

Indian Institute of Information Technology Ranchi

भारतीय सूचना प्रौद्योगिकी संस्थान राँची

**(An Institution of National Importance under MoE (formerly
MHRD), Govt. of India)**



**REGULATIONS FOR THE AWARD OF THE
DEGREE OF DOCTOR OF PHILOSOPHY**

(Ph. D.)

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1. Preamble

Indian Institute of Information Technology Ranchi is an autonomous institute setup by the MoE (previously MHRD), Government of India, and Government of Jharkhand along with the industry partners Tata Motors, TCS and CCL on a Public Private Partnership in the year 2016. MoE, Government of India has taken up the initiative to setup 20 new Indian Institutes of Information Technology (IIITs) on a Public Private Partnership Model. A major objective in establishing IIITs is to set up a model of education which can produce best-in-class human resources in IT and harnessing the multi-dimensional facets of information technology in various domains. While the number of students produced by these IIITs would be small, the impact they create would be great. IIIT, Ranchi is determined to offer state-of-the-art facilities for advanced studies and research.

In the last 2 years, IIIT Ranchi has put great efforts in maximizing the quality education through improved research facilities, research scholars, enabling environment and rules & regulations to create a research culture for enhanced R&D, high end research in frontier areas of Science and Technology.

The rules and regulations provided in the following pages are documentation of initiatives, resolutions and progressive thinking.

2. Definitions

In these regulations, unless there is anything repugnant in the subject or context

- a) **“Regulations”** shall mean, regulations framed under the Society Rules of Indian Institute of Information Technology Ranchi.
- b) **“Institute”** shall mean the Indian Institute of Information Technology Ranchi.
- c) **“Senate ”** shall mean the Senate of the Institute.
- d) **“Examination Board”** shall mean the Examination Board of the Institute.
- e) **“Director”** shall mean the Director of the Institute.
- f) **“Chairperson”** shall mean the Chairperson of the Senate of the Institute.
- g) **“Head”** shall mean the Head of the Department or Centre (in the Institute) under whose jurisdiction the candidate is working for the Degree.
- h) **“Doctoral Scrutiny Committee”** (DSC) shall mean the committee to scrutinize the application for PhD registration, Progress Monitoring, Award etc. of a candidate.



3. Eligibility and Admission Categories

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

3.1 Full time

- a) Institute Research student/candidate (Full Time) by qualifying GATE/ institute admission examination.
- b) Sponsored Research student/candidate financed by the Government /Semi-Government/ academic/ industry / research lab. (Full Time)
- c) Sponsored Research student/candidate nominated by Government of India/state under a Cultural Exchange Scholarship Programme, or a scholar admitted under an MOU (Full-time).
- d) Foreign students under any international scholarship scheme / exchange programme (Full Time)

3.1.1 Requirements for Full Time Research Scholar

- a) A candidate with post graduate degree with a consistently good academic record in relevant/related discipline. The candidate should have first division or equivalent in post-graduation and/or graduation degree.
OR
- b) The candidate having undergraduate degree in engineering from IITs / NITs / IIITs is eligible for admission in Ph.D. under PMRF or any other government funded scheme.
OR
- c) The candidate having undergraduate degree in engineering from IITs / NITs / IIITs having CGPA ≥ 8.5 is eligible for admission in Ph.D after qualifying institute admission test.

3.1.2 Requirements for sponsored Full Time Research Scholars

Applicants should have qualified CSIR/ UGC/ DAE/ NBHM/ DST/ DBT/ ICAR/ ICMR/ ICPR or secured funding from such an agency. In addition to the above, the minimum educational qualification for admission is a M.Tech degree with a consistently good academic record in relevant discipline. The candidate should have first division or equivalent in both Bachelor and Master degree. An awardee of research fellowship from some recognized funding agency such as CSIR/ UGC/ DAE/ NBHM/ DST/DBT/ ICAR/ ICMR/ ICPR etc. They shall not receive any financial support from the institute in any form.



3.2 Part Time

3.2.1 Requirements for Part time Sponsored Category:

- a) Applicant are sponsored by his/her employer.
- b) The minimum educational qualification for admission is a M.Tech/ME/MS degree with a consistently good academic record in relevant discipline with two or more years of experience in relevant field.

OR

Candidates, with four or more years of experience in relevant field after B.Tech/BE/MCA with a consistently good academic record in relevant discipline, are also eligible for the application process

- c) Applicant must be a regular employee of the sponsoring organization.

4. Admission of Foreign Nationals

Foreign Nationals selected under various scholarship schemes of the Ministry, Government of India are considered for admission on the recommendation / sponsorship of the respective Ministry provided they fulfil the academic and other requirements. Such candidates should route their applications through the Ministry concerned.

Self-financing foreign students may be considered for admission provided they fulfil the requirement of qualifying examination. Offers of admission to them will be issued with intimation to the Ministry of Human Resource Development, Government of India. It will be the responsibility of the prospective foreign national student to ensure that he/she has the proper visa and other related documents.

5. Institute Assistantship

- a) The Institute may provide financial assistance in the form of teaching or research assistantship (referred to as Institute Assistantship) to full-time Ph. D. students who have qualified GATE or National level admission test conducted by IIT Ranchi or any other national organization. Assistantships are awarded for a period of **three years**, extendable on a yearly basis by recommendation of DSC. The maximum duration of scholarship will be five years from the date of pre-registration.
- b) The assistantship will be granted at approved rates as specified by the MoE (previously MHRD), Govt. of India.



- c) A student is expected to devote up to **eight hours per week** towards teaching/laboratory assistantship assigned to him/her. A report per semester on the student's performance in the assistantship task will be provided by the concerned faculty to the student's supervisor.

6. General Guidelines for Pre-Registration

- a) The application for pre-registration will be submitted to the Academic Section, who will forward it to the concerned guide. The guide/supervisor will propose the DSC, as given at (b) below, to the Chairperson, Senate for approval. The approved DSC will then scrutinize the application with respect to eligibility, qualification, synopsis and course(s) to be cleared, if any. Subsequent to pre-registration, the file will be sent to the Academic Section for further action and record.
- b) A Doctoral Scrutiny Committee (DSC) shall be approved by the Chairperson, Senate, on the recommendation of the Head of the Department, as proposed by the Supervisor(s).

The constitution of the DSC shall be as follows:

1. Senior Faculty Member of the Department with relevant expertise: **Chairperson**
2. One of the faculty members of the Department : **Member**
3. One Faculty member from sister Department : **Member**
4. Guide/Supervisor(s): **Convenor**

In case the Chairperson is the Guide/Supervisor, another faculty member from the Department will be a member of the DSC.

- c) The DSC while recommending the pre-registration shall specify the course(s) offered by the institute/Swayam/MOOCs/ certified course to be cleared by the candidate.
- d) The credit requirements for course work of students having M.Tech/ME/MS or equivalent qualification, will be a minimum of **06 credits** and maximum of **18 credits**, recommended by supervisor and approved by DSC. The credit requirements for course work of students having B.Tech/BE/MCA or equivalent qualification, will be a minimum of **12 credits** and maximum of **24 credits**, recommended by supervisor and approved by DSC.
- e) The application for Pre-Registration as a full-time candidate for Ph.D. Degree of the Institute shall be made by the candidate in the prescribed format within **three** months of his/her joining the department.

7. General Guidelines for Registration

- a) In each of the course(s) to be cleared, the candidate will be required to obtain at least **7 in 10 grade scale and minimum overall CGPA of 7.0**. If a candidate fails to obtain minimum C Grade in any course within 1.5 years of stipulated period, the pre-registration of the candidates will stand cancelled.
- b) Within **1.5 years** of pre-registration, candidate must clear a comprehensive viva conducted by DSC. Extension upto 6 months may be given on case to case basis decided by competent authority.



- c) A Chair Professor / Emeritus Scientist / Emeritus Faculty / Adjunct Professor / Project Coordinator or of equivalent status associated with the Institute may be permitted to register a student for Ph.D. as a co-guide.
- d) An external guide may be permitted for research scholars if so desired by the DSC, in keeping with the topic of research and the expertise and facilities available in the institution/laboratory outside IIIT Ranchi. An external guide from an organization, other than the organization where the candidate is employed, is also permissible for part-time Ph.D. registration.
- e) For interdisciplinary/collaborative research work, two guides may be chosen with clear contribution of guide and co-guide. Joint guides may be permitted from the same department where the research topic is of interdisciplinary / intra-disciplinary nature and there is a clear-cut distinction between the research areas. The DSC should ensure the justification of guide and co-guide from the same Department based on the specific contribution required from the two faculty members.
- f) The date of pre-registration of Full Time/part-time Research Scholars may be accepted as date of joining in the Institute on the recommendations of DSC through guide.
- g) A candidate may, if sufficient grounds exists, be permitted by the Chairperson, Senate to add or change his/her guide(s). Such applications for addition/change of guide(s) shall be submitted to the Chairperson, Senate through proper channel.
- h) A candidate registered for Ph. D. Degree may submit his/her thesis for examination **after three years** from the date of pre-registration in case of those having a M. Tech. or **after four years** in case of those having Bachelor's Degree in Engineering / Master's Degree in non-Engineering subjects after recommendation from DSC and approval of competent authority.
- i) *In special cases a candidate may submit thesis after **two** years from the date of pre-registration in case of those having a M. Tech. or after **three** years in case of those having Bachelor's Degree in Engineering / Master's Degree in non-Engineering subjects after strong recommendation from DSC and approval of competent authority.*
- j) The general requirement for thesis submission will be at least **three** publications in **SCI/SCIE (including open-access)** Journals preferably in Q1 / Q2 Ranking.
- k) No candidate shall be permitted to remain registered for a period exceeding seven (07) years from the date of pre-registration. However, if he/she want to continue Ph.D. after 7 years, he/she may apply for extension / re-registration with recommendation of DSC and approval of competent authority.

8. Leave Rules

- a) A Ph. D student may take a maximum of **30 days** of personal leave (inclusive of medical) in an academic year (including winter break, mid- semester breaks and summer vacation) such that no more than 10 days of leave are taken during a semester. However, this 10-day cap will not be enforced when semesters are not in progress and during the summer term. Leave not availed in one academic year will not be carried over to the next academic year. If leave is taken along with one weekend (Saturday and Sunday), addition of weekend shall be allowed only as a prefix or



suffix. If both prefix and suffix of weekends are taken along with leave, total period of absence will be counted towards leave period.

- b) A student may be granted maternity/paternity leave for a period as per government policy. Leave up to 6 weeks can also be granted for miscarriage including medical termination of pregnancy, if supported by a proper medical certificate. Such leave can be combined with any other leave due and will not entail any loss of financial assistantship.
- c) If a registered student is absent on sanctioned leave for a period of 4 weeks or more during a semester, DSC may decide to convert the leave to a semester leave without financial assistantship.
- d) Absence without sanctioned leave will entail loss of financial assistantship for the period of absence, and may result in the termination of the student's programme on the recommendation of the DSC and approval of competent authority.
- e) If a student falls ill while on the campus, the medical certificate must be obtained from the Institute's approved medical officer. If he/she falls ill outside the campus while on sanctioned leave, the medical certificate must be obtained from a registered medical practitioner.

9. Permission to Proceed for Academic Work outside Institute

In order to help-students broaden their horizons and enrich their cultural and academic experience, provision to proceed to other academic and research institutions in India or abroad as non-degree students is available. A Ph.D. student who clears comprehensive Seminar may proceed to another academic institution in India or abroad with prior permission of the DSC on the recommendation of the competent authority. However, he/she needs to get register each semester as per Institute norms.

10. Research Work and Thesis

1. (a) A Research Scholar registered for Ph. D. Degree shall be required to carry out research work under the guidance of a supervisor(s) approved by the Senate.

(b) In case the guide of any candidate ceases to be the guide by virtue of retirement or on leave or otherwise, and there is no co-guide in the concerned department, the assignment of next guide shall be made by the Chairperson Senate on recommendation from DSC. However, no change of guide shall be necessary in case of absence of the guide from the Institute for less than a year provided that the candidate has worked under him/her for a year or more. In such cases, the DSC



shall assign an acting supervisor during the period of absence of the guide. However, this may be done in consultation with the guide.

2. On the recommendation of the guide and concerned DSC, a Full-time Research Scholar who has completed minimum of **one year** in the Institute and completed pre-registration of Ph.D. may apply for conversion to part-time registration when he/she joins an organization on employment.
3. (a) A Fulltime Research scholar has to submit a progress report within two weeks of completion of every **six-months** from the date registration through his/her internal guide(s) and DSC. At the end of each semester, the guide(s) shall arrange in consultation with DSC for a review of the progress of the scholar through a seminar. After having considered the progress report of the candidate, the DSC shall recommend one of the following:
 - (i) Continuation of registration of the scholar.
 - (ii) Termination of registration of the scholar.

(b) Research scholar who could not submit his/her thesis within the maximum stipulated period (7 years) for submission of thesis, may be permitted by Senate to re-register on the same subject and may submit his/her thesis after one year of such re-registration. The period of re-registration shall be counted from the date of expiry of the earlier registration. If the candidate has fulfilled the course work and other related requirements during the earlier registration, he/she shall be exempted from same during the period of re-registration.
4. The thesis for the Ph. D. Degree shall:
 - a) Be composed on the problem stated in the candidate's application.
 - b) Embody the results of research work carried out by him/her.
 - c) Show evidence that it is a piece of research work characterized either by the discovery of new facts or by an attempt at a fresh interpretation of known facts and theories.
 - d) Show evidence of the candidate's capacity for originality, critical examination, and judgment.
 - e) Be satisfactory in presentation so far as language, style and form are concerned. Every such thesis shall include a suitable abstract of the work presented.
 - f) The plagiarism of **30 %** for self-authored paper and **10%** for others are allowed in thesis.
5. The candidate shall indicate clearly in his/her thesis:
 - a) The source (journal, conference proceeding or online sources) from which referred information is taken.
 - b) The extent to which he/she has availed himself / herself of the work of others and the portion of the thesis he/she claims to be original.
 - c) Whether his/her research has been conducted independently or in collaboration with others.
6. The thesis shall carry a declaration from the candidate's guide(s) to the effect that-
 - a) The subject matter of thesis is a record of work done by the candidate himself/herself under his/her/their guidance.
 - b) The contents of the thesis did not form a basis for the award of any previous Degree to him/her (other than that of M.Tech.) or to the best of his/her/their knowledge, to any other person.



- c) A candidate with prior permission from the guide(s) may incorporate in his/her thesis the content of any work, which he/she may have done previously, but has to indicate the extent to which it has been incorporated. However, the guide must satisfy himself/herself that the work is done by the candidate, particularly when the research work is done in some other organization without an external guide.

11. Submission and Evaluation of the thesis

The Supervisor(s), on the request of the candidate and after being satisfied with the pre-requisites, will request the Chairperson, DSC for a suitable date for pre-submission seminar.

11.1 Requisites for Pre-submission Seminar

1. The candidate must have **three** papers published/accepted for publication in SCI/SCIE (including open-access) Journals preferably in Q1 / Q2 Ranking.
Note: Communicated papers will **not be** considered.
2. The first draft of the thesis and synopsis must be ready at the time of pre-submission seminar and one copy should be made available to the DSC.

11.2 Pre-submission Seminar

1. The candidate will be required to submit draft synopsis of the thesis (**5** copies) and give a pre-submission seminar on a date that shall be notified adequately in advance by the Supervisor(s) so as to enable interested Faculty members and students to attend the same.
2. The DSC shall assess the work of the candidate through the pre-submission seminar. The candidate will prepare the final synopsis of the thesis only if the DSC is satisfied about the quality of the research work.
3. The Chairperson, DSC shall forward a satisfactory pre-submission seminar report of DSC to the Examination Section, along with the proof of publication/acceptance of research papers.

If the DSC is not satisfied about the pre-submission seminar, the candidate will be informed by DSC to give pre-submission seminar again on a separate date.

11.3 Submission of Synopsis and List of Examiners

1. The candidate through Supervisor(s) shall submit to the Examination Section, **a soft copy** (in PDF version) and **two hard copies** of the synopsis of the thesis, within **30 days** from the date of successful completion of pre-submission seminar. The synopsis should be typed on A4 size paper using one and half line spacing. The length of the synopsis should be between 10-12 pages including tables and figures.

The Supervisor(s) should ensure that the literary presentation of the synopsis is of acceptable standard and the technical contents of the synopsis clearly spell out the research contribution that will be detailed in the Ph.D. thesis later.

2. The Supervisor(s) through proper channel shall submit a list of Examiners (**in closed envelop**) to the Examination Section, within **7 days** from the date of successful completion of



pre-submission seminar. The list shall consist of name, designation, complete postal address, telephone numbers and e-mail address of **four foreign and six Indian** examiners from Universities / Industries / Research Institutes.

11.4 Submission of the Thesis

1. Candidate through Supervisor(s) should submit to the Academic Section a **soft copy** (in PDF) and **four soft bound** printed copies of the thesis written in the prescribed format, within **60 days** from the date of successful completion of pre-submission seminar.
2. In case the synopsis and thesis are not submitted in the specified period, the candidate will be asked to present another pre-submission seminar.
3. The following are to be submitted along with the thesis:
 - a) Certificate from the Research Supervisor(s) confirming that the thesis contains bonafide work carried out by the candidate and that the thesis does not contain any work, which has been previously submitted for the award of any degree.
 - b) A certificate from the candidate countersigned by the Supervisor(s) stating that the thesis does not contain any classified information, or the requisite permission has been obtained from the concerned authority for using such information.
 - c) Copyright form transferring all copyrights to the Institute.
 - d) Certificate of the Examination Section that requisite courses, if any, have been cleared by the candidate.
 - e) Cash receipt of Examination / Evaluation fee.

11.5 Selection of Examiners from the Panel of Examiners

From the list of examiners submitted, the Examination Board with director as Ex-officio Chairperson and nominated members shall select examiners from the panel provided by the supervisor, separately for foreign and Indian examiners.

11.6 Evaluation of the thesis

1. The thesis would be sent for evaluation to **three external examiners** from the approved panel, out of which **one** would be from foreign University / Industry / Research Institute.
2. Permission to conduct the Ph.D. viva voce examination would be granted on receipt of **favorable reports** from **any two** appointed examiners (Preferably one from foreign examiner) within 60 days from the receipt of report, subject to the approval of the Chairperson, Examination Board.
3. In case only one favorable report is received within the stipulated time, the thesis shall be sent to two more examiners from the approved panel. If reports from both the newly appointed examiners are not received within 60 days from the dispatch of the thesis, the matter will be referred to the competent authority for appropriate action.
4. If any **revision** of the thesis is suggested by the examiners to the satisfaction of the guide, the candidate shall be required to submit the revised thesis within a period of **two months** from the date of intimation to the candidate. The Supervisor(s)/Guide(s) must give a compliance certificate to the effect that the required revisions have been incorporated.
5. If any revision of the thesis is suggested by the examiners and **request to re-evaluate thesis**, the candidate shall be required to submit the revised thesis within a period of **three months** from the date of intimation to the candidate. The Supervisor(s)/Guide(s) must give a compliance certificate to the effect that the required revisions have been incorporated.
6. If **two** of the reports are **unfavorable**, the thesis shall be sent to one more examiner from the approved panel. If reports from the newly appointed examiners is favorable the thesis will be sent to examination board for consideration. If the report is un-favorable the thesis will be



deemed rejected and will be communicated to the candidate and the Supervisor(s) by the academic section.

7. A thesis, which has been disapproved, may be permitted to be revised and resubmitted. In such cases all processes for evaluation of thesis shall be followed, and the external examiners shall be appointed by the Examination Board afresh.
8. Resubmission of thesis shall be permitted twice only.

12. Ph. D. Defense Seminar and Viva Voce Examination

1. After the thesis has been approved, the candidate shall be required to give a Ph.D. defense seminar on a pre-specified date notified by the Supervisor(s). The Ph.D. defense seminar will be followed by a viva voce examination conducted by the Examination Committee comprising of the members of DSC and one of the External Examiners.
2. Presence of at least three DSC members including one External Examiner from among the approved panel of examiners is essential during defense seminar and viva voce.
3. The external examiner could participate in the examination by means of video conferencing in case he/she is unable to be physically present for whatever reason(s).
4. In extraordinary situation, which will be recommended by DSC and permitted by the Chairperson, Examination Board, the candidate can defend his/her thesis through video conferencing.
5. The Ph.D. defense seminar and viva voce examination should be with reference to the thesis and concerned topics only.
6. The Ph.D. defense seminar and viva voce examination should be conducted in public. However, the attendees other than members of the examination committee will be permitted as observers only.
7. The Guide(s)/Supervisor(s) shall send a report of recommendations by the examination committee of the Ph. D. defense seminar and viva voce examination to the Examination Section.
8. After successful completion of Ph.D. defense seminar and viva voce, the candidate shall submit to the Examination Section, **two hardbound copies** and **one soft copy** (PDF version) of the thesis for official record.

13. Award of Ph. D. Degree

1. Based on the report of the Examination Committee, the Examination Board after being fully satisfied that the candidate is worthy of award of Degree of Ph. D. of the Institute, will recommend the candidate's name to be published for award of Ph. D. degree along with the title of the candidate's thesis and name of the Supervisor(s) / Guide(s).



2. A provisional certificate shall be issued from Examination Section after the results are declared with approval from the Competent authority.
3. An appropriate Degree under the seal of the Institute with the title of thesis shall be awarded to the successful candidate in the ensuing annual convocation.

14. Miscellaneous

1. Any doubt or dispute arising about the interpretation of the regulations shall be referred to the Chairperson, Senate whose decision shall be final.
2. If a candidate is likely to submit his/her thesis within two months after the due date of payment of tuition fees, he/she may apply for exemption of tuition fees for the next semester/year. It may be exempted after approval of competent authority.
3. Those candidates who have joined IIIT RANCHI as Project Fellow / Research Fellow under any research scheme can register for full-time Ph.D. after recommendation of project coordinator. All the Ph.D. rules and regulations will be applicable to such candidates.

15. Delegation of Right to Modify PhD Regulations

Notwithstanding all that has been stated above, the right to modify the PhD regulations as and when required, is delegated to Chairperson, Senate. The modifications are to be ratified in the subsequent Senate meeting.