

REGULATIONS RELATING TO THE PhD PROGRAME

PH.D. ORDINANCES AND REGULATIONS

Revised up to the 355th Meeting of the Senate



INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR

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REGULATIONS RELATING TO THE PhD PROGRAMME

1. GENERAL

- 1.1 The Institute admits students for research leading to the Degree of Doctor of Philosophy (Ph.D.).
- 1.2 Admission to the Ph.D. programme takes place in July and January in every academic session. Advertisements appear in reputed national dailies and the pertinent information is uploaded on the Institute website. The eligibility criteria for candidates for admission into the Ph.D. programme are given in **Appendix-I**.
- 1.3 A Ph.D. student may belong to one of the following eight categories:

(i) Regular with Assistantship

A Ph.D. student in the Regular category with Assistantship (Institute research student) is eligible for getting Institute Research Fellowship as approved by the Ministry of Human Resource Development. See **Appendix-II** for details of eligibility for getting the assistantship.

(ii) Individual Fellowship (CSIR/UGC/DBT/INSPIRE/ICMR etc.)

A Ph.D. student in the Individual Fellowship category is one who joins the Ph.D. programme of the Institute as an individual student and enjoys either the UGC/CSIR/DBT/INSPIRE or any other Fellowship instead of the Institute Research Fellowship.

(iii) Sponsored

A Ph.D. student in the Sponsored category (Sponsored research student) is one who is sponsored by an organization of repute for the Ph.D. programme. See **Appendix-III** for details of rules pertaining to research students in the Sponsored category.

(iv) Project

A Ph.D. student in the Project category (Project research student) is one who works either as a research fellow (JRF or SRF) or as a research staff (SRA, JSO, SSO) in an Institute project. See **Appendix-IV** for details of rules pertaining to research students in the Project category.

(v) QIP

A research student in the QIP category (QIP research student) is a sponsored faculty member of another institute who is selected for admission to the Ph.D. programme under the Quality Improvement Programme.

(vi) Institute Employee

A Ph.D. student in the Institute-Employee category (Institute Employee research student) is a permanent employee of the Institute who is sponsored by the Institute for

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the Ph.D. programme. See **Appendix-V** for details of rules pertaining to research students in the Institute-sponsored category.

(vii) Foreign National

A non-Indian Ph.D. student belongs to the Foreign National category (Foreign research student). See **Appendix-VI** for details of rules pertaining to research students in the Foreign category.

(vii) Working Professionals

A Ph.D student in the working professional category is working professional with bright academic background and employed in well established and reputed companies (private/government), research organizations, Ministries of Central and State Governments with two years of experience. See **Appendix VII** for detailed rules and regulations.

- 1.4 The Institute is completely residential, and every student is entitled to stay in one of the Halls of Residence. See **Appendix-VIII** for the rules for accommodation in a Hall of Residence.
- 1.5 A Ph.D. student has to pass through several recognizable phases of research: Joining, Formation of Doctoral Scrutiny Committee, Enrolment, Coursework, Comprehensive Examination, Registration, Synopsis Submission, Submission of Thesis for Examination, Thesis Examination, Compliance to the Examiners' Comments, Thesis Defence and Final Thesis Submission. Semester Registration is an activity, which is spread throughout the research lifecycle. Activities pertaining to each of these phases are detailed later in this document.
- 1.6 Normally, a research student will be required to stay in the Institute till he or she completes the assigned coursework and submits the thesis.
- 1.7 For a research student in the sponsored category the minimum residential requirement can be one semester provided that the student has completed the recommended coursework and the sponsoring organization gives in writing that it has adequate facilities in the area of research of the student and that it will make these facilities and time available to the student to carry out the research work there.
- 1.8 The following categories of research students can be given **Temporary withdrawal** subject to the conditions mentioned:
 - (a) A Ph.D student in the QIP category after the completion of three years of work, if the work is not complete. The sponsoring Institute has to give an undertaking that adequate and relevant research facilities exists in the organization and that these facilities and time will be extended to the student for doing his (or her) research work.

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- (b) A Ph.D student in the Sponsored category after the completion of one semester and after fulfilling the course requirements, provided the sponsoring organization gives a written statement to the effect that adequate and relevant research facilities exist in the organization and that these facilities and time will be extended to the student for doing his (or her) research work.
- (c) A Ph.D student who has got a job offer if he (or she) has completed his (or her) registration, subject to the condition that after joining the new job he (or she) will submit a written statement, within one month after taking the withdrawal, from the organization indicating that adequate relevant research facilities exist there and that these facilities and time will be made available to the candidate for doing his (or her) research work. If such a written statement is not received within a month, then the temporary withdrawal will be cancelled.

Having a supervisor from the sponsoring organization is encouraged in all such cases.

- (d) The requirement of seminar presentation and submission of progress report once in every six months for the Sponsored, Project, Working Professional, QIP students will give seminar in each six months. Further any PhD. Student including the regular category should give seminar presentation and submission of progress report in every six months from the date of withdrawal till the submission of synopsis seminar.
- (e) In case of regular scholars taking temporary withdrawal will have to give seminar in every six months from the date of temporary withdrawal till the date of submission of synopsis seminar of joining back to the Institute.
- (f) Regular Institute Research Scholars should give seminar presentation and submission of progress report in every six months from 5th year onwards till submission of synopsis seminar.

1.9 Every student, who is permitted to carry out the research work externally, is required to maintain close contact with the supervisor in the Institute.

1.10 After enrolment for the Ph.D program a Research Scholar under any category may be permitted to be on leave from the Department/School/Centre for a limited number of days per year of stay, as stated below:

- (i) for incidental purposes, CASUAL LEAVE ---- 15 days
- (ii) for treatment on illness, MEDICAL LEAVE---- 30 days
- (iii) Maternity leave admissible to the female research scholars as per Govt. of India Rules & Regulation

The leave will be granted by the Head of the Department/Centre on the recommendation of the Supervisor and any leave not availed of in a year shall not accumulate.

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- 1.11 A research student has to devote at least three years for a student who meets the criteria as laid down at para 2.b in **Appendix-I** from the date of his (or her) enrolment before he (or she) is permitted to submit the thesis. However, for a student who meets the criteria as laid down in at para 2.a in **Appendix-I**, the period will be two years.
- 1.12 In course of the research a Ph.D. student is expected to (i) satisfactorily complete prescribed coursework and comprehensive examination, (ii) work diligently on a chosen thesis topic, (iii) give interim reports and presentations on the progress made in the research front, (iv) present and publish papers in reputed conferences and journals, (v) do a research work that is original and that follows the broad research methodology accepted by the peers in the field, (vi) give a seminar on the research work done and submit a synopsis of the thesis, (vii) Verify thesis through **TURNITIN** software to prevent plagiarism, (viii) submit the thesis, (ix) modify the thesis on the basis of comments of the examiners, (x) defend the thesis in an open viva, and (xi) submit the final copies of the thesis.
- 1.13 The award of the Ph.D. degree is made on the basis of satisfactory performance of a research student in
- (i) the prescribed coursework,
 - (ii) the comprehensive examination,
 - (iii) the synopsis submission seminar,
 - (iv) the thesis submitted by the candidate judged for its novelty and originality, and
 - (v) the final viva voce.
- 1.14 The thesis shall be the report of original and novel research work characterized by discovery of new facts, or development of new theory, or new interpretation of known facts and theory, or independent design and development, or development of new instrument/technology.
- 1.15 During the entire research period, every Ph.D. student has to follow the rules, regulations, and guidelines laid down by the Institute.
- 1.16 The Ph.D. students shall conduct themselves within and outside the precincts of the Institute in a manner befitting the students of an Institute of national importance. Detailed rules regarding conduct and discipline are given in **Appendix-IX**.

2. **ADMISSION**

- 2.1 Admission to the Ph.D. programme takes place in July and January in every academic session. Advertisements appear in reputed national dailies and the pertinent information is uploaded on the Institute website. The eligibility criteria for candidates for admission into the Ph.D. programme are given in **Appendix-I**.
- 2.2 Departmental Academic Committee (Post-Graduate and Research), abbreviated as DAC (PG&R), of the concerned Department/Centre/School recommends admission of candidates to the Ph.D. programme based on the following:

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- DAC (PG&R) shortlists the candidates on the basis of their eligibility and overall academic career. A Department/Center/School can set its own cut-off score for shortlisting the candidates.
 - To evaluate the candidates, it conducts a test and an interview for the shortlisted candidates and considers the performance of the candidates in both the test and the interview as well as their overall academic career to recommend a list of candidates for admission to the Ph.D. programme. **See Appendix-X** for information on weightage.
- 2.3 The DAC (PG&R) appoints one Board (or two Boards) for conducting the Test and the Interview. The Board(s) examines (examine) a candidate's background adequacy for research, aptitude and preparedness for research, broad area of research which the candidate is interested to work in, and whether adequate facilities (hardware, software, and matching area of supervision) in the indicated research area exist in the Institute.
- 2.5 A candidate in any of the above-mentioned category may not be recommended for admission if adequate research facilities (equipment, expertise, or the like) are not available in the Department/Centre/School.

3. JOINING

- 3.1 After getting the letter of admission to a Ph.D. programme, a student has to join the programme by (1) depositing the requisite amount to the Institute and (2) submitting (a) documentary proofs for the degrees and marks obtained in the qualifying examinations, (b) documentary proof of scores in GATE/NET examinations (in case of Institute and NET (Individual) research students), (c) sponsorship certificate and release letter from the sponsoring organizations (in case of a sponsored research student), (d) acceptance of resignation by the employer if in employment and selected for Regular with Assistantship category, (e) release letter (in case of a QIP research student), (e) clearance of MHRD and offer of assistantship (in case of a foreign research student) and (f) medical certificate.
- 3.2 A candidate should fulfill the appropriate standards of medical fitness. The opinion of the Institute Medical Board of the Institute in regard to the medical fitness of a candidate shall be final.

4. ALLOCATION OF STUDENTS TO SUPERVISORS

- 4.1 Every admitted student will have one or two supervisors.
- 4.2 Allocation of supervisors is made by the DAC (PG & R).

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- 4.3 A supervisor plays a critical role in the successful conduct of research. He (or she) plays the role of a research advisor, an administrator, and a friend. See **Appendix-XI** for other details regarding the supervisor allocation supervisor's role, and the supervisor-student relationship.
- 4.5 Project investigators are normally the supervisors for the research students in the project-category.
- 4.6 A research student in the (Individual) Fellowship category is permitted to have a supervisor of his (or her) choice.
- 4.7 A student who, with the permission of the Institute, carries out substantial portion of the research work in another organization (equipped with adequate research facility) under the guidance of an experienced individual having requisite expertise can be permitted to have him (or her) as a supervisor subject to the recommendation of the Doctoral Scrutinee Committee (based on the consent and a bio-data of the individual) to that effect.
- 4.8 Whenever a supervisor goes on long leave, the Registry will get clearance from the Academic Section with regard to appointment of caretaker supervisor or co-supervisor, as the case may be (**Appendix-XI**).

5. FORMATION OF DOCTORAL SCRUTINEE COMMITTEE (DSC)

- 5.1 The Head of the Department/Centre/School, in consultation with the Supervisor(s), shall constitute a Doctoral Scrutinee Committee (DSC) for each research student.
- 5.2 A Doctoral Scrutinee Committee is a crucial administrative organ of the research administration that oversees the progress of the student in the research front. Its functions are to:
- Recommend coursework for the student
 - Advise the student on the appropriateness of the chosen research work and the adopted research methodology
 - Monitor the student progress on the basis of interim reports and seminars
 - Decide on the adequacy of the work done for registration for Ph.D., semester registration, annual renewals, enhancement and extension of assistantship (for Institute research students), and for submission of the work as a Ph.D.-level thesis
 - Recommend the names of the examiners for evaluating the thesis
 - Judge whether the changes suggested by the examiners are incorporated in the revised thesis
 - Conduct the thesis defence examination along with the External Examiner

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- Recommend, to the Senate, the award of the Ph.D. degree
 - Give its recommendations with regard to change of supervisors, change of coursework (if any), change of DSC members, conducting part of the research work elsewhere, application of the student for temporary withdrawal, and with regard to research front and research misconduct of a student.
- 5.3 The Doctoral Scrutinee Committee for a student should be formed **within two weeks** of the student's joining the programme.
- 5.4 The Doctoral Scrutinee Committee shall consist of the following members:
- Chairman: Head of the Department/Centre/School (ex officio) or a Professor in the Department/Centre/School subject to such nomination and suitability.
 - Convener: Supervisor
 - Joint Supervisor, if any (either from Institute or from outside)
 - Three members of the Faculty (with at least one from a Department/Center/School other than the one in which the student is admitted) to be nominated in consultation with the Supervisor(s)
- 5.5 A member of the Faculty who himself/herself is enrolled for the Ph.D. degree of the Institute or does not have adequate experience in the relevant field shall not be appointed as Chairman or Supervisor or a member of the Doctoral Scrutinee Committee for any other candidate for the Ph.D. degree.
- 6. ENROLMENT AND RECOMMENDED COURSEWORK**
- 6.1 A newly admitted research student has to enroll for the Ph.D. programme within one month of joining.
- 6.2 For enrolment, the student makes an application stating the broad area of research and providing his (or her) academic background.
- 6.3 The Doctoral Scrutinee Committee considers the application and recommends a set of subjects as coursework normally complements the student's academic strengths with the core and the advanced methodological skills needed for the research work. The recommended coursework is as under:

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Course details	Requirement
1. Credit Loading a) Master's degree holders b) Bachelor's degree holders	11 (minimum) – 18 (maximum) 17 (minimum) – 26 (maximum) Scholars aspiring for PMRF may refer to PMRF guidelines for minimum credit requirement
2. Credit distribution a) Master's degree holders b) Bachelor's degree holders	<i>Minimum:</i> a) 2 dept. subjects (can be core or elect.) + 1 breadth elec. + 1 self-study b) 4 dept. subjects (can be core or elect.) + 1 breadth elec. + 1 self-study <i>English:</i> Optional, need to be assessed by supervisor/DSC <i>Self-Study:</i> Supervisor assigns a set of relevant study materials, at end of semester RS presents a seminar and DSC assesses performance Can also be a lab. course of 2 credits within or outside the Academic Unit
3. Level of subjects	<i>600/700 level</i> 3/4 credits for core and electives, 2 credits for <i>self-study</i>
4. Passing grade	C
5. Others	a) Each academic unit, through ERP, declares existing or new 600/700 level subjects as Ph.D subjects, Core/Elective classification is optional b) Breadth electives are Ph.D level subjects offered by other units c) Scholar can register for 2 additional electives to account for the possibility of one or more electives not offered after registration d) English proficiency may be checked beforehand by HSS department through a comprehensive test before registration e) English for Technical Writing may be floated as 700 level subject

- 6.4 If a required subject is not included in the existing post-graduate curricula, a subject can be chosen from the list of Senate-approved Self-Study subjects. Instructions in such a subject can be imparted in a self-study style, but performance evaluation of the student has to be made following the usual steps of evaluation such as teacher's assessment based on assignments, seminars, tutorials, etc., mid-term examination, and end-term examination, as prescribed for a regular subject.

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Guidelines for registration of subject in a self study mode:

- The Research student will be allowed to register a subject in self-study mode from 2nd semester for sponsored category and 3rd semester for other categories.
- Maximum 2 subjects will be permitted to register in self-study mode.
- Only 1 subject is allowed to register in a particular semester.
- The subject, which a student will register in self study mode, should not run in that semester in regular mode.
- The self-study subject should be in the assigned semester as per number of the subject.

6.5 Student can also register additional subjects and get the due credit of attending the course as follows:

- The student may register for additional subjects at any time during his studies subject to the recommendation of the DSC;
- The subject will be considered as “ADDITIONAL” only. It cannot replace any of the recommended subjects;
- In case of failure, Grade “F” will be shown in the grade card. However, the student can clear the subject in subsequent semesters.
- Obtaining Minimum Grade “C” is not applicable for additional subject(s).

6.6 Enrolment of a student for the Ph.D. programme is complete after the RPEC approves the enrolment based on recommendations of the DSC. However, all such approvals should be reported to the Senate for concurrence.

6.7 The fellowship for an Institute research student is released after a student is enrolled for Ph.D.

7. PERFORMANCE IN THE RECOMMENDED COURSEWORK

7.1 A research student must secure a grade not lower than ‘C’ (Satisfactory) in every recommended subject in the 7-point grading scale adopted by the Institute.

7.2 If the grade obtained by a student in a subject is lower than ‘C’, the candidate is required repeat the subject.

7.3 If a student fails to complete the coursework within one year of enrolment, then the DSC will review the performance of the student and can recommend a change of coursework or advise the student to quit the PhD programme.

7.4 The DSC can consider an application from the student and can recommend a different set of subjects if such a change helps the student to carry out his (or her) research work better.

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- 7.5 A grade card mentioning the performance of the student in the recommended coursework is issued to each student along with provisional certificate after completion of defense viva. However interim grade card can be issued only after Registration seminar is approved.

8. COMPREHENSIVE EXAMINATION

- 8.1 A research student after completion of one semester, he (or she) becomes eligible to appear at the comprehensive examination. The guidelines for conduct of comprehensive examination are given in **Appendix-XII**.
- 8.3 A student has to successfully pass in the comprehensive examination in a maximum of two attempts. In case a research student fails to qualify the comprehensive examination in two attempts, then he (or she) has to quit the PhD programme. However, he/she can work leading to MS degree. In such case, student should again appear for and qualify comprehensive examination as per MS programme norms. The course work completed during the Ph.D programme may be transferred to MS enrolment.

9. REGISTRATION

- 9.1 Registration is a process of formally accepting that a research student is ready to carry out his (or her) research in a chosen area.
- 9.2 A student is deemed to be eligible for registration for the Ph.D. when he (or she)
- Completes the recommended coursework securing at least C in each subject and qualifies in the comprehensive examination.
 - Makes a comprehensive survey of literature in the chosen area of research, identifies the research gap, and sets the objective of his (or her) research work.
 - Acquires the skill set required for carrying out the research work in the chosen area of research. The student is expected to master the other methodological and analytical skills specific to his (or her) research by attending lectures in subjects outside the recommended coursework and by self study.
- 9.3 Registration for Ph.D. is to be done within three years of enrolment or within one year after the completion of the recommended coursework, but not later than three years from the date of enrolment.
- 9.4 In case a student fails to do his registration within the time limit prescribed above, the DSC can recommend the student's name for strike off the rolls of the Institute.

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- 9.5 The student applies for registration, writes a research proposal and gives a seminar talk on the topic of his (or her) research.
- 9.6 The research proposal outlines the importance of the research area, makes a critical analysis of the work done in the past, identifies the research gap, poses the research questions, specifies the objectives and the scope of the research to be done by the student, and states the progress made in the research front (if any).
- 9.7 The research proposal must reach the members of the DSC at least three days before the registration seminar.
- 9.8 The seminar talk has to be delivered to an open audience with members of the DSC and D.A.C. (PG&R) present.
- 9.9 The student is expected to be receptive to all the comments and feedback from the DSC, DAC (PG & R), and others present in the seminar to make his (or her) research work more progressive and novel.
- 9.10 If the research proposal and the seminar presentation are satisfactory, the DSC recommends the case for Ph.D registration.
- 9.11 If, however, the DSC is not satisfied with the research proposal and the seminar presentation, the candidate is required to submit another research proposal modified in the light of the comments received during the seminar presentation and give a seminar presentation within the next three months.
- 9.12 If a candidate's research proposal and seminar presentation are not satisfactory in the second attempt the DSC can recommend the cancellation of the student's enrolment. He (or she) then ceases to be a research student of the Institute.
- 9.13 Registration of a candidate for the Ph.D. degree shall be effective, normally, from the date of enrolment and shall remain valid for a period of eight years.
- 9.14 A candidate will be required to submit the thesis before the expiry of the registration period. In the event of a candidate failing to submit his (or her) thesis within the period, the registration shall lapse automatically.

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10. SEMESTER REGISTRATION

- 10.1 Every research student is required to do semester registration in the beginning of every semester to enable the DSC to monitor and evaluate his (or her) progress in the research front.
- 10.2 The student pays the semester fee (see **Appendix-XIII**), submits a progress report (about five-page long) outlining the work done during the previous semester, giving details of papers published in, or communicated to, journals and/or presented in the conferences, and work to be done during the next semester, and gives an open seminar presentation before the DSC and DAC (PGS & R).
- 10.3 In case the progress of a candidate is unsatisfactory or if the student is reported to be irregular in attendance, or undisciplined, or involved in research misconduct, then the DSC may recommend striking off the name of the student from the rolls of the Institute.
- 10.4 Research student who have not done semester registration consecutively for three semesters without valid reasons or without official permission, their names may be struck off from the students' roll of research student.
- 10.5 A PhD student must register for each semester, if not, the successive semester registration shall not be processed.
- 10.6 Late fee charges may be imposed at the rate of Rs.500.00 (Rupees Five Hundred) per semester registration.

11. SUBMISSION OF THE SYNOPSIS OF THE THESIS

- 11.1 When a student's research work gets peer reviewed through published papers in reputed journals and conference proceedings and when the supervisors are satisfied with the originality, the novelty, and the completeness of the research work, they give a green signal to the student to compile the work to convert it into a unified document – the thesis.
- 11.2. Peer publication requirements (applicable to students who joined the PhD programme on or after the Autumn Semester of 2017-2018.) for submission of Ph.D. thesis:
 - (i) Two papers of original research work published or accepted in any SCI/Scopus/SSCI/SCIE/ ABDC journals/research monographs:
 - (ii) One paper of original research work published or accepted in any SCI/Scopus/SSCI/SCIE/ ABDC journals, and one peer reviewed paper on original research work published in the proceedings of a conference.
 - (iii) Two peer reviewed papers (not abstracts or posters) on original research work published in the proceedings of a recognised conference.

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- (iv) Awarded patents, technology transfers, trademarks may be considered to be equivalent to published papers.
 - (v) The paper(s) must be part of the thesis work done at the Institute.
 - (vi) The student must be an author of the published paper.
- 11.3 Prior to submission of the thesis the candidate submits the synopsis of the thesis and presents a seminar to an open audience in which, besides others, the members of DSC and D.A.C. (PG&R) members will be present.
- 11.4 The synopsis of the thesis is to be prepared following the guidelines **(Appendix XV)**. It should bring out, in a summary form in about 10 pages printed with one-and-half line spacing, the importance of the research area, the objectives and scope of the study, a critical review of relevant literature, methodology adopted, the work done, the research outcome and its interpretations, the contribution of the thesis to knowledge, and scope for future work in the area of the research.
- 11.5 A copy of the synopsis must be given to each member of DSC at least three days before the date of seminar presentation.
- 11.6 The synopsis of the thesis and the seminar presented by the student help the DSC to test the quality, the novelty, the originality, and the completeness of the research work done by the student.
- 11.7 The members of the DSC and others present during the seminar presentation seek clarifications on the work done by the student and give their feedback on the work presented in the synopsis and the seminar presentation.
- 11.8 The student modifies the synopsis of the thesis in the light of the comments and the feedback and submits the modified synopsis to the members of DSC. When the DSC members are satisfied, then DSC recommends the submission of the synopsis.
- 11.9 If the DSC is not satisfied with the quality, the novelty, the originality, or the completeness of the work done, it asks the student to do additional work, submit a revised synopsis of the thesis incorporating the suggestions made during the seminar presentation, and give a seminar once again. When the members of the DSC are satisfied with the work, the revised synopsis of the thesis and with the seminar presentation they recommend the submission of the synopsis of the thesis.
- 12. SUBMISSION OF THE THESIS FOR EXAMINATION**
- 12.1 The student has to submit the thesis within one month after the submission of the synopsis. Date of submission of Synopsis to the Academic Section be recorded as the date of

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submission of Synopsis. A draft version of the complete PhD thesis should be submitted to the DSC along with the Synopsis for consideration and approval.

- 12.2 The student writes the thesis following the thesis guidelines of the Institute (**Appendix XVI**). The thesis must contain, among other things, a declaration by the student that he (or she) has not indulged in any form of research misconduct, that the work is original and is not submitted for any degree to any other university or institute, that the thesis does not contain any libelous (i.e., defamatory) statements, and that he (or she) has submitted the Laboratory Notebook containing the research data and results to the Supervisor.
- 12.3 If a thesis is based on a project sponsored by an external organization and the work uses/generates data/results of confidential nature to the organization, then the research supervisor has to obtain permission from that organization for including the material of confidential nature in the thesis and for its submission for the award of the degree. The draft thesis may have to be sent to the organization for getting a written permission.
- 12.4 The student sends a draft of the thesis to each member of the DSC as email attachment for comments. A member of the DSC is expected to send his (or her) comments on the draft within a week.
- 12.5 The student rewrites the thesis in the light of the comments made by the members to the DSC to the satisfaction of the supervisor(s).
- 12.6 He (or she) submits one copy of the soft-bound thesis along with its soft copy to the Academic Section. The thesis must be verified in **TURNIT-IN** software for plagiarism and a report in this regard should be attached while submitting the thesis. The thesis should be printed on both sides of a sheet of paper and should be printed with at least one-and-half line spacing.
- 12.7 He (or she) also submits the Laboratory Notebook containing the research data and results of the experiments and the analysis to the supervisor.
- 12.8 He (or she) carefully preserves the research data and results with himself (or herself) for doing additional work if asked to do so by one or both the examiners.
- 12.9 The student gets his (or her) grade card showing his (or her) performance in the recommended coursework.
- 12.10 Once a research student submits the thesis, he (or she) ceases to be a student of the Institute and becomes a candidate for the degree of Ph.D. Normally, he (or she) vacates the Hall of Residence within two days after submitting the thesis.

13. EXAMINATION OF THE THESIS

- 13.1 When DSC approves the synopsis of the thesis for submission, it recommends, to the Senate, two panels of ten examiners having expertise in the broad area of research of the thesis. Each panel must have names, designations, areas of specialization, and detailed postal, email and telephonic addresses of five examiners. One of these panels must have names and addresses of examiners from foreign universities.
- 13.2 The panels of examiners are prepared as per the following guidelines:
- The panel of examiners shall consist of only 'Professors' or personnel of equivalent stature, either from research organization or from industry. Further the panel of foreign examiner shall consist of at least three examiners of 'Non-Indian' origin.
 - The recommended person should have expertise in the broad area of research of the thesis and must be from a reputed university/institute/organization.
 - More than one potential examiner for a thesis must not be drawn from the same university/institute/organization.
 - The name of a potential examiner should not be listed in more than one panel for more than one student at a point of time.
 - The name of a potential examiner should not be listed again and again by the DSCs of students in a Department/Center/School.
- 13.3 The Chairman of the Senate will select the examiners, one from each panel of examiners recommended by the DSC.
- 13.4 Upon getting the consent of an examiner, a soft copy of the thesis will be sent to him (or her) for evaluation.
- 13.5 Each examiner is requested to judge the quality, novelty, originality, and completeness of the thesis on the basis of the hypothesis that the quality of the research work and its presentation in the thesis is comparable to any other thesis in any reputed university/institute in the world. He (or she) is requested to
- Give a summary evaluation report specifically stating whether he (or she) considers the thesis to be
 - Acceptable without any change.
 - Acceptable subject to the candidate satisfactorily answering certain specific queries from the examiner during the thesis defence.
 - Acceptable subject to the minor modification of the thesis in the light of comments (to be specified by the examiner) and the DSC's approval that the thesis is modified appropriately along the examiner's comments.

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- Acceptable subject to the modification of the thesis in the light of comments (to be specified by the examiner) but after the modified thesis is once again evaluated and adjudged to be acceptable by the examiner.
 - Not acceptable. The examiner is expected to give reasons for such a recommendation.
 - Give a detailed evaluation report highlighting the strengths and weaknesses of the thesis.
- 13.6 In case a PhD thesis evaluation report is inordinately delayed, even after four reminders, each at 15 days of interval (emails: 3 through ERP + 1 Personal) another examiner (3rd/4th examiner) from the approved panel may be appointed.
- Once reports from one Indian and one Foreign examiner are received, the file will be processed. In the meantime, if the additional report is received from the 3rd/4th examiner, before permission for the viva voce is accorded, the comments of the 3rd/4th examiner are also to be addressed by the student to the satisfaction of the DSC.
- If reports from additional examiners are received after permission for the viva voce examination is given, they shall be ignored. However, remuneration will be paid to all the examiners.
- 13.7 Neither a candidate nor his (or her) supervisor(s) is supposed to communicate with the examiners regarding the thesis evaluation nor to interfere with the process of thesis examination in any way. The thesis will be rejected if a violation of this guideline is made.
- 13.8 In case a candidate is found to have been involved in any form of research misconduct in connection with his (or her) research work, or if one or more of his (or her) declared statements are found to be false at any time, even after the award of the Ph.D. degree, then his (or her) thesis will be rejected.

14. CONSIDERATION OF THE EXAMINERS' REPORTS BY THE DSC

- 14.1 The DSC will consider the evaluation reports from the examiners, the comments of the Dean (FoE&A/FoBTBS/FoS), and those of the Director as Chairman of the Senate and will appropriately advise the candidate.
- 14.2 There may be **four** possible situations arising out of the nature of the reports, and the steps to be taken appropriate to the circumstances are as laid down below:

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- (i) The examiners are unanimous in recommending the award of the degree without any modification of the thesis. The DSC recommends holding the final thesis defence.
- (ii) The examiners are unanimous in recommending the award of the degree but one or both examiners either want clarifications on certain issues during the thesis defence or minor modification of the thesis. In either case the candidate modifies the thesis as per the examiners' comments and submits, to the DSC, the modified thesis and a summary of modifications within a maximum period of six months from the date the communication is sent to him (or her) in this regard. If the DSC is satisfied with the modified thesis and its presentation in the summary of modifications, it recommends holding the thesis defence.
- (iv) The examiners are unanimous in recommending the award of the degree but one or both examiners want major modification of the thesis and a re-evaluation of the modified thesis. In this case the candidate modifies the thesis as per the comments of the examiners and submits, to the DSC, the modified thesis and a summary of modifications within a maximum period of six months from the date the communication is sent to him (or her) in this regard. If the DSC is satisfied with the modifications made in the thesis and with their presentation in the summary of modifications, then the modified thesis is sent to the examiner(s) (who had asked for re-evaluation) for its re-evaluation.
- (v) One of the external examiners does not recommend the award of the degree and rejects the thesis while the other external examiner recommends the award. The DSC in such a case may either ask the candidate to modify the thesis as suggested within a given time, not exceeding six months, and send the modified thesis to the same examiner again, or, recommend to the Senate the appointment of another external examiner and send the thesis to him in its original form. The recommendation of this 'third' examiner, at this stage, shall be taken as final.

15. THE DEFENCE OF THE THESIS

- 15.1 Once the reports of the examiners are unanimous and favourable, the candidate is asked to defend his (her) thesis in an open viva before a Viva-Voce Board. The Viva-Voce Board consists of all the members of the DSC and one of the thesis examiners. Usually, the Indian examiner is invited to be a member of the Viva-Voce Board. In a special circumstance when a foreign examiner is present in the country, he (or she) may be invited instead, with the approval of the Chairman of the Senate, to be a member of the Viva-Voce Board.

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- 15.2 In case none of the two examiners is available for the thesis defence, the DSC may recommended appointment of another examiner from the original panel of thesis examiners or recommend a faculty from a reputed Indian institute having sufficient expertise in the area of the research. In such a case, a copy of the thesis has to be sent to the newly appointed examiner before the scheduled date of thesis defence.
- 15.3 The candidate makes a seminar presentation of the research work, gives clarifications to all the queries made by the examiners, the members of the Viva-Voce Board, and by the members of the audience present.
- 15.4 The PhD viva voce examination may be conducted through video conferencing system at a suitable venue abiding by all the norms of Ph.D open defense If so, the signature of the examiner on the report of viva-voce examination should be obtained in original. In case the Indian examiner is not able to conduct the viva even through video conferencing, either the foreign examiner may conduct it through video conferencing or another Indian examiner preferably from the existing panel be invited to conduct the viva voce examination in person. Approval must be obtained from Chairman Senate to conduct of viva-voce examination through video conferencing system or to invite another Indian examiner
- 15.5 If the performance of the candidate in the thesis defence is satisfactory and all other requirements are fulfilled, then the members of the Viva-Voce Board give a certificate to that effect, which becomes part of the candidate's thesis, and DSC recommends, to the Senate, the award of the Ph.D. degree to the candidate.
- 15.6 If the Viva-Voce Board is not satisfied with the performance of the candidate in the defence of the thesis, it asks the candidate to once again defend the thesis before the Board within the next three months.

16. REVISIONS OF THE THESIS

- 16.1 It is mandatory that the final thesis submitted to the Institute after the thesis defence is error free. Therefore, the candidate has to modify the thesis in the light of the examiners' comments and carefully edit the final thesis before submitting the required number of copies to the Institute.
- 16.2 The candidate has to prepare a summary of all the modifications done by him (or her) very professionally, indicating how the suggestions and comments made by the examiners have been complied and how the issues raised by the examiners are addressed in the final thesis. The candidate has to submit an unbound copy of the final thesis and adequate number of copies of the summary of modifications made in the final thesis, to the DSC for its scrutiny.
- 16.3 If the DSC is satisfied with the modifications, it sends the summary of changes made in the thesis and its soft copy to the Academic Section for sending them to the examiners.

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17. SUBMISSION OF THE FINAL THESIS

- 17.1 The candidate once again modifies the thesis after the thesis defence.
- 17.2 If the Viva-Voce Board so desires and prepares the final hard-bound copies of the thesis to the satisfaction of the supervisor(s).
- 17.3 He (or she) submits the final copy of the thesis to the Institute (one copy to each supervisor, one to the Head of the Department/Center/School for the Library there, and one to the Central Library). Copies to be submitted to the department and Institute library should be of A5 size.
- 17.4 He (or she) also signs a copyright transfer form empowering the Institute to post the Abstract of the thesis on the Internet and the entire thesis in the Institute intranet, for the benefit of the academic community at large.
- 17.5 The DSC makes specific recommendations to the Senate either for the acceptance of the thesis for the Ph.D. degree or for its rejection.
- 17.6 The Institute gives a Provisional Certificate to the candidate after receiving the DSC's recommendations and the certificates with regard to submission of the thesis copies at the required places.
- 17.7 Copies of the examiners' evaluation reports may be issued to the candidate at his (or her) request with the permission of the Chairman of the Senate without disclosing the names of the examiners.
- 17.8 Nothing contained in these Regulations shall preclude a candidate from publishing/patenting, either independently or jointly with the supervisor, the results of the work incorporated in the thesis, at any time before or after submitting the thesis for examination.
- 17.9 A provisional certificate and statement of grades are issued to the candidate after the submission of the final thesis.

18. AWARD OF THE DEGREE

- 18.1 A student who completes all prescribed requirements satisfactorily and clears all fees and dues payable to the Institute and the Hall of Residence, and against whom no charge of indiscipline or research misconduct is pending, shall be eligible for the award of Ph.D. degree of the Institute by the Board of Governors on the recommendation of the Senate. The degree shall be awarded at the annual convocation for the academic session in which the student completes the requirements satisfactorily.
- 18.2 In case after the degree is awarded a candidate is conclusively found to have indulged in research misconduct while carrying out his (or her) research work, the Institute will withdraw the award of the degree from the candidate.

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19. STAY IN HALL OF RESIDENCE AFTER SUBMITTING THESIS

- 19.1 For carrying out the revisions of the thesis as pointed out by the examiners and also during the period of thesis defence, preparation of the final thesis; permission is given to the candidate to stay in a Hall of Residence if he (or she) so requires.

20. FINANCIAL ASSISTANCE TO STUDENTS FOR PRESENTING PAPERS IN NATIONAL AND INTERNATIONAL CONFERENCES/SEMINARS/WORKSHOPS

- 20.1 Full-time students will be eligible for the grant of Financial Assistance (Registration Fee and Travel Allowance).
- 20.2 A Research Scholar can attend maximum 4 conferences within India, during her/his entire tenure.

The approval given to Research Scholars for financial assistance for presenting papers in International Conferences / National Conferences/Workshops / Seminars will be valid till date of thesis submission. The date for Conferences/Workshops/Seminars must be before the date of thesis submission.

The research scholars are entitled to travel by air in SAARC countries, other than India for presenting papers in International Conferences/National Conferences/Workshops/Seminars with the approval of the respective Academic Dean. To and fro economy class air fare by the direct shortest route be reimbursed, subject to the production of the supporting documents.

For travel within India, the rules and regulation applicable to the research personnel engaged in R&D programme as mentioned in the MoE, GOI letter no. 32-18/2023-TS-I dated 13.09.2023 may be followed.

Detailed guidelines and eligibility criteria are given at **Appendix-XIV**.

21. FULL FINANCIAL ASSISTANCE TO STUDENTS FOR PRESENTING PAPERS IN LISTED BEST ACADEMIC INTERNATIONAL CONFERENCES AROUND THE WORLD

- 21.1 Full-time students will be eligible for the grant of **Full Financial Assistance** (registration fee, Admissible Travel allowance, Admissible per diem as per institute rules, Visa fee, Medical Insurance, Local Travel in India). The detailed guidelines are given in **Appendix-XIV**

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APPENDIX –I

ELIGIBILITY CRITERIA FOR ADMISSION (Vide para 1.2 of Regulation)

1. All candidates seeking admission to the Ph.D. program under the categories mentioned below shall have to possess requisite marks/grades in the qualifying degree as shown below:

- a) Minimum 60% marks or a CGPA of 6.5 in 10 point scale in the qualifying examination (2a and/or 2b) in Engineering/Science/Commerce/Management/Law and/or equivalent

OR

- b) Minimum 55% marks or a CGPA of 6.0 in 10 point scale in the qualifying examination (2a and/or 2b) in Humanities/Social Science/MBBS degree and/or equivalent

Note: i) Candidates appearing in the final year of qualifying degree programme whose final result is awaited is required to enter the CGPA/Marks of all other preceding semesters except the final semester for that particular programme e.g., for B.Tech programme of 8 semesters, CGPA/Marks up to the 7th semester or M.Sc./M.Tech. programme of 2 years, CGPA/Marks up to 3rd semester and so on. An application not meeting this requirement will be rejected.

ii) CGPA will not be converted into percentage marks if the degree awarding Institute provides marks in CGPA system or vice versa. Their admission will be based on the CGPA or Percentage of Marks awarded in the transcript.

2.a) Minimum qualifying degree required for seeking admission to the Ph.D. program

- a) M.Tech (Master of Technology) / MS / ME (Master of Engineering)/ M.Sc(Engg.,)
b) M. Arch/ MCP (Master of City planning) /MRP (Master of Regional Planning)
c) M. Phil (2 year programme)
d) MBA / PG Diploma in Management of 2-year duration (after completion of B.Tech/M.Sc/MA/M.Com)
e) LLM (2 year program) after EITHER at least 5 years of integrated LLB degree after 10+2 examination OR 3 years LLB degree after 10+2+3 examination
f) A degree equivalent to any of the above

OR

2.b) Minimum qualifying degree required for seeking admission to the Ph.D. program

- a) B.Tech (Bachelor of Technology)/ BE (Bachelor of Engineering)/ B.Sc (Engg.)
b) B.Arch (Bachelor of Architecture)
c) M.Sc. (Master of Science) / MA (Master of Arts) / M. Phil. (1 year programme)
d) MBA / PG Diploma in Management of 2-year duration (after completion of BA/B.Sc/B.Com)
e) MBBS degree with compulsory one-year internship
f) 5 years (minimum) of integrated LLB degree after 10+2 examination OR 3 years LLB degree after 10+2+3 examination
g) A degree equivalent to any of the above

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3. Additional Requirements for different Admission category

a) Regular with Institute Assistantship

Candidates having minimum qualifying degree as mentioned in 2.(b) above must possess a **valid GATE score** that is **above the cut-off level of students admitted for M.Tech/MCP admission in a particular year** or **NET qualification with Assistant Professorship** for the award of Institute Research Assistantship. For admission in Ph.D programme, the validity of NET qualification with Assistant Professorship is for three (3) years from the date of declaration of NET results.

- 1) If a person who is in employment and is applying for Institute Assistantship and is selected for admission, he/she must resign and produce the acceptance of resignation by the employer at the time of joining or produce a document that he/she is not receiving any salary from his/her employer along with proper document of sanctioned leave.
- 2) The Institute Research Assistantship shall be awarded for a maximum period of 5 years. At present the amounts are as follows:
 - Rs. 37,000/- pm for the first 2 years
 - Rs. 42,000/- pm for the next 3 years
- 3) No Research Student shall be permitted to receive any emoluments, salary, stipend or any other scholarship/assistantship during the tenure of Institute Research Assistantship.

b) Individual Fellowship (CSIR/UGC/DBT/ICAR/INSPIRE etc.)

- 1) All candidates applying for Individual Fellowship category must have **valid award letter** with fellowship issued by the respective funding agency (i.e. CSIR/UGC/DST/DBT/ICMR etc.).
- 2) Candidates admitted under Individual Fellowship category shall not be entitled for Institute Research Assistantship.
- 3) Candidates having provisional Individual Fellowship award letter must give an undertaking that “In case of cancellation/withdrawal of Provisional award of fellowship by the funding agency, the admission at IIT Kharagpur will be cancelled from the date of joining the Ph.D programme and there is no liability on the part of IIT Kharagpur in this regard”.

c) Sponsored

- 1) Persons who possess the minimum prescribed qualifications as mentioned above in para 1 & 2 (without GATE/NET) and are in service in any of the following establishments with **Minimum of two-years job experience** shall be eligible for admission to the Ph.D. program as sponsored candidates:
 - a) defence or other ministries of the Government of India or any other government organizations in India;
 - b) established industrial research and development organizations;

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- c) autonomous bodies and public undertakings;
 - d) universities/colleges;
 - e) reputed industries as may be recognized by the Institute.
-
- 2) An intending sponsored candidate must submit his/her application in prescribed form for admission through his/her employer, who will forward the same to the Institute with suitable endorsement.
 - 3) A sponsored candidate selected for admission shall be required, at the time of joining the Institute, to produce certificate in the prescribed form from the employers to the effect : (i) that he/she has been officially released from his/her duties for purpose of joining the program and has been granted leave for the required period; (ii) that his/her services shall be retained with the employer.
 - 4) In the case of a sponsored candidate admitted as such to the Ph.D. program, the minimum residential requirement is one semester at a stretch subject to successful completion of course work.
 - 5) A candidate sponsored by an industry, an R&D organization, educational institution or a Government organization having adequate research facilities may be allowed to work externally subject to his/her organization fulfilling all such conditions prescribed in the Regulations.

d) PH.D. through Project

- 1) Persons who possess the minimum prescribed qualifications as mentioned and are working in a sponsored project of the Institute (i.e. under auspices of SRIC of the Institute) shall be eligible for admission to the Ph.D. program under project category.
- 2) An intending candidate must submit his/her application in prescribed form for admission through Principal Investigator, Head of the Department/Centre/School and Dean (SRIC) with suitable endorsement.
- 3) The minimum period of the project, as well as the tenure of the project employee in the project, be at least 2 years.

4. B.Tech. and Dual Degree (B.Tech and M.Tech) from IIT

- 1) IIT B.Tech.'s with CGPA ≥ 8.0 and IIT Dual Degree's (B.Tech & M.Tech) with CGPA ≥ 8.0 (after completion of degree) be given direct admission in Ph.D. programme with Institute Research Assistantship.

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5. PhD program for Working Professionals with Minimum Residential Requirements

Discipline	Minimum eligibility criteria
Engineering and Basic Sciences	B.Tech/BE/M.Sc or equivalent degree with a minimum CGPA of 7.5 on a 10 point scale or 70 % marks and with a minimum working experience of 2 years
HSS	<p><i>For candidates with more than 2 years and less than 10 years' work experience:</i> B.Tech/BE/M..Sc./MA or equivalent degree with a minimum CGPA of 7.5 on a 10 point scale or 70 % marks</p> <p><i>For candidates with equal to or more than 10 years' work experience:</i> B.Tech/BE/M..Sc./MA or equivalent degree with a minimum CGPA of 7.0 on a 10 point scale or 65% marks</p>
VGSOM	<p><i>For candidates with more than 2 years and less than 15 years' work experience:</i> B.Tech/BE/M..Sc./MA/MBA or equivalent degree with a minimum CGPA of 7.5 on a 10 point scale or 70 % marks</p> <p><i>For candidates with equal to or more than 15 years' work experience:</i> B.Tech/BE/M..Sc./MA/MBA or equivalent degree with a minimum CGPA of 6.5 on a 10 point scale or 60% marks</p>
SMST	<p><i>For candidates with MBBS degree:</i> Minimum CGPA of 6.5 in 10 point scale or 60 % marks</p> <p><i>For candidates with B.Tech/BE/M.Sc:</i> A minimum CGPA of 7.5 on a 10 point scale or 70 % marks</p>
RGSoIPL	A minimum CGPA of 6.0 on a 10 point scale or 55% marks in LLB, and with a minimum work experience of 10 years.

For all the disciplines:

- I. The candidate must meet the minimum eligibility criteria to be shortlisted for test and interview. Any conversion of CGPA to percentages of marks (or vice versa) to meet this criterion will not be permitted unless the conversion formula is explicitly mentioned in the transcripts.
- II. Candidates with higher than the minimum academic qualification will be given relaxation in the course requirement as per Institute rules.
- III. Experience: Two years of post-qualification experience (experience may include stints at multiple organizations) for candidates holding Bachelor/Master degree in relevant disciplines.
- IV. Candidates need to provide a '**NO OBJECTION**' certificate issued from their company, stating it has no issues with the candidate pursuing Ph.D under the proposed scheme: **Ph.D Program for Working Professionals with Minimum Residential Requirements**. No commitment of financial support or the continuation of their employment during or after the Ph.D is required.

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- V. There is no provision of any financial assistance for Working Professionals with Minimum Residential Requirements.
- VI. Detailed guidelines are available in **Appendix- VII.**

6 Special Notes

- 1) Department/Centre/School may fix additional admission criteria without compromising the eligibility criteria mentioned here.
- 2) Mere fulfillment of the eligibility criteria does not guarantee admission to the Ph.D programme.
- 3) Any document will be considered as valid if that is valid on or after the date of admission.
- 4) The decision of IIT Kharagpur regarding determination of equivalent degree is final and binding to all applicants.

APPENDIX- II

TERMS AND CONDITIONS FOR THE AWARD OF INSTITUTE RESEARCH ASSISTANTSHIP

(Vide para 1.3(i) of Regulation)

- 1.1 All Research Students admitted to the research programme under Institute category shall be entitled to award of Institute research assistantship.
- 1.2 A Ph.D. student in the Project category may be granted, on the recommendation of the DSC and D.A.C. (PG&R) Institute Research assistantship provided he (or she) qualifies in GATE (or NET with fellowship). The project research scholar also be selected through the regular selection process (Admission test) of the Institute with same cut-off as applicable for the regular candidates. The total period of the scheme service enjoyed and the Institute assistantship together should not exceed 5 years. Transfer from CSIR/UGC etc., individual fellowships and from research projects to Institute Scholarship will be guided by the following:
- (i) The minimum period of the project, as well as the tenure of the project employee in the project, be at least 2 years.
 - (ii) In the event of pre-mature closure of the project or non-availability of fund in the project, the said research scholar, may also be transferred to the Regular with Assistantship category for the remaining period, subject to the approval of DSC and the respective Academic Dean. Total period of Assistantship and the amount of the Assistantship be governed by the rules and regulations of the Institute.
 - (ii) Individual research students from external funding agencies like CSIR/UGC/ICAR etc., must have completed 3 years as Individual fellows.
 - (iii) The candidates will present their work done so far for his/her Ph.D. at an open Seminar with the DSC and DAC (PG&R) present and the DAC (PG&R) will satisfy itself that the case is deserving.
 - (v) Such a case can be considered only if the fellow has been registered for the Ph.D.
 - (vi) All other rules applicable for selection of regular Institute Ph.D. students will apply.
2. The value of the Institute Research Assistantship shall be as per MHRD norms.
- Present value:

First two years	Rs: 37, 000/- per month
Third, Fourth and Fifth year	Rs: 42, 000/- per month

- 2.1 The value of Research Assistantship of a registered candidate may be recommended for enhancement by the DSC after completion of two years of continuous research work based on existing guidelines and on the basis of a written report and a seminar (enhancement seminar) given to an open audience with members of DAC (PG&R) present.

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The enhancement of fellowship will be made from the month in which the scholar gives the enhancement seminar. In the event the seminar is delayed beyond stipulated period, the scholar will continue to get fellowship at old rate for the period (month) for which the enhancement application is delayed. In such situation the DSC should recommend for payment of fellowship in pre-revised rates.

- 2.2 Research scholars (Institute, individual and Project category) having no fellowships after completion of 5 years may be provided teaching assistantship of Rs. 15,000.00 (Rupees Fifteen thousand only) per month for 12 (twelve) months or the date of submission of thesis whichever is earlier in six-monthly installments subject to the recommendation of DAC (PG&R) and DSC after assessing the progress of work. These students should be assigned academic responsibilities up to ten (10) hours per week to tutorial classes, laboratory demonstration work, conduct of Seminar/Symposia, running and maintenance of equipment/computer as decided by the Head of the Department/Centre/School and Invigilation duty, assignments in the central research facility as decided by the respective authorities.
- 2.3 In the event of the DSC being not satisfied with the progress of a student during the preceding two years it may recommend suspension of enhancement in the value of the assistantship for such period, as it deems appropriate. The Committee will reassess the candidate's work after the period so fixed and if the enhancement is recommended, indicate the date from which the enhanced value will be effective.
- 2.4 The time gap between the registration seminar and the enhancement seminar be decided by the DSC, based on the progress of the student. Irrespective of any time gap or not, the report for the enhancement seminar should be different from the report for the registration seminar.

3. **Tenure**

- 3.1 The assistantship shall be payable from the date the student joins the Institute. At the initial stage the order for payment of assistantship shall, however, be issued when the student is enrolled formally.
- 3.2 The tenure of a research assistantship shall be five years counted from the date of joining; the initial award shall however, be released for one year and then renewed from year to year up to the fifth year, subject to satisfactory progress.
- 3.3 Normally the tenure of the assistantship awarded to a student will terminate with effect from the day following the date of submission of thesis, provided he (or she) has not left the Institute earlier and has been working in the Department/Centre/School till that date. However, a student may be allowed to draw assistantship for a further period of 3 months to

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complete any unfinished part of experiment undertaken relating to his/her research work, subject to the overall limit of 5 years, on the recommendation of the supervisor. The scholar has to be a full time student during this period.

- 3.4 Further extension of fellowship till the date of thesis defence will be on performance basis. The DSC will recommend such request of students to the Director through Dean (FoE&A/FoBTBS/FoS) for consideration. However, fellowship period shall not exceed maximum period of 5 years as per the MHRD order at the moment and students receiving extension beyond 3 months need to pay the semester registration fees.
- 3.4 The assistantship for the last month shall be payable subject to foregoing conditions up to the actual date of the scholar's leaving the Institute. The disbursement of last monthly installments of assistantship shall be made, on production of a 'No Dues' certificate from the Hall of Residence, the Library and the Department/Centre.
- 3.5 Notwithstanding anything contained in the foregoing sub-paragraphs, continuation of assistantship from month to month is subject to candidate's good conduct and continuous progress of research work to the satisfaction of the Supervisor(s), the Head of the Department/Centre/School and other authorities.

4. **Leave rules**

- 4.1 A Ph.D. student in the Institute category is required to carry out his/her research work regularly under the guidance of the Supervisor(s), without any interruption during the period he enjoys the assistantship.
- 4.2 A student shall be entitled to (i) casual leave of 15 days and (ii) medical leave of 30 days in a year counting from the date of joining the program. The Head of the Department/Centre/School will be the sanctioning authority in such cases. Any leave not availed of shall not accumulate.
- 4.3 Before proceeding on medical leave, the B.C Roy Technology Hospital should be informed and before rejoining the Institute, the student should obtain a fitness certificate from B.C.Roy Technology Hospital.
- 4.3 Married Research Students admitted to the Research programme of the Institute shall, in addition to casual leave and medical leave prescribed by foregoing sub-para, be entitled to maternity/paternity leave as per Government of India rules if the request for the leave is supported by a medical certificate from a Registered Medical Practitioner. The Head of the Department/Centre/School will be the sanctioning authority in such cases.
- 4.4 Any absence over and above the admissible leave as prescribed above shall be without assistantship, which shall be deducted on a pro-rata basis for the days of such absence.
- 4.5 A research student may, on the recommendation of the Supervisor and the Head of the Department/Centre/School, be granted leave without assistantship for a total period not

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exceeding three months, during the entire tenure of assistantship by the Dean of Postgraduate Studies.

- 4.6 In exceptional circumstances the Dean (FoE&A/FoBTBS/FoS) may, on the recommendation of the DSC grant a Research Student leave without assistantship for a period not exceeding 12 months in the entire period of his (or her) tenure for the purpose of accepting teaching/research assignment on temporary basis provided the post accepted by the student is in the same department or in an educational institution, R & D organization or an industrial organization of repute. When a student is granted such leave without assistantship the enhancement of the value of assistantship shall be deferred for the appropriate period. In all the cases of leave granted under the para-4, the period spent on leave shall be counted for the purpose of termination of the tenure of the assistantship.
- 4.7 In case of serious illness, the research scholar may avail a part of casual leave as medical leave, in addition to 15 days, at the discretion of the H.O.D./H.O.C./H.O.S. They are not entitled to vacation leave (summer & winter). Any leave not availed of shall not accumulate. Married research students will be eligible for the maternity/paternity leave as per Govt. of India norms. Such leave will be granted only once during the period of tenure of the award. In cases where extensive field-work is necessary, absence from station up to a period of 12 weeks per year will be considered as on duty on certification of the Head of the Department/Principal Investigator.

Schedule – A

Other administrative matters of research scholars enrolled under different categories

1. General

- 1.1 No research student shall be permitted to receive any emoluments, salary, stipend or any other scholarship/assistantship during the tenure of award. In the event of a student being awarded another scholarship/assistantship of the Institute or of any external organization/Institution, he/she will have the option to retain any one of the awards according to his/her choice, which he/she will communicate immediately in writing to the Dean (FoE&A/FoBTBS/FoS)
- 1.2 Ph.D. students in the QIP category shall however draw fellowship and contingency grant from the QIP programme of MHRD only as per rules applicable to them. They shall in no case be eligible for the award of Institute Research Assistantship.
- 1.3 A research student may be assigned academic responsibilities up to eight hours per week of tutorial classes, laboratory demonstration work, conduct of Seminar/Symposia, running and maintenance of equipment/computer as may be decided by the Head of the Department/Centre/School.

REGULATIONS RELATING TO THE PhD PROGRAMME

- 1.4 A research student shall maintain, besides satisfactory academic progress, good conduct, behavior and discipline in the Institute. In the event of a scholar being found to be involved in any act of misconduct, miss behavior, indiscipline or use of unfair means at an examination, the Assistantship is liable to be suspended with immediate effect.
- 1.5 If a research student wishes to relinquish the assistantship during the tenure, it should be done with the prior approval of the Supervisor, the Head of the Department/Centre/School and the Dean of Postgraduate Studies. He/she should also obtain prior permission from the same authority for appearing in any examination conducted by any Institution, University or Public Body.

2. HOUSE RENT ALLOWANCE/DEARNESS ALLOWANCE

(i) **Institute Research Students:**

There will be no House Rent Allowance, Dearness Allowance.

(ii) **Other categories** (scheme research fellows/CSIR etc.) :

Same principle as above will be applicable.

3. TERMINATION OF ENROLMENT

On the basis of reports received from DSC, the enrolment may be terminated at any time for reasons of unsatisfactory performance and the Institute's decision in this regard shall be final.

4. OTHER ASSIGNMENTS

No one shall accept or hold any appointment, paid or otherwise or receive any emoluments, salary, stipend etc., from any other source during the tenure of the award. However, they may receive honorarium against specific work done for projects (mainly consultancy) from time to time with the prior permission of the Supervisor(s) and Dean (PGS).

5. RELINQUISHMENT OF RESEARCH ASSISTANTSHIP, FELLOWSHIPS ETC., AND PERMISSIONS

If a research student wishes to relinquish the assistantship during the tenure, it should be done with the prior approval of the Institute.

He (or she) should also obtain prior permission of the Institute for appearing in any examination conducted by any Institution, University or Public Body.

REGULATIONS RELATED TO SPONSORED STUDENTS FOR THE PH.D. PROGRAMME (Vide para 1.3(iii) of Regulation)

The Institute may admit to the Ph.D. programme candidates who are in gainful employment as 'Sponsored students' subject to the following conditions:

- 1.1 Persons who possess the minimum prescribed qualifications and are in service in any of the following establishments with **Minimum of two-years of job experience** shall be eligible for admission to the Ph.D. program as sponsored candidates:
 - (a) defence or other ministries of the Government of India or any other government organizations;
 - (b) established industrial research and development organizations;
 - (c) autonomous bodies and public undertakings;
 - (d) universities/colleges;
 - (e) such industrial organizations as may be recognized by the Institute for the purpose from time to time.
2. An intending sponsored candidate must submit his (or her) application in prescribed form for admission through his (or her) employer, who will forward the same to the Institute with suitable endorsement so as to reach the Institute by the date stipulated in the notification for the semester.
3. A sponsored student selected for admission shall be required, at the time of joining the Institute:
 - (a) to submit evidence of having passed the qualifying examination and such other documents as the Institute may require,
 - (b) to produce certificate from the employers to the effect
 - (i) that he (or she) has been officially released from his (or her) duties for purpose of joining the Ph.D. programme and has been granted the leave for the required period,
 - (ii) that his (or her) services shall be retained with the employers.
4. A sponsored student will not be eligible for the Institute assistantship.
5. (a) The minimum residential requirement for a sponsored student is one year, However, it may be reduced to one semester to be completed at a stretch, preferably immediately after joining, if the sponsoring organization has requisite R&D facilities, the organization can extend these facilities to the student to carry out the research there, and subject to conditions as on following.

REGULATIONS RELATING TO THE PhD PROGRAMME

- (b) A student sponsored by an industry, an R&D Organization, educational institution or a Government Organization having adequate research facilities may be allowed to work externally subject to his (or her) fulfilling all such conditions applicable and prescribed by these Regulations. Permission to carry out the research work partially or entirely at the sponsoring organization shall be granted only if the DSC is satisfied about availability of research facilities there and fulfillment of all requirements.
 - (c) Such permission is to be obtained in advance.
 - (d) In such a case a joint supervisor from the sponsoring organization with adequate research experience may be appointed with the approval of DSC.
 - (e) When a sponsored student is granted permission to work externally at the parent organization he (or she) is required to maintain regular contact with the supervisor(s) in the Institute.
6. No candidate shall normally be allowed to change the category under which he (or she) is enrolled.
7. However, if an enrolled sponsored student obtains:
- (i) NET fellowship
 - (ii) Qualify in GATE examination with a score above the cut off percentile for candidates admitted as Institute Research scholars with assistantship.
 - (iii) Obtains a scholarship (JRF/SRF) in a scheme/project after having qualified in GATE/NET with fellowship

Subsequent to his (or her) enrolment, and desires to change his (or her) enrolment status, then he (or she) has to obtain re-admission to the Ph. D. program (by qualifying in the tests and interview to be conducted for the purpose) as Institute Research Student/Project fellow and, if selected, must resign from his (or her) job.

The coursework requirement and completion status of the student will remain unchanged after the change to this new category. The enrolment shall however remain valid for a maximum period of 8 years from the date he (or she) was admitted to the Ph. D. program originally as a sponsored student.

APPENDIX- IV

RULES AND REGULATIONS RELATED TO PROJECT CATEGORY (Vide para 1.3(iv) of Regulation)

- 1) Persons who possess the minimum prescribed qualifications and are working in a sponsored project of the Institute (i.e. under auspices of SRIC of the Institute) shall be eligible for admission to the Ph.D. program under project category.
- 2) An intending candidate must submit his/her application in prescribed form for admission through Principal Investigator, Head of the Department/Centre/School and Dean (SRIC) with suitable endorsement.
- 3) The minimum period of the project, as well as the tenure of the project employee in the project, be at least 2 years.
- 1) Ph.D/MS enrolment will automatically terminate for project employee, if a student submits his/her resignation or terminate his/her assignment in the project.

APPENDIX-V

RULES RELATING TO ENROLMENT OF MEMBERS OF TEACHING AND NONTEACHING STAFF

(Vide para 1.3(vi) of Regulation)

1. Members of teaching and non-teaching staff (working in permanent capacity, including technical and non-technical) may be permitted to join the Ph.D. program of the Institute provided, that prior permission has been obtained from the Director before applying for admission to the programme.
2. For admission to the programme, a member of staff must fulfill the prescribed norms and at the qualifying examination he (or she) must have obtained prescribed minimum qualification for admission to the Ph.D. programme are given in **Appendix-I** of the regulations.
3. All common rules laid down in the Ph.D. Regulations relating to course work, prosecution of research work under the supervision of a member of faculty, etc. shall be applicable to all members of staff enrolling for the Ph.D. programme.
4. All members of staff permitted to join research programme must pay the prescribed enrolment-cum-registration fee and also the thesis evaluation fee before submission of the thesis on completion of the work.
5. A member of staff enrolled for the Ph.D. programme shall be exempted from payment of any tuition and other fees except the (a) Admission fee, and (b) Thesis fee. Members of staff permitted and enrolled for the Ph.D. programme shall not be entitled to any Assistantship.

The other conditions for permission to the two categories of staff shall be as follows:-

A. For Members of Teaching and Academic Staff:

- (i) A faculty member enrolled for the Ph.D. degree may, depending upon his/her teaching/research experience carry out his/her research work under the supervision of a senior faculty of the Institute. The Chairman of the DSC shall be the HOD/HOC of the faculty member's own department/centre.
- (ii) The Doctoral Scrutiny Committee constituted in respect of a member of teaching staff applying for registration may recommend exemption from doing the necessary course work in view of the qualification he possesses or his/her teaching experience.
- (iii) A member of a faculty who has put in at least 2 years of continuous service in the Institute may, on the recommendation of the Doctoral Scrutiny Committee, be permitted to submit his thesis on completion of a minimum period of six months from the date of enrolment. He/she will however, be required to go through the formalities of course work (if necessary) and seminars before submission of the thesis.

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B. For Members of Non-Teaching and Non-Academic Staff:

- (i) A member of non-teaching or non-academic staff seeking permission to join the research program must hold a permanent post in the Institute.
- (ii) The application for administrative permission to join a research program by a member of non-teaching staff must be submitted through the Head of the Department/Centre or the Section In-charge, as the case may be. While submitting the application he/she must give an undertaking in the form appended hereto (**Schedule-B**) to the effect that he/she will abide by all rules and regulations.
- (iii) If the exigencies of Institute work so require, the permission granted to a member of non-teaching staff under these rules can be withdrawn by the Institute at any time.
- (iv) Every application for permission under these rules shall be examined by the Research Program and Evaluation Committee taking into account whether the proposal for joining the programme for which permission is sought for arises out of genuine interest and ability.
- (v) After the permission is granted he/she will submit his (or her) application on prescribed form together with the prescribed enrolment-cum-registration fee. On receipt of this application the Head of the Department/Centre concerned will place the same before DAC (PG&R) for composition of the Doctoral Scrutinee Committee.
- (vi) The minimum period to be spent in the research work by a member of non-teaching staff registered for the Ph.D. degree shall be 5 years. The maximum period admissible for completion of the work and submission of the thesis shall, however, remain same as in the case of regular candidates, i.e., 8 years.

SCHEDULE – B

UNDERTAKING

I, Mr./Ms. member of the teaching/non-teaching staff holding a permanent post of in the Department/Centre/School of at the Indian Institute of Technology, Kharagpur, hereby give the undertaking that I shall abide by the rules and regulations as may be laid down by the Senate of the Institute from time to time for undergoing the Ph.D. programme.

I also undertake hereby that since I shall be on duty while undergoing the programme of studies/research I shall ensure that all normal official duties assigned to me are executed without any handicap.

I further understand that the permission granted to me for joining the programme can be withdrawn at any time if the exigencies of official duties so require or if I cause breach of any of the provisions of rules and regulations.

Date:

(Signature)

RULES FOR FOREIGN NATIONAL CATEGORY (Vide para 1.3(vii) of Regulation)

1. Admission criteria will be solely academic in nature. Fees to be paid, ability to pay, and eligibility for scholarship(s) will not be considered part of admission criteria.
2. It is understood that fees and scholarships may be governed by one or more of:
 - a) Agreements signed by Govt. of India with foreign countries
 - b) IIT Council policy if any
 - c) IIT Kharagpur's MoU with partner Institutions (DDP or otherwise)
 - d) IIT Kharagpur's own policy in the absence of Govt. Agreement and Partner MoUs
 - e) IIT Kharagpur's own policy for students joining SRIC projects
3. Admission criteria for Dual Doctoral Program students from partner Institutions to be governed by respective MoUs
4. Admission criteria for foreign students not from a DDP Partner Institution:
 - a. Each Department/School/Centre to set:
 - i. Its own eligibility criteria/cutoff in matters of past academic record and qualification
 - ii. Its own admission test which may be a sufficiently long interview administered in video conferencing mode
 - b. The Interview will test for both technical and English skills
 - c. TOEFL/GRE/ similar test scores to be made optional
 - d. Two letters of reference from professional contacts regardless of time elapsed after last degree
5. Admission process will be compliant with Gol's rules regarding applicant's country of citizenship and current immigration status in India, if any.
 - a. Initial screening will be made to determine if applicant belongs to a "special permission" country. If so, necessary permission from Gol to be sought before the application can be processed further. For applicants not belonging to a "special permission" country, the application process will be initiated.
 - b. If applicant is found academically suitable for admission to PhD Program and accepts the provisional offer, due permission to issue visa letter from GoI to be sought.
 - c. If above permission is obtained, visa letters to be issued as per rules.

REGULATIONS RELATING TO THE PhD PROGRAMME

6. Post-Admission rules for foreign students
 - a. All relevant PhD rules of the Institute starting with enrollment to defence will be applicable
 - b. Exceptions/ equivalence will be made for a DDP Student from a Partner Institution as per MoU

APPENDIX- VII**GUIDELINES FOR PHD PROGRAM FOR WORKING PROFESSIONALS WITH MINIMUM RESIDENTIAL REQUIREMENTS (Vide para 1.3viii)****1) Primary Eligibility Criteria**

- a) Reputation of the company or organization where the candidate is working.
- The companies (private/government), research organizations, Ministries of Central and State Governments wherein the candidate is presently employed should have well established reputation & image and possibly known to the faculty members of the department in which the candidate is desirous of seeking PhD admission.
 - If this is an enterprise or company, it is expected that it should have a listing in the premier stock exchanges and should have an annual turnover of at least 20 crore rupees.
 - List of the reputed companies/ organizations/ firms should be updated regularly at the departmental level to verify the credentials.
 - In case the department is not sure about the company/organization, the decision will be taken by a committee consisting of the Dean (FoE&A/FoBTBS/FoS), Head of the Department/Centre/School and the Chairman CDC.
- b) Defence or other ministries of the Government of India or any other government organizations
- c) Established industrial research and development organizations
- d) Autonomous bodies and public undertakings excluding academic institutions

2) Requisite Qualifications

- a) The candidate must meet the following criteria to be shortlisted for interview and test.

Discipline	Minimum eligibility criteria
Engineering& Basic Sciences	B.Tech/BE/M.Sc or equivalent degree with a minimum CGPA of 7.5 on a 10 point scale or 70 % marks and with a minimum working experience of 2 years
HSS	<p><i>For candidates with more than 2 years and less than 10 years' work experience:</i> B.Tech/BE/M.Sc/MA or equivalent degree with a minimum CGPA of 7.5 on a 10 point scale or 70 % marks</p> <p><i>For candidates with equal to or more than 10 years' work experience:</i> B.Tech/BE/M.Sc/MA or equivalent degree with a minimum CGPA of 7.0 on a 10 point scale or 65% marks</p>

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VGSOM	<i>For candidates with more than 2 years and less than 15 years' work experience: B.Tech/BE/M.Sc/MA/MBA or equivalent degree with a minimum CGPA of 7.5 on a 10 point scale or 70 % marks</i> <i>For candidates with equal to or more than 15 years' work experience: B.Tech/BE/M.Sc/MA/MBA or equivalent degree with a minimum CGPA of 6.5 on a 10 point scale or 60% marks</i>
SMST	For candidates with MBBS degree: Minimum CGPA of 6.5 in 10 point scale or 60 % marks For candidates with B.Tech/BE/M.Sc: A minimum CGPA of 7.5 on a 10 point scale or 70 % marks
RGSolPL	A minimum CGPA of 6.0 on a 10 point scale or 55% marks in LLB, and with a minimum work experience of 10 years.

The candidate must meet the minimum eligibility criteria to be shortlisted for test and interview. Any conversion of CGPA to percentages of marks (or vice versa) to meet this criterion will not be permitted unless the conversion formula is explicitly mentioned in the transcripts.

Candidates with qualification higher than the minimum academic qualification will be given relaxation in the course requirement as per Institute rules.

b) *Experience*: Two years of post qualification experience (experience may include stints at multiple organizations) for candidates holding Bachelor/Master degree in relevant disciplines. However, in case of candidates with MBBS degree seeking admission in SMST, minimum five years of post-qualification experience is required.

c) Candidates need to provide a '**NO OBJECTION**' certificate issued from their company, stating it has no issues with the candidate pursuing PhD under the proposed scheme: **PhD Program for Working Professionals with Minimum Residential Requirements**. No commitment of financial support or the continuation of their employment during or after the PhD is required.

3) Selection of the Candidate

a) Candidates who meet the above requirements should look out for prospective faculty members in the department where he/she is interested to register for his/her PhD degree.

b) A research proposal approved by the prospective supervisor **must** be submitted by the candidate at the time of the application.

c) The candidates fulfilling the above will have to appear for interview/test along with other regular candidates appearing for PhD admissions.

4) Requirement of Courses & Examinations

- a) The coursework will be a minimum of **20** credit points (for candidates with Bachelors degree) and **16** credit points (for candidates with Masters degree) with due consideration to special requirements if any. No compulsory courses e.g., English for communication, management etc are required.
- b) A plan of study shall be prescribed by the DSC (constituted as per the prevalent norms) which may include besides the available courses in the Institute, courses of MOOCS/NPTEL/virtual classrooms/interactive exercises and active learning programs offered only by IIT/IISc/IIM/IISER/AIIMS. The GIAN courses may also be specified, if found relevant. For ongoing MOOCS courses the grade assigned at the end of the course will be directly transferred to the student's coursework. For all other courses the concurrence from a faculty member to set the question paper and evaluate the performance of the student should be obtained.
- c) The grading criteria using the conversion scheme from percentage marks, as approved by the institute and currently in use, shall be followed for NPTEL courses also.
- d) Self-study courses with standard format (weekly or bi-weekly assignments and its uploading in the ERP) will be mandatory to ensure progress and rigor. The candidate will have to appear for **only the end semester examinations**, preferably during the regular examination period of IIT Kharagpur. For self study course the consent of the subject teacher must be obtained before registration.
- e) At the end of the online & contact courses listed above, the student should submit the course completion certificate(s) with grades/marks for record in his/her course work.
- f) Submission of semester progress report through seminar and presentation will be compulsory.
- g) The candidate shall have to spend at least one week per semester at IIT Kharagpur, interacting with his supervisor that may include working in the laboratory. During this period the student may stay at appropriate guest houses of the Institute on payment basis, subject to availability. If the student needs to spend extended period (beyond one month), IIT Kharagpur will extend hostel, library, outdoor medical and other facilities on payment basis. HMC should decide on whether to accord facilities including inter hall/institute activities on a case by case basis.
- h) Credit transfer is not permissible for those courses which the candidate has already completed before taking admission in IIT Kharagpur. DSC may assign other courses from NPTEL.

5) DSC Formation and Registration

The selected candidates will have a Doctoral Scrutiny Committee as per the existing regulations. A person with the suitable background from the parent company is preferred as the Joint Supervisor but not mandatory.

6) Duration of PhD Program

The minimum duration of PhD program for such candidates is 3 years and the maximum tenure is 8 years from the date of enrolment.

7) Annual Progress Report

The candidate will have to submit a yearly progress report and appear for seminars every year after his/her registration. In addition, the candidate will have to appear for a comprehensive examination (written test only, or viva only, or both) before registration seminar.

8) Synopsis and Thesis Submission

- a) In order to become eligible for the submission of the synopsis Seminar, the candidate must have at least two publications in SCI journals/monographs.
- b) Rest of the rules for synopsis, thesis submission/ viva-voce will be as per the existing rules of the institution.

9) Fees

- a) The tuition fee for this program will be Rs. 25000 per semester and it will be revised from time to time.
- b) There is no provision of scholarship for the prospective PhD candidates.

Initially efforts will be made to maintain the ratio of one such type of PhD candidates per four faculty members with a view to restrict not more than 125 of such type of PhD candidates at a time pursuing PhD in the institute.

All other rules/norms of the Institute regarding PhD students will be applicable

APPENDIX- VIII

RULES RELATING TO RESIDENTIAL ACCOMMODATION (Vide para 1.4 of Regulation)

The Institute is fully residential; hence every student is allotted a room in a Hall of Residence.

If a student takes temporary withdrawal from the Institute or submits the soft-bound copies of his (or her) thesis or leaves the research programme (taking permanent withdrawal from the programme), or goes on long leave (for six months or more) for doing part of his (or her) research work elsewhere, then he (or she) has to vacate the allotted room.

Students rejoining the Institute after taking temporary withdrawal or having done their research work elsewhere or coming for revision of the thesis or for giving their viva-voce examination or for consulting with their supervisors for the purpose of preparing papers out of their theses are allotted rooms by the Warden when the Dean (FoE&A/FoBTBS/FoS) permits them on the basis of recommendations from the Supervisor(s) and Heads.

The following are the rules governing the conduct of research students during their stay in the residential accommodation in the Institute.

1. The mess of each Hall of Residence shall function as a single integrated unit and shall not, under any circumstance, be sub-divided into any kind of group or sub-group.
2. In special cases, the Director/Dean (FoE&A/FoBTBS/FoS) may permit a student to reside with his (or her) parent/guardian in the Institute campus or within a reasonable distance from the Institute. Such a student shall, however, be attached to a Hall of Residence and be required to pay seat rent and Hall establishment charges according to rules. However, this permission may be withdrawn at the discretion of the Institute, without assigning any reason.
3. Limited accommodation is available for married Research Scholars subject to availability.
4. A student shall reside in a room allotted to him (or her) and may be permitted to shift to another room only under the direction of the Warden.
5. No student shall be allowed to reside in or leave a Hall of Residence without prior permission of the Warden.
6. Students shall be required to make their room available for inspection, repairs, maintenance and disinfection whenever required. They shall be required to vacate the rooms when leaving for long holidays and discontinuing stay in the Institute.
7. Students shall be responsible for the proper care of the furniture, fan and other fittings in their rooms. They are and shall assist the Warden in ensuring proper use, care and security of the furnishings (TV set etc.) provided in the Halls for the common use of all students.
8. Students will be responsible for the safe keeping of their own property. In the event of loss of any personal property of a student due to theft, fire or any other cause, the Institute shall accept no responsibility and shall not be liable for payment of any compensation.

REGULATIONS RELATING TO THE PhD PROGRAMME

9. Use of electrical appliances such as heaters, and cooking inside the rooms are strictly prohibited.
10. No student is allowed to engage personal attendant or keep pets in the Hall of Residence.
11. A student who has been permitted to withdraw temporarily from the program must vacate for the time being the Hall accommodation, on the date of leaving. He (or she) will be allotted accommodation again when he re-joins.
12. All students must abide by the rules and regulations of the Halls of Residence as may be framed from time to time.

RULES REGARDING CONDUCT AND DISCIPLINE

(Vide para 1.16 of Regulation)

1. Students shall conduct themselves within and outside the precincts of the Institute in a manner befitting the students of an institution of national importance.
2. Students shall show due respect to the teachers of the Institute, the Wardens of the Halls of Residence, the Sports Officers of the Gymkhana and the Officers of the National Cadet Corps; proper courtesy and consideration should be extended to the employees of the Institute and of the Halls of Residence. They shall also pay due attention and courtesy to visitors.
3. Students are required to develop a friendly relationship with fellow students. In particular, they are expected to show kindness and consideration to the new students admitted to the Institute every year. Law bans ragging in any form to anybody - acts of ragging will be considered as gross indiscipline and will be severely dealt with
4. The following acts of omission and/or commission shall constitute gross violation of the code of conduct and are liable to invoke disciplinary measures:
 - Ragging
 - Furnishing false statement of any kind in the form of application for admission or for award of scholarship etc.
 - Displaying lack of courtesy and decorum; resorting to indecent behaviour anywhere within or outside the campus.
 - Willfully damaging or stealthily removing any property/belongings of the Institute, Hall or fellow students.
 - Possession, consumption or distribution of alcoholic drinks or any kind of hallucinogenic drugs.
 - Adoption of unfair means in the examinations.
 - Organizing or participating in any group activity in company with others in or outside the campus without prior permission of the Dean of Students' Affairs.
 - Mutilation or unauthorized possession of library books.
 - Resorting to noisy and unseemly behavior, disturbing studies of fellow students.
 - Misuse of Internet/e-mail facilities or tempering/hacking with servers anywhere in the Halls of Residence/Departments etc.
 - Not intimating his/her absence to the Warden of the Hall before availing any leave.

Commensurate with the gravity of the offence, the **punishment** may be **reprimand**, **fine**, and **expulsion** from the Hall, **debarment** from an examination, rustication for a specified period or even **outright expulsion** from the Institute

REGULATIONS RELATING TO THE PhD PROGRAMME

5. For an offence committed (a) in a Hall of Residence, (b) in the Department or a classroom and (c) elsewhere, the Warden, the Head of the Department and the Dean of Students' Affairs, respectively, shall have the authority to reprimand or impose fine or take any other suitable measure.

All cases involving punishment other than reprimand shall be reported to the Chairman of the **Standing Institute Disciplinary Committee**.

6. (a) All major acts of indiscipline, which may have serious repercussion on the general body of students, and/or which may warrant a uniform and more formalized nature of investigation, shall be handled by the **Standing Institute Disciplinary Committee** appointed by Senate. The Standing Disciplinary Committee consists of the following ex-officio and other members:

- (i) Dean of Students' Affairs - Chairman
- (ii) Chairman, Hall Management Committee - Member
- (iii) Warden of the Hall of Residence of which the student concerned is a boarder – Member
- (iv) One Faculty nominated by the Senate, by rotation for two years - Member
- (v) Student Vice-President, Technology Students' Gymkhana - Member
- (vi) One of the student representatives in the Senate, to be nominated by the Dean Students' Affairs, for one year – Member
- (vii) The Deputy Registrar (Academic) - Member Secretary
- (viii) In addition, the Chairman may invite any other person(s) to be associated with the proceedings of a particular case, if his/her/their participation is considered necessary in disposing of the matter.

(b) Recommendation of the committee, which will include the suggested punishment in cases of guilt proven, will be forwarded to the Chairman Senate for necessary action.

7. Cases of adoption of unfair means in an examination shall be dealt with by the Committee on Prevention of Examination Malpractices consisting of the following members:

- (i) Professor-in-Charge of Examination - Chairman
- (ii) Head of the Department to which the reported student belongs - Member
- (iii) The Invigilator reporting the case- Member
- (iv) The Invigilator-in-Charge of the Examination Hall concerned- Member
- (v) The Paper-setter concerned - Member
- (vi) Two members of faculty nominated by the Undergraduate Program & Evaluation Committee for a term of two years - Members
- (vii) The Assistant Registrar (UGS) - Secretary

The Committee shall recommend appropriate measures in each case to the Chairman of the Senate for awarding the punishment

APPENDIX – X

WEIGHTAGE GIVEN TO EACH SECTION FOR DECIDING CUT-OFF FOR ADMISSION

(Vide para 2.2 of Regulation)

Candidates possessing qualifications as given in Appendix-I are to be selected for admission to the program on the basis of following weightage:

Particulars	Proposed weightages
Overall Academic Performance	20%
Written/Computer Test	50%
Interview	30%

Guidelines for scoring various components of a candidate's past academic performance will be as follows:

A. For candidates with M.Tech. or equivalent qualifying degrees :

Examination	Maximum Weightage
Higher Secondary	04%
B.Tech./M.Sc./MS/M.Com	06%
M.Tech./M.B.A.	10%

B. For candidates with M.Sc. or equivalent qualifying degrees :

Examination	Maximum Weightage
Higher Secondary	04%
B.Sc/B.A./B.Com	06%
B.Tech./M.Sc./M.S.	10%

C. For candidates with B.Tech. or equivalent qualifying degrees :

Examination	Maximum Weightage
Higher Secondary	04%
B.Tech./Integrated M.Sc./M.B.B.S.	16%

The following is the criteria for cut-off marks for OBC-NCL, SC, ST and PwD students for admission to the MS and PhD programme of the Institute.

For OBC-NCL candidates	: 90% of GE candidates cut-off marks
For SC/ST/PwD	: 66.67 % of GE candidates cut-off marks

APPENDIX – XI

GUIDELINES FOR APPOINTMENT OF SUPERVISOR AND JOINT SUPERVISOR (Vide para 4.3 of Regulation)

1. A Ph.D. student is required to carry out his/her research work under the guidance of one or two supervisors.
2. Supervisors are selected by the D.A.C. (PGS & R). Selection should be done to ensure that (1) desired areas of research work by the candidates and those of the faculty supervisors match and (2) the resultant distribution of the research students of the Department/Center/School in the Institute, QIP, and sponsored categories among the faculty members is as uniform as possible.
3. The students in the Project category are normally supervised by the Project Investigators.
4. Joint supervisors are appointed when (1) the research work is concerned with interdisciplinary issues requiring expertise of a different discipline, or (2) the student is the first research student assigned to the original supervisor, or (3) the student spent considerable time in a laboratory outside the Institute and has carried out a substantial portion on his (or her) research work there with the advice received from another faculty or research scientist there, or (4) a sponsored Ph.D. student takes temporary withdrawal to carry out the remaining part of the research work in his (or her) employing organization with the advice received from a scientist or manager there, or (5) the original supervisor goes on leave or leaves the Institute for good.
2. For cases where the supervisor has guided the candidate for 2 years or more:
 - (a) If the person proceeds on long leave for more than a year a joint supervisor should be appointed and if the leave is for less than a year, a caretaker supervisor is to be appointed by the DSC.
 - (b) However, on the recommendation of the DSC. a supervisor can be allowed to continue as sole supervisor on a case-to-case basis depending on the state of progress of the thesis work.
 - (c) A person superannuating will continue to be the sole guide if the thesis is submitted within 6 months.
 - (d) If the thesis is not ready for submission within 6 months, a joint supervisor must be appointed by the DSC.
 - (e) If the thesis is not submitted within 2 years of the superannuation of the supervisor/joint-supervisor, they shall cease to be supervisor/joint-supervisor.

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3. For a case where guidance has been given for less than 2 years:
 - (a) When a person proceeds on leave for more than 6 months, a joint supervisor shall be appointed and in case the period of leave is less than 6 months a care-taker supervisor shall be appointed by the DSC. However, if the leave is for 2 years or more the person shall cease to be a supervisor.
 - (b) A person superannuating will continue as the guide if the thesis is submitted within 6 months' time, otherwise another person will have to be appointed as the sole supervisor in his (or her) place.
4. After superannuation from service of the Institute if a person joins the Institute as an Emeritus Professor/Scientist or in any other capacity, he (or she) may continue to be the sole supervisor or as joint supervisor if the DSC so recommends.

Note: A person re-employed after superannuation shall continue to hold the same status in the matter till the end of the period of re-employment.
5. No faculty who has less than or equal to 2 years of service left from the end of the academic session in the month of June of the year he/she superannuates can be appointed a thesis supervisor either singly or jointly with another faculty.
6. Persons from outside the Institute, joining as Emeritus Scientists or as Chair Professors and have more than 2 years of service left can be appointed as supervisors for new research students only jointly with a regular teacher and not alone.

Note: The above points are guidelines. The recommendation of DSC of a candidate will be given due consideration in making a decision in a particular case.

GUIDELINES FOR COMPREHENSIVE EXAMINATIONS FOR PHD STUDENTS (Vide para 8.1 of Regulation)

1. Comprehensive examinations are held to test the PhD students for their proficiency in the fundamentals of related areas of the Departments/Centres/Schools.
2. A student is allowed to appear the comprehensive examination a maximum of two times. If someone fails to qualify the examination in two attempts, then his (or her) name will be struck off the PhD rolls of the Institute and he (or she) can work leading to MS degree.
3. The comprehensive examination for the PhD students should be held only once in a semester. Students are permitted to appear comprehensive examination after completion of one semester.
4. Comprehensive examination may be held in the form of written test only, or viva only, or both.
5. A full meeting of the faculty within each department will decide the form of comprehensive examination (written test only, or viva only, or both), the date(s) of the examination, the faculty members who will assist the examination process and their roles, the course syllabus for each component of the examination, the minimum criterion for qualifying in the examination, and such other details that may be required for smooth conduct of the examination. Where modalities have already been determined in previous semesters and are being followed for the ongoing semester, a separate meeting need not be held but the faculty members may be informed accordingly. Where there is a written test, the passing criterion may be taken as equivalent to C grade, i.e., 60% marks.
6. A minimum of one-month advance notice has to be given to the students regarding the date for holding the comprehensive examination, the components of the examination (i.e., written test only, or viva only, or both), and the weights given to, and syllabus for, each component.
7. All faculty members, including the faculty supervisors of the students appearing for a particular comprehensive examination, can be involved in setting the question papers and in participating in the viva. In other words, being the supervisor of a student appearing for the comprehensive exam does not debar a faculty member from participating in the exam question paper setting and evaluation or in the viva.
8. The practice of asking the students to present their research work should be discontinued.

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9. A team of faculty members (minimum two in number) may be entrusted to prepare each question paper and evaluate the answer scripts.
10. Viva for a student should be held for a minimum period of 30 minutes.
11. Final results must be reported to all faculty members, and failure cases should be discussed in a departmental meeting.
12. Results should be displayed on the department notice boards within one week of the finalization of the results.

The cases of students failing in the comprehensive examination twice should be communicated to the Academic Section soon after the notification to the students.

FEES AND OTHER CHARGES PAYABLE BY RESEARCH SCHOLARS

(Vide para 10.2 of Regulation)

1. As prescribed by the Statute 24, the following fees are payable by a Research Scholar, at rates as in force for the time being, namely,
 - (a) Tuition Fees
 - (b) Seat Rent for the accommodation in a Hall of Residence
 - (c) Gymkhana Fees
 - (d) HMC Charges

 2. If a Research Scholar is permitted to stay outside the Hall of Residence but within the campus of the Institute or at a close proximity to it, the Scholar will be attached to a Hall of Residence and will have to pay the seat rent at the prescribed rate together with such 'establishment charges' as may be levied by the Warden of the Hall concerned. A stay outside permission be obtained from the Chairman, HMC and Dean (Students' Affairs).

 3. Every Research Scholar shall be required to pay at the time of joining the following items of fees, at rates as in force for the time being:
 - (a) **Non-refundable**
 - (i) Admission
 - (ii) Tuition
 - (iii) Seat Rent & Water Charges
 - (iv) Gymkhana, Medical etc.
 - (v) Thesis Fee (payable at the time of submission of thesis)
 - (b) **Refundable (subject to no dues/ clearance)**
 - (i) Institution Caution Money
 - (ii) Hall Caution Money
 - (iii) Mess Advance
 - (iv) Library Caution Money
- Note:* The fees at item Numbers (a) (ii), (iii) and (iv) are payable recurrently and are to be paid in the manner as directed by separate notifications.
-
4. For the purpose of tuition fees and seat rent, the year shall be counted from the date of joining of the Research Scholar except that the fees shall be charged from the first day of the month irrespective of the actual date of joining. Similarly, at the time of leaving the

REGULATIONS RELATING TO THE PhD PROGRAMME

Institute the tuition fees and seat rent shall be charged for the full month irrespective of the actual date of leaving.

5. Research Scholars under all categories shall pay tuition fee and seat rent ordinarily for the entire duration of their research work till the date of submission of the thesis. Partial exemption may however, be allowed in the following cases:

(a) A Research Scholar (1) who has been permitted to leave the Institute after the prescribed minimum period of stay, or (2) who has been granted permission to carry out research work at his parent Organization

- (i) shall pay tuition fees for the minimum period of 2 or 3 years, as the case may be, prescribed by the Senate to qualify for submission of the thesis
- (ii) will not be required to pay any seat rent after he leaves the Institute with prior permission. However, if he rejoins the Program for completing the unfinished part of his work he shall have to pay the seat rent for the period of such subsequent stay. For calculation of the seat rent whole month will be counted as indicated in para 4 above.

(b) A Research Scholar who has been given under special consideration separate accommodation on rent, in one of the premises of the Institute other than a Hall of Residence, shall be required to pay only the rent for the accommodation actually occupied by him.

FINANCIAL ASSISTANCE TO STUDENTS FOR PRESENTING PAPERS IN NATIONAL AND INTERNATIONAL CONFERENCES/SEMINARS/WORKSHOPS

(Vide para 20.2 of Regulation)

(A) GUIDELINES FOR PARTIAL FINANCIAL ASSISTANCE FOR PRESENTING PAPERS IN NATIONAL AND INTERNATIONAL CONFERENCES/SEMINARS/WORKSHOPS

The financial assistance will be limited to the following:

Particulars	Conferences held in India	Conferences held abroad
Registration Fee	Full registration fee	Full registration fee
Travel Allowance	Up to Rs. 15,000.00	Up to Rs. 1.5 lacs

1. Students are encouraged to seek the remaining amount from other sources.
2. Full-time students at all levels (under-graduate, post-graduate and research students, and Post-Doctoral Fellows) will be eligible for the grant of financial assistance (PFA). Students other than research scholars can avail PFA or BAIC (please see Annex-II) only once during their tenure, while, research scholars can avail funding support to present paper in conferences abroad twice in their tenure, which could be either PFA-BAIC, or, BAIC-PFA, or, PFA-PFA.
3. Each applicant must be an author of the accepted paper.
4. The paper must be based on work done at the Institute.
5. There must be a written communication from the Program Committee of the Conference/ Seminar/ Workshop regarding the acceptance of the paper.
6. The papers must be presented either in oral or poster mode.
7. Each co-author (if any) of the accepted paper must give his (or her) consent in writing that he (or she) does not have any objection to the author (applicant) making the presentation. Further, every co-author employed in the institute must give his (or her) commitment in writing that he (or she) will not seek financial assistance from the Institute for presenting that paper himself (or herself).
8. The applicant must have
 - a. Successfully completed the coursework for the first six semesters without carrying any backlog in case the applicant is an under-graduate student admitted through JEE.

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- b. Successfully completed the coursework for the first two semesters without carrying any backlog in case the applicant is a student of Joint MSc-PhD or Joint M.Tech-PhD or any other two-year/three year Masters program.
 - c. Successfully completed the coursework for the first four semesters without carrying any backlog in case the applicant is a student of a program of three-year duration (such as MMST and LLB).
 - d. Spent one year and must have successfully completed the recommended coursework in case the applicant is an MS student.
 - e. Done PhD registration in case the applicant is a PhD student.
 - f. Spent one year in the Institute in case the applicant is a Post-Doctoral Fellow.
 - g. If an applicant is a UG or PG or MS student, then he (or she) must have a minimum CGPA of 8.
9. First time applicants at all levels for attending conferences abroad, both under partial Financial assistance (PFA) as well as best academic international conferences (BAIC) categories, may not be required to have at least one SCI indexed journal publication. Research scholars can, however, avail funding opportunity to attend one more conference abroad. However, full funding under BAIC will be available to a research scholar only once during his/her full tenure. To avail funding for attending conference abroad for the second time (under PFA or BAIC as the case may be), the scholar should have at least one paper in a SCI indexed journal or equivalent (at least in an “Accepted” status).
10. The applicant should present the paper in the Department/ Centre/ School before/after the application is recommended for the financial assistance.
11. Students, who have TA duties, must arrange a suitable replacement before proceeding for the conference.
12. There should not be any disciplinary/penalty proceedings against the applicant.
14. The application must be made as follows:
- (a) Application must be made online through students’ ERP login (Academic / Students Application for Financial Assistance for Conferences) and hardcopy of the downloaded application must be recommended by the Head of the Department / Centre/ School.

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(b) The application must have the following enclosures.

- i. Announcement of the Conference/Seminar/Workshop
- ii. Manuscript of the paper
- iii. Paper Acceptance letter
- iv. Copy of the published journal paper (if applicable)
- v. No objection from the co-authors Endorsement regarding
- vi. seminar presentation by the HOD/HOC/HOS

(c) The hardcopy of the application should be submitted to the Deputy Registrar (Academic).

15. If the applicant is a MS or Research Student, the conference dates should be before the date of submission his/her thesis.

16. The Monitoring Committee will consider the applications, allocate the financial assistantship to the eligible students, and recommend the eligible cases to the Director. After the Directors approval, the Academic Section will bring out the appropriate office order.

(B) GUIDELINES FOR FULL FINANCIAL ASSISTANCE TO STUDENTS FOR PRESENTING PAPERS IN LISTED BEST ACADEMIC INTERNATIONAL CONFERENCES (BAIC) ABROAD
(Vide para 21.1 of the Regulation)

a) FINANCIAL ASSISTANCE SHALL BE FOR THE FOLLOWING COMPONENTS:

- Registration fee (as per actual)
- Admissible Travelling Allowance
- Admissible per diem as per Institute rules
- Visa Fee, if applicable
- Medical Insurance, if applicable
- Local travel in India (restricted to 200 km from IIT Kharagpur campus on each way at road mileage rate as per rules) and abroad.

b) GENERAL GUIDELINES

1. The financial assistance will be provided to at most one author per paper.
2. Full-time student at all levels (under-graduate, post-graduate, research scholars, and Post-Doctoral Fellows) will be eligible for the grant of financial assistance. However, in case of a research scholar, he/she can apply for funding from institute to

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attend conferences abroad for a maximum of two times in his/her tenure, out of which at most one could be under BAIC (thus, a research scholar can avail either one BAIC and one PFA, or, both PFA as the case may be).

3. Each applicant must be an author of the accepted paper.
4. The paper must be out of the research carried out at this Institute.
5. There must be a written communication from the Program Committee of the Conference regarding the acceptance of the paper.
6. Each co-author other than the applicant (if any) of the accepted paper must give his (or her) consent in writing that he (or she) will not seek financial assistance from the Institute for presenting that paper himself (or herself) and that he (or she) does not have any objection to the author (applicant) making the presentation.
7. The Students/PDFs are required to present a seminar in respective Departments /Centres/ Schools before or immediately after their return from Conferences.
8. There should not be any disciplinary/penalty proceedings against the applicants.
9. For collaborative research work, the affiliation of the applicants should be IIT Kharagpur and the same should be mentioned in the paper.
10. Other things being equal, priority would be given to the first timers.

c) ELIGIBILITY CRITERIA

1.

- (a) An under-graduate student should have successfully completed the coursework for the first six semesters without carrying any backlog.
- (b) In case the applicant is a student of Joint MSc-PhD or Joint M Tech/MCP-PhD or any other two year Masters programme, he/she should have successfully completed the coursework for the first two semesters without carrying any backlog.
- (c) In case the applicant is a student of a programme of the three-year durations such as MMST and LLB, he/she should have successfully completed the coursework for the first four semesters without carrying any backlog.
- (d) In case of applicant being a MS student, he/she should have spent one year and must have successfully completed the recommended coursework.

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- (e) In case the applicant is a PhD student, he/she should have registered for Ph.D.
 - (f) In case the applicant is a Post-Doctoral Fellow, he/she should have spent one year in the institute.
 - (g) If an applicant is a UG or PG or MS student, then he/she must have obtained a minimum CGPA of 8.50 at the time of application.
2. For students other than research scholars (who get only one opportunity to attend conference abroad during their tenure), no requirement of SCI journal publication will be essential. Same applies to research scholars when they avail institute funding (PFA/BAIC) for the first time. However, to avail institute funding (PFA/BAIC) for the second time, the scholar is required to have at least one publication in a SCI indexed journal or equivalent (at least in an “Accepted status”).
 3. If the applicant is a Post-Doctoral Fellow, he/she must have one International publication in reputed Journals during the Post-Doctoral Fellowship based on the work carried out in the Institute.
 4. If the applicant is a MS or Research Student, the conference dates should be before the date of submission his/her thesis.
 5. The papers must be presented either in oral or poster mode.
 6. For research scholars availing funding support twice in their tenure, there should be an in- principle gap of one year between the two conferences (which may be waived by Institute depending on the merit of the case).

The eligibility criteria mentioned above may be relaxed by the Director in respect of outstanding applicants/exceptional cases.

GUIDELINES FOR PREPARING AND SUBMITTING THE SYNOPSIS OF THE THESIS**1. General Instructions**

1. Limit the total number of pages of a synopsis, not including the title page, to 10.
2. Use A4-size paper.
3. Give a one-inch margin at the top and the bottom, and in both sides of each page.
4. Give a copy of the synopsis to each member of your DSC at least two days before the scheduled date of synopsis seminar.
5. After the seminar, modify the synopsis incorporating the suggestions made by the DSC members. Give a copy of the modified synopsis to each DSC member for comments.
6. After the modified synopsis is approved by the DSC members, get the signatures of the DSC members on one copy of the synopsis. Submit this copy, along with a soft copy of the synopsis on a CD, to the office of your academic unit for onward transmission to the Academic Section.

2. Title of the Thesis

- a. The title of a thesis should be a meaningful description of the work done by the scholar.
- b. It should be short, having a length of 10–15 words, in no case exceeding 20 words.
- c. Titles are commonly indexed and compiled in numerous reference works. Therefore, avoid words that serve no useful purpose. Redundant words, such as “An investigation of”, “A Study of”, “Theory of” “Some”, “An Experimental Investigation of ...”, and “Toward a”, should be avoided.
- d. Thesis titles should not contain formulas, symbols, subscripts, Greek letters, or other non-alphabetical symbols. Word substitutes should be used instead. For example, a title “The Effects of Ion Implantation and Annealing on the Properties of TiSi_2 Films on Silicon Substrates” should be written as “The Effects of Ion Implantation and Annealing on the Properties of Titanium Silicide Films on Silicon Substrates.”
- e. Thesis titles should not contain acronyms or even acronyms in brackets. For example, “GPS” should be written as “Global Positioning System” and should not be written as “Global Positioning System (GPS).”

3. Title Page

The title page must contain the title of the thesis, the degree of Doctor of Philosophy, the name of the scholar, the name(s) of the supervisor(s), the department where the scholar is registered, the logo of the Institute, the name of the Institute, and the month and year of submission of the synopsis.

Prepare the page in MS Word Times New Roman with font sizes indicated on the sample page given at the end of this document. Center the text on the page. Give one-inch margin on the top and the bottom and in each side of the page.

A sample title page is illustrated on page 62.

4. Body of the Synopsis

The body of the synopsis contains the main work done by the scholar. It should have the following sections: Introduction, Literature survey, Objectives and Scope, Work done on each objective, Conclusions, Contributions made by the scholar, and References.

No appendix need be given in the synopsis.

Use MS Word Times New Roman (or LaTeX) with font size 12 and 1.5 line spacing for the text.

References should be single-spaced.

Sections will be numbered 1, 2, 3, etc., whereas subsections will be numbered 1.1, 1.2, 2.1, 2.2, etc.

4.1 Tables

Tables should be used only when absolutely necessary.

Tables should be numbered as Table 1, Table 2, etc. Table headings should be ideally of one-line length, should appear on the top of the Tables, and should be centered.

Example: Table 1: Experimental Results

A variable defined in a column of the Table should have its unit of measurement defined alongside it.

The text must have a reference to the Tables and should have an explanation of their contents. And, each table should appear after it is referenced in the text.

See Guidelines on Tables for details.

4.2 Figures

Only the most important figures should be given.

The independent variable is plotted in the horizontal axis of a figure, whereas the dependent variables are plotted in the vertical axis of the figure.

The units of measurement (if applicable) must appear alongside the names of the variables.

In case of multiple curves appearing in a figure, legends should be used to indicate the name of each variable, the curves should be distinct to be meaningful, and separate scales should be given for the variables.

Figures should be numbered as Fig. 1, Fig. 2, etc. Figure captions should be ideally of one-line length, should appear below the figures, and should be centered.

Example: Figure 1: Effect of Variation of Voltage on Power and Current

Figures must be referenced in the text along with discussions on the nature of variation of the dependent variables. And, each figure should appear after it is referenced in the text.

See Guidelines on Figures for details.

4.3 Page Numbering

The title page should not have a number printed on it. The page next to the title page should bear the page number 1. Page numbers should be printed centered at the bottom of each page.

5. References

Only the recent and the most important research papers and the scholar's own research papers, which are published in peer-reviewed journals and international conference proceedings, should be cited and listed in the references.

See the Guidelines on Referencing for details.

6. List of Publications

List of publications that have arisen from the research being presented in the thesis.

7. Tips for Good Writing

1.1 Continuity of Ideas

Continuity of idea is an important way to make your synopsis clear. Below we give a few suggestions:

Each paragraph should elaborate only one theme. If multiple themes have to be highlighted, just name them, discuss only one theme in that paragraph. The paragraphs, following it, can expand on the other themes.

A transition from one paragraph to the next paragraph should be smooth. Such a transition becomes easy if the first paragraph has a reference to the theme of the next paragraph. Alternatively, these two paragraphs could be linked to each other by a previous paragraph (as explained in the previous paragraph).

1.2 Use of Verb Tenses

Proper use of verb tenses can bring the required continuity. Below we give a few suggestions:

- 1.2.1 Past tense (e.g., "Mitra showed . . .") or present tense (e.g., "Mitra has shown . . .") is appropriate for the literature review and the description of the procedure if the discussion is made on the past events.
- 1.2.2 Use past tense (e.g., "Sale rose at the rate of 10% per year.") to describe the results.
- 1.2.3 Use the present tense (e.g., "The results of the experiment indicate . . .") to discuss the results and to present the conclusions.

1.3 Mathematical Symbols

Italicize the symbols used in mathematical expressions.

Each equation should appear immediately after it is referenced in the text. To make it look distinct, it should be separated from the text (both preceding and following it) by a larger line spacing and an indentation should be given. An example follows:

$$y = \frac{x_1}{x_2} \quad \dots(1)$$

See Guidelines on Mathematical Materials for details.

1.4 SI units

Use SI units.

Follow the guidelines given below while using the SI units

- Symbols do not have an appended period/full stop (.) unless they appear at the end of a sentence.
- Symbols are written in upright Roman type (m for meter, g for gram), so as to differentiate them from the italic type used for mathematical variables (*m* for mass, *g* for acceleration due to gravity).
- Symbols for units are written in lower case, except for symbols derived from the name of a person. For example, the unit of pressure is named after Blaise Pascal, so its symbol is "Pa" whereas its unit is "pascal".
- The SI rule for pluralising units is that symbols of units are not pluralised, for example "25 kg" (not "25 kgs").

- A space separates the number and the symbol (e.g., "2.21 kg", " $7.3 \times 10^2 \text{ m}^2$ ", "22 K"). Exceptions are the symbols for plane angular degrees, minutes and seconds ($^\circ$, $'$, and $''$), which are placed immediately after the number with no intervening space.
- Spaces (or commas) may be used as a thousands separator (*1 000 000* or *1,000,000*). Spaces are preferred in order to reduce confusion resulting from the variation between these forms in different countries.
- Symbols for derived units formed from multiple units by multiplication are joined with a space or center dot (\cdot) (e.g. "N m" or "N·m").
- Symbols formed by division of two units are joined with a solidus ($/$), or given as a negative exponent. For example, the "metre per second" can be written "m/s", " m s^{-1} ", " $\text{m} \cdot \text{s}^{-1}$ " or $\frac{\text{m}}{\text{s}}$. A solidus should not be used if the result is ambiguous, i.e. " $\text{kg} \cdot \text{m}^{-1} \cdot \text{s}^{-2}$ " is preferred to " $\text{kg/m} \cdot \text{s}^2$ ".

Many units in everyday and scientific use are not derived from the seven SI base units (metre, kilogram, second, ampere, kelvin, mole, and candela) combined with the SI prefixes. In some cases these deviations are allowed. Some examples include:

- Many units of time — minute (min), hour (h), day (d) — in use, besides the SI second, are specifically accepted for use.
- The “year” is specifically not included in SI units, but its use is accepted.
- Electrical energy is often billed in kilowatt-hours instead of megajoules.
- The nautical mile and knot (nautical mile per hour) are used to measure travel distance and speed of ships and aircraft (1 International nautical mile = 1,852 m or approximately 1 minute of latitude at the equator). In addition to these, Convention on International Civil Aviation permits the "temporary use" of foot for altitude.
- Astronomical distances are measured in astronomical units, parsecs, and light-years instead of, say, petametres (a light-year is about 9.461 Pm or about 9 461 000 000 000 000 m).
- Atomic scale units used in physics and chemistry are: ångström, electronvolt, atomic mass unit, and barn.
- Blood pressure is measured in mmHg instead of Pa.

See Guidelines on SI Units for details.

1.5 Indian Units of Measurement

“Lakh” is not understood by many non-Indian examiners. There are two ways to deal with this problem. Avoid using it; express it as 100,000,

Example: The sentence “The car was sold to 5 lakh persons last year” could be written instead as “The car was sold to 500,000 persons last year”.

Alternatively, when you use “Lakh” for the first time, explain its equivalence to “100,000” in a footnote.

1.6 A Sample of Common Mistakes

Some words and expressions, commonly misspelled by the scholars, are the following:

<u>Correct</u>	<u>Incorrect</u>	
et al.	etal, et. al, et al	(The word is “et alia”)
whereas	where as	
literature	literatures	
kWh	KWH, KWh	(K stands for Kelvin.)
million tons (10 ⁶)	MT	(M stands for Mega.)
10 kg	10kg	(a space separates the value from the unit of measurement.)

1.7 The Overriding Rule

Remember that the synopsis of a PhD thesis is a brief summary of your research work and is meant to be read by a person, who is well-known in your field of study but is unconnected with your work, to decide if he (or she) should give his (or her) consent to examine the thesis. Therefore, the text in the synopsis should be clear in its meaning.

To ensure the clarity of presentation, the best method is to ask your friend, who is not in your area of work, to read through your synopsis. If he (or she) is confused with your writing, it means that the sentence/paragraph/synopsis should be rewritten for clarity.

REGULATIONS RELATING TO THE PhD PROGRAMME

**Control Theory Models of Production-Inventory Systems
with Stochastic Demand**

(Bold Times New Roman 16)

**Synopsis of the Thesis to be submitted in Partial Fulfillment of
the Requirements for the Award of the Degree of
(Bold Times New Roman 12)**

**Doctor of Philosophy (Bold
Times New Roman 14)**

by

(Bold Times New Roman 16)

Aryan Rao

(Bold Times New Roman 14)

**Under the supervision of (Bold
Times New Roman 12)**

Professor Tapan K. Singhand

Professor Soumitra S. Patra

(Bold Times New Roman 14)



Department of Chemistry

Indian Institute of Technology, Kharagpur July

2007

(Bold Times New Roman 14)

GUIDELINES ON THE PREPARATION OF A THESIS

OBJECTIVE

A thesis is a documentation of a research student's work -a record of the original research done by the student. It provides information on the student's research work to the future researchers. The Institute is committed to preserve a paper copy of the student's thesis for archiving and cataloging it in the Central Library, making it available to others for academic purpose, uploading it on to the IIT intranet, and disseminating its abstract in both print and electronic forms.

Institute-wide standardization, readability, conformance to ethical norms, and durability are the four overriding criteria for an acceptable form of a thesis. The objective of this document is to provide a set of guidelines that help a research student to prepare the thesis to satisfy the above-mentioned criteria.

FEATURES

1. The final copy of the thesis has to contain all the modifications/corrections suggested by the examiners and the members of the Viva-Voce Board and is to be submitted after the student successfully defends the thesis in the viva-voce examination.
2. The thesis has to contain a *copyright notice*.
3. The thesis has to include a *declaration* by the student to the effect that he/she has not resorted to any unethical practice while carrying out the research work and preparing the thesis.
4. The *contribution* (to knowledge) of the research student must be explicit in the Introduction chapter of the thesis.
5. The thesis has to include a *certificate of approval*. The certificate remains unsigned at the time of initial submission of the thesis but is to be signed by the members of the Viva-Voce Board when the thesis is finally submitted after the Viva.

REGULATIONS RELATING TO THE PhD PROGRAMME

PRODUCTION

Thesis Size

6. A thesis should have between 150 and 200 pages (not considering the prefacing materials of the thesis that are paginated in small Roman numerals; see the section on Page Numbering).

REGULATIONS RELATING TO THE PhD PROGRAMME

Tips to reduce the size of the thesis

- Use single line spacing for certain types of text (See the section on Line Spacing).
- Do not unnecessarily repeat definitions and texts.
- Be precise in your description, conclusions, and interpretations.
- Do not leave blank space on a page after a table or a figure; fill it with some text.
- Do not give all the data in the thesis in tabular form. Give only sample data, a summary of data, and a graphical presentation of the main trend and fluctuation of the data, and include a CD, containing all the data, in a closed pocket at the inner side of the back page of the thesis (see the section on Non-Paper Material).
- Do not give the complete computer program listing; describe its flow of logic and its other distinguishing features instead. Include a CD, containing the program listing, in a closed pocket at the inner side of the back page of the thesis (see the section on Non-Paper Material).

Paper Quality

7. The copy of the thesis to be submitted to the Central Library should be durable. To achieve durability, paper should be acid-neutral or acid-free, as designated on the package. It is now available in the market as thesis-quality paper and weighs 85 GSM (grams per square meter) or more. Other copies of the thesis may have bond paper (that usually weighs 80 GSM).
8. If the thesis is printed on both sides, the paper should be sufficiently thick to be opaque enough so that while reading, the print on the backside should not be visible in normal lighting conditions.

Paper Size

9. The standard size of paper of a thesis is 21.5 cm (8½ inch) wide and 28 cm (11 inch) long.
10. Oversized figures and tables, if any, should be reduced to fit with the size of the thesis but the reduction should not be so drastic as to impair the clarity of their contents. One may also fold these pages to fit with the thesis size.

REGULATIONS RELATING TO THE PhD PROGRAMME

Single-Sided vs. Double-Sided Printing

11. The copies of the thesis at the time of initial submission to the Institute should be printed on both sides.
12. The final copy of the thesis to be submitted to the Central Library should be printed on one side of the paper. However, double-sided printing may be done if the paper is opaque enough not to impair readability on the other side in normal lighting conditions.
13. Often, in a double-sided thesis, a figure appears on one side of a sheet of paper with its back side kept blank.
14. In a double-sided thesis, a new chapter always starts on an odd-numbered page. Therefore, if a chapter ends on an odd-numbered page, its back side has to be kept blank so that the next chapter can start on an odd-numbered page.

Non-Paper Material

15. Digital or magnetic materials, such as CDs and DVDs, may be included in the thesis. They have to be given in a closed pocket in the back cover page of the thesis. It should be borne in mind that their formats may become obsolete due to rapid change in technology, making it impossible for the Central Library to guarantee their preservation and use.
16. All non-paper materials, as above, must have a label each indicating the name of the student, the date of submission, and the copyright notice.

Page Numbering

17. Page numbers for the prefacing materials of the thesis shall be in small Roman numerals and should be centered at the bottom of the pages.
18. Page numbers for the body of the thesis should be in Arabic numerals and should be centered at the bottom of the pages. The pagination should start with the first page of Chapter 1 and should continue throughout the text (including tables, figures, and appendices)
19. In a double-sided thesis, each side of a sheet of paper should be counted as a page, even if the back side of a sheet of paper is blank.
20. In a double-sided thesis, the odd-numbered pages are always on the right and even-numbered pages are always on the left.

REGULATIONS RELATING TO THE PhD PROGRAMME

Binding

21. The initial copies of the thesis submitted for examination have to be softbound and printed on both sides.

The final approved copies of the thesis, after the incorporation of the Examiners' comments, if any, are to be submitted after the viva-voce examination. They have to be hardbound and printed preferably on one side. These copies should have, on their spines, the abbreviated title of the thesis, the name of the scholar, and the year of submission of the final version of the thesis.

FORMAT FOR THE THESIS

The following guidelines are provided to format the thesis for easy readability.

Font

22. The preferred font size of the text in the thesis is 12 point, but in no case should it be less than 11-point. The minimum font size of materials within a table or a figure can be 8 point, however.
23. The preferred font type is Times New Roman.

Margins

24. A margin of 3.75 cm (1½ inch) is to be given on the binding edge while on the other sides it is to be 2.5 cm (1 inch). The text of the thesis, including headings, figures, tables, and notes, but excluding page numbers, must be accommodated within the page area.

Line Spacing

25. The line spacing in the main text must be between one-and-a-half and two. Single line spacing should be given for quotations, abstract, declaration, thesis approval, figure captions, table titles, figure legends, footnotes, and references.
26. The equations, tables, figures, and quotations should be set off from the main text with adequate space (not less than the normal line spacing adopted for the main text).
27. Two consecutive paragraphs should be separated by a spacing which must be larger than the line spacing adopted for the text.

THE PREFERATORY MATERIALS

Title of the Thesis

28. The title of the thesis should remain same as that given in the synopsis. If it has to be changed then the consent of the DSC and the permission of the Dean (PGS& R) are required prior to the submission of the thesis.
29. After the submission of the final copies of the thesis, researchers around the world can have electronic access to the abstract of a thesis (internationally) and to the thesis (locally through the IIT intranet). Search engines use the words of the title (and other keywords) to locate their contents. Use of formulas, symbols, Greek letters, etc., should be substituted by their word equivalents, because they do not appear on most computer keyboards.

Cover Page

30. Cover page should contain the title of the thesis and the name of the candidate, and nothing else. In the copies of the thesis that are submitted to the Institute, the cover page should not contain any other figure, map, equation, or drawing.

See Sample Page 1 for details.

31. The spine of the thesis (when finally submitted after the Viva-Voce Examination) should be provided with an abbreviated title of the thesis, the name of the scholar, and the year of submission of the final copy of the thesis.

First Inner Page

32. The first inner page should be similar to the cover page but should contain a few additional items. This page will not only bear the title of the thesis and the candidate's name, but also the name of the degree for which the thesis is submitted, the name of the Institute, month and year of submission of the thesis, and the copyright notice.

33. The copyright notice shall consist of the following:

- a. The encircled symbol "C" ©
- b. The year of the award of the degree
- c. The name of the owner of the copyright
- d. The words "All rights reserved"

Example:

© 2008 Rakesh K. Sharma. All rights reserved.

See Sample Page 2 for details.

REGULATIONS RELATING TO THE PhD PROGRAMME

Approval of the Viva-Voce Board

34. Each final copy of the thesis should have a page for certificate of approval bearing the original signatures of the members of the viva-voce board (the supervisor(s), the members of the DSC, and the external examiner). This page remains unsigned in the copy to be submitted initially.

See Sample Page 3 for details.

Certificate by the Supervisor(s)

35. Supervisors certify that the thesis is a record of bona fide work done under their supervision and that they consider the work worthy of submission to the Institute for the award of the degree of PhD.

See Sample Page 4 for details.

In case of two supervisors hailing from two different academic units or from two organizations (including one from the Institute), the letterhead will be of the department where the student is registered.

Declaration by the Student

36. The student has to give a declaration to the effect that the data used for the work, the work depicted in the thesis, and the written material contained in the thesis are not copied from others and that due permission has been taken from, and due credit has been given to, the sources whenever they are used.

See Sample Page 5 for details.

Curriculum Vita

37. The curriculum vita of the scholar should be limited preferably to one page.
38. It should contain basic information about the scholar such as name, qualifications, experience, and a list of publications made out of the thesis.
39. It should not contain the scholar's photograph.

Acknowledgements

40. Acknowledgements should be limited preferably to one page.

REGULATIONS RELATING TO THE PhD PROGRAMME

Contents

41. Prefatory materials, chapter numbers, chapter names, section numbers, section headings, subsection numbers, and subsection headings, along with the corresponding page numbers, should be given in the Contents.

See Sample Page 6 for details.

List of Symbols and Abbreviations

42. All the symbols and abbreviations used in the thesis are to be given here along with their definitions and units of measurement (if applicable) and full forms.

Abstract

43. The abstract of the thesis should be limited to 350 words (a requirement for its inclusion in the Dissertation Abstracts International).
44. A list of keywords should follow the abstract.

BODY OF THE THESIS

45. The thesis should be written in either British or American English, not in a mixed mode. However, because of increasing acceptance of both styles and blurring of the distinction between the two, what is important is that consistency should be maintained all throughout the text.

Note:

Indian authors often use both styles without knowing whether the style they follow while writing is American or British. Also many American words are increasingly included in British English Dictionaries (such as Oxford or Cambridge Dictionaries). Furthermore, there are subtle differences in the British and American styles with regard to punctuation, abbreviations, quotations, etc., which are increasingly accepted by the proponents of both styles, and hence the distinction between them has blurred over the years.

46. Each chapter should be numbered in Arabic numerals and should be written as Chapter 1, Chapter 2, etc., and should be followed by its title (e.g., Introduction, etc.). The chapter title shall be printed bold and in 14-point font.
47. Figures, tables, graphs shall be positioned within the body of the text immediately after citation and should not be positioned separately. (See "Guidelines for Tables and Figures".)
48. Units should be in SI format. (See *Guidelines on International System of Units*)

REGULATIONS RELATING TO THE PhD PROGRAMME

References

- 49. Author-date style of referencing is preferred for a PhD thesis of the Institute.
- 50. Individual department's guidelines may be followed alternatively.
- 51. Irrespective of the style adopted, the reference details must include the titles of the publications.

Appendices

- 52. Each appendix will be numbered (e.g., Appendix A, Appendix B, etc.).
- 53. It will also have a title.
- 54. Appendices will be listed in the Contents.

Sample Page 1

**THE TITLE OF THE THESIS
SHALL LOOK LIKE THIS TITLE**

(The title is in Times New Roman Font with 16-point size, Bold, one-and-a-half linespacing)

Pradeep Sengupta

(Candidate's name in Times New Roman, 12-point and Bold Italics)

Sample Page 2

**THE TITLE OF THE THESIS IN THE SECOND PAGE
SHALL LOOK EXACTLY LIKE THIS TITLE**

(4 lines gap) - 'Times New Roman' – 12-point size – Bold – Italics - centered

***Thesis submitted to the
Indian Institute of Technology, Kharagpur***

For award of the degree

(1 line gap) - 'Times New Roman' – 12-point size – Bold – Italics - centered

of

(1 line gap) - 'Times New Roman' – 14-point size – Bold - centered

Doctor of Philosophy

(1 line gap) - 'Times New Roman' – 12-point size – Bold – Italics - centered

by

(1 line gap) - 'Times New Roman' – 14-point size – Bold - centered

Pradeep Sengupta

(2 lines gap) - 'Times New Roman' – 12-point size – centered

Under the guidance of

(1 line gap) – 'Times New Roman' – 12-point size – Bold - centered

Prof. Nirmal Dasgupta

(LOGO)

(1 line gap) - 'Times New Roman' – 14-point size – Bold - centered

DEPARTMENT OF CIVIL ENGINEERING

INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR

DECEMBER 2009

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REGULATIONS RELATING TO THE PhD PROGRAMME

Sample Page 3

APPROVAL OF THE VIVA-VOCE BOARD

DD/MM/YY

Certified that the thesis entitled THE TITLE OF THE THESIS submitted by NAME OF THE STUDENT to the Indian Institute of Technology, Kharagpur, for the award of the degree Doctor of Philosophy has been accepted by the external examiners and that the student has successfully defended the thesis in the viva-voce examination held today.

(Member of the DSC)

(Member of the DSC)

(Member of the DSC)

(Supervisor)

(Supervisor)

(External Examiner)

(Chairman)

REGULATIONS RELATING TO THE PhD PROGRAMME

Sample Page 4

(The certificate is to be printed on the Departmental Letter-Head)

CERTIFICATE

This is to certify that the thesis entitled **The Title of the Thesis**, submitted by **The Name of the Scholar** to Indian Institute of Technology, Kharagpur, is a record of bona fide research work under my (our) supervision and we consider it worthy of consideration for the award of the degree of Doctor of Philosophy of the Institute.

Supervisor

Supervisor

Date:

Sample Page 5

DECLARATION

I certify that

- a. The work contained in the thesis is original and has been done by myself under the general supervision of my supervisor(s).
- b. The work has not been submitted to any other Institute for any degree or diploma.
- c. I have followed the guidelines provided by the Institute in writing the thesis.
- d. I have conformed to the norms and guidelines given in the Ethical Code of Conduct of the Institute.
- e. Whenever I have used materials (data, theoretical analysis, and text) from other sources, I have given due credit to them by citing them in the text of the thesis and giving their details in the references.
- f. Whenever I have quoted written materials from other sources, I have put them under quotation marks and given due credit to the sources by citing them and giving required details in the references.

Signature of the Student

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