INDIAN INSTITUTE OF INFORMATION TECHNOLOGY DESIGN AND MANUFACTURING, KANCHEEPURAM CHENNAI – 600 127

MINUTES

42nd MEETING OF THE SENATE

held on

03rd June 2020 (Wednesday) at 10.30 AM.

Through Google Meet

MINUTES OF 42ND MEETING OF THE SENATE

Date : **03, June 2020**
Time : **10.30 A.M.**
Through Online : **https://meet.google.com/hkq-erwq-bpw**

Members Present:	**Leave of Absence:**
1. *Prof. Banshidhar Majhi, Director & Chairman Senate* 2. *Mr. A. Chidambaram, Registrar & Secretary Senate* 3. *Dr. Binsu J Kailath, Dean, Academic* 4. *Prof. S. Narayanan* 5. *Prof. S. P. Venkateshan* 6. *Prof. Chandramouli Padmanabhan* 7. *Prof. Krishna Sivalingam* 8. *Dr. Anand Lakshmanan* 9. *Dr. Venkatesh G* 10. *Dr. Sudhir Varadarajan* 11. *Dr. M. Sreekumar* 12. *Dr. Naveen Kumar Vats* 13. *Dr. M.D. Selvaraj* 14. *Dr. N. Sadagopan* 15. *Dr. Priyanka Kokil* 16. *Dr. B. Raja* 17. *Dr. Tapas Sil* 18. *Dr. S. Vijayakumar* 19. *Mr. R. Gunasekaran, Invitee* 20. *Mr. G. Ravikumar, Invitee*	1. *Prof. Jagadeesh Kumar*

2020-42-Senate-01:	**Welcoming the members and invitees by the Chairman.**		
	The Chairman greeted all the members and invitees with a warm welcome and wished them good health during this pandemic.		
2020-42-Senate-02:	**To confirm the minutes of the 41st meeting of the Senate held on 01st February 2020.**		
	The Minutes of 41st Meeting of the Senate held on 01 February 2020 was circulated to all members through mails. No comments/suggestions have been received from the members. Senate may kindly confirm the Minutes of the 41st meeting of the Senate duly approved by the Chairman of the Senate. **Annexure - 1**		
	The Senate confirmed the Minutes of the 41st meeting held on 01st February 2020.		
2020-42-Senate-03:	**Report on Action Taken on the decision of 41st meeting of the Senate held on 01st February 2020.**		
	2020-41-Senate-06:	Python Course for all students admitted in 2019 as elective / free elective.	In future, the course will be offered by Institute faculty.

	2020-41-Senate-07:	Revised B. Tech. Curriculum	To be effective from 2021 batch
	2020-41-Senate-08:	Change of credits for students admitted into Direct Ph.D. Programme at IITM	To be effective for subsequent batches also
	2020-41-Senate-12:	Modification in Selection Procedure for External Ph. D.:	To be effective from subsequent semesters
	2020-41-Senate-13:	Cut off Marks for Honours Students in NPTEL Courses	NPTEL courses will not be considered for Honours
	2020-41-Senate-14:	To modify the Ph. D. ordinance of the Institute R. 9 – Doctoral Committee	To be effective from next batch
	2020-41-Senate-15:	Proposal to start new M Tech and M Des programme from July 2020	It is proposed to commence the program from next academic year as it will be difficult to maintain social distancing with higher student strength.

While discussing the Action Taken Report, it was informed to the Senate regarding item No. 2020-41-Senate-06 that it may not be possible to offer the programming courses by the Department faculty members with the existing faculty strength. As soon as, more faculty members join the Institute, programming courses could be offered by the Department faculty members. However, students will be advised to take online Python course in 2nd Semester till such time.

With respect to item No. 2020-41-Senate-07, the Senate was requested to grant permission to revise the B. Tech. curriculum from 2021 batch as some more discussions are required on Design Courses, 1st year lab contents and Department level courses which may not be feasible in the existing situation due to the pandemic. The Registrar has informed the Senate the BoG has advised to constitute a Committee headed by Prof. G Venkatesh, Member, Senate to advise the Institute on Design courses and Design Curriculum. The Committee should have Prof. Krishna V Giri, Member, BoG, Faculty Members from the Dept. of Engineering Design, IIT Madras and other Design Experts from Academia and Industry as members.

Such a Committee will be formed within two months and the discussion on curriculum will be initiated.

While referring to 2020-41- Senate-15, it was informed to the Senate that the M. Tech. and M. Tech. (Res) programmes are required to be deferred for a year so as to ensure social distancing in academic and hostel blocks as required by the preventive measures against the pandemic.

2020-42-Senate-04:

New Elective Course

The course titled Introduction to Photonics is proposed by Prof. Srijith K after approval from the DAC.

Senate may kindly consider and offer suggestions

Course Title	**Introduction to Photonics**	Course No	ELE5XXX			
Specialization	ECE	Structure (LTPC)	3	1	0	4
To be offered for	UG / PG	Status	Core ☐		Elective ■	
Faculty Proposing the course	Prof. Srijith K	Type	New ■		Modification ☐	
Date of DAC	23.04.2020	Members Present in DAC	All faculty members of the Dept.			
		External Members:	Prof. Balaji Srinivasan, Prof. Deepa Venkitesh, Dept. of EE, IITM			
Pre-requisite	CoT	Submitted for approval	42nd Senate			

Learning Objectives	This course is intended to be an introductory level course in Photonics which can lead to more advanced courses such as Fiber optic communication, Photonic Sensors and Nanophotonics.
Learning Outcomes	At the end of the course, the learners are expected to do the following: • To describe the fundamental principles of photonics and light matter interactions • To apply the principles of generation and detection of photons in various problems related to photonic structures/processes and analyze them. • To understand processes that help to manipulate the fundamental properties of light.
Contents of the course *(With approximate break-up of hours)*	Ray Optics, Wave Optics and Statistical Optics - Review of ray optics - paraxial approximation, introduction to matrix approach. Review of wave optics - interference of waves – Statistical properties of light – Spatial and Temporal coherence, Mutual coherence function - Properties of Gaussian beams (10) Photon properties - mean photon flux, number of photons, probability of finding a photon - Interaction of photons with atoms - absorption/emission processes - Spontaneous/stimulated emission - Optical amplification – Resonator - Laser fundamentals - output power/spectrum (10) Semiconductor photon sources and detectors – Interaction of photons with charge carriers - LEDs - output power, spectrum, modulation characteristics – Laser diodes - threshold condition, L-I characteristics, longitudinal modes, modulation bandwidth - Photodiodes - Responsivity, bandwidth – PIN and APD – gain and noise characteristics (12) Manipulation of photons – Faraday effect – Basic principles of Electro optics - Nonlinear optics - Stimulated Raman and Brillouin scattering (10)
Text Books	Saleh and Teich, Fundamentals of Photonics, 2nd Ed., Wiley Publishers, 2007
Reference Books	1. J.M. Liu, Principles of Photonics, Cambridge University Press, 2016. 2. Ben G Streetman and Sanjay Kumar Banerjee, Solid State Electronic Devices, 6th Ed., Prentice Hall India Learning Pvt. Ltd, 2006. 3. A. Yariv and P. Yeh, Photonics, 6th Ed., Oxford University Press, 2006. 4. Ajoy Ghatak, Optics, 6th Ed., Mc Graw Hill Publication, 2016. 5. Eugene Hecht and A R Ganesan, Optics, 4th Ed., Pearson Education, 2008.

	While discussing the syllabus, the Senate enquired whether the suggestions given by the External Experts are incorporated. It was informed that the tutorial hour was added as per the suggestion from the Experts. Senate has also asked regarding the percentage of overlap with existing courses and it was informed that the overlap was verified to be less than 20%. ***The Senate after discussion approved the Introduction of New Elective Course.***
2020-42-Senate-05:	**Admission only to B.Tech. Programmes with an option to pursue Dual Degree Programme** The Dual Degree Programme was initiated from 2014 and over the years it has been observed that the B Tech students have always higher All India Ranks than the Dual Degree students. Also, from the placement perspective, it has been noticed that the companies prefer B Tech students. Hence it is proposed to admit the students only for the B Tech programme from 2020 admissions and to provide option to them to upgrade to M Tech at the end of 5th Semester which will enable them to attain both the degrees at the end of fifth year. Senate may kindly consider and approve the proposal.
	The Senate has given approval for the proposal. However, the Senate urged to devise the modalities to be followed for the upgrading to Dual Degree programme as follows: ***i. Minimum CGPA required for this upgrading should be 8.*** ***ii. The maximum number of students to be upgraded is limited to 20% of the B Tech class strength***
2020-42-Senate-06:	**Student Intake for the year 2020-21** In view of the prevailing situation due to Covid-19, as per guidelines of the Government, the institute is required to maintain social distancing in academic as well as residential blocks. It would not be feasible to adhere to the guidelines with the existing intake capacity of 350 both for B.Tech and Dual degree with additional 84 M.Tech. and Ph.D. students \. Therefore, it is proposed to reduce the student intake to 270 only for the B. Tech programme from the year 2020-21onwards. It is also proposed to defer new M Tech and M Tech (Res) programmes approved in the 41st senate to next academic year due to the existing situation. Accordingly, the proposed intake for the 2020-2021 academic year is submitted in the table below. Senate may kindly consider and approve the proposed intake.

Degree	**Programme**	**No of Seats**		**Total Seats**	
		JEE/ GATE	**DASA**		
UG (B Tech)	Computer Science and Engineering	85	5	**90**	**255 + 15 = 270**
	Electronics and Communication Engineering	85	5	**90**	
	Mechanical Engineering	57	3	**60**	
	Smart Manufacturing	28	2	**30**	

PG (M Tech)	M Tech in ECE with Spl. in Communication Systems Design	20	1	**21**	**84**
	M Tech in ECE with Spl. in Electronics Systems Design	20	1	**21**	
	M Tech in MEC with Spl. in Mechanical Systems Design	20	1	**21**	
	M Tech in MEC with Spl. in Smart Manufacturing	20	1	**21**	
Ph D	In all Departments, together	16	-	**16**	**16**
Total		**351**	19	**370**	**370**

Senate has enquired whether this proposed intake is applicable this year only due to the pandemic and the Chairman, Senate has clarified that the same intake would continue in future as well.

The Senate after discussion approved the revised Student Intake from the AY 2020-2021.

2020-42-Senate-07:

Conduct of Ph.D. Defence Meeting online

Ph.D. defence meeting of Mr Ashish Kumar was conducted online on 9th May,2020 with due approval of the Chairman, Senate considering the travel restrictions of experts due to pandemic. Similarly, the institute has conducted M.Tech. viva-voce for the outgoing batch online and DC meetings of existing Ph.D. students. The processes need to be continued till the situation is normal.

Senate may kindly approve the defense already conducted and may permit to conduct defence online till situation is normal.

Senate took note of the defense conducted and approved as proposed. Further, Senate advised that all the academic formalities be completed online irrespective of academic programmes.

2020-42-Senate-08:

Ph. D. Defence Completion

Details of PhD Scholars who have successfully defended their theses and eligible for award of the Degree are furnished below for kind perusal of the Senate.

1. Name of the Scholar	**Mr. Xavier Arockiaraj S**
Roll No	EDM14D004
Department	Electronics and Communication Engineering
Thesis Title	CRITERIA FOR LIMIT CYCLE FREE STATE-SPACE DIGITAL FILTERS WITH EXTERNAL DISTURBANCE
Date of Joining	28.07.2014
Date of Passing of Comprehensive Examination	25.01.2016
Date of Submission of Thesis	28.06.2019

Indian Examiner	Prof I N Kar Professor, Department of Electrical Engineering, Indian Institute of Technology, Delhi
Date of receipt of report	29.10.2019
Foreign Examiner	Prof Choon Ki Ahn Professor, School of Electrical Engineering, Korea University, Seoul, Korea
Date of receipt of report	23.12.2019
Date of Ph D viva-voce examination	09.03.2020 at 10 AM
Date of submission of final thesis	18.03.2020
Doctoral Committee	
Chairperson	Dr Binsu J Kailath, ECE, IIITDM Kancheepuram
Research Supervisor	Dr Priyanka Kokil, ECE, IIITDM Kancheepuram
Internal Member	Dr M D Selvaraj, ECE, IIITDM Kancheepuram
Internal Member	Dr S S Karthikeyan, Dept. Of ECE, NIT Tiruchirapalli.
External Member	Prof C S Ramalingam Dept. Of EE, IIT Madras.

LIST OF PAPERS BASED ON THESIS

Papers in Refereed Journals

1. P. Kokil and S. X. Arockiaraj, "An improved criterion for induced l1 stability of fixed-point digital filters with saturation arithmetic," Indonesian Journal of Electrical Engineering and Computer Science, vol. 4, no. 1, pp. 65–72, 2016.
2. P. Kokil and S. X. Arockiaraj, "Novel results for induced l1 stability for digital filters with external noise," Fluctuation and Noise Letters, vol. 16, no. 4, pp. 1– 18, 2016.
3. P. Kokil, S. X. Arockiaraj, S. Jogi and H. Kar, "New realizability criterion for digital filters with external disturbance and saturation arithmetic," AE□U –International Journal of Electronics and Communications, vol. 85, pp. 179–182, 2017.
4. S. X. Arockiaraj and P. Kokil, "New criteria for output strict and input strict passivity for interfered digital filters for biomedical applications," Journal of Medical Imaging and Health Informatics, vol. 7, no. 2, pp. 492–496, 2017.
5. S. X. Arockiaraj, P. Kokil and H. Kar, "Passivity based stability condition for interfered digital filters," Indonesian Journal of Electrical Engineering and Computer Science, vol. 6, no. 2, pp. 431–437, 2017.
6. P. Kokil, S. X. Arockiaraj and H. Kar, "Criterion for the limit cycle free statespace digital filters with external disturbances and generalized overflow nonlinearities," Transactions of the Institute of Measurement and Control, vol. 40, no. 4, pp. 1158–1166, 2018.

Presentation in Conference

1. S. X. Arockiaraj and P. Kokil, "LMI based passivity Analysis of digital filters," International Conference on Wireless Signal Processing and Networking (WiSPNET), pp. 1129–1132, 2017.

2. Name of the Scholar	**Mr. Ashish Kumar**
Roll No	PHY13D001
Department	Physics
Thesis Title	CHARACTERIZATION OF SINGLE-FIBER MACH-ZEHNDER INTERFEROMETER FOR SENSING APPLICATIONS
Date of Joining	29.07.2013
Date of Passing of Comprehensive Examination	07.04.2015
Date of Submission of Thesis	12.07.2019

Indian Examiner	Prof. Vipul Rastogi Department of Physics Indian Institute of Technology Roorkee
Date of receipt of report	10.01.2020 (Through E-Mail)
Foreign Examiner	Prof. Prof. Sulaiman Wadi Harun Department of Electrical Engineering Faculty of Engineering, University of Malaya
Date of receipt of report	15.01.2020 (Through E-Mail)
Date of Ph D viva-voce examination	09.05.2020 at 12 Noon by Google Meet
Date of submission of final thesis	19.05.2020
Doctoral Committee	
Chairman	Dr Tapas Sil, Physics, IIITDM Kancheepuram
Research Supervisor	Dr Naveen Kumar, Physics, IIITDM Kancheepuram
Internal Member	Dr K Selvajyothi, ECE, IIITDM Kancheepuram
Internal Member	Dr S S Karthikeyan, Dept. of ECE, NIT Tiruchirapalli.
External Member	Prof Balaji Srinivasan, Dept. of EE, IIT Madras

LIST OF PAPERS BASED ON THESIS

Publications in Refereed Journals

1. Naveen Kumar and Ashish Kumar (2018). Investigation on the Impact of Irregular Fringe Patterns of a Single-Fiber Mach-Zehnder Interferometer on Its Sensing Capabilities. Optical Fiber Technology, 43, 131-136.
2. Ashish Kumar and Naveen Kumar (2018). Simultaneous Measurement of Current and Temperature by Using an All-Fiber Interferometric Cost effective and Non-destructive Sensing Scheme. Optik, 171, 1-8.
3. Ryusei Momosaki, Ashish Kumar, Naveen Kumar and N N Subhashree Ojha (2019). Polarization Induced Non-reciprocal Phase Controlled All-Fiber Loop Mirror Based Inclinometer. Optics & Laser Technology, 112, 134-139.
4. N N Subhashree Ojha, Ashish Kumar, and Naveen Kumar (2020). Post-Fabrication Refractive Index Sensitivity Enhancement Technique for Single-Fiber Mach-Zehnder Interferometerr. Optical Fiber Technology, 54, 1-6.
5. Ashish Kumar and Naveen Kumar. Highly Sensitive Single-Fiber MZI Conguration for Weight Sensing. Optics & Laser Technology. (Accepted)
6. N N Subhashree Ojha, Ashish Kumar and Naveen Kumar. Sensitivity Enhancement of Single-Fiber Mach-Zehnder Interferometer by Sensitizing its Interference Length. Applied Optics. (In Press)

Conferences Proceedings and presentations

1. Ashish Kumar, Naveen Kumar and Rananavare Atul Subarao, Analysis of Single-Mode Single-Fiber MZI Based Acousto-Optic Sensor Using Two Different Techniques, In Proc. International Conference on Fiber Optics and Photonics 2016 (PHOTONICS-2016), IIT Kanpur, W3A.47, 1-3,04-08 Dec. 2016.
2. Naveen Kumar, Ashish Kumar and Vageshna Tarun Narendra Varma, Miniaturized Single-Mode Single-Fiber MZI Based Direct Current Sensor, In Proc. International Conference on Fiber Optics and Photonics 2016 (PHOTONICS-2016), IIT Kanpur, W2G.3, 1-3, 04-08 Dec. 2016.
3. Ashish Kumar and Naveen Kumar, Miniaturized Single-Mode Single Fiber MZI Based Refractive Index Sensor, In Proc. International Conference on Advances in Optics and Photonics (ICAOP-2017) (XLI Conference of Optical Society of India), Guru Jambheshwar University of Science & Technology, Hisar, PP16, 309-312, 23-26 Nov. 2017.

	4. Ashish Kumar and Naveen Kumar, Fabrication of Asymmetrically Corrugated Long-Period Fiber Grating by CO2 Laser Engraving/Cutting Machine, In Proc. International Conference on Advances in Optics and Photonics (ICAOP-2017) (XLI Conference of Optical Society of India), Guru Jambheshwar University of Science & Technology, Hisar, PP17, 313-315, 23-26 Nov. 2017. 5. N N Subhashree Ojha, Ashish Kumar and Naveen Kumar, Compact Single-Mode Single-Fiber MZI Based Strain Sensor, In Proc. Student Conference on Optics and Photonics 2018 (SCOP-2018), Physical Research Laboratory, Ahmedabad, India, P24, 116-117, 04-06 Oct. 2018. 6. Ashish Kumar, N N Subhashree Ojha and Naveen Kumar, Highly Sensitive and Cost-effective Optical Fiber Interferometer Based Pressure Sensor, In Proc. International Conference on Fiber Optics and Photonics 2018 (PHOTONICS-2018), IIT Delhi, SP031, 1-2, 12-15 Dec. 2018. 7. N N Subhashree Ojha, Ashish Kumar and Naveen Kumar, Enhancing the Sensitivity of Interferometer with Involvement of Fiber Loop Mirror, In Proc. International Conference on Fiber Optics and Photonics 2018 (PHOTONICS-2018), IIT Delhi, SP030, 1-2, 12-15 Dec. 2018. 8. Naveen Kumar, Ashish Kumar, Ryusei Momosaki and N N Subhashree Ojha, Operating Point Maneuvering Through Non-reciprocal Optical Biasing in Fiber Loop Mirror Con_guration, In Proc. International Conference on Fiber Optics and Photonics 2018 (PHOTONICS-2018), IIT Delhi, SP055, 1-2, 12-15 Dec. 2018. 9. N N Subhashree Ojha, Ashish Kumar and Naveen Kumar, Sensitivity Enhancement by Varying the Orientation of Phase Shifters Based on Non- reciprocal Phase Shift in Fiber Loop Mirror Configuration, International Conference on Optics & Electro-Optics (ICOL-2019), IRDE Dehradun, 19- 22 Oct. 2019. 10. N N Subhashree Ojha, Ashish Kumar and Naveen Kumar, Refractive Index Sensitivity Enchantment of a Fiber Filter by MZI Cascaded Sagnac Interferometer, Workshop on Recent Advances in Photonics 2019 (WRAP-2019), IIT Guwhati, 13-14 Dec. 2019. Senate may kindly approve for issuing of provisional certificates to the scholars. ***Senate noted the same. Prof. Narayanan has urged that the Examiners should be senior Professors from reputed Universities and Institutes and that the quality of the Examiners should not be compromised. Prof. S.P. Venakteshan has advised to formulate an exhaustive list of Indian and Foreign Examiners in each research area in a Dept. and to select the Examiners from that list. The Senate has also urged not to publish in certain Journals given in the list of Publications above.*** ***Chairman Senate has informed that faculty members are advised to publish only in Science Citation Indexed good quality journals and each Dept. has identified such SCI journals. The Senate has granted permission to issue the Provisional Certificate to the above two scholars.***
2020-42-Senate-09:	**Revised Academic Schedule and Activities for Even Semester (Jan-May) 2020** Keeping safety of students as first priority, academic activities of the Institute was suspended from 16th March and all the students were advised to leave their home. As the lockdown has been extended by the Government, the institute has commenced online classes for all the students. In case of graduating students, the institute has drawn a schedule to complete all academic activities by June so as to award provisional degree for their benefit. The details of the revised schedule is as under: **Graduating Students:** **Project reviews:** would be conducted from 15th to 30th May. **Core and In-House elective courses**: End Semester Exams would be completed from 1st to 6th June. Grading would be done based on performance in Quiz 1, Assignments completed online and offline and also based on the online End semester examinations. The exact weightage for each has been communicated to the final years by the respective faculty members. Students having any issues with internet bandwidth are advised to write the exam on paper, scan and send the answers back by email within the stipulated time.

NPTEL courses as Electives (71): The exams in case of NPTEL courses are yet to be conducted. It is learnt that NPTEL has initiated action to conduct proctored exams which students could write from their homes in June. In case, NPTEL exams could not be conducted due to any technical issues, it is proposed to adopt the following plan so as to enable students to graduate in time as most of them have already got admission for higher studies abroad.

Typically, NPTEL compute the final marks with 3:1 proportion for Assignment and End Examination. We may conduct End Exam for 50% and the Assignment for remaining 50%. Anyone scoring more than 60 may be declared as successful completion of the course.
Alternatively, we may ask the students to submit a 5-page report on their learning from the course. The reports having less than 20% similarity, after verification for plagiarism, may be declared as successful. This procedure is followed in Stanford University for few courses.

Pre Final Years Undergoing Internship:

The 3rd year B Tech and 4th year DD students have been undergoing their 5 months' internship from 12th May to 11th October. The students have been advised to continue working from home till the lockdown period. More than 60% of the students are working with their Project Supervisors as many of the internship opportunities are closed due to the pandemic. Their 6th/8th semester course exams will be completed, within the first two weeks, on their reporting to Institute on 12th October.

1st / 2nd Year B Tech/DD and 1st Year M Tech

The courses for these students are planned to be completed by conducting online classes till 15th June so that students without sufficient internet connectivity also could cope up with the material/portions provided through mail.

It is also planned to have a review of courses followed by conducting lab exams and the End semester exams from 1st July for 2nd years and 15th July for 1st years on their return to the campus. After completion of exams, it is planned to commence the Odd Semester classes (Jan- May 2021) without any vacation.

However, in case of continuation of lock down, it is proposed to conduct online examinations for end semester with at least 1-2 days gap between exams. All the exams would be completed by 15th July. Students having any issues with internet bandwidth will be advised to write the exam in paper, scan and send the answers back by email within the stipulated time.
Grading for theory courses would be done based on performance in Quiz 1 (conducted in February), Assignments / Project / surprise or other tests and online End Semester Examination. Weightage for each component would be decided by the respective faculty member and would be communicated to the students.
Grading for practice courses would be done based on daily performance, mid semester exam, regular viva, project etc. Conductance of End Semester Examination for lab courses is not appear to be practicable, therefore, the faculty members will adopt suitable method and communicate the grading scheme to the students.

	The Senate discussed as follows:
	Final Year Students; ***Revised Academic Schedule and Activities for Even Semester (Jan-May) 2020 was discussed in detail in the Senate. Senate was apprised of completing the Project Reviews online. Senate was also informed regarding the ongoing End Semester Examinations which will be completed by 6th of June. Senate verified the way/mode the exams are conducted. Senate also urged to confirm the availability of students for online exams. It was informed to the Senate that students having any difficulty with internet connectivity were given the option to write the answers in paper, scan and send back within a stipulated time based on the duration of exam.*** ***Project Reviews*** ***Scheme of Evaluation for the Project reviews completed during 15th to 30th May 2020 to be as follows:*** ***Mid Semester Review conducted at Institute: 20%*** ***End Semester Review conducted Online: 30%*** ***Supervisor 30%*** ***External Examiner 20%*** ***Core and In-House Elective Courses:*** ***Grading for the courses would be done based on performance in Quiz 1 (conducted in Februa))y and other quizzes (if any), Assignments / Project / surprise or other evaluations and online End Semester Examination.*** ***The evaluation scheme proposed is as given below:*** ***Quizzes: 30-50%*** ***Assignments/Project/other tests/Research Presentation: 30-50%*** ***Online End Semester Examination: 30-50%*** ***Senate advised that the above distribution should be just a guideline, the faculty member can vary the weightage for each based on the course. The same is to be communicated to the students.*** ***The Senate advised to issue the course completion certificates without any delay to the students as and when they complete the credit requirements. Accordingly, it is planned to issue the course completion certificates by 15th June to students who would be completing project reviews and all exams by 6th June.*** ***NPTEL Courses as Electives*** ***Senate was apprised of the Schedule of End Examinations announced by the NPTEL on 2nd June 2020. The Senate directed that students who have registered for the NPTEL courses should attend the exam scheduled by NPTEL. In case any student is not able to give the NPTEL exam due to genuine reasons, considering the existing situation, exams may be conducted as proposed in the Senate. In such cases, assignment score from NPTEL will be given 50% weightage, and the exam will have the remaining 50% and whoever scores at least 60% will be earning the credits of the course.*** ***And the course completion certificates would be issued to such students after they complete the exam by NPTEL or exam by Institute.***

	Pre-Final Year Students Undergoing Internship: ***Senate has given approval to conduct the 6th / 8th End semester examinations of the above students when they rejoin the Institute in October after Internship. The mode of the examination could be decided based on whether the Academic activities being held online or on campus then.*** ***1st / 2nd Year B Tech, 1st / 2nd / 3rd Year DD and 1st Year M Tech Theory Courses*** ***Senate has granted approval to complete the courses by 15th June and to conduct online End Semester Examinations before 10th July. Students having any issues with internet connectivity will be advised to write the exam in paper, scan and send the answers back by email within the stipulated time.*** ***Grading for the courses would be done based on performance in Quiz 1 (conducted in February) and other quizzes (if any), Assignments / Project / surprise or other evaluations and online End Semester Examination.*** ***The evaluation scheme proposed is as given below:*** ***Quizzes: 30-50%*** ***Assignments/Project/other tests/Research Presentation: 30-50%*** ***Online End Semester Examination: 30-50%*** ***Senate advised that the above distribution should be just a guideline, the faculty member can vary the weightage for each based on the course. The same is to be communicated to the students.*** ***1st / 2nd Year B Tech, 1st / 2nd / 3rd Year DD and 1st Year M Tech Theory Courses*** ***Senate discussed in detail how effectively an online evaluation could be done for lab courses and asked to explore the possibility of conducting the exams when the students join back as the Institute reopens. However, the Chairman, Senate has informed the Senate that it's better to complete all evaluations before the commencement of next semester. Accordingly, the Senate granted approval.*** ***Grading for practice courses should be done based on the lab sessions the students have completed on campus until lockdown as around 70% of the lab sessions would have been completed by then. Weightage could be given to daily performance, mid semester exam, regular viva, project etc. as the case may be for the course.*** ***The evaluation scheme proposed is as given below:*** ***Daily performance 30-50 %*** ***mid Semester exam / Project 30-50%*** ***Regular viva 30-50%*** ***In case any online evaluation has been done for any lab courses by the faculty members, the same could also be considered along with the above.*** ***The faculty members can adopt the suitable grading scheme for the lab course and communicate the same to the students.***
2020-42-Senate-10:	**Revised Academic Calendar for Jul-Nov 2020** In the Academic Calendar approved by the 41st Senate, the Odd Semester was proposed to commence from 23rd July. However, taking into account MHRD/UGC

	guidelines, the Odd Semester is scheduled to commence from Monday, 3rd August and a revised Academic Calendar is attached as **Annexure 2.** Classes would be delivered online until the students could report to campus. Special sessions will be conducted for lab courses to compensate for the missed classes. The academic schedule of M Tech 1st year is expected to be same as the above as CCMT has already initiated the admission process. The academic schedule for the first years who will be admitted based on JEE 2020 will be different from the schedule of the seniors. As and when the dates of JoSAA/CSAB counseling rounds are announced, the academic calendar for the first years will be prepared and submitted to Senate for approval. **Annexure 2**
	Senate has approved the revised Academic Calendar for the existing students. Classes would start from 3rd August in online mode. In order to conduct lab sessions, utilizing resources such as Virtual Labs developed by IITs or any other Govt. portals has to be explored. And the hands-on practice sessions could be conducted when the students report back to campus as Institute open for academic activities. ***However, the Senate has urged not to combine M Tech 1st year students along with the existing students as some of the former would be completing their B Tech programme late due to the existing situation. Starting the classes on August 3rd for them would be inappropriate. And the Senate has asked to align the academic schedule of M Tech 1st year students along with that of B Tech 1st year students.*** ***Accordingly, as per the Senate advice, as soon as the counseling and admission rounds of CCMT and JoSAA/CSAB are declared, the new Calendar applicable for them would be prepared and circulated among the Senate Members for approval.***
2020-42-Senate-11:	**To approve selection of a PDF in the Institute** An application has been received from Ms. S Shoba who has submitted thesis in the Dept. of CSE in 2019 at SSN, Chennai for the position of PDF. The Chairman Senate has constituted departmental Selection Committee (DSC) and Institute Selection Committee (ISC). The candidate presented her research work and proposal for PDF to both the committees and based on the recommendation from DSC and ISC, Chairman Senate has granted approval for her selection as PDF of the institute. Senate may kindly ratify the decision.
	Senate has ratified the decision of the Chairman Senate.
2020-42-Senate-12:	**Conduct of Supplementary Examinations of Final Year Students Online in case Students could not report to campus on 1st July** It is planned by the Institute to declare the results of final year students by 15th June. 23 students from the graduating batch are found to have backlogs. Accordingly, the supplementary examinations are planned to be conducted in July. However, in case of continuation of lock down, it is proposed to conduct the supplementary Examinations also online only for the final years. The pattern/mode of examination would be decided by the course faculty member and would be communicated to the students. Supplementary Examination of students other than the final years is planned to be conducted only after the students report to campus after the restrictions are released.

<table>
<tr><td></td><td>Senate may kindly consider and advise suitably.</td></tr>
<tr><td></td><td>The Senate has granted permission to conduct supplementary examination online for the final year students in July 2020. The maximum number of papers a student can appear for the supplementary in July 2020 is limited to 3.</td></tr>
<tr><td>2020-42-Senate-13:</td><td>Permission to issue Provisional Degree Certificates to the Students who complete the credit requirements by 31st July
Institute has planned to complete the regular examinations in June and Supplementary Examinations in July for the final year students. The students of the graduating batch are listed in the Annexure 3 attached herewith. There are 304 proposed Graduands from B Tech, DD and M Tech Programmes. As the convening of convocation is likely to be delayed in view of prevailing condition, it is proposed to issue provisional certificate for the benefit of these students.
<table>
<tr><th>Degree</th><th>Programme</th><th>No. of Students</th></tr>
<tr><td rowspan="4">B Tech</td><td>COE</td><td>40</td></tr>
<tr><td>EDM</td><td>39</td></tr>
<tr><td>MDM</td><td>37</td></tr>
<tr><td>MSM</td><td>31</td></tr>
<tr><td rowspan="5">B Tech and M Tech</td><td>CED</td><td>40</td></tr>
<tr><td>ESD</td><td>19</td></tr>
<tr><td>EVD</td><td>20</td></tr>
<tr><td>MFD</td><td>18</td></tr>
<tr><td>MPD</td><td>17</td></tr>
<tr><td rowspan="4">M Tech</td><td>CDS</td><td>10</td></tr>
<tr><td>EDS</td><td>9</td></tr>
<tr><td>MDS</td><td>12</td></tr>
<tr><td>SMT</td><td>12</td></tr>
<tr><td colspan="2">Total Students</td><td>304</td></tr>
</table>
Senate my kindly grant approval to issue provisional Degree Certificates to the students who complete the credit requirements by 31st July 2020. Annexure 3</td></tr>
<tr><td></td><td>The Senate has granted approval to issue provisional certificates to all students who complete the credit requirements on or before 31st July.</td></tr>
<tr><td>2020-42-Senate-14:</td><td>Any other matter with permission of the Chair:</td></tr>
<tr><td></td><td>The Chairman has asked if the HoD’s have any item to be discussed and Prof. B. Raja, the Head of the Dept. of Mechanical Engineering pointed out the need for a Design Department in the Institute. The Chairman also discussed regarding forming a new Department as Applied(Basic) Sciences and Humanities Department comprising of faculty members from Physics, Mathematics and English.

The Senate members have univocally agreed on the proposal and emphasized the need of Design department as the IIITDM has a special mandate to impart engineering education with a thrust to design and manufacturing. Senate also advised to form a committee in line with BoG approval to finalize the design curriculum at the earliest.</td></tr>
</table>

The next meeting of the Senate will be held in August/September 2020.

(A. Chidambaram)
Secretary

(Dr. Binsu J Kailath)
Dean - Academics

(Prof. B. Majhi)
Chairman

INDIAN INSTITUTE OF INFORMATION TECHNOLOGY, DESIGN AND MANUFACTURING, KANCHEEPURAM

41st MEETING OF THE SENATE

Date : **1st February 2020 (Saturday)**
Time : **10.00 A.M.**
Venue : **Senate Hall, IIITDM Kancheepuram.**

The 41st Senate meeting of the Institute was held on 1st February, 2020 at 10 am in the Senate Hall.

The following members attended the meeting:

Prof. Banshidhar Majhi, Prof. V. Jagadeesh Kumar, Prof. S. Narayanan, Prof. S. P. Venkateshan, Mr. A. Chidambaram, Dr. Sudhir Varadarajan, Dr. M. Sreekumar, Dr. Binsu J Kailath, Dr. Naveen Kumar Vats, Dr. M.D. Selvaraj, Dr. N. Sadagopan, Dr. Priyanka Kokil, Dr. B. Raja, Dr. Tapas Sil, Dr. S. Vijayakumar, Mr. G. Ravikumar

The following Members could not attend the meeting.

Prof. P. Chandramouli, Prof. Krishna Moorthy Sivalingam, Dr. Anand Lakshmanan, Dr. G. Venaktesh, Prof. Krishna Moorthy Sivalingam has given the comments and suggestions over telephone.

MINUTES

<table>
<tr><td>2020-41-Senate-01:</td><td colspan="3">The members and invitees have been welcomed by the Chairman.</td></tr>
<tr><td rowspan="3">2020-41-Senate-02:</td><td colspan="3">To confirm the minutes of the 40th meeting of the Senate held on 03 July 2019.</td></tr>
<tr><td colspan="3">The Minutes of 40th Meeting of the Senate held on 03 July 2019 duly approved by the Chairman of the Senate was circulated to all members. Prof. Jagadeesh Kumar. V has given modifications for item Nos. 40.04, 40.08, 40.09, 40.11, and 40.12. The revised minutes' incorporating the above corrections is submitted herewith.
Senate may kindly confirm the Minutes of the 40th meeting of the Senate held on 03 July 2019
Annexure – 1 (Page No 14 to 29)</td></tr>
<tr><td colspan="3">The Minutes of the 40th meeting of the Senate was confirmed.</td></tr>
<tr><td rowspan="6">2020-41-Senate-03:</td><td colspan="3">Report on Action Taken on the decision of 40th meeting of the Senate held on 03rd July 2019.</td></tr>
<tr><td>40-04</td><td>Approval for Elective Course</td><td>Implemented</td></tr>
<tr><td>40-05, 09, 10</td><td>7th Convocation, Degrees, Awards</td><td>Degrees and Prizes conferred in the Convocation</td></tr>
<tr><td>40-06</td><td>MoU with NUST, MISIS, Moscow, Russia</td><td>MoU signed</td></tr>
<tr><td>40-07</td><td>Conventional Names for the Academic Programmes offered</td><td>Ratified</td></tr>
<tr><td>40-08</td><td>Result Analysis Jan - May 2019</td><td>Measures are being taken</td></tr>
</table>

	40-11	Extension of course duration to M Tech student	Implemented
	40-12	Revision of HTRA to Ph D Scholars	Implemented
	40-13	Increase in Institute Post-Doctoral Stipend	Implemented
	40-14	Cases of Disciplinary Action	Communicated to the Students and Parents
	The Senate has noted the action taken. The details of Placement activities held in the Institute up to January 2019 has been presented before the Senate and during the discussion, Prof. V. Jagadeesh Kumar suggested that in case any reputed core companies hesitate to visit the campus for placement, Institute could make arrangements to send the shortlisted students to such companies so that the selection process is held in the company itself.		

2020-41-Senate-04:

Elective Courses by Faculty Members

The following 4 courses have been proposed by Institute Faculty members as electives after approval from the Departmental Academic Committee (DAC) whose syllabi are given in **Annexure 2**. **(Page No 30 to 33)**

Sl. No	**Name of the course**	**Proposed by**	**Dept. offering**
1.	Computational Electromagnetics	Dr. Prerna Saxena	ECE
2.	Deep Learning	Dr. Umarani J.	CSE
3.	Topics in Analytic Number Theory	Dr. M. Subramani	MAT
4.	Foreign Language - German Level I		

The Senate may discuss and approve the proposed elective courses.

The Senate has approved all the proposed courses, however given the following suggestions.
The Senate has advised that Consent of Teacher (CoT) should be given as the pre-requisite for all the Elective courses as it would be impractical to confirm that every student has the required pre-requisite during Course Registration. The Senate has also advised to include latest editions of books as Text or Reference.
The Senate has advised that language courses should be given course code of 1 series. Also, the name of the German Course should be German Level I as the contents proposed are at the basic level.
The Senate has urged that only Institute Faculty members should be proposing courses for the Institute. The Senate has also advised to get in touch with Goethe Institute and Consulates of Japan and French to explore the possibilities of offering such foreign languages for our students.
Prof. Krishna suggested that in special cases, the course may be floated by Dean Academics or a regular faculty member of the Institute.

The revised course contents incorporating all the above suggestions are given in Annexure 2.

2020-41-Senate-05:

Reporting of Admission into the B Tech and Dual Degree Programmes by JoSAA/CSAB and M Tech Programmes by CCMT and Ph D admissions.

Degree	Sanctioned Strength	No. of Students Joined	No. of Vacant seats
B. Tech			
JoSAA	200	192	8
DASA	20	10	10
Dual Degree			
JoSAA	150	142	8
DASA	18	6	12
M. Tech			
CCMT	80	57	23
DASA	4	0	4
Total	**472**	**407**	**65**

B Tech	No. of. Students Admitted	Dual Degree	No. of. Students Admitted	M Tech	No. of. Students Admitted	Total
COE	53	CED	53	CDS	15	**407**
EDM	54	ESD	24	EDS	18	
MDM	49	EVD	26	MDS	16	
MSM	46	MFD	22	SMT	8	
-		MPD	23	-		
Total	**202**	**-**	**148**	**-**	**57**	

Ph D				
Department	**Existing**	**Admission Jul 2019**	**Admission Jan 2020**	**Total as on Roll**
CE	12	4	3	19
EE	25	6	8	39
ME	24	8	10	42
PH	6	1	1	8
MA	4	2	1	7
Total	**71**	**21**	**23**	**115**

Category wise data and opening and closing ranks are given in **Annexure 3. (Page No 34)**

This is for the information of the Senate.

Senate has advised to present the admission statistics under DASA separately and also noted that admissions are offered by the respective Departments and Institute and Senate would only ratify the process.
Senate has noted the drop in opening and closing ranks of other B Tech programmes when compared with CSE. Senate has also noted the significant drop in ranks in the dual degree programmes when compared with the B Tech programmes. The Chairman of the Senate has enquired the view of the Senate in admitting all students only for B Tech programmes and giving them the option of converting into DD at the end of 5th semester. Senate has informed that such a procedure is being followed in reputed IITs/NITs also and advised to analyse the issue in detail and present as an item in the subsequent Senate.

	Senate has urged that the respective Department should analyse in detail why M Tech admission in a specific programme is getting dropped and should take necessary steps to address the issues. ***Prof. Krishna also suggested that a detailed analysis may be done before the item is presented in the subsequent Senate.*** ***Prof. S. P. Venkateshan has suggested to present details of all Research Scholars on rolls and the status of their progress.***
2020-41-Senate-06:	**Python Course for all students admitted in 2019 as elective / free elective.** Keeping coherence with Institute's focus on offering IT enabled Design and Manufacturing oriented courses and to provide excellent Coding Skills, it is proposed to offer Python Course to all students currently in their second semester (2019 admitted batch). In this regard, all such students are advised to register for the online course from NPTEL "The Joy of Computing using Python". On successful completion of this 12 weeks course, students will earn 3 credits more in second semester making the total credits earned in 2nd semester to 22+3=25. The 3 credits so earned will be considered under the "Elective / free Elective" category so that the total credits in the programme remain unchanged. One student has already done the same course in his first semester and has requested to consider the same. Course Layout is given at **Annexure-4. (Page No 35)** ***The Senate is requested for approval.***
	The Senate has approved the proposal, however, urged that it should be made as a practice that programming language courses are offered by the respective Dept. faculty members of the Institute in place of NPTEL courses. ***Institute will take necessary steps so that interested faculty members from every Dept. would be offering programming language courses in future.***
2020-41-Senate-07:	**Revised B Tech Curriculum.** A committee consisting of about 20 Institute faculty members with proper blend of experience and freshness and with educational back ground from Indian and foreign Institutes has been constituted to submit a revised curriculum for the B Tech Programme. The revised curriculum to be effective from Jul 2020 for the B Tech Programme is proposed at **Annexure 5. (Page No 36 to 47)**

Semester wise Credit Distribution	Credits									
Category	S1	S2	S3	S4	S5	S6	S7	S8	Total	%
Science Core (SC)	8.5	4	0	0	0	0	0	0	12.5	7.7
Science Elective (SE)	0	4	4	4	0	0	0	0	12	7.4
Engineering Core (EC)	11.5	0	0	0	0	0	0	0	11.5	7.1
Professional Core (PC)	0	4.5	16	16	16	0	0	6	58.5	35.9
Professional Elective (PE)	0	0	0	0	0	12	15	0	27	16.6
Free Elective (FE)	0	0	0	0	3	3	3	0	9	5.5
IT Integrated Design & Manufacturing (ITDM)	1.5	8.5	3	4	6	0	1.5	0	24.5	15.0
Management (HSM)	1.5	0	0	0	0	6.5	0	0	8	4.9
Total	23	21	23	24	25	23	18	6	163	100

	Recommendations of the Committee: 1. Minimum credits required to complete the B Tech Degree is 160 2. 23-25 credits in 3rd to 6th semesters 3. Program Core (PC) theory could be either 3-1-0-4 or 3-0-0-3 4. PC1 may or may not have lab 5. PC labs can have either 1.5 (3 hrs) or 2 (4 hrs) credits 6. Program Elective (PE) could be either 3-1-0-4 or 3-0-0-3 7. Total number of Electives is 12 including 9 under Program and 3 under Free Electives 8. Total credits range 160 – 165 9. Design Thinking to include Desirability, Viability, Feasibility concepts with case studies from each core 10. Concepts in Engg Design to include Plan, design, launch etc. with case studies from each core 11. Dept. Design course will have Core specific design concepts 12. Each Design course would be building on other 13. During Entrepreneurship and Management Course the student should actually go through entire procedures of launching a product / company 14. PDP to start from May and continue until November. Students will be given option to choose between PDP and internship. 15. Students would be given option to carry out project in the 7th / 8th semester 16. GATE Syllabus could be the model curriculum 17. Choice Based Credit System is incorporated as students have 12 electives to choose, option to choose between PDP and Internship and carrying out project in 7th or 8th semester ***The Senate may discuss and approve.***
	The Senate has approved the credit distribution in different verticals and given the following suggestions. Suggestions given by Prof Krishna are also incorporated below. 1. ***Credits for Project could be increased to 9.*** 2. ***One course from PE could be moved as FE depending upon the requirements of Elective courses under PE for the Departments.*** 3. ***Credits in the final year is relatively low which could be increased by shifting one course each from 5th to 6th, 6th to 7th and 7th to 8th.*** 4. ***Minimum credits required to be limited to 160*** 5. ***Total credits in each semester needs to be of integer value*** 6. ***Manufacturing aspects should also be covered in the courses in the ITDM vertical.*** 7. ***Detailed sequencing of courses to be presented in the subsequent Senate after further discussions within the Institute and with External Experts.*** 8. ***Core courses should be decided based on GATE syllabus in each Department.*** ***The above mentioned suggestions shall be incorporated in the curriculum and the sequence of courses be presented in the subsequent Senate.***
2020-41-Senate-08:	**Students inducted into Direct PhD Programme at IITM as per the MoU between the two Institutes and the Change of credits in Internship for them**

Normally, B Tech students of the Institute have to undergo internship for 5 months from Mid of May to Mid of October giving 5 credits. Four B Tech students have been inducted into the Direct PhD Programme at IIT Madras as per the MoU between the two Institutes.

The Students inducted into the Programme and their mentors are listed below.

Student	**Mentor**
Ms. K Bharati, Roll No: EDM16B016	Prof. Krishna Jaganathan P, Dept. of EE, IITM
Mr. Jeeva Keshav S, Roll No: EDM16B015	Prof. Nitin Chandrachoodan and Prof. Radhakrishna Ganti, Dept. of EE, IITM
Mr. Nitin Priyadarshini Shankar, Roll No: EDM16B028	Prof. Krishna Jaganathan P, Dept. of EE, IITM
Mr. Sangadi Tejaram, Roll No: EDM16B032	Prof. Radhakrishna Ganti, Dept. of EE, IITM

Such students have undergone internship in IITM for 3 months from Mid-May to Mid-July and have started doing the course work in IITM from then on. Hence, the credits for the Internship for 3 months have been reduce to 3 credits. The 2 remaining credits will be earned by the students from course and project work at IIT Madras.

The required redistribution of credits is given in the table above.

Category	Semester 7 and 8	
	Credits as per IIITDM Curriculum	Credits in IITM
Internship	5	3
Course work	14	31
Project	15	
Total	34	34

It's our pleasure to inform that all of them have performed really well during the course work at IITM and have secured CGPA of 8.43 (Tejaram), 8.71 (Nitin), 8.58 (Bharati) and 8.98 (Jeeva Keshav)

Senate may kindly grant permission for the same for the B Tech students inducted into Direct PhD Programme in IITM.

Senate has approved the changes in Internship credits required for the students inducted into Direct PhD programme as per the MoU.

2020-41 Senate-09:

Admission Under M Tech by Research Programme

Recently quite a good number of applications have been received for PhD programme from Personnels working in Industries, but with only having B Tech Degree. Such candidates are encouraged to register for M Tech Research and upon completion for PhD. One such candidate Mr Jit Goel has registered as the first such student of the Institute under external category in January 2020.

Accordingly, the rules of the Programme have been formulated based on the approval by the Chairman, Senate. The rules and regulations for M Tech (Res) is presented as **Item**

	No 10. **(Page No 48 to 69)** ***The Senate is requested to ratify the decision of offering the admission to the candidate.***
	The Senate has ratified the admission under M Tech Research Programme.
2020-41-Senate-10:	**Ordinance for M Tech by Research (Regular and External)** The revised Ordinance and Regulations for M Tech by Research is given in **Annexure - 6. (Page No 48 to 69)** ***The Senate may discuss and approve.***
	The Senate has approved the M Tech Research Ordinance.
2020-41-Senate-11:	**Admission to Part Time Ph D under Visvesvaraya Scheme:** MEITY, Govt. of India has initiated **Part Time Ph D programme under Visvesvaraya Scheme** and based on the proposal submitted from Institute, 8 scholars have been allotted to the Institute. The advertisement was released along with that of the Regular PhD and 8 candidates have been admitted into the programme, 2 into Dept. of CSE and 6 into Dept. of ECE, following the same selection procedure as that for the other scholars. As per the terms and conditions given by the Ministry, the candidates are eligible for one time grant of 2.5 lakhs upon completion of PhD degree by 2023. Terms and condition given by the MEITY are placed as **Annexure-7 (Page No 70 to 72)** As per the PhD Ordinance of the Institute, PhD programmes are offered under HTRA (Half-time Research Assistantship) and NHTRA (Non-HTRA) categories wherein NHTRA includes admission for Institute Regular Staff, Institute Project Staff, and Candidates from R&D Organizations. Part Time PhD programme is not included in the Ordinance. Senate is requested to approve the admission conducted in the Part Time PhD Programme under Visvesvaraya Scheme for the above 8 candidates**.** Further, the Senate may kindly grant permission to proceed with admission process under any such Govt. of India Schemes for Part Time PhD as per the notifications released by the respective Ministry from time to time. The Proceedings shall be submitted for approval in the subsequent Senate meeting.
	Senate has approved the admission offered in Part Time PhD Prgramme under Visvesvaraya Scheme.
2020-41-Senate-12:	**Modification in Selection Procedure for External Ph D:** Research Collaboration between institute faculty members and Scientists/Researchers from R&D Organizations and reputed Private Industries is identified as a mandate of the Institute as per the directions from the BoG. Such candidates are to undergo the same selection procedure as that of the HTRA scholars including a written test and interview as per the existing rules. As the Institute gets benefitted in terms of collaboration through such candidates, it would be appropriate to adopt a separate selection process for them. It is proposed to have the selection process in two stages, first in which the detailed research proposal to be submitted along with the application will be scrutinized and the second an interview

	conducted by the respective Department in which the candidate has applied for the PhD Programme. The proposal that they submit should have approval by the Organization in which the candidate is employed and would be carrying out the research. For the HTRA scholars, the number of NPTEL courses they could credit as part of the credit requirement is one in which they need to score at least 65 marks to have completed the course. It is proposed that candidates under External Scheme may be considered to have completed the credit requirement with two in-house courses with a minimum CGPA of 7.5 and two online courses from NPTEL in which they would have scored at least 65 marks. The proposal is summarized below. • All External (M Tech by Research and PhD) candidates need to submit detailed research proposal along with the application • The proposal will be scrutinized before shortlisting for interview • Candidate has to attend the interview conducted by the respective Department • The proposal should have approval by the research Organization in which the candidate is employed and would be carrying out the research over there. • Such candidates are permitted to register for 2 NPTEL courses as part of their course work and need to score minimum of 65 marks to complete the course • All other rules and regulations remain the same as given in the M Tech Research / PhD Ordinance. ***Senate may kindly discuss and approve the proposal and upon approval, this could be made effective from July 2020 admissions.***
	The Senate has approved the proposal. However urged that the interview process should be very rigourous so that only deserving candidates are getting selected based on their merit. ***Senate also urged to invite the Supervisor of the candidate in his Organization as a member of the interview panel.*** ***Senate has also urged that only PG Level NPTEL courses can be credited by M Tech Research / PhD Scholars.*** ***Senate has also urged that periodic review similar to scholars under HTRA category need to be conducted for scholars under External Category as well.***
2020-41-Senate-13:	**Cut off Marks for Honours Students in NPTEL Courses.** As per the Senate Resolution No. 03/2014 (B Tech - 22nd Senate) and 09/2016 (DD - 31st Senate) in order to be eligible to receive Honours Degree for the B Tech programme one has to register for three additional courses and earn NINE credits from 5th semester onwards with one course per semester by maintaining CGPA $\geq$ 9 in each semester. Senate as per Resolution No. 12/2017 (35th Senate) has permitted one to register for a NPTEL course for 3 credits, however, no cut off marks is given to be considered as Honours course. As a student who earns all the NINE credits from In-House courses need to maintain CGPA $\geq$ 9, it would be appropriate to fix the minimum marks to be scored for the NPTEL course as 80. ***Senate may kindly discuss and advise.***
	The Senate has ruled that In-House courses alone should be considered for Honours. All Online courses taken by the students are to be considered under normal Electives or Free Electives. However, the students were permitted to take one Online Elective

<table>
<tr><td></td><td>course for Honours since July 2016. Accordingly, the online courses taken by students under Honours programme will be analysed and presented in the subsequent senate.</td></tr>
<tr><td>2020-41-Senate-14:</td><td>To modify the Ph D ordinance of the Institute R. 9 – Doctoral Committee

As per the Ph D Ordinance,

R.9 Doctoral Committee of the Ph D scholar :
The guide will intimate to the Head of the Institute or his nominee for the scholar, the area of research, the name(s) of the guide’s) and a panel of names, indicating the area of specialization of faculty members for constitution of a Doctoral Committee, within 8 weeks of the date of joining of the research scholar. The following is the composition of the Doctoral Committee

<table><tr><td>1</td><td>Head of the Institute or his nominee</td><td>Chairman</td></tr><tr><td>2</td><td>Research Guide(s)</td><td>Guide</td></tr><tr><td>3</td><td>A minimum of two faculty members from IIITDM</td><td>Members</td></tr><tr><td>4</td><td>One faculty member from other Reputed academic institute</td><td>Member</td></tr></table>
Senate is requested to grant permission to update the Rules as follows:

<table><tr><td>1</td><td>Head of the Institute or his nominee</td><td>Chairman</td></tr><tr><td>2</td><td>Research Guide(s)</td><td>Guide</td></tr><tr><td>3</td><td>A minimum of two faculty members from the same department of IIITDM Kancheepuram</td><td>Members</td></tr><tr><td>4</td><td>One member from Reputed CFTIs or allied department of IIITDM Kancheepuram</td><td>Member</td></tr></table></td></tr>
<tr><td></td><td>Senate has approved the change in Constitution of DC. Prof. Krishna has suggested to include ISI/CMI/IMSc also.

<table><tr><td>1</td><td>Head of the Institute or his nominee</td><td>Chairman</td></tr><tr><td>2</td><td>Research Guide(s)</td><td>Guide</td></tr><tr><td>3</td><td>A minimum of two faculty members from the same department of IIITDM Kancheepuram</td><td>Members</td></tr><tr><td>4</td><td>One member from Reputed CFTIs/ISI/CMI/IMSc or allied department of IIITDM Kancheepuram</td><td>Member</td></tr></table></td></tr>
<tr><td>2020-41-Senate-15:</td><td>Proposal to start three new M Tech Programmes and one M Des programme from July 2020

1. M Tech in Power Electronic System Design (PESD) (Annexure 8.1) (Page No 73 to 74)
2. M Tech in Computer Science and Engineering (Annexure 8.2) (Page No 75 to 76)
3. M Tech in Advanced Robotics jointly offered by University of Genova and IIITDM Kancheepuram and / or IIT Madras (Annexure 8.3) (Page No 77 to 78)
1. The curriculum evolved at after thorough deliberations within the department and Brain Storming Session are given in Annexure 8.1 Senate is requested to discuss and advise.</td></tr>
</table>

	2. The curriculum evolved after thorough deliberations within the department is given **Annexure 8.2.** ***Senate is requested to discuss and advise.*** ***3.*** The curriculum proposed by University of Genova in consultation with Institute faculty members is given in **Annexure 8.3.** The total credits given is 120 according to the European methodology which needs to be mapped into Credit system followed by IIITDM Kancheepuram. The revised version will be submitted in the subsequent senate meeting. ***Senate is requested to discuss and grant in principle approval for the proposed programme.*** 4. Proposal to offer M Des programme is under discussion. The same will be submitted in the subsequent senate for approval.
	The Senate has approved the M Tech in PESD and CSE. The detailed course contents need to be presented in the subsequent Senate. ***Senate has given in principle approval for the M Tech Programme jointly proposed by University of Genova and the Institute.*** ***Senate has advised to name the programme as M Tech in Advanced Robotics with exchange programme with University of Genova until the two Institutes mutually agree to confer the degree jointly.***
2020-41-Senate-16:	**Ph D Defence Completion.** Details of PhD Scholars who have defended their theses and eligible for award of the Degree are furnished below for kind perusal of the Senate.

Name of the Scholar	Mr C Gurunathan
Roll No	MDM11D003
Department	Mechanical Engineering
Thesis Title	Thermo-Tribological Characteristics Of Particle And Network Reinforced Polymer Composites
Guide	Prof R Gnanamoorthy, IIT Madras Dr S Jayavel, Mechanical Engg, IIITDM Kancheepuram
Name of the Scholar	Mr Vinayaga Muruga Pandy N
Roll No	MDM13D003
Department	Mechanical Engineering
Thesis Title	Development of a minimally-invasive drilling methodology to control temperature and cutting force in femur reconstruction surgery: A methodology for better pullout strength of fixations in human cortical bone
Guide	Dr Pandithevan P, IIITDM Kancheepuram

Details of the scholars is placed at **Annexure 9 (Page No 79 to 82)**
Senate may please approve for issuing of provisional certificates.

	The Senate has granted permission to offer the Provisional Degree Certificates.
2020-41-Senate-17:	**Payment of Tuition Fee for Students Repeating a Semester on valid medical grounds.** Students are permitted to drop for a semester on medical grounds. These students are taking admission in next semester (year) along with the immediate junior batch of students and paying the updated Tuition Fee for the semester. When such students re-join the programme along with the junior batch students for repeat of dropped semester, the tuition fee is paid for the dropped semester/s twice. This is leading to collection of tuition fee more than the number of semesters in that particular programme. Hence it is proposed that tuition may be charged only for number of semesters scheduled for that course in the event of repeat and drop of semester due to valid medical reason. Other than Tuition Fee, all other fees, as they are revenue related fees, to be paid by these students. ***The Senate may discuss and approve the proposed.***
	The Senate has ruled that the students who take a semester drop due to valid medical reasons prior to Quiz 1 may be waived off the tuition fee payment for that semester. However, the students who have to repeat a semester on disciplinary grounds need to pay the fee every semester until they complete the programme.
2020-41-Senate-18:	**Academic Calendar for the year 2020** Academic Calendar for the Year 2020, Jan-Jun 2020 and Jul-Dec 2020 Semesters is placed at **Annexure 10. (Page No 83 to 84)** ***The Senate is requested to approve the same.***
	The Senate has approved the Academic Calendar.
2020-41-Senate-19:	**Provision for Credit Transfer from courses done during the M Tech Programme for Institute M Tech/Dual Degree Students joining for Ph D Programme** Institute M Des / M Tech / Dual Degree students who join for PhD Programme in IIITDM Kancheepuram may be exempted from re-doing the courses she/he has credited during M Tech under the following conditions. • The M Tech courses are listed among Core/Elective courses approved by the 0th DC meeting • The courses are In-House courses and relevant to the area of research. • The grade scored for the course is at least a B during the M Tech Programme • The Student has to request the DC for carrying forward of courses and credits completed during his M Des Programme. • The recommendation of the DC is necessary • The student should have joined for the PhD Programme within two years after M Tech graduation • Maximum of two courses only can be taken for credit transfer. ***Senate may kindly discuss and advise.***

The Senate has ruled that any course credited as part of one degree cannot be considered for any other degree.

2020-41-Senate-20

Cases of Academic indiscipline

The following Cases of Academic indiscipline are reported to the senate for kind perusal and approval.

Sl No	Name	Roll No	Case	Recommendation
1.	Mr. Siddharth Prabu S	CED19I006/ 19A06	Possession of Mobile Phone during MAT104T End Semester exam	*20 hours of community service, and 'U' grade in the subject concerned MAT104T – Calculus and one grade less in all the other subjects in the concerned semester, July-Nov 2019*
2.	Mr Pallapu Hemanth	MDM18B030	Possession of Mobile Phone during MAN201T End Semester exam	*20 hours of community service, and 'U' grade in the subject concerned MAN201T – Engineering Economics, and one grade less in all the other subjects in the concerned semester, July-Nov, 2019.*
3.	Mr Bhurkunde Tanmay Rajesh	MSM19B009 /19C75	Possession of Mobile phone during INT109P End Semester Practical exam	*The erring student(s) shall be awarded 'U' grade in the concerned subject "INT109P - Engineering Graphics" and 16 hours of Community Service.*
4.	Mr. Bheem Reddy Aryan Sai Reddy and Mr. Derish Giftly Peter	MDM18B008 MDM18B011	Impersonation during MEC213T End Semester exam	*The students shall be awarded 'U' grade in all subjects in the concerned semester (July – Nov 2019) and will not be eligible for supplementary Exam or contact course in the respective subject, MEC213T – Thermal Engineering – Concepts and Applications.* *The students will also be debarred from attending classes and taking examinations in the next semester, Jan-May 2020.*
5.	Mr. Sheersh Tiwari and Mr. Santosh Dangi	CED19I052 /19C13 MFD19I021 /19D70	Copying of Assignment in INT109P by logging into other's account	*The erring students shall be awarded 'U' grade in the concerned subject "INT109P - Engineering Graphics" and 16 hours of Community Service.*
6.	Mr Pathilavath Rohit Kumar	COE17B026	Malpractice during COM306T Supplementary exam (indulged for 2nd time)	*'U' grade in all subjects in the concerned semester Jul-Nov 2019. And not eligible for supplementary exam and contact course in the respective subject COM306T Automata and Compiler Design. Student also be debarred from attending classes and taking*

					examination in the subsequent semester Jan-May 2020.

Detailed report of the cases is placed as **Annexure-11 (Page No 85 to 91)**

The Senate may consider and ratify the decision of the Disciplinary Committee and the Institute.

Prof. Jagadeesh Kumar has advised that possession of mobile phone (incriminating material) irrespective of its usage is to be treated alike and hence the student with Sl. No.3 also needs to be given same punishment as that of students with Sl. Nos.1 and 2. Prof. S. Narayanan has suggested that as the decision has been taken by the committee after investigating the case and interrogating the student, the punishment proposed may be retained.
As per the Senate advice, Mr Bhurkunde Tanmay Rajesh (Sl. No.3) will have 'U' grade in "INT109P - Engineering Graphics, and one grade less in all the other subjects in Jul-Nov 2019" and 20 hours of Community Service.
The Senate has also ruled that students with Sl. Nos. 4 and 6 involved in impersonation and malpractice for second time respectively and are debarred for a semester will be rejoining the Institute in July 2020 and will be studying along with the respective junior batch students.
The above mentioned punishments as approved by the Senate would be communicated to the Students.

The next meeting of the Senate will be held on **April 2020.**

(Dr. Binsu J Kailath)
Dean Academics

(Prof. B. Majhi)
Chairman

INDIAN INSTITUTE OF INFORMATION TECHNOLOGY, DESIGN AND MANUFACTURING, KANCHEEPURAM

40th MEETING OF THE SENATE

Date : **03rd July 2019 (Wednesday)**
Time : **11.00 A.M.**
Venue : **Senate Hall, IIITDM Kancheepuram.**

MINUTES

2019-40-Senate-01:	**Welcome to the members and invitees by the Chairman.**		
2019-40-Senate-02:	**To confirm the minutes of the 39th meeting of the Senate held on 19th January 2019**		
	The Minutes of 39thMeeting of the Senate held on 19th January 2019 was circulated to all members on 4th March 2019. No comments/suggestions were received from the members and the final minutes have been approved by the Chairman. Senate may kindly confirm the Minutes of the 39th meeting of the Senate held on 19th January 2019.		
	The Senate has confirmed the minutes of the 39th meeting which is given in **Annexure A1.**		
2019-40-Senate-03:	**Report on Action Taken on the decision of 39th meeting of the Senate held on 19th January 2019.**		
	2019-39-Senate-04:	Elective Courses for Approved last senate	Courses will be offered w.e.f July-2019 session.
	2019-39-Senate-05:	Memorandum of Understanding for Academic and Research Collaboration between IIITDM Kancheepuram and IIT Madras	Circular was issued to students and 7 Students have applied for Direct Ph D at IIT Madras.
	2019-39-Senate-06:	To request IIT Madras to include Dual Degree students also in the PhD admission process after their 8thsemester in the MoU	Separate MoU has been prepared and will be taken up with IIT Madras shortly.
	2019-39-Senate-07:	To approve the extension of registration and exemption from fee payment for the Ph D Scholars who submit thesis within a month after semester reopens	Implemented
	2019-39-Senate-08:	To introduce more categories of Admission for the PhD Programme in the Institute	Incorporated in the Ordinance and also included in the July admission notification.
	2019-39-Senate-9:	To provide 3 options for the students for Summer internship and final year project to be done in Industry/Research Labs.	Will be implemented w.e.f 2019-2020
	2019-39-Senate-10:	Request for in-principle approval for the major revision in Curriculum	Process has been initiated
	2019-39-Senate-11:	To consider and approve the introduction of Institute Post-Doctoral Fellowship Scheme at IIITDM Kancheepuram	IPDF has been implemented
	2019-39-Senate-12:	To approve selection of a PDF in the Institute	The PDF has joined the Institute.
	2019-39-	To approve considering Honours course	Implemented

	Senate-13:	as Free Elective for student who opted out of Honours	
	2019-39-Senate-15:	To approve the guidelines for issue of Duplicate Degree Certificates	Implemented
	2019-39-Senate-16:	To ratify the decision of Disciplinary Committee on act of indiscipline and misconduct by student in the Institute on Student disciplinary cases:	OM is issued to the students
	2019-39-Senate-17:	Approved Elective Courses	Implemented
	2019-39-Senate-18:	Initiating Master of Design Programme in-line with that of IIITDM Jabalpur.	Initiatives are there to offer from 2020-2021 academic session
	2019-39-Senate-19:	To discuss regarding need of any punishment for students who do proxy in attendance.	Punishment may be imposed once the students who do proxy are identified.
	2019-39-Senate-20:	Rescheduling of Quiz 1 due to Inter-IIIT Sports Meet at IIIT Allahabad	Quiz 1 was held from 25th to 27th February in place of 13th to 15th February.

2019-40-Senate-04:

Elective Courses for Approval

Course on **Radio Spectrum and Industry 4.0** is proposed by Dr Ashok Chandra to be offered for the PG students. Syllabus is given in **Annexure A2**.

Name of the course	Faculty Proposed	Dept.
Radio Spectrum and Industry 4.0	Dr Ashok Chandra	ECE

Three final year students could not write the NPTEL final exam for the courses listed below due to medical and personal reasons. In order to make them eligible to receive the degree in the 7th convocation to be held on 13th July, with the approval of the Chairman, Senate, it was decided to conduct in-house end semester exams for these students in these courses. Similarly three students have failed in the NPTEL final exams for the courses listed below and for them also, in-house end semester exams were conducted. Detailed syllabi same as in the NPTEL are given in **Annexure A2.**

Sl. No	Course Code by NPTEL	Course Code by Institute	Name of the course	Student
1.	noc19-mg05	MAN503	Financial Institutions and Markets	Mansingh Meena MDM15B008
2.	noc19-cs27	COM528	Cloud computing	Ranjth Raj K S CED14I030
3.	noc19-mg22	MAN504	Operations and supply chain management	Shubham Kumar Rajak MFD14I009
4.	noc19-mg17	MAN505	Six Sigma	Shubham Kumar Rajak MFD14I009
5.	noc19-cs11	COM527 (Existing)	Design and Analysis of Algorithms	Naveen Rajan MFD14I006
6.	noc19_mg26	MAN506	Business analytics and data mining Modeling using R	Ritu Kumari COE15B032
7.	noc19-mg01	MAN507	Foundation Course in Managerial Economics	Sandeep Kagana EDM15B029

The Senate is requested to ratify the decision and approve these as elective courses of the Institute.

- The Senate has granted approval for the Course on **Radio Spectrum and Industry 4.0.**
- The Senate also urged that Elective courses that are put up for Senate approval should be proposed by Institute faculty members, even though the course may be offered by an adjunct/Guest/Visiting faculty.
- Senate has also advised to explore the options to offer courses on foreign languages as Free Electives by adjunct/Guest/Visiting faculty members.
- Senate has given approval for the equivalent courses to NPTEL courses given in Table above from Sl.-No. 1 to 7 as Institute electives.
- However, the Senate has urged that this approval should not result in an easy way out to clear the pending courses and advised to follow the rule below.
- Any student in the final semester who is short of two courses to get the degree could be permitted to register for the courses as Contact courses for a minimum duration of SIX weeks to enable him/her to clear the course and graduate the same year.
- Henceforth, this rule shall be applicable from 2015 Dual Degree and 2016 B Tech graduating batches.
- Students will not be normally permitted to take NPTEL courses in the final semester. All NPTEL course credits must be earned by 7th / 9th semester for B.Tech. / DD. Chairman Senate can permit a student to credit NPTEL courses in the final semester on a case by case basis.

The syllabi for all the elective courses are given in **Annexure A2**.

2019-40-Senate-05:

Details of PhD Scholars who have defended their theses and eligible for award of the Degree are furnished below for kind perusal of the Senate.

Name of the Scholar	**Ms. Manimegalai. K**
Roll No	PHY12D001
Department	Physics
Thesis Title	**Dynamics of the anharmonic oscillators**
Date of Joining	22-08-2012
Date of Passing of Comprehensive Examination	07-06-2018
Date of Submission of Thesis	04-12-2018
Indian Examiner	**Prof J N De, Saha Institute of Nuclear Physics**
Date of receipt of report	14-01-2019
Foreign Examiner	**Dr. Shalom Shlomo, Cyclotron Institute, USA**
Date of receipt of report	22-02-2019
Date of Ph D viva-voce examination	25-03-2019
Date of submission of final thesis	27-03-2019
Doctoral Committee	
Chairman	Prof. S. Narayanan
Research Supervisor	Dr. Tapas Sil
Internal Member	Dr. P. Damodharan
Internal Member	Dr. S. Vijayakumar
External Member	Prof. Sibasish Ghosh

LIST OF PAPERS BASED ON THESIS

Publications in Refereed Journals

1. K. Manimegalai, Sagar Zephania C. F., P. K. Bera, P. Bera, S. K. Das, and Tapas Sil, " Study of strongly nonlinear oscillators using the Aboodh transform and the homotopy perturbation method", Euro. Phys. J. Plus. (SCI indexed, Impact Fact 2.240, accepted and under printing process)

Publications in International Conferences

2. K. Manimegalai, Tapas Sil, P. K. Bera, Free Vibrations of Tapered Beam: An Improved Approximate Solution, Proceedings of the second international Conference on Frontiers in Engineering, Applied Sciences and Technology (FEAST) 2018, April 27-28, 63-66.

Name of the Scholar	**Mr. Shanmugakumar. M**
Roll No	COE13D004
Department	Computer Science and Engineering
Thesis Title	**On the Development of Novel High-Performance Packet Classification Architectures**
Date of Joining	29-07-2013
Date of Passing of Comprehensive Examination	30-10-2014
Date of Submission of Thesis	17-07-2018
Indian Examiner	**Prof Indranil Sen Gupta, IIT Kharagpur**
Date of receipt of report	19-02-2019
Foreign Examiner	**Prof Ning Weng, Carbondale, USA**
Date of receipt of report	11-05-2018
Date of Ph D viva-voce examination	29-03-2019
Date of submission of final thesis	29-03-2019
Doctoral Committee	
Chairman	Prof. S. Narayanan
Research Supervisor	Dr. Noor Mahammad Sk
Internal Member	Dr. Selvaraj M D
Internal Member	Dr. Sadagopon N
External Member	Prof. Sridharan K

LIST OF PAPERS BASED ON THESIS

1. Shanmugakumar Murugesan and Noor Mahammad Sk, A Novel Range Matching Architecture for Packet Classification Without Rule Expansion, ACM Transactions on Design Automation of Electronic Systems (TODAES), vol. 23, no. 1 (8), 2017.

Name of the Scholar	**Mr. Sathish Kumar R**
Roll No	MDM15D001
Department	Mechanical Engineering
Thesis Title	**Micromechanical Modelling of Magnetostrictive Materials using Polygonal Finite Elements**
Date of Joining	01-01-2015
Date of Passing of Comprehensive Examination	13-06-2016
Date of Submission of Thesis	04-03-2019
Indian Examiner	**Dr Anup S, Indian Institute of Space Science and Technology, Kerala**
Date of receipt of report	01-04-2019
Foreign Examiner	**Dr. Felix Stanley, ASCEND R&T Tech Lead (Ultra Fan), Derbyshire, UK**
Date of receipt of report	28-03-2019
Date of Ph D viva-voce examination	28-05-2019
Date of submission of final thesis	04-06-2019
Doctoral Committee	
Chairman	Prof. S. Narayanan
Research Supervisor	Dr. Jayabal K
Internal Member	Dr. M. Sreekumar
Internal Member	Dr. S. Jayavel
External Member	Prof. A. Arockiarajan

LIST OF PAPERS BASED ON THESIS

Publications in Refereed Journals

1. R. Sathish Kumar and K. Jayabal (2019). A micromechanically motivated constitutive model for magnetostrictive materials with rate effects. IEEE Transactions on Magnetics, 55 (2), 1-13.
2. Sathish Kumar R and **Jayabal** K, Micromechanically motivated constitutive model embedded

in two-dimensional polygonal finite element framework for Magnetostrictive actuators, Journal of Applied Physics, 125(19), 4101-13,2019

Conferences Proceedings and presentations

1. G. V. Balakrishna, R. Sathish Kumar and K. Jayabal, Micromechanically motivated uniaxial model for PZT, IConDM 2016,IIITDM Kancheepuram, December 2016.

Name of the Scholar	**Mr. Chandu DS**
Roll No	EDM14D002
Department	Electronics and Communication Engineering
Thesis Title	**Investigations and Implementations of Novel Methods in the Design of Circularly Polarized Printed Antennas**
Date of Joining	28-07-2014
Date of Passing of Comprehensive Examination	27-10-2015
Date of Submission of Thesis	27-06-2018
Indian Examiner	**Prof. Girish Kumar, IIT Bombay**
Date of receipt of report	17-08-2018
Foreign Examiner	**Dr. Sathish Kumar Sharma, Director, Antenna and Microwave Lab, San Diego State University**
Date of receipt of report	28-04-2019
Date of Ph D viva-voce examination	07-06-2019
Date of submission of final thesis	11-06-2019
Doctoral Committee	
Chairman	Prof. S. Narayanan
Research Supervisor	Dr. S.S. Karthikeyan.
Internal Member	Dr. Premkumar K
Internal Member	Dr. Priyanka Kokil
External Member	Dr. Venkatesh Ramaiyan

LIST OF PAPERS BASED ON THESIS

Journal Papers:

1. Chandu DS and S. S. Karthikeyan, "A Miniaturized Broadband High Impedance Surface with Flexible Circular Polarization Sense", IEEE Transactions on Antennas and Propagation, vol.67, no.04, pp.2819-2824, 2019.
2. Chandu DS and S. S. Karthikeyan, "Quad-Band Linear to Circular Reflective Polarization Transformer and its Application in Dual-Sense Circularly Polarized Antenna Design", IET Transactions on Mi-crowaves, Antennas and Propagation, vol.13, no.06, pp.819-826,2019.
3. Chandu DS and S. S. Karthikeyan, "Broadband Circularly Polarized Printed Monopole Antenna With Protruded L-Shaped and Inverted L-Shaped Strips", Wiley Publications: Microwave and Optical Technology Letters, vol. 60, no.01, pp.242-248, 2018.
4. Chandu DS and S. S. Karthikeyan, "A Novel Dual Circularly Polarized Microstripfed Printed Monopole Antenna", IEEE Transactions on Antennas and Propagation, vol. 65, no. 03, pp. 1410-1415, 2017.

Conference Papers

1. Chandu DS, Tharani D and S.S. Karthikeyan, "A Novel Circular Quarter-Mode SIW Cavity Backed Diversity Antenna with Dual-Circular Polarization", in Proc. of International Conference on Signal Processing and Communication SPCOM, IISc Bangalore, July 19-21, 2018.
2. Chandu DS, Rusan Kumar Barik and S.S. Karthikeyan, "Triple-Band Circularly Polarized Antenna on a Two-Layered High Impedance Surface With Two In- Phase Reflection Bands", in Proc. of 47th European Microwave Conference (EuMC), Nuremberg, Germany, Oct. 8-13, 2017.

Name of the Scholar	**Mr. A Ananth**
Roll No	EDM14D001
Department	Electronics and Communication Engineering
Thesis Title	**Error Analysis of Space Shift Keying Systems**
Date of Joining	28-07-2014
Date of Passing of Comprehensive Examination	16-02-2016
Date of Submission of Thesis	15-02-2019
Indian Examiner	**Prof Prabhat Kumar Upadhyay, IIT Indore**
Date of receipt of report	23-03-2019
Foreign Examiner	**Prof Maode Ma, School of Electrical & Electronic Engineering, Nanyang Technological University**
Date of receipt of report	16-03-2019
Date of Ph D viva-voce examination	21-06-2019
Date of submission of final thesis	24-06-2019
Doctoral Committee	
Chairman	Prof. S. Narayanan S
Research Supervisor	Dr. M. D. Selvaraj
Internal Member	Dr. Naveen Kumar
Internal Member	Dr. Priyanka Kokil
External Member	Dr. Krishna Jagannathan

LIST OF PAPERS BASED ON THESIS

Papers in Refereed Journals

1. A. Ananth and M. D. Selvaraj, "Error Analysis of SSK With Euclidean Distance Based Selection Combining," IEEE Transactions on Vehicular Technology, vol. 67, no. 4, pp. 3195 - 3204, Apr. 2018.
2. A. Ananth and M. D. Selvaraj, "Error Analysis of SSK in DF Cooperative Relaying With Selection Combining," IEEE Systems Journal, (In Early Access).

Presentations in Conferences

1. A. Ananth and M. D. Selvaraj, "Performance Analysis of SSK in Decode and Forward Cooperative Relaying using Min-Max Selection Combining," 2016 IEEE Annual India Conference (INDICON), Dec. 2016, IISc-Bangalore.

Name of the Scholar	**Ms. Dhanalakshmi S**
Roll No	MAT12D001
Department	Mathematics
Thesis Title	**Subset Problems in Higher Chordality and 2K 2 -Free Graphs – Structural and Algorithmic View**
Date of Joining	22-08-2012
Date of Passing of Comprehensive Examination	07-10-2014
Date of Submission of Thesis	April 2017, Revised in October 2018
Indian Examiner	**Prof Mukkai S Krishnamoorthy, Associate Professor(Retired), Rensselaer Polytechnic Institute, Troy, NY, United States**
Date of receipt of report	21-06-2019
Foreign Examiner	**Prof. Maria Daniela Ferrero, Brightling Ln, USA**
Date of receipt of report	28-06-2017
Date of Ph D viva-voce examination	04-07-2019
Date of submission of final thesis	04-07-2019
Doctoral Committee	
Chairman	Prof S Narayanan
Research Supervisor	Dr N Sadagopan
Internal Member	Dr V Masilamani

Internal Member	Dr B Sivaselvan
External Member	Prof R Rama

LIST OF PAPERS BASED ON THESIS

Papers in Refereed International Journals

1. S. Dhanalakshmi, N. Sadagopan and D. Sunil Kumar. Tri-connectivity augmentation in trees. Electronic Notes on Discrete Mathematics, Vol. 53, 57-72 (2016). Published by Elsevier.
2. S. Dhanalakshmi, N. Sadagopan and V. Manogna. On 2K2-free graphs. Inter national Journal of Pure and Applied Mathematics (In Press). Academic Publications Ltd.

Presentation in International Conferences

1. S. Dhanalakshmi, N. Sadagopan and V. Manogna. On 2K2-free graphs- Structural and Combinatorial view. International Conference on Mathematical Computer Engineering (ICMCE 2015), Chennai, Dec 14-15, 2015.
2. S. Dhanalakshmi, N. Sadagopan and D. Sunil Kumar. Tri-connectivity augmentation in trees. International Conference on Graph Theory and its Applications(ICGTA 2015), Coimbatore, Dec 16-19, 2015.
3. S. Dhanalakshmi, N. Sadagopan and Nitin Vivek Bharti. r-connectivity augmentation in trees. 31st Annual Conference of the Ramanujan Mathematical Society, Tiruchirapalli, June 18-21, 2016.
4.

Name of the Scholar	**Mr. Veeramani S**
Roll No	COE13D001
Department	Computer Science and Engineering
Thesis Title	**Novel High Speed IP Lookup Techniques**
Date of Joining	01-01-2013
Date of Passing of Comprehensive Examination	30-10-2014
Date of Submission of Thesis	14-09-2018
Indian Examiner	**Dr. Venkata Ramana Badarla, IIT Tirupati**
Date of receipt of report	24-03-2019
Foreign Examiner	**Prof Mukkai S Krishnamoorthy, Associate Professor(Retired), Rensselaer Polytechnic Institute, Troy, NY, United States**
Date of receipt of report	19-06-2019
Date of Ph D viva-voce examination	04-07-2019
Date of submission of final thesis	04-07-2019
Doctoral Committee	
Chairman	Prof. S. Narayanan,
Research Supervisor	Dr. Noor Mahammad Sk
Internal Member	Dr. B. Sivaselvan
Internal Member	Dr. N. Sadagopan
External Member	Prof. N. S. Narayanaswamy

LIST OF PAPERS BASED ON THESIS

1. S.Veeramani and Noor Mahammad, "Efficient IP Lookup Using Hybrid Trie-Based Partitioning of TCAM-Based Open Flow Switches", Springer Photonic Network Communication, Vol. 28, no. 2, PP. 135-145, 2014.
2. S.Veeramani and Noor Mahammad, "A Heuristic Approach for the CCLP Problem in Software Defined Network (SDN)", Internetworking Indonesia Journal, Vol. 1, no. 1, PP. 3-8,2018.
3. S.Veeramani and Noor Mahammad, "Open Flow Controller Load Balancing Using Graph Teoretic Approach For Open Flow Network", Caribbean Journal of Science, Vol. 53 No. 2, pp. 823-833, 2019.
4. S.Veeramani and Noor Mahammad, "Minimization of flow table for TCAM based Open Flow switches by virtual compression approach", In Proceedings of IEEE International Conference on Advanced Networks and Telecommunication Systems (ANTS), 2013.
5. S.Veeramani and Noor Mahammad, " Hybrid Trie based partitioning of TCAM based Open Flow Switches", In Proceedings of IEEE International Conference on Advanced Networks and Telecommunication Systems (ANTS), 2013.
6. S.Veeramani and Noor Mahammad, "Constructing Scalable Hierarchical Switched Open Flow

Network Using Adaptive Replacement of Flow Table Management", In Proceedings of IEEE International Conference on Advanced Networks and Telecommunication Systems (ANTS), 2013.

7. S.Veeramani and Noor Mahammad, "Novel Approach To Secure Channel Using C-SCAN and Microcontroller in OpenFlow", In Proceedings of IEEE International Conference on Advanced Networks and Telecommunication Systems (ANTS), 2013.

Name of the Scholar	**Mr. Srinivasan G**
Roll No	MDM14D002
Department	Mechanical Engineering
Thesis Title	**An Investigation of Heat and Mass Transfer Characteristics of Spin Freezing and Drying Process**
Date of Joining	28-07-2014
Date of Passing of Comprehensive Examination	27-10-2015
Date of Submission of Thesis	23-04-2019
Indian Examiner	**Dr. Raja Banerjee, Professor, Dept. Mechanical & Aerospace Eng, IIT Hyderabad**
Date of receipt of report	19-06-2019
Foreign Examiner	**Prof Wenxian Lin, School of Science and Engineering, Australia**
Date of receipt of report	17-06-2019
Date of Ph D viva-voce examination	05-07-2019
Date of submission of final thesis	05-07-2019
Doctoral Committee	
Chairman	Prof. S. Narayanan
Research Supervisor	Dr. B. Raja
Internal Member	Dr. S. Jayavel
Internal Member	Dr. Naveen Kumar
External Member	Prof. Shaligram Tiwari

LIST OF PAPERS BASED ON THESIS

Publications in Refereed Journals

1. G. Srinivasan and B. Raja (2019).An experimental study of drying behaviour in ice patterns formed during spin freezing and its influence on the freeze-drying process. Heat and Mass Transfer, DOI: 10.1007/s00231-019-02596-z
2. G. Srinivasan M. Muneeshwaran and B. Raja (2018).Numerical investigation of heat and mass transfer behavior of freeze drying of milk in vial.Heat and Mass Transfer, DOI: 10.1007/s00231-018-02538-1

Conferences Proceedings and presentations

1. Srinivasan.G and Raja, B (2017).Study on freeze drying of water and milk in a spherical shell.International conference on theoretical, applied, computational and experimental mechanics (ICTACEM)December 28- 30, IIT Kharagpur, India
2. Srinivasan.G Muneeshwaran, M.,and Raja, B(2017).Numerical and experimental study of sublimation dehydration of water. International conference on theoretical, applied, computational and experimental mechanics (ICTACEM)December 28-30,IIT Kharagpur, India

The Senate has approved to confer the PhD Degrees to the scholars in the forthcoming convocation. Senate has also advised to put up the details of the scholar in the Senate only after the viva-voce is completed. The Senate Chairman may approve and be ratified in the next Senate.

During the discussion, the Senate has also advised to ensure that the theses are evaluated by experts working in the field who do not share any personal or professional contacts with the Guide of the scholar.

Care should be taken so that two theses from the same Guide not to be sent to same examiner.

<table>
<tr><td></td><td>Faculty members working in CFTI's alone to be proposed as examiners.
The Senate has also advised to include those scholars whose Viva-Voce is conducted 10 days ahead of convocation to be eligible to receive the degree.</td></tr>
<tr><td rowspan="2">2019-40-Senate-06:</td><td>Memorandum of Understanding for Academic and Research Collaboration between National University of Science and Technology (NUST, MISIS) Moscow, Russia and IIITDM Kancheepuram
In order to facilitate collaboration on academic and research activities of mutual interest, Exchange of academic information, scholarly information, materials and publications, Exchange of students and faculty and Sponsorship of cooperative seminars, workshops and other academic meetings, an MoU has been signed by National University of Science and Technology (NUST, MISIS) Moscow, Russia and IIITDM Kancheepuram, by the approval of Chairman of senate. Copy of the MoU is given in Annexure A3

This is for the kind consideration of Senate.</td></tr>
<tr><td>The Senate has approved the proposal given in Annexure A3. However, the Senate has urged to prepare a standard format applicable to all MoU's and use the same in future. Also, the Senate has advised to take legal consent in all such matters.</td></tr>
<tr><td>2019-40-Senate-07:</td><td>Board Approval for conventional names for the Academic Programmes offered by the Institute
In the 39th meeting of the senate, after due deliberation, senate recommended to rename the existing degree name to conventional degree name to facilitate students to compete across the industries (Private and PSU's) as well as for higher studies in India and Abroad.
Recently, we have put up to BoG members for their concurrent approval which they have accorded for the degree name will be as follows:
<table>
<tr><td>• B Tech in Computer Science and Engineering</td></tr>
<tr><td>• B Tech in Electronics and Communication Engineering</td></tr>
<tr><td>• B Tech in Mechanical Engineering</td></tr>
<tr><td>• B Tech in Smart Manufacturing</td></tr>
<tr><td>• B. Tech in Computer Science and Engineering and M Tech Computer Science and Engineering</td></tr>
<tr><td>• B. Tech in Electronics and Communication Engineering and M Tech in Electronics and Communication Engineering with specialization in VLSI Design</td></tr>
<tr><td>• B. Tech in Electronics and Communication Engineering and M Tech in Electronics and Communication Engineering with specialization in Communication Systems Design</td></tr>
<tr><td>• B. Tech in Mechanical Engineering and M Tech in Mechanical Engineering with specialization in Advanced Manufacturing</td></tr>
<tr><td>• B. Tech in Mechanical Engineering and M Tech in Mechanical Engineering with specialization in Product Design</td></tr>
<tr><td>• M Tech in Electronics and Communication Engineering with Specialization in Communication Systems Design</td></tr>
<tr><td>• M Tech in Electronics and Communication Engineering with Specialization in Electronics Systems Design</td></tr>
<tr><td>• M Tech in Mechanical Engineering with Specialization in Mechanical Systems Design</td></tr>
</table></td></tr>
</table>

	• M Tech in Mechanical Engineering with Specialization in Smart Manufacturing This is for information of the senate.
	The Senate has taken note of the Degree name change. While discussing the issue, the Senate has advised the Dean Academics to form a committee to advise upon revision of curriculum. Senate has also advised to incorporate Choice Based Credit System (CBCS) in the new curriculum.
2019-40-Senate-08:	**Result Analysis Jan-May 2019:** Results of Jan-May 2019 Semester have been declared on 15th May and the analysis of CGPA for the graduating batch students from all batches are presented below for your kind perusal.

B Tech 2015 Batch				Dual Degree 2014 Batch				
CGPA RANGE	**COE**	**EDM**	**MDM**	**CED**	**EVD**	**ESD**	**MFD**	**MPD**
9.5 - 10	0	0	1	0	0	0	0	0
9.0-9.5	7	3	4	2	1	2	1	1
8.5-9.0	8	7	8	8	2	6	0	5
8.0-8.5	10	14	10	8	5	4	11	1
7.5-8.0	5	7	9	14	5	1	2	5
7.0-7.5	2	1	1	6	5	2	2	4
6.5-7.0	1	3	5	3	0	2	0	3
6.0-6.5	1	1	2	2	1	0	2	0
5.5-6.0	6	2	0	2	0	0	0	0

	Detailed Analyses of all batches are presented in **Annexure A4**. Letter is issued to all students who have CGPA less than 6. The Senate is requested to kindly note the same and provide suggestions for better performance.
	The Senate has noted the data. However, the Senate has advised to do an analysis of the data so that proper corrective measures may be taken to improve the performance of the students before they reach the final year. Such an analysis would be carried out with the help from Institute faculty members working in Data Analysis and the report shall be presented in the following Senate. Senate recommended that processes and procedures be identified to help poorly performing students (CGPA/GPA < 6.0) at an early stage so that they can be given appropriate help to overcome their difficulties and improve their CGPA/GPA.
2019-40-Senate-09:	**To report about the Convocation July 2019 of the Institute:** Senate in its 38th meeting held on 6th October 2018 has given approval to conduct the Convocation of the Institute on 2nd Saturday of July every year. Accordingly it is proposed to conduct the 7th Convocation on 13th July 2019 for the passing out students. It is also informed that Dr. K. Radhakrishnan, Former Chairman, Indian Space Research Organisation has given consent to be the Chief guest for the function. The list of graduands who are eligible to receive the degrees is given **Annexure A5**.

Degree	Batch	Completed	Incomplete	Total
B.Tech.	2015COE	40	0	40
	2015EDM	38	0	38
	2015MDM	40	0	40
B.Tech. Total		**118**	**0**	**118**
Dual Degree	2014CED	45	0	45
	2014ESD	17	0	17
	2014EVD	18	1	19
	2014MFD	17	1	18
	2014MPD	19	0	19
Dual Degree Total		**116**	**2**	**118**
M.Des. / M.Tech	2017CDS	8	0	8
	2017EDS	9	2	11
	2017MDS	14	1	15
	2017 SMT	10	0	10
M.Des. / M.Tech Total		**41**	**3**	**44**
Ph D	CSE	5		
	ECE	3		
	MEC	3		
	PHY	1		
	MAT	1		
Ph.D. Total		**13**		**13**
Grand Total		**288**	**5**	**293**

A total of **288** students will be awarded degrees in the convocation including degrees in absentia.
The Senate may kindly approve the same.

The Senate has approved the list of Graduands as given in Annexure A5 and they will be awarded the Degree in the forthcoming convocation. Senate empowers the Chairman Senate to approve degrees to students who may become eligible to get degrees between the date of the Senate and the Date of BoG.

2019-40-Senate-10:

To discuss and approve the list of Prize winners in the 7th Convocation

Senate in its 37th meeting held on 30th June 2018 has given approval for various Prizes during Convocation for the graduating batch. Accordingly HoD/Dean‘s committee has recommended the prize winners from the graduands of 2019 for excelling in various academic and co-curricular activities.

The list of Prize winners is given below.

ACADEMIC PROFICIENCY

Sl. No	Roll No	Name	Prize	CGPA
1.	EVD14I009	K.DHEEPIKA	Institute Gold Medal for the All Rounder of the Graduating batch from B Tech and Dual Degree	8.47

2.	MDM15B026	SURYA PRAKASH T K	Institute Gold Medal for the Best Graduate across B Tech	9.5
3.	CED14I043	SHIVA GANESH M	Institute Gold Medal for the Best Post Graduate across Dual Degree	9.47
4.	CDS17M007	SHWETA KUMARI	Institute Gold Medal for the Best Post Graduate across M Tech and M Des	9.74
5.	COE15B003	PRANAVE S	Institute Medal for the Best Graduate in B Tech, Dept. of CSE	9.43
6.	EDM15B039	SADHANA S	Institute Medal for the Best Graduate in B Tech, Dept. of ECE	9.46
7.	MDM15B026	SURYA PRAKASH T K	Institute Medal for the Best Graduate in B Tech, Dept. of ME	9.5
8.	CED14I043	SHIVA GANESH M	Institute Medal for the Best Dual Degree Graduate from CED, Dept. of CSE	9.47
9.	ESD14I013	SULTHANA SHAMS	Institute Medal for the Best Dual Degree Graduate from ESD, Dept. of ECE	9.32
10.	EVD14I021	NAKKA LAXMI	Institute Medal for the Best Dual Degree Graduate from EVD, Dept. of ECE	9.33
11.	MFD14I005	K BHAVANA	Institute Medal for the Best Dual Degree Graduate from MFD, Dept. of ME	9.44
12.	MPD14I021	ATREYEE ACHARYA	Institute Medal for the Best Dual Degree Graduate from MPD, Dept. of ME	9.08
13.	CDS17M007	SHWETA KUMARI	Institute Medal for the Best Post Graduate from CDS, Dept. of ECE	9.74
14.	EDS17M008	NAYANA FATHIMA. I.S	Institute Medal for the Best Post Graduate from EDS, Dept. of ECE	9.43
15.	MDS17M003	ARSHDEEP SINGH	Institute Medal for the Best Post Graduate from MDS, Dept. of ME	9.7
16.	SMT17M002	GADHIRAJU BALAJI	Institute Medal for the Best Post Graduate from SMT, Dept. of ME	9.41

PROJECTS

Roll No	Student Name	Prize	Project Title
EDM15B035	PHYRDHA ANUSHA	Institute Gold Medal for the Best Interdisciplinary Project across B Tech	Milk Fat Detection Device
MFD14I005	K BHAVANA	Institute Gold Medal for the Best Interdisciplinary Project across Dual Degree	A Bio-Inspired Patch to Harvest Waste Heat into Electricity and Help in Cooling of Vehicles
COE15B042	R SOWBARNIKA	Institute Medal for the Best Project in B Tech, Dept. of CSE	Karam-Intelligent Application for Online Course Moderation
EDM15B039	SADHANA S	Institute Medal for the Best Project in B Tech, Dept. of ECE	Reconfigurable Packet Classification Engine
MDM15B009	GOLI BALA SAI VENKATA YASWANTH	Institute Medal for the Best Project in B Tech, Dept. of ME	Design and Prototyping of Stair Climbing Wheel Chair

CED14I044	NAVYA BORRA	Institute Medal for the Best Project in Dual Degree, from CED, Dept. of CSE	Application of Deep Features for Glaucoma Screening using Retinal Fundus Images
ESD14I013	SULTHANA SHAMS	Institute Medal for the Best Project in Dual Degree from ESD, Dept. of ECE	Algorithms for Channel Sensing and Access in Cognitive Radio Networks
EVD14I021	NAKKA LAXMI	Institute Medal for the Best Project in Dual Degree from EVD, Dept. of ECE	Proposal and Analysis of New Approaches on InGaN Based PV Cells
MFD14I002	DARA SASI KUMAR	Institute Medal for the Best Project in Dual Degree from MFD, Dept. of ME	Endothermic Cooling Module for Emergency Electronic Cooling
MPD14I018	ARJUN ROHILLA	Institute Medal for the Best Project in Dual Degree from MPD, Dept. of ME	User-Centric Mechanical Design of Electric Bicycle
CDS17M004	SOWMYA K M	Institute Medal for the Best Project in M Des, from CDS, Dept. of ECE	Packet Scheduling for Wireless Mesh Networks
CDS17M007	SHWETA KUMARI	Institute Medal for the Best Project in M Des, from CDS, Dept. of ECE	Distributed Detection in Cognitive Radio Networks
EDS17M010	RAMEEZ RAJA SHAIK	Institute Medal for the Best Project in M Des, from EDS, Dept. of ECE	Investigation on Performance and Irradiation effects on Electrically-Modified FD-SOI
MDS17M005	VARUN GUPTA	Institute Medal for the Best Project in M Des, from MDS, Dept. of ME	Design of Rotor for Savonius Type Vertical Axis Wind Turbine
SMT17M002	GADHIRAJU BALAJI	Institute Medal for the Best Project in M Tech, from SMT, Dept. of ME	Material Modelling and Characterization of Aloe Vera Fibre by Nanoindentation Technique

The Senate approved rules followed by the committee for identifying the winners is given in Annexure A6 for kind reference.

The Senate may kindly approve the same.

The Senate has approved the list of Prize winners and they will be awarded the Prizes in the forthcoming convocation.

Senate was apprised that the winner of the Institute Medal for the Best Project in Dual Degree from MFD, Dept. of Mechanical Engineering was found to be indulged in acts of indiscipline in a previous semester and hence the next topper was selected as the winner.

During the discussion, the Senate has advised the following:

a) To include all the students from the Graduating batch for the All Rounder position, not only from B Tech and Dual Degree but also from M Tech and PhD students. Henceforth, all the students from the Graduating batches B Tech, Dual Degree, M Tech and PhD shall be considered for All Rounder position.
b) To seek permission from Rashtrapathi Bhavan and Rajya Bhavan to name the Institute Gold medals as President's Gold medal and Governor's Gold medal.

2019-40-Senate-11:

To discuss and approve the extension of course to Mr Venkatesh K (Roll No: EDS18M006) to complete the requirement for his M Tech Degree

A request has been received from Mr. Venkatesh K (Roll No: EDS18M006), full-time M. Tech student who joined in 2018 under HTTA scheme, that he may be permitted to join the job that he has been offered by the TNEB.

In line with Senate resolution no **2018-38- Senate-13,** his registration for the programme may be extended for one more semester (Jul–Nov, 2020) based on his application, he

would be graduating only in 2021, on successful completion of his project work/ courses work and fulfill the requirement of M Tech degree.
The Senate may kindly approve the same.

The Senate has permitted him to complete his project work/ course work and fulfill the requirement of M Tech degree before June 2021.

2019-40-Senate-12:

Revision of HTRA to Ph D Students

Notifications have been received from MHRD vide Order No. F.N0.5412018TS.I dated. 08.03.2019 for revision of Assistantship to Ph D Scholars under HTRA Scheme. The revision in emolument comes into effect from 01.01.2019 in respect of Ph. D scholars and the revised rates are as follows:

Sl. No	Existing Rates per month	Revised Rates per month
1	1st & 2nd Year- Rs. 25,000/-	1st & 2nd Year- Rs. 31,000/-
The fellowship in the slab after completion of two years, an external assessment Institute for up gradation		
2	Upto 5th Year – Rs. Rs.28,000/-	Upto 5th Year –Rs. 35,000/-

In line with the detailed communication from MHRD on leave rules, HRA, and with the approval of the competent authority, HTRA have been enhanced with effect from 01.01.2019 for the eligible Ph D scholars and arrear have been paid to the concerned scholars.

With respect to the above circular regarding leave rules to the scholars, the following points require clarification and the same may be looked into for necessary clarification:

Order Reference		
2. Service Conditions:	Leave and other entitlements: The Ph D scholars are eligible only for casual days while Research Associates are entitled to leave as per rules of the host Institutions.	**The number of days of casual leave admissible is not mentioned.**

Hence is proposed to follow the following Leave Rules for Ph D Scholars as followed in IIT Madras:

- All scholars are eligible for 8 days casual leave and 15 days vacation leave in a calendar year and there is no carry forward.
- Participation in any scientific events/workshop in India or abroad will be treated as "On duty"
- Travel entitlement for participating in scientific events/workshop in India in II AC by Train
- Maternity as per GoI instructions issued from time to time will be available to female scholars.

The Senate may kindly approve the same.

The Senate has approved the proposal.
Henceforth, the leave rules for Ph D Scholars will be as under.

- All scholars are eligible for casual leave of 8 days and vacation leave of 15 days in

	a calendar year and there is no carry forward across years. • Participation in any scientific events/workshop in India or abroad approved by the Institute will be treated as "On duty" • Travel entitlement for participating in scientific events/workshops approved by the Institute in India in II AC by Train • Maternity as per GoI instructions issued from time to time will be available to female scholars. For female scholars to whom maternity Leave is sanctioned, the leave period will not be counted for the maximum period of registration.
2019-40-Senate-13:	**To increase the Institute Post-Doctoral Fellowship Stipend** The 39th Senate has given approval to initiate IPDF with a stipend in the range of Rs. 45,000/- to 55,000/-. Similar to the increase in the HTRA stipend for the PhD Scholars, it is proposed to increase the stipend of the IPDF also in the range of Rs. 60,000/- to Rs. 70,000/-. All other conditions remain the same. Senate may kindly approve the proposal.
	The Senate has approved the proposal.
2019-40-Senate-14:	**To ratify the decision of Disciplinary Committee on act of indiscipline and misconduct by student in the Institute on Student disciplinary cases:** **Case 1:** The student Mr. PASIKANTI SAI ANURAG was writing his End Semester examination of MEC323T-Computer Aided Design and Manufacturing course in Hall-21 on 26.04.2019, AN and was caught in possession of reading material inside his desk during his examination by the invigilator Dr. Masilamani V. **Findings:** The Committee investigated the above case. As the material is found under his desk, he is found guilty as per Rule 2 (a). Hence as per the punishment Rule 2 (a) the student will get U grade in MEC323T-Computer Aided Design and Manufacturing course and one grade less in all the other subjects in the concerned semester. **Following this, the committee recommended the following punishments consistent with senate recommendations, subject to the approval of the Competent Authority.** *The erring student **Mr. PASIKANTI SAI ANURAG (Roll No: MDM16B020)** shall be awarded 'U' grade in the subject concerned and one grade less in all the other subjects in the concerned semester Jan-May 2019 and 20 hours of Community Service.* ***Community Service can be in the form helping library staff in arranging books, catalogues and maintenance of registers etc.*** **Case 2:** The student Mr. PAGOTI SAI LALITH KUMAR was writing his End Semester examination of PHY107T- Engineering Electromagnetics course in Hall-17 on 22.04.2019, FN and was caught in possession of reading material inside his desk during his examination by the invigilator Dr. Jagadeesh Kakarla. **Findings and Recommendations of the Committee:** The student has represented that the material didn't belong to him. The Invigilator also was not able to confirm if the material was there from beginning. As the handwritings in both the sheets doesn't match, benefit of doubt is given in favor of the student. And he was orally warned to make sure that no material is there in his neighborhood before the beginning of the exam hereforth. The Senate may ratify the decision of the Institute.
	The Senate has approved the recommendations of the disciplinary committee.

The next meeting of the Senate will be held in September **2019.**

(Dr. Binsu J Kailath)
Dean Academics

(Prof. B. Majhi)
Chairman

INDIAN INSTITUTE OF INFORMATION TECHNOLOGY
DESIGN AND MANUFACTURING (IIITDM) KANCHEEPURAM

INTRODUCTION OF NEW COURSE

<table>
<tr><td>Course Title</td><td>Computational Electromagnetics</td><td>Course No</td><td colspan="4">ELE6XX</td></tr>
<tr><td>Specialization</td><td>ECE</td><td>Structure (LTPC)</td><td>3</td><td>0</td><td>0</td><td>3</td></tr>
<tr><td>To be offered for</td><td>DD, PG, and Ph.D.</td><td>Status</td><td colspan="2">Core ☐</td><td colspan="2">Elective ■</td></tr>
<tr><td>Faculty Proposing the course</td><td>Dr. Prerna Saxena</td><td>Type</td><td colspan="2">New ■</td><td colspan="2">Modification ☐</td></tr>
<tr><td rowspan="2">Date of DAC</td><td rowspan="2">22nd July 2019</td><td>Members Present in DAC</td><td colspan="4">All Dept. Members</td></tr>
<tr><td>External Member</td><td colspan="4">Dr. Uday Khankhoje, EE, IITM</td></tr>
<tr><td>Pre-requisite</td><td>CoT</td><td>Submitted for approval</td><td colspan="4">41st Senate</td></tr>
<tr><td>Learning Objectives</td><td colspan="6">The objective of this course is to provide a strong foundation and hands-on experience with contemporary numerical approaches in modeling electromagnetic systems for applications in RF-microwave-millimeter wave communications, and antenna analysis and design.</td></tr>
<tr><td>Learning Outcomes</td><td colspan="6">Students will be able to understand the ideas behind computational methods used for electromagnetic simulations. They will be able to apply various computational electromagnetic methods such as Finite Difference Method, Finite Difference Time Domain method, Method of Moments, and Finite Element Method to EM simulation of various components and systems.</td></tr>
<tr><td>Contents of the course (With approximate break-up of hours)</td><td colspan="6">Module 1: Fundamental Concepts
Review of electromagnetic theory: Vector calculus, electrostatic fields, magnetostatic fields, Gauss and Stokes theorems, boundary conditions, Maxwell's equations, wave equation, Poynting vector. Classification of EM problems: classification of solution regions, classification of differential equations. Surface and volume equivalence theorems, applications of computational electromagnetics. [8 hrs.]

Module 2: Finite Difference Method (FDM)
Finite difference schemes, finite differencing of parabolic, hyperbolic, and elliptic PDEs, accuracy and stability of FD solutions, Finite Difference Time Domain method (FDTD), Yee cell, Yee algorithm for 3D formulation. [10 hrs.]

Module 3: Finite Element Method (FEM)
Finite element discretization, basis functions in one and two dimensions, FEM formulations in one and two dimensions, automatic mesh generation, higher order elements. [10 hrs.]

Module 4: Method of Moments (MoM)
Variational methods, integral formulation, Green's functions and numerical integration, surface and volume integral solutions using the method of moments. [10 hrs.]

Module 5: Applications
Applications of computational electromagnetics: antenna problems, scattering problems, radiation problems, computation of radar cross-section, EM absorption in human body. [4 hrs.]</td></tr>
<tr><td>Text Books</td><td colspan="6">1. M. N. O. Sadiku, Numerical techniques in electromagnetics, CRC Press, 2009, ISBN: 978-1420063097.
2. Andrew F. Peterson, Scott L. Ray, Raj Mittra, Computational Methods for Electromagnetics, IEEE Press Series on Electromagnetic Wave Theory,1998, ISBN: 9780470544303.</td></tr>
<tr><td>Reference Books</td><td colspan="6">1. M. V. K. Chari and S. J. Salon, Numerical methods in electromagnetism, Academic Press, 2000, ISBN: 9780126157604.
2. S. R. H. Hoole, Computer aided analysis and design of electromagnetic devices, Elsevier Science Publishing Co., 1989, ISBN: 978-0444013279.
3. J. Jin, The Finite Element Method in electromagnetics, John Wiley and Sons, 2014, ISBN: 9781118571361.
4. P. P. Silvester and R. L. Ferrari, Finite elements for electrical engineers, Cambridge University Press, 1996, ISBN: 978-0521449533.
5. A. Taflove and SC Hagness, Computational Electrodynamics: The Finite Difference Time Domain Method, Artech House, 2005, ISBN: 978-1580538329.
6. D.B. Davidson, Computational Electromagnetics for RF and Microwave Engineering, Cambridge University Press, 2010, ISBN: 978-0521518918.
7. Walton C. Gibson: The Method of Moments in Electromagnetics, Chapman and Hall, 2014, ISBN: 978-1482235791.</td></tr>
</table>

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INTRODUCTION OF NEW COURSE

<table>
<tr><td>Course Title</td><td>Deep Learning</td><td>Course No</td><td colspan="4">CSE5XXX</td></tr>
<tr><td>Specialization</td><td>CSE/ECE/MEC/PHY/MAT</td><td>Structure (LTPC)</td><td>3</td><td>0/1</td><td>0</td><td>3/4</td></tr>
<tr><td>To be offered for</td><td>UG / DD / PG</td><td>Status</td><td colspan="2">Core ☐</td><td colspan="2">Elective ▬</td></tr>
<tr><td>Faculty Proposing the course</td><td>Dr. J. Umarani Jayaraman</td><td>Type</td><td colspan="2">New ▬</td><td colspan="2">Modification ☐</td></tr>
<tr><td rowspan="2">Date of DAC</td><td rowspan="2">16/01/2020</td><td>Members Present in DAC</td><td colspan="4">All Dept. Members</td></tr>
<tr><td>External Member:</td><td colspan="4">Prof. Mitesh Khapra, IITM, Dept. of CSE</td></tr>
<tr><td>Pre-requisite</td><td>CoT</td><td>Submitted for approval</td><td colspan="4">41st Senate</td></tr>
<tr><td>Learning Objectives</td><td colspan="6">Introduce major deep learning algorithms, the problem settings and their applications to solve real world problems.</td></tr>
<tr><td>Learning Outcomes</td><td colspan="6">• Identify the deep learning algorithms which are more appropriate for various types of learning tasks in various domains
• Implement deep learning algorithms and solve real-world problems
• To know the cutting-edge research in this field.</td></tr>
<tr><td>Contents of the course (With approximate break-up of hours)</td><td colspan="6">Week 1: Introduction (Recap) to Neural Network, Gradient Descent, Linear Classifiers,
Week 2: Linear Machines with Hinge Loss, Multilayer Perceptron, Back Propagation Learning
Week 3: Optimization Techniques, , Batch Optimization
Week 4: Unsupervised Learning with Deep Network, Autoencoders
Week 5: Convolutional Neural Network, Building blocks of CNN, Transfer Learning
Week 6: Revisiting Gradient Descent, Momentum Optimizer, RMSProp, Adam
Week 7: Effective training in Deep Net- early stopping, Dropout, Batch Normalization, Instance Normalization, Group Normalization
Week 8: Recent Trends in Deep Learning Architectures, Residual Network, Skip Connection Network and Fully Connected CNN etc.
Week 9: Classical Supervised Tasks with Deep Learning, Image Denoising, Semantic segmentation and Object Detection etc.
Week 10: RNN, LSTM Networks
Week 11: Generative Modeling with DL, Variational Autoencoder, Generative Adversarial Network
Week 12: Applications of Deep Learning to Computer Vision and Medical Image Processing and NLP</td></tr>
<tr><td>Text Books</td><td colspan="6">1. Goodfellow, I., Bengio,Y., and Courville, A., Deep Learning, MIT Press, 2016.
2. Bishop, C. ,M., Pattern Recognition and Machine Learning, Springer, 2006.</td></tr>
<tr><td>References</td><td colspan="6">1. François Chollet, Deep Learning with Python, 1st Edition, Manning Publications, 2018
2. http://www.deeplearningbook.org/lecture_slides.html
3. http://www.cse.iitm.ac.in/~miteshk/CS7015.html</td></tr>
</table>

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INTRODUCTION OF NEW COURSE

<table>
<tr><td>Course Title</td><td>Topics in Analytic Number Theory</td><td>Course No</td><td colspan="4">MAT6XXX</td></tr>
<tr><td>Specialization</td><td>CSE/MAT</td><td>Structure (LTPC)</td><td>3</td><td>0</td><td>0</td><td>3</td></tr>
<tr><td>To be offered for</td><td>DD / PG / PhD</td><td>Status</td><td colspan="2">Core ☐</td><td colspan="2">Elective ■</td></tr>
<tr><td>Faculty Proposing the course</td><td>M. Subramani</td><td>Type</td><td colspan="2">New ■</td><td colspan="2">Modification ☐</td></tr>
<tr><td rowspan="2">Date of DAC</td><td rowspan="2">17/01/2020</td><td>Members Present in DAC</td><td colspan="4">All Dept. Members</td></tr>
<tr><td>External Member:</td><td colspan="4">Prof. K. Srinivas, IMSc, Chennai</td></tr>
<tr><td>Pre-requisite</td><td>CoT</td><td>Submitted for approval</td><td colspan="4">41st Senate</td></tr>
<tr><td>Learning Objectives</td><td colspan="6">To define fundamental objects appearing in the course such as the Gamma function, Theta functions, the Riemann Zeta function, Dirichlet L-functions, Dirichlet characters, and describe the most important properties of these.</td></tr>
<tr><td>Learning Outcomes</td><td colspan="6">It will prepare the students to read research papers in analytic number theory.</td></tr>
<tr><td>Contents of the course
(With approximate break-up of hours)</td><td colspan="6">Arithmetic functions: Introduction and basic examples, Additive and multiplicative functions, The Moebius function, The Euler phi (totient) function, The von Mangoldt function, The divisor and sum-of-divisors functions, The Dirichlet product of arithmetic functions. Asymptotic estimates, Euler’s summation formula, The summation by parts formula. (10)
Prime numbers, distribution of prime numbers, Chebyshev type estimates, Prime Number Theorem (10)
Dirichlet Series, Dirichlet L-functions, Analytic properties Dirichlet series and Dirichlet L-functions, mean values of Dirichlet series. (12)
Riemann Zeta function, analytical properties of Riemann Zeta function, Zeros of Riemann Zeta function, Riemann Hypothesis and some consequences of Riemann Hypothesis. (10)</td></tr>
<tr><td>Text Books</td><td colspan="6">1. Tom M. Apostol: "Introduction to Analytic Number Theory", Springer International Student Edition, 1998
2. E.C.Titchmarsh: "The Theory of Riemann Zeta Function"(second edition), revised by D.R.Heath-Brown,Clarendon Press, Oxford, 1997</td></tr>
<tr><td>Reference Books</td><td colspan="6">1. Analytic Number Theory, Henryk Iwaniec, Emmanuel Kowalski, Colloquium Publications, 2004.
2. Paul T.Bateman, Harold G. Diamond: "Analytic Number Theory: An Introductory Course" World Scientific, 2004</td></tr>
</table>

INDIAN INSTITUTE OF INFORMATION TECHNOLOGY
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INTRODUCTION OF NEW COURSE

Course Title	Foreign Language – German Level I	Course No	INT1XXX			
Specialization	CSE/ECE/MEC/PHY/MAT	Structure (LTPC)	3	0	0	3
To be offered for	UG / DD	Status	Core ☐		Elective ▬	
Faculty Proposing the course		Type	New ▬		Modification ☐	
Date of DAC	N.A.	Members Present in DAC	N.A			
		External Member:	Dr. Milind Brahme, Associate Professor, Dept. of Humanities and Social Sciences, IITM			
Pre-requisite	Nil	Submitted for approval	41st Senate			
Learning Objectives	The overall objective of this course is to acquire working knowledge of the German language, roughly corresponding to the A1 proficiency level of the European Common Language Framework.					
Learning Outcomes	Student will be able to understand and converse in German which will enable them to survey in Germany during short / long term stay for Internship / higher studies/Job					
Contents of the course *(With approximate break-up of hours)*	Week 1: Themes: Introducing oneself and others: Grammar: W questions, personal pronouns, simple sentence, verb conjugation Week 2: Themes: hobbies, the week, numbers, the alphabet, months, seasons / Grammar: articles, plural, the verbs to have and to be Week 3: Theme: in the city / naming places and buildings, means of transport, basic directions / Grammar: definite and indefinite articles: negation – kein and nicht: imperative Week 4: Themes: food, drink, family / groceries and meals / Grammar: the accusative Week 5: Theme: Everyday life, telling time, making appointments / Grammar: prepositions am, um von… bis: modal verbs, possessive articles Week 6: Leisure activity, celebrations / Grammar: separable verbs, the accusative, pasttense of to have and to be Week 7: Contacts, writing letters / Grammar: dative Week 8: My apartment, rooms, furniture, colours / Grammar: changing prepositions Week 9: Professions / Grammar : perfect tense Week 10: Clothes / Grammar: perfect tense and dative Week 11: Health and the body / Grammar: the imperative and modal verbs Week 12: Holiday and weather					
Text Books	NETZERK Deutsch als Fremdsprache A1 (Goyal, New Delhi, 2015)					
Reference Books	1. Schulz-Griesbach: Deutsch als Fremdsprache. Grundstufe in einem Band (for Grammar) 2. Web Resources: Facts about Germany https://www.tatsachen-ueber-deutschland.de/en 3. Online German-English Dictionary www.leo.org 4. https://en.wikipedia.org/wiki/Common_European_Framework_of_Reference_for_Languages					
Practice Material	1. https://www.goethe.de/en/spr/kup/prf/prf/sd1/ueb.html 2. http://www,deutschkurse- 3. Passau.de/JM/images/stores/SKRIPTEN/a1_skript_gr.pdf 4. https://www.schubert- 5. verlag.de/aufgaben/arbeitsblaetter_a1_z/a1_arbeitsblaetter_intex_z.htm					

Annexure 3

IIITDM Kancheepuram

Opening and closing ranks of B. Tech students for the year 2019-20

Branch	OP		OBC		EWS		SC		ST		PD
	Starting Rank	Ending Rank	Starting Rank	Ending Rank	Starting Rank	Ending Rank	Starting Rank	Ending Rank	Starting Rank	Ending Rank	Rank
COE	7032	17828	20708	27566	18012	21780	81958	104179	154130	158158	295144 - Open(PwD)
EDM	17095	25481	28150	38889	25958	33858	98120	122508	164069	189104	Open(PwD)- 449342 EWPH – 748881
MDM	15619	36073	38949	53363	38633	46887	75432	135591	172174	186429	Open(PwD) - 700407
MSM	26907	52473	54975	75703	62603	71657	149177	167794	244008	250117	-

Opening and closing ranks of Dual Degree students for the year 2019-20

Branch	OP		OBC		EWS		SC		ST		PD
	Starting Rank	Ending Rank	Starting Rank	Ending Rank	Starting Rank	Ending Rank	Starting Rank	Ending Rank	Starting Rank	Ending Rank	Rank
CED	16393	25809	27158	36510	27146	34812	94000	131354	122734	213726	Open(PwD) - 556931
ESD	26128	38533	43845	57376	51697	52066	119015	156663	208321	213377	
EVD	21092	32580	36777	49455	43482	47611	143761	153116	200503	220096	
MFD	33398	51957	58249	77312	57603	61349	134480	166661	228554	-	
MPD	27722	50968	58851	77259	61531	-	124247	151712	200587	240737	OBC-NCL(PwD) - 748149

State wise distribution of B. Tech/DD students through JoSAA

State	B Tech	Dual Degree	Grand Total
ANDHRA PRADESH	76	49	125
BIHAR	7	5	12
CHHATTISGARH		1	1
DELHI (NCT)		2	2
GOA		1	1
JAMMU & KASHMIR		1	1
JHARKHAND	1	1	2
KARNATAKA	2	3	5
KERALA	6	6	12
MADHYA	3	5	8

State	B Tech	Dual Degree	Grand Total
PRADESH			
MAHARASTRA	15	9	24
ODISHA	1	1	2
RAJASTHAN	5	6	11
TAMIL NADU	24	14	38
TELANGANA	44	31	75
UTTAR PRADESH	8	6	14
WEST BENGAL		1	1
Grand Total	**192**	**142**	**334**

NPTEL: PYTHON COURSE LAYOUT

(https://swayam.gov.in/nd1_noc20_cs35/preview)

-Prof Sudarshan Iyangar, IIT Ropar and

Prof Yayati Gupta, IIT Ropar

- Motivation for Computing
- Welcome to Programming!!
- Variables and Expressions : Design your own calculator
- Loops and Conditionals : Hopscotch once again
- Lists, Tuples and Conditionals : Lets go on a trip
- Abstraction Everywhere : Apps in your phone
- Counting Candies : Crowd to the rescue
- Birthday Paradox : Find your twin
- Google Translate : Speak in any Language
- Currency Converter : Count your foreign trip expenses
- Monte Hall : 3 doors and a twist
- Sorting : Arrange the books
- Searching : Find in seconds
- Substitution Cipher : What's the secret !!
- Sentiment Analysis : Analyse your Facebook data
- 20 questions game : I can read your mind
- Permutations : Jumbled Words
- Spot the similarities : Dobble game
- Count the words : Hundreds, Thousands or Millions.
- Rock, Paper and Scissor : Cheating not allowed !!
- Lie detector : No lies, only TRUTH
- Calculation of the Area : Don't measure.
- Six degrees of separation : Meet your favourites
- Image Processing : Fun with images
- Tic tac toe : Let's play
- Snakes and Ladders : Down the memory lane.
- Recursion : Tower of Hanoi
- Page Rank : How Google Works !!

Annexure 5

PROPOSED CURRICULUM 2020					
Semester 1					
Category	Course Name	L	T	P	C
SC	Engineering Mathematics 1	3	1	0	4
SC	Engineering Physics 1	3	0	0	3
EC	Circuits for Engineers	3	1	0	4
EC	Problem Solving and Programming	3	0	0	3
EC	Materials for Engineers	3	0	0	3
ITDM	Design and Manufacturing Lab	0	0	3	1.5
SC	Engineering Physics 1 Practice	0	0	3	1.5
EC	Problem Solving and Programming Practice	0	0	3	1.5
HSM	Communication Skills 1	0	0	3	1.5
MNC	NSO/NCC/SSG/NSS	0	0	2	P/F
					23.0
Semester 2					
Category	Course Name	L	T	P	C
SC	Engineering Mathematics 2	3	1	0	4
SE	Science Elective 1	3	1	0	4
ITDM	Engineering Graphics	2	0	4	4
ITDM	Elementary Data Structures and Logical Thinking	3	0	0	3
PC	Programme Core 1	3	0	0	3
ITDM	Elementary Data Structures and Logical Thinking Practice	0	0	3	1.5
PC	Programme Core 1 Practice	0	0	3	1.5
MNC	Earth, Environment and Design	2	0	0	P / F
					21.0
Semester 3					
	Course Name				
Category		L	T	P	C
SE	Science Elective 2	3	1	0	4
ITDM	Design Thinking	2	0	2	3
PC	Programme Core 2	3	1	0	4
PC	Programme Core 3	3	1	0	4
PC	Programme Core 4	3	1	0	4
PC	Programme Core Practice 1	0	0	4	2
PC	Programme Core Practice 2	0	0	4	2
MNC	Indian Constitution, Essence of Indian Traditional Knowledge	1	0	0	P/F
					23.0

Semester 4					
Category	Course Name	L	T	P	C
SE	Science Elective 3	3	1	0	4
ITDM	Concepts in Engineering Design	3	0	2	4
PC	Programme Core 5	3	1	0	4
PC	Programme Core 6	3	1	0	4
PC	Programme Core 7	3	1	0	4
PC	Programme Core Practice 3	0	0	4	2
PC	Programme Core Practice 4	0	0	4	2
MNC	Human Values and Stress Management	1	0	0	P / F
					24.0
Semester 5					
Category	Course Name	L	T	P	C
ITDM	Department Design Course	2	0	2	3
ITDM	Introduction to Data Sciences	2	1	0	3
PC	Programme Core 8	3	1	0	4
PC	Programme Core 9	3	1	0	4
PC	Programme Core 10	3	1	0	4
FE	Free Elective 1	3	0	0	3
PC	Programme Core Practice 5	0	0	4	2
PC	Programme Core Practice 6	0	0	4	2
MNC	Professional Ethics and Organizational Behaviour	1	0	0	P / F
					25.0
Semester 6					
Category	Course Name	L	T	P	C
HSM	Entrepreneurship and Management	3	0	4	5
PE	Programme Elective 1	3	0	0	3
PE	Programme Elective 2	3	0	0	3
PE	Programme Elective 3	3	0	0	3
PE	Programme Elective 4	3	0	0	3
PE	Programme Elective 5	3	0	0	3
FE	Free Elective 2	3	0	0	3
HSM	Communication Skills 2	0	0	3	1.5
MNC	Intellectual Property Rights	1	0	0	P / F
					24.5
Summer Semester					
ITDM	Internship / Product Design Prototyping (May – Jul)				P/F

Semester 7					
Category	Course Name	L	T	P	C
PE	Programme Elective 6	3	0	0	3
PE	Programme Elective 7	3	0	0	3
PE	Programme Elective 8	3	0	0	3
PE	Programme Elective 9	3	0	0	3
FE	Free Elective 3	3	0	0	3
ITDM	Product Design Prototyping	0	0	3	1.5
					16.5
Semester 8					
Category	Course Name	L	T	P	C
PC	Project	0	0	12	6
					6.0

Science Core (SC)
Science Elective (SE)
Engineering Core (EC)
Programme Core (PC)
Programme Elective (PE)
Free Elective (FE)
IT Integrated Design and Manufacturing (ITDM)
Management (HSM)
Mandatory Non Credit Course (MNC)

Internal Curriculum Revision Committee (ICRC) Meeting

Minutes of First Meeting

22.10.2019 – Discussion Room D5 – 4 PM

Members Attended
Dr Binsu J Kailath
Dr S Gowthaman
Dr K Jayabal
Dr S Jayavel
Dr Munesh Singh
Dr K Senthil Kumaran
Dr A V S Siva Prasad
Dr B Sivaselvan
Dr K Srijith
Dr M Subramani

Discussions

1. Before going for curriculum revision, it was decided to review the credits distribution and curriculum of various other institutes.

2. Faculty groups responsible for analyzing the curriculum of various institutes were formed as below.
   - Dr Jayabal / Dr Senthilkumaran - Foreign universities
   - Dr Sivaselvan / Dr Sivaprasad / Dr Subramani - IIITs
   - Dr Jayavel / Dr Prem / Dr Srijith - IITs / IISc
   - Dr Munesh / Dr Vivek / Dr Vasundhara - NITs
   - Dr Timmaraju / Dr Shubhankar – AICTE

3. The above mentioned faculty groups were requested to present the credits distribution and curriculum of respective institutes in the next meeting.

**** Meeting concluded ****

Internal Curriculum Revision Committee (ICRC) Meeting

Minutes of Second Meeting

31.10.2019 – Discussion Room D1 – 2:30 PM

Members Attended

Dr Binsu J Kailath
Dr S Gowthaman
Dr K Jayabal
Dr S Jayavel
Dr Munesh Singh
Dr K Premkumar
Dr Priyanka Kokil
Dr B Raja
Dr N Sadagopan
Dr K Senthil Kumaran
Dr Shubhankar Chakraborty
Dr A V S Siva Prasad
Dr B Sivaselvan
Dr K Srijith
Dr M Subramani
Dr Vasundhara
Dr Venkata Timmaraju Mallina
Dr Vivek Kumar

Discussions

1. Dr Sivaselvan / Dr Sivaprasad / Dr Subramani presented the curriculum and credits distribution of selected IIITs.

2. The salient features include:
   - IIITDM Jabalpur – Total credits for BTech Programme – 160, out of which minimum 81 credits are required for professional courses (Engineering courses) and remaining 79 are required for Science/Humanities/Design/Manufacturing/Management courses. They have one manufacturing process course common for all branches in semester 3.
   - IIITDM Jabalpur separately offers BDes Programme.
   - IIIT Bangalore offers only BTech and MTech integrated programme - The period of the programmme will be minimum five years. The total number of credits required to fulfill requirements of the programme is 204, out of which both professional core and electives have equal weightage around ~ 22%. They have separate courses related to application of IT to domains for which the credit weightage is around ~ 4%.
   - IIIT Hyderabad - Total credits for BTech Programme – 160, out of which both professional core and electives have equal weightage around ~ 29%.
3. Dr Jayavel / Dr Premkumar / Dr Srijith presented the curriculum of selected IITs.

4. The salient features include:
   - IIT Madras – The credit distributions are as follows – Engineering 11%, Professional core 64%, Professional electives 11%, HS 6%, Science core 17%, Science electives 3%, Open electives 12% and project 6%.
   - IIT Hyderabad – For a typical BTech degree programme, about 30% of the credits are for common courses, about 50% are for the core courses, and the rest of the 20% are for the student to choose in terms of core electives, liberal arts electives, and free electives. IITH has introduced new academic approach called "Fractal Academics", wherein semesters are divided into six segments having credits of 0.5, 1.0, 1.5, 2.0,

2.5 and 3.0 and students are free to choose credits based on their choices. This enables the student to choose not only the course he/she likes, but also the amount of depth in that course.

- IIT Hyderabad separately offers BDes Programme.

5. Dr Timmaraju / Dr Shubhankar presented the credits distribution and curriculum as recommended by AICTE guidelines.

6. The salient features include:
   - Total credits – 150 to 160 (with +20 credits for Honors).
   - The credit distribution is – HS 12, Basic science 25, Engg. Sci 24, Prof. core 48, Prof. elec. 18, Open elec. 18, Project/seminar/internship 15.
   - AICTE also emphasize on non-credits courses like culture, social service, self-development, nature, innovation, Indian constitution, Environmental science etc.

*** *Meeting concluded* ***

Internal Curriculum Revision Committee (ICRC) Meeting

Minutes of Third Meeting

1.11.2019 – Discussion Room D1 – 2:30 PM

Members Attended

Dr Binsu J Kailath
Dr S Gowthaman
Dr K Jayabal
Dr S Jayavel
Dr Munesh Singh
Dr K Premkumar
Dr Priyanka Kokil
Dr B Raja
Dr N Sadagopan
Dr K Senthil Kumaran
Dr Shubhankar Chakraborty
Dr A V S Siva Prasad
Dr B Sivaselvan
Dr K Srijith
Dr M Subramani
Dr Vasundhara
Dr Venkata Timmaraju Mallina
Dr Vivek Kumar

Discussions

1. Dr Senthilkumaran presented the curriculum of selected foreign universities.

2. The salient features include:
   - MIT, USA – Offer basket of courses. Recommend Maths intensive and HASS intensive courses. They emphasize for one English course at the start of the programme and another one near the completion of the programme. Require minimum of 17 credits in General Institute Requirements (GIRs) and 180 credits in Major (inclusive of Maths).
   - MIT, USA – also offer Course 2-A wherein the first two years have common courses as that for regular engineering course. However from 3rd year onwards, students are allowed to customize curriculum in which they can hone in on their personal interests, such as robotics, entrepreneurship, or energy.
   - Stanford University, USA – Total 180 credits – out of which minimum 45 credits are required for Maths and Science. Offer basket of courses (under several specializations) in each branch of engineering. Design oriented courses are offered under any one of the specializations. For example in Mechanical Engineering, Design oriented courses are offered under Product Realization specialization basket.
   - SUTD, Singapore – UG curriculum is focused more towards interdisciplinary education wherein the courses are offered under four pillars - Architecture and Sustainable Design (ASD), Engineering Product Development (EPD), Engineering Systems and Design (ESD), Information Systems Technology and Design (ISTD).

     Each pillar has its own credit requirements for graduation. For example, ISTD requires following credit distributions – ISTD Core 72, Track Electives 84 (several tracks like AI, Data analytics, Cyber security etc are offered), HASS 60, Technical application electives 12, Capstone project 24, plus extra non-credit courses.

3. Dr Vivek Kumar / Dr Munesh Singh / Dr Vasundhara presented the curriculum of selected NITs.

4. The salient features include:

- NIT, Trichy - The B.Tech. programmes have following credits distributions – Total credits 175-180 – Out of which General Institute Requirements 68, Programme Core 56-65, Elective Courses 30-50, and Essential Programme Laboratory Requirements 10-16. Under GIR, students are supposed to take one Branch Specific Basic Introductory course, One Computer Introductory course and any other two Basic Engineering courses relevant to their branch.

*** *Meeting concluded* ***

Internal Curriculum Revision Committee (ICRC) Meeting

Minutes of Fourth Meeting

5.11.2019 – Seminar Hall – 4:00 PM

Members Attended

Dr Binsu J Kailath
Dr S Gowthaman
Dr K Jayabal
Dr S Jayavel
Dr Munesh Singh
Dr K Premkumar
Dr Priyanka Kokil
Dr B Raja
Dr N Sadagopan
Dr K Senthil Kumaran
Dr Shubhankar Chakraborty
Dr A V S Siva Prasad
Dr B Sivaselvan
Dr K Srijith
Dr M Subramani
Dr Vasundhara
Dr Venkata Timmaraju Mallina
Dr Vivek Kumar

Discussions

1. Common Design Courses emphasizing on Feasibility, Viability and Desirability of product development are to be offered.

2. TEAM DESIGN committee is responsible for formulation of design course contents – semester wise and year wise. Dr. B. Raja is the chairman of the committee.

3. Each laboratory hour shall account for 0.5 credits.

4. The minimum credits required for graduation of BTech students – 160

5. The basket of courses and credit distributions are as follows –

    - Science Core - 20
    - Science Elective - 06
    - Basic Engineering (3 courses) - 12
    - Programme Core - 48
    - Programme Elective - 32
    - Humanities Social Science and Management (HSM) - 12
    - (1 Engg. Economics + 2 English + 1 Mgmt.)
    - Free Elective

6. Institute Level Design & Manufacturing courses
7. Department Level Design & Manufacturing courses

**** Meeting concluded ****

Internal Curriculum Revision Committee (ICRC) Meeting

Minutes of Fifth Meeting
7.11.2019 – Discussion Room D1 – 3:30 PM

Members Attended
Dr Binsu J Kailath
Dr S Gowthaman
Dr K Jayabal
Dr S Jayavel
Dr Munesh Singh
Dr K Premkumar
Dr Priyanka Kokil
Dr B Raja
Dr N Sadagopan
Dr K Senthil Kumaran
Dr Shubhankar Chakraborty
Dr A V S Siva Prasad
Dr B Sivaselvan
Dr K Srijith
Dr M Subramani
Dr Vasundhara
Dr Venkata Timmaraju Mallina
Dr Vivek Kumar

Discussions

1. The basket of courses and credit distributions are as follows –
   - Science Core - 20
   - Science Elective - 06
   - Basic Engineering (3 courses) - 12
   - Programme Core - 48
   - Programme Elective - 32
   - Humanities Social Science and Management (HSM) (1 Engg. Economics + 2 English + 1 Mgmt.) - 12
   - Free Elective - 09
   - Institute Level Design & Manufacturing courses
     - Industrial Design Sketching -5 (2 x 2.5 credits)
     - Design & Manufacturing Lab - 1.5
     - IT Practice Lab - 1.5
     - Concepts of Engineering Design - 3
     - Design Realization - 1
     - Product Development Practice - 3
2. Department Level Design & Manufacturing courses
   - Design 1 - 3
   - Design 2 - 3

**** Meeting concluded ****

Internal Curriculum Revision Committee (ICRC) Meeting

Minutes of Sixth Meeting

6.12.2019 – Discussion Room D5 – 1:30 PM

Members Attended

Dr Ravi Kishore (former Senate member)
Dr Binsu J Kailath
Dr S Gowthaman
Dr K Jayabal
Dr S Jayavel
Dr K Premkumar
Dr B Raja
Dr N Sadagopan
Dr B Sivaselvan
Dr Venkata Timmaraju Mallina

Discussions

1. Dr Binsu presented the proposed curriculum and explained the credits distribution.
2. Dr Kishore welcomed the idea of reorganizing the Design oriented courses.
3. Dr Kishore suggested that Design Thinking course can include Desirability, Viability, Feasibility concepts with case studies from each core
4. Dr Kishore suggested that Concepts in Engg Design can include topics on planning, design, launching etc with case studies from each core
5. Dr Kishore suggested that Engineering Economics course need not be separate and it can be combined with Entrepreneurship and Management course.
6. Dr Kishore suggested that students should be exposed to entire process involved in product / company launch through the Entrepreneurship and Management course
7. Dr Kishore suggested that he can be approached for further discussions on curriculum.

*** *Meeting concluded* ***

Internal Curriculum Revision Committee (ICRC) Meeting

Minutes of Seventh Meeting

10.12.2019 – Discussion Room D1 – 3:00 PM

Members Attended

Dr Binsu J Kailath
Dr S Gowthaman
Dr K Jayabal
Dr Munesh Singh
Dr K Premkumar
Dr B Raja
Dr N Sadagopan
Dr K Senthil Kumaran
Dr Shubhankar Chakraborty
Dr A V S Siva Prasad
Dr B Sivaselvan
Dr K Srijith
Dr M Subramani
Dr Vasundhara
Dr Venkata Timmaraju Mallina

Discussions

1. Fundamentals of Electronics Engineering course name changed as Circuits for Engineers. Credit for this course changed as 4 credits.
2. Fundamentals of Mechanical Engineering course name changed as Materials for Engineers.
3. Design Realization course can be combined as the practice component along with Concepts in Engineering Design course, with combined total credit of 4 credits.
4. Industrial Design Sketching course can be combined with Engineering Graphics course with combined total credit of 4 credits.
5. NSO/NCC/SSG/NSS included as mandatory non-credit course in I sem.
6. Earth, Environment and Design included as mandatory non-credit course in II sem.
7. Indian Constitution, Essence of Indian Traditional Knowledge included as mandatory non-credit course in III sem.
8. Human Values and Stress Management included as mandatory non-credit course in IV sem.
9. Professional Ethics and Organizational Behaviour included as mandatory non-credit course in V sem.
10. Intellectual Property Rights included as mandatory non-credit course in VI sem.
11. Fundamental Data Structures and Logical Thinking course name changed as Elementary Data Structures and Logical Thinking.

**** Meeting concluded ****

Annexure 6

"M Tech by Research", [M Tech (Res)]

ORDINANCES AND REGULATIONS

INDIAN INSTITUTE OF INFORMATION TECHNOLOGY, DESIGN AND MANUFACTURING, KANCHEEPURAM

2020

NOMENCLATURE USED

IIITDM Kancheepuram	Indian Institute of Information Technology, Design And Manufacturing, Kancheepuram
IIT	An Indian Institute of Technology under MHRD, India
IIT M	Indian Institute of Technology Madras
IISc	Indian Institute of Science, Bengaluru
IIM	An Indian Institute of Management under MHRD, India
CFTI	Centrally Funded Technical Institute (as declared by MHRD)
HTRA	Half-time Research Assistantship awarded by by IIITDM Kancheepuram
HTTA	Half-time Teaching Assistantship awarded by IIITDM Kancheepuram
HoD	Head of the Department
DC	Doctoral Committee for PhD scholars
MC	Master's Committee for M Tech (Res)scholars
CGPA	Cumulative Grade Point Average
R&D	Research and Development
MoU	Memorandum of Understanding
SRICCE	Sponsored Research industrial consultancy and continuing education at IIITDM Kancheepuram
NPTEL	National Programme on Technology Enhanced Learning
DST	Department of Science and Technology in India
UGC	University Grants Commission
CSIR	Council of Scientific and Industrial Research
AICTE	All India Council of Technical Education
JRF	Junior Research Fellowship
QIP	Quality Improvement Program of AICTE
PG	Postgraduate degree
UG	Undergraduate degree

DEGREES

PhD	Doctor of Philosophy • Regular PhD for those joining after a Master's degree • Direct admission to M Tech (Res)+PhD in Engineering for those joining after BE/ B Tech • Upgraded PhD in Engineering for those upgrading from M Tech (Res) or M Tech
M Tech (Res)	Master of Technology by Research' in Engineering/Technology
M Tech (AR)	Master of Technology (Applied Research)
M Tech (Res) (E)	Master of Technology by Research Entrepreneurship
ME	Master of Engineering (2 year programme)
M Tech	Master of Technology (2 year programme)
M Tech (Res)	Master of Technology by Research (2 year programme)
M Sc	Master of Science (2 year programme in sciences)
MA	Master of Arts (2 year programme)
MBA	Master of Business Administration (2 year programme)
BE	Bachelor of Engineering (4 year programme)
B Tech	Bachelor of Technology (4 year programme)

ABBREVIATION OF EXAMINATIONS

GATE	Graduate Aptitude Test in Engineering administered by IISc/ IITs
CSIR-NET	National Eligibility Test administered by CSIR for award of JRF in Physical, Chemical, Mathematical, Earth Atmospheric Ocean & Planetary and Life Sciences
UGC-NET	National Eligibility Test administered by UGC for JRF award in Humanities, Social Sciences, Environmental Sciences, Forensic Science, Computer Science & Applications, Electronic Science.
CAT	Common Admission Test administered by IIM Tech (Res)
GRE	Graduate Record Examination administered by ETS GMAT
GMAT	Graduate Management Aptitude Test administered by Graduate Management Admission Council (GMAC)
TOEFL	Test Of English as Foreign Language administered by ETS

ORDINANCES AND REGULATIONS

M Tech (Res) ORDINANCES

M Tech (Res)-O.1 A candidate who has qualified for the award of the Bachelor's degree in Engineering/ Technology of this Institute or a recognized Institute or University in the discipline as prescribed in the regulations of the Senate is eligible to apply for the Master of Technology by Research (M Tech (Res)) Programme in Engineering/ Entrepreneurship of this Institute.

M Tech (Res)-O.2 A candidate who has qualified for the award of the M Sc. Degree in basic Sciences of this Institute or a recognized Institute or University (OR) Master's degree in certain areas approved by the Senate is also eligible to apply for the M Tech (Res) Programme in Engineering/ Entrepreneurship of this Institute.

M Tech (Res)-O.3 The award of the M Tech (Res) degree shall be in accordance with the regulations of the Senate of this Institute.

REGULATIONS

M TECH (RES)-R.1 CATEGORIES OF ADMISSION

Candidates will be admitted to the Master of Technology by Research (M Tech (Res)) programme of IIITDM Kancheepuram in Engineering/ Entrepreneurship/ Management under one of the following categories with following requirements.

Category	**Remarks**
Regular-HTRA	with Half-Time Research Assistantship from IIITDM Kancheepuram
Regular-Fellowship	with funding from outside agencies such as UGC, CSIR and industries
Regular-Project	with funding through a project administered by at IIITDM Kancheepuram
Regular-Project- NHTRA	with funding through a project at IIITDM Kancheepuram; without eligibility for funding under HTRA
Regular- NHTRA	Without funding
External	Should be sponsored by and employed in a industry/ organization/ institution having R&D facilities and recognized by DST (DSIR) or IIITDM Kancheepuram, with at least 2 years of experience.
Staff	Should be employed as a permanent staff member of IIITDM Kancheepuram with atleast 2 years of experience.
QIP	Should be sponsored by AICTE under Quality Improvement Program (QIP) through Centre for Continuing Education (CCE) at IIITDM Kancheepuram (*)

(*) **Proposal submitted to AICTE for approval. Once approved, QIP category will be offered**

1. Scholars registered for any of the Regular categories are considered as full time scholars.
2. For admission under ***Regular-HTRA*** as well as the **Regular-*Project*** category, the Departments will adopt common short listing criteria and have a common merit list.
3. Candidates currently employed on a project at IIITDM Kancheepuram with a minimum project experience of 6 months do not need valid GATE score for application under **Regular-Project N H T R A** category. They can convert to HTRA, if eligible.
4. A research scholar under the ***External*** category will normally carry out part or all of his/ her research work in the industry/ organization/ national laboratory (or university in case of management studies) employing the scholar under the supervision of a co-guide also employed in the same organization and a guide at IIITDM Kancheepuram.
5. In general, ***External*** scholars have a minimum residential requirement of one semester. ***Part-time*** scholars residing within the commutable distance from IIITDM Kancheepuram will be permitted to do course work without the residential requirement, with the permission of their employer. Leave not required for attending the course.
6. The residential requirements can waive for the scholars registered under external / part-time for M Tech (Res)program, who complete / plan to complete their course work requirements through IIITDM Kancheepuram web based on-line courses / NPTEL Courses with the approval of Master's Committee / Chairman, Senate. And also the scholar can spend one semester period over a period of program instead of one time as per the approval of the Dean (Academics) / Chairman, Senate on a case by case basis.
7. Regular-HTRA scholars can move to Regular-NHTRA or Regular-Project and revert back to Regular-HTRA later.
8. Regular-NHTRA scholars can move to Regular-HTRA Category only after acquiring appropriate additional qualifications required for such conversion.
9. M Tech (Applied Research)
   a. The degree for M Tech (Applied Research) will be Master of Technology by Research as awarded for regular M Tech (Res)programme.
   b. The Master's Committee can recommend appropriate method of review for keeping thesis confidential for M Tech (Applied Research) programme.
10. The medium of instruction & communication for Academic Research shall be English (eg. MC / DC Reports, Synopsis, Title of thesis in the Degree Certificate, Seminar Presentation etc.) .

M TECH (RES)-R.2 ELIGIBILITY FOR M Tech (Res)

All the applicants should have a good academic record.

The minimum qualifications for each of these modes are as follows:-

These qualifications should be in relevant areas/ disciplines provided by the respective Departments in the admission brochure released with the admission notice. The Admission Brochure will also include details about inter-disciplinary research areas and the corresponding eligible disciplines given by the Departments. Short- listed candidates will be called for a "**test and Interview" or "interview"** by a Selection Committee in the respective Departments (Refer to the Procedures in Appendix).

M TECH (RES)-R.*2.1 Minimum Qualifications for M Tech (Res):*

Candidates applying for M Tech (Res)in one of the following areas need to have any one ***of the minimum qualifications mentioned in the table below.***

Area	**Minimum Qualifications**	
	Educational qualification	**Additional qualifications**
Engineering	BE/ B Tech or Master's degree in a relevant discipline or equivalent. ***OR*** *Associate Membership* of the following professional bodies of the discipline, provided they have passed parts A and B of the membership examinations: *The Institution of Engineers (India) (Civil, Mechanical, Electrical and Electronics, Electronics and Communications),* The Aeronautical Society of India, The Indian Institute of Metals, The Indian Institute of Chemical Engineers, The Institute of Electronics & Tele- communication Engineering and other professional bodies approved by the Senate from time to time. *OR* IIITDM Kancheepuram / CFTIs B Tech candidates with minimum CGPA of 8.0	• Valid GATE score is required for Regular-HTRA.

Sciences	M Sc in a relevant discipline or equivalent.	Valid GATE score/ UGC-NET fellowship/ CSIR-NET fellowship/ or equivalent qualification tenable for the current year of admission
Entrepreneurship	• BE/ B Tech or Master's degree in a relevant discipline or equivalent. • B Tech/BE or any Science postgraduate degree	• Valid GATE Score is eligible for fellowship. • GRE/GMAT are eligible only for admission and not eligible for fellowship. • Candidates with atleast 3 years of managerial experience (only for NHTRA)

NOTES:

a) The Selection Committees may set more stringent criteria than the minimum educational qualifications listed above.

b) For External and Institute staff categories, the requirement of valid GATE score or CSIR/ UGC - JRF or Lectureship/ NBHM/ CAT or equivalent qualification may be waived.

c) The Selection Committees may consider meritorious candidates from disciplines other than those listed in the Admission Brochure, if there is good match between the educational/ research background of the candidate and the proposed area of research.

d) For M Tech (Res)(Entrepreneurship), under the N-HTRA category, candidates with B Tech or Postgraduate degree are eligible.

e) All candidates applying for M Tech (Res)(Entrepreneurship) must submit a proposal for a startup company. The Screening Committee will evaluate the proposals and short-list applications to be forwarded to the Selection Committee for one to one interview.

M TECH (RES)-R.*2.2 Conversion of B Tech & Dual Degree Students of IIITDM Kancheepuram at the end of 6th semester to B Tech + M Tech (Res)(Entrepreneurship):*

a. B Tech students at the end of their 6th semester can convert to B Tech + M Tech (Res)(Entrepreneurship) if they have a CGPA of at least 8.0 or a valid GATE (or any other national level qualifying examination as indicated in table in R2.1) score.

b. Dual degree students at the end of 6th semester can convert to B Tech + M Tech (Res)(Entrepreneurship), if they have a CGPA of at least 7.0. For HTRA, the students should have a valid GATE score. The students have to complete the B Tech requirements, including the project, in the parent department.

c. Application (including the Proposal) has to be routed through the Faculty Advisor and HoD. It will be treated as a new admission to M Tech (Res)(E).

d. Upgraded M Tech (Res)(Entrepreneurship) cannot be further upgraded to PhD. They can revert back to B Tech. after a minimum period of two years from the date of upgrade, provided they fulfill all B Tech. requirements. They can appear in placements only once.

M TECH (RES)-R.3 INTERNATIONAL STUDENTS

Foreign nationals are those with foreign passports, including those who are PIO/ OCI card holders.

- Foreign nationals can only register as full-time scholars. They are not eligible to receive HTRA support. They should have valid score in CAT/ GATE/ UGC- NET/ CSIR-NET/ GMAT/ GRE or equivalent examination in the relevant discipline.
- Foreign national who are PIO / OCI card holders are eligible for admission with the prescribed fee for Indian nationals.
- Foreign nationals with eligible degree from Indian Universities will be treated on par with Indian nationals for admission but with the prescribed fee for foreign national. (M Tech (Res)- R.2).
- Foreign nationals with foreign degrees must meet the minimum educational requirements (M Tech (Res)- R.2) equivalent to an Indian Master's degree in the relevant disciplines.
- Foreign students are expected to have a working knowledge of English and should have cleared TOEFL. GRE/GMAT/ TOEFL Score, academic record and letters of reference will be considered as additional requirement for Foreign nationals.

M Tech (Res)- R.4 Selection Procedure

Eligible candidates possessing the minimum educational qualifications (as per M Tech (Res).R.2), and satisfying additional and stiffer criteria set by the departments from time to time, will be called for a "test and Interview" or "interview" by Selection Committees of the respective departments.

For candidates who have obtained UG/PG degree 10 years earlier as on the last date prescribed for receipt of completed application, a departmental test will be conducted.

The applications of foreign nationals may be considered without a personal interview/ test.

Based on the academic record and the performance of the candidates in the interview and/or test, the Departmental Selection Committee will recommend to the Chairman, Senate the names of candidates found suitable for admission to the M Tech (Res) in Engineering programmes.

Candidates for M Tech (Res) programme in Entrepreneurship will be called by Dean (Design and Innovation) to appear for an interview and/or test. Dean will recommend the names of the candidates suitable for admission, to the Chairman, Senate. (Guidelines for admission to M Tech (Res) Entrepreneurship is given in R. 9). Dean (Design & Innovation) shall coordinate the programme with the assistance of the D&I Cell

M TECH (RES)-R.5 ADMISSION

a) Candidates whose selection is approved by the Chairman, Senate will be admitted to the M Tech (Res)programme after payment of prescribed fees. Selection procedure can be found

in Procedures.

b) Candidates admitted to M Tech (Res) in Entrepreneurship are required to undergo a three-month course-work on 'Entrepreneurial Development' to be organised by Dean (Design & Innovation) with the assistance of SRICCE Cell. At the end of the course-work, the candidates have to submit a pre-feasibility report on the products proposed to be developed by them at IIITDM Kancheepuram. The Dean, will forward to the Chair, Senate for approval of registration of the eligible candidates. The admission of the candidates to M Tech (Res) in Entrepreneurship shall then be regularized.

M TECH (RES)-R.6 REGISTRATION

a) A scholar's date of joining is normally the date of registration.

b) The registration of project staff under NHTRA may be made effective from a date 6 months prior to joining, based on the recommendation of the Master's Committee.

M TECH (RES)-R.7 Guides and Co-Guides

- For each scholar, a faculty member of IIITDM Kancheepuram shall be nominated as a guide by the Dean Academics to supervise the progress.
- In addition to the guide, at most one faculty member from IIITDM Kancheepuram may be nominated as a co-guide.
- A co-guide from outside IIITDM Kancheepuram may be allowed with the approval of Chairman, Senate.

In addition to the above,

a) If the guide from IIITDM Kancheepuram proceeds on leave for more than a year, another faculty member may be appointed as a co- guide.

b) A faculty member, who has guided a candidate for at least 2 years, will continue to be a guide post- retirement. However, another faculty member with at least 3 years of remaining service at IIITDM Kancheepuram will be nominated as a co-guide at the time of the guide's retirement.

c) A faculty member retiring within 2 years may be permitted to be a guide for a new scholar. However, another faculty member with at least 3 years of remaining service at IIITDM Kancheepuram will be appointed as a co-guide when the scholar joins IIITDM Kancheepuram. On retirement, the faculty member will continue to be a guide.

d) CSIR/ other Emeritus Fellows / Scientists / Emeritus Professors, currently holding office at IIITDM Kancheepuram with an appointment period of at least one year, can be a co-guide along with a guide who has at least 3 years of remaining service at IIITDM Kancheepuram.

e) Faculty from other CFTIs or experts from Industries with a Master's degree in Engineering / Management and with adequate professional experience in the relevant field may be appointed as a co-guide, based on the recommendation of the Master's Committee after duly considering the co-guide's credentials. If the co-guide's organization does not have an MoU with IIITDM Kancheepuram, he/she shall sign an Intellectual Property Rights (IPR) and Non-Disclosure Agreement (NDA). IIITDM Kancheepuram will have no financial obligation to the co-guide.

f) The Masters Committee (Master's Committee) may recommend change of guide/co-guides or appointment of a co-guide for valid reasons.

g) Appointment of co-guide, based on the recommendation of the Master's Committee, should be made within one year from the date of joining. Beyond this limit, Dean (Academic) will consider such requests on case-to-case basis, based on the recommendation of the Master's Committee.

M TECH (RES)-R.8 Master's Committee

A Masters Committee shall be constituted to periodically assess the scholar's progress. The following is the composition of the Masters Committee (MC):

1.	Dean Academics / HoD / Faculty members of the Institute nominated by Chairman, Senate or is nominee	-	Chair
2.	Guide/ co-guides	-	Member(s)
3.	A minimum of two faculty members from the same department of IIITDM Kancheepuram	-	Members nominated by the Chairman, Senate or his nominee from the suggested panel of names by given by Guide and HoD
4.	One member from Reputed CFTIs or allied department of IIITDM Kancheepuram		

**for Interdisciplinary M Tech (Res), it is 1 member from primary department.*

*For **M Tech (Res)(Entrepreneurship)**,* Dean (Design and Innovation) *will be the Chair. In addition to the above, the Dean (SRICCE), a representative of the Design Department and an advisor from industry will be included as members. The advisor from industry should be a graduate in the area of his/her profession and should have been associated with industry for a reasonable period of time. The advisor will be an invitee to the meetings of the Masters Committee.*

Additional Guidelines for Master's Committee:

1. If the HoD is the guide, the senior most Professor / previous HoD will be nominated by the Chair, Senate or his/her nominee
2. The HoD must attend synopsis / thesis report / viva-voce meetings.
3. If a Master's Committee member goes on leave for more than a year or resigns/ retires from IIITDM Kancheepuram, the Chair, Senate or his/ her nominee will nominate another member on the suggestion of the Chair, Master's Committee.
4. The Master's Committee members from outside IIITDM Kancheepuram must meet the same eligibility criteria as co-guides (M TECH (RES)-R.6).
5. Master's Committee Meeting needs to be conducted within two months from the Date of Registration to approve the course work and at the end of 1½ years period to evaluate the research.
6. The Master's Committee shall conduct periodic progress review meetings as outlined in M TECH (RES)-R.9.
7. All the Master's Committee members will be invited for all the meetings related to the scholar.

8. All the decisions and recommendations made by the Master's Committee shall be minuted and forwarded to the Dean Academics.

M TECH (RES)-R.9 ENROLLMENT

- A scholar is required to enroll each semester after paying the requisite fees, until the submission of the thesis.
- Enrollment has to be completed on the stipulated date.
- The enrollment will be cancelled if the progress assessed through periodic review meetings is not satisfactory.

M TECH (RES)-R.10 M Tech (Res) REQUIREMENTS

The requirements in the order of completion for M Tech (Res) are listed below.

Requirements	**Expected time frame**	**Section**
Course work	Within two semesters	M TECH (RES)-R.11
Seminar/ research proposal seminar	before 2 years	
Synopsis	Within 2 years and 5 months	M TECH (RES)-R.13
Thesis submission	Within one month after acceptance of Synopsis	M TECH (RES)-R.13
M Tech (Res)viva voce examination, if recommended by the reviewer(s)		M TECH (RES)-R.15

a) Registered scholars should submit progress report twice during an academic year to the MC (Master's Committee). The guide's assessment of the progress and approval of the Chair, Master's Committee is required for enrollment in the subsequent semester.

b) Continuance of registration after 2.5 years will depend on the recommendation of the Master's Committee.

c) Seminar is considered as a Master's Committee meeting.

d) Beyond 2.5 years, progress review meetings by Master's Committee will be held once every 6 months.

e) In addition to the above, the Dean Academics / HoD may convene special Master's Committee meeting(s) based on the request from scholar / guide, to address any issue(s) with respect to the research progress of the scholar.

M TECH (RES)-R.11 COURSE WORK

M TECH (RES)-R.*11.1 General Guidelines*

a) Courses that meet the minimum requirements shall be at the post-graduate level at IIITDM

Kancheepuram and will be prescribed by the Master's Committee.

b) Changes in the prescribed courses shall be made only by the Master's Committee.

c) The Master's Committee may prescribe additional UG or PG courses for a scholar, over and above the minimum requirements.

d) The Master's Committee may approve courses already undergone by the scholar in other Institutions towards meeting the course work requirements. These courses must be equivalent to those prescribed and the scholar's performance in these courses must meet the minimum requirements. Courses already undergone by a Research Scholar in IIITDM Kancheepuram or other Institutions shall not be considered if they were part of the requirements for the award of any other degree/ diploma.

e) Contact courses may be allowed subject to the Master's Committee approval.

f) Final classification of courses taken by the scholar for the categories of Core, Elective and Optional (if any) shall be approved by Master's Committee in the meeting conducted at the end of 1½ years.

M TECH (RES)-R.*11.2 Course-work Requirement for Research Scholars*

Qualifying Degree	**Discipline**	**Minimum Course work**	**Min. credits**
B E / B Tech	Engineering / Entrepreneurship	3 Core courses and 2 out of at least 4 prescribed electives (3 courses should be In-House and 2 from NPTEL) and Research Methodology as a compulsory pass / fail course	15
M Sc / MCA with BCA or B Sc in Math / Stat / CS	Computer Science & Engg	3 Core courses and 2 out of at least 4 prescribed electives (3 courses should be In-House and 2 from NPTEL) and Research Methodology as a compulsory pass / fail course	15
	Engineering other than Computer Science & Engg.	3 Core courses and 2 out of at least 4 prescribed electives and Research Methodology as a compulsory pass / fail course	15

i. All core courses prescribed by the committee have to be completed, while only the minimum number of electives (from among those prescribed) as indicated in the table is required.

ii. The scholar may be allowed by the Master's Committee to register for up to 3 optional courses, in addition to the minimum requirements. The grades obtained in these courses will be mentioned in the transcript.

iii. If more than the minimum required electives have been completed, only the electives with the best performance will be considered for computing the CGPA.

iv. Research scholars shall obtain a minimum CGPA of 7.50, subject to a minimum of "C" grade in each of the prescribed courses.

v. Once a course is successfully completed, it cannot be repeated.

vi. The Master's Committee may reduce the course requirement for B Tech/ dual degree students upgrading to B Tech + M Tech (Res) (E) programme.

M TECH (RES)-R.11.3 Grades and CGPA

Based on the semester performance, each scholar is awarded a final grade at the end of the semester in each subject. The grades and the corresponding grade points are as follows:

Grade	S	A	B	C	D	E	U
Points	10	9	8	7	6	4	0

The CGPA will be calculated according to the formula

$$CGPA = [\Sigma (C \times GP)] / \Sigma C$$

Where C = credits and GP = the grade point obtained for the course. The sum is over all the successfully completed courses.

M TECH (RES)-R.*12 UPGRADATION FROM M Tech (Res) TO PhD*

(a) Candidates registered for M Tech (Res)are eligible for an upgrade to the PhD programme in the same department, if they have a minimum CGPA of 8.0 in the prescribed courses completed (at least three of the prescribed courses should have been completed).

(b) Upgrade requests should be submitted within 2 years from the date of joining. For M Tech (Res) scholars who have completed 2 years, request for an upgrade may be considered if at least one journal paper has been accepted/ published in SCI Journal / Tier 1 conference / patent.

(c) After upgradation to PhD the M Tech (Res) scholar can opt for exit option after one semester.

(d) M Tech (Res)(Entrepreneurship) cannot be upgraded to PhD.

(e) M Tech (Res) scholars who upgrade their registration to PhD should successfully complete 5 core courses and at least 3 elective courses prescribed by the DC. DC may give credits to courses already successfully completed by the research scholars during their M Tech (Res) towards the course requirement of the Upgraded PhD. DC may prescribe additional courses for such scholars, if found necessary.

M TECH (RES)-R.13 THESIS, SYNOPSIS AND PANEL OF EXAMINERS

The M Tech (Res) thesis is a detailed report of all the important original research work and findings of the scholar. The synopsis will summarize the important contributions of the research work presented in the M Tech (Res) thesis.

(a) The scholar shall submit synopsis after satisfactory completion of the prescribed courses, the seminar and the research work, by following relevant procedure laid down by the Academic Section.

(b) M Tech (Res)(Entrepreneurship) scholar shall submit requisite copies of the synopsis in two separate volumes, one volume being the technical part and the other volume being the techno-economic feasibility, following the approved procedure.

(c) The thesis shall be submitted after the Master's Committee approval within one month of the synopsis meeting. The Dean Academic may permit extension of thesis submission time based on valid reasons. Depending upon the nature of publication(s) arising out of the thesis work, the Master's Committee will recommend submission of the thesis as per the following guideline:

(1) The thesis shall be submitted to the HoD, if the research (or part thereof) presented in the thesis has been published (accepted) as (i) at least one research paper in a refereed journal of quality acceptable to the MC, or (ii) at least one full proceedings paper of acceptable quality in a conference which is evaluated by two referees (evidence on the rigour of refereeing process must be submitted by the scholar in the form of editor's communication(s) / referee's comments). The thesis will be examined by one examiner from IIITDM Kancheepuram / CFTIs. The process of the thesis examination will be handled by the HoD.

(2) The thesis shall be submitted to the Academic Section if there is no research publication from the thesis work or the publication(s) do(es) not meet the criteria as given in (1) above. The Master's Committee will suggest the names and addresses of at least 6 examiners chosen from within India, including IIITDM Kancheepuram. The thesis will be examined by two examiners chosen by the Dean Academics.

(d) For M Tech (Res)(Entrepreneurship), one of the two examiners is for evaluation of the technical part and the other is for evaluation of the commercial part. A brief note explaining the objectives and scope of M Tech (Res)(Entrepreneurship) will be sent to the examiners along with the synopsis.

(e) For M Tech (Applied Research) programme, the Master's Committee can recommend appropriate method of review so that the information in the thesis is kept confidential.

M TECH (RES)-R.14 THESIS REPORTS and VIVA

a) When the thesis evaluation process is handled by the HoD (as per M TECH (RES)-R.13- c)(1))

i. If the examiner declare the thesis as 'commended', the need for a viva-voce examination will be decided after looking at the comments of the examiner(s) and the response of the scholar to them. The Master's Committee will conduct the viva-voce.

- If the performance is satisfactory, the Master's Committee will recommend the award of M Tech (Res) degree after inclusion of modifications if any.

- If the performance is not satisfactory, the scholar shall reappear for viva-voce exam, not earlier than two weeks and not later than six months from the first viva voce exam. The final thesis report should submit within a week from the date of viva voce.
- If the performance of the research scholar is not satisfactory in the second viva voce exam, the matter will be referred to Senate for a decision.

ii. If the examiner recommends that the thesis should be resubmitted after revision, the scholar will be allowed to do so within the time stipulated by the Master's Committee, failing which the revised thesis will not be accepted and his/her registration will be cancelled.

iii. If the examiner evaluates the thesis as 'not acceptable', the thesis shall be referred to another examiner for evaluation.

b) When the thesis evaluation process is handled by the Dean Academics (as per M TECH (RES)-R.13- c)(2))

i. If the two examiners declare the thesis as 'commended', the need for a viva-voce examination will be decided after looking at the comments of the examiner(s) and the response of the scholar to them. The Master's Committee will conduct the viva-voce.

- If the performance is satisfactory, the Master's Committee will recommend the award of M Tech (Res) degree after inclusion of modifications if any.
- If the performance is not satisfactory, the scholar shall reappear for viva-voce exam, not earlier than two weeks and not later than six months from the first viva voce exam.
- If the performance of the research scholar is not satisfactory in the second viva voce exam, the matter will be referred to Dean Academics for a decision.

ii. If one or both of the examiners recommend(s) that the thesis should be resubmitted after revision, the scholar will be allowed to do so within the time stipulated by the Master's Committee, failing which the revised thesis will not be accepted and his/her registration will be cancelled.

iii. If one of the examiners evaluates the thesis as 'not acceptable', the thesis shall be referred to a third examiner for evaluation.

iv. If two examiners evaluate the thesis as 'not acceptable', the thesis will be rejected and the registration will be cancelled.

c) In all other cases not covered by the above Regulations, the matter will be referred to the Master's Committee for consideration and recommendation to Dean Academics.

M TECH (RES)-R.15 MINIMUM AND MAXIMUM DURATION

The minimum period of study and research for regular scholars from the date of registration to the date of submission of thesis shall be 1½ Years. The minimum residential requirement for the scholars under external (not employed in the Institute) registrations is one semester.

M Tech (Res) scholars shall submit the thesis within 2 ½ years from the date of registration. Master's Committee may extend this period up to 1 year for full time research scholars with an additional year for research scholars who are external / staff members of the institute.

M TECH (RES)-R.16 RELIEF FROM M Tech (Res) PROGRAMME TO TAKE UP JOB

Regular full time scholars who have a job offer can obtain relief from the programme upon recommendation by the Master's Committee, if they have completed the minimum residential requirement of 18 months, the course work, and the seminar/ research proposal seminar.

The scholar should keep the registration alive by payment of the requisite fees every semester. Renewal of the registration for every semester will be considered only if the Master's Committee finds scholar's progress to be satisfactory and recommends continuance of registration.

M TECH (RES)-R.17 WITHDRAWAL FROM THE PROGRAMME

A scholar may be permitted by the Dean Academics to withdraw from the programme for a semester or longer for health reasons or any other valid grounds, if duly recommended by the Master's Committee. Normally, a scholar will be permitted to discontinue from the programme only for a maximum continuous period of two semesters.

M TECH (RES)-R.18 CANCELLATION OF REGISTRATION

a. The registration of a research scholar whose progress is not found to be satisfactory by the Master's Committee or who has not enrolled, is liable to be cancelled.
b. The registration of a research scholar who has not submitted his/ her thesis before the end of the maximum permissible period (M TECH (RES)-R.14 & R. 15) will be cancelled.

M TECH (RES)-R.19 REVERSION OF SCHOLARS UPGRADED FROM M Tech (Res) TO PhD

a) The scholar may apply for reversion to the M Tech (Res)Programme under the supervision of the same guide(s) after one semester from the date of upgradation.

b) If the scholar does not pass the comprehensive examination in two attempts, he/ she will be reverted to the M Tech (Res)Programme. The DC will continue to function as the Master's Committee till the completion of the M Tech (Res)requirements. The scholar must complete the M Tech (Res)degree requirements (M Tech (Res).R.10) within one year from the date of reversion.

M TECH (RES)-R.20 CONVERSION OF REGULAR / DIRECT M Tech (Res)+PhD REGISTRATION TO M Tech (Res)

A scholar directly admitted to M Tech (Res)+ PhD programme can apply for conversion to M Tech (Res)under the same guide, if he/she fulfills all M Tech (Res)admission criteria for the

corresponding year of selection. This option is not available for Regular PhD scholars.

A Regular / Direct M Tech (Res)+PhD scholar in Engineering who does not pass the Comprehensive Examination in two attempts, may request the DC to convert his/her registration from PhD to M Tech (Res)under the same guide. If this option is not exercised, his/her registration will be cancelled. The DC may recommend conversion of registration for approval by the Senate.

a) The DC will continue to function as the Master's Committee till the completion of the M Tech (Res)requirements.
b) The duration of the scholar's M Tech (Res)programme shall not be more than three and a half years from the date of first registration in the M Tech (Res)programme.
c) In its first meeting following the conversion of registration, the Master's Committee may recommend additional courses necessary to satisfy the requirements of the M Tech (Res)programme.
d) The award of HTRA to the scholar will be as per the M Tech (Res)Programme.

M TECH (RES)-R.21 AWARD OF M TECH (RES) DEGREE

Upon satisfactory completion of all requirements and the submission of final thesis, the scholar will be awarded Master of Technology by Research degree on the recommendation of the Senate and with the approval of the Board of Governors of IIITDM Kancheepuram.

For the IIITDM Kancheepuram students upgrading from B Tech/ dual degree to B Tech + M Tech (Res)(Entrepreneurship), the two degrees will be awarded after successful completion of the requirements of both the programmes. The degree for M Tech (Applied Research) will be Master of Technology by Research as awarded for regular M Tech (Res)programme.

M TECH (RES)-R.22 DISCIPLINE

Every scholar is required to observe disciplined and decorous behaviour both inside and outside the campus and should not indulge in any activity, which will bring down the prestige of IIITDM Kancheepuram.

Any act of indiscipline of a scholar reported to the Dean Academics will be referred to a Disciplinary Committee nominated by the Chairman, Senate. The committee will investigate and recommend suitable punishment if it finds the charges substantiated. The recommendation of the Committee will be considered by the Dean Academics to take appropriate action. The Dean Academics will report the action taken at the next meeting of the Senate.

Appeal: *The scholar may appeal to the Chair, Senate whose decision will be final.*

M TECH (RES)-R.23 POWER TO MODIFY

Notwithstanding all that has been stated above, the Senate reserves the right to modify any of the above regulations.

M Tech (Res)APPENDIX: PROCEDURES

ADMISSION PROCESS

Advertisement for M Tech (Res) admissions will be released twice a year. Also there is standing advertisement valid from April 1st to March 31st of the next year. Accompanying admissions brochure has the details of different disciplines eligible for each department, including the interdisciplinary M Tech (Res) programme.

Good academic record is expected from all the applicants. Applicants are short-listed by the department selection committee based on their academic performance and addition qualifying exaM Tech (Res)as applicable (M TECH (RES)-R.2). The short- listed candidates are called for a "test and interview" or Interview. Typically, the Departments will conduct the "test and interview" or Interview twice a year in November/ December and April/ May. Some of the Departments might conduct the "test and interview" or Interview more frequently.

Based on the academic record and the performance of the candidates in the interview and/ or test, Departmental Selection Committee will recommend the names of the candidates found suitable for admission to the Chair, Senate. Applications of foreign nationals may be considered without an in-person "test and interview" or Interview.

Candidates for M Tech (Res)programme in Entrepreneurship must submit a proposal for a start-up that will be evaluated by a Screening Committee, which will recommend select applications to the Selection Committee for interview and/or test.

The selected candidates have to undergo an orientation programme, after which, the candidates have to submit a report containing conceptual ideas and techno-commercial details about the proposed enterprise. Based on their evaluation, Dean (Design and Innovation) will recommend the names of the candidates suitable for admission, to the Chairman, Senate. The Dean (D&I) will coordinate the programme with the assistance of the D&I Cell.

Candidates selected / recommended for HTRA under the waiting list then they were considered for project category without operating the waiting list, such cases cannot convert to Project HTRA to HTRA later.

Candidates employed on a project at IIITDM Kancheepuram can apply for admission to M Tech (Res)programme with a minimum project experience of six months without valid GATE score. Only those Regular-Project scholars who qualify in GATE with the minimum cutoff prescribed for the selection of Scholars admitted in his/her batches and meet all the criteria prescribed for the selection of Regular-HTRA scholars (GATE score, interview marks, overall marks etc.) admitted in their batches can move to Regular HTRA.

IIITDM Kancheepuram will notify the selected candidates through post and email. The selected candidates are required to pay the requisite fees and report to campus for registration within a stipulated time frame. Based on research profile, preferences of the scholars and the prospective guides, and the Department's guide assignment policy, which will be made known to the scholar, the scholar will be assigned a guide.

The Dean (Academics) will then constitute a Masters Committee (M TECH (RES)-R.7), based on recommendations of guide and the Department HoD, to assess the progress of the scholar periodically. The scholar has to complete coursework and other requirements as outlined in M TECH (RES)-R.10. The scholar has to enroll every semester by payment of requisite fees, until the completion of the degree requirements.

PROCESS FOR UPGRADING FROM M Tech (Res)TO PHD

Eligibility criteria for upgrading can be found in PhD regulation, PhD-R.2.2.

The Master's Committee or MC (M TECH (RES)-R.8) of the scholar will consider the application for the upgrade under the supervision of the same guide(s). It will then make its recommendation to the Chairman, Senate for approval of the upgrade as per rule. If approved, a Doctoral Committee will replace the Master's Committee. ***Subsequent to the approval of upgrade from M Tech (Res)and constitution of DC, the scholar should pass comprehensive viva within two attempts within the time frame mentioned in PhD-R.12.***

OR

A Scholar can approach the HoD with the recommendation of a chosen advisor. If permitted, he/she can take comprehensive examination when it is offered by the department. After passing the comprehensive viva within two attempts, he/she shall exercise the option for upgrade within a month. If he/she fails twice in comprehensive examination, he/she can continue to be in the original programme and no more option is available for upgradation.

DEPARTMENT PROCEDURES

Department should have same short-listing criteria for Regular-HTRA and Regular-Project students.

Every department should send the method of guide allocation passed by their Departmental Academic Committee (DAC) to Dean Academics for approval. Faculty and Scholars will be informed of this method.

Based on research profile, preferences of the scholars and the prospective guides, and the Department's guide assignment policy, the scholar will be assigned a guide by the HoD/ M Tech (Res) Selection Committee.

The guide provides the area of research and suggests a panel of faculty members (at least 2 internal to the department and 2 from allied departments/ institutions) to the HoD, indicating their areas of specialization, for constitution of the scholar's Master's Committee. The Head of the Department (HoD) will submit the form to the Dean Academics to constitute the MC. Academics section will intimate the constitution of MC to the respective members. For, M Tech (Res) (E), additional members have to be recommended as per the ordinances. This has to be done within 8 weeks of the date of joining.

The academics section should maintain an enrollment roster for scholars to enroll in the beginning of each semester and provide the details of enrolment to the HoD within two weeks of the semester.

Seminar given by the scholars must be announced by the guide/ department to the academic community at IIITDM Kancheepuram by email.

THESIS AND SYNOPSIS

The M Tech (Res) thesis is a detailed report of all the important original research work and findings of the scholar. The synopsis will summarize the important contributions of the research work presented in the M Tech (Res)thesis, including the publications resulting from the thesis. The synopsis should be at most 2 pages long (single space, single column, 10 pt font size and one inch margins on all sides) and need not include references. Thesis shall be based on the IIITDM Kancheepuram template.

Synopsis meeting will be held in the parent department. Scholars should submit required number of hard and soft copies of the synopsis along with thesis and its abstract on the day of synopsis meeting. However, one months' time will be given to improve the thesis. If a modified thesis is not submitted within one month, the thesis submitted earlier will be treated as final version. The Dean Academics may grant additional time beyond one month on request from the scholar for valid reasons.

The guidelines for use of standard anti-plagiarism software/ platform for the thesis are as follows:

1. The scholars have to certify that a standard software / platform was used for checking against Plagiarism.
2. The guide has to ensure checking against plagiarism through any standard software before submission of M Tech (Res)thesis and endorse the undertaking of the scholar.
3. The guide may obtain a special relief from this checking from the Dean Academics on grounds of IPR implications or National Security, if applicable.

In the synopsis meeting, the scholar will make a brief presentation of the main contributions of the thesis. Upon acceptance of the synopsis, the Master's Committee will recommend a panel of examiners, as per M TECH (RES)-R.13.

The examiner is expected to send the report on the thesis within one and a half months from the date of receipt of the thesis. When the two reports from the examiners are received they are circulated to the Master's Committee. In case of undue delay in receiving the thesis report after issuing 2nd reminder to the examiner, the Dean Academics or his/ her nominee shall appoint another examiner for evaluating the thesis.

VIVA-VOCE EXAMINATION (IF REQUIRED)

a) If required, the viva-voce will be conducted normally not earlier than two weeks from the date of receipt of reports by the Chair, Master's Committee from the Academic Section.
b) The response of the candidate to the reports as well as the modified thesis will be circulated to the Master's Committee prior to the viva voce meeting.
c) The scholar will present his/ her thesis work and the response to the examiners' comments. The viva voce board will examine the scholar and evaluate the performance as satisfactory or otherwise. Further, it will ensure that the scholar answers the questions raised by the thesis examiners satisfactorily.
d) The viva voce board may also recommend revisions to be made in the final version of the thesis after taking into consideration suggestions of the examiners and the discussion at the viva-voce.

Scholars shall submit one copy of the final form of thesis in A4 size and an electronic version in PDF format after the Master's Committee/ viva voce board recommends the award of the M Tech (Res) degree.

Digital India Corporation
(A Section 8 Company)
Ministry of Electronics and Information Technology,
Govt. of India
Electronics Niketan Annexe,
6, CGO Complex, Lodhi Road, New Delhi – 110003

डिजिटल इंडिया कॉर्पोरेशन
(धारा 8 कम्पनी)
इलेक्ट्रॉनिकी एवं सुचना प्रौद्योगिकी मंत्रालय,
भारत सरकार
इलेक्ट्रॉनिक्स निकेतन उपभवन,
6, सीजीओ कॉम्प्लेक्स, लोधी रोड, नई दिल्ली-110003

Tel. : +91(11) 24360199, 24303599, 24303500, 24303555, 24301756; CIN NO. : U72900MH2001NPL133410

George Arakal
Director (Admin. & Finance)

Ref : MLA/MUM/GA/10(54)/18-19 01/10/2019

Prof. Banshidhar Majhi,
Director
Indian Institute of Information Technology Design & Manufacturing, Kancheepuram
Melakottaiyur Village,Near Kandigai, Off Vandalur-Kelambakkam Road,
Nellikuppam, Chennai, Tamil Nadu 600127
Email : director@iiitdm.ac.in,

Dear Prof. Banshidhar Majhi,

Sub : Approval of Part-Time PhD seats for your institution under the Visvesvaraya PhD Programme of the Ministry of Electronics & Information Technology (MeitY), Govt. of India

Your request for approval of **part-time PhD seats** for your institution under the Visvesvaraya PhD Prgoramme during the year 2018-19 was considered by the Competent Authority. The Competent Authority had approved additional 8 seats under the part-time PhD Scheme for your institution, for admission during the year 2018-19. The same was formally intimated to you through email of Shri. Sandeep Kumar Bansal, Principal Research Scientist, PhD Cell, Digital India Corporation in June 2019.

However, a letter confirming the above email was delayed due to technical reasons. This is also to inform you that the allocation of Part Time seats intimated to you in June 2019 is now, being extended for the years 2018 and 2019 and accordingly the admissions may be done by 31st December 2019.

Now this letter is sent for the acceptance of "Terms & Conditions" (as attached with the letter).

I am also directed to inform you that the allocation of part-time PhD seats are meant for PhD candidates who would be working in the area of ESDM & IT/ITES category.

As per the scheme, part-time students are not being provided any other financial assistance during their PhD work and the amount of Rs. 2.5 lakhs is released only on Award of the PhD Degree to the concerned Research Fellow.

For more details on the Visvesvaraya PhD Programme, kindly refer to the website: phd.dic.gov.in

Thanking you and with kind regards,

Yours faithfully,

George Arakal

cc : Dr. Noor Mahammad Sk
Email : noor@iiitdm.ac.in,

Mr. V. K. Bhatia, Senior Director (Research), Digital India Corporation
Mr. K.P. Sivadas, Chief Manager (Finance), Digital India Corporation
Mr. Sandeep Kumar Bansal, Principal Research Scientist, Digital India Corporation

GA/ps

Visvesvaraya PhD Programme
Ministry of Electronics & Information Technology
(MeitY)
Government of India

Terms and Conditions for support under PhD Scheme

1. **Institutions Eligible for support under Visvesvaraya PhD Programme**

   - All Indian Institutes of Technology (IITs), National Institutes of Technology (NITS), Indian Institute of Science (IISc), all Indian Institutes of Science Education and Research (IISERs), Central Universities, Deemed Universities under Central Government, Colleges/ Institutions of national importance will be eligible for support under the scheme.
   - A University created under Provincial Act, State Act, State Universities, Private Universities, Private Deemed Universities, "Colleges that are allowed to offer PhD", and other academic and R&D institutions need to have the following eligibility criteria
     (i) The Institute should have existing post graduate stream in ESDM/IT/ITES and have produced PhDs in these areas for the last 3 years. The PhD student(s) under this scheme to be admitted as per UGC admission norms and
     (ii) The Institute should be recognized by AICTE and NBA (National Board of Accreditation) accredited with respect to ESDM & IT/ITES Programmes.
     Or
     The Institute should be accredited by NAAC (National Assessment and Accreditation Council of UGC)
   - The minimum requirement for the Institutions / Universities / Research Centers etc. for being eligible for support under the scheme will be compliance to the "UGC's Minimum Standards and Procedure for award of M. Phil/Ph.D. Degree, Regulation, 2009" (ref. The Gazette of India July 11, 2009 Part III Sec 4) as amended time to time.

2. **The Fellowship**

   Part-time candidates who do not avail of any PhD Fellowship/scholarship/ stipend from any central or State Government shall be provided a one-time incentive of Rs 2.5 lakh on successful completion of the PhD degree.

3. The support will be for Part-Time PhD candidates admitted by an institution under Part-time programme of Visvesvaraya PhD Programme.

4. The one time financial support (incentive) under the scheme will be provided to the student through institution and no direct funding support will be provided by Government of India to the PhD candidates. The institution will be responsible for seeking financial support, making the payment to successful candidate and for furnishing utilization certificate of the funds released.

5. On successful completion and award of PhD degree, the concerned Research fellow should make an application for reimbursement to the Institution and it shall be the responsibility of the institution to pay the one time incentive to the Research Scholars.

6. Institutional Overheads, Infrastructural Grant, Annual Contingency Grant etc. are not applicable and available in the case of part time candidates.

7. The institutions registering Part-Time PhD candidates shall be responsible for monitoring of the progress of the Part time candidates who shall be doing PhD under Visvesvaraya PhD Programme.

8. The Institution shall allocate the part time seats against the vacancies approved and communicated by the PhD Cell of the Visvesvaraya PhD Programme to the respective institution.

9. The incentive would be available during the period of Visvesvaraya PhD Programme that shall be ending in the year 2023.

10. Those who do not complete the Part time PhD award during the specified duration of the programme shall not be eligible for reimbursement. The fellowship claim for the Part Time PhD fellows would be released to the Institutions upto end of the programme for onward disbursement to the fellows. The UCs need to be submitted by the respective institutions on disbursement of the fellowship.

11. The payment of the incentives as above shall be eligible for candidates who are doing PhD in the area of ESDM & IT/ITES.

12. The number of Part time PhD shall not be considered while allocating the YFRF for the Institution, as YFRF selection shall be proportionate to the number of full time PhDs of an Institution.

13. The financial support available for travel for attending National/ International Conference shall not be available to the part time candidates.

14. It shall be the responsibility of the institution to upload the data relating to this part time candidates of Visvesvaraya PhD Programme filled by the institution against the approved posts in website of PhD Programme of Digital India Corporation.

I have read the Terms & Conditions above and accept these.

Signature :

Stamp:

Digital India Corporation
Ministry of Electronics & Information Technology
Govt. of India
New Delhi

Name :

Date :

GA/ps

Annexure 8.1

M. Tech in Power Electronic System Design (PESD) - Curriculum

Semester - 1						
S. No.	**Course Name**	**I**	**P**	**C**	**Category**	**Remarks**
1	Concepts of Product Design and Development	2	3	4	DES	
2	Power Converters Design	3	0	3	PEC	
3	Discrete Data systems	3	0	3	PEC	
4	Digital Controllers in Power Electronics Applications	3	0	3	PEC	
5	Elective Course - 1	3	0	3	ELE	
6	Design and Simulation of Power Electronic Circuits Practice	0	3	2	PEC	
7	Digital Controllers in Power Electronics Applications Practice	0	3	2	PEC	
	Total	14	9	20		
Semester - 2						
8	Quality and Reliability Based Design	2	3	4	DES	
9	Power Electronic Control of Electrical Machines	3	0	3	PEC	
10	Elective Course -2	3	0	3	ELE	
11	Elective Course -3	3	0	3	ELE	
12	Elective Course -4	3	0	3	ELE	
13	Power Electronic Control of Electrical Machines Practice	0	3	2	PEC	
	Total	14	6	18		
Summer						
14	Project Phase – I	-	-	7	PEC	
	Total			7		
Semester - 3						
15	Project Phase – II	-	-	15	PEC	
	Total			15		
Semester - 4						
16	Project Phase - III	-	-	16	PEC	
	Total			16		
	TOTAL CREDITS			76		

Minutes of the Brainstorming Session held at IIT-Madras on 04th May

The following members were present during the brainstorming session of the proposed new M. Tech. programme in the area of Electrical Power and Energy Engineering at IIITDM Kancheepuram.

1. Prof. Krishna Vasudevan, EE-IITM
2. Prof. Jagadeesh Kumar, EE-IITM
3. Prof. Srirama Srinivas, EE-IITM
4. Mr. K R A Nair, Retd. Executive Director, Lucas-TVS Ltd.
5. Dr. Parasivam S., Head (R&D), Danfoss Ltd.
6. Mr. Azaghar Raj M., Head (R&D), Powergear Ltd.
7. Dr. Binsu K., Dean (Acad.), IIITD&M Kancheepuram
8. Dr. Selvajyothi K., HoD (ECE.), IIITD&M Kancheepuram

9. Dr. Damodharan P., IIITD&M Kancheepuram
10. Dr. Vijayakumar K., IIITD&M Kancheepuram
11. Dr. Pandiyarasan V., IIITD&M Kancheepuram

On behalf of IIITD&M Kancheepuram, Dr. Binsu K, Dean (Acad.) welcomed the members of the session and also, requested Prof. Jagadeesh Kumar to chair the brainstorming session which he gracefully accepted. The brainstorming session started with the self-introduction of the members.

- Dr. Binsu K, Dean (Acad.) briefed about the mandate of the Institute and various degree programmes offered by IIITD&M Kancheepuram.
- Dr. Selvajyothi K, HoD (ECE) presented the proposal of the new M. Tech programme in Electrical Power and Energy Engineering specialization.
- Prof. V. Jagadeesh Kumar was indeed very happy about the proposal of the new programme and suggested to utilize the existing expertise of faculty in area of Electrical Power and Energy Engineering. In addition, he also, emphasized to start the proposed M. Tech. programme in the forthcoming academic admission i.e. July 2019 session itself.
- Industry experts were also happy about the concepts of Product Design course and Quality & Reliability course being offered in the current M. Tech. curriculum at IIITDM. Mr. K.R.A. Nair, suggested to include the following topics in the above courses EMIC, Heat sink design, and Thermal aspects of the product design.
- Prof. Krishna Vasudevan suggested many changes in the topics of the proposed syllabus of Power Converters course such that it focuses more on design aspects of power electronic converters since the admitted GATE-EE students would have already done a basic introductory course on Fundamentals of Power Electronics.
- Industrial experts suggested to include commercially available digital controllers like TI based DSP controllers and FPGA in the proposed power electronics applications practice course which would be beneficial for the students when it comes to implementation of their final year project work.
- Members also suggested to divide the content of Power electronic control of electrical machines course into 2 parts, Part-1 and Part-2 in a such a way that, Part-1 covers the basics of DC machines and Part-2 covers Induction machines, Permanent magnet ac machines, and other special machines.
- The experts were impressed with the proposed 3 verticals in the proposed curriculum namely,
    - *Power System Design, 2) Renewable Energy System, and 3) Electrical Drives & Transportation.*
- Considering the above proposed three verticals and also, keeping in mind the mandate of the IIITDM Kancheepuram, the committee members unanimously suggested to name the proposed programme as "**Master of Technology in Power Electronic System Design**".
- Mr. Nair also highlighted the development and importance of power electronic expertise by considering the growth of renewable and electrical vehicles technology in near future.
- Experts also emphasized that there would be an enormous demand of expertise in the area of power electronics, renewable energy and electrical drives in the near future, and therefore it is the need of the hour to groom Power electronic engineers to cater the huge demand.
- The syllabus of the proposed courses of the M. Tech programme were discussed in detail and suggestions from the experts have been incorporated.
- The meeting was concluded at 2:10 PM with a vote of thanks.

Annexure 8.2

PROPOSAL FOR: M.TECH IN COMPUTER SCIENCE AND ENGINEERING

Offered by: Department of CSE

Expected Start: July 2020

Number of Seats: 40 (full-time) + 10 (part-time)

Offered to: B.Tech students who are interested in advanced learning and research in computer science.

Objective The department offers B.Tech in CSE since 2009 and Dual degree (B.Tech and M.Tech) since 2014. Having seen the success of these two programmes which is indicated by (i) the number of summer internships (ii) placement (iii) students pursuing higher studies , the department wishes to offer a 2-year M.Tech in Computer Science and Engineering. This programme has two modes of admission, namely (a) admission through GATE for a full-time M.Tech (b) admission through department test and interview for a part-time M.Tech offered exclusively for industry/research laboratories. The said programme shall focus on design-centric CS education and connect well with the growing demands of product/research oriented IT firms.

Outcome: To create CS engineers coupled with design thinking skills. To create human resources with good blend of science, engineering and engineering design and manufacturing. To create a talent pool who can take up cutting edge research in both theoretical and applied areas of CSE.

Highlights of M.Tech CSE offered at IITs

- IIT Delhi
  - 60 credits – Two third course work and the rest project – high quality project/research
- IIT Madras
  - 200 credits (approx 60 credits in our system) – CBCS – 2 core – 6 electives – project/thesis
- IIT Bombay
  - 160 credits – 9 electives – two tracks – projects/thesis – option for crediting at most 2 B Tech courses
- IIT Kanpur
  - similar to IITB
- IIIT Delhi
  - 48 credits – M Tech coursework/thesis – can credit at most 2 B Tech courses – 16 credits to get spl
- IIIT Bangalore
  - 64 credits – core – spl electives

- **IIITDM KANCHEEPURAM**
  72 credits -

Proposed Curriculum (68 credits)

Semester 1 (19 credits)

1. Mathematical Foundations for Computer Science (3+1)
2. Advanced Data Structures and Algorithms + Algorithmic Thinking Practice (3 +2)
3. Computer System Design + Practice (3 +2)
4. Data Science + Data Science using Python (3 +2)

Semester 2 (19 credits)

1. High performance Computing + Practice (3+2)
2. Machine Learning + Practice (3+2)
3. Elective 1 (3)
4. Elective 2 (3)
5. Elective 3 (3)

Summer Internship - P/F

Semester 3 (15)

Thesis Phase 1

Semester 4 (15)

Thesis Phase 2

List of Electives (at least one design, at least one mathematics must be chosen)

1. Design thinking in Computer Science
2. Human centric Software design
3. Pattern Recognition
4. Machine Learning
5. Network System Design
6. Optimization Methods
7. Graph Theory
8. Computer Vision
9. Image Processing
10. Sensors Networks

Annexure 8.3

Università degli studi di Genova
Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti - DIME

Prof. Ing. Matteo Zoppi

Genoa, 27 January 2020

Prof SREEKUMAR MUTHUSWAMY and
Prof Banshidhar Majhi (Director)
IIITDM KANCHEEPURAM
CHENNAI, INDIA

Dear Professor Sreekumar / Professor Banshidhar Majhi

I write on behalf of the Organization Committee of the European Programme EMARO, European Master in Advanced Robotics; our Committee manages and organizes the local track of EMARO resident at the University of Genoa and we have the authority of making decisions to be further approved by our Rector and Senate.

The local track of EMARO in Genoa requires students to be formally enrolled at the University of Genoa only, with no obligation of parallel registration in one of the other European Universities belonging to the EMARO group; therefore decision related to the local track of EMARO do not require approval or any involvement of the other EMARO partners.

During several visits of Prof Sreekumar in Genoa, visits of us there and several occasions of contact and with the MoU already executed, we have introduced and discussed the setup of a cooperation between our Universities related to the exchange of master students in master studies organized with the EMARO local track and for starting a new master program on "Advanced Robotics / Robotics Engineering" at your Institution. A summary of a preliminary syllabus, aligned with the syllabus of our existing Robotics Program, is as follows.

This letter is to state and communicate to you our will to progress in this project with the start of the initiative and admission of students from the next Fall semester 2020 in August/September.

With Regards

Prof. Ing. Matteo Zoppi

UNIVERSITÀ DI GENOVA

SUMMARY OF THE PRELIMINARY SYLLABUS OF THE ADVANCED ROBOTICS / ROBOTICS ENGINEERING PROGRAM

	Lectures (L)	Tutorials (T)	Practice/Lab (P)	Outside Hrs (O)	Credit (C)	
I Semester (IIITDM Kancheepuram, India)						*14 Week/semester*
Optimization Techniques	3	1	0	6	5	1 hr of lecture/week=1 credit
Machine Learning	3	0	3	6	5	1 hr of tutorial hr/week=1 credit
Basics of Automation and Control	3	0	3	6	5	3 hrs of lab session/week=1 credit
Design and Analysis of Mechanisms	3	1	0	6	5	6 hrs spent outside class room/week=1 credit
Digital Signal Processing	3	1	0	6	5	
Computer Vision	3	1	0	6	5	
					30	

Via Opera Pia 15A, 16145 Genova — Tel. 010 353 2837 — E-mail: matteo.zoppi@unige.it

Università degli studi di Genova
Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti - DIME

Prof. Ing. Matteo Zoppi

II Semester (University of Genoa, Italy; February-July)							*L-Number of lecture hours/week*
	Italian Lnguage		Compulsory. Pass/Fail				T-Number of tutorial class hours/week
	AI					5	P-Number of lab/practice hours/week
	Nonlinear Control Techniques					5	O-Number of hours outside class hours/week
	Human Computer Interaction					5	
	Mechanical Design Methods in Robotics		As per UG			5	
	Mobile Robotics					5	**Tentative List of Elective Subjects**
	Social Robotics					5	
						30	
III Semester (IIITDM Kancheepuram and/or IIT Madras, India)							
	Research Methodology	2	0	0	6	3	
	Any 3 Subjects from the Elective List (4 credits each)	3	0	0	6	12	Mechatronic Systems Flexible Manufacturing Systems Production System Design and Control Field and Service Robotics Robotics Control Systems Marine Robotics Design for Vibration Control Smart Materials and Applications To add/delete
	Project -Phase I					15	
						30	
IV Semester (IIITDM)							
	Project-Phase II					**30**	
	Total Credits					***120***	

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UNIVERSITA' DI GENOVA DIME

Via Opera Pia 15A, 16145 Genova – Tel. 010 353 2837 – E-mail: matteo.zoppi@unige.it

Annexure –9

Details of the scholars

1. Name of the Scholar	**Mr C Gurunathan**
Roll No	MDM11D003
Department	Mechanical Engineering
Thesis Title	THERMO-TRIBOLOGICAL CHARACTERISTICS OF PARTICLE AND NETWORK REINFORCED POLYMER COMPOSITES
Date of Joining	03.01.2011
Date of Passing of Comprehensive Examination	07.06.2013
Date of Submission of Thesis	31.01.2019
Indian Examiner	Dr (Ms) Jayashree Bijwe Professor & Head Reliance Chair Professor Industrial Tribology Machine Dynamics & Maintenance Engineering Centre (ITMMEC)-Office No . 245, Block No-5, Indian Institute of Technology, Delhi, Hauz Khas, New Delhi 110016 India
Date of receipt of report	18.06.2019 (Through E-Mail)
Foreign Examiner	Dr. Yuichi Otsuka, Associate Professor, Department of System Safety, Nagaoka University of Technology Address: 1603-1 Kamitomioka-cho, Nagaoka-shi, Niigata 940-2188, Japan.
Date of receipt of report	14.10.2019(Through E-Mail)
Date of Ph D viva-voce examination	04.12.2019
Date of submission of final thesis	05.12.2019
Doctoral Committee	
Chairman	Prof S Narayanan, IIITDM Kancheepuram
Research Supervisor (s)	Prof R Gnanamoorthy, IIT Madras Dr S Jayavel, Mechanical Engg, IIITDM Kancheepuram
Internal Member	Dr M Sreekumar, IIITDM Kancheepuram
Internal Member	Dr P Pandithevan, IIITDM Kancheepuram
External Member	Prof Ganesh Sundara Raman, IIT Madras

Annexure –9

LIST OF PAPERS BASED ON THESIS

I. REFEREED JOURNALS

1. Gurunathan C, Gnanamoorthy R, Jayavel S. Prediction of frictional heating and temperature distribution in selective ceramic reinforced polymer composite, *Proc. IMech Part J: Journal of Engineering Tribology*, vol. 288, pp. 1433-42, 2014.

2. Gurunathan C, Gnanamoorthy R, Jayavel S. Effect of reinforcement forms in selectively reinforced polymer composite: temperature distribution under sliding contact condition, *International Journal of Plastic Technology*, vol. 20, pp. 265–278, 2016.

II. INTERNATIONAL CONFERENCE PROCEEDINGS

1. Gurunathan C, Gnanamoorthy R, Jayavel S. Wear Resistance of Polymeric Material with Selective Reinforcement - Effect of Material Combination, ICEMA, IIT Roorkee, 5 – 6 April 2014.
2. Gurunathan C, Gnanamoorthy R, Jayavel S. Frictional Heat Generation in Selective Ceramic Reinforced Polymer Composites - Effect of Particle Size, AIMTDR 2014, IIT Guwahati, 12 – 14 Dec 2014.
3. Gurunathan C, Gnanamoorthy R, Jayavel S. A Novel Method to Reduce the Surface Temperature in Polymer Composite for Tribo Performance, ISME17, IIT Delhi, 3 – 4 Oct 2015.
4. Gurunathan C, Gnanamoorthy R, Okazaki Masakazu. A Novel Method to Enhance the Wear Resistance of Polymer, ICONDM2016, IIITDM Kancheepuram, 16 – 17 Dec 2016.
5. Gurunathan C, Gnanamoorthy R, Okazaki Masakazu. Processing and Performance Studies of Polymer Composite with Networked Reinforcement, ICMTS-2017, IIT Madras, 7 – 8 July 2017.
6. Gurunathan C, Gnanamoorthy R, Jayavel S. Taguchi Analysis of surface temperature in network-reinforced polymer composite, IJBSFMM2018, IIT Madras, 16 – 17 July 2018.

Annexure –9

2. Name of the Scholar	**Vinayaga Muruga Pandy N**
Roll No	MDM13D003
Department	Mechanical Engineering
Thesis Title	Development of a minimally-invasive drilling methodology to control temperature and cutting force in femur reconstruction surgery: A methodology for better pullout strength of fixations in human cortical bone
Date of Joining	29.07.2013
Date of Passing of Comprehensive Examination	29.01.2015
Date of Submission of Thesis	27.06.2019
Indian Examiner	Dr B Ravi Institute Chair Professor, Department of Mechanical Engineering, Manufacturing OrthoCAD and Medical Device Innovation IIT Bombay, Mumbai
Date of receipt of report	26.08.2019 (Through E-Mail)
Foreign Examiner	Prof Tomasz Liskiewicz, Professor, Dept of Biomaterials School of Engineering, Manchester Metropolitan University, E111B John Dalton Building, Chester Street, Manchester, M1 5GD, United Kingdom
Date of receipt of report	04.08.2019(Through E-Mail)
Date of Ph D viva-voce examination	16.12.2019
Date of submission of final thesis	16.12.2019
Doctoral Committee	
Chairman	Dr S Jayavel, IIITDM Kancheepuram
Research Supervisor	Dr Pandithevan P, IIITDM Kancheepuram
Internal Member	Dr B Shahul Hamid Khan, IIITDM Kancheepuram
Internal Member	Dr M Sree Kumar, IIITDM Kancheepuram
External Member	Dr G Saravana Kumar, IIT Madras

Annexure –9

LIST OF PAPERS BASED ON THESIS

Journal Papers:

1. Pandithevan P, Vinayaga Muruga Pandy N and Palanivel C. Development of *in-situ* temperature prediction models from cadaveric human femur for bone drilling, *Journal of Mechanics in Medicine and Biology*. 18(03):18500261-185002624, 2018. [SCI-Expanded]
2. Pandithevan P, Vinayaga Muruga Pandy N and Prasannavenkadesan V. Investigation of bone drilling for secure implant fixation in human femurs: Taguchi optimization and predictive force models with experimental validation, *Journal of Mechanics in Medicine and Biology*. 18(06):18500611-18500622, 2018. [SCI-Expanded]
3. Pandithevan P and Vinayaga Muruga Pandy N. Multi-objective optimization for surgical drilling of human femurs with experimental validation: A methodology for strongest implant fixation, *Journal of Mechanics in Medicine and Biology*. (Accepted). [SCI-Expanded]

International Conference Papers:

1. Vinayaga Muruga Pandy N and Pandithevan P. Experimental Investigation and Analysis of Torque in Drilling Human Femoral Bone. *In: Proceedings of the Indian Conference on Applied Mechanics (INCAM)* 2017, MNNIT Allahabad, India.
2. Pandithevan P and Vinayaga Muruga Pandy N. Reconstruction of subject-specific human femur with surgical drilling force data: An experimental study to operate in the radial direction. *In: Proceedings of the XXVI Congress of the International Society of Biomechanics (ISB)*, July 23-27, 2017, Brisbane, Australia.
3. Pandithevan P, Prasannavenkadesan V and Vinayaga Muruga Pandy N. Reconstruction of patient-specific human femur with surgical drilling temperature data: A methodology applicable for robotic surgery. *In: Proceedings of the International Conference on Applied and Computational Mathematics*, November 23-25, 2018, IIT Kharagpur, India.

Indian Institute of Information Technology, Design and Manufacturing, Kancheepuram

Academic Calendar – Even Semester – January - May 2020

DAY	JANUARY 20			FEBRUARY 20			MARCH 20			APRIL 20			MAY 20			JUNE 20		
	Date		Days	Date		Days	Date		Days	Date		Days	Date		Days	Date		Days
MON																1	Jul-Nov 2020 Fee Payment Portal open	
TUE																2	Jul-Nov 2020 Registration Starts	
WED	1	Commencement of Classes / Enrolment	1							1		1				3		
THU	2		2							2		2				4		
FRI	3		3							3		3	1	End Sem / UG/DD/PG Final Project Review		5		
SAT	4			1	GATE 2020					4			2			6		
SUN	5			2	GATE 2020		1	Inter IIIT Sports Meet		5			3			7		
MON	6		4	3		1	2	Inter IIIT Sports Meet	1	6	Mahavir Jayanthi		4	UG/DD/PG Final Project Review		8		
TUE	7		5	4		2	3	Inter IIIT Sports Meet	2	7		4	5	UG/DD/PG Final Project Review		9		
WED	8	Last date for enrolment with fine	6	5		3	4		3	8		5	6			10		
THU	9		7	6		4	5		4	9		6	7	Buddha Purnima		11		
FRI	10		8	7		5	6		5	10	Good Friday		8			12		
SAT	11			8	GATE 2020		7			11			9			13		
SUN	12			9	GATE 2020		8			12			10			14		
MON	13	Last date to apply for change of electives	9	10		6	9		6	13		7	11	Last date for submission of grades		15	Jul-Nov 2020 Registration Ends	
TUE	14	Class Committee	10	11		7	10		7	14	Tamil New Year		12	Starting Date for 5 months Internship of Final Years		16		
WED	15	Makarasankranti / Pongal		12	Quiz 1 / UG/DD/PG 1st Project Review		11		8	15		8	13			17		
THU	16	Class Committee	11	13	Quiz 1 / UG/DD/PG 1st Project Review		12		9	16		9	14			18		
FRI	17	Class Committee	12	14	Quiz 1 / UG/DD/PG 1st Project Review		13		10	17		10	15	Declaration of results		19		
SAT	18			15			14			18			16			20		
SUN	19			16			15			19			17			21		
MON	20		13	17		8	16	Quiz 2 / UG/DD/PG 2nd Project Review		20		11	18			22		
TUE	21		14	18		9	17	Quiz 2 / UG/DD/PG 2nd Project Review		21	Compilation of Attendance	12	19			23		
WED	22		15	19		10	18	Quiz 2 / UG/DD/PG 2nd Project Review		22		13	20			24		
THU	23		16	20		11	19		11	23	End Semester		21			25		
FRI	24		17	21	Last date to apply for Makeup Quiz 1	12	20	Jul-Nov 2020 Pre-Registration Starts	12	24	End Semester		22			26		
SAT	25			22			21			25			23			27		
SUN	26	Republic Day		23			22			26			24			28		
MON	27		18	24	Last date to announce Quiz 1 marks	13	23		13	27	End Semester		25	Idu'l Fitr		29		
TUE	28		19	25	Class Committee	14	24	Last date to apply for Makeup Quiz 2	14	28	End Semester		26			30	Jul-Nov 2020 Fee Payment Portal close	
WED	29		20	26	Class Committee	15	25	Ugadi		29	End Semester		27					
THU	30		21	27	Class Committee	16	26	WEDNESDAY'S TIME TABLE	15	30	End Semester		28					
FRI	31		22	28	RESEARCH SCHOLARS' DAY	17	27	Last date to announce Quiz 2 marks	16				29					
SAT				29	Inter IIIT Sports Meet		28	Samagatha					30					
SUN							29	Samagatha					31					
MON							30		17									
TUE							31	Jul-Nov 2020 Pre-Registration Ends	18									

Month	Mondays	Tuesdays	Wednesdays	Thursdays	Fridays	Total
January	4	4	4	5	5	22
February	4	4	3	3	3	17
March	4	4	3	3	4	18
April	2	2	4	3	2	13
Total	14	14	14	14	14	70

Indian Institute of Information Technology, Design and Manufacturing, Kancheepuram

Academic Calendar – Odd Semester – July – November 2020

DAY	JULY 20			AUGUST 20			SEPTEMBER 20			OCTOBER 20			NOVEMBER 20			DECEMBER 20			
	Date		Days	Date		Days	Date		Days	Date		Days	Date		Days	Date		Days
TUE							1		1							1	Jan-May 2021 Fee Payment with Fine Portal open	
WED	1	Jul-Nov 2020 Fee Payment with Fine Portal open					2		2							2		
THU	2						3		3	1		1				3		
FRI	3						4		4	2	Gandhi Jayanthi					4		
SAT	4			1	Id-ul-Zuha-Bakrid		5			3						5		
SUN	5			2			6			4			1	Vashisht		6		
MON	6			3	Last date for enrolment with fine	1	7		5	5	Quiz 2 / PG Mid-Sem Project Review		2	Jan-May 2021 Fee Payment Portal open	1	7	Last date for submission of grades	
TUE	7			4	PG Summer Project Review	2	8	FRIDAY'S TIMETABLE	6	6	Quiz 2 / PG Mid-Sem Project Review		3		2	8		
WED	8			5	PG Summer Project Review / Class Committee	3	9		7	7	Quiz 2 / PG Mid-Sem Project Review		4		3	9		
THU	9			6	Class Committee	4	10	Last date to apply for Makeup Quiz 1	8	8		2	5		4	10		
FRI	10			7	Class Committee	5	11	Last date to announce Quiz 1 marks	9	9		3	6		5	11	Declaration of Results	
SAT	11			8			12			10			7			12		
SUN	12			9			13			11			8			13		
MON	13			10	Last date to apply for change of electives	6	14	Class Committee	10	12	Reporting Date for Final Years after Internship	4	9		6	14	Jan-May 2021 Registration Starts	
TUE	14			11		7	15	Class Committee	11	13		5	10		7	15	Jan-May 2021 Fee Payment with Fine Portal close	
WED	15	Jul-Nov 2020 Fee Payment with Fine Portal close		12		8	16	Class Committee	12	14	UG/DD Internship Review	6	11		8	16		
THU	16			13		9	17		13	15	UG/DD Internship Review	7	12	Compilation of Attendance	9	17		
FRI	17			14		10	18		14	16	UG/DD Internship Review	8	13			18		
SAT	18			15	Independence Day		19			17			14	Diwali/ Deepavali		19		
SUN	19			16			20			18			15			20		
MON	20			17	FRIDAY'S TIMETABLE	11	21		15	19	Pre-Registration for Jan-May 2021 Starts	9	16	End Semester		21	Jan-May 2021 Registration Ends	
TUE	21			18		12	22		16	20	Last date to apply for Makeup Quiz 2	10	17	End Semester		22		
WED	22			19		13	23		17	21	DD Comprehensive Viva	11	18	End Semester		23		
THU	23			20		14	24		18	22	DD Comprehensive Viva	12	19	End Semester		24		
FRI	24			21		15	25		19	23	DD Comprehensive Viva	13	20	End Semester		25	Christmas Day	
SAT	25	Convocation		22			26			24			21			26		
SUN	26			23			27			25	Dussehra/ Vijay Dashmi		22			27		
MON	27	Commencement of Classes / Enrolment	1	24		16	28		20	26	UG/DD First Project Review	14	23	End Semester		28		
TUE	28		2	25		17	29		21	27	UG/DD First Project Review	15	24	End Semester		29		
WED	29		3	26	Quiz 1		30		22	28	UG/DD First Project Review	16	25	End Semester UG/DD/PG Final Project Review		30		
THU	30		4	27	Quiz 1					29	Pre-Registration for Jan-May 2021 Ends	17	26	UG/DD/PG Final Project Review		31		
FRI	31		5	28	Quiz 1					30	Id-E-Milad		27	UG/DD/PG Final Project Review				
SAT				29						31	Vashisht		28					
SUN				30	Muharram								29	Jan-May 2021 Fee Payment Portal close				
MON				31		18							30	Guru Nanak's Birthday				

Month	Mondays	Tuesdays	Wednesdays	Thursdays	Fridays	Total
July	1	1	1	1	1	5
August	4	4	3	3	4	18
September	4	4	5	4	5	22
October	3	3	3	5	3	17
November	2	2	2	2	1	9
Total	14	14	14	15	14	71

CASES OF ACADEMIC INDISCIPLINE

Case 1:

The student **Mr. SIDDHARTH PRABU S** (Roll No: CED19I006/19A06) was writing his End Semester examination for the course **MAT104T– Calculus** in Hall-14 on 19.11.2019, FN and he was caught in possession of "Mobile phone" during his examination by the invigilator Ms. HEMALATHA V (PHY19D001).

Findings:

Mr. Siddharth Prabhu S, while writing his end semester exam in first floor Hall-H14, was found using his mobile phone to copy, and caught by Hall TA invigilator **Ms. Hemalatha V**. As the Hall invigilator **Dr. Subramani** was away to the ground floor, Ms. Hemalatha reported this to the opposite Hall H12 Invigilator, **Dr. Kalpana.** Mr. Siddharath pleaded Dr. Kalpana to allow him to hand over the answer papers and leave the Hall, but his request was turned down. On intimation, PIC_Exams, **Dr. Jayabal** arrived at the Hall and asked Mr. Siddarth to write down whatever happened in his own words. Mr. Siddarth confessed to Dr. Kalpana, Dr. Jayabal, Dr. Subramani, Mr. Vignesh about his copying from mobile, and wrote the apology letter which is attached. **Mr. Vignesh**, the academic staff, took a photograph of the pdf used from Mr. Siddharth mobile, as shown by Mr. Siddharth himself, and that photograph is submitted before disciplinary committee.

However, before the disciplinary committee, Mr. Siddharth changed his statements that he was simply taking the mobile out just to switch off, and did not indent to copy from mobile.

Following this, the committee recommended the following punishments consistent with senate recommendations, subject to the approval of the Competent Authority.

The committee finds this a clear case of malpractice under 2(a).

20 hours of community service, and 'U' grade in the subject concerned MAT104T – Calculus and one grade less in all the other subjects in the concerned semester, July-Nov 2019.

Case 2:

The student **Mr. PALLAPU HEMANTH** (Roll No: MDM18B030) was writing his End Semester examination for the course **MAN201T–Engineering Economics** in Hall-32 on 18.11.2019, FN and he was caught in possession of "Mobile phone" during his examination by the invigilator **Dr. Anushree P Khandale**.

Findings:

Mr. Pallapu Hemanth, while writing his end semester exam in Hall-H32, was found using his mobile phone to copy, and the Hall invigilator **Dr. Anushree** informed the Exam cell. The student, Mr. Hemanth, confessed to Dr. Anushree, Dr. Jayabal and Mr. Vignesh about his copying from mobile, and wrote the apology letter which is attached. Mr. Hemanth also confessed the same before the disciplinary committee.

Following this, the committee recommended the following punishments consistent with senate recommendations, subject to the approval of the Competent Authority.

The committee finds this a clear case of malpractice under 2(a).

20 hours of community service, and 'U' grade in the subject concerned MAN201T – Engineering Economics, and one grade less in all the other subjects in the concerned semester, July-Nov, 2019.

Case 3:

The **Mr. BHURKUNDE TANMAY RAJESH** (MSM19B009/19C75) was writing his End Semester examination (Practice course) for the course **INT109P– Engineering Graphics** on 14.11.2019, and He was caught in possession of "Mobile phone" during the examination by the invigilator Mr. Gurunathan C.

Findings:

Mr. Bhurkunde Tanmay Rajesh, while writing his end semester practical exam in Hall-H41, was found in possession of his mobile phone (to be precise while putting/adjusting the mobile inside his pocket) by the course In-charge, Mr. Gurunathan. The committee understands that the student was not found using the mobile phone. However, the committee learns from Mr. Gurunathan that repeated instructions were given by him to the students before the start of the exam not to possess mobile phone while writing the exam. A couple of committee members felt that the student can be warned with community service, as he could have forgotten his mobile. However, some other members felt that the case could fall under 2(a). Finally, it is decided to award "U" grade only in that practical course going by majority view.

Following this, the committee recommended the following punishments consistent with senate recommendations, subject to the approval of the Competent Authority.

The erring student(s) shall be awarded 'U' grade in the concerned subject "INT109P - Engineering Graphics" and 16 hours of Community Service.

Case 4:

The students **Mr. Bheem Reddy Aryan Sai Reddy** (Roll No: MDM18B008) & **Mr. Derish Giftly Peter** (Roll No: MDM18B011) were writing their End Semester examination for the course MEC213T– Thermal Engineering - Concepts and Applications in Hall-04 on 25.11.2019, FN and were caught for Impersonation during their examination by the invigilator **Dr. Siva Prasad AVS**.

Findings:

Mr. Arayan and Mr. Derish were found involved in impersonation in Hall H04 by Dr. Sivaprasad while the students were writing MEC213T – Thermal Engineering – Concepts and Applications. The actual hall H04 invigilator Dr. Asutosh had requested Dr. Sivaprasad, who was adjacent hall invigilator, to take care of his hall for about 10 minutes so that he could bring inhaler from the office. As Dr. Sivaprasd had handled the class for these students last semester, he could recognize their changed seating positions in the hall, and found their involvement in the impersonation. Initially Mr. Derish tried to portray as if they had only changed their seating arrangements. However, once their class notes were asked to compare with the exam answer sheets, both of them agreed the impersonation to Dr. Sivaprasad, Dr. Asutosh, Dr. Jayabal and Mr. Vignesh, and written apology letter and their class notes are submitted to Disciplinary Committee.

Following this, the committee recommended the following punishments consistent with senate recommendations, subject to the approval of the Competent Authority.

The committee finds this a case of malpractice under section (4) "Impersonation in the examination".

The students shall be awarded 'U' grade in all subjects in the concerned semester (July – Nov 2019) and will not be eligible for supplementary Exam or contact course in the respective subject, MEC213T – Thermal Engineering – Concepts and Applications.

The students will also be debarred from attending classes and taking examinations in the next semester, Jan-May 2020. (Though the actual punishment refers to next two subsequent semesters, the committee recommends one semester only as the students confessed their mistake)

Case 5:

The first year students **Mr. SHEERSH TIWARI** (CED19I052/19C13), **Mr. SANTOSH DANGI** (MFD19I021/19D70) were involved in malpractice during Practice course internal evaluation for INT109P– Engineering Graphics.

Findings:

In-charge of Engineering Graphics (INT109P) Mr. Gurunathan, had allotted 20 marks out of total 100 marks for completing a set of problems (open book exam/assignments spanning for a month time) as a part of internal evaluation. Mr. Sheersh completed his task. However, one evening when the lab was open after lab hours, he logged into Mr. Santosh's login and started doing Mr. Santosh's assignments. Becoming suspicious, Mr. Gurunathan asked Mr. Sheersh who he was. Mr. Sheersh projected himself as his friend, Mr. Santhosh, giving his friends roll number. During this incident, Mr. Santosh was not present in the lab. On enquiry, Mr. Gurunathan, found the truth and reported to exam cell, and the case was referred to disciplinary committee. Both students confessed this before the committee.

Following this, the committee recommended the following punishments consistent with senate recommendations, subject to the approval of the Competent Authority.

A couple of members felt that the students may be given 'U' grade only in that practical course, since the students might not have known the magnitude of their act, because of the assignment nature. However, other members felt differently. If this had happened during quiz, for the same 20 marks evaluation, it is viewed as impersonation and why not during the equivalent 20 marks internal evaluation, whether assignment or open book exam. Also, it is not merely copying as one student had projected himself as the other student while drawing the CAD models, that too logging into another's login. Finally the committee goes by majority view, and the punishment recommended is as follows.

The erring student(s) shall be awarded 'U' grade in the concerned subject "INT109P - Engineering Graphics" and 16 hours of Community Service.

DISCIPLINE CASES

Case 6:

Mr. Pathilavath Rhoith Kumar (Roll No: COE17B026) was writing his makeup end semester examination for the course COM306T– Automate and Compiler Design in Hall-01 on 27.12.2019, FN and he was caught in possession of "Mobile phone" while writing his examination by the invigilator Mr. Vanamadi Ravi (EDM18D006), PhD scholar. The invigilator noted that the Mr. Rohith kumar was trying to get the answers of his exam questions through 'Whatsapp chat' from his mobile phone.

Findings

According to the invigilator, Mr. Vanamadi Ravi, PhD scholar, the student Mr. Pathilavath Rhoith Kumar (Roll No: COE17B026) insisted to go to wash room immediately after started writing his end semester makeup exam. The invigilator allowed Rohith but with a security escort. After returning from wash room and about an hour later, the invigilator found Rohith using the mobile phone. On inspection of the mobile phone, the invigilator learnt a Whatsapp chat correspondence between Rohith and someone outside the hall, wherein Rohith was requesting answers for his exam questions after sending the snap shot of the question paper. The Whatsapp chat correspondence along with the communicated question paper are printed and attached for the perusal of the committee. It is also learnt from academics section that Mr. Rohit was earlier involved in another malpractice case and faced disciplinary action. So, this is his second involvement in malpractice.

Following this, the committee recommended the following punishments consistent with senate recommendations, subject to the approval of the Competent Authority.

The committee finds this a clear case of malpractice under section 3: "Involved in malpractice in the examination for the second time, in a premeditated manner".

The concerned student shall be awarded 'U' grade in all subjects in the concerned semester (July-Nov 2019) and will not be eligible for supplementary exam or contact course in the respective subject, COM306T– Automate and Compiler Design.

The student will also be debarred from attending classes and taking examinations in the subsequent semester, Jan-May 2020.

INDIAN INSTITUTE OF INFORMATION TECHNOLOGY, DESIGN AND MANUFACTURING, KANCHEEPURAM

भारतीय सूचना प्रौद्योगिकी, अभिकल्पना एवं विनिर्माण संस्थान, कांचीपुरम

(An Autonomous Institution Under MHRD, Government of India)
Melakkottaiyur,Off Vandalur-Kelambakkam Road, Chennai – 600127.

Ph: +91442747 6300 Fax : +91442747 6301 Email : office@iiitdm.ac.in

F.Admn./Discipline/2018/1 28th March 2018

WHEREAS you, **Mr. PATHLAVATH ROHITH KUMAR (Roll No: COE17B026)**, a student of B.Tech Computer Engineering Stream were charged with malpractice during Quiz-2 Examination for the course *PHY107T-Engineering Electromagnetics* on 21.03.2018 FN.

AND WHEREAS you were given an opportunity of personal hearing to explain your conduct before Disciplinary Committee at 03.00 PM on 23.03.2018.

AND WHEREAS the charges of malpractice framed were accepted by you and the charges were proved.

NOW, THERFORE, on a careful consideration of the Disciplinary committee report it has been decided to impose the following penalties

1) *20 Hours of Community service and awarding 'U' grade in the subject concerned (PHY107T-Engineering Electromagnetics) and one grade less in all the other subjects in the semester Jan-May 2018.*

Assistant Registrar
(Academics)

To:

Mr. PATHLAVATH ROHITH KUMAR
(Roll No: COE17B026)
IIITDM Kancheepuram

Copy to:

1. Discipline and Welfare Committee Members (Dr.Ganesan P, Dr.Sreekumar M, Dr.Selvajyothi K, Dr.Eswaramoorthy KV)
2. Faculty Members

Indian Institute of Information Technology, Design and Manufacturing, Kancheepuram

Revised Academic Calendar - Odd Semester - July - November 2020

DAY	JULY 20			AUGUST 20			SEPTEMBER 20			OCTOBER 20			NOVEMBER 20		DECEMBER 20			
	Date		Days	Date		Days	Date		Days	Date		Days	Date		Days	Date		Days
TUE							1		1							1	End Semester / Jan-May 2021 Fee Payment Portal open	
WED	1	Jul-Nov 2020 Fee Payment Portal open					2		2							2	End Semester / PG Project Review / DD Comprehensive Exam / Viva	
THU	2						3		3	1		1				3	End Semester PG Project Review / DD Comprehensive Exam / Viva	
FRI	3						4		4	2	Gandhi Jayanthi					4	End Semester PG Project Review / DD Comprehensive Exam / Viva	
SAT	4			1	Id-ul-Zuha-Bakrid		5			3						5		
SUN	5			2			6			4			1			6		
MON	6			3	Commencement of Classes / Enrolment	1	7	Quiz 1		5	FRIDAY'S TIME TABLE	2	2		1	7		
TUE	7			4		2	8	Quiz 1		6		3	3		2	8		
WED	8			5		3	9	Quiz 1		7		4	4		3	9		
THU	9			6		4	10		5	8		5	5		4	10		
FRI	10			7		5	11		6	9		6	6		5	11		
SAT	11			8			12			10			7			12		
SUN	12			9			13			11			8			13		
MON	13			10	Last date for enrolment with fine	6	14		7	12	Final Years to report after Internship Review of 6th/8th Semester/Assignment & Project Submissions /Lab/ End Sem Exams	7	9		6	14	Last date for submission of grades	
TUE	14			11	PG Summer Project Review	7	15		8	13	Review of 6th/8th Semester/Assignment & Project Submissions /Lab/ End Sem Exams	8	10		7	15		
WED	15			12	PG Summer Project Review / Class Committee	8	16		9	14	Quiz 2 6th/8th Semester Lab/ End Exams		11		8	16		
THU	16			13	Class Committee	9	17		10	15	Quiz 2 6th/8th Semester Lab/ End Exams		12		9	17		
FRI	17			14	Class Committee	10	18	Last date to apply for Makeup Quiz 1	11	16	Quiz 2 6th/8th Semester Lab/ End Exams		13		10	18	Declaration of Results	
SAT	18			15	Independence Day		19			17	6th/8th Semester Lab/ End Exams		14	Diwali/ Deepavali		19		
SUN	19			16			20			18	6th/8th Semester Lab/ End Exams		15			20		
MON	20			17	Last date to apply for change of electives	11	21	Last date to announce Quiz 1 marks	12	19	Pre-Registration for Jan-May 2021 Starts 7th/9th Semester begins	9	16		11	21	Jan-May 2021 Registration Starts	
TUE	21			18		12	22	Class Committee	13	20	FRIDAY'S TIME TABLE	10	17		12	22		
WED	22			19		13	23	Class Committee	14	21		11	18		13	23		
THU	23			20		14	24	Class Committee	15	22		12	19	Compilation of Attendance		24		
FRI	24			21		15	25		16	23		13	20			25	Christmas Day	
SAT	25	Convocation		22			26			24			21			26		
SUN	26			23			27			25	Dussehra/ Vijay Dashmi		22			27		
MON	27			24		16	28		17	26	Last date to apply for Makeup Quiz 2	14	23	End Semester		28		
TUE	28			25		17	29		18	27	Last date to announce Quiz 2 marks	15	24	End Semester		29		
WED	29			26		18	30		19	28		16	25	End Semester		30	Jan-May 2021 Registration Ends	
THU	30			27		19				29	Pre-Registration for Jan-May 2021 Ends	17	26	End Semester		31	Jan-May 2021 Fee Payment Portal close	
FRI	31	Jul-Nov 2020 Fee Payment Portal close		28		20				30	Id-E-Milad		27	End Semester				
SAT				29						31	UG/DD Internship Review		28					
SUN				30	Muharram								29					
MON				31		21							30	Guru Nanak's Birthday				

Month	Mondays	Tuesdays	Wednesdays	Thursdays	Fridays	Total
August	5	4	4	4	4	21
September	3	4	4	4	4	19
October	3	3	3	4	4	17
November	3	3	3	2	2	13
Total	14	14	14	14	14	70

Annexure A3

List of Undergraduate, Dual Degree and Post Graduate Students eligible to receive Provisional Degree Certificates if they complete the credit requirements by 31st July 2020

Bachelor of Technology (B Tech)

B Tech in Computer Engineering

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2.	ANKALUGARI RANGAHARSHAVARDHAN	COE16B002
3.	ARUN NARAYANAN H	COE16B003
4.	ATLURI BHASKARA TEJA	COE16B004
5.	AVULA THOMAS	COE16B005
6.	BALMOORI PRAGNYA	COE16B006
7.	BEJJENKI SPANDANA	COE16B007
8.	BONDU VENKATA KUMARA VAISHNAVI	COE16B008
9.	CHERUKURI GOWTHAMI	COE16B011
10.	D SAI CHARAN	COE16B012
11.	DANDYALA SADWIKA	COE16B013
12.	DEVA SUSHMITHA	COE16B014
13.	DODDI BALAJI NIKHIL	COE16B015
14.	GUGULOTH JANARDHAN	COE16B016
15.	GUNDA HIMAJA	COE16B017
16.	HARINI R	COE16B018
17.	HRISHIKESH. P.M	COE16B019
18.	JAJJARA PRADEEP	COE16B020
19.	KOLLI CHINMAI VIGNYA	COE16B022
20.	KONGATHI MYTHRI	COE16B023
21.	MACHA SADHANA	COE16B024
22.	MANTRIPRAGADA ANJANI SANKAR	COE16B025
23.	MANUKONDA SUDHEER	COE16B026
24.	NANDIGAMA MANOJ PRAVEEN	COE16B027
25.	PALAKURTHY SAIKUMAR	COE16B028
26.	PALLERLA NANDA KISHORE	COE16B029
27.	POLISETTY SANTHOSHI	COE16B030
28.	PRANJALI AJAY PARSE	COE16B031
29.	PULAVARTHI NAGA VENKATA JASWANTH	COE16B032
30.	R LOKESH KUMAR	COE16B033
31.	SHIVESH M M	COE16B034
32.	SREEREDDY SREE CHARAN REDDY	COE16B035
33.	SRIRAM VAISHNAVI	COE16B036
34.	VALLABHANENI SAI PHANI TEJA	COE16B037
35.	YANALA VENI MADHAVI	COE16B039
36.	GOUTHAMAN PREMLAL	COE16B040
37.	GORANTLA MEGHANA	COE16B041
38.	M VINITHA	COE16B042

39.	MEGHANA REDDY TELLURI	COE16B043
40.	S AJAY NARAYANAN	COE16B044

B Tech in Electronics and Communication Engineering
with Specialization in Design and Manufacturing

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5.	BOORGULA KESHAVA	EDM16B005
6.	DEVARAPALLI BHARGAV	EDM16B006
7.	ERROLLA VIVEK	EDM16B007
8.	GATRAM MANOJ VENKATA SAI	EDM16B008
9.	GUNTURU SOWMYA	EDM16B010
10.	HARSHITHA K S	EDM16B011
11.	JASWANTH KUMAR AMBATI	EDM16B012
12.	JAYANTHI PRANITHA	EDM16B013
13.	JAYANTHI VYSHNAVI	EDM16B014
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15.	K BHARATI*	EDM16B016
16.	KUNDRAPU VENKATA RAO	EDM16B017
17.	LINGALA SAI MAHESH	EDM16B018
18.	MADHURI DAMARA	EDM16B020
19.	MANDALEEKA PRABHA SAHITI	EDM16B021
20.	MUDIREDDY SNIGDHA REDDY	EDM16B023
21.	N T SUNNY RAJ	EDM16B024
22.	N V SAI VIGNESH PALLIKONDA	EDM16B025
23.	NALAVATH SAI KUMAR	EDM16B026
24.	NEERUGATTI PRATHYUSHA	EDM16B027
25.	NITIN PRIYADARSHINI SHANKAR*	EDM16B028
26.	PINNINTI SAI PRIDHVI	EDM16B029
27.	S SIDARTH	EDM16B030
28.	SAI SANDEEP MOOD NAIK	EDM16B031
29.	SANGADI TEJARAM*	EDM16B032
30.	SEEMAKURTHI ANAND DINESH	EDM16B033
31.	SRIYA MEGHANA NANDAM	EDM16B034
32.	TAKKELLAPATI HARIKA	EDM16B035
33.	VANCHA SHARATH REDDY	EDM16B036
34.	VENNA SAHITHI	EDM16B037
35.	YADAVALLI AVINASH	EDM16B038
36.	NITHILAVATHI THIRUSENTHILANDA ARASU	EDM16B039
37.	K V JEEVAN KUMAR	EDM16B040
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Direct Ph D at IITM

B Tech in Mechanical Engineering
with Specialization in Design and Manufacturing

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5.	BUSA SATISHYADAV	MDM16B006
6.	CHITRARTHA DIXIT	MDM16B007
7.	GHULAXE TANMAY SHARADKUMAR	MDM16B009
8.	GORINKA ABHILASH	MDM16B010
9.	JADHAV GAUTAM KRISHNA	MDM16B011
10.	JARUPULA ABHILASH NAIK	MDM16B012
11.	KALAL VISHNU JANARDHAN GOUD	MDM16B013
12.	KUCHANA SHARATH CHANDRA	MDM16B014
13.	LINGAREDDY SUSWANTH REDDY	MDM16B015
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16.	P SIRI CHANDANA REDDY	MDM16B018
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18.	PASIKANTI SAI ANURAG	MDM16B020
19.	PASUMARTI SATYA SAI PRANEETH	MDM16B021
20.	PAVITRA BHAGAVATULA	MDM16B022
21.	PUTTI HEMANAGASAI	MDM16B024
22.	RAHUL NARASIMHAN R	MDM16B025
23.	RAM KOWSHIK S	MDM16B026
24.	RAMAVATH GNANESHWAR	MDM16B027
25.	RAPOLE VAMSHI VARDHAN	MDM16B028
26.	RISHAV RAMAN	MDM16B029
27.	RISHIKESH M NANDAKUMAR	MDM16B030
28.	ROSHAN PATEL	MDM16B031
29.	S SIDARTH	MDM16B032
30.	SAI SRI HARSHA SUNDRU	MDM16B033
31.	SASISEKARAN B	MDM16B034
32.	SUYOG GARG	MDM16B035
33.	TATAVARTY ANANTHA LAKSHMI PRASANNA	MDM16B036
34.	VAIRAGADE HIMANSHU VIRENDRA	MDM16B037
35.	Y ADITYA VARMA	MDM16B038
36.	YATHIRAJAM BALA SUBRAHMANYAM	MDM16B039
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B Tech in Mechanical Engineering - Smart Manufacturing

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6.	CHAKKA JASWANTH	MSM16B007
7.	CHAMANAPUDI ASA VARA PRAVEEN	MSM16B008
8.	CHATTETI CHANDAN	MSM16B009
9.	GADAMCHETTY MANOJ	MSM16B010
10.	GARREPALLI SRIVANDYA	MSM16B011
11.	JEFIN SOLOMON JP	MSM16B012
12.	JOSHNA LOKAVARAPU	MSM16B013
13.	KARAMBOR CHAKRAVARTY SRIYA	MSM16B015
14.	KUMTAMUKKULA LALIT SUDHIR	MSM16B016
15.	MADUGONDA SAI VIVEK	MSM16B017
16.	MUDAVATH VAMSHI NAIK	MSM16B018
17.	NARLAGIRI VINAY KUMAR	MSM16B019
18.	NARNI JAGADEESH SIVA DURGA PRASAD	MSM16B020
19.	NAVGHARE ADITYA SHRIDHAR	MSM16B021
20.	NISHANT KUMAR	MSM16B022
21.	POTLURI SASIKANTH	MSM16B024
22.	R RAM NARAYAN	MSM16B025
23.	RAJESH KUMAR	MSM16B026
24.	RAM BAHAL TIWARI	MSM16B027
25.	RATHOD UMESH	MSM16B028
26.	S ADITYA	MSM16B029
27.	SAKET KUMAR MONGRE	MSM16B031
28.	SAYANTH SUNIL	MSM16B032
29.	SIDDHANT KARMARKAR	MSM16B034
30.	THIPPABATTUNI ANTONY ROHIT	MSM16B035
31.	VIVEK YADAV	MSM16B036

DUAL DEGREE: BACHELOR OF TECHNOLOGY AND MASTER OF TECHNOLOGY (B Tech and M Tech)

B Tech and M Tech in Computer Engineering

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3.	G SRI KRISHNA	CED15I003
4.	R.LAKSHMI NARASIMHAN	CED15I004
5.	MUGUNDHAN K	CED15I005
6.	GOVIND K P	CED15I007
7.	MANASA KANDIMALLA	CED15I009
8.	ANUMULA NIKHIL KUMAR	CED15I010
9.	FAJAR K	CED15I011
10.	PALAPARTHI ROHITH	CED15I012
11.	VEDANT BASSI	CED15I013
12.	VIDHATHRI	CED15I014
13.	SONATKAR VIRAJ GANESH	CED15I015
14.	MANDADI VASANTHI	CED15I016
15.	YUTIKA CHANDRASHEKHAR KULWE	CED15I017

16.	PUTTA SACHIN	CED15I018
17.	MUNUKUTLA GOWTHAM	CED15I019
18.	VADTHYA CHAITANYA	CED15I020
19.	ANMOL GUPTA	CED15I021
20.	REMALA NIKHILA	CED15I022
21.	RUCHI SAHA	CED15I023
22.	V DIVYA	CED15I024
23.	ADITYA PRAKASH	CED15I025
24.	BRAHMI DWIVEDI	CED15I026
25.	SHWET PRAKASH	CED15I027
26.	NAYAN ADHIKRAO MANE	CED15I028
27.	PRATHAMESH A DEGWEKAR	CED15I029
28.	DANI PRAKASH ESUKAPALLI	CED15I030
29.	AKSHAY KUMAR	CED15I031
30.	SHIVANI	CED15I032
31.	KOKKALLA SRINATH	CED15I033
32.	KONDAPALLI AKHILA	CED15I035
33.	JEFFREY SAM JACOB	CED15I036
34.	MUCHINTALA SESHA SAI TRISHUL	CED15I037
35.	Mohit Agarwal	CED15I038
36.	V.K. DINGU SAGAR	CED15I039
37.	V.AKASH	CED15I040
38.	NIMILIKHA VEMPARALA	CED15I041
39.	G.SARAVANA BALAJI	CED15I042
40.	EASHAN DASH	CED15I043

B Tech in Electronics and Communication Engineering
with specialization in Design and Manufacturing and
M Tech in Signal Processing and Communication Systems Design

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2.	MABBU GANESH VENKAT SAI AKHIL	ESD15I002
3.	S.ABINAYA	ESD15I003
4.	SANDESH V BHARADWAJ	ESD15I005
5.	K.NIRANJAN	ESD15I006
6.	GUTTIKONDA GOWTHAM	ESD15I007
7.	ROYYURU VINEETH CHAND	ESD15I008
8.	BATHALA SIVA CHAITANYA	ESD15I009
9.	S PRANAV KUMAR	ESD15I010
10.	BALAJI V	ESD15I011
11.	K RAJESH	ESD15I012
12.	BANOTH KARUN	ESD15I013
13.	HIMAVANTH REDDY PUNDLA	ESD15I014
14.	M ABHAY VARDHAN	ESD15I015
15.	MADHAN.J	ESD15I016
16.	DHARMESH HARSHA	ESD15I018
17.	GANJI VENKATA GANGA TEJA PRATHAP	ESD15I019

18.	S SANJANA	ESD15I020
19.	PALURU PRADEEP KUMAR REDDY	ESD15I021

B Tech in Electronics and Communication Engineering
with specialization in Design and Manufacturing and
M Tech in VLSI and Electronic Systems Design

Sl. No	Candidate Name	Roll No
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4.	N V APARAJITHAN	EVD15I004
5.	KOLLI SNEHA LATHA	EVD15I005
6.	A.S.PRAVIN THILAKAR	EVD15I006
7.	F KIRAN ROBERT	EVD15I007
8.	VASTRAD SAKSHI BASAWARAJ	EVD15I008
9.	KOLLA SANDEEP	EVD15I009
10.	DASARI BHAVYA DEEPIKA	EVD15I010
11.	NITTURU GAYATHRI	EVD15I011
12.	BOLAPATI SRAVYA	EVD15I012
13.	RATHLAVATH PRIYANKA	EVD15I013
14.	CHANDRA SAI SRINIVAS	EVD15I014
15.	GOLLAPUDI VENKATA SAI KUMAR	EVD15I015
16.	VYSHAK NATH C A	EVD15I016
17.	K.SANJAY KAMALLESWAR	EVD15I017
18.	KRITI PATHAK	EVD15I018
19.	S HARISH MANIKANDAN	EVD15I019
20.	AMRUTHA MANOHARAN	EVD15I020

B Tech in Mechanical Engineering
with specialization in Design and Manufacturing and
M Tech in Advanced Manufacturing

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2.	MANCHALA VAISHNAVI	MFD15I002
3.	GALLA PRASANTH KUMAR	MFD15I003
4.	POTNURU HEMA PRANEETHA NAIDU	MFD15I004
5.	RAGI LAKSHMAN KUMAR	MFD15I006
6.	REDDI SRIHARI NAIDU	MFD15I007
7.	SAI UDAY KIRAN Y	MFD15I008
8.	KOTHA RAJ KUMAR REDDY	MFD15I009
9.	PARTH LAL	MFD15I010
10.	P ROKESH	MFD15I011
11.	PRAKASH CHANTIBABU DIDLA	MFD15I012
12.	ROHAN KUMAR PANDA	MFD15I013
13.	VIVEK KHATUA	MFD15I014
14.	AJAY KUMAR BYRI	MFD15I015
15.	DEVALLA SAI TEJA	MFD15I016

16.	BANOTH SRINU	MFD15I017
17.	A.NIVAAS	MFD15I018
18.	PILLI INDU PRIYA	MFD15I019

B Tech in Mechanical Engineering
with specialization in Design and Manufacturing and
M Tech in Product Design

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2.	KAMBALLI HARSHA VARDHINI	MPD15I002
3.	D DEEKSHITH REDDY	MPD15I003
4.	SAI PRASATH K J	MPD15I004
5.	RAVI TEJA M V L	MPD15I005
6.	KARTIK BITRA	MPD15I007
7.	ELSURI HARISH BABU	MPD15I008
8.	MOHIT PATHAK	MPD15I009
9.	SARANYA S	MPD15I010
10.	GAJARAJ G	MPD15I011
11.	VIJAYKUMAR T C	MPD15I012
12.	VIKAS GAURAV	MPD15I013
13.	ARAVIND.C.B	MPD15I014
14.	SEEDARI SRINIVAS	MPD15I015
15.	T.SURYAPRAKASH	MPD15I016
16.	SUMUKI R	MPD15I018
17.	RATNANJALI TIWARI	MPD15I019

MASTER OF TECHNOLOGY (PG)

M Tech in Electronics and Communication Engineering with Specialization in Communication Systems Design

Sl. No	Candidate Name	Roll No
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2	V L NIKITHA	CDS18M002
3	GOWRI MURALEEDHARAN B	CDS18M003
4	CHANDAVARAM VYSHNAVI	CDS18M004
6	SANJANA PAUL	CDS18M006
7	PALANCHU JYOTHIRMAI	CDS18M007
8	B VENKATA RAGHU RAM	CDS18M008
9	RAKSANTA S	CDS18M009
10	CHAITANYA D GOWDA	CDS18M010

M Tech in Electronics and Communication Engineering with Specialization in Electronic Systems Design

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4.	SOWMIYA S	EDS18M004
5.	NEERAJ DUBEY	EDS18M005
6.	SWAATHI S	EDS18M009
7.	A.SRIVANI	EDS18M010
8.	PINTU KUMAR	EDS18M011
9.	ARTHI R	EDS18M013

M Tech in Mechanical Engineering with Specialization in Mechanical Systems Design

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2.	BHAVSAR DIVYAKUMAR ASHIT	MDS18M002
3.	CHAVAN AJITKUMAR ANKUSH	MDS18M003
4.	NAVEEN M	MDS18M004
5.	KETAN VINAYAK WARGHAT	MDS18M005
6.	AVINASH MOHAN M	MDS18M006
7.	GEMBALI VIDYASAGAR	MDS18M007
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9.	NISANTH KUMAR P	MDS18M009
10.	SOM PRAKASH	MDS18M011
11.	AKASH KUMAR	MDS18M013
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M. Tech. in Mechanical Engineering with Specialization in Smart Manufacturing

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2.	PRADEEP KUMAR VERMA	SMT18M002
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6.	VISHAK P M	SMT18M007
7.	ASHISH OMAR	SMT18M008
8.	BAFNA SHUBHAM AJIT	SMT18M009
9.	MEVALAL NISHAD	SMT18M010
10.	RAMASHANKAR YADAV	SMT18M011
11.	ABHINAV GOVIND PATEL	SMT18M012
12.	MD TANWEER AHMAD	SMT18M013