INDIAN INSTITUTE OF TECHNOLOGY, PALAKKAD

Ph.D. ORDINANCES AND REGULATIONS

ORDINANCES

O.1   A candidate who has qualified for the award of Master's degree of this Institute or of a recognized Institute or University in the discipline as prescribed in the regulations approved by the Senate is eligible to apply for the Ph.D. programme of the Institute.

O.2   A candidate who has qualified for the award of Bachelor's Degree in Engineering/Technology with exceptionally good academic background in the discipline as prescribed in the regulations approved by the Senate is also eligible to apply for Ph.D. programme in Engineering/Technology/ Sciences /Humanities and Social Sciences of the Institute.

O.3   The award of the Ph.D. degree shall be in accordance with the regulations decided by of the Senate of the Institute.

O.4   Until the Departments are formed the duties of Head of the Department will be handled by Dean (Academic Research)/ or nominee of the Dean (Academic Research)/ or by the Research Advisory Committee (RAC). The RAC consists of three members including the Dean (Academic Research) and two members nominated by the Chairman, Senate.

O.5   Every research scholar joining for the Ph.D. program will be monitored by the Doctoral Committee (DC) constituted as per the Ph.D. regulations.

REGULATIONS

R.1. Categories of Admission

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

(a) Regular full-time scholars.

(b) Research scholars who are staff members [regular or project staff] of the institute registering for a degree on a part time basis as per norms. The Project staff must fulfill the selection criteria followed for regular scholars. It must be ensured that the funding is available in the project for the duration of the degree.

(c) Research scholars under the external registration programme, sponsored by and employed in an industry/organization/national laboratories having R&D facilities and recognized by DSIR or by the Senate of IIT Palakkad.

A research scholar under the external registration programme will normally carry out part or all of his/her research work in the parent industry/ organization/national laboratory employing the scholar under the supervision of a guide at IIT Palakkad and a person overseeing the research work at the Scholar's organization as a Research coordinator.

In the case of external registration, the candidate must have at least two years experience in the parent industry/ organization/national laboratories/university in Engineering/Sciences/Humanities.

R.2. Eligibility

R.2.1. Qualification for Regular Full-Time Research

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

2.1.1 Ph.D. in Engineering

(a) Candidates with a Master's degree in Engineering/Technology or a Master's degree by Research in Engineering/Technology with a good academic record.

(b) Candidates with Master's degree in Sciences/Master's degree in Computer Applications with a good academic record and of exceptional merit are eligible for the relevant Engineering discipline. They should have a valid GATE score or UGC/CSIR-NET/NBHM or equivalent qualification in the relevant area tenable for the year of registration.

(c) Candidates who have qualified for the award of Bachelor's degree in Engineering/Technology from a Centrally Funded Technical Institute (CFTI) with an exceptionally good academic record in an eligible discipline will be considered for direct admission to Ph.D. provided he/she has a minimum CGPA of 8/10 (7.5 for OBC- NCL and 7.0 for SC/ST/Pw D on a 10.0 point scale).

2.1.2 Ph.D. In Sciences

Master's degree in Sciences / with a good academic record and having a valid GATE score or UGC/CSIR/NBHM/INSPIRE / ICMR/ or other similar National Level Fellowships or equivalent qualification tenable for the current year in the relevant area. Master's degree holders in Engineering/Technology are also eligible.

Candidates who have qualified for the award of Bachelor's degree in Engineering/Technology from a Centrally Funded Technical Institute (CFTI) with an exceptionally good academic record in an

eligible discipline will be considered for direct admission to Ph.D. in Sciences provided he/she has a minimum CGPA of 8/10 (7.5 for OBC- NCL and 7.0 for SC/ST/Pw D on a 10.0 point scale).

2.1.3 Ph.D. in Humanities and Social Sciences

Master's degree in an eligible discipline with a good academic record or equivalent and having a valid GATE score or UGC/CSIR-NET/NBHM or equivalent qualification tenable for the current year in the relevant area.

R.2.2 Institute staff members/Research scholars under QIP/Research Scholars under External Registration.

For Research Scholars in these categories, the minimum educational qualifications are the same as prescribed for full time research scholars. However, valid GATE score or CSIR / UGC JRF or Lectureship / NBHM or equivalent qualification as applicable for regular full time research scholars shall not be required in these cases.

R.3. Selection Procedure

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

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

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

R.3.1 International Students

Foreign nationals can only register as full-time scholars. Foreign nationals with degree from Indian Universities will be treated on par with Indian nationals for admission purposes. Foreign nationals with foreign defrees must meet the minimum educational requirements as given above. In addition, they should have a valid GATE or an equivalent examination and should have a valid TOEFL score. International students are expected to have a good working knowledge of English.

R.4. Admission

Candidates whose selection is approved by the Chairman, Senate will be admitted to the Ph.D. programme after payment of prescribed fees.

R.5. Guide/s

R.5.1. Allotment of Research Guide

(a) There shall be not more than two guides for a research scholar

(b) The RAC shall decide upon the allotment of research scholars to guides. This allotment will be based on the preferences of the research scholar and of the proposed guide, and shall be done soon after the student's joining the Institute.

(c) A research scholar may have a guide from an institute other than IIT Palakkad. The guide thus chosen may be from another CFTI or from a Research Laboratory in the area of work of the research scholar. Such a guide will need to sign Intellectual Property Right (IPR) agreement and Non-Disclosure Agreement (NDA) as formulated by IIT Palakkad.

(d) In case the guide goes on leave for more than three months, another faculty member of the Institute needs to be identified by the guide to become a caretaker of the research scholar. In case one of the guides resigns or otherwise ceases to be a faculty member of the institute, the RAC will appoint a new supervisor in consultation with the Doctoral Committee.

(e) The induction of an additional guide as proposed by the existing guide needs to be approved by the Dean (Academic Research).

R.5.2. Eligibility to be Guide

(a) All faculty members of the institute who are actively involved in research.

(b) A faculty member who is to retire within three years may be permitted to become a guide to a scholar only along with another faculty member as a guide, who is not likely to retire within 5 years. On retirement, the faculty member will continue to be one of the guides and will be invited to the Doctoral committee meetings, synopsis meeting and viva voce examination.

R.6. Doctoral Committee (DC)

The members of the Doctoral Committee of an individual research scholar shall be appointed by the Dean (Academic Research) within a month of

joining of the research scholar. Dean (Academic Research) shall choose members from a panel of names recommended by the guide.

6.1   Composition of DC

(a)   Chairman of the Doctoral Committee is Dean(Academic Research) or his/her nominee until the departments are formed. If the Dean is the Guide of the scholar, a Professor nominated by the Chairman, Senate is the Chairman of the Doctoral Committee

(b)   Members of the committee:

    (i)   Research Guide/s

    (ii)   Internal Members - Two faculty members of the department

    (iii)   External Members - Two faculty members chosen from outside the Department, or subject experts from outside the Institute

Guide will act as a convener of the Doctoral Committee.

In case any member of a DC goes on leave exceeding three months duration, or resigns or retires from the institute, the Dean(Academic Research) will nominate another member.

6.2 Major functions of the DC

(a)   The Chairman DC, guide/s and at least one internal and one external member should be present in any DC meeting.

(b)   The DC will meet once every year up to 3 years and once every six months thereafter till the thesis is submitted, to review the progress of the research scholar. The DC may decide to meet in between the regular meetings in the case of special requirements such as insufficient progress of the Research Scholar or on special requests of the guide/scholar. The Doctoral committee will also provide a grade "Satisfactory" or "Not Satisfactory" after every meeting. Two successive "Not Satisfactory" may result in the termination of the registration.

(c)   The Zeroth meeting (First Meeting) of DC shall be conducted through email circulation among the DC members. This is mainly for the approval of courses to be undergone by the Research scholar

The first meeting of the DC shall be within six months from the date of joining, of the Research Scholar. In this meeting, the research scholar will present the approximate plan of the work along with the course work details.

(d)   The DC will provide suggestions for course corrections/improvements on the work done

(e)   The DC may recommend change of guide or appointment of a guide with valid reasons

(f)   The DC will participate in the comprehensive viva of the research scholar.

(g)   The DC will suggest the Panel of thesis examiners

(h)   The DC will review of examiners report on the thesis

(i)   The DC will participate in the viva-voce.

R.7. Registration

The Doctoral Committee shall meet within six months of being constituted. In its first meeting, the DC shall fix / approve the proposed research topic, the date of registration for the PhD program in consultation with the guide.

R.8. Course Work

Doctoral Committee in its zeroth meeting shall prescribe two compulsory courses and a basket of four electives to be undergone by the scholar. The scholar has to undergo any two of the courses from the basket of electives prescribed by the DC. The number of courses to be undergone by the research scholar over and above the minimum prescribed is at the discretion of the Doctoral Committee. Research Methodologies seminars have to be attended by the students at the beginning of the Ph.D. courses.

All prescribed courses shall be at least of the post graduate level. In case no suitable courses are available, the Chairman of the DC may allow courses of allied departments/institutions. Offering of new courses by the Institute suitable for the research topic may also be resorted to under exigencies of circumstances.

The DC may give credit to courses already undergone by the Research Scholar in the Institution or in sister institutions in the past four years, provided the course contents and the evaluation pattern are similar. Credit to courses, already undergone by a Research Scholar will not be considered if they were credited for the award of any previous degree. UG courses, may be prescribed as additional courses. In all prescribed courses, the research scholar should earn minimum grade equivalent to the Grade C.

R.9. Residential Requirement

In order to complete the courses and to have interactions with the Guide at the Institute it is mandatory that the Research Scholar under external registration resides at the Institute for a minimum period of one semester. Over and above the mandatory requirement, the DC may recommend extended periods of residence at the Institute.

R.10. Monitoring of Progress

A registered research scholar shall submit a written progress report in the prescribed format annually for the first three years, and every six months thereafter. Scholars should submit the progress report through the guide/s to the Chairman and members of DC before every meeting. This should be done well in advance (at least 2 weeks) of the DC meeting for reviewing the progress of the scholar. On review/evaluation of the progress, the DC will make appropriate recommendations with regard to the research program. Continuance of registration and continuance of Research Assistantship will be based on the recommendation of the Doctoral Committee. Inadequacy of effort/progress can be a reason for cancellation of registration.

R.11. Comprehensive Examination

Every Ph.D. scholar shall appear for and perform satisfactorily in a Comprehensive Examination as evaluated by a duly appointed Committee. The objective of the Comprehensive Examination is to test the general competence of the research scholar and the breadth of his/her knowledge in his/her discipline and areas related to his/her field of research.

The Comprehensive Examination shall be conducted by the Comprehensive Examination Committee, consisting of the Doctoral Committee members of the scholar and at least two other members nominated by the Chairman of Doctoral Committee. The comprehensive exam shall be convened by Chairman of DC. The comprehensive examination consists only of an Oral examination of not less than one hour duration (based on the syllabus approved by the Comprehensive examination committee). One week before the comprehensive examination, a write up of not more than 500 words giving the indicative area of his/her research should be made available to the committee members.

If the performance of a research scholar in the Comprehensive Examination in the first attempt is not satisfactory, he/she will be given one more opportunity to appear for the comprehensive examination within six months of the first attempt.

If a candidate fails to clear the comprehensive exam in two attempts, his/her registration shall be cancelled.

The Comprehensive Examination Committee shall intimate to the research scholar sufficiently in advance (say 2 months) the scope of the Comprehensive Examination, so as to enable the scholar to adequately prepare for it.

The Ph.D. research scholars are normally expected to complete the Comprehensive Examination successfully within 1 year of his/her registration for the program. In exceptional cases the Dean(Academic Research) may allow a research scholar up to three semesters from the date of his/her registration to complete the comprehensive examination.

For the conduct of comprehensive examination, the DC shall decide the modalities subject to approval by the Dean (Academic Research) of the Institute.

R.12. Research Proposal

Within six months after the successful completion of comprehensive examination, there should be a detailed presentation of the Research Proposal and progress report by the research scholar in the subsequent meeting of the DC. The research proposal meeting shall be open to all. The research proposal shall contain: the title (need not be exact) of the intended study, justification/motivation of the study, international and national status of the research topic, conceptual model/hypothesis, specific objectives, expected outcome/deliverables, and a brief bibliography. This will be considered as the 1st Seminar by the research scholar. The Research Proposal meeting of the DC shall be conducted within TWO years of registration of the research scholar. Any delay in conducting the Research Proposal meeting has to be approved by the Chairman DC and should be informed to Dean (Academic Research) of the Institute. The research scholar shall make suitable modifications , and course corrections in the research work incorporating the suggestions of the DC in the Research Proposal meeting.

R.13. Enrolment

Enrolment in any semester defines the continuance of the research program by the scholar and should be done at the Institute where other mandatory requirements such as payment of fees are also required to be fulfilled. A semester-wise progress report by the research scholar should be submitted to the Research Guide and the guide's recommendation is a precondition for enrolment. All research scholars , are required to enroll each semester on the stipulated date till the submission of thesis.

R.14. Duration for completion of research towards Ph. D.

The minimum period of study and research for regular full time research scholars at IIT Palakkad from the date of registration for the Ph.D. program to the date of submission of the thesis shall be 30 months. Research Scholars should submit the thesis within a maximum of 5 years from the date of registration (excluding long leaves taken, if any). The Doctoral Committee may extend the period of submission of the thesis on yearly/half yearly basis for a maximum of two years for regular full time research scholars. For research scholars in the remaining category, an additional year (5+2+1 = a total of eight years, excluding long leaves taken, if any) may be allowed for submission of thesis. After the stipulated period and extensions, the registration of the research scholar gets cancelled. Revoking the cancellation will be possible only with approval of the Chairman, Senate.

R.15. Long leave from the programme

A scholar may take leave anytime from the programme. For this a written request has to be made to this effect by the scholar to the Doctoral Committee. Upon recommendation by the Doctoral Committee, the scholar may be permitted by the Dean (Academic Research) to take leave from the programme for a semester or longer for reasons of ill health or other valid grounds. Normally a scholar will be permitted to discontinue from the programme only for a maximum continuous period of two semesters. A letter permitting the leave will be issued by Dean (Academic Research). The research scholar will not be paid assistantship/fellowship during his/her period of absence.

R.16. Exit from Ph.D. Programme

(a)   If a Ph.D. scholar fails to pass the comprehensive examination in two attempts, then the scholar will be given an option to convert their registration from Ph.D. to M.S. programme, if so desired. Otherwise the scholar's registration will be cancelled. The procedure for conversion is as follows:

(i)   The Ph.D. scholar has to give a written request to the Doctoral Committee to exercise the option for conversion of registration to the M.S. programme within two weeks after he/she is informed of the failure in the second attempt of the comprehensive examination.

(ii)   The Doctoral Committee must give its recommendation to Dean(Academic Research). within a fortnight from the date of receipt of the request from the scholar.

(iii)   Following the favorable recommendation of the Doctoral Committee and its subsequent approval by the Chairman Senate, the scholar will continue with the same guide(s) for the M.S. program.

(iv)   The duration of the scholar's M.S. programme shall not be more than 3 years from the date of registration in the Ph.D. programme.

(v)   The award of Half Time Research Assistantship (HTRA) to the scholar will be as applicable for the M.S. programme.

(b)   If the Doctoral Committee, on continuous assessment, finds the scholar to be incompetent to continue research leading to his/her Ph.D. degree, then the DC may recommend for the scholar's exit from the Ph.D. programme to Dean (Academic Research) and for admission to the M.S. degree, provided the student has completed all the requirements of the M.S. degree and is equipped to complete the thesis work.

(c)   The Ph.D. scholar, due to valid personal reasons, may exit from the Ph.D. programme with an M.S. degree, provided:

(i)   A request to this effect with proper justification is made to the Doctoral Committee at least six months before the exit, but not before the student has completed two-and-half years (excluding the period of long leave, if any) in the programme;

(ii)   The request is approved by the Chairman Senate on the recommendations of the Doctoral Committee; and

(iii)   The student has completed all the requirements of the M.S. degree.

In all the three cases above, if the scholar has not completed the requirements of the M.S. degree, then the scholar shall convert his/her registration to an M.S. program. In such cases, the duration of the scholar's M.S. programme shall not be more than 3 years from the date of registration in the Ph.D. programme.

(d) In case the final thesis of the Ph.D. scholar is not commended by two external examiners, then on the recommendation of the doctoral committee, the scholar may be awarded a M.S. degree.

R.17. Cancellation of Registration

(a)   If the Doctoral Committee finds that the progress of the scholar is not satisfactory over two consecutive Doctoral Committee meetings, or if the scholar has failed to enroll, then the registration of the scholar is liable to be cancelled.

(b)   If the student is found to be involved in any academic malpractice, which may include (but not limited to), fabrication of results, plagiarizing, or in other forms of academic dishonesty, then the registration of a scholar may be cancelled by the Doctoral Committee, after investigation by the disciplinary committee.

(c)   The registration of a scholar who has not submitted the thesis before the end of the maximum permissible period as listed in R.14 will be cancelled.

R.18. Submission of Synopsis and Publication of Research Output

Ph.D. scholars should have at least one (1) paper published or accepted for publication in Science Citation Indexed (SCI) journals. Although not mandatory, it is also recommended that the scholar's research be presented in two (2) conferences.

The scholar is permitted to submit the synopsis on satisfactory completion of the prescribed courses, the comprehensive examination and research work. Prior to submission of the synopsis, the Ph.D. scholar is required to give at least two seminar talks on the topic of his/her research (the research proposal shall be considered as the first seminar). The first seminar talk must be given within six months after the successful completion of the comprehensive exam.

The second seminar talk should constitute the important components of the scholar's research work. This seminar is open to all faculty members and students of the institute, and any comments/suggestions that arise from this seminar may be incorporated into the thesis, after due consideration by the student and the guide(s). A notice of the second seminar must be displayed at least four days in advance of the seminar. The intimation that the second seminar has been given should be communicated by the research guide to the Academic Section, through the Doctoral Committee Chairman.

A scholar who meets the above requirements shall submit the requisite copies of the synopsis of his/her research work in the required format through the guide(s) to the Academic Section for consideration of the Doctoral Committee. The scholar shall present the synopsis before the Doctoral Committee. The Doctoral Committee will, if it approves the work reported in the synopsis, permit the research scholar to submit the thesis and recommend a panel of at least four examiners from Indian institutes/universities (outside the parent institute), and at least four examiners from foreign institutes/universities.

R.19. Submission of Thesis

(a) The scholars should submit the synopsis along with the first draft of the thesis soft copy to the DC, one week before the synopsis meeting.

(b) In the meeting, the research scholar has to present his/her work. This presentation can be for a duration of approximately 30 min. The research scholar shall, within one month of the approval of the synopsis, submit the requisite copies of the thesis and abstract of the thesis to the institute. The Doctoral Committee may consider and grant additional time (a maximum of three months) beyond the one month period, on request from the scholar, for valid reasons.

(c) The guidelines for the use of anti-plagiarism software for the Ph.D. thesis are as follows:

The scholars have to certify that the software "Turnitin" or any other standard software / platform was used for checking against plagiarism. (The institute will provide a standard software for this). The guide has to ensure checking against plagiarism through any standard software before submission of Ph.D. thesis and endorse the undertaking of the scholar. The guide may obtain a special relief from this checking from the Dean(Academic Research). on grounds of IP implications or National Security, if applicable.

(d) If a research scholar completes the requirements of the Ph.D. degree program within the stipulated period, then the assistantship/fellowship may be provided up to the completion of 5 years (excluding long leave, if any) from the date of registration.

R.20. Panel of Examiners

(a) The Doctoral Committee has to send the list of examiners with 8 names of experts, recommending at least 4 names of experts from foreign universities/institutes. The thesis shall be referred to two examiners chosen by the Dean(Academic Research) from among the panel of examiners recommended by the Doctoral Committee at its synopsis meeting.

(b) In case, both experts chosen are Indian examiners, both are to be invited for the viva-voce examination, and at least one should attend.

R. 21. Thesis Report

(a) The examiners are expected to send the report on the thesis within two months from the date of receipt of the thesis. In case of undue delay in receiving the thesis report, Dean(Academic Research) may appoint another examiner from the recommended list of panel members in place of the previous examiner, for evaluating the thesis.

(b) If one of the two thesis examiners reports the thesis as not commended, the thesis shall be referred to a third examiner from the recommended panel for evaluation. If two examiners, after referral to a third examiner if necessary, report the thesis as not commended, exit provisions as in R.16 may be made available if recommended by the DC.

(c) If an examiner suggests revisions or resubmission of the thesis after revision, the research scholar will be allowed to resubmit the thesis within the time stipulated by the Doctoral Committee, failing which, the revised thesis will not be accepted and his/her registration will be cancelled.

(d) If reports of two examiners, after referral to a third examiner if necessary, declare the thesis as 'commended', the Doctoral Committee will consider the reports at a Reports meeting, and arrange for the conduct of viva voce.

(e) The soft copy of the thesis is to be circulated prior to the Reports Meeting and viva voce examination of the Ph.D. thesis. The details are as follows:

- The reports are to be circulated to the DC members along with a copy of the thesis.
- The response of the candidate as well as the modified soft copy of the thesis is to be circulated prior to the Viva-voce meeting.

(f) The viva-voce board will be formed and chaired by the Dean(Academic Research). The board will consist of the guide(s), one of the thesis examiners and one internal examiner. The internal examiner will be nominated by the Dean, R&D from an internal panel. All members of DC will be invitees to the viva- voce board. If the external examiner is unable to be physically present in the viva voce board, appropriate electronic media may be used.

R.22. Viva Voce Examination

(a) The viva voce board will examine the scholar on his/her thesis work and evaluate his/her performance as satisfactory or otherwise. The Board may ask the research scholar to be present for a second meeting *(within two months)* if the performance at the first meeting is not satisfactory.

(b) If the viva voce board on the second occasion also evaluates the performance of the research scholar as not satisfactory, the matter will be referred to Chairman, Senate for a decision.

(c) The viva voce board may also recommend revision to be made in the final version of the thesis after taking into consideration suggestions of the examiners who evaluated the thesis and based on the discussion at the viva voce.

(d) The Chairman of the viva voce board shall forward the thesis to the academic section certifying that the revisions recommended by the viva voce board, if any, have been incorporated in the copy of the thesis along with the report of the viva voce board.

(e) All the research scholars shall submit one copy of the final form of thesis in A5 size and an electronic version in PDF format to the institute after the viva voce board recommends the award of the Ph.D. Degree.

R.23. Award of Ph.D. Degree

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

R.24. Residual powers

In all other cases, not covered by the above Regulations, the matter will be referred to the Dean (Academic Research).