

## Ph.D ORDINANCES AND REGULATIONS

### ORDINANCES

- 0.1 A candidate who has qualified for the award of Master's degree in Engineering / Technology and Science of a recognized Institute or University in the discipline as prescribed in the regulations of the Academic Advisory Committee (hereafter, AAC) /Senate is eligible to apply for the Ph.D. programme in Engineering / Technology and Science respectively of this Institute.
- 0.2 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 Institute is also eligible to apply for Ph.D programme in Engineering\Technology of this Institute.
- 0.3 The award of the Ph.D degree shall be in accordance with the regulations of the Senate of this Institute.

### REGULATIONS

#### R.1 Categories of Admission

Candidates will be admitted to the Ph.D programme of the Institute under one of the following categories:

- (a) Regular full-time scholars with or without Institute fellowship or with project support.
- (b) Research scholars who are staff members of the Institute.

#### R.2 Eligibility

##### R.2.1 Minimum Educational Qualifications

##### Qualification for Regular Full-Time Research

The minimum educational qualification for admission to the Ph.D programme of the Institute are as follows:

##### R.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.
- (b) Candidates with Master's degree in Sciences with a good academic record and of exceptional merit where 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.

(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 to Ph. D. Programme as a regular full time scholar subject to the following conditions:

- a B.Tech degree holder of an IIT with a minimum CGPA of 8.0 on a 10.0 point scale or with a valid GATE score.
- a Bachelor's degree holder in Engineering/Technology from any other University should be among the top 10 rank holders in the University and having a valid GATE score.
- a Bachelor's degree holder in Engineering/Technology from a reputed R & D organization and having a proven research record.

#### 2.1.2 Ph.D. In Sciences

Master's degree in Sciences with a good academic record and having a valid GATE score or UGC/CSIR-NET/NBHM or equivalent qualification tenable for the current year in the relevant area / Master's degree in Engineering/Technology are eligible with a good academic record / B.Tech degree holder of an IIT are eligible with a minimum of CGPA of 8.0 on a 10.0 point scale or with a valid GATE Score.

2.1.3 For Research Scholars in the above categories, the minimum educational qualifications are the same as prescribed for full time research Scholars in 2.1.1 and 2.1.2 for admission to the Ph.D programme in the respective categories. However, valid GATE score or CSIR/RGC JRF or Lectureship/NBHM /JMET/CAT/AIMA or equivalent qualification as applicable for regular full time research scholars may not be required in these cases.

(The list of eligible disciplines in which the minimum educational qualifications have to be obtained will be provided by each department in the Admissions Brochure, which will be updated from time to time).

The Selection Committee may find fit to consider meritorious candidates from disciplines other than listed in the Admission Brochure if there is a good match between the educational/research background of the candidate and the proposed area of research.

The admission brochure will also include details about inter-disciplinary research areas, which may be pursued by the research scholars for the Ph. D degree and the corresponding eligible disciplines given by the Institute.

**Additional and stiffer** criteria than the minimum educational qualifications given in R.2.1 may be set by the Selection Committee from time to time for short listing candidates to be called for interview and / or test.

### **R.2.2 Upgradation of registration from M.S/M.Tech to Ph.D programme**

Meritorious candidates who have registered for M.S/M.Tech programmes are eligible to upgrade their registration to the Ph.D programme in the same department if they satisfy the following criteria:

(a) The candidate should have been registered for a minimum of 2 semesters in the M.S/M.Tech programme.

(b) Minimum CGPA of 8.0 in the prescribed courses.

In the case of a M.S. Scholar, the General Test Committee of the M.S. scholar will consider the application for upgradation to Ph.D. under the supervision of the same guide(s) and make its recommendation to the Senate. If approved, a Doctoral Committee as per R.9 will be constituted to replace the General Test Committee.

In the case of a M.Tech. Student, a Committee duly constituted by the Director / Deputy Director will consider the application for upgradation to Ph.D and make its recommendation 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. 12a) within a semester after upgradation 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.S/M.Tech. registration as decided by the Doctoral Committee credited to the Ph.D programme.

(see page 9 for explanation of CGPA)

### **R.3 International Students**

Foreign nationals can only register as regular full-time scholars. Foreign nationals with degree from Indian Universities will be treated on par with Indian nationals for admission purposes. Foreign nationals with foreign degrees must meet the minimum educational requirements as given in R.2.1 equivalent to a Indian Master's degree in the relevant disciplines. In addition, they should have a valid GRE/GMAT/GATE/NET/CAT/JMET/TOEFL or an equivalent examination score in the relevant discipline. International

students are expected to have a working knowledge of English. Once admitted, the Institute will apply for necessary clearance from the Government of India for study in India.

#### **R.4 Selection Procedure**

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

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

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

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

#### **R.5 Admission**

- (a) Candidates whose selection is approved by the Chairman, Academic Advisory Committee will be admitted to the Ph. D. programme after payment of prescribed fees.
- (b) Ordinarily, a candidate is not eligible for re-registration for Ph. D. after cancellation of his / her earlier registration for any reason. Based on the merits of the individual case and taking into consideration any special circumstances, a candidate may be considered for re-registration.

#### **R.6 Choice of guide(s)**

- (a) Allotment of research scholars to guide(s) will be made by the Director / Dy Director taking into consideration the preferences given by the research scholars and guides.
- (b) There shall be not more than two guides from the Institute for a research scholar.

#### **R.7 Eligibility for being guides**

The following members may be a guide for a Ph. D scholar:

- All faculty members of the Institute.

- Scientific/Design staff of the Institute with a doctoral degree.

Continuance of retired faculty members / emeritus faculty as guides

- (a) When a faculty members, who has guided a candidate for at least 3 years, retires, he will continue to be a guide. However, a co-guide who is in service 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.
- (b) 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, who is not likely to retire with in 5 years as co-guide, 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 meeting and viva voce examination.
- (c) CSIR and other Emeritus Fellows / Scientists / Emeritus Professors, who hold office at this Institute for a period of 2 years or more, can become co-guides for scholars along with a guide from IIITD&M, with at least 5 years service still left at the time to of registration of the scholar.
- (d) In case a faculty member who is a guide goes on leave exceeding one year duration, another faculty member will be identified to become a co-guide of the research scholar.
- (e) The induction of new guides after 3 years of registration of a research scholar, will be considered by the Doctoral committee.

#### **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 guide will intimate to the Head of the Institute or his nominee for the scholar, the area of research, the name(s) of the guide(s) and an panel of names, indicating the area of specialization of faculty members for constitution of a Doctoral Committee, within 8 weeks of the date of joining of the research scholar.

The following is the composition of the Doctoral Committee:

- 1. Head of the Institute or his nominee - Chairman
- 2. Research Guide(s) - Member(s)
- 3. A minimum of two faculty members from IIITD&M - Member
- 4. One faculty member from other reputed academic institute - Member

In case any member goes on leave exceeding one year duration, or resigns from the Institute, the Chairman, Academic Advisory Committee or his nominee will nominate another member on the suggestion of the Chairman, Doctoral committee.

Scientific/Design staff and others who are eligible to guide Ph.D. scholars may be nominated as members of the Doctoral Committee.

#### **R.10 Registration**

- (a) The Doctoral Committee will meet normally within a month of being constituted, where the research scholar will make a presentation. The Doctoral Committee will fix/approve the date of registration for the Ph. D. programme, consider the proposed research topic and prescribe/approve the courses of study in this meeting.
- (b) The registration may be backdated for research scholars employed in projects supported by an external agency by up to 6 months from the date of admission to the programme, on the recommendation of Doctoral Committee with justification. Based on the recommendation of the Doctoral Committee, the Academic Advisory Committee may, additionally permit backdating by a further period of 6 months.

#### **R.11 Course Work**

The Doctoral Committee will normally prescribe two core courses and at least four electives. The prescribed courses shall be post-graduate level courses of the Institute or from an IIT.

- (a) Ph. D research scholars in the Engineering and Sciences shall complete the core courses and at least two electives. In cases where the scholar is directly admitted to the Ph.D programme in Engineering with a Bachelor's degree in Engineering/Technology or with a Master's degree in science where eligible or where the research scholar updates from the M.S/M. Tech programme at IIITD&M to the Ph. D programme, the scholar should successfully complete 5 core courses and 3 electives out of a minimum 5 prescribed by the Doctoral Committee. In the case of a scholar upgrading to the Ph. D programme in Engineering from the M.S/M.Tech programme at IIITD&M, the courses already successfully completed by the scholar in the Master's Programme may be considered by the Doctoral Committee for the course work 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.

- (b) The Doctoral Committee may give credit to courses already undergone by a 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.

**(c) Grades**

Based on the semester performance, each student 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	Points
S	10
A	9
B	8
C	7
D	6

Research scholars shall obtain a minimum CGPA of 7.5 in the courses taken by them subject to a minimum of "C" grade in the prescribed courses. If more than the minimum required electives have been taken, only the electives with the best performance will be considered for computing the CGPA.

A student is considered to have completed a subject successfully and earned the credits if he secures a grade other than D. Once a subject successfully completed, it cannot be repeated.

The GPA will be calculated according to the formula

$$GPA = \frac{\sum (C \times GP)}{\sum C}$$

where C is the credit for the course and GP is the grade point obtained for the successfully completed courses.

**R.12 Progress Report**

- (a) A registered research scholar shall submit a written report in the required format, annually for the first three years, and every six months thereafter.

The report should be routed through the guide to the Director or his nominee for consideration by the Doctoral Committee.

- (b) The progress made by a research scholar shall be reviewed by the Doctoral Committee once a year for the first 3 years and every six months thereafter.  
Continuance of registration and award/continuance of scholarship/Research Assistantship will be based on the recommendation of the Doctoral Committee.  
Inadequacy of effort/progress can be a reason for cancellation of registration.

#### **R.12a Comprehensive Examination**

- (a) Every Ph.D scholar shall take and perform satisfactorily in a Comprehensive Examination.  
The comprehensive Examination shall be conducted by a Comprehensive Examination Committee, consisting of the scholar and at least two other faculty members of the Institute nominated by the Chairman of Doctoral Committee.
- (b) If the performance of a research scholar in the Comprehensive Examination in the first attempt is not satisfactory, he / she will be given one more opportunity to appear for the comprehensive examination within six months of the first attempt.  
The registration of a research scholar who fails to complete successfully the Comprehensive Examination in both attempts, will be given an option to convert his/her registration from Ph.D to M. S. programme if he/she so desired, otherwise his /her registration will be cancelled.
- (c) The objective of the Comprehensive Examination is to test the general capability of the research scholar and the breadth of his / her field of research.  
The Comprehensive Examination will usually consist of a written test and oral examination or a oral examination.  
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.
- (d) The Ph.D research scholars are normally expected to complete successfully the Comprehensive Examination within a year after his/her registration in the Ph. D programme and in any case not later than three semesters after his registration in the Ph.D programme.

#### **R.13 Enrolment**

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 enroll in absentia after payment of the requisite fees along with the performance report from the Guide.

#### **R.14 Minimum 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
  - (i) research scholars with Masters Degree n Sciences,
  - (ii) research scholars directly admitted to the Ph.D Programme with Bachelor's degree in Engineering/Technology
  - (iii) for research scholars who upgrade from the M.S/M.Tech Programme at IIITD&M 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 and Social Science and Management to the date of submission of the Ph.D thesis shall be 24 months.
- (c) Withdrawal from the programme is permitted for a semester or longer for reasons of ill health or other valid grounds as duly recommended by Doctoral Committee.

#### **R.15 Relief from Ph.D. Programme to take up job**

Ph.D. Scholars who got a job offer can get relief from the programme, while keeping their registration alive on payment of the requisite fees every semester, on the following condition:

Scholars who take up jobs will be relieved on their request, based on the recommendations of Doctoral Committee, if they have completed their

- (a) Minimum residential requirement;
- (b) Course work and
- (c) Comprehensive examination.

The renewal of their registration for every year/semester however, will be considered only if the Doctoral Committee finds his/her progress to be satisfactory and recommends continuance of registration.

#### **R.16 Maximum Duration of Programme**

Ph.D. Research Scholars 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 2 years for regular full time research scholars.

#### **R.16a Withdrawal from the programme**

A scholar may be permitted by the Head of the Institute 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 continuous period of two semesters.

#### **R.17 Cancellation of Registration**

- (a) The registration of a research scholars whose progress is not found to be satisfactory by the Doctoral Committee or who has not enrolled is liable to be cancelled.
- (b) The registration of a research scholar who has not submitted his/her thesis before the end of the maximum permissible period as in R. 16 will be cancelled.

#### **R.18 Reversion of upgraded Ph.D Registration to Master's Programmes**

- (a) i) A research scholar who updates his/her M.S. registration to Ph.D, may apply for reversion to the M.S. Programme under the supervision of the same guide(s) if he/she so desires and if he/she has completed three years after the date of original M.S registration.
- (ii) If a research scholar, who upgrades his/her M.S. registration to Ph. D, fails to pass the comprehensive examination in two attempts, he/she will be reverted to the M.S. Programme.

The Doctoral Committee will consider the application only if the scholar has completed all the course requirements prescribed originally by the General Test Committee when the scholar registered for the M.S. programme and if the research work carried out till date is found suitable for submission as an M.S. thesis. If the application is found acceptable, the Doctoral Committee may recommend reversion of registration. If the reversion is approved by the Institute, the Doctoral Committee will continue to function as the General Test Committee till the completion of the scholar's M.S. programme.

The scholar must complete the requirements of the M.S. degree within a maximum period of one year from the date of reversion of the registration from Ph.D to M.S.

### **R.19 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 his/her research work in the required format through the guide(s) and Institute to the Academic Section for consideration of the Doctoral Committee. Prior to submission of the synopsis, the scholar is required to give at least two seminar on the topic of his/her research and have at least one paper either published or accepted for publication preferably in a referred International journal.
- (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 eight examiners from outside the Institute. (foreign universities)

### **R.20 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 Doctoral Committee may grant additional time beyond one month on request from the scholar for valid reasons.

### **R.21 Panel of Examiners**

The thesis shall be referred to two examiners chosen by the Chairman, Academic Advisory Committee / Senate or his nominee from among the panel of examiners recommended by the Doctoral Committee at its synopsis meeting.

### **R.22 Thesis Report**

- (a) The examiner is expected to send the report on the thesis within two months from the date of receipt of the thesis.
- (b) In case of undue delay in receiving the thesis report, the Chairman, AAC / Senate or his/her nominee shall appoint another examiner in his/her place for evaluating the thesis.
- (c) If one of the two thesis examiners declares the thesis as not commended, the thesis shall be referred to a third examiner from the panel for his/her evaluation.
- (d) If an examiner suggests resubmission of the thesis, after revision, the research scholar will be allowed to resubmit the theses within the time stipulated by the Doctoral Committee failing which the revised thesis will not be accepted and his/her registration will be cancelled.

- (e) If two examiners, after referral to a third examiner, if necessary, report the thesis as not commended the registration of the scholar shall stand cancelled.
- (f) If reports of two examiners after referral to a third examiner, if necessary, declare the thesis as 'commended' the Doctoral Committee will consider the reports and recommend for conduct of viva voce which will be conducted normally not earlier than two weeks from the date of the constitution of the viva voce board. The Doctoral Committee will suggest a panel of at least four expert members out of which one member will be nominated for the viva voce board.
- (g) In all other cases, not covered by the above Regulations the matter will be referred to the Doctoral Committee for consideration.

### **R.23 Viva Voce Examination**

- (a) The following is the composition of the viva voce Board:
  - i) Head of the Institute or his nominee - Chairman
  - ii) The examiner of the thesis from within the country, or a specialist in the subject nominated by the Chairman, AAC / Senate or his nominee from the panel of examiners approved by the Doctoral Committee.
  - iii) Research Guide(s) -
  - iv) A Specialist either from the Institute or outside from the panel approved by the Doctoral Committee and nominated by the Chairman, AAC / Senate or his nominee
- (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 his/her thesis work and evaluate his/her performance as satisfactory or otherwise.

The viva voce board will ensure that the scholar answers satisfactorily the questions raised by the thesis examiner(s).

- (d) If the report of the viva voce board declares the performance of the research scholar not satisfactory, he/she 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.
- (e) If the viva voce board on the second occasion also evaluates the performance of the research scholar not satisfactory, the matter will be referred to AAC / Senate for a decision.

- (f) 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.

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.

- (g) All the research scholars shall submit two copies of the final form of thesis in A5 size and an electronic version in PDF format after the viva voce board recommends the award of the Ph.D degree.

#### **R.24 Award of Ph.D Degree**

If the performance of the research scholar in the viva voce is satisfactory, he/she will be awarded Ph.D. degree on the recommendation of the AAC / Senate and with the approval of the Board of Governors of the Institute.

#### **R.25 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 tend to bring down the prestige of the Institute.

Any act of indiscipline of a scholar reported to the Head of the Institute will be referred to a Discipline and Welfare Committee nominated by the AAC / 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 Head of the Institute to take appropriate action.

Head of the Institute will report the action taken at the next meeting of the Senate.

#### **R.26 Power to Modify**

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

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