

INDIAN INSTITUTE OF TECHNOLOGY : DELHI
Hauz Khas, New Delhi-110016

**ORDINANCES & REGULATIONS FOR THE
DEGREE OF DOCTOR OF PHILOSOPHY**

PREAMBLE

Section 28 of the Institutes of Technology (Amendment) Act, 1963 stipulates that subject to the provisions of this Act and the Statutes, the Ordinances of each Institute may provide for all or any of the matters specified in the said Section. Section 29 *ibid*, *inter alia*, further provides that Ordinances shall be made by the Senate.

Indian Institute of Technology (I.I.T.) Delhi offers postgraduate programmes leading to the award of Ph.D. degree through its Departments/Centres. The award of Ph.D. degree is in recognition of high academic achievements, independent research and application of knowledge to the solution of ***technical and scientific problems in Science, Technology, Humanities and Social Sciences***; Creative and productive enquiry is the basic concept underlying the research work. Work of classified nature or strategic importance would normally not form a part of Ph.D. dissertation. The procedure and requirements spelt out in these Ordinances and Regulations embody the philosophy to ensure high standards of performance in research work at the Institute. Notwithstanding these Ordinances and Regulations, the various Departments and Centres may require the candidates to complete additional requirement so as to serve their particular academic goals. Furthermore, Departments/Centres may also make any requirement more stringent and the students will be well advised to know of such additional/more stringent requirement from their respective Department/Centre.

The degree of Doctor of Philosophy (Ph.D.) of the Indian Institute of Technology, Delhi shall be conferred on a candidate who fulfills all the requirements specified in these Ordinances and Regulations.

ORDINANCES

1. DEFINITIONS:

- (i) **"Applicant"** shall mean an individual who applies for admission to the Ph.D. programme of the Indian Institute of Technology, Delhi on a prescribed Application Form.
- (ii) **"BPGS & R"** shall mean the Board of Postgraduate Studies of the Indian Institute of Technology, Delhi as defined in the Senate Manual.
- (iii) **"Candidate"** shall mean a person registered for the Ph.D. Degree and who has successfully completed the course requirement, the comprehensive examination and submitted an approved research plan; as per R. 9 of the Regulations.

Note : The Ordinances and Regulations contained in this booklet were approved by the Senate. It is to be pointed out that the Rules/Regulations are modified/changed by the Senate if the circumstances so demand and the student will be governed at any time by the Rules/Regulations applicable at that time.

- (iv) **"Caretaker Supervisor"** shall mean a member of the academic staff appointed to look after the candidate's research interests in the absence of the Supervisor and after the submission of thesis.
- (v) **"Course Advisor"** shall mean a faculty member nominated by the Department/ Centre to chalk-out the programme of study of a student registered for the Ph.D. and to advise him on the courses to be taken by him. If a Supervisor(s) has already been appointed, he shall be the Course Advisor for that student.
- (vi) **"Course Work"** shall mean courses of study prescribed by the Department/Centre through the Course Advisor to be undertaken by a student registered for the Ph.D. Degree.
- (vii) **"DPGS&R "** shall mean the Dean, Postgraduate Studies & Research.
- (viii) **"Degree"** shall mean the Degree of Doctor of Philosophy (Ph.D.) of the Indian Institute of Technology, Delhi.
- (ix) **"Educational Institution"** shall mean those colleges which offer Bachelor's Degree or higher.
- (x) **"Full-time Research Student/Candidate"** shall mean a person registered for the Ph.D. Degree devoting full time for completing the degree requirements.
- (xi) **"Institute"** shall mean the Indian Institute of Technology, Delhi.
- (xii) **"Institute Student/Candidate"** shall mean a person registered for the Institute Ph.D. Degree as a full-time research student/candidate.
- (xiii) **"Joint Supervisor"** shall mean an additional supervisor approved by the BPGS&R on the recommendation of Department/Centre to help the supervisor in the accomplishment of the research work of the student/candidate, as per R. 7 of the Regulations.
- (xiv) **"Minimum Registration Period"** shall mean the minimum period for which a candidate must be registered, including the time spent as student before becoming a candidate, prior to submission of the thesis.
- (xv) **"Part-time Research Student/Candidate"** shall mean a person who is registered for the Ph.D. degree and will devote part of his time towards this pursuit and devote part of his time towards the discharge of his official obligations.
- (xvi) **"Registration Period"** shall mean the length of time span commencing with the date of initial registration at the Institute till the completion of the programme.
- (xvii) **"Residency"** shall mean the minimum period for which a student/candidate must attend the Institute on full-time basis.
- (xviii) **"SRC"** shall mean Student Research Committee.
- (xix) **"Sponsored Research Student/Candidate"** shall mean a full time research student/candidate except that he receives complete financial support from the sponsoring organization/his employer.
- (xx) **"Student"** shall mean a person registered for the Ph.D. degree prior to becoming a candidate.
- (xxi) **"Supervisor"** shall mean a member of the academic staff of the Institute approved by BPGS&R on the recommendation of Department/Centre to guide/supervise the research/ academic work of the student/candidate

Note : 'He' & 'His' imply 'he'/'she' and 'his'/'her' respectively.

2.0.1 The minimum entry qualifications for admission to the Ph.D. programme shall be

(a) a Master's degree in Engineering/Technology/Science/Humanities and Social Sciences of the Institute or any other equivalent qualification recognised by the Institute.

Or

(b) a Bachelor's degree in Engineering/Technology of the Institute or any equivalent qualification recognised by the Institute. He must also have an excellent academic attainment in the relevant discipline.

The minimum cumulative grade point average (CGPA)/percent marks; in each category are laid down in the Regulations. (R-1).

0.2 A candidate registered for the Ph.D. programme shall be required to satisfy a minimum registration period requirement, as laid-down in the Regulations (R-11).

0.3 A student/candidate shall be required to earn prescribed minimum credits through courses and/or carry out his research work at the Institute, under the guidance of approved supervisor(s). In special circumstances, a full-time student/candidate may be permitted by the BPGS&R to carry out part of his research outside the Institute.

0.4 A candidate will be required to complete all requirements for the award of the degree within a period specified in the Regulations.

0.5 The date of initial registration shall normally be the date on which the student formally registers for the first time in the beginning of a Semester for the Ph.D. programme, which shall also be the date of his joining the programme for all intents and purposes. However, in exceptional cases, the date of registration may be advanced by a maximum of six calendar months by the BPGS&R if it is convinced that the student/candidate has spent adequate amount of time on relevant research earlier.

0.6 For a student to become a candidate of the degree, he shall have to satisfy the requirements laid down in the Regulations and be accepted by the BPGS&R on the recommendation of the respective Department/Centre.

0.7 A full-time candidate may be allowed by DPGS&R to convert his registration into part-time registration only after completion of atleast 2 years if the candidate is having M.Tech. qualification, and 3 years if the candidate is having non-M.Tech. qualification, from initial registration or after submission of synopsis.

Full-time Ph.D. scholars with M.Tech. qualification can be permitted to convert their registration from full-time to part-time after one year or after completion of course work and comprehensive examination whichever is later, if they get employed in the Institute's Sponsored Projects.

Full-time Ph.D. Scholars in the Science Departments with M.Sc. qualifications can be permitted to convert their registration from full-time after two years or after completion of course work and comprehensive examination, whichever is later, if they get employed in the Institute's Sponsored Projects. This provision will also be applicable to the Ph.D. scholars having B.Tech. Degree.

Such conversion will be permissible only if the work is in the Projects of the Institute, and not for employment outside.

- 0.8** If a part-time Ph.D. registrant applies for conversion of his/her registration into full-time one, the Dean PGS&R may allow him the same either with or without assistantship/scholarship on the individual merits of each case provided:–
- (a) the student had already completed the comprehensive examination and,
 - (b) on the date of application the student has satisfied all conditions prescribed for admission as a full-time student.
- 0.9** If a student/candidate withdraws from his Ph.D. programme or his registration is terminated, his student/candidate status shall cease. If such a candidate is re-admitted, he may be given weightage to the credits acquired during the previous registration on the recommendation of the DRC/CRC except in the case of termination on disciplinary grounds.
- 0.10** The award of the Ph.D. Degree to an eligible candidate shall be made in accordance with the Regulations of the Institute.

REGULATIONS

The following Regulations shall apply to all categories of students/candidates pursuing course of study and research leading to the Ph.D. degree :

R.1. ADMISSION ELIGIBILITY :

- R.1.1** An applicant possessing any one of the following qualifications shall be eligible to apply for admission to a Ph.D. programme of the Institute:
- (a) Masters degree in Engineering/Technology/Sciences/Humanities and Social Sciences in respective discipline or equivalent with a minimum Cumulative Grade Point Average (CGPA) of 6.75 on a 10 point scale or equivalent as determined by the Institute wherever letter grades are awarded; or 60% marks in aggregate (of all the years/semesters) where marks are awarded.
 - (b) In exceptional cases, applicants with B.Tech. degree or equivalent in respective discipline with excellent academic record (with a minimum CGPA of 7.5 on a 10-point scale or equivalent or 70% marks) may be considered eligible for admission.
 - (c) Applicants for admission for full-time studies who do not possess an M.Tech. degree or equivalent in the relevant field must have a valid GATE score for Engineering/Technology/Science disciplines or must have qualified national level fellowship examination such as UGC/CSIR for Science/Humanities and Social Sciences disciplines.
- R.1.2** An employee of a Public Sector Undertaking, a Government Department, a Research/Development Organisation, or a private industry (approved by the concerned Faculty Board) or an Educational Institution, with a minimum relevant working experience of two years and a Defence Sponsored Officer may be considered for admission as a sponsored (full-time)/part-time Research scholar. Sponsored applicants will be eligible for admission provided that they are treated by their employers as on duty with their normal salary and allowances and are fully relieved for the period of study. Part-time applicants will be eligible provided that:
- (a) the applicant possesses the minimum entry qualifications for the degree as given in R 1.1;

- (b) the applicant proves to the satisfaction of the BPGS&R that his official duties permit him to devote sufficient time to research:
- (c) facilities for research are available at the applicant's place of work in the chosen field of research; and
- (d) he/she will be permitted to reside at the Institute for a period of not less than 6 months during his/her registration for the degree. (This condition of minimum residence will be automatically waived for candidates who are working in Delhi or in organisations/institutions located within a distance of 50 km from the Institute). For candidates with B.Tech./M.S./M.Sc./M.Tech. degree from IIT Delhi, the period of residence would be six months.

If the course credit requirement recommended by a Deptt./Centre is more than 12, then the residency requirement for part time Ph.D. Candidates holding degrees from other Institutes/Universities and working in organisation outside Delhi will be 12 months.

- R.1.3** A member of the non-academic staff of the Institute who satisfied eligibility qualifications may be considered for admission to the degree as a part time student provided he has been given administrative clearance by the Director of the Institute. Those with B.Tech./B.E./M.Sc./M.A. or equivalent qualification and with less than two years of relevant working experience must have a valid GATE score or must have qualified any other national level examination conducted by those like UGC/CSIR, etc.
- R.1.4** Temporary and contract academic staff of Institute (e.g. SRA) as well as staff of schemes may be given administrative clearance to seek admission on part-time basis at any time after joining service subject to recommendations of Deptt./Centre for Institute employees and Principal Investigator in case of scheme employees; and clearance of GATE or equivalent national level examination in case they have not got an M.Tech. degree or equivalent. Those who have not cleared GATE/equivalent national level examination and also have not got an M.Tech. or equivalent will have to wait for one year for getting administrative clearance.
- R.1.5** Permanent academic staff of the Institute may be given administrative clearance to seek registration on part-time basis after satisfactory completion of the period of probation subject to recommendation of the concerned Head of Deptt./Centre. Such applicants need not clear GATE or equivalent national examination even if they do not have an M.Tech. degree.

R.2 RESERVATION/RELAXATION

- R.2.1** Fifteen (15%) seats shall be reserved for Scheduled Caste applicants and 7.5% for Scheduled Tribe applicants in each of the categories of the Research Scholars. A total of three seats over and above the sanctioned strength will be reserved for physically handicapped applicants in all the postgraduate programmes of the Institute put together.
- R.2.2** For the SC/ST applicants and others holding Master's Degree with M.A. in English seeking admission to Ph.D. in English in the Department of Humanities and Social

Sciences the eligibility requirement of CGPA may be relaxed to 6.25 on a 10-point scale or equivalent, or to 55% marks.

R.2.3 The SC/ST applicants holding B.Tech. Degree or equivalent may be allowed 5% relaxation in marks or equivalent relaxation in CGPA.

R.2.4 Physically handicapped applicants may be permitted relaxation in eligibility requirement of CGPA to 5.75 on a 10-point scale or equivalent, or to 50% marks. They will not be allowed any other relaxation beyond this limit even if they belong to SC/ST category and/are holders of the Degree of M.A. in English, etc.

R.3 SHORTLISTING

R.3.1 (a) The shortlisting of applications for the purpose of admission test/interview will be done by the concerned department/centre.

(b) The DRC/CRC of the concerned department/centre may set the shortlisting criteria, if considered necessary higher than the minimum eligibility defined above.

R.4 CLASSIFICATIONS

R.4.1 The applicants for admission to the Ph.D. programme shall be classified under any one of the following categories :

(a) Institute Research student/candidate (Full Time)

(b) Sponsored Research student/candidate financed by the Govt./Semi-Government Organizations like CSIR, UGC, Research Schemes etc. (Full-time).

(c) Sponsored Research student/candidate nominated by Government of India under a Cultural Exchange Scholarship Programme, Self-Financing foreign student or a scholar admitted under an MOU (Full-time).

(d) Part-time Research student/candidate.

R.5 REGISTRATION

R.5.1 Every student/candidate will be required to renew the registration every semester till the submission of the thesis. The renewal of registration every semester shall be subject to completion of specified number of credits/courses and/or satisfactory progress in his research work as recommended by Department Research Committee (DRC)/Centre's Research Committee (CRC).

R.5.2 A student/candidate who fails to register or renew his registration as the case may be, will cease to be a student/candidate with immediate effect.

R.6 COURSE WORK

R.6.1 Each student will be required to take course work as prescribed by the supervisor(s) course advisor and approved by the DRC/CRC.

R.6.2 A student having B.Tech./M.Sc./M.A. or equivalent degree shall be required to complete a minimum of 12 credits while M.Tech. or equivalent degree holder shall be required to complete a minimum of 6 credits of course work. These courses may be prescribed

from the existing M.Tech. and/or pre-Ph.D. courses at the Institute. In addition a candidate shall be required to audit a 3 credit course on "Communication Skills". However, a student, on recommendations of his supervisor, can be exempted by the DRC/CRC from the requirement of auditing the Communications Skills course if it is convinced that the student has already adequate knowledge/exposure of Communication skills. The DRC/CRC is the terminal authority to grant this exemption and a communication in this regard from Chairman of the DRC/CRC would be treated as sufficient by the P.G. Section to record the exemption in their records. It is expected that full-time and part-time students will complete their course requirement in two and three semesters respectively. It is further expected that they will qualify the comprehensive examinations (R8) soon after completing the course requirement but in no case beyond the time stipulated in R 8.4

R.6.2.1 All Ph.D. students are to compulsorily register in Course No. DT 900 (Doctoral Thesis) at the time of registration/renewal of registration for the Ph.D. Research work till they submit the thesis.

R.6.3 The minimum CGPA requirement shall be 7.50 on a 10 point scale for admission to the candidacy of Ph.D. Degree. If the CGPA of any student is below 7.00 at the end of any semester, his registration will be terminated with immediate effect. However, if his CGPA is above 7.00 but less than 7.50, he may be asked to take more courses in order to enhance his CGPA to 7.50 or above, subject to the condition that this should be achieved within one semester.

R.6.4 Notwithstanding the above Regulations, the BPGS&R may consider giving credit to the courses already completed/passed by a candidate at this Institute as a part of his any earlier Ph.D. registration, except in cases covered by Ordinance 0.9.

R.7 THESIS SUPERVISOR(S)

R.7.1 Every admitted student shall be assigned a Research Supervisor(s) by the Head of the Department/Centre on the recommendations of the DRC/CRC taking into consideration the preference of the student, subject to approval by the Dean, PGS&R. For this purpose, form given in Annexure A will be completed and processed during first semester of the students' joining.

R.7.2 A Supervisor(s) can be any full-time faculty member including Scientific/Design staff of the Institute with a Ph.D. degree. Faculty members who do not have a Ph.D. degree may be allowed to supervise provided they have been engaged in research for three or more years. No person who himself is registered for Ph.D. degree at this Institute or any other Institution, would qualify to act as supervisor. Those without Ph.D. appointed as supervisors would cease to be supervisors if they themselves register for Ph.D.

R.7.3 The Supervisor(s) shall be appointed during the first semester.

R.7.4 The Dean, PGS&R on the recommendations of the DRC/CRC, may appoint joint Supervisor(s) not exceeding a total of three to supervise the student/Candidate. These may be from inside or outside the Institute and normally, there should not be more than two supervisors from within the Institute. Appointment of any Joint Supervisor(s) would

not be made after a lapse of 18 calendar months from the date of initial registration of the student/candidate except when none of the supervisors is in the Institute for a period of a year or more at a stretch.

R.7.5 Appointment of Supervisors/Joint-Supervisors and Caretaker-Supervisor for Ph.D. students

A faculty member appointed as a Ph.D. supervisor is normally expected to be available to a research scholar in the Institute till the thesis oral. However, under unavoidable circumstances, such as: long leave of more than 12 months; resignation; retirement; or death; a supervisor may not be available to the scholar. In such special cases, appointment of supervisor(s) will be regulated as under :

I. A supervisor proceeding on long leave of more than 12 months

- (a) (i) Where joint-supervisor exists, the supervisor proceeding on long leave for more than 12 months can continue to be a Joint-supervisor provided the DRC/CRC is convinced of effective supervision by the Joint-Supervisor.
- (ii) Where a Joint-Supervisor does not exist, a Joint-Supervisor may be appointed by the DRC/CRC in cases where a student has not yet submitted his synopsis.
- (b) (i) Provided, if the synopsis of the thesis has been submitted before the supervisor proceeds on leave, he will continue to be the supervisor and only a caretaker supervisor will be appointed.
- (ii) The Thesis has been submitted before the supervisor proceeds on leave, he will continue to be the supervisor and only a caretaker supervisor will be appointed.
- (iii) Further, if a major revision becomes necessary, and the sole supervisor is on leave, he should be asked to specifically state whether he would effectively help the student carrying out the major revisions within a reasonable time. In case the sole supervisor expresses his inability due to one reason or the other, the caretaker supervisor, if he provides the required help in carrying out the major revision, will automatically be treated as Joint-Supervisor of that candidate.
- (c) Provided further, if a supervisor proceeds on leave for a period less than 12 months initially, but later extends his leave beyond 12 months, the above procedure will be followed. The extension granting authority will inform the PG Section accordingly.

II. A Supervisor retires

A faculty member who is due to retire within the next two years can be appointed as a Joint-Supervisor and can continue to be the Joint-Supervisor even after his retirement provided the DRC/CRC is convinced of his availability/continued guidance to the student. In other cases, a faculty member on retirement may continue as (i) a Supervisor, if re-employed or appointed Emeritus Fellow; (ii) a Joint-Supervisor, if the synopsis of the thesis has been submitted. Appointment of another Supervisor, if necessary, will be as per I(a); and caretaker Supervisor as per I(b).

III. A Supervisor resigns

A new Supervisor will be appointed, if necessary, as per I(a), and a caretaker supervisor as per I(b).

IV. A Supervisor dies

A new Supervisor will be appointed, if necessary, on the recommendation of DRC/CRC.

R.8 COMPREHENSIVE EXAMINATION

R.8.1 Each student will be required to take a comprehensive examination which will test students' comprehension of his broad field of research and his academic preparation and potential to carry out the proposed research plan. The comprehensive examination should be a combination of written and oral examination and should be separately conducted before evaluation of the research proposal. The examination will be conducted by a committee called Student's Research Committee (SRC), which will be constituted as follows :

- (a) Chairman, DRC/CRC or his nominee;
- (b) One expert in the field from the Department/Centre;
- (c) One Institute faculty expert, preferably in the concerned area, from outside the Department/Centre to which the student belongs; and
- (d) Supervisor(s).

Experts at (b) and (c) above will be nominated by DRC/CRC from amongst those proposed by Supervisor(s).

R.8.1. (i) The following procedures to be uniformly followed by all the Deptts./Centres in conducting the comprehensive examination for Ph.D. Scholars :

- (a) A student should first clear the requisite Ph.D. course work.
- (b) The written examination should then be conducted by the SRC of the student within the guidelines laid down by respective DRC/CRC.
- (c) The result of the written examination should be declared within two weeks.
- (d) After the student has passed the written examination, the oral examination should be conducted by the SRC of the student within the broad guidelines laid down by the respective DRC/CRC.
- (e) This should be followed by evaluation of the research proposal.

R.8.2 The Student's Research Committee on the basis of the performance of the student in the examination will make one of the following recommendations :

- (a) (i) Passed
 - (ii) To reappear in the examination after a defined period of time specified by the SRC and after taking additional courses.
 - (iii) To re-submit the research plan keeping in view suggestions of the Committee and to be evaluated after a defined period of time.

- (iv) Failed
- (b) Research Plan
 - (i) Approved
 - (ii) Not approved

R.8.3 A student will be provided a maximum of two attempts to pass the comprehensive examination.

R.8.4 Full-time and part-time students must complete the comprehensive examination within 18 and 24 months respectively from the date of joining the programme, failing which their registration will be cancelled.

R.9. ELIGIBILITY FOR THE CANDIDACY FOR THE DEGREE

R.9.1 Application for the candidacy for the Ph.D. Degree shall be made by the student to the BPGS&R on the approved form (Annexure 'B') soon after having passed the comprehensive examination.

R.9.2 A student shall be formally registered as a candidate for the Ph.D. Degree after he has complied with the following :

- (i) has completed his course work with a minimum CGPA of 7.50;
- (ii) has submitted a research plan duly recommended by DRC/CRC, and approved by SRC; and
- (iii) has passed the comprehensive examination.

R.10 PERFORMANCE MONITORING

R.10.1 The academic/research progress of each student/candidate will be monitored either by DRC/CRC or by its sub-committee. For this purpose, each candidate will be asked to submit a progress report at the end of each semester to his supervisor(s). On receipt of the progress report, the supervisor(s) shall arrange with DRC/CRC or its sub-committee for a review.

R.10.2 The DRC/CRC Secretary/Ph.D. Coordinator will be coordinating collection of progress reports written and signed by the scholars and forwarded by the supervisors every semester.

R.10.3 The supervisor(s) SRC/DRC/CRC will evaluate the progress report of the student every semester.

R.10.4 'X' grade is to be awarded during that semester if the progress is 'satisfactory'.

R.10.5 If the progress is 'unsatisfactory', 'U' grade is to be awarded and appropriate action taken. For the first appearance of 'U' grade, a warning would be issued to the candidate. Subsequently, the fellowship (in case of regular scholar) of the candidate would be withheld.

R.10.6 If there are two consecutive 'U' s, the registration will stand terminated.

- R.10.7** Submission of progress report should continue till submission of thesis.
- R.10.8** Like all other courses, the grades for DT 900 will be discussed in the Department/Centre as per semester schedule notified for this. After the discussion, the grades are to be sent to PG section and entered like for any other course.
- R.10.9** The above process will continue till the thesis is submitted (TS).
- R.10.10** The terms for the research work will be as follows : I Term: July to December; II Term: Jan. to June.
- R.10.11** There will not be any need to send progress reports to PG section. Only those cases where some action is required will go to the PG section.
- R.10.12** The academic calendar will include the following dates for the submission of progress reports.
- I semester: 1st. November (issue of blank progress forms by PG section to respective Deptts./Centres).
- 15 December (submission of progress reports by the students to Deptts.Centres).
- II semester: 1st May (issue of blank progress forms by PG section to respective Deptts./Centres).
- 10 June (submission of progress reports by the students to Deptts./Centres).

R.11 MINIMUM REGISTRATION REQUIREMENT

- R.11.1** A candidate who has a B.Tech./M.Sc./M.A. degree or its equivalent shall be required to be registered for the degree for a period of not less than three calendar years (36 months) from the date of his initial registration. In exceptional cases, the minimum period of registration may be reduced to two calendar years (24 months) with the approval of the Senate. For a candidate who has an M.Tech. degree or its equivalent the minimum period of registration shall be two calendar years (24 months)
- R.11.2** The candidates of all categories shall normally submit their thesis within a period of five years from the date of their initial registration for the Ph.D. Programme. However, as a special case, this limit may be extended to a maximum of **seven years** by the Dean, BPGS&R after which the registration shall stand cancelled automatically.

R.12 SYNOPSIS

- R.12.1** Holding of Pre-Ph.D. seminar is an essential requirement before the DRC/CRC considers the synopsis of a Ph.D. scholar. On completion of the research work, the candidate shall submit to DRC/CRC through (s), 8 copies of the synopsis including bibliography of research work. The DRC/CRC will forward the synopsis with its recommendations to

the PGS&R Section. A panel of at least eight experts in the area would be suggested by the Supervisor(s) and recommended by DRC/CRC while forwarding the title and synopsis of the thesis. The panel so recommended would include at least 50% of the examiners from outside India.

- R.12.2** The candidate shall be required to submit fresh synopsis if he fails to submit his thesis within 9 months of the submission of the earlier synopsis. However, in case a candidate fails to submit his thesis within the stipulated time and has suitable justification for the same, the Dean, PGS&R may on recommendations made by the DRC and on individual merits of each case grant him extension in time by not more than one month i.e. the candidate may be allowed to submit his thesis within a period not exceeding 10 months from the date of the submission of the synopsis.

R.13 BOARD OF EXAMINERS

- R.13.1** On receipt of the title and synopsis of the thesis, the Dean PGS&R will appoint a Board of Examiners for each candidate. The Board will consist of internal examiners, normally the Supervisor(s), and two external examiners; one from within India and the other from abroad who shall be experts in the subject of the thesis. These external examiners shall be chosen normally from the panel of examiners recommended by the DRC/CRC as aforesaid. A person working in the same laboratory(ies)/Institution(s) where Research Scholar is employed cannot, however, be appointed as External Examiner for evaluating the Thesis of that Research Scholar. Further no person can be appointed as External Examiner from Laboratory/Institution to which the Joint supervisor(s) of the Research Scholar belongs.

- R.13.2** There is no bar to the inclusion of name of guide/list of publications arising out of research in the synopsis as well as appointment of ex-student of the guide on the Board of Examiners provided the concerned ex-student had received Ph.D. Degree of the Institute under his guidance at least 10 years earlier.

It should bear evidence of the candidate's capacity for analysis and judgement as well as his ability to carry out independent investigation, design or development. A thesis may be supplemented by published work, if necessary. No part of the thesis or supplementary published work, shall have been submitted for the award of any other degree or diploma.

R. 14 THESIS SUBMISSION

- R.14.1** The thesis shall be written in English or Hindi/other regional language in the specific format (Annexure C) and shall contain a critical account of the candidate's research. It should be characterised by discovery of facts or fresh approach towards interpretation of facts and theories or significant contribution to knowledge of development or a combination of these. It should bear evidence of the candidate's capacity for analysis and judgement as well as his ability to carry out independent investigation, design or development. A thesis may be supplemented by published work, if necessary. No part of the thesis or supplementary published work shall have been submitted for the award of any other degree.

R.14.2 A candidate may submit his thesis within the time period as stipulated in R 11.2 provided that:

- (i) he has completed the minimum period of registration as provided in R 11.1.
- (ii) he has become a candidate for the award of Ph.D. degree as provided in R 9.2; and
- (iii) he has submitted the title and synopsis of the thesis atleast two months prior to the submission of the thesis.

R.14.3 The candidate for the degree shall submit three copies of the thesis with a soft cover. In case of joint supervision four/five copies of thesis shall be submitted by the candidate.

R.14.4 Soon after the Ph.D. thesis is submitted, every scholar shall make a presentation before the student's Research Committee (SRC). The SRC may recommend that the requirement of viva-voce be waived. Thereafter, the Dean, PGS&R shall write to the examiners and specifically inquire from them whether he/she will recommend waiving of viva-voce examination of the candidate. If the waiver is not granted the candidate will have to defend the thesis orally.

R.15 THESIS EVALUATION

R.15.1 Each examiner will be requested to submit to the Dean PGS&R a detailed assessment report and his recommendations on the prescribed proforma within six weeks of the date of receiving the thesis.

R.15.2 In the event that the thesis report is not received from an examiner within a period of three months, the Dean, PGS&R may appoint another examiner in his place for evaluating the thesis.

R.15.3 In the event of dis-agreement between the external examiners, the BPGS&R may as a special case, appoint another external examiner, if the merit of the case so demands. This examiner will report independently to the Dean, PGS&R.

R.15.4 In the event of the candidate being required to submit a revised thesis, he shall in the normal circumstances, submit the same within a period of one year from date of communication in this regard from the Dean, PGS&R. However, in exceptional circumstances this period may be extended by the BPGS&R by another one year, the total revision time irrespective of the number of the revisions allowed, will not exceed a period of two years.

R.16 AWARD OF PH.D. DEGREE

R.16.1 A candidate who has been recommended for viva-voce examination on the basis of thesis evaluation, shall be required to defend his work/thesis orally before a duly constituted committee hereinafter referred to as Oral Defence Committee (ODC) during working hours of the Institute. Any deviation from this should have prior permission of the Dean, PGS&R.

R.16.2 The ODC shall consist of the internal examiner(s), and one external examiner. If none of the external examiners is available for the conduct of the oral defence, an alternative

external examiner shall be appointed by the Dean, PGS&R for this purpose only.

R.16.3 On the completion of all stages of examination, the Oral Defence Committee shall recommend to the Dean, PGS&R, one of the following courses of action:

- (a) that the degree be awarded;
- (b) that the candidate be re-examined at a later specified time in a specified manner;
- (c) that the degree shall not be awarded;

In case of (a) and (b), the Oral Defence Committee shall also provide to the candidate a list of all corrections and modifications in the thesis (if required) including suggestions made by the examiners during the thesis evaluation.

R.16.4 The Degree shall be awarded by the Senate, provided that :

- (a) The Oral Defence Committee so recommends;
- (b) the candidate produces a 'No Dues Certificate' in the prescribed form and gets it forwarded alongwith the report of ODC, and
- (c) the candidate has submitted two hard cover copies of the thesis; one for the Department's/Centre's Library and one for the Central Library. Thesis should incorporate all necessary/corrections/modifications.
- (d) The hard bound copies of the Ph.D. thesis, submitted after the viva-voce examination, must contain the following copyright certificate in the beginning of the thesis, on a separate page on the left side:

© INDIAN INSTITUTE OF TECHNOLOGY, NEW DELHI, 200...
ALL RIGHTS RESERVED

R.17 FINANCIAL ASSISTANCE

Those students who are admitted on full-time basis are considered, on request, for the award of Teaching/Research Assistantship as indicated below :-

	Amount (Rs.) of Assistantship to students		Number of hours of Assistance per week to be provided by the student
	With B. Tech./M.Sc./ M.A./M.Phil. Qualifications	with M. Tech. Qualifications	
Half-time	Rs. 5,000/- p.m. (during 1st & 2nd year) Rs. 5,600 p.m. (during subsequent years).	Rs. 6,000/- p.m. (during 1st and 2nd year) Rs. 6,400 p.m. (during subsequent years).	8

In addition, students are given contingency grant in accordance with the rules of the Institute. The maximum duration of which assistantship can be awarded to any Ph.D. student is 5 years or till the end of the semester in which thesis is submitted, whichever is earlier. Continuation of the Assistantship is contingent on satisfactory academic performance and satisfactory performance in the discharge of responsibilities assigned under the scheme.

It is to be noted that admission to the Programmes and award of Assistantship are not linked. Admission to any programme does not guarantee the award of assistantship. Those who are not awarded Assistantship can continue with the programme as self-financing student.

R.17(A) The faculty of Engineering/Science Colleges may be considered for the award of Institute Assistantship for pursuing Ph.D. Programme at IIT Delhi subject to the following terms and conditions:

- (i) The concerned faculty member of the Engineering/Science College must be sponsored by their respective Institutions to pursue the Ph.D. Programme at IIT Delhi.
- (ii) The sponsored faculty of Engineering/Science Colleges must be eligible for Institute Assistantship i.e., he/she should either hold an M.Tech. degree or valid GATE score (minimum 75 percentile) or CSIR/UGC net. Candidates with less than 75 percentile GATE score shall not be eligible for consideration.
- (iii) The Assistantship should be within the sanctioned limit of a particular Department/Centre.
- (iv) The DRC/CRC should examine each case on merit before making recommendations to the Dean, PGS&R for award of Institute Assistantship.
- (v) On admission to the Ph.D. Programme they will be entitled to Assistantship, as applicable to other regular Institute scholars irrespective of the quantum of salary they get from their Colleges/Institutes.

R.17(B) TUITION FEE WAIVER TO PH.D. SCHOLARS

Following categories of research scholars are eligible for 50% tuition fee waivers:

- (i) All full-time Institute research scholars including QIP. The Institute research scholars include those who obtain scholarship through MHRD, CSIR & UGC, provided they are getting scholarship of the same value as that of MHRD.
- (ii) The Institute/IRD staff pursuing Ph.D. at the Institute including those getting assistantship from projects provided the amount of fellowship coming from the project is equal to Institute fellowship.
- (iii) Research scholars admitted to Ph.D. programme from DST, CSIR and other government Organisations/Institutions.

Additional 25% fee waiver can also be given on case by case basis, the maximum number in a Deptt./Centre being restricted to 50% of Institute research scholars on roll. For grant of additional 25% fee waiver to the full-time Institute research scholars, the

respective DRC/CRC will assess the performance and consider the cases of the deserving scholars on case by case basis and recommend the name(s) of the concerned scholar(s) to the Dean, PGS&R for approval.

R.18 LEAVE & ATTENDANCE

A student/candidate will be entitled to avail leave as per Leave Rules/Attendance Rules formulated and amended from time to time by the Senate. Presently these Rules are as under :

LEAVE

- (a) **During Course work:** A full-time Ph.D. student, during his/her stay at the Institute will be entitled to leave for 30 days including leave on medical grounds, per academic year. He/she will not be entitled to mid-semester breaks, summer and winter vacation at the end of the first semester.

Leave beyond 30 days in an academic year may be granted to a Research Scholar in exceptional cases, by the Head of the Department/Centre concerned, subject to the following conditions:

- (i) the leave beyond 30 days will be without Assistantship/Scholarship; and
 - (ii) such an extension of upto additional 30 days will be granted only once during the programme of the Scholar.
 - (iii) the leave may be subject to the approval of the Head of Department/Centre/ Programme Coordinator concerned on the recommendation of the Supervisor; and a proper leave account of each scholar shall be maintained by the Department/ Centre/Programme Coordinator concerned.
- (b) **After Completing the Course Work**

A full-time Ph.D. scholar during his/her stay at the Institute, will be entitled to leave for 30 days per academic year. He/she will not be entitled to mid-semester breaks, summer and winter vacations. In addition, a Ph.D. scholar who has completed his/her course work may be granted leave on medical grounds up to 10 days per academic year.

The women research scholars will be eligible for Maternity Leave with Assistantship for a period not exceeding 135 days once during the tenure of the award.

ATTENDANCE

A Ph.D. student irrespective of the source of research assistantship including self financing student not drawing any Assistantship and sponsored student, while pursuing course work, must attend at least 75% of classes in each course in which he/she is registered. In case his/her attendance falls below 75% in any course during a month he/she will not be paid Assistantship for that month. Further, if his/her attendance again falls short of 75% in any course in any subsequent month in that semester his/her studentship and assistantship will be terminated. A research scholar after having completed the course work must attend to his/her research work on all the working days and mark attendance except when he/she is on duly sanctioned leave. The requirement of 75% attendance will apply as above on daily attendance except in the cases where longer leave has been duly sanctioned within the leave entitlement of the student.

For the above purpose, if 75% works out to be a number which is not a whole number, the immediate lower whole number will be treated as the required 75% attendance.

R.19 WITHDRAWAL FROM SEMESTER/COURSES

R.19.1 A student/candidate may be permitted to withdraw by the Dean, PGS&R from all the courses registered by him or the entire semester, on medical grounds supported by a medical certificate from the Institute Medical Officer. The medical certificate issued by a registered Medical Practitioner will also be acceptable in those cases where the scholar has valid reasons for his absence from the Institute. Withdrawal may also be granted by the Dean, PGS&R provided he is convinced that the scholar cannot pursue his studies for the reasons beyond his control.

R.19.2 Under no circumstances will a request for withdrawal be entertained after the major tests have begun. Student/Candidate should present the medical certificate in support of his absence on health reasons within two days of his rejoining the Institute, if not produced already. Withdrawal will not be granted retrospectively.

R.19.3 The period of authorised absence in the semester should not be less than eight weeks of contact period for Semester withdrawal to be granted. Regularity in attending the classes and satisfactory performance in the minor(s) if any, held prior to the date of application for withdrawal are the factors which would be taken into account while recommending/granting withdrawal.

R.19.4 Any semester withdrawal will count towards the maximum limit of **seven years** as stipulated in R.11.2.

R.20 CANCELLATION OF REGISTRATION

R.20.1 Registration of a student/candidate shall be cancelled in any one of the following eventualities, after due approval of Dean PGS&R.

- (i) if he absents himself for a continuous period of four weeks without prior intimation/sanction of leave.
- (ii) if he resigns from the Ph.D. Programme and the resignation is duly recommended by the DRC/CRC.
- (iii) if he fails to renew his registration in any semester subject to the provisions contained in these Ordinances & Regulations.
- (iv) if he does not clear the comprehensive examination as stipulated in R.8.
- (v) if his academic progress is found unsatisfactory in terms of R.10.6.
- (vi) if his CGPA is below 7.00 at any time while doing course work.

- (vii) if he is found involved in an act of misconduct and/or indiscipline and termination is recommended by a competent authority.

R.21 GENERAL

Notwithstanding anything contained in these Ordinances & Regulations, all categories of the students/candidates shall be governed by the rules and procedures framed by the Senate in this behalf, and in force from time to time.

R.22 INTERPRETATION

- R.22.1** Any doubt or dispute arising about the interpretation of these Ordinances and Regulations shall be referred to the Chairman, Senate whose decisions shall be final.

INDIAN INSTITUTE OF TECHNOLOGY DELHI
APPLICATION FORM FOR APPOINTMENT OF SUPERVISOR(S)

USE CAPITAL LETTERS

- A. 1. NAME OF THE STUDENT _____
- 2. REGN. NO. _____
- 3. DATE OF JOINING _____ 4. DEPTT./CENTRE _____
- 5. STATUS: FULL-TIME/PART-TIME _____
- 6. TOTAL NO OF CREDITS TO BE COMPLETED _____ +HU910 AS AUDIT

CERTIFIED THAT THE COURSES TAKEN/TO BE TAKEN BY ME HAVE NOT BEEN TAKEN BY ME FOR MY EARLIER DEGREE/DIPLOMA

DATE

SIGNATURE OF STUDENT

B. 1. PROPOSED AREA OF RESEARCH _____

2. PARTICULARS OF PROPOSED SUPERVISOR(S)
(JUSTIFICATION BE GIVEN ON SEPARATE SHEET IF THERE ARE MORE THAN TWO SUPERVISORS)

NAME	DESIGNATION	EMP. CODE	DEPTT./CENTRE

DATE:

SIGNATURE(S) OF SUPERVISOR(S)

C. RECOMMENDATION OF THE DEPARTMENTAL RESEARCH COMMITTEE (DRC)/CENTRES RESEARCH COMMITTEE (CRC)

THE DRC/CRC RECOMMENDS THE REGISTRATION OF MR./MS. _____ AS A FULL-TIME/PART-TIME STUDENT WITH EFFECT FROM _____ AND ALSO RECOMMENDS THE APPOINTMENT OF SUPERVISOR(S) AS INDICATED ABOVE.

DATE:.....
AR (PGS&R)

SIGNATURE OF CHAIRMAN, DRC/CRC

(FOR USE OF P.G. SECTION ONLY)

PARTICULARS OF THE STUDENT HAVE BEEN VERIFIED. SUBMITTED FOR APPROVAL OF THE DEAN, PGS&R

AR (PGS&R)

OS (PGS&R)

SIGNATURE OF DEAN, PGS&R

INDIAN INSTITUTE OF TECHNOLOGY, DELHI
APPLICATION FORM FOR REGISTRATION AS A CANDIDATE FOR THE AWARD OF PH.D. DEGREE

USE CAPITAL LETTERS

- 1. NAME IN FULL_____
- 2. REGN. NO._____
- 3. DATE OF REGN._____
- 4. DEPTT./CENTRE_____
- 5. REGISTRATION STATUS : FULL TIME/PART-TIME_____

6. COURSE WORK COMPLETED :

SEMESTER	SESSION	COURSE NO. & TITLE	CREDIT	GRADE	CGPA
.....	HU 910 COMMUNICATION SKILLS	<input type="text"/>

- 7. TOPIC OF RESEARCH_____
- DATE:_____

SIGNATURE OF THE STUDENT

- 8. DATE OF APPROVAL OF RESEARCH PLAN BY SRC
- 9. RESEARCH PLAN SUBMITTED BY THE STUDENT AND DULY APPROVED BY THE SRC IS ATTACHED HEREWITH FOR DRC/CRC APPROVAL.

(I)_____

(II)_____

CHAIRMAN, DRC/CRC

SIGNATURE(S) OF SUPERVISOR(S)

- 10. RECOMMENDATION OF THE DEPARTMENTAL RESEARCH COMMITTEE (DRC)/CENTRES RESEARCH COMMITTEE (CRC)

- (I) CERTIFIED THAT THE STUDENT HAS QUALIFIED THE COMPREHENSIVE EXAMINATION
- (II) THE RESEARCH PLAN ATTACHED HEREWITH IS APPROVED.
- (III) IT IS RECOMMENDED THAT MR./MS_____BE REGISTERED AS A CANDIDATE FOR PH.D. PROGRAMME.

DATE :
AR (PGS&R)

SIGNATURE OF THE CHAIRMAN, DRC/CRC

(FOR USE OF P.G. SECTION ONLY)

PARTICULARS OF THE STUDENT HAVE BEEN VERIFIED. THE COMPREHENSIVE EXAMINATION HAS BEEN COMPLETED WITHIN THE PERMISSIBLE TIME LIMIT. SUBMITTED FOR APPROVAL OF THE DEAN, PGS&R OS (PGS&R AR (PGS&R)

SIGNATURE OF DEAN, PGS&R

**Department/Centre of -----
Comprehensive Examination and Approval of Research Plan**

Part A

The Student's Research Committee (SRC) conducted the comprehensive Examination of Mr./Ms.....Registration No..... as per the details given below.

Date of written test
Attempt 1
Attempt 2 (if applicable)

Date of Oral
Attempt 1
Attempt 2 (if applicable)

On the basis of the performance of the student in the examination (both written and oral), SRC recommends award of '**PASS/FAIL**' grade to the student in the comprehensive examination.

Part B (Applicable only if '**PASS**' grade is recommended in the comprehensive examination).

The student submitted and presented a research plan entitled,
.....
.....

Based on his/her performance, the SRC recommends:

- (i) the research plan be **approved** and that the Date of approval of Research Plan be taken as.....
- (ii) the student be asked to re-submit a research plan latest by(date) keeping in view the modifications suggested by SRC (as per details enclosed).
- (iii) Research plan be **not approved**.

Deptt./Centre Expert

Expert
outside Deptt./Centre

Chairman (DRC/CRC)
or his nominee

Supervisor(s)

ANNEXURE C

Regulations for preparation of Ph.D. Thesis

1. Thesis should be type-written on both sides of good quarto-size / A - 4 size paper in double space with sufficient margins with multiplastic ring binding.
2. Suitable reproduction of Indian-Ink diagrams should be used. Photographs should be suitably mounted on the same quality paper as the thesis.
3. Reference should be given in a style in the text consistent with a standard journal in the field.
4. Three copies of thesis in multiplastic spiral binding in Dark Orange colour cover must be submitted for evaluation. In case of student being supervised by more than one supervisor, appropriate number of additional copies must be submitted.
5. The cover should have the following printed on it in block letters :
 - (a) the title at the top (b) author's name in the middle (c) Name of the Department/Centre and Indian Institute of Technology, Delhi at the bottom.
6. After the Viva-Voce Examination, two copies of thesis in hard maroon-colour-cover must be submitted. The cover should have the material indicated in item 5 above. Besides, the following should be printed on the spine of the thesis :
 - (a) the year of publication at the top (b) the author's last name in the middle and (c) Ph.D at the bottom.
7. The contents of the thesis should have the following format :
 - (i) The hard bound copies of the thesis must contain the following copy right notice in the beginning of the thesis (left side of the inner cover page):—

©Indian Institute of Technology New Delhi-200...
All rights reserved.
 - (ii) Inner cover page (iii) Certificate of the Supervisor(s) (iv) Acknowledgements (v) Abstract (vi) Table of contents (vii) List of figures (viii) Body of the thesis (ix) References (x) Appendices and (xi) Brief Bio-data of the author.
8. The inner cover page should read as follows :

TITLE OF THESIS

by

(NAME OF AUTHOR)

..... Department/Centre

Submitted

in fulfilment of the requirements of the degree of Doctor of Philosophy
to the

Indian Institute of Technology Delhi
Month & Year