Indian Institute of Technology Mandi

ORDINANCES AND REGULATIONS

(Revised on 1st January, 2023)

For the Degree of DOCTOR OF PHILOSOPHY (Ph.D.)



Academic Office 2023

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PREAMBLE

Indian Institute of Technology (IIT) Mandi offers Postgraduate Programmes leading to the award of a Doctor of Philosophy (Ph.D.) Degree through its Schools and Centers. The award of these Degrees is in recognition of high academic achievements, independent research, and the application of knowledge to the solution of technical and scientific problems in Engineering, Technology, Sciences, Humanities, Social Science and Management. Creative and productive inquiry is the basic concept underlying the research work.

The Academic Programmes leading to Ph.D. Degrees is broad-based and involve a minimum course credit requirement and a research Thesis. The institute is broadly divided into Schools and Centers covering broad academic areas to encourage cross fertilization of ideas due to interaction between the faculty and students having diverse background. The Institute also promotes research in interdisciplinary areas across the Schools and Centers through a system of co-supervision. The Institute undertakes sponsored research and development projects from industries as well as other organizations in the public and private sectors in order to synergize and bring research benefits to society as a whole.

The degrees Doctor of Philosophy shall be abbreviated respectively as Ph.D. These Degrees are granted for research work in areas recognized by the Schools/Centers of the Institute, subject to the Ordinance and Regulations contained hereinafter.

The research work shall be an original work characterized either by the discovery of facts, or by a fresh approach towards the interpretation and application of facts, or the development of innovative products and technologies. It shall demonstrate the candidate's ability for critical thinking and sound judgment and as well as make an original contribution to existing knowledge.

The Degree of Doctor of Philosophy (Ph.D.) of the Indian Institute of Technology Mandi shall be conferred on a candidate who fulfills all the requirements specified in these Ordinances and Regulations, approved by Senate dated 22nd July, 2010 and modifications approved in subsequent senate meetings.

Ph.D. ORDINANCES

- O.1 A Candidate who has qualified for the award of Master's Degree of IIT Mandi or any other recognized Institute or University in the discipline as prescribed in the regulations of the Senate is eligible to apply for Doctoral of Philosophy (Ph.D.) Programme of this Institute.
- O.2 A candidate who has qualified for the award of Bachelor's Degree in Engineering/Technology with exceptionally good academic background in the discipline as prescribed in the regulations of the Senate is also eligible to apply for Ph.D. Programme of IIT Mandi.
- O.3 A candidate pursuing Ph.D. Degree in a recognized Institute or University in Engineering/Technology/Sciences including Humanities, Social Science and Management is eligible to apply for lateral entry in Doctoral Programme at IIT Mandi in Engineering/Sciences including Humanities, Social Science and Management in the beginning of a semester with transfer of credit to the extent permitted by the school.
- O.4 The award of the Ph.D. degree shall be in accordance with the regulations of the Senate of this institute.

Ph.D. REGULATIONS

R.1 CATEGORIES OF ADMISSION

The applicant for admission to Ph.D. Programme shall be in any one of the following categories:

- I. Regular full time Research Scholars including degree holders from foreign Universities/Institutions:
 - (a) Research Scholar with MoE Assistantship.
 - (b) Research Scholar getting support from Government/Semi Government/Agencies (QIP, CSIR, UGC, DAE, DST, DBT, NBHM, JEST, ICCR etc.)
 - (c) Research Scholars under the external registration programme sponsored by and employed in industry/organization having R&D facilities and recognized by DST or IIT Mandi, national laboratories, reputed universities/colleges or employed in research/analysis jobs in Public sector/Private sector/Government in the case of management area. The candidates seeking admission under this category must have at least two years of work experience.

(A research scholar under the external registration programme will normally carry out part or all of his/her research work in the Industry/Organization/National laboratories/Universities employing the scholar under the supervision of a co-guide also employed in the same organization and a guide at IIT Mandi.)

- (d) Research scholar supported by self or the employer (Sponsored)
- (e) Research scholar supported form Project*

II. Part Time Research Scholars including degree holders form Foreign Universities/Institutions:

- (a) Research scholar working as a regular employee in the Institute
- (b) Research scholar supported from project*
- (c) Research scholar working in other organizations recognized by IIT Mandi or having MoU for Research purposes.
- (d) The research scholars pursing Ph.D. degree in an academic area in other IITs or in a recognized Institute or University in Engineering/Technology/Sciences including Humanities, Social Sciences and Management may be given admission as lateral entry in the corresponding categories mentioned above, with credit transfer for the course work.

*The research scholar working in a project will be full time, provided his research for Ph.D. is related to the project as certified by the supervisor, who is associated with the project. A research scholar whose topic for Ph.D. is unrelated to the project will be working part time for Ph.D. but may be given full time status after the project tenure is completed.

(e) Part time scholars employed in R&D environments in scientific institutions (including IIT Mandi), or industries and Faculty members of all Engineering colleges/Universities recognized by the appropriate government agencies. <u>{As per</u><u>35th Senate Item No. 35.11}</u>

R.2 ELIGIBILITY

R.2.1 Minimum Educational Qualifications

The Minimum education qualifications for admission to the Ph.D. Programme of the Institute are as follows:

REGULAR FULL TIME SCHOLARS

2.1.1 Ph.D. in Engineering

(a) Candidates with a Master's degree in Engineering/Technology with a good academic record or a Master's degree by research in Engineering/Technology disciplines, with a good academic record.

or

(b) Candidates with Master's degree in Sciences with a good academic record and of exceptional merit are eligible for the relevant Engineering discipline and with a valid GATE score or UGC/CSIR NET/NBHM or equivalent qualification in the relevant area tenable for the year of registration. In the case of candidates with more than 5 years of relevant experience after the Master's degree, the requirement of a test score may be waived by the Selection Committee.

or

(c) Candidates who have qualified for the award of Bachelor's degree in Engineering/Technology with exceptionally good academic record in an eligible discipline will be considered for direct admission (without previous Master's Degree) to Ph.D. Programme as a regular full time scholar subject to the following conditions:

- I. Bachelor's degree holder in Engineering/Technology from Centrally Funded Technical Institutes (CFTIs), with a minimum CGPA of 7.5 on a 10.0 point scale (or equivalent). (Criteria of qualifying a National Level examination are waived off for HTRA Scholarship)
- II. Bachelor's degree in Engineering/Technology from Non-CFTIs with a valid GATE score or other equivalent national exam qualification (Validity required at the time of joining) and CGPA of at least 7.5 out of 10.0(or equivalent).
- III. Bachelor's degree holder in Engineering/Technology, serving for two years or more in a reputed R&D Organization and having a proven research record. <u>{As per 34th</u> <u>senate meeting Item No. 34.3}</u>

2.1.2 Ph.D. in Science

- (i) Master's degree in Science with a good academic record.
- (ii) Master's degree in Engineering/Technology with a good academic record.

All the eligibility criteria are similar to 2.1.1

2.1.3 Ph.D. in Humanities and Social Sciences

Master's degree in an eligible discipline with a good academic record. All the eligibility criteria are similar to 2.1.1

(PART TIME RESEARCH SCHOLARS)

2.1.4

- Institute Staff Members/Research scholars under QIP/Research Scholars under External Registration/Research Scholars working on Part Time Basis,
- Individuals employed in R&D environments in Scientific Institutions (including IIT Mandi) or industries
- Faculty members of all Engineering Colleges/Universities recognized by appropriate government agencies:

The required qualification remains the same as for the regular candidates except for the requirement of qualifying in one of the national entrance tests. Further the candidate should have atleast two years of work experience.

(PROJECT TO PHD)

2.1.5 This category includes project staff working on research projects in the Institute who have worked on such projects for a period of 6 months or more. They may be considered for admission to the Ph.D. Programme (guided by the same PI only) with strong support of the candidature by the PI. The selection procedure will be same as for the regular Ph.D. Programme. The minimum educational qualifications are the same as R.2.1.1, 2.1.2, 2.1.3. Also, if any IIT Mandi course has been taken previously by the candidate within two years of the date of registration in Ph.D. Programme, then the candidate may be allowed to utilize the credits for this course

towards the Ph.D. Programme with the recommendations of the DC. (As per 6th Senate Item No. 6.8)

R.2.2 Additional Requirements

DC can recommend requirements (if any) of co-guide from the sponsoring organization. A co-guide from the sponsoring organization is mandatory for ERP candidates and is not mandatory for Part-time candidates. For residential requirement, refer to R15.

R.2.3 (A) Conversion of registration from M.Tech. (by Research) (earlier M.S. (by Research)/M. Tech. to Ph.D. Programme (Regular/External)

Meritorious candidates who have registered for M.Tech. (by Research)/M. Tech. Programmes are eligible to convert their registration to the Ph.D. Programme in the same School/Centre if they satisfy the following criteria:

- (a) The candidate should have been registered for a minimum of 2 semester in the M.Tech. (by Research)/M. Tech. Programme.
- (b) The candidate should have minimum CGPA of 8.00 in the prescribed courses.
- (c) Course work is compulsory, and the Doctoral Committee (DC) constituted following R.9 can suitably recommend residential requirement to complete course work.

In the case of a M.Tech. (by Research) Scholar, the Academic Progress Committee of the M.Tech. (by Research) scholar will consider the application for conversion to Ph.D. under the supervision of the same guide(s) and make its recommendation to the Chairman, Senate to approve the conversion of the scholar form M.Tech. (by Research) to Ph.D. Programme as per rule and report the same to the Senate. If approved, a Doctoral Committee as per R.9 will be constituted to replace the Academic Progress Committee.

In the case of a M. Tech. Student, a committee duly constituted by the Chair of the School/Centre will consider the application for conversion to Ph.D. and make its recommendation to the Chairman, Senate to approve the conversion of the student from M. Tech. to Ph.D. Programme as per rule and report the same to the Senate. If approved, a Doctoral Committee as per **R.9** will be constituted and guide(s) as per **R.6** will be allotted. The candidate should pass the comprehensive examination (**R.13**) within a semester after conversion to the Ph.D. Programme and within two attempts.

The Candidate will be treated on par with one admitted directly after a Bachelor's degree, but with the residency period and course work completed under the M.Tech. (by Research)/M. Tech. registration as decided by the Doctoral Committee credited to the Ph.D. Programme.

(B) PG+Ph.D. Dual Degree Upgradation Options {As per 33rd Senate item No. 33.8}

- (a) Upgrade from M.Tech. (by Research) to M.Tech(By Research)+Ph.D.(earlier M.S.(By research)
- (b) Upgrade from M.Tech. to M.Tech.+Ph.D.
- (c) Upgrade from M.Sc. to M.Sc.+Ph.D.
- (d) Upgrade from M.A. to M.A.+Ph.D.

(a) Upgrade from M.Tech. (by Research)to M.Tech. (by Research)+Ph.D.

- Interested M.Tech. by Research scholars who have earned atleast 15 credits with minimum 8.0 CGPA within first two semesters of M.Tech. (By Resaerch) programme can place a request to their Academic Progress Committee (APC), for upgradation to M.Tech. (by Research)+Ph.D. program under the same advisor. After thorough evaluation, the APC may recommend the deserving candidate for upgradation to the Dean (Academics).
- The scholar would need to complete a total of 24 credits of course work and other mandatory courses (e.g. Research Methodology). The DC may consider the courses credited before upgradation, and may prescribe additional courses based on the research area of the scholar.
- 3. The M.Tech. (By Research) thesis of the upgraded scholar will be waived off, but they need to submit a Comprehensive Literature Review (hereafter referred to as CLR) report and make a presentation to the DC, within one year of upgradation. The Ph.D. fellowship for the upgraded M.Tech. (By Research)+Ph.D. scholar would start from the date of upgradation as it is noted that these students have qualified one of the national level examinations at the time of admission in M.Tech. (By Research). All other Ph.D. norms will be applicable from the date of upgradation.
- 4. The scholar would be awarded both the degrees M.Tech. (by Research) towards partial fulfilment of the requirements of dual M.Tech. (by Research)+Ph.D., and Ph.D. after fulfilment of the requirements of the Ph.D. degree. Provisional M.Tech. (by Research) degree will be issued only after completion of the Ph.D.
- 5. Conversion of Ph.D degree registration to original M.Tech. (by Research) is <u>ONLY</u> possible due to unsatisfactory performance or other provisions under Ph.D. regulations and on the recommendation of the DC, They may be allowed to leave with an M.Tech. (by Research) degree only after fulfilling the requirements of the baseline M.Tech. (by Research)degree within one year of reversion to the M.Tech. (by Research) programme. No scholarship will be paid during such duration.

(b) Upgrade from M.Tech. to M.Tech.+Ph.D.

- Interested M.Tech. students who have completed all the core courses of the respective M.Tech. programme and have earned atleast 24 credits, whichever is higher, with minimum 8.0 CGPA within first two semesters at IIT Mandi can apply for upgradation to M.Tech.+Ph.D. program based on an internal call made by the PG admissions committee or any other designated committee of the respective School/Center. The committee may prescribe a higher shortlisting criteria as per the number of requests and need, and would interview the shortlisted candidates in their broad area of interest.
- 2. In addition to the minimum course work for Ph.D. programme, the scholar should successfully complete other mandatory courses (*e.g.* Research Methodology). The

DC may consider the courses credited before upgradation or may prescribe additional courses based on the research area of the scholar.

- 3. The Post-Graduate Project (PGP) of the scholar will be waived off, but they needs to submit and make a CLR report+presentation to the DC, within one year of upgradation. The Ph.D. fellowship for the upgraded M.Tech.+Ph.D. scholar would start from the date of upgradation as it is noted that these students have qualified one of the national level examinations at the time of admission in M.Tech. All other Ph.D. norms will be applicable from the date of upgradation.
- 4. The scholar would be awarded both the degrees (M.Tech. towards partial fulfilment of the requirements of dual M.Tech.+Ph.D., and Ph.D.) after fulfilment of the requirements of the Ph.D. degree. Provisional M.Tech. degree will be issued after completion of the Ph.D. degree.
- 5. Conversion of Ph.D degree registration to original M.Tech. degree is only possible due to unsatisfactory performance or other provisions under Ph.D. regulations and on the recommendation of the DC, they maybe allowed to leave with an M.Tech. degree only after fulfilling the requirements of the baseline M.Tech. degree. Letter grades, as applicable, may be awarded for the PGP dissertation evaluated by a designated committee constituted by the School/Center chair. In such cases, all the remaining requirement of the M.Tech. programmes should be completed within one year of reversion to the M.Tech. programme. No scholarship will be paid during such duration.

(c) Upgrade from M.Sc. to M.Sc.+Ph.D.

- Interested M.Sc. students who have completed all the core courses of the respective M.Sc. programme with minimum 8.0 CGPA within first three semesters at IIT Mandi can apply for upgradation to M.Sc.+Ph.D. program based on an internal call made by the PG admissions committee or any other designated committee of the respective school. The committee may prescribe a higher shortlisting criteria as per the number of requests and need, and would interview the shortlisted candidates in their broad area of interest. Upon approval, a guide maybe allotted and a DC be formed for the candidate as per institute norms.
- 2. The scholar would have to finish his/her M.Sc. requirements within the stipulated duration of the M.Sc. program (possibly by aligning the PGP dissertation with the area of Ph.D. research). Once requirement of the M.Sc. programme is completed, the recommended candidate would be allowed to join the Ph.D. programme subject to fulfilling the minimum CGPA of 8.00 across the M.Sc. programme.
- 3. The DC can prescribe additional courses beyond those already credited by the scholar based on the research area of the scholar. The Ph.D. fellowship for the upgraded M.Sc.+Ph.D. scholar, would start after finishing the M.Sc. requirements as it is noted that these students have qualified one of the national level examinations at the time of admission in M.Sc. All other Ph.D. norms will be applicable after finishing M.Sc. requirements.
- 4. The scholar would be awarded both the degrees (M.Sc. towards partial fulfilment of the requirements of dual M.Sc.+Ph.D., and Ph.D.) after fulfilment of the

requirements of the Ph.D. degree. Provisional M.Sc. degree will be issued after completion of the Ph.D.

- Conversion of Ph.D degree registration to original M.Sc. degree is only possible due to unsatisfactory performance or other provisions under Ph.D. regulations and on the recommendation of the DC, they may be allowed to leave with the baseline M.Sc. degree.
- (d) Upgrade from M.A. to M.A.+Ph.D.
- 1. Interested M.A. students who have completed all the core courses of the respective programme with minimum 8.0 CGPA across the required M.A. course work of first three semesters at IIT Mandi can apply for upgradation to M.A.+Ph.D. program based on an internal call made by the PG admissions committee or any other designated committee of the respective school. The committee may prescribe a higher shortlisting criteria as per the number of requests and need, and would interview the shortlisted candidates in their broad area of interest. Upon approval, a guide maybe allotted and a DC be formed for the candidate as per institute norms.
- 2. The scholar would have to finish his/her M.A. requirements within the stipulated duration of the M.A. program (possibly by aligning the PGP dissertation with the area of Ph.D. research). Once requirement of the M.A. programme is completed, the recommended candidate would be allowed to join the Ph.D. programme subject to fulfilling the minimum CGPA of 8.00 across the M.A. programme.
- 3. The DC can prescribe additional courses beyond those already credited by the scholar based on the research area of the scholar. The Ph.D. fellowship, if eligible, for the upgraded M.A.+Ph.D. scholar, would start after finishing the M.A. requirements. All other Ph.D. norms will be applicable after finishing M.A. requirements.
- 4. The scholar would be awarded both the degrees (M.A. towards partial fulfilment of the requirements of dual M.A.+Ph.D., and Ph.D.) after fulfilment of the requirements of the Ph.D. degree. Provisional M.A. degree will be issued after completion of the Ph.D.
- 5. Conversion of Ph.D degree registration to original M.A. degree is only possible due to unsatisfactory performance or other provisions under Ph.D. regulations and on the recommendation of the DC, they may be allowed to leave with the baseline M.A. degree.

(C) M.Tech. (by Research)+PhD. Dual Degree Program:

Candidates will be admitted to the M.Tech. (by Research)+Ph,D,(Dual Degree) Programme in Engineering in full time regular mode.

- 1. Eligibility and Minimum Educational Qualifications:
- a) Candidates with B.Tech./BE/M.Sc. with valid GATE Score.
- b) In case of B.Tech./BE degree from Centrally Funded Technical Institutes (CFTIs) with CGPA>= 8 on a 10.0 point scale (or equivalent), National Level examination is waived off for HTRA fellowship.

 Course work: The scholar would need to complete a total of 24 credits of course work and other mandatory courses (e.g. Research Methodology) of PG level. It is mandatory to complete course work within one year after admission. Minimum 7.0 CGPA is required to continue for dual degree programme. Grading will be done as same as UG programmes.

3. Exit options

- a) Exit from the dual degree to single degree is not right of the student. However, DC can recommend such conversion only based on student academic performance.
- b) In case of CGPA <7.0 in minimum 24 credits (After first year), student can be converted for M. Tech. (by Research) from dual degree programme.
- c) No fellowship will be granted after conversion to M.Tech. (by Research) programme.
- 4. Dual degrees will be awarded after successful completion of the programme.

(Full details of the programme are available at <u>https://cloud.iitmandi.ac.in/f/cbc9eb261d8b472d9b25/</u> {As per 37th Senate Item No. 37.16}

R.2.4 Lateral Entry from Ph.D. Programmes in Engineering/Technology/Sciences including Humanities, Social Sciences and Management in another IIT or a recognized Institute or University

A research scholar pursuing Ph.D. in Engineering/Technology/Sciences including Humanities, Social Sciences and Management in another IIT may be admitted directly to Ph.D. Programme in similar academic area on the recommendation of the admitted school/Center at the beginning of a semester. The School/Center may also assess the extent of credit transfer, if any, and recommend it.

A research scholar pursuing Ph.D. in Engineering/Technology/Sciences including Humanities, Social Sciences and Management in a recognized Institute or University may be admitted at the beginning of a semester after an expert Committee of the School/Center evaluates the candidate regarding their academic suitability to pursue Ph.D. in a similar academic area at IIT Mandi. The committee may also determine the extent of credit transfer, if any, and recommend it.

R.3 INTERNATIONAL STUDENTS

Candidates who are not citizens of India (by birth or naturalized) and /or are OCI/PIO card holders will be treated as foreign national and will consume the seats of foreign nationals. For fellowship, they should fulfil the requirement of the sponsoring agency/authority. They must meet minimum education requirements applicable for regular students. International students are expected to have working knowledge of English. <u>{As per 37th Senate Item</u> <u>No. 37.6(b)}</u>

R.4 SELECTION PROCEDURE

Eligible candidates possessing the minimum educational qualifications and satisfying additional criteria set by the Schools/Centers from time to time, will be called for an Interview and/or Test by the Selection Committees of the respective Schools/Centers.

For candidates who have obtained PG degree 10 years prior to the last date prescribed for receipt of the completed application, an additional test may be conducted by the school.

The applications of foreign nationals may be considered without a personal Interview/test only for applicants of exceptional merit.

Based on the academic record and the performance of the candidates in the interview and/or test, the Selection Committee of the School/Center will recommend to the Chairman, Senate the names of candidates found suitable for admission to the Ph.D. Programme.

R.5 ADMISSION

- (a) Candidate whose selection is approved by the Chairman, Senate will be admitted to the Ph.D. programme after payment of prescribed fees.
- (b) A 'Cooling Off' period of minimum one year for fresh admission is required for a scholar whose registration was cancelled/terminated from the programme due to any reason. <u>{As per 34th senate Item No. 34.3}</u>

R.6 CHOICE OF GUIDE

- (a) Allotment of research scholars to Guides will be made by the Chairperson of the Schools/Centers taking into consideration the research areas of the Schools/Centers and the preference of the research scholars and guides.
- (b) There shall not be more than two guides from the Institute for a research scholar.
- (c) Additional guide from outside the Institute can be allowed with the approval of Dean (Academics) on case-to-case basis only.

R.7 ELIGIBILITY FOR BEING GUIDES

A) The following may be a guide for a Ph.D. Scholar:

- All faculty members of the Institute
- Faculty members of other recognized institute/Universities
- Employees with doctoral degree, in service of recognized organization.

B) Continuance of retired Faculty Members/Emeritus Faculty as Guide.

(i) A retired faculty member may continue to act as guide provided; the faculty member has guided the candidate for at least 3 years, prior to retirement. However, if there is no co-guide, a co-guide, who is in the service of the Institute, will be appointed in addition. The guide who has retired will be invited for the Doctoral Committee meetings, Synopsis meeting and the *Viva-Voce* Examination.

- (ii) A faculty member who is to retire within 3 years may be permitted to become a guide to a new scholar with another faculty member as a co-guide, who is not likely to retire within next 5 years, at the time of registration itself. On retirement, the faculty member will continue to be a guide and will be invited to the Doctoral Committee meetings, synopsis meeting and the *Viva Voce* Examination.
- (iii) CSIR and other Emeritus Fellows/Scientists/Emeritus Professors, who hold office at this Institute for a period of 2 year or more, can become co-guides for scholars along with a guide from IIT Mandi, with at least 5 years of service still left at the time of registration of the scholar.
- (iv) In case of external registration, there will be a co-guide from the place of work of the candidate and the co-guide should have Ph.D. in the relevant discipline and be active in research.
- (v) In case the guide leaves the institute/retires from the Institute, the Doctoral Committee needs to propose co-guide/faculty in-charge(caretaker)(depending on fraction of thesis completed.
- (vi) In case of long leaves (>3 months and < 1 year) of the supervisor, DC needs to propose co-guides/faculty in-charge (caretaker) depending upon the nature of research and progress made by the candidate.
- (vii) Role of faculty in-charge (caretaker) is to look into administrative matters pertaining to the candidate.
- (viii) If the leaves are more than a year, there should be an allotment of co-guide, on the recommendation of DC and School/Center Chair.
- (ix) Dean (Academics) will appoint (in above mentioned cases) the suitable guide/coguide/faculty-in-charge(caretaker) in consultation with the School/Center chair. <u>{As</u> <u>per 35th Senate Item No. 35.11}</u>
- (x) The induction of any new guides after 2 years of registration of a Research Scholar will be considered by the Dean, Academics.

R.8 CHANGE/ADDITION OF GUIDE

The Doctoral Committee of a research scholar may recommend change of guide or appointment of a co-guide for valid reasons.

R.9 DOCTORAL COMMITTEE

The Schools/Centers Chairperson will intimate to the Dean Academics, for each scholar the area of research, the name(s) of the guide(s) and Co-guide (if any). The School/Center Chairperson will constitute the Doctoral Committee (DC) for a research scholar within **4 weeks** of the date of being assigned a guide.

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

(i) School/Center Chairperson or his/her Nominee.

(If the Chairperson happens to be the Guide of a scholar another faculty member will be nominated by Dean (Academics). The Chairperson

(ii) Research Guide and Co-Guide (if any)

Member(s)

- (iii) A minimum of one faculty member of IIT Mandi from related areas or discipline of the student research topic. **Member**
- (iv) External Member

(Optional)

In the case of decisions taken by the DC, the decision will be taken based on majority of votes. However, the DC shall record view of all the members in case there is no unanimity. <u>{As per 34th senate meeting Item No. 34.3}</u>

R.10 REGISTRATION

- (a) The Doctoral Committee will meet normally within a month of being constituted, where the research scholar will make a presentation (Zeroth meeting). The Doctoral Committee will consider the proposed research topic and prescribed/approve the courses of study in this meeting.
- (b) On the basis of prior work carried out before admission, a research scholar employed in SRIC project may be given advanced standing on the recommendation of the Doctoral Committee with adequate justification and allowed registration from a date 6 months prior to the date of admission to the programme. Based on the recommendation of the Doctoral Committee, the Senate may, additionally permit backdating the registration by a further period of 6 months.

R.11 COURSE WORK

The student will select the relevant courses in consultation with the thesis supervisor. A research scholar admitted on the basis of Master's degree will have to complete minimum 12 credits of course work. The courses shall be postgraduate level courses of the Institute. In addition, scholar must take a course on **'Research Methodology'**. The Doctoral Committee will have to certify the suitability of the courses towards research area and may prescribe additional courses for a scholar wherever found necessary.

(a) In cases where the scholar is directly admitted to the Ph.D. Programme with a Bachelor's degree or where the research scholar converts registration from M.S/M. Tech. programme to Ph.D programme, the scholar should successfully complete 24 credits (shall be postgraduate level courses of the Institute), prescribed by the Doctoral Committee.

In case of a scholar converting to the Ph.D. Programme from the M.S./M.Tech. programme at IIT Mandi, the courses already successfully completed by the scholar in the Master's Programme may be considered by the Doctoral Committee for the course requirements. Changes in prescribed courses shall be made only by the Doctoral Committee. The Doctoral Committee may prescribe additional courses for a scholar wherever found necessary. *[As per 34th senate meeting Item No. 34.3]*

(b) The Doctoral committee may allow Transfer of credit for courses already undergone by the research scholar in this Institute or other Institutions, provided they are the same or equivalent to those prescribed, and the performance level of the scholar in them meets the minimum requirements. The Doctoral Committee may prescribe additional courses for research scholars wherever found necessary. (Withdrawn as per 37th) <u>Senate Item No. 37.6(b)</u> Senate also recommended that students are not allowed to credit courses which are already credited/audited in their previous degree from IIT Mandi.

(c) GRADES

Based on the semester performance, each student is awarded a final letter grade from

 A^* to F on ten point grade system at the end of the semester in each course. Research scholars should obtain a minimum CGPA of 7.5 in the courses taken subject to a minimum of **7 points** in the prescribed courses. If more than the minimum required courses have been taken, only the courses with the best performance will be considered for computing the CGPA.

R.12 PROGRESS REPORT

- a. A registered research scholar shall submit a written report to the Doctoral Committee (DC) forwarded by the thesis supervisor in the required format, annually for the first five years and six years (for candidates admitted just after UG degrees).
- b. After five years (for candidates admitted based on Master's degrees) and six years (for candidates admitted just after UG degrees) biannually DC meetings recommendations are necessary to continuing registration.
- c. The progress made by a research scholar shall be reviewed by the DC and will provide recommendation based on the written report. If desired, the DC, may ask scholar to conduct a presentation. Continuance of registration and award/continuance of scholarship/Research Assistantship will be based on the recommendation of the DC.
- d. Additional DC meeting could be conducted anytime throughout the year based on the request of the student, or any DC Committee members.
- e. Two consecutive "unsatisfactory performance" in the progress report at any point of time will lead to the cancellation of registration. Upon first occurrence of 'unsatisfactory performance', the DC shall provide targeted objective and timeline (3-6 months) for the next DC meeting for the scholar to demonstrate satisfactory performance

In the case of research scholars working on a part time basis, the Doctoral Committee will pay particular attention to the quantum of effort put in by the scholar towards doctoral studies for its progress. Inadequacy of effort/progress can be a reason for cancellation of registration. *[As per 34th senate meeting Item No. 34.3]*

R.13 COMPREHENSIVE EXAMINATION

- (a) Every Ph.D. scholar shall take and perform satisfactorily in a Comprehensive Examination in their School/Center. The Comprehensive Examination shall be conducted by a Comprehensive Examination Committee of the School/Center.
- (b) Prior to appearing in the Comprehensive Examination, the scholar should have successfully completed all the course work with the minimum grades and CGPA as specified in the regulation.

(c) If the performance of a research scholar in the Comprehensive Examination in the first attempt is not satisfactory, they will be given one more opportunity to appear for the comprehensive examination.

The registration of a research scholar who fails to compete successfully the Comprehensive Examination in both the attempts, may be allowed to convert their registration from Ph.D. to M.Tech. (by Research) if they so desired, with the consent of the guide and approval of the Doctoral Committee, otherwise their registration will be cancelled.

- (d) The objective of the Comprehensive Examination is to test the general capability of the research scholar and the breadth of their knowledge in their discipline and areas related to their field of research. The Comprehensive Examination will usually consist of a written test and oral examination or an oral examination. Exam will be as per the Comprehensive Examination Committee guidelines.
- (e) The Comprehensive Examination Committee shall intimate to the research scholar sufficiently in advance the scope of the Comprehensive Examination, so as to enable the scholar to prepare adequately for it.

The Ph.D. research scholars are normally expected to complete successfully the Comprehensive Examination within a year after their registration in the Ph.D. programme and in any case not later than two year after their registration in the Ph.D. Programme for scholars who already have a Master's degree and not later than three years for scholars directly admitted with a Bachelor's degree. <u>{As per 34th senate meeting Item No. 34.3}</u>

R.14 ENROLLMENT

All research scholars who are in residence and whose registration is still in force, are required to enroll in person each semester on the stipulated date till their submission of thesis after payment of the requisite fees. Those, not in residence, may pre-enroll in absentia during the stipulated period after payment of the requisite fees.

R.15 MINIMUM PERIOD OF REGISTRATION/RESIDENTIAL REQUIREMENT

- (a) The minimum period of study and research for regular full time research scholars required at the Institute from the date of registration for the Ph.D. Programme in engineering to the date of submission of Ph.D. thesis shall be 24 months for research scholars with Master's Degree in Engineering/Technology; 36 months for research scholars with Master's Degree in Sciences, for research scholars directly admitted to the Ph.D. Programme with Bachelor's degree in Engineering/Technology and for research scholars who upgrade from the M.Tech. Programme at IIT Mandi to the Ph. D. Programme.
- (b) The minimum period of study and research for regular full-time research scholars from the date of registration for the Ph. D. Programme in Sciences, Humanities, Social Sciences and Management to the date of submission of the Ph. D. thesis shall be 24 months.
- (c) For Part time & ERP:

There is desirable 16 weeks campus residential semester requirement to complete course work. However, DC can recommend completing courses (from IIT Mandi) *via* online mode. In such cases not less than 50% assessment of individual courses should be evaluated in offline mode. The residential requirement may be made flexible as courses are recommended partially in online mode. Hence, the scholars may be allowed to complete the residential semester requirement in **multiple visits** adding upto atleast 16 weeks on campus (i.e. equivalent to one semester). However, the minimum period of residency for each visit **should not be less than 2 weeks**.

In case of Part-time employed at radial distance in the range of **50-60 KM** from IIT Mandi campus, the scholar will be permitted by the Dean (Academics) to complete course work without residential requirement as these scholars can be treated day-scholars.

Candidate admitted to the programme on Part-time basis must continue to remain in the same organization and place of work until the research work is completed. If the candidate is transferred or joins a new organization before submission of the thesis, they should get approval from the new organization for continuation of the programme of IIT Mandi. <u>{As per 35th Senate Item No. 35.11}</u>

R.16 MAXIMUM DURATION OF PROGRAMME

Ph. D. Research Scholar should submit the thesis within 5 years from the date of registration. The Doctoral Committee may extend the period of submission of the thesis further by 2 years for regular full time research scholars with an additional year for (i) research scholars under QIP, (ii) research scholars who are staff members of the institute, (iii) research scholars under external registration, (iv) research scholars working on a part time basis and (v) research scholars working for projects.

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 reasons of ill health or other valid grounds duly recommended by the Doctoral Committee. Normally, a scholar will be permitted to discontinue from the programme only for a maximum period of two consecutive semesters.

R.18 A) CANCELLATION OF REGISTRATION

- I. The Progress of a research scholar is found to be 'Unsatisfactory' in two consecutive attempts by the Doctoral Committee.
- II. The research scholar does not pay the prescribed fee and/or does not enroll in any given semester.
- III. The research scholar has not submitted their thesis before the end of the maximum permissible period.
- IV. The scholar absents themselves without prior intimation/sanction of leave.
- V. The scholar does not clear the comprehensive examination and process as stipulated under comprehensive examination rule.

- I. The CGPA is below 6.00 at any time (after first semester) (CGPA will be calculated based on all courses credited and grade awarded)
- II. The scholar is found involved in an act of academic misconduct and /or any indiscipline and/or cancellation of registration/termination is recommended by a Competent Authority.

A 'Cooling Off' period of minimum one year for fresh admission is required for a scholar whose registration was cancelled/terminated from the programme due to any reason. <u>{As</u> <u>per 34th senate meeting Item No. 34.3}</u>

- (B) Minimum performance in Ph.D. for continuation of Assistantship/ Fellowship/Scholarship)
- I. The Minimum requirement for continuation of fellowship is 6.50. (CGPA will be calculated based on all courses credited and grade awarded)
- II. Having a CGPA less than 6.50, the student will be considered under probation.
- III. Student on probation will not be allocated TA duties.
- IV. The full fellowship may be resumed only once the minimum CGPA of 6.50 is attained.
- V. Arrears will not be paid for the discontinued period.
- VI. Maximum 30% of monthly fellowship (towards living expenses) can be granted to the scholar during the probation period. <u>{As per 34th senate meeting Item No.</u> <u>34.4}</u>

R.19 REVERSION OF CONVERTED Ph. D. REGISTRATION TO MASTER'S PROGRAMMES

(a) i) A research scholar who has converted their M.Tech. (by Research) registration to Ph.D., may apply for reversion to the M.Tech. (by Research) programme under the supervision of the same guide(s) with the consent of the guide and the approval of the Doctoral Committee, if they so desires and if they have completed three years after the date of original M.Tech. (by Research) registration.

ii) If a research scholar, who has converted their M.Tech. (By research) registration to Ph. D., fails to pass the comprehensive examination in two attempts, they will be reverted to the M.Tech. (By research) Programme with the consent of the guide and the approval of the Doctoral Committee.

The Doctoral Committee will consider the application only if the scholar has completed all the course requirements prescribed originally by the Academic Progress Committee when the scholar registered for the M.Tech. (By research) Programme and if the research work carried out till date is found suitable for submission as an M.Tech. (By Research) thesis. If the application is found acceptable, the Doctoral Committee may communicate about the reversion of registration to the Dean (Academics). If the reversion is approved, the Doctoral Committee will continue to function as the Academic Progress Committee till the completion of the scholar's M.Tech. (by research) Programme. The scholar must complete the requirements of the M.Tech. (By research) degree within a maximum period of one year from the date of reversion of the registration from Ph. D. to M.Tech. (By research).

(b) i) A research scholar who has converted their M. Tech (course based) registration to Ph. D., may apply for reversal of registration to the M. Tech. Programme with the consent of the guide and the approval of the Doctoral Committee.

ii) If a research scholar, who has converted their M. Tech. (course based) registration to Ph.D., fails to pass the Comprehensive Examination in two attempts, they will be reverted to the M. Tech. Programme with the consent of the guide and the approval of the Doctoral Committee. If the Doctoral Committee approves the reversal of registration, and the same is communicated to the Dean (Academic). If the reversion is approved, the scholar must complete the requirements of the M. Tech. degree within a maximum period of one year from the date of reversal of the registration from Ph.D. to M. Tech.

R.20 CONVERSION OF PH.D. REGISTRATOIN TO M.TECH. (BY RESEARCH) PROGRAMMES

The Ph.D. registration of a research scholar who fails to complete successfully the Comprehensive Examination in both the attempts, will be given an option to convert their registration from Ph.D. to M.Tech. (by research) Programme with the consent of the guide and the approval of the Doctoral Committee, if they so desired, otherwise their registration will be cancelled.

The procedure for Ph.D. scholars to convert to M.Tech. (By research) after failing in the second attempt of Comprehensive Examination is given below

i) First, the Ph.D. scholar has to formally convey their request to exercise the option for conversion of registration to the M.Tech. (by Research) Programme to the concerned Guide(s) for their consent and Chairperson of the School/Center soon after they informed of their failure in the second attempt of the Comprehensive Examination.

ii) The Doctoral Committee must consider for approval the Ph.D. scholar's request for conversion to the M.Tech. (by Research) Programme within one week from the date of receipt of the same from the concerned scholar.

iii) Following the approval, the decision of DC may be communicated to the Dean (Academics), the DC will become the Academic Progress Committee for the Scholar and the same Guide will continue.

iv) The duration of the scholar's M.Tech. (by Research) Programme shall not be more than 3 years from the date of first registration in the Ph. D. Programme.

v) In its first meeting following the conversion of registration, the Academic Progress Committee will take into account the credits earned by the scholar in the courses already undergone by them as a part of the Ph.D. Programme. The scholar must complete the requisite number of courses to fulfill the credit requirements related to course for M.Tech. (by research). Further, one more course may be prescribed by the Academics Progress Committee of the scholar to satisfy M.Tech. (by research) Programme norms.

R.20 (A) CONVERSION OF PH.D. REGISTRATOIN TO PART TIME PROGRAMME TO TAKE UP JOB:

- If the Scholar has completed their a) Minimum residential requirement b) Course work
 c) Passed the comprehensive examination.
- 2. The candidate must produce the offer letter from the institution/organization which they propose to join.
- 3. The candidate has to produce a "No Objection Certificate" from the Head of the institution/organization, which they propose to join.
- 4. DC recommendation on proposal of PhD completion plan.
- To avail this option, candidate is expected to complete majority of dissertation work (endorsed by the DC) during their stay in the institute. <u>{As per 37th Senate Item No.</u> <u>37.6 (A)}</u>

R.21 SYNOPSIS

- (a) On satisfactory completion of the prescribed courses, the comprehensive examination and the research work, the scholar shall submit the requisite copies of the synopsis of their research work in the required format through the guide(s) for consideration of the Doctoral Committee. Prior to submission of the synopsis, the scholar is required to give at least **two Open seminar** talks on the topic of their research. The scholar should have at least one paper published for publication in a referred journal. The Doctoral Committee may consider exceptional cases, which will be reported to Senate.
- (b) The research scholar shall present the synopsis before the Doctoral Committee. The Doctoral Committee will, if it approves the work reported in the synopsis, permit the research scholar to submit the thesis and recommend a panel of at least ten examiners, five from the country but outside the Institute and five from Institutions outside the country, which will not include any of the current research collaborators of the guide(s) or the scholar.

R.22 SUBMISSION OF THESIS

The research scholar shall, within one month of acceptance of the Synopsis, submit requisite copies of the thesis and abstract of the thesis as stipulated. The **Dean** (Academics) may grant additional time beyond one month on request from the scholar for valid reasons.

R.23 PANEL OF EXAMINERS

The thesis shall be referred to two examiners, one from within the country and one from outside, chosen by the Chairman, Senate or their nominee from among the panel of examiners recommended by the Doctoral Committee at its synopsis meeting.

R.24 THESIS REPORT

- (i) The examiner is expected to send the report on the thesis within 6 weeks from the date of receipt of the thesis.
- (ii) If one of the two thesis examiners declares the thesis as not recommended, the thesis evaluation report and modified thesis with corrections shall be put up to the Doctoral Committee. The DC will further certify the revisions and refer it to a third examiner from the list of examiners for evaluation.
- (iii) If an examiner suggests resubmission of the thesis, after revision, the research scholar will be allowed to resubmit the thesis within the time stipulated by the Doctoral Committee failing which the revised thesis will not be accepted and their registration will be cancelled.
- (iv) If two examiners, including after submission to a third examiner, reports the thesis as not recommended, the registration of the scholar shall stand cancelled.
- (v) If reports of two examiners, declare the thesis as 'recommended' the Doctoral Committee will consider the reports and recommend for conduct of *Viva Voce*.
- (vi) In all other cases, not covered by the above Regulations the matter will be referred to the Doctoral Committee for consideration and further recommendations.
- (vii) The scholar should appear in the Viva Voce Examination within <u>3 months</u> of receipt of satisfactory report of the 2nd examiner, else the scholar will have to pay the applicable fee, in line with that of other registered scholar of the Institute. <u>{As per 34th senate</u> <u>meeting Item No. 34.3}</u>

R.25 VIVA VOCE EXAMINATION

(a) The following is the composition of the viva voce Board:

| i. | Doctoral Committee Chairperson | The Chairperson |
|------|---|-----------------|
| ii. | One of the examiners of the thesis | Member |
| iii. | Research Guide and Co-Guide(if any) | Member(s) |
| iv. | One expert from the discipline | Member |
| ٧. | One faculty from outside the discipline | Member |

- (b) The Doctoral Committee members of the Research Scholar concerned will be invitees to the *viva voce*.
- (c) The *viva voce* board will examine the scholar on their thesis work and evaluate their performance as satisfactory or otherwise.
- (d) The viva voce board will ensure that there is an open defense of the thesis in presence of interested audience and the Board, and the scholar answers satisfactorily the questions raised by the thesis examiner(s).
- (e) If the report of the *viva voce* board declares the performance of the research scholar not satisfactory, they may be asked to reappear for *viva voce* at a later date (not earlier than

a month and not later than six months from the date of the first *viva voce*). On the second occasion, the *viva voce* board will also include the members of the Doctoral Committee.

- (f) If the viva voce board on the second occasion also evaluates the performance of the research scholar not satisfactory, the registration of the scholar will be cancelled but an appeal against this decision may be considered by the Senate.
- (g) The *viva voce* board may also recommend revision to be made in the final version of the thesis after taking into consideration suggestions of the examiners who evaluated the thesis and the discussion at the *viva voce*.
- (h) The Chairman of the viva voce board shall forward the thesis to the academic section certifying that the revisions recommended by the viva voce Board, if any, have been incorporated in the copy of the thesis along with the report of the viva voce board.
- (i) All the research scholars shall submit one digitally authenticated soft copy of the final form of the thesis and a hardbound copy after the *viva voce* board recommends the award of the award of the Ph. D. degree.

R.26 AWARD OF Ph. D. DEGREE

If the performance of the research scholar in the viva voce is satisfactory, they will be awarded Ph.D. degree on the recommendation of the Senate and the with approval of the Board of Governors of the Institute. The award of Ph.D. degrees to the scholars, who have completed all the requirements for the award of Ph.D. degree, as and when approved by the Senate and Board of Governors, will be considered on request so as to reduce the period of waiting by scholars for getting the degrees.

R.27 ETHIC AND INTEGRITY

Every scholar is required to maintain ethics and integrity in their conduct and carry out their academic work without blemishes of plagiarism or unfair means. They are required to observe disciplined and decorous behavior both inside and outside the campus and should not indulge in any activity, which will tend to bring down the prestige of the Institute.

Any unethical behavior or lack of integrity or indiscipline on the part of a scholar reported to the Dean (Academics) will be referred to an Ethics and Discipline Committee nominated by the Chairman, senate from time to time. The committee will investigate the charges and will recommend suitable punishment if it finds the charges substantiated. The recommendation of the Committee will be considered by the Dean (Academic) to take appropriate action. The Dean (Academic) will report the action taken at the meeting of the Senate.

Appeal: The scholar may go in for appeal to the Chairman of the Senate whose decision will be final.

R.28 POWER TO MODIFY

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

NOTE: If any regulations/norms are not considered above will be considered similar to UG O&R

Other Important Notifications

| Sr. No. | Particulars | Official website Link |
|------------|---|---|
| 1 | Leave rules | https://insite.iitmandi.ac.in/circulars/show.php?ID=IITMandi/A cad/Notf./2022/4706-13 |
| | | https://insite.iitmandi.ac.in/circulars/show.php?ID=IITMandi/A cad/Senate/2022/4530-35 |
| 2 | CGPA to percentage calculation formula: | https://iitmandi.ac.in/academics/files/CGPA to Percentage Certificate_26022020.PDF |
| 3 | JRF to SRF conversion rules | https://insite.iitmandi.ac.in/circulars/show.php?ID=IITMandi/R O-01/2016/5081-84 and https://insite.iitmandi.ac.in/circulars/upload/Notificationrevison inGuidlinesforComprehensive.pdf https://insite.iitmandi.ac.in/circulars/show.php?ID=F.No.IITMa ndi/Acad/Senate/2022/4536-41 |
| 4 | Comprehensive examination | https://insite.iitmandi.ac.in/circulars/show.php?ID=IITMandi/R O-01/2016/2444-48 and https://insite.iitmandi.ac.in/circulars/show.php?ID=IITMandi/A cademics/Senate/2020/13693-98 |
| 5 | Field Trip Guidelines | https://insite.iitmandi.ac.in/circulars/show.php?ID=IITMandi/A cad/2018/DS-1275-80 |
| 6 | Fellowship for M.Tech (By Research)/Ph.D. | https://insite.iitmandi.ac.in/circulars/show.php?ID=F.No.IITMa ndi/Acad/Senate/2022/4536-41 |
| 7 | Grading System | https://insite.iitmandi.ac.in/circulars/show.php?ID=F.No.IITMa ndi/Acad/Senate/2022/4646-51 |

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