

Regulations for Doctoral Programmes



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A University established by Government of Odisha

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1. Introduction

The Doctoral Programme in the Institute is designed with the following objectives:

- To inculcate serious research skills among the scholars
- To create knowledge, techniques and ideas relevant globally and applicable locally
- To integrate research into the education process there by a researcher acquires distinctive skills as a teacher
- To encourage research both basic and applied, and domain specific and inter-disciplinary

The Doctoral Programme is a four year programme. By its very nature, Research is a creative pursuit and is unstructured. However, the Institute has implemented a process of monitoring and course-corrections which is expected to help a scholar complete her/his thesis on time.

The Institute offers support for academic publications and postdoctoral careers.

Research scholars are involved in seminars, working groups and many academic events within and across departments where they actively participate and present their work.

2. Doctoral performance review committees

To review the performance of the doctoral students following committees shall be formed by the Institute.

2.1 Institute Academic Committee (IAC)

The Institute academic committee consists of the following members nominated by the Director.

- Chairman (Dean)
- Doctoral Programmes Coordinator
- Branch Coordinators
- Senior faculty members from various Department nominated by Dean

** In this document, the terms Head of the Department, Department Coordinators and branch coordinators are used synonymously.*

2.2 Role and Responsibilities of the IAC

The IAC is responsible for the quality of the Research Programme in the Institute. Specifically, the role and responsibilities of the IAC shall be as given below:

- i) The IAC shall advise the Senate on the implementation of administrative programs and policies instituted for the support of research.
- ii) The IAC shall recommend policy formulation to enhance quality of research in the Institute
- iii) The IAC shall prepare an annual report on the Research activities of the Institute
- iv) The IAC shall monitor progress of each scholar each semester

- v) The IAC shall resolve any conflicting situations that may arise among the scholar and members of the DSC.
- vi) The IAC shall ensure quality and ethics in the Research carried out in the Institute.

2.3 Doctoral Scrutiny Committee (DSC)

A Doctoral Scrutiny Committee shall be constituted by the IAC for each candidate admitted to the research programme leading to Ph.D. degree. It shall consist of the following members:

- | | |
|---|------------|
| • Head of the Department | - Chairman |
| • Principal Supervisor | - Convener |
| • Second Supervisor (if applicable) | - Member |
| • One faculty member from the department where the candidate is enrolled to be nominated by IAC | - Member |
| • One faculty member from the same or a related department nominated by IAC | - Member |

If the supervisor happens to be the head / of the department, then IAC shall appoint a senior faculty member as chairman of the DSC from the concerned department.

The Principal Supervisor, acting as the convener of the DSC, will normally organize the meetings after obtaining suitable dates from the Chairman and the members.

Quorum for DSC meeting: At least one member must be present in addition to Chairman and supervisor(s).

2.4 Role and Responsibilities of the DSC

The DSC shall process the formalities of “Provisional Registration”.

The DSC shall attend all Review Seminars where the scholar is presenting

The DSC shall review Reports submitted by the scholar

The DSC shall provide feedback to the scholar on the direction, quality, ethical and other issues of the Research

The DSC members shall spare time to meet the scholar periodically.

3. Supervisors

3.1 Assignment of Supervisors

The Institute Academic Committee (IAC) will assign one or two supervisors from a list of empanelled supervisors. Normally, the following shall apply to the supervisors:

- S/he shall be in the rank of Asst. Professor or above
- S/he shall have a Ph.D. degree.
- S/he shall have at least 3 years’ service left to be the principal supervisor.
- S/he has no plans to discontinue during the research period.

- Persons from outside the Institute joining as Chair Professors/Emeritus Scientists can be appointed as supervisors with a regular teacher, but not as sole supervisors.

A substitute supervisor may be appointed by IAC if sole supervisor leaves the Institute or Sole supervisor proceeds on long leave for a period exceeding one year.

A part-time sponsored scholar desiring to work in his/her place of employment should have a supervisor from his/her organization. The joint supervisor so proposed must have a Ph.D. Degree or at least 10 years of relevant professional experience from a reputed R&D organization.

3.2 Role and Responsibility of the Supervisor

The supervisor contributes significantly to the success a scholar and shares the credit. S/he is responsible for the quality of the thesis produced and timely completion of the thesis. S/he plays the role of a guide, a mentor to the scholar, and a partner in the research process.

The role and responsibilities of the supervisor shall be as follows:

- Direct scholar's work so that it is executed in a competent, scholarly manner
- Guide the scholar in the right direction
- Assist the scholar to meet set milestones and complete your study within set timeframes.
- Help the scholar develop research skills
- Meet ethics and compliance requirements
- Complete Reviews of Progress and achieve the Research Degree Graduate Qualities.

4 Enrolment and Provisional Registration

Selected candidates shall be required to report and pay the admission fees of a date announced by the Institute and enrol into the Doctoral programme.

A roll no. will be assigned to the student.

The IAC shall assign the student to one or two supervisors and constitute the DSC for the scholars.

Within two weeks of enrolment, the student shall submit an application for provisional registration, in consultation with the supervisor. The application shall contain details of a student's career and his broad area of research.

The Doctoral Scrutiny Committee (DSC) will examine the application and recommend "Provisional Registration". The provisional registration will record the area of research.

The DSC shall assign the course work to be undertaken by the Scholar.

The effective date of provisional registration shall normally be the date of enrolment. The DSC may extend the date in consultation with the IAC if a student does not initiate his course or research work immediately on enrolment.

Student benefits, such as fellowship (payable from date of enrolment), library cards, computing account etc. shall normally commence after a student is provisionally registered.

5. Residential Requirement

Normally, all scholars admitted to the Full-Time Ph.D. Programme shall be required to stay in the Institute till they complete all assigned work and submit thesis. Scholars admitted in Part-Time Ph.D. programme are required to stay one semester in the campus or till they complete his/her course work allotted by the DSC.

If the candidate intends to carry out a major part of his research work in his place of employment, then it must be examined by IAC, at the time of selection, that adequate research facilities is available in his institution / organisation. In general major Central Govt. (CSIR, DRDO, DAE, ISRO, CDAC etc.) labs, research organisations, industries (public or private) with established R&D facilities are taken as organisations with adequate facilities.

6. Attendance and Leave

A research student, except when granted withdrawal by the Institute must attend to his work on a whole time basis. The DSC will examine the attendance record of students, and if it is found unsatisfactory, may debar a student from appearing in examination or will recommend extension of minimum duration for submission of thesis, deregistration or termination of studentship as it thinks fit.

A candidate taking a course may be debarred from appearing in examination on ground of unsatisfactory attendance, if less than 75% or less than 65% on medical ground.

The working hours of Ph.D. students is generally permitted to be flexible, but not lower than that of a full time employee. It is the supervisor's legal and moral responsibility to ensure that proper work environment is made available to the student. The students are encouraged to discuss such issues with their supervisors, with HOD and higher authorities.

A research scholar is eligible for following leave per academic year to be permitted by the Head of the Dept. on recommendation of the supervisor (s).

- For incidental purposes, CASUAL LEAVE – 10 working days.
- For treatment on illness, MEDICAL LEAVE – 10 days (including intervening holidays).
- Maternity leave – 3 months (Once during the Ph.D.)

Academic Leave:

- To attend Conferences/Workshop/Seminar/Training Program : 15 days
- For field trips such as data collection, survey work etc.: 30 days

7. Semester Registration

A student enrolled in the Ph.D programme will be required to register in every semester by paying Institute dues and other fees. Students who have been sanctioned withdrawal also need to register in person till the submission of the thesis.

Failure to do semester registration for two consecutive semesters will result in termination of studentship, which can be restored by the IAC on consideration of all circumstances, payment of arrear fees and extension of thesis submission date.

A student may be exempted from semester registration by Dean/Director if he submits thesis within 30 days of scheduled semester registration.

8. Course Work

After enrolment, every student shall undertake the assigned coursework. The course work credit shall be decided by the DSC. Apart from the regular technical courses, the course work should also include research methodologies which may include quantitative methods and computer applications. The minimum course credit required for the doctoral student is summarized as follows:

Present qualification of candidate	Enrolled for Ph.D. in branch	Minimum number of course credits required
M. Tech	Same discipline	16
M. Tech	Another discipline	16
B. Tech	Any discipline	30
M.Sc. / MA / Management	Same/Any discipline	16

The candidate has to obtain an individual grade not less than 7 in each subject in the ten point grading system.

Some courses are compulsory such as:

1. Research Methodology for all disciplines
2. Scholarly Communication Techniques for all disciplines
3. Mathematics for Engineering, Physics and Mathematics Disciplines

The other courses to be taken are recommended by the DSC.

The DSC may prescribe courses exceeding the minimum credits mentioned above

9. Registration

A doctoral student will be formally registered for the degree of Ph.D on completion of following steps.

- i) the candidate has successfully completed all the assigned course work
- ii) the candidate has successfully worked out a road map of his doctoral programme and
- iii) the candidate has successfully delivered an open seminar talk.

The process of registration shall be as follows:

- i) The student has to present his report of progress and plan of work to the DSC in the form of a written document (approximately 05-10 pages).
- ii) Within a week of handing over the report, the Department shall arrange a registration seminar to be delivered by the student in the presence of the DSC. It shall be an open seminar in the department, with invitation extended to students and faculty of all departments. The written document and the seminar should outline the research review and the planning for the proposed research work.
- iii) If the seminar performance is unsatisfactory, he/she may be re-evaluated after a lapse of 3 months or more.

Normally the registration should be completed after elapse of 6 months after enrolment/admission, but not later than 15 months.

If he/she cannot clear the course work, and seminar within 2 years from the date of admission, he will be required to leave the Ph.D programme. In special cases with mitigating circumstances, the IAC can grant extra time.

The Head of the Department will send the application for registration to IAC along with a copy of the student's report and recommendation of the DSC. The matter will be placed before the IAC for approval.

The Department shall bring out an office order confirming the registration after it is passed by the Academic Committee.

10. Scholarship/ Assistantship / Fellowship

A scholar may get financial assistance in the form of scholarship, assistantship or fellowship for many sources.

Financial Assistance from an External Agency: The doctoral student may get financial assistance from an external agency such as CSIR-UGC, DRDO. Such assistance shall be governed by the specified by the sponsor. When the assistance is routed through the Institute, the assistance will be released after the Institute receives the amount from the concerned agency.

Institute Fellowship: Institute doctoral fellowships shall be governed by the rules framed by the Institute.

If an Institute scholar withdraws temporarily, the scholarship will be stopped for the period of absence.

11. Withdrawal

A student, pursuing Ph.D by staying on campus, can become non-resident by taking withdrawal from the programme. Such programme can be granted on one of the following grounds:

- When a sponsored/self-financed student wishes to return to his place of work on completion of at least six months (one semester) of residence requirement.
- When, on the certification by the supervisors, the DSC is satisfied that most of the experimental /computational work has been completed and that the student can finish the rest of the project from outside. In this case the student shall submit a long report for scrutiny by the DSC.
- When a regular student returns to his original place of employment or secures new employment and the DSC is satisfied that adequate facility exists in his place of work to carry out the project.
- When a student, for personal or financial reasons, intends to take a temporary break and return to the Institute for completion of the work, [The minimum period of work before submission of thesis is extended by the period of absence],

or

- Any other circumstances, which in the opinion of the Academic Committee, justifies withdrawal.

For withdrawal under clause (a), (b) or (c) above, a student should have completed one semester residential requirement and course work assigned to him/her.

The following rules shall govern the withdrawal process:

- The student shall do semester registration regularly, personally visiting the Institute at every semester.
- He/she shall pay all applicable fees every semester,
- He/she completes the programme within the stipulated period (8 years) including the withdrawal period.

A student must apply to Dean through his supervisor(s) and HOD for withdrawal in prescribed form along with a report on the work done so far and plan of activities in future. The Supervisor will state the status of the project and the DSC will examine the proposal. Withdrawal can be granted provisionally by Director if satisfied, and afterwards be presented to senate for final approval. The Dean will issue a withdrawal order.

12. Progress Milestones

Sl No	Milestone	Months from Enrolment
1	Course Work	12
2	Registration	15

3	1 st Research Review Seminar: Literature Review	18
4	2 nd Research Review Seminar: Literature Review	21
4	3 rd Research Review Seminar: Research Question	24
5	4 th Research Review Seminar: Research Question	27
6	5 th Research Review Seminar: Methodology	30
7	6 th Research Review Seminar: Methodology	33
8	7 th Research Review Seminar: Findings	36
9	8 th Research Review Seminar: Findings	39
10	9 th Research Review Seminar: Findings	42
11	Synopsis Submission	45
12	Thesis Submission	48

14. Submission of thesis

A candidate is permitted to submit the thesis two years from the date of registration. A candidate must submit his/her thesis within eight years from the date of enrolment. In all cases, the DSC must be satisfied that adequate work has been done by the candidate.

The process of Thesis Submission is as follows:

- The candidate will submit the synopsis of the thesis (typically 10 pages including tables, graphs and references) to the DSC.
- The Candidate will present a seminar to an open audience, which will include members of DSC.
- If the DSC is satisfied with the extent of work done, the candidate will be allowed to submit the thesis. If the DSC is not satisfied with the progress of work, the candidate has to appear again after the lapse of 03 months or more.
- If the DSC feels appropriate, it may, at its discretion examine the full draft thesis before a student is permitted to submit it for evaluation.
- Then the DSC will recommend for the submission of thesis and the names of examiners. The thesis must be submitted within 03 months after the DSC approves the synopsis unless extra time is granted by Dean.

Extension of the period beyond 08 years from the date of enrolment is not permitted. A student will be required to apply for fresh registration if the period exceeds 08 years.

A candidate shall submit six copies of the thesis, neatly printed and bound in a manner notified separately and a soft copy of the same. The thesis must contain, besides the text and common matters like bibliography/references and summary/conclusions:

- (a) A certificate from the supervisor(s) that (i) the work has been carried out under his/her supervision, (ii) the candidate has fulfilled all prescribed requirements and (iii) the thesis which is based on candidate's own work has not been submitted elsewhere for a degree or diploma.
- (b) An abstract of the thesis (about 500 words) with key words (Maximum 20)
- (c) A preface/introduction in which the candidates shall state whether the thesis is based on discovery of new facts or new interpretation of established facts, or exhaustive study and critical analysis of published work of other, or design or development work undertaken or applied research work.
- (d) Bio-data of the candidates within one page (i.e. name, date of birth, educational qualification, research experience, professional experience, if any, and permanent home address)

The candidate will also submit two copies of the thesis in electronic form and permit the Institute to use it in any manner that the Institute thinks fit. For the present, the electronic text should be submitted as two folders, one containing MS-WORD files and another PDF files. On completion of oral examination, a fresh CD may be submitted if any changes are made. One printed copy and one electronic copy shall be archived in Institute's Central Library, while another set shall be kept in the Department.

Format of the thesis should be uniform across all departments. Students are expected to use only S.I units in reporting of all experiential and computational data, and to maintain appropriate number of significant figures.

15. Evaluation of thesis

The DSC will suggest a list of 10 examiners (five from the country and five foreign). After successful completion of the synopsis seminar by the candidate the examiners' list along with a copy of the synopsis will be placed to the Director to select the External Examiners under both categories (Indian and Foreign) in order of preference. The Director may add any name to or delete any name from the list suggested by DSC. The supervisor(s) will also serve as examiner(s) in addition to the two external examiners.

The Dean will send a formal letter to the examiners along with a copy of the synopsis requesting for acceptance of Examinership. After receiving the consent, the thesis will be mailed along with proforma of Examiner's report. In case of refusal, the second examiner in order as ticked by the Director will be contacted and so on. If in this process, the list is exhausted, the Dean may ask the DSC to submit another list. The internal examiners (supervisors) will also be sent copies of the thesis along with the proforma of examiner's report.

The reports of the examiners shall be summarised by Dean and placed before the Director. After obtaining Director's approval, the reports are forwarded to the DSC.

There may be four possible situations arising out of the nature of the reports. The steps to be taken, appropriate to the circumstances, are laid down below:

- i) The examiners are unanimous in recommending the award of the degree without any modification of the thesis. This is a clear case for going for the final requirement of viva- voce.
- ii) The external examiners are unanimous in recommending the award of the degree but at least one of the examiners has suggested modification and/or has asked for clarifications. The candidate in that case shall make modifications and provide the clarifications as suggested within a time to be fixed by the DSC. These may be sent to the examiners, if so desired by them.
- iii) One of the external examiners does not recommend the award of the degree and rejects the thesis whereas 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 Director the appointment of another external examiner and send the thesis to him in its original form. The third examiner will be provided with copies of the evaluation reports of all examiners, external and internal, with the names of the examiners deleted. The recommendation of this 'third' examiner, at this stage, shall be taken as final.
- iv) Both the external examiners reject the thesis, and then the student is declared, "failed".

In the event of a thesis being rejected by both the external examiners the IAC may, on the recommendation of the DSC, permit submission of a revised thesis on an additional payment of the prescribed fee, after a suitable time to be fixed by the Senate (Not less than one year from the date of the intimation to the student and within 8 years from the date of enrolment). The observations and comments of the examiners, if any, may be copied and given to the candidate on request. In no case should a resubmission of the thesis without modification along the lines of criticism made by the earlier examiners be allowed. The revised thesis shall be referred for assessment to two external examiners selected from a new panel of ten experts recommended by the DSC. (one foreign and one Indian). The new examiners will be provided with copies of earlier thesis, examiners' reports and details of changes made, in addition to the revised thesis. The examiners need to respond specifically to the observations of the earlier examiners and the changes made by the student before re-submission.

After the recommendations of the DSC (either for acceptance of the thesis for the Ph.D. degree or for its rejection/ modification) have been accepted by the Director a copy of the reports of the examiners may be issued to the candidate at his request. However, the names of the examiners are not to be disclosed.

Once the reports of the examiners have been accepted as satisfactory, the candidate will have to defend the thesis before a viva voce board consisting of all DSC members and an 'external' examiner. The defense seminar will be open where faculty members and students of the parent as well as other departments will be invited. The evaluation, however, will be done by the DSC along with the external examiner. The 'external' examiner may either be one of the experts who have already adjudicated the thesis or be another expert appointed for the purpose. The viva voce board may recommend changes in the thesis. If the viva voce board is not satisfied, the candidate has to appear again before the board after elapse of three months. The DSC shall recommend to the Senate

the award of the Ph.D. degree if the viva voce is satisfactory and all other requirements have been fulfilled.

On completion of the viva voce, the student will submit two copies of the revised thesis and two copies in electronic media, which, will be archived in Institute and Departmental Libraries. All available copies of the original version will be returned to the student. The copies available with the student and his supervisor(s) must also be corrected.

16. Award of Degree

On the recommendation of the DSC, the Senate or the Director (when the Senate is not sitting early) shall decide whether the candidate should be awarded the degree of Doctor of Philosophy. If the Director has approved the award of degree, the award must be confirmed by the Senate.

A provisional certificate may be issued to the student on approval of the Director. The final degree certificate will be issued in the convocation or by any other mode approved by the Senate.