

# ANNEXURE – V





## Doctor of Philosophy (PhD) Regulations



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## 1. INTRODUCTION

Doctor of Philosophy (**PhD**) (Latin *philosophiae doctor*) is acknowledged to be the highest university **degree** that is conferred on a doctoral student/PhD candidate, who successfully defends her/his PhD thesis in front of a panel of experts in the field appointed by the University. During the prescribed course work that lead to the degree, the student would be called a *doctoral student* or *PhD student* while a student who has completed all the prescribed coursework and comprehensive examinations, and is working on her/his thesis would be referred to as a *doctoral candidate* or *PhD candidate*. A PhD candidate must submit a thesis, which would contain a detailed narrative of the research carried out on a focused topic, which has expanded the boundaries of state-of-the-art knowledge as evidenced, in principle, by publications reported by the candidate in peer reviewed well-known Science Citation Indexed (SCI) journals and high-quality peer reviewed international conferences related to the chosen topic. Each Department will prepare a list of such well-known and well-respected journals *appropriate to the Department*. Creative and productive enquiry is the basic philosophy that underlies the research work of any PhD candidate. In order to overcome any deficiency in the breadth of fundamental training or proper foundation for advanced work, **special master's level preliminary or pre-PhD courses** would be prescribed for PhD students and offered by each Department. These courses would be given either by faculty members or by guest-speakers and specialists in the field of research.

## 2. COURSE WORK REQUIREMENTS

The minimum requirement of pre-Ph.D. Course work in terms of valid credits for a PhD candidate having BTech/ MSc Degree admitted to an **engineering/science** department will be **24 credits**. The minimum requirement of pre-PhD Course work in terms of valid credits for a PhD candidate having MTech or equivalent Degree admitted to an **engineering/science** department will be **12 credits**. Candidates admitted to **non-engineering/non-science** departments and having a BTech/MSc/MA/MPhil or equivalent degree will be required to complete a minimum of **18 credits**. Individual department may recommend course work requirements over and above the minimum requirements as specified above by the University.

These courses can be prescribed from special pre-PhD courses including laboratory, seminar, foreign language, etc. to be decided by individual departments. Normally, no independent study course will be allowed for PhD students.



### 3. COMPULSORY AUDIT COURSES WITH PASS GRADE

A compulsory course on Communication Skills (to be allotted a course number HS xxx) and on Research Methodology (to be allotted a course number RM xxx) have to be audited by every PhD student in addition to the required courses to be credited before taking up the comprehensive examination. The course on Research Methodology may include quantitative methods and computer applications; it may also involve reviewing of published research in field(s) relevant to the topic/field of research by the student.

### 4. PROCESS OF REGISTRATION FOR PHD CANDIDACY: COMPREHENSIVE EXAMINATION

For each PhD student in a department, a Student's Research Committee (SRC) has to be formed by the individual department. Composition of the SRC will be as follows:

- (i) a senior member of the department with related subject expertise,
- (ii) an external expert from another in-house Department, and
- (iii) Supervisor(s); concerned HoD/constituted Department Research Committee (DRC) to be appointed *by the Head of the Department and approved by the Dean Academics* would make the selection of the members under i) and ii).

A PhD student shall be formally registered/admitted to the candidacy of PhD degree only after she/he has cleared the **comprehensive examination**. Comprehensive examination will comprise of a 3-hour written test on the *fundamentals of the discipline (50%) and on the basics of the proposed research proposal (50%)* to be pursued by the student followed by a seminar and Q&A session in front of the Student's Research Committee (SRC). SRC would monitor academic progress of the PhD student at the end of each semester. Syllabus for the written test should contain several foundational topics out of a basket of subjects/topics *as specified by SRC*. Question Paper for the written test would be framed by the concerned SRC. The PhD candidate must secure a minimum of 45/65 marks i.e. approximately 70%) in the written test and 25/35 (i.e. approximately 70%) in the oral presentation (seminar + Q&A) so that overall percentage in written and oral examinations is about 70% while individually satisfying the minimum of 70%. Students would be permitted to take the comprehensive examination only after they have

submitted a research plan and have completed the course work (including the mandatory two audit course on Communication Skills and Research Methodology). Full-time and part-time students must clear the comprehensive examination within a maximum period of 18 months i.e. three semesters and 24 months (i.e. four semesters), respectively, from the date of joining. A maximum of two chances will be given to any student to clear the comprehensive examination. Every student, after having completed the comprehensive examination must formally register for the candidacy by applying on a prescribed form.

## 5. CONTINUATION OF REGISTRATION

- A PhD student will be evaluated on completion of pre-PhD course work in terms of Degree Grade Point Average (DGPA), which is calculated on the basis of the valid credits as prescribed by the Department. The requirement for completion of pre-PhD course work will be a minimum DGPA of 7.5 or more within the maximum permissible period i.e. 18 and 24 months, respectively for full-time and part time PhD students.
- Based on the performance in the course work registration of a PhD student will be terminated at the end of 1st Semester if the SGPA is less than 6.5.
- In the subsequent semesters, the PhD candidate must maintain a CGPA of more than 7.0 to continue registration.
- In case a PhD student having completed 24 credits is unable to complete the research at the PhD level for any reason whatsoever, she/he may be allowed on the basis of application, if submitted by the concerned PhD student to complete MS (Research) degree as per prescribed University rules.

### Time limits for PhD candidacy for students registered under PhD Programme

Sr. No.		Candidate's qualification	
		MTech or equivalent	BTech/MSc or equivalent
1	Limits for registration		
1.1	Minimum period of registration	2 years	3 years (can be reduced to 2 years with the approval of the Academic Council and the Vice Chancellor)



1.2	Normal maximum period of registration	8 semesters	10 Semesters
1.3	Extended maximum period of registration	10 semesters	12 semesters
2	Conversion from Full-time to Part-time Registration	After satisfactory completion of Comprehensive examination, with the approval of Academic Council and the Vice Chancellor	

## 6. LEAVE REGULATIONS

### (a) Leave during course work

A full-time PhD student, during her/his stay at the University will be entitled to leave for 30 days, including leave on medical grounds per academic year. Even during mid-semester breaks, and summer and winter vacations, she/he will have to explicitly apply for leave. She/he, however, may be permitted to avail of leave only up to 15 days during winter vacation at the end of the first semester. Leave beyond 30 days in an academic year may be granted to a PhD student in exceptional cases subject to the following conditions:

- (i) Leave beyond 30 days will be without Assistantship/Scholarship, and
- (ii) Such an extension of up to additional 30 days will be granted only once during entire tenure of the of the student's PhD Programme. In addition, a PhD student, who has completed her/his course work may be granted leave on medical grounds up to 10 days per academic year. Women PhD students will be eligible for Maternity Leave with assistantship for a period not exceeding 180 days once during the tenure of their PhD Programme. The leave may be subject to the approval of the Head of Department concerned on the recommendation of the Supervisor; and a proper leave account of each PhD student shall be maintained by the Department concerned.

## 7. ATTENDANCE REQUIREMENTS FOR ASSISTANTSHIP

A PhD student irrespective of the source of research assistantship while pursuing course work, must attend at least 75 % of classes in each course in which she/he is registered.

In case her/his attendance falls below 75 % in any course during a month, she/he will not be paid Assistantship for that particular month. Further, if her/his attendance again falls short of 75 % in any course in any subsequent month in that semester, her/his studentship and Assistantship will be terminated. A research scholar after having completed the course work must attend to her/his research work on all the working days and mark attendance except when she/he is on duly approved leave. The requirement of 75 % attendance will apply as above, on daily attendance except in the cases where longer leave has been duly approved within the leave entitlement of the student. For the above purpose, if 75 % works out to be a number which is not a whole number, the immediate lower whole number will be treated as the required 75 % attendance. All scholars who are offered financial assistantship are expected to put in 8 hours per week towards the work assigned by the Department/University e.g. assistance in laboratory /tutorials. Continuation of assistantship in the subsequent semester would be conditional, subject to satisfactory performance in the assigned work.

## 8. FURTHER REGULATIONS GOVERNING PH.D. STUDENTS

The PhD degree of the Institute may be conferred on a candidate who fulfills all the requirements detailed above approved by the Vice Chancellor. Some of the important regulations are given below:

- (i) Applications for PhD registration, i.e., for entry to a course of study and research leading to PhD degree must be made to the Academic Council /Dean of Academics on a prescribed form to be submitted through the concerned HoD. The date of registration would normally be the date of joining the PhD Programme.
- (ii) The academic Programme of all the PhD candidates in a Department will be coordinated by the Department Research Committee (DRC). The supervisor(s) shall necessarily be full-time member(s) of the academic staff of the Institute. The supervisor(s) shall be appointed within three months of joining the PhD Programme by the student. For this, a PhD candidate must fill up the required portion of the prescribed form, following which supervisor(s) must fill up the required portion, and the Student Research Committee (SRC) must be finalized by the respective DRC. This process must be completed within three months of



the PhD candidate's date of first registration. If necessary, Dean Academics on the recommendations of the Supervisor through the DRC, may appoint Joint Supervisor(s) not exceeding two from inside or outside the University. Normally, there should not be more than two supervisors for a candidate from within the Institute. Appointment of any Joint Supervisor would not be permitted after eighteen months from the date of registration of the candidate, except in case when none of the supervisors is in the university continuously for a year or more at a stretch.

- (iii) The DRC shall meet from time to time and review the progress of each candidate in the course work, as well as research, by an evaluation process, which may include oral examination e.g. a seminar by the candidate, if necessary, and recommend, after due consultation with the supervisor(s), such steps to the candidate as are necessary to improve her/his performance.
- (iv) In addition:
- (a) PhD research work will be given a course number (say, GC xxx; GC standing for Graduate Course) for all candidates across the University.
  - (b) The DRC Secretary/PhD Coordinator of the department will be coordinating collection of progress reports written and signed by the PhD students and approved and counter signed by the supervisor(s) with written recommendation at the end of every semester.
  - (c) The supervisor(s) and SRC/DRC will evaluate the progress of each PhD student at the end of every semester.
  - (d) 'S' grade will be awarded if the progress is found to be 'satisfactory' in that semester.
  - (e) If the progress is 'unsatisfactory', 'U' grades will be awarded. For the first appearance of 'U' grade, a warning would be issued to the candidate by Dean, Academics. If her/his performance does not improve after warning, the assistantship may be withheld.
  - (f) If there are two consecutive 'U' grade (in consecutive semesters), the registration will stand terminated.
  - (g) Submission of progress report should continue till submission of the thesis.
  - (h) Like all other courses, the grades for GC xxx will be discussed in the Department as per the semester schedule.

The above process will continue till the thesis is submitted.

- (v) The candidate may submit the thesis at any time provided that She/he has completed the minimum period of registration including any extension as prescribed by Dean Academics.
- a) She/he has completed the course work requirement as prescribed by the DRC with DGPA not below 7.50 and has also cleared the comprehensive examination.
  - b) She/he has submitted at least two months in advance, the title and a Synopsis of the thesis.
  - c) Prior to submission of the Synopsis, the PhD candidate shall make a pre-PhD presentation in the Department that will be open to all faculty members and research students in the department as well as to all other departments, and for which the Supervisor(s) should announce the date, time and venue of the Pre-PhD seminar at least one week before the seminar and post on the Notice Boards and also circulate a soft copy of it to all faculty in a **particular School**, in which the PhD candidate belongs.
  - d) Pre-PhD seminar should be a detailed presentation by the PhD candidate for getting feedbacks and comments, which may be suitably incorporated in the draft thesis under the supervision of the Supervisor(s).
  - e) The Synopsis along with the list of examiners to be proposed by the supervisor(s) needs to be submitted by the supervisor(s) in the approved format to the concerned DRC for approval and forwarding to Dean, Academics.
- (vi) The thesis shall normally be written in English in the specific format and shall contain a critical account of the candidate's research. It should be characterized by discovery of facts, of fresh approach towards interpretation of facts and theories or significant contribution to knowledge of design or development, or a combination of them. It should bear evidence of the candidate's capacity for analysis and judgement and also her/his ability to carry out independent investigation, design or development. A thesis should normally be backed up by published work (at least two papers) in SCI/well-recognized international journals drawn up and listed by individual department. No part of the thesis or supplementary published work, shall have been submitted anywhere else for the



award of any other Degree/Diploma. Normally, three copies of thesis in soft cover have to be submitted in the prescribed format by the University.

On receipt of the title and synopsis of a thesis, the Dean, Academics will confidentially appoint a Board of Examiners for each candidate. The Board will consist of one (or two) internal examiner(s), normally the supervisor(s), and two external examiners, one from within India and one from abroad who shall be experts in the subject of the thesis. These external examiners shall be chosen from a panel of eight (4 for examiners from within India and 4 for examiners from abroad), to be recommended by the supervisor(s) and approved by the DRC, which will forward the recommended panel along with the title and synopsis of the thesis to Dean Academics. The candidate will be required to submit a fresh synopsis if more than 9 months elapse from the synopsis submission date to the thesis submission date.

- (vii) Thesis can be submitted by the PhD candidate after a period of 2 months from the date of approval of the synopsis by the respective DRC.
- (viii) Each Examiner will submit a detailed confidential assessment report recommending to Dean Academics, one of the following courses of action:
  - a) that the thesis be deemed satisfactory and that the candidate may defend her/his thesis orally before a committee constituted for the purpose and members of the faculty and research students who wish to be present. A public notice with venue, date and time of the oral defense (Viva Voce) will be announced by the Supervisor (s) within the University keeping Dean Academics and Vice chancellor in the loop.
  - b) that the candidate may be asked to submit a revised thesis before the expiry of a specific period. In the normal circumstances, she/he may submit the revised thesis within a maximum period of one year from the date of communication in this regard from the Dean, Academics. However, in exceptional circumstances, this period may be extended by the Dean Academics by another one year: the total revision time irrespective of the number of revisions allowed will not exceed a period of two years.
  - c) that the thesis be rejected outright. In the event of disagreement between the external examiners, the Dean Academics with approval of Vice Chancellor may, as a special case, appoint another external examiner, if the merit of the



case so demands. However, in such cases the Dean may indicate the reasons in writing for taking the exceptional step. The examiner will report independently to Dean Academics.

- (ix) The oral defense of the thesis shall be conducted by a committee consisting of the supervisor(s) and the external examiner from within India. If the external examiner, is not available for conduct of the oral defense, an alternative subject expert external examiner shall be appointed by Dean Academics for this purpose only.
- (x) On the completion of all stages of the examination, the Oral Defense Committee shall recommend to Dean Academics one of the following courses of action:
  - a) that the degree be awarded.
  - b) that the candidate should be reexamined.

In the case of (a) above, the Oral Defense Committee shall also provide to the candidate a list of all corrections and modifications, if any, suggested by the examiners.

- (xi) The degree shall be awarded by the University Senate, provided that:
  - a) Dean Academics so recommends after ensuring that the candidate satisfied all the academic requirements namely, has earned a minimum of CGCPA of 7.5 in course work, has submitted two hard cover copies of the thesis, after incorporating all necessary corrections and modifications including appropriate IPR notice. The hard-bound copies of the PhD thesis, submitted after the viva-voce examination, must contain the appropriate copyright certificate in the beginning of the thesis, on a separate page on the left side. One of these copies will be submitted to the University Library. A softcopy of the thesis will also be submitted to the Central Library.
  - b) The candidate produces a 'no dues certificate' from all concerned in the prescribed form and submits to the Head of the Department, who will then send it to Dean Academics with her/his counter signature
- (xii) The relevant IPR notice to be incorporated in the soft/hard bound thesis, reports etc. shall be chosen from the following:
  - a) the thesis /report etc. for which formal copyright application has NOT been filed should carry the copyright notice as: © Mahindra University Hyderabad, 20xx [the year of submission of the thesis /report].

b) and for which formal copyright application has been filed with the copyright office. Should carry the copyright notice as: © Mahindra University Hyderabad 20xx, [the year of submission of the thesis/ report]. All right reserved. Copyright Registration Pending.

c) and for which, in-addition to a formal copyright application with the Copyright Office, patent/design application has also been filed with the patent office, should carry the “IPR Notice” as:

### **Intellectual Property Rights**

#### **(IPR) notice**

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- (xiii) If a member of the academic staff, who is registered for the degree, leaves the University before the minimum period of registration is completed, she/he will be permitted to submit her/his thesis in due course, provided that: a) a substantial part of the research has been completed at the university; and b) any additional work required can be adequately supervised.
- (xiv) A member of the non-academic staff of the Institute who satisfies eligibility qualifications may be considered for admission to the degree as a part-time candidate provided his/her application is duly approved by the Vice Chancellor of the Institute.



## 9. ADMISSION ELIGIBILITY CRITERIA

Programme	Minimum qualification required for admission	Admission process
<p>Ph.D. (Full Time)</p>	<p>Master's degree in Engineering/Technology/Science/Humanities/Social Sciences with a minimum CGPA of 6.00 on a 10-point scale or 60% marks in aggregate.</p> <p>Full time students who do not possess M.Tech. or equivalent degree and instead possess B.Tech. or equivalent degree with a CGPA of 7.00 on a 10-point scale or 70% aggregate marks are required to have a valid GATE score or UGC/CSIR/DBT/INSPIRE Fellowship Examination for Sciences/Humanities and Social Sciences disciplines.</p> <ul style="list-style-type: none"> <li>❖ The requirement of GATE/National examination can be waived for consideration for admission to Ph.D. programs for all graduates from Centrally Funded Technical Institutes with a B.Tech./B.E./Integrated M.Sc. (or any other program of minimum four years duration, admission to which was on the basis of JEE) with CGPA of 8.00 and above at the time of graduation.</li> <li>❖ The requirement of GATE/National Examination can be also waived for M.Sc. graduates from IITs with a CGPA of 8.00 and above.</li> </ul>	<p>Interview</p>