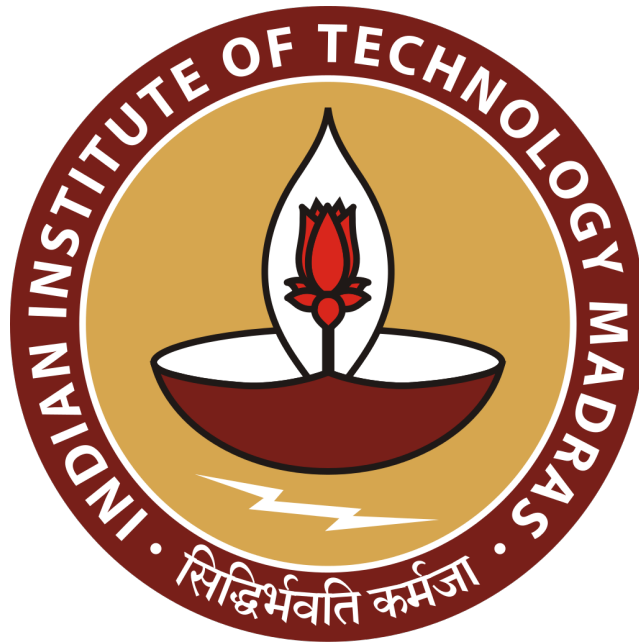# PhD Ordinances and Regulations

Revised upto the 306th Meeting of the Senate

Indian Institute of Technology Madras

Chennai – 600036

Updated

April 1, 2024

CONTENTS

PAGE

NOMENCLATURE

AICTE	All India Council of Technical Education
CFTI	Centrally Funded Technical Institute (as declared by MoE) HTRA
CGPA	Cumulative Grade Point Average
CSIR	Council of Scientific and Industrial Research
DC	Doctoral Committee for PhD scholars
DST	Department of Science and Technology in India
GTC	General Test Committee for MS scholars
HTRA	Half-time Research Assistantship awarded by IITM
HoD	Head of the Department
IC&SR	Center for Industrial Consultancy & Sponsored Research at IITM
IIM	An Indian Institute of Management under MoE, India
IISc	Indian Institute of Science, Bengaluru
IIT	An Indian Institute of Technology under MoE, India
IITM	Indian Institute of Technology Madras
JRF	Junior Research Fellowship
MoU	Memorandum of Understanding
PG	Postgraduate degree
QIP	Quality Improvement Program of AICTE
R&D	Research and Development
RKA	Registration Kept Alive
UG	Undergraduate degree
UGC	University Grants Commission

DEGREES

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

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 IIMs Graduate Management Admission Council (GMAC)
TOEFL	Test Of English as Foreign Language administered by ETS

Ordinances and Regulations

PhD Ordinances

PhD-O.1 A candidate who has qualified for the award of the Master's degree from a recognized institute or university in a discipline as prescribed in the regulations of the Senate is eligible to apply for the PhD programme of this Institute.

PhD-O.2 A candidate who has qualified for the award of Bachelor's degree, and with a good academic record in the discipline as prescribed in the regulations of the Senate, is eligible to apply for the direct MS + PhD program in engineering/management of this Institute.

PhD-O.3 The award of the PhD degree shall be in accordance with the regulations of the Senate of this Institute.

PhD Regulations

PhD-R.1 Categories of Admission

Candidates will be admitted to the Ph.D programme of the Indian Institute of Technology Madras (IITM) under one of the following categories, with requirements as given below.

Category	Remarks
Regular-HTRA	Half-Time Research Assistantship (HTRA) from IITM.
Regular-Fellowship	Funding from outside agencies such as UGC, CSIR, industry, etc.
Regular-Project-HTRA	Funding through a project administered by IC&SR at IITM.
Regular-Project-NHTRA	Funding through a project administered by IC&SR at IITM without eligibility for conversion to HTRA.
External	Sponsored by and employed in an industry, organization, or institution having R&D facilities and recognized by DST(DSIR) or IITM. Candidates should have at least 2 years of relevant work experience. International Faculty can apply to the PhD programme at IIT Madras under the External Category. A Co guide at the home institution is not needed for such candidates. 298th Senate Res. № 44/2022
Part-time	Should be employed in a reputed industry, organization, or institution located within commutable distance of IITM. Candidates should have at least 2 years of relevant work experience.
Staff	Should be employed as a permanent staff member of IITM with at least 2 years of experience.
QIP	Should be sponsored by AICTE under the Quality Improvement Program (QIP) through the Centre for Continuing Education (CCE) at IITM.

(a) Scholars registered for any of the Regular categories are considered full-time scholars.

(b) For admission under **Regular-HTRA**, **Regular-Fellowship** and the **Regular-Project-HTRA** category, departments will adopt common shortlisting criteria and have a common merit list.

(c) **Project-NHTRA** admissions can happen in two ways:

   (i) Project staff of IC&SR, who have successfully completed two approved courses at IITM (total credits $\geq$ 18) with CGPA $\geq$ 7.5, and have obtained at least a 'C' grade in each course, can be selected through an interview, without having to take a written test. They can join the programme after gaining at least 12 months experience in a project.

   (ii) Project staff of IC&SR, who have gained at least 12 months experience in a project, can be selected through a written test and interview. This selection will be for project-NHTRA applicants who do not meet the course requirement criteria.

The provisions above are also applicable to project staff working in the IITM research park. `286ᵗʰ Senate Res. № 96/2019` `291ˢᵗ Senate Res. № 5/2021`

(d) A research scholar under the **External** category will carry out his/her research work in his/her organization under the supervision of a guide at IITM, and a co-guide employed in the organization. An external scholar employed in the IITM Research Park need not have a co-guide from his/her organization.

(e) **External and part-time** scholars have a minimum residential requirement of one semester. Part-time scholars will be permitted to undergo course work without the residential requirement, with the permission of their employer.

(f) Scholars admitted under the Regular-HTRA category can move to the Regular-Project-HTRA category and revert to the Regular-HTRA category, if necessary.

(g) Scholars admitted under the Regular-Project-HTRA category can move to the Regular-HTRA category, provided they have been funded by a project for a duration of at least one year.

(h) Scholars admitted under the Project-NHTRA/Part-time/External categories cannot move to the Regular-HTRA category at any time. `286ᵗʰ Senate Res. № 96/2019`

(i) Interdisciplinary (ID) Ph.D programme: Admission of scholars to the ID programme will be based on an interdisciplinary research proposal, needed as part of the selection procedure formulated by the IDRP committee. (Please refer to the admission brochure for details of the areas of research.)

(j) The medium of instruction and communication for academic research shall be English (eg. DC Reports, synopsis, title of the thesis in the degree certificate, seminar presentation etc.) Research publications arising out of the Ph.D work can be in any appropriate language. For Ph.D theses, the language to be used will be English. However, if the subject matter so requires, the thesis can be written in any language with the approval of the doctoral committee. The thesis and its English-translated version, certified by the guide(s), must be submitted together for evaluation. `278ᵗʰ Senate Res. № 88/2017`

PhD-R.2 Eligibility for Regular Ph.D, Direct Admission to the M.S+Ph.D Programme, Upgraded Ph.D

All the applicants should have a good academic record.

There are three modes of admission in which a candidate can be admitted to the Ph.D programme – regular Ph.D, direct M.S + Ph.D and upgraded Ph.D.

The minimum qualifications for each of the various modes are as follows:

These qualifications should be in relevant areas/disciplines as provided by the respective departments in the brochure released with the admission notice.

The brochure will also include details about inter-disciplinary research areas. Short-listed candidates will be called for a **"test and interview"** or **"interview"** by a selection committee in the respective departments.

PhD-R.2.1 Minimum Qualifications for Admission to the Regular Ph.D programme

Candidates applying for the Ph.D programme in one of the following areas need to have **any one** of the minimum qualifications mentioned in the table below.

Area	Minimum Qualifications	
	Educational Qualifications	**Additional Qualifications**
Engineering	- M.E/M.Tech/M.S by Research in Engineering/5-year integrated Masters/Dual Degree in engineering. 2 year M.Sc from IITs (entry through JAM) with CGPA ≥ 8 - B.S+M.S (5-year integrated) from CFTI with CGPA ≥ 8	None

	• M.Sc from any recognized university or Institute. • For applied mechanics, M.Sc degree holders in physics, mathematics, statistics, electronics, instrumentation, chemistry, nanoscience, nanotechnology, material science, and with a good academic record from any recognized university/institute are also eligible. <mark>295th Senate Res. № /2022</mark> • For civil engineering, M.Sc degree holders in the relevant discipline from any recognized university/institute are eligible. <mark>278th Senate Res. № 73/2017</mark> • For electrical engineering, M.Sc degree holders with a good academic record from any recognized university/institute are also eligible. <mark>295th Senate Res. № /2022</mark> • For Computer Science and Engineering, BSc (Maths/Stats/CS) + MSc (Maths/Stats/CS) holders from any recognized Institute/ University provided they have a valid GATE score (in CS/MA), or UGC-NET/CSIR NET/NBHM/Inspire or equivalent qualification tenable for the year of registration, are also eligible. <mark>299th Senate Res. № 57/2022</mark>	Valid GATE score/ UGC-NET/CSIR-NET/NBHM/ Inspire or equivalent qualification tenable for the year of registration. In case of candidates with more than 5 years relevant experience after the M.Sc, the requirement of a test score may be waived by the selection committee.

Engineering Design	Master's degree in Aerospace, Automobile, Biomedical, Civil, Computer Science, Electrical, Electronics, Engineering Design, Engineering Physics, Instrumentation, Mechanical, Metallurgical, M.S (Medicine), M.D, M.D.S with minimum first class, Naval Architecture, Production/Manufacturing Engineering, **or** Master's degree in Design (M.Des) or M.Tech (Industrial Mathematics.) <mark>282nd Senate Res. № 101/2018</mark>	
Sciences	• M.E/M.Tech or M.S by Research in engineering or 2 year M.Sc from IITs (entry through JAM) with CGPA $\geq$ 8 • B.S+M.S, or 5-year integrated degree from CFTI	None
	M.Sc from IITs with CGPA $<$ 8, M.Sc from other institutions.	Valid GATE score/UGC-NET fellowship/CSIR-NET fellowship/NBHM Ph.D scholarship or equivalent qualification, tenable for the current year of admission.
Humanities and Social Sciences	Master's degree/dual-degree or equivalent in a relevant discipline and qualifying UGC–NET or JRF/CSIR-JRF/GATE score or equivalent qualification, tenable for the current year in the relevant area or an international-level post graduate admission examination such as GRE.	Candidates with only a GRE (or equivalent international-level post graduate admission examination) score are not eligible for HTRA.
Management	Master's degree/two-year PG diploma in relevant discipline and a Bachelor's degree (minimum 5 years of undergraduate and post graduate education) or five-year integrated Master's degree/dual-degree or equivalent in a relevant discipline.	CAT/GATE/UGC-NET/CSIR-NET/GMAT/GRE or equivalent. Candidates with an MBA/two-year PG diploma from a CFTI with CGPA $\geq$ 8 do not need a national-level examination to avail fellowship. Candidates with only GRE/GMAT scores not eligible for HTRA.

Medical Sciences and Technology	Master's degree in Biomedical, Biotechnology, Biological/Biochemical Sciences, Chemical, Civil (structural), Computer Science, Engineering Design, Electrical, Electronics, Engineering Physics, Instrumentation, Mechanical, Material Science, Naval Architecture, Production/Manufacturing, Robotics/Automation, Data science, or Master's degree in Design (Engineering, M.Des.) or M.Tech. in Industrial Mathematics or MS (Medicine), MD, MDS, Master of Physiotherapy/ Sports Physiotherapy/Sports. `305th Senate Res. № 51/2023`	M.Sc. graduates require a valid GATE score. `305th Senate Res. № 51/2023`
Data Science and Artificial Intelligence	PG degree in Engineering / Technology. `306th Senate Res. № A.14`	None

NOTES

(a) The departmental selection committees may set more stringent criteria than the minimum educational qualifications listed above.

(b) For external/part-time/staff categories, the requirement of a valid GATE score or CSIR/UGC JRF or Lectureship/NBHM/CAT or equivalent qualification is waived.

(c) The departmental selection committees may consider meritorious candidates from disciplines other than those listed in the admission brochure, if there is a good match between the educational/research backgrounds of the candidates and the proposed areas of research.

(d) Master's degree (M.E/M.Tech/M.S) implies a two-year PG program from an accredited university.

(e) Departmental selection committees may consider candidates with a one year PG degree from accredited universities for direct admission to the M.S+Ph.D programme PhD-R.2.2. Courses completed in the one-year PG program may be considered by the doctoral committee PhD-R.7 towards the course requirements. Such scholars will be eligible for HTRA only if they qualify in GATE or an equivalent national-level examination.

(f) Ph.D candidates employed in govt. R&D organizations, public-sector undertakings, or DST(DSIR) approved organizations with at least 2 years of relevant experience, can be considered for selection under the regular-HTRA category for 3 years. This is subject to furnishing a "No Objection Certificate" and a commitment letter from the parent organization that they will be given study leave without salary for a minimum period of 3 years. At the time of admission, such candidates need to submit the relieving order as well as a "leave without pay" sanction letter from the parent organization. `281st Senate Res. № 72/2018`

PhD-R.2.2 Minimum Qualifications for Direct admission to M.S+Ph.D

Candidates with BE/B.Tech are eligible for direct admission to the M.S+Ph.D programme as a regular full-time scholar in engineering/management, subject to any one of these requirements:

Educational Qualifications	Additional Qualifications
B.S/B.E/B.Tech from a Centrally Funded Technical Institute (CFTI) with CGPA ≥ 8.	None
B.S/B.E/B.Tech from a CFTI with CGPA < 8	Valid GATE score
BE/BTech from any other university, with CGPA ≥ 8 (or equivalent).	Valid GATE score
For Computer Science and Engineering, in addition to theabove, M.Sc.(Mathematics) or M.Sc.(ComputerScience) from a CFTI, or a highly-recognized institute such as the Indian Statistical Institute or the Chennai Mathematical Institute, and CGPA ≥ 8.	Valid GATE(MA) or GATE(CS) score. `284th Senate Res. № 37/2019`
For Engineering Design, MBBS/BDS degree with at least first class, in addition to the above. `282nd Senate Res. № 101/2018`	Valid NEET PG qualifying score.
For Medical Science and Technology, MBBS/BDS degree. `305th Senate Res. № 51/2023`	Valid NEET PG qualifying score. `305th Senate Res. № 51/2023`
For Data Science and Artificial Intelligence:, Any 4 year UG degree of IITs / CFTIs / UGC / AICTE. or a Master's degree in appropriate Engineering / Technology. `306th Senate Res. № A.14`	Valid GATE score in AE, AG, BM, BT, CE, CH, CS, DA, EC, EE, ES, IN, MA, ME, MN, MT, NM, PE, PI, ST. `306th Senate Res. № A.14`

- Regular full-time candidates in their final year prior to graduation may also apply for direct admission to the M.S + Ph.D programme. Admission of such scholars will be subject to their qualifying GATE prior to joining, failing which their admission offer will be canceled.

146 • External candidates with a proven research record do not need a GATE score.

147 In addition, top 10% of the students in their 3rd year of their Bachelor's degree in other institutions
148 (which enter into a specific MoU with IITM in this regard) can apply for direct admission to the
149 M.S+Ph.D programme.

150 (a) Selected students will move to IITM in their 4th year.

151 (b) Credits earned during the first year of direct admission to the M.S+Ph.D programme at IITM
152 shall have equivalence to credits needed for the 4th year of the BTech in their parent institution.

153 (c) These credits will be transferred to that institution for the award of the BTech degree.

154 (d) The scholars are eligible for HTRA for 5 years, after completing their first year of stay
155 successfully at IITM and qualifying in GATE. **Students from CFTIs with a CGPA $\geq$ 8 on a**
156 **10.0 point scale will be eligible for HTRA (without GATE)**.

157 (e) If the student does not perform well in courses at IITM, (s)he will be transferred back to the
158 parent institute along with the credits earned.

159 (f) The candidate should complete the candidacy viva within 5 semesters after joining IITM.

160 (g) A student who is deemed incompetent *or is otherwise unable to continue* in the direct M.S +
161 Ph.D program will be allowed to drop out at any time after the 5th year of joining the BTech
162 programme. The student's BTech credits completed at IITM will be transferred to the parent
163 institute.

PhD-R.2.3 Minimum Qualifications for Upgrading to the Ph.D Programme

165 Candidates registered for M.S/MTech/MSc at IITM are eligible for upgradation to the Ph.D program
166 in the same department, if they satisfy the following criteria:

167 (a) For M.Tech – completed four courses during the first semester and obtained a CGPA $\geq$ 8.
168 290th Senate Res. № 65/2020

169 (b) For M.Sc. – completed all the courses prescribed for the first 3 semesters, and with CGPA $\geq$ 8.

170 (c) For M.S. – CGPA $\geq$ 8 in the prescribed courses, with a minimum of three courses completed.

171 Upgrade requests should be submitted within 2 years from the date of joining. For M.S scholars who
172 have completed 2 years, the request for an upgrade may be considered if at least one journal paper
173 has been accepted/published.

PhD-R.2.4 Option of Getting Two Degrees for Direct M.S+Ph.D and Upgraded Ph.D

175 Direct M.S + Ph.D as well as upgraded Ph.D scholars are eligible to receive two degrees (MS/MTech/MSc
176 & Ph.D) if they have met the course requirements of the respective Master's programme and all the
177 requirements of the Ph.D programme, as given in PhD-R.10 and PhD-R.11. The provisional certifi-
178 cate for the master's degree will be issued to the scholars on approval of the Ph.D synopsis by the
179 DC.

PhD-R.2.5 M.Tech+Ph.D Dual-Degree program in Engineering Design Department

The selection of candidates will be through the direct-Ph.D admission process.

<mark>295th Senate Res. № 9/2022</mark>

PhD-R.3 FOREIGN NATIONALS

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

(a) Foreign nationals can only register as full-time scholars. They are not eligible to receive HTRA support.

(b) Foreign nationals who are PIO/OCI card holders are eligible for admission with the fee prescribed for Indian nationals.

(c) Foreign nationals with eligible degrees from Indian universities (PhD-R.2) will be treated on par with Indian nationals for admission, but with the prescribed fee for foreign nationals.

(d) Foreign nationals with foreign degrees must meet the minimum educational requirements equivalent to an Indian degree (PhD-R.2) in the relevant disciplines. They should have a valid score in the GMAT/GRE (or equivalent) examination in the relevant discipline.

(e) Foreign nationals whose medium of instruction in their UG and PG programmes was not English should satisfy one of the following:

   (a) IELTS with a minimum score of 6.5 (overall)

   (b) TOEFL (internet based) : 80 (overall)

PhD-R.4 SELECTION PROCEDURE

Eligible candidates possessing the minimum educational qualifications (as per PhD-R.2), and satisfying additional and possibly stiffer criteria set by the departments, will be called for a "test and interview" or "interview" by departmental selection committees.

For candidates who have obtained their UG/PG degrees more than 10 years earlier (as on the last date for the receipt of completed applications), a written test will be conducted.

Applications of foreign nationals may be considered without a test/interview.

Based on the academic record and the performance of the candidates in the test/interview, the departmental selection committees will recommend suitable candidates to the Chairperson, Senate.

PhD-R.5 ADMISSION

(a) Candidates whose selection is approved by the Chairperson, Senate will be admitted to the Ph.D program after payment of prescribed fees.

PhD-R.6 REGISTRATION

A scholar's date of joining is the date of registration.

PhD-R.7 Guides and Co-Guides

Guide allocation should be completed within 4 months of the scholar joining the Institute.

305th Senate Res. № 48/2023

- To supervise the progress of the scholar, an IITM faculty member shall be nominated as a guide by the Dean(AR).

- In addition to the guide, at most one faculty member from IITM may be nominated as a co-guide.

- A co-guide from outside IITM may be allowed with the approval of the Chairperson, Senate.

  The minimum educational qualification for a co-guide is Master's degree in Engineering/ Management/ Sciences/ Humanities and Social Sciences with adequate professional experience in the relevant field.   298th Senate Res. № 44/2022

In addition to the above,

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

(b) A faculty member retiring within 5 years may be permitted to be a guide for a new scholar. However, another faculty member with at least 7 years of remaining service at IITM will be appointed as a co-guide when the scholar joins IITM. On retirement, the co-guide will become the main guide and the retiring faculty member will continue as a co-guide. Before allotment, the Head of the Department will evaluate the graduating capacity of the faculty and consider the average time scholars take to graduate while working with the concerned faculty. 305th Senate Res. № 48/2023

(c) The appointment of co-guide, based on the recommendation of the Doctoral Committee (DC), should be made within one year from the date of joining. Requests received after this will be considered by the Dean(AR) on a case-by-case basis.

(d) The DC may recommend change of guide/co-guides or appointment of a co-guide for valid reasons.

(e) CSIR/ other Emeritus Fellows / Scientists / Emeritus Professors, currently holding office at IITM 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 service remaining).

(f) Faculty from other CFTIs/universities or experts from industries with a Master's degree, and with adequate professional experience in the relevant field may be appointed as a co-guide, based on the recommendation of the DC. If the co-guide's organization does not have an MoU with IITM, he/she shall sign an Intellectual Property Rights (IPR) and Memorandum of Agreement (MoA). IITM will have no financial obligation to the co-guide. The co-guide approval by the Dean(AR) will be provisional, subject to his/her appointment as an adjunct faculty by the (Board of Governors) BoG within 6 months of the provisional approval. The term for such adjunct faculty will be for 5 years from the date of appointment.

The request to appoint a co-guide as adjunct faculty should be sent to the Dean(Admin) along with the recommendation of the department consultative committee (DCC). *Only adjunct faculty of IIT Madras are eligible to serve as co-guide*. 281ˢᵗ Senate Res. № 72/2018

(g) Co-guides of external category scholars from industries need not be adjunct faculty. 281ˢᵗ Senate Res. № 72/2018

PhD-R.8 Doctoral Committee

The DC formation should be completed within 4months of the scholar joining the institute. The Head of the Department (HoD) will intimate to the Dean, Academic Research, for each scholar the area of research, the name(s) of the guide(s) and a panel of names, indicating the area of specialisation of faculty members for constitution of a Doctoral Committee, of the date of joining of the research scholar. The Committee will assess scholars progress periodically. 305ᵗʰ Senate Res. № 48/2023

The following is the composition of the Doctoral Committee (DC):

HoD (or his/her nominee)	Chairperson of the DC
Guide/Co-Guide*	Member(s)
Minimum of 2 departmental faculty member⁺	Members nominated by the Chairperson, Senate (or his/her nominee) from the panel names suggested by the HoD.
Minimum of 1 faculty member from allied departments/institutions	

* co-guide is optional.

⁺ for the interdisciplinary PhD scholars, there will be one member from each of the respective departments of the guides.

There should be at least 4 DC meetings:

(a) **Orientation DC (0th DC):** To get the student familiar with the DC members, be made aware of their expectations, responsibilities, and grievance redressal mechanisms. This should be held within two weeks of guide allotment. 305ᵗʰ Senate Res. № 48/2023

(b) **Candidacy Examination (DC1)** 305ᵗʰ Senate Res. № 48/2023

(c) **Progress-Review Seminar (DC2):** The scholar shall deliver an open progress review seminar within 36 months from the date of joining. The DC will evaluate the seminar. If the seminar is not satisfactory, his/her enrollment will be suspended from the date of the seminar. If he/she chooses to change the registration from PhD to MS program, the request may be approved based on the DC's recommendation. If the DC does not recommend the conversion, the registration will be cancelled with effect from the seminar date. 305ᵗʰ Senate Res. № 48/2023

(d) **Thesis-Submission Approval Meeting (DC3):** The DC will meet for the thesis-submission approval meeting (DC3) as per the current practice. 305ᵗʰ Senate Res. № 48/2023

In addition, the scholar shall give the open seminar when he/she is ready to present his/her entire work. The scholar/guide(s) can request additional meetings at any time. 305ᵗʰ Senate Res. № 48/2023

(a) If the HoD is the guide, the senior-most professor/previous HoD will be nominated as the Chairperson GTC by the Chairperson, Senate (or his/her nominee).

(b) The Chairperson, DC must attend synopsis/thesis report/viva-voce meetings.

(c) If a DC member goes on leave for more than a year or resigns/retires from IITM, the Chairperson, Senate (or his/her nominee) will nominate another member on the suggestion of the Chairperson, DC.

(d) The DC members from outside IITM must meet the same eligibility criteria as co-guides PhD-R.7.

(e) The DC shall conduct periodic progress review meetings as outlined in PhD-R.10.

(f) All the DC members will be invited for all the meetings related to the scholar.

(g) All the decisions and recommendations made by the DC shall be minuted and forwarded to the Dean(AR).

PhD-R.9 ENROLLMENT

(a) A scholar is required to enrol every semester after paying the requisite fees, until the submission of the thesis.

(b) Enrolment has to be completed by the stipulated date, and should be approved by the HoD.

(c) Enrolment will be cancelled if progress is not satisfactory.

(d) Scholars belonging to the external category/part-time/RKA, and those who have temporarily-withdrawn, or are on maternity leave, and those on academic duty with prior permission from the Institute, are eligible to enroll in absentia during the stipulated period after payment of the requisite fee.

PhD-R.10 PH.D REQUIREMENTS

The requirements in the order of completion for Ph.D are listed below.

Requirements	Expected time frame	Section
Course work	Within two semesters *	PhD-R.11
candidacy examination	Within three semesters *	PhD-R.12
Research Proposal Seminar (Seminar 1)	Within one year of passing the candidacy examination #	
Mid-term Review	Within 3.5 years of joining	
Research Colloquium (Seminar 2)	At least 6 months after the research proposal seminar and before the thesis approval meeting 295th Senate Res. № 09/2022 @	
Thesis-Approval Meeting	This meeting should be scheduled within 6 months of the research colloquium. 295th Senate Res. № 09/2022	PhD-R.13, PhD-R.14
Ph.D viva-voce examination		PhD-R.14, PhD-R.15

* Time frames are shown for Regular Ph.D scholars, only for indicative purposes. The exact time frame for different categories can be found in the respective sections indicated in the third column

The scholarship (HTRA) will continue beyond 30 months upon successful completion of Course work, candidacy Exam and Research Proposal Seminar.

@ Research colloquium within 24 months of Research Proposal Seminar

(a) For Interdisciplinary (ID) scholars, a 0th DC meeting has to be conducted, in which the courses and the syllabus for the candidacy examination will be decided.

(b) Registered scholars should submit progress reports twice a year (15th June and 15th Dec.) to the DC. The guides' assessment of progress and the approval of the Chairperson, DC are required to enroll in the subsequent semester.

(c) The progress report of Ph.D scholars should consist of two parts: a short 2-page summary of the work done, research output, and future plans; and a detailed description of the research work and results, along with any publications resulting from the thesis work. The scholar must also include a self-assessment of the research progress made in the reporting period, with suitable justification. 295th Senate Res. № 09/2022

(d) Based on the report, DC members should categorize the scholar's progress as excellent, very good, good, satisfactory, or not satisfactory. 295th Senate Res. № 09/2022

(e) In case the six-monthly progress report is considered 'unsatisfactory' by the guide and/or Chairperson DC, a special DC is to be convened to review research progress.

(f) The oral part of the candidacy examination and the two seminars are considered to be DC meetings.

(g) Beyond 5 years for regular Ph.D and 6 years for direct/upgraded Ph.D, progress meetings will be held once every six months in the presence of the Dean(AR), or his/her nominee.

(h) In addition to the above, the HoD/Dean(AR) may decide to convene a special DC meeting(s) based on the request from the scholar/guide, to address any issue(s) with respect to the research progress of the scholar.

PhD-R.11 Course Work

PhD-R.11.1 General Guidlines

(a) Courses that meet the minimum requirements shall be at the post-graduate level and will be prescribed by the DC.

(b) The DC should prescribe a course basket with twice the number of required courses.
    <mark>295th Senate Res. № 09/2022</mark>

(c) The DC may approve courses already undergone by the scholar in other Institutions towards meeting the course work requirements at IITM. 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 scholar in IITM or other institutions shall not be considered if they were part of the requirements for the award of any other degree/ diploma.*

(d) Contact courses may be allowed subject to the recommendation of the DC and approval by Dean(AR).

(e) Scholars are expected to complete the course work requirements within 2 semesters. Scholars joining the Ph.D programme directly after BE/BTech/BS are expected to complete coursework within 3 semesters.

PhD-R.11.2 Coursework Requirements for Research Scholars

Discipline	Mode	Minimum Course Work	Minimum Credits
Engineering	Regular	4 courses from the basket prescribed by the DC, ID6020 and ID6021*	36
	Upgraded from M.S	8 courses from the basket prescribed by the DC, XX6999, XX7999, ID6020 and ID6021*	84 (72 + 12)
	Upgraded from M.Tech		
	Direct M.S+Ph.D		
M.Tech-Ph.D of Engineering Design (Dual Degree)	Regular for B.tech in relevant discipline in Physics	**Course work:** 12 courses prescribed by the DC, ED6999, ED7999. 72 credits need to be completed before appearing for the candidacy viva. Mini-project not required. **Exit option (failed twice in the candidacy examination):** M.Tech (108 Credits of course work + project work of 85 credits). <mark>291st Senate Res. № 05/2021</mark>	120 (108 + 12)

Physics/ Chemistry/ Humanities/ Management	Regular	4 courses from a basket of 8 courses prescribed by the DC , ID6020, ID6021*	36
	Upgraded	4 courses from a basket of 8 courses prescribed by the DC , XX6999, XX7999, ID6020, ID6021*	48 (36+12)
	Direct	8 courses from a basket of 16 courses prescribed by the DC, XX6999, XX7999, ID6020, ID6021*	84 (72+12)
Mathematics		6 courses from a basket of 12 courses prescribed by the DC, totaling at least 60 credits. In addition, ID6020 and ID6021* must be taken.	60
		For upgraded scholars, 6 courses from a basket of 12 courses prescribed by the DC, totaling at least 60 credits + XX6999 only, along with ID6020, ID6021*.	66 (60+6)

* ID6021 is optional, to be decided by the DC

(a) Only the minimum required courses with the best performance will be considered for computing the CGPA.

(b) Research scholars shall obtain CGPA $\geq$ 7.5, subject to a minimum of a 'C' grade in each of the prescribed courses.

(c) Once a course is successfully completed (meaning a grade of C or higher), it cannot be repeated.

(d) For scholars upgrading from M.S to Ph.D in engineering/management, the courses successfully completed during the M.S programme may be considered by the DC towards meeting the coursework requirements.

(e) Those scholars that upgrade from M.S to Ph.D or join the direct M.S+Ph.D programme, and choose to get both the M.S and Ph.D degrees, should complete the following two additional courses (6 credits each) by the 4th semester. Completion of these two courses will be towards the partial fulfillment of the award of the M.S degree. These courses are included in the CGPA, and a minimum grade of 'C' is required. For each of the two courses, scholars have to submit a project report and give a seminar presentation.

   (1) XX6999 – Critical review of Literature (where XX is the Department Code).

   (2) XX7999 – Simulation, or preliminary experimental/analytical verification of prior art as appropriate to the discipline.

PhD-R.11.3 Grades and CGPA

Based on 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

$$\text{CGPA} = \frac{\sum C \times \text{GP}}{\sum C}$$

where C = credits and GP = the grade point obtained for the course. The sum is over the best, minimum number of courses required for the programme.

PhD-R.12 CANDIDACY EXAMINATION

The term comprehensive examination is renamed as "Candidacy Examination". 305ᵗʰ Senate Res. № 48/2023
The objective of the candidacy examination is to test the breadth of the scholar's knowledge in his/her discipline and field of research. The candidacy examination must include a research component

A Ph.D scholar must pass the candidacy examination of his/her department within the time frame provided in the following table.

S.No	Programme Category	First Attempt Within (months after registration)	Completed within (months after registration)
1.	Regular PhD (HTRA, Fellowship, Sponsored, Foreign, etc.)	15	18
2.	Direct MS + PhD	18	24
3.	Upgraded PhD (M Tech/MS)	15	18
4.	Upgraded PhD (MSc)	15	18

305ᵗʰ Senate Res. № 48/2023

(a) The candidacy examination committee will consist of the DC members and at least two other faculty members of the Institute nominated by the Chairperson, DC.

(b) If the scholar does not appear for the first attempt within the stipulated period, scholarship will be suspended. The amount will be paid as arrears after clearing the examination. 305ᵗʰ Senate Res. № 48/2023

(c) For a research scholar from engineering/management who does not pass the candidacy examination after two attempts, his/her enrollment will be suspended from the date of declaration of the result. If (s)he chooses to change the registration from the Ph.D to the MS programme, the request may be approved based on recommendation of the DC. If the DC does not recommend the conversion, the registration will be canceled from the date of declaration of the results of the candidacy examination.

(d) The departments must publish the details of the modus operandi of the candidacy examination so that the scholars and faculty are well aware of the process. 305ᵗʰ Senate Res. № 48/2023

(e) The DC will decide the method of candidacy examination for scholars in the interdisciplinary Ph.D program and inform the Dean(AR).

(f) QIP scholars shall pass the candidacy examination within 6 months from the date of joining. If a scholar does not pass the candidacy examination in the first attempt, he/she will be allowed another attempt within 6 months of the first. An unsuccessful second attempt will result in a suspension of enrolment. If progress is not satisfactory, his/her enrolment will be suspended from the date of declaration of the result. `305th Senate Res. № 48/2023`

PhD-R.13 Thesis and Panel of Examiners

The PhD thesis is a detailed report of the scholar's research.

(a) On satisfactory completion of the prescribed courses, the candidacy examination, the research, the two seminars and when the thesis is ready for submission, the scholar requests the thesis-submission approval meeting to the Academic Section, through the guide(s) and HoD, for consideration of the DC. `295th Senate Res. № 09/2022`

(b) Prior to the thesis-submission approval meeting, a PhD scholar is required to have at least one paper published (or accepted for publication) in a refereed journal acceptable to the DC. The content of the publication must be part of the thesis, and the scholar must be the primary contributor of the publication. The DC may recommend exceptional cases that do not meet this requirement, which will then be reported to the IITM Senate. `293rd Senate Res. № 37/2021` `295th Senate Res. № 09/2022`

At the end of the programme duration, the doctoral committee could permit the student to submit his/her thesis provided that a journal paper based on the work (with the scholar being the primary contributor) has been submitted. Such cases, which are expected to be rare, will be reported to the Senate. Such theses will only be accepted for evaluation under Track A. `305th Senate Res. № 48/2023`

(c) At the thesis-submission approval meeting, the DC and sectional observer will approve the thesis and the list of examiners to be used.

(d) A two-track policy will be followed for thesis evaluation. `295th Senate Res. № 09/2022`

  a) Track 1: For scholars who have high-quality published work which is more than the norm for the research area. The scholar must be the primary contributor to the papers, and this should be evident in terms of authorship as first author, or equally credited author. The publications must be in good venues. 70% or more of the thesis must have already been published (or accepted) for publication. Track-1 evaluation is by two examiners approved at the thesis-submission approval meeting. The examiners are given six weeks to evaluate the thesis and submit their reports.

  b) Track A: For scholars who have published work which is considered normal for the research area. Track-A evaluation will be by three examiners composed of two external examiners and one internal (IITM) examiner from a list of four external and two internal examiners provided. Dean(AR) picks examiners from the list approved at the thesis-submission approval meeting. The examiners are given six weeks to evaluate the thesis and submit their reports. There is no compulsion to include foreign examiners in the list of external examiners, but at least one must be an Indian examiner.

Scholars should circulate their thesis, which is ready to be sent out for examination, to their DC members and the sectional observer at least a week before the thesis-submission approval meeting. For Track 1, the expectation is that the thesis is such that it should be accepted as is, or with very minor editorial corrections.

The guide should identify thesis examiners and get their email concurrence before the thesis-submission approval meeting. The guide can use the thesis abstract, as well as a list of the scholar's published work as inputs to potential examiners to help them decide on accepting to review the thesis.

The decision to qualify for Track-1 will be made by the sectional observer at the thesis-submission approval meeting, based on the feedback from the doctoral committee. If there is a disagreement, Dean (AR) will decide.

Notwithstanding the above, the choice of track is left to the guide, with movement from Track-1 to Track-A being possible, but not vice versa.

PhD-R.14 Thesis Reports

(a) For Track 1, the viva-voce examination can be held as soon as the first report is received. For Track A, if two examiners declare the thesis as 'commended', the viva voce exam will be conducted.
<mark>295ᵗʰ Senate Res. № 09/2022</mark>

(b) For Track A, if an examiner recommends that the thesis should be resubmitted after revision, the research scholar will be allowed to do so within the time stipulated by the DC, failing which the revised thesis will not be accepted and his/her registration will be canceled.

(c) For Track A, if one of the external examiners evaluates the thesis as 'not acceptable', the thesis shall be referred to a third external examiner from the evaluation panel.

(d) For Track A, if two examiners, after referral to a third examiner if necessary, evaluate the thesis as 'not acceptable', the thesis will not be accepted and the registration of the scholar will be canceled.

(e) In all other cases not covered by the above regulations, the matter will be referred to the DC for consideration.

PhD-R.15 Viva Voce Examination

The viva voce exam board consists of the following members: <mark>295ᵗʰ Senate Res. № 09/2022</mark>

Chairperson, DC	Chair
The thesis examiner(s) who have sent in their evaluation reports.	Members(s)
Guide(s)	Member(s)

• DC members will be invitees to the viva-voce examination.

462 • The viva-voce should be held in an online/hybrid mode, so that no travel is involved.

463 (a) If the thesis is recommended for acceptance at the end of the viva-voce examination, the
464   Chairperson of the viva-voce board shall forward the thesis to the Academic Section certifying
465   that the revisions recommended by the board, if any, have been incorporated in the thesis.

466 (b) If the viva voce examination board evaluates the performance of the scholar as not satisfactory,
467   the scholar shall reappear for the examination, not earlier than one month but not later than six
468   months from the date of the first examination.

469 (c) For the second viva-voce examination, the board will also include the members of the DC. If
470   the performance of the research scholar is still not satisfactory, the matter will be referred to
471   the Senate for a decision.

472 (d) The examiners' names can be appended in the final thesis only with their consent.

PhD-R.16 Minimum and Maximum Duration

The minimum and maximum duration of the Ph.D programme from the date of registration to the
date of submission of thesis for full-time research scholars are the following:

Mode	Discipline	Qualifying Degree	Minimum	Maximum*
Regular Ph.D	Engineering	M.Tech/ME/M.S	2 years	5 years
		M.Sc	3 years	5 years
	Sciences, Humanities, Management	Master's degree	2 years	5 years
Direct M.S + Ph.D		B.E/B.Tech/B.S	3 years	6 years
Upgraded Ph.D		M.Tech/M.S	3 years	6 years
		M.Sc	3 years	5 years + time taken from M.Sc admission to upgradation+

* The DC may grant an extension of 2 more years to submit the thesis. An additional year may be allowed for scholars in the QIP, external, part-time and staff categories.

\+ 279th Senate Res. № 6/2018

478 The minimum residential requirement for the scholars admitted under the external or part-time
479 categories is one semester. Such scholars will be permitted to complete the residential requirement
480 in multiple sessions, if they choose to take IITM web-based courses for completing their coursework.
481 281st Senate Res. № 72/2018 This requirement is waived for external scholars who are employed in
482 the IITM Research Park.

483 The registration period of the programme will be extended by the duration of the sanctioned maternity
484 leave (up to a maximum period of 180 days). The period of medical leave, duly certified by the

Institute Hospital, can be considered by Dean(AR) to extend the registration period of the programme, up to a maximum period of one year. <mark>282ⁿᵈ Senate Res. № 101/2018</mark>

PhD-R.17 Relief from the Ph.D Programme to take up Employment

Scholars who have a job offer can obtain relief from the programme upon recommendation by the DC, if they have completed the minimum residential requirement (as per PhD-R.16), coursework, the candidacy examination and the research proposal seminar.

The scholar should keep his/her registration alive by paying the requisite fee every semester. Renewal of the registration each semester is subject to the DC finding the scholar's progress satisfactory.

PhD-R.18 Temporary Withdrawal from the Programme

A scholar may be permitted by the Dean(AR) to withdraw from the programme for a period not longer than a semester for health reasons or any other valid grounds, if recommended by the DC. The maximum time permitted for temporary withdrawal from the programme is for a period of one year, which may be taken continuously with the reapproval by the DC.

PhD-R.19 Cancellation of Registration

The registration of a research scholar who has not enrolled, or whose progress is not found to be satisfactory by the DC is liable to be canceled. The registration of a research scholar, who has not submitted his/her thesis before the end of the maximum permissible period (PhD-R.16), will be canceled.

After cancellation of registration, the Institute reserves the right to allow re-registration on a case-by-case basis.

At the end of the duration of the program, the scholar (in consultation with the guide) will give the doctoral committee a plan and timeline for thesis submission. The doctoral committee will deliberate and grant upto a maximum of three years from the date of cancellation of registration to submit the thesis, beyond which registration will not be reinstated under any circumstance. <mark>306ᵗʰ Senate Res. № 06/2024</mark>

PhD-R.20 Reversion of Upgraded Ph.D to Master's Programmes

PhD-R.20.1 Reversion of scholars upgraded from M.S to Ph.D

(a) A scholar may revert to the M.S programme after one semester from the date of upgradation if (s)he has completed two and half years from the date of registration of the M.S programme. The DC may recommend reversion of registration for approval by the Senate.

(b) If the scholar does not pass the candidacy examination in two attempts, (s)he will revert to the M.S programme.

(c) The DC will consider the application only if the scholar has completed all the course requirements prescribed originally by the GTC when the scholar registered for the M.S programme and if the research to date is found suitable for submission as an M.S thesis. The DC may recommend reversion of registration for approval by the Senate. The DC will continue to function as the GTC till the completion of the M.S requirements. The scholar must complete

the M.S degree requirements (see M.S Ordinances & Regulations) within one year from the date of reversion.

(d) Under exceptional circumstances, the DC may recommend cases of the regular Ph.D. scholars who passed the candidacy examination for conversion to M.S. In such cases, the DC should send a detailed justification of the circumstances and a strong recommendation for Dean (AR)'s consideration. This provision is only expected to be used very sparingly, after every possible avenue to complete the requirements of the PhD research is explored. `298th Senate Res. № 44/2022`

PhD-R.20.2 Reversion of scholars upgraded from M.Tech to Ph.D

(a) A scholar may apply for revert to the M.Tech programme after one semester from the date of upgradation if (s)he has completed three years after the date of registration for the M.Tech programme. The DC may recommend reversion of registration for approval by the Senate.

(b) A scholar who does not pass the candidacy examination in two attempts will revert to the M.Tech programme. If the Senate approves the reversion upon recommendation by the DC, the scholar must complete the requirements of the M.Tech programme (see M.Tech. Ordinances & Regulations) within one year from the date of reversion.

(c) An M.Tech + Ph.D dual-degree scholar of Engineering Design may be permitted to exit with an M.Tech degree if (s)he does not pass the candidacy exam twice, provided (s)he satisfactorily completes the required number of courses, and submits an acceptable M.Tech project report.

(d) Under exceptional circumstances, the DC may recommend cases of the regular Ph.D. scholars who passed the candidacy examination for conversion to M.Tech . In such cases, the DC should send a detailed justification of the circumstances and a strong recommendation for Dean (AR)'s consideration. This provision is only expected to be used very sparingly, after every possible avenue to complete the requirements of the PhD research is explored. `298th Senate Res. № 44/2022`

PhD-R.20.3 Reversion of scholars upgraded from M.Sc to Ph.D

(a) A scholar may revert to the M.Sc programme after the sixth semester. The DC may recommend reversion of registration for approval by the Senate.

(b) A scholar who does not pass the candidacy examination in two attempts will be revert to the M.Sc programme. The scholar must complete the M.Sc. degree requirements (See M.Sc. Ordinances & Regulations) within one year from the date of reversion.

(c) Under exceptional circumstances, the DC may recommend cases of the regular Ph.D. scholars who passed the candidacy examination for conversion to M.Sc. In such cases, the DC should send a detailed justification of the circumstances and a strong recommendation for Dean (AR)'s consideration. This provision is only expected to be used very sparingly, after every possible avenue to complete the requirements of the PhD research is explored. `298th Senate Res. № 44/2022`

PhD-R.21 CONVERSION OF REGULAR/DIRECT M.S + PH.D REGISTRATION TO THE M.S PROGRAMME

A direct M.S + Ph.D scholar can apply for conversion to the M.S programme, if (s)he fulfills all M.S admission criteria for the corresponding year of selection, subject to the recommendation of the DC. This option is not available for regular Ph.D scholars.

A direct-PhD scholar who did not fulfill the M.S admission criteria for the corresponding year of selection can revert to the M.S. programme only after 3 years from the date of admission. 298ᵗʰ Senate Res. № 44/2022

A regular/direct M.S + Ph.D scholar in Engineering/Management who does not pass the candidacy examination in two attempts may request the DC to convert his/her registration from the Ph.D to the M.S programme. If this option is not exercised, his/her registration will be canceled. The DC may recommend conversion of registration for approval by the Senate.

(a) The DC will continue to function as the GTC till the completion of the M.S requirements.

(b) The duration of the scholar's M.S program shall not be more than 3 years from the date of registration in the Ph.D programme.

(c) In its first meeting following the conversion of registration, the GTC may prescribe any additional courses necessary to satisfy the requirements of the M.S programme.

(d) The award of HTRA to the scholar will be as per the M.S programme.

(e) Under exceptional circumstances, the DC may recommend cases of the regular Ph.D. scholars who passed the candidacy examination for conversion to M.S. Program. In such cases, the DC should send a detailed justification of the circumstances and a strong recommendation for Dean (AR)'s consideration. This provision is only expected to be used very sparingly, after every possible avenue to complete the requirements of the PhD research is explored. 298ᵗʰ Senate Res. № 44/2022

PhD-R.22 AWARD OF THE PH.D DEGREE

Upon satisfactory performance in the viva-voce examination and the submission of the final thesis, the scholar will be awarded a Ph.D degree on the recommendation of the Senate, and with the approval of the Board of Governors of IITM. The effective date of the degree shall be the date of the meeting of the BoG. 279ᵗʰ Senate

The award of Ph.D degrees before the convocation will be considered on request, provided the scholars have completed all the requirements.

Direct M.S+Ph.D and Ph.D scholars who have upgraded from the M.S programme will be awarded the M.S and Ph.D degrees after successfully completing all the requirements. The name of the M.S degree under this option will be "Master of Science" in YY (name of the department). Ph.D scholars who have upgraded from M.Tech/M.Sc will be awarded the MTech/M.Sc and Ph.D degrees after successfully completing all the requirements.

PhD-R.23 Discipline

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

Any act of indiscipline of a scholar reported to the Dean(AR) will be referred to a Discipline and Welfare Committee nominated by the 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 Board of Academic Research, which will authorize the Dean(AR) to take appropriate action. The Dean(AR) will report the action taken at the next meeting of the Senate.

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

PhD-R.24 Power to Modify

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