who will receive the fellowship. For committee formation, DOAA will share a list of up to 10 (minimum 6) external renowned academicians or researchers. The Director will choose any 3-5 members from the list to make the final committee.
9. Only one faculty every year will get the fellowship. It will be given every year on the Foundation Day.
10. At the end of the Academic Year after receiving the fellowship, the recipient will submit a one-pager on what was achieved with the fellowship and this report will be shared with the donor.

58.5.3.4 To consider the recommendation of the AAC for policy guidelines for payment of tuition fees by a sponsored candidate who joined IIITD as a Ph.D. student in the middle of the semester

The Dean of Academic Affairs apprised the members of the background and informed that Mr. Nikhil Bhargava joined the Ph.D. program as a sponsored candidate in the middle of Winter Semester 2023 i.e. on 8th February 2023. Normally a sponsored Ph.D. student has to pay the tuition of Rs. 1,50,000 once a year. Since he joined in the middle of the second semester, the AAC has deliberated over email and recommended for approval of the Senate the policy guideline for sponsored Ph.D. students who join in the middle of the semester. During the course of further discussions, the DoAA clarified the following policy guideline for sponsored Ph.D. students who join in the middle of the semester :

> In the semester that the students start their Ph.D. before the add/drop date, they will be charged a tuition fee for that semester. However, if the students start their Ph.D. after the add/drop date, they will be charged a tuition fee for that semester if they register for course credits (> 0); otherwise, they will only be charged from the next semester. No past fee will be charged from the students starting their Ph.D. in Winter Semester. The students will pay the full fee from the **regular** semester of the next academic year.

After detailed deliberations, the Senate agreed to the above policy guideline/ clarification and desired that the same may be processed further through the FC for recommendation to the Board.

Action: Academic Section

58.5.3.5 To consider the recommendation of the Academic Affairs Committee (AAC) for Incentivising the M. Tech. Thesis

Dr. Sumit J. Darak apprised the members of the background and informed that the Academic Affairs Committee (AAC) in its 28th meeting held on May 08, 2023, considered a proposal of the Department of ECE for Incentivising the M. Tech. Thesis and observed/recommended as under:

> "Dr. Sumit J. Darak presented the proposal to incentivize the M.Tech. Thesis. He informed the members that the proposal recommended in ECE FM aims at motivating the students to stay on campus for four regular semesters. Such students will receive reimbursement of 25% of their M.Tech. fee after completing the M.Tech. Thesis and TAship in four regular semesters. After detailed deliberations, the AAC agreed to the proposal and recommended it for consideration of the FC. Since the matter is common to M.Tech. CSE program as well, the Deptt. of CSE was also requested to discuss the proposal in their department for incentivizing and give their feedback for further consideration, latest by 16th May 2023."

Further to above the Department of CSE has informed that they have discussed the proposal in their department but there was not enough enthusiastic response among the department members. The matter requires in-depth discussion, so as of now, the department is not in favour of adopting the proposal for the CSE department.

After detailed deliberation, the Senate agreed to the proposal, in principle, and desired the ECE department to revise the proposal in light of the suggestions made by the external members.

Accordingly, the ECE department, after deliberation, has submitted the following revised proposal for incentivizing the M. Tech. Thesis, in order to motivate the students to stay on campus for four regular semesters:

- GATE students who stay on campus and do their thesis and TAship in all four regular semesters
- Non-GATE students who stay on campus and do their thesis, and TAship in the fourth semester

will receive reimbursement of 25% of their M.Tech. fee after completing the M.Tech. program. If a student opts for the scholarship scheme and wants to withdraw, the withdrawal can be made only until a fixed date (specified by the academic section). In case of withdrawal, the student will be ineligible for the scholarship/fee refund.

Action: Academic Section/ECE Department

58.5.3.6 To consider the recommendation of the Academic Affairs Committee (AAC) for approval of regulations for the M.Tech. (Research) in CS&E proposed by the Department of CSE

The Dean of Academic Affairs apprised the members of the background and informed that the Senate in its 57th meeting held on February 17, 2023, had considered earlier the recommendation of the Academic Affairs Committee (AAC) for starting an M.Tech. (Research) program in the Department of Computer Science & Engineering (CSE) and had observed/recommended as under:

> "The Dean of Academic Affairs informed the members that the Academic Affairs Committee (AAC) in its 23rd meeting held on November 18, 2022, and 25th meeting held on February 10, 2023, has considered the proposal from the Department of CSE for starting an M.Tech. (Research) program and agreed to the proposal, in principle. Thereafter, Dr. Vinayak Abrol presented the salient features of the revised proposal for M.Tech. (Research) program and answered the queries made by the members. It was noted that 20 GATE seats (out of the total GATE seats of CSE) will be earmarked for this program and the entry eligibility requirement will be one CGPA higher than the regular M.Tech (CSE) program. The structure of this program is the same except that candidates admitted to this program will have to do a mandatory research thesis. They will be paid an Assistantship of Rs.21000/- p.m., (Rs.12400/- from AICTE and Rs. 8600 from the Institute). It was also noted that once admitted to this program, the candidates cannot go back and ask to move to other programs. After detailed deliberations, the Senate agreed to the proposal, in principle, and recommended the approval of the Board of Governors. The Senate also advised taking further necessary action to revise the proposal in the light of the suggestions made by the members, especially about reducing the course load and making the program attractive for prospective students."

He further informed that subsequently, the proposal of the Department of CSE for starting a two-year M. Tech. (Research) Program from the Academic Year 2023-24 along with the above recommendation of the Senate was placed before the Board of Governors for consideration. The Board in its 60th meeting held on 28.03.2023 considered the proposal and decided as under:

> "The Board noted that the proposal for starting M.Tech. (Research) program in the Department of Computer Science and Engineering (CSE) with an intake of 10 seats from the Academic Year 2023-24 was approved by circulation over email. The approval thus accorded may be taken on record and the Institute may proceed further with the program as per the recommendations of the Senate to the proposal of the Department of Computer Science, including the associated financials. Accordingly, the financial provisioning may be incorporated in the budget of the Institute for the Financial Year 2023-24 for 10 seats."

Thereafter, Dr. Vinayak Abrol presented the proposal and informed that pursuant to the above decision of the Board, the Deptt. of Computer Science and Engineering had formulated draft regulations for the M.Tech. (Research) program in CS&E; a copy of the draft regulation was circulated among the AAC members over email for perusal and comments. Based on the feedback received from the members over email the regulation for M.Tech. (Research) program in CS&E has been finalized and recommended for approval of the Senate as per **Appendix III** available at https://docs.google.com/document/d/1Ho0e72JAx3cFI2_kCgZqP9iEklsrd2d0M0J8MZ0QR2Y/edit?usp=sharing.

During the course of further discussions, it was suggested to allow these students for grade improvement similar to the provision available for the regular M.Tech. program. It was also suggested to keep the continuing CGPA of 6.5 instead of 7. However, the graduating CGPA will remain at 7.00 as proposed in the regulation. After detailed deliberations, the Senate agreed to the recommendation of the AAC and approved the regulation for M.Tech. (Research) program in CS&E with the above changes.

Action: Academic Section/FC

58.5.3.7 To consider the recommendation of the Academic Affairs Committee (AAC) to allow the graduating/current batch of students to take either of the two 4-credit elective courses offered in the ENT minor, namely Foundations of Marketing and Social Entrepreneurship in lieu of a core course "New Venture Planning".

The Dean of Academic Affairs apprised the members of the background and informed that the following committee met on 16.5.2023 for resolving the situation faced by the students because one of the faculty members not being available to take a core course in ENT – minor, namely "New Venture Planning":

- Prof Tavpritesh Sethi (former faculty in-charge of Entrepreneurship) - Chair
- Prof Anupam Saronwala (Visiting faculty and Director/advisor of Incubation Centre and I-hub Anubhuti) - member

- Prof Pankaj Vajpayee (current faculty in-charge of Entrepreneurship) - member

After deliberations the above committee has observed that either of the other electives offered in the ENT minor, namely **Foundations of Marketing** and **Social Entrepreneurship**, fulfilled the conditions of New Venture Planning. Hence, the committee is of the view that if a student has done either of these two 4-credit courses, then that would be considered equivalent to New Venture Planning.

The AAC has considered and agreed to the above observation/recommendation of the committee over email and recommended for approval of the Senate.

During the course of discussions, the DoAA clarified the points raised by the members. After detailed deliberations, the Senate agreed to the recommendation of the AAC

58.5.3.8 To consider a proposal for starting a 2+2 joint degree collaborative program with the State University of Suny Albany, New York

The Dean of Academic Affairs apprised the members of the background and informed that the Senate in its 57th meeting held on February 17, 2023, had discussed a proposal from the State University of Suny Albany, New York, for a joint degree program and agreed in principle to the proposal. Subsequently, the Board of Governors in its 60th meeting held on March 28, 2023, vide item No. 60.6.2.3, considered the proposal along with the recommendation of the Senate and observed/ decided as under:

> "The Board was briefed by the Director that the State University of New York at Albany, an R-1 category research university in the US, has been interested in building academic collaborations and starting joint degree programs. Three possible collaborative academic programs with individual degree awarding options, like a dual degree or joint degree, have been agreed upon in principle by the Senate. The Board accorded its approval to the proposal recommended by the Senate. Accordingly, the Institute and University at Albany, State University of New York, may workout the further modalities for these programs. The Director apprised that various other Universities from abroad have expressed intentions of starting similar academic and research partnerships, and the discussions are at advance stages. The Board appreciated the same and advised that the brand value of the Institute may be protected and the academic benefits for the Institute may be well defined before going for any joint academic programs"

Thereafter, Dr. Syamantak Das presented the proposal and informed that pursuant to the above a meeting was held at IIITD with Dr. Sanjay Goel, representative of the State University of Suny Albany, New York to work out the further modalities for these programs and after detailed discussions, it was agreed to initially start the 2+2 model and based on the learning /experience of this model other modules such as 4+1 and 3+1/1.5 model will be considered in the due course.

During the course of discussions, he answered the queries made by the members. It was noted that two separate degrees (B.Tech. from IIITD and BS from Albany) will be given to the selected students. Also, initially, there will be 10 seats for the existing students who got admitted to B.Tech. CSE through JAC and satisfy the mapping. After detailed deliberations, the Senate agreed to the proposal and desired that the details of mapping of courses, counting of credits, conversion formulae for calculation of CGPA,

preparation of transcript etc. may be worked out soon and reported in the next Senate along with the draft MoU.

Action: Academic Section/CSE Department

While concluding the discussions, the Director (Chairman, Senate) thanked all the members/special invitees for their active participation in the deliberations. He also informed the members that Dr. Ashok Kumar Solanki would be completing his tenure as Registrar on 2nd June 2023 and, this would be his last meeting of the Senate. On behalf of the Senate, he thanked Dr. Solanki and put on record the excellent services rendered him to the Institute throughout his tenure as Registrar and Secretary of the Senate. The Institute wishes him every success in his future endeavor.

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

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Appendix I

Entrepreneurship Minor Program

A B. Tech student can earn a minor certification in entrepreneurship by completing a total of 24 credits from entrepreneurship courses including a BTP and or IP/IS plus a compulsory apprenticeship.

There are 2 options in the minor program

Option 1	**Option 2**
24 credits of course work	16 credits coursework
	8 credit BTP registered under ENT track
Compulsory apprenticeship (pre-approved)	Compulsory apprenticeship (pre-approved)

The minor program is designed to provide students with a basic training in entrepreneurship and to nudge them towards entrepreneurial ventures and incubation.

Courses for a Minor in Entrepreneurship:

- Entrepreneurial Khichadi, (name being changed to Foundations of Entrepreneurship ENT 412 renamed Ent 3xx)
- New Venture Planning (ENT 415 renamed to ENT3xx),
- Entrepreneurial Communication (ENT 411)
- Creativity Innovation and Inventive Problem Solving (Ent 416/ENT 516)
- Social Entrepreneurship (ENT 3xx)
- Foundations of Marketing (ENT xxx)
- Foundations of Finance (ECO 331/ENTxxx)
- Effective Supply Chain for e-commerce (MGT 310)
- Entrepreneurial Finance (ENT 413)
- Valuation and Portfolio Management (ECO 332/ENTxxx)
- Micro-economics (ECO 301),
- Healthcare Innovation and Entrepreneurship Essentials (ENT 421/BIO 571
- Relevance of Intellectual Property for Startups (ENT 414)

- Other courses will be added to this basket on the recommendation of the faculty-in-charge (Entrepreneurship). The request to add a new course will be forwarded to AAC. The AAC will be empowered to add a new course.

BTP: A student can earn a maximum of 8 credits for a BTP. The BTP must be registered under Entrepreneurship track only.

Apprenticeship: This is expected to be an immersive experience for students during the Summer term (minimum 8 weeks), either working at a startup or towards incubating a startup. The eight-week requirement can also be met by working for a cumulative period of eight weeks during summer + winter break or over 2 summer breaks at the same startup. In case the startup is wound up for any reason whatsoever the student in such a case can do the remainder part of apprenticeship in a new startup. However, in case the startup refuses a student to continue after a break then the period already spent in case it is less than 4 weeks will not be counted towards the fulfillment of 8-week requirement.

This should NOT be considered as an internship at any company or organization. Students can enroll for this project only after seeking due approval from the faculty-in-charge Entrepreneurship. Students can register for Apprenticeship during summer term. Apprenticeship is compulsory for an ENT minor.

External Visits & Interactions: There are scheduled visits to startups and accelerators which students are expected to participate in. There are mentors and practitioners who visit the campus during scheduled hours for interactions with students in this minor program.

Benchmarking: Entrepreneurship minor programs at North American and Indian universities typically require 16-20 course credits, with desirable "extra-curricular" entrepreneurial activity for two semesters. Thus, the proposed 24- credit program that includes courses and entrepreneurship activities (BTP/Apprenticeship) is standard.

Sequencing:
Most of the courses can be taken by the students during /after their 2nd year. BTP can be done during the 3rd/ 4th year. Apprenticeship is recommended during the summer term.

Appendix II

Mandatory Part				
Course Code	**CSE102**			
Department	**CSE**			
Course Name	**Introduction to Data Structures**			
Credits	4			
Course Offered to	UG - First year			
Course Description	This course teaches the basic data structures and algorithms for performing operations on these data structures, using data structures to provide software solutions that are efficient, and some algorithm paradigms for building efficient algorithms. The focus of the course is on efficiency aspects of a program, i.e. developing programs for a problem that are efficient in time they and space they take to execute.			
Pre-requisites (Please insert more rows if required)				
Pre-requisite (Mandatory)	Pre-requisite (Desirable)	Pre-requisite(other)	Antirequisites (if any)	
Introduction to Programming				
Post Conditions				
There should be 2-3 CO for a 2-credit course and 3-5 CO for a 4-credit course.				

At least 1/2 of the COs should use a verb from B-IV (Analyzing), B-V (Evaluating), and B-VI (Creating) categories. Refer to the TAXONOMY sheet for the verbs allowed in these categories.				
CO1	**CO2**	**CO3**	**CO4**	**CO5**
E.g., You will be able to **compare** different algorithms for graph traversal.	E.g., You will be able to **apply** the principle of induction to prove identities.	E.g., You will be able to **classify** languages into complexity classes.	E.g., You will be able to **design** a database schema corresponding to a real-life scenario.	
Approved on	<date of approval by competent body>			
Proposed by	<name of the department that initially approved the course> CSE/ECE/CB/etc.			
Suggested Part				
The suggested list of topics				
	Topics	**COs Met**	**Assignment/Labs/ Tutorial for that topic**	**Expected hours of work outside of lectures (including labs, tutorials,**

				assignments, self-study, etc.) - typical recommended hours are 10-12 per week
	Introduction to Data Structures	CO1	1 Assignment, 1 labs, 1 tutorial on simple C programs	6
	Array, Pointers, Structures	CO1	2 Assignments, 2 labs, 2 tutorial on C Programming assignment (6) , gdb, google source code control	12
	Linked List, File Handling	CO2	2 Assignments, 2 labs, 1 tutorial: C Programming assignments on Linked List, GNU debugger,	6
	Stack Queues, BFS, DFS	CO2	2 Assignments, 2 labs, 1 tutorial on applications of BFS, DFS	12
	Growth of Functions and Recurrences, Divide and Conquer techniques: Merge-sort, Quick Sort	CO2	2 Assignments, 1 tutorial on recurrences	12
	Hash tables: Operations, Direct Address tables, Birthday paradox, hash functions, open addressing	CO3	1 Assignment on **Implementation of open addressing scheme**	6

	Heaps: Build, heap-sort, Priority Queue	CO3	1 lab on priority queue assignment in C	12
	Binary Search Trees, search, delete, insert	CO3	1 lab, 1 assignment on tree algorithms	6
	Linear time sorting Algorithms	CO4	2 labs, 1 assignment on linear-time sorting algorithms	12
*Please insert more rows if required				
Suggested Lab Plan (Remove if Not Applicable)				
	Laboratory Exercise Topic	**COs Met**	**Platform (Hardware/Software)**	
*Please insert more rows if required				
Assessment Plan				
Type of Evaluation	% Contribution in Grade			
Attendance	40% (Must attend 80% or more classes)			
Weekly assignment (at Japanese class)	40% (Must complete all assignments within deadline and Japanese Final Test)			
Weekly verbal test	20% (Must complete all tests)			
Resource Material				
Type	**Title**			

Textbook	Introduction to Algorithms, Cormen-Leiserson-Rivest-Stein, PHI			
Internet Resource	NPTEL by Naveen Garg, MIT Opencourseware lectures			
Reference book	Data Structure and Algorithms in C , Goodrich and Tamassia			

Levels of Cognitive Skills Based on Bloom's Taxonomy

	B-I	B-II	B-III	B-IV	B-V	B-VI
	Remembering	**Understanding**	**Applying**	**Analyzing**	**Evaluating**	**Creating**
Definitions	Exhibit memory of previously learned materials by recalling facts, terms, basic concepts, and answers.	Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions.	Solve problems to new situations by applying acquired knowledge, facts, techniques, and rules in a different way.	Examine and break information into parts by identifying motives or causes; make inferences and find evidence to support.	Present and defend opinions by making judgments about information, validity of ideas, or quality of material.	Compile information together in a different way by combining elements in a new pattern or by proposing alternative solutions.
Verbs	Choose, Define, Find, How, Label, List, Match, Name, Omit, Recall, Relate, Select, Show, Spell, Tell, What, When, Where, Who, Why	Classify, Compare, Contrast, Demonstrate, Explain, Extend, Illustrate, Infer, Interpret, Outline, Relate, Rephrase, Show, Summarize, Translate	Apply, Build, Choose, Construct, Develop, Experiment, with, Identify, Interview, Make, use, of, Model, Organize, Plan, Select, Solve, Utilize	Analyze, Assume, Categorize, Classify, Compare, Conclusion, Contrast, Discover, Dissect, Distinguish, Divide, Examine, Function, Inference, Inspect, List, Motive, Relationships, Simplify, Survey, Take part in, Test for, Theme	Agree, Appraise, Assess, Award, Choose, Compare, Conclude, Criteria, Criticize, Decide, Deduct, Defend, Determine, Disprove, Estimate, Evaluate, Explain, Importance, Influence, Interpret, Judge, Justify, Mark, Measure, Opinion, Perceive, Prioritize, Prove, Rate, Recommend, Rule on, Select, Support, Value	Adapt, Build, Change, Choose, Combine, Compile, Compose, Construct, Create, Delete, Design, Develop, Discuss, Elaborate, Estimate, Formulate, Happen, Imagine, Improve, Invent, Make up, Maximize, Minimize, Modify, Original, Originate, Plan, Predict, Propose, Solution, Solve, Suppose, Test, Theory

Appendix III

Regulations for M.Tech. (Research) Computer Science and Engineering (CSE)

1. **Preamble**

   IIIT-Delhi subscribes to the view that a Masters (Research) degree is primarily research-focused and aims to prepare a student to develop an adequate in-depth understanding of a foundational topic of today's computing technology. The decision whether the degree is to be pursued for skill and knowledge upgradation or also for building research skills at pre-doctoral level should rest with a student.

2. **Program Educational Objectives**

   The main PEOs of the program are to produce graduates that are well prepared:

   - PEO 1: to undertake research centric academic and/or industry careers involving problem solving using computing technologies.
   - PEO 2: to perform collaborative research & engagement with peers and lead innovation in projects.
   - PEO 3: to demonstrate the requisite breadth and depth of knowledge in advanced areas of Computer Science and Engineering.
   - PEO 4: to contribute to society by becoming a model professional who can communicate effectively and follow ethical behavior.

3. **Program Outcomes:**

   At the end of the program a student is expected to have an ability to:

   - PO 1: apply concepts from varied disciplines including computer science, electronics, mathematics, and the sciences, to engineer and develop robust and scalable systems.
   - PO 2: identify, formulate and analyze complex engineering problems, interpolate and extrapolate existing knowledge base and arrive at creative solutions.
   - PO 3: utilize cutting edge software packages, libraries, programming languages, and software development environments.
   - PO 4: make judicious use of resources and understand the impact of technology across the societal, ethical, environmental, and economic aspects.
   - PO 5: demonstrate knowledge by communicating the findings and effectively present the results.
   - PO 6: perform independent, continuous, and life-long learning required to excel in a professional career.

4. **General Requirements**

   a. **Eligibility Criteria:**

      i. B.E./B.Tech. in CSE/IT/ECE/EE, or an M.C.A., or an M.Sc. in Mathematics/Statistics from a recognized university (including state universities)/institute.

      ii. Percentage marks ≥ 75% or Equivalent CGPA.

      iii. Mandatory GATE in CSE/IT/EC/EE/MATH/ST

b. Reservation: The reservation policy shall be decided by the Board of Governors of the Institute. Exact details about these shall be provided in the admission prospectus each year.

c. Program Structure:

The overall credits requirement for the M.Tech. (Research) is 48 credits. In addition to 48 credits a student has to complete a summer refresher of 4 credits, Object Oriented Programming and Design (4 credits) and Research Methods (2 credits). Requirements of 48 credits are as follows:

i. 4 courses equivalent to 16 credits of CSE 500 level or above from the list of courses available at http://techtree.iiitd.edu.in/ or being offered in a semester.

ii. M.Tech. (minor) thesis spanned over the first two semesters of the program with 4 credits registered in each of these semesters. The evaluation will comprise
    1. Minor thesis submission in the prescribed format by the department adhering to the guidelines mentioned therein.
    2. Minor thesis presentation by way of a poster or seminar at the end of the second semester.

iii. 24 credits of M.Tech. thesis spanned over the second year of the program. The evaluation will comprise
    1. M.Tech. thesis submission in the prescribed format by the department adhering to the guidelines mentioned therein.
    2. M.Tech. thesis defense evaluated by a committee. The committee will include
        a. A faculty member of the institute working in an allied area of the thesis topic.
        b. A(n) (preferably external) expert familiar with the topic of the thesis.

**Change of supervisor may be allowed in some special circumstances before the second semester starts.*
**There is no provision for students admitted to M.Tech. (Research) program in CSE to switch to regular M.Tech. program in CSE.*
**The students are allowed to take up internships in summer term with approval of the supervisor.*

d. Program Completion:

i. Continuing CGPA of at least 6.5 in every semester.
ii. Graduating CGPA of at least 7.0.
iii. There will be an academic warning sent to the student if the CGPA falls below the minimum required.
iv. Students have the provision for grade improvement similar to the provision available for regular M.Tech Program.
v. Registration can be terminated if there are two consecutive warnings.

vi. Completion of credit requirements.
vii. Successful submission and defense of thesis.
viii. (Desirable) Research publication at a reputed venue.

5. M.Tech. (Research) Assistantship:

Rs. 21000/- per month as per the break-up give in the following:

a. Candidates will be eligible for M.Tech. (Research) Assistantship for a maximum of 24 months from the date of starting of the classes at IIIT-Delhi. GATE score above the qualifying marks announced by GATE in the past two years and the current academic year, will be considered valid. Assistantship for M.Tech. (Research) students will be paid at the rate of Rs. 12,400/- per month as per the approval of AICTE.
b. In addition, IIITD will provide extra support of Rs. 8600/- per month for a maximum of 24 months from the date of starting the classes at IIIT-Delhi.
c. As specified in the Regulations for M.Tech./PhD Programs, a student who is offered an Assistantship will be required to do 10-15 hours of academic work per week in-lieu of the Assistantship.

6. Conversion to Ph.D. Program:

a. An M.Tech. (Research) student can change his/her program, if permitted, to Ph.D. and continue to do the course/research work to enable him/her to meet the requirements of the Ph.D. degree. Only students with CGPA > 8.00 and who would have completed a minimum of 2 semesters and 20 credits in M.Tech. (Research) program will be eligible to apply for the change to Ph.D. program. The student will be eligible for Ph.D. stipend only from the time he/she is approved for enrollment as a Ph.D. student. Such a student, for Ph.D. credit requirement, may be treated as if he/she had joined the Ph.D. program from the start of the PG (here, M.Tech (Research)) program. The student may be granted an M.Tech. (Research) degree also, provided he/she fulfills all the academic requirements for the same. Such a student may also be refunded his/her M.Tech. (Research) tuition fee, if he/she successfully completes the Ph.D. program.
b. An M.Tech. (Research) graduated student will be eligible to pursue the sponsored Ph.D. program of the institute with a 100% fee waiver if he/she starts the Ph.D. program within two years from his/her graduation date.

7. Other General Regulations:

In addition to the specific regulation mentioned above, all other general regulations as specified in the institute's approved PG regulations will also be applicable for M.Tech. (Research) Program.