

REGULATIONS FOR DOCTOR OF PHILOSOPHY

(With all amendments incorporated upto July 2017)



SATHYABAMA
INSTITUTE OF SCIENCE AND TECHNOLOGY

(Established under section 3 of UGC Act, 1956)
(A Christian Minority Institution)
Jeppiaar Nagar, Rajiv Gandhi Salai
Chennai - 600 119



SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY

(A CHRISTIAN MINORITY INSTITUTION)

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Tmt.REMIBAI JEPPIAAR,
CHANCELLOR



FOREWORD

The Regulations for the Degree of Doctor of Philosophy (Ph.D) provide information to prospective scholars about the Ph.D programmes in different branches of Engineering, Technology and Science and Humanities at Sathyabama Institute of Science and Technology, Chennai. In addition to the departments covering the above mentioned areas, we also have a number of Centers of Research. Course work tends to sharpen logical skills while research work emphasizes both intuitive and logical skills. Indeed, it is the confirmation of intuition by logic that is a reliable route to research and understanding.

Sathyabama Institute of Science and Technology activities are aimed at developing excellence in Science & Technology through competitive academic and research environment, linkages with the industry and leading academic and research institutions. It aims and seeks to become a World Class Institute to contribute towards teaching, research, and extension and industry collaboration. Consistent with the high standard of excellence aimed by the Institute, the faculty comprises of a team of carefully selected and highly qualified and dedicated persons, who have a proven record of meritorious accomplishments to their credit. I take this opportunity to invite prospective candidates to join Sathyabama Institute of Science and Technology and realize their dream of distinguishing themselves in a research career.

Chancellor

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- **Dr. S. Prakash** – Dean, School of Mechanical Engineering, Sathyabama Institute of Science and Technology
- **Dr. Bhuvanewari** – Dean, School of Management Studies, Sathyabama Institute of Science and Technology
- **Dr. M. Sundareswari** – Dean, School of Science & Humanities, Sathyabama Institute of Science and Technology

FIELDS OF SPECIALISATION FOR RESEARCH PROGRAMMES

1. Faculty of Computer Science & Engineering

- ❖ Computer Science & Engineering
- ❖ Information Technology

2. Faculty of Electronics Engineering

- ❖ Electronics & Communication Engineering
- ❖ Electronics & Instrumentation Engineering
- ❖ Electronics & Control Engineering
- ❖ Electronics & Telecommunication Engineering

3. Faculty of Electrical Engineering

- ❖ Electrical & Electronics Engineering

4. Faculty of Mechanical Engineering

- ❖ Mechanical Engineering
- ❖ Mechanical & Production Engineering
- ❖ Aeronautical Engineering

5. Faculty of Bio-Engineering

- ❖ Bio-Technology
- ❖ Bio-Informatics
- ❖ Bio-Medical Engineering

6. Faculty of Civil Engineering

- ❖ Civil Engineering

FIELDS OF SPECIALISATION FOR RESEARCH PROGRAMMES

7. Faculty of Architecture

- ❖ Architecture

8. Faculty of Chemical Engineering

- ❖ Chemical Engineering
- ❖ Environmental Engineering

9. Faculty of Business Administration

- ❖ Business Administration

10. Faculty of Education

- ❖ Education

11. Faculty of Science & Humanities

- ❖ English
- ❖ Mathematics
- ❖ Physics
- ❖ Chemistry
- ❖ Computer Science
- ❖ Life Sciences
- ❖ Management Science

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1. ELIGIBILITY

- 1.1 A scholar possessing Master's Degree of this Institute or any other qualification recognized as equivalent thereto in the fields of study notified from time to time by this Institute is eligible to register and work for the Ph.D. Programme.
- 1.2 **Eligibility Criteria:** A minimum of 55% marks or CGPA of 5.5 on a ten point scale in the qualifying examination (50% marks or CGPA of 5.0 on a ten point scale for SC / ST Candidates).
- 1.3 Bachelor's Degree in Engineering/Technology of the institute or any other qualification recognized as equivalent thereto in the fields of study with a minimum of 15 years of R&D experience in National Research Laboratories / Public sector undertakings and with minimum of three publications in referred impact factor journals or two international patents in the last five years

2. Ph.D PROGRAMME AND PLACE OF RESEARCH

- 2.1 There shall be three categories of Ph.D. Programmes as listed
 - (a) Full -time (b) Part-time (Internal)
 - (c) Part-time (External)
 - (a) **Full-time:** All approved candidates who pursue full-time study and research in this Institute shall belong to this category.
 - (b) **Part-time (Internal):** All approved candidates who are employed in Sathyabama Institute of Science and Technology and actively involved in the relevant area of teaching, research or development as part of their regular work shall belong to this category.
 - (c) **Part-time (External):** Candidates working in Industry involved in R&D activities, Colleges or Research Organizations, approved by this Institute, and who are sponsored for pursuing Ph.D. Programmes in this

Institute while continuing in their job, shall belong to this category. While they shall pursue research in their place of employment and/or in this Institute, such candidates shall spend at least one semester in the first two years from the date of Registration in this Institute. There shall be a Research Supervisor recognized by this Institute and a Research Coordinator in their organization as per clause 4.1(ii) who is responsible to provide all necessary resources and help to complete the research work in a time bound manner.

3. REGISTRATION PROCEDURE

- 3.1 Candidates desirous of registering for the Ph.D. Degree shall submit the application in the prescribed form through proper channel, wherever applicable. The filled in application along with supervisor's bio-data will be received till **October / April** for registration in **January / July** respectively. The applications received shall be first circulated to all the eligible Research Supervisors in the concerned Departments as part of the modus operandi.
- 3.2 All such filled applications, shall then be scrutinized by the Research Co-ordination Committee. This Committee is responsible for the screening of the candidates and recommends the eligible candidates to the Ph.D programme and shall also help in fixing a Research Supervisor taking into account the mutual preferences of the Scholar and supervisor.
- 3.3 The candidates may be required to appear for a written test and/or oral presentation before a screening committee which may comprise of three senior faculty members knowledgeable in the subject area of research and approved research guides of the Institute. Such presentation may be looked into as an academic exercise to evaluate his/ her aptitude for research and may not be taken as the problem for research itself. This Committee may orally examine them for their research aptitude based on their

presentation and recommend prospective candidates for admission to Ph.D programme.

- 3.4 Candidates who have UGC, UGC-NET (including JRF) /UGC-CSIR NET (including JRF)/SLET/GATE/teacher fellowship holder are exempted from written test.
- 3.5 The Research Supervisor shall furnish in the application of every Candidate, a panel of six experts well versed in the field of proposed research, from the faculty of the Institute and other organizations from which two (or more) will be approved by the Board of Research for the constitution of the Doctoral Committee. The Joint Research Supervisor, if any, shall also be a member of the Doctoral Committee.
- 3.6 The Board of Research shall approve the candidates recommended by the screening committee for admission to the Ph.D. Programme under intimation to the concerned Research Supervisor, the Candidate, and the sponsoring institution, if any.
- 3.7 For approved candidates the date of provisional registration shall be the date on which the Board of Research has recommended admission. Such dates shall be half-yearly viz., 1st January and 1st July, as the case may be, as per the Institute calendar. Every approved Candidate shall register by paying the initial fees prescribed.

4. RESEARCH SUPERVISORS AND NUMBER OF CANDIDATES

- 4.1 An updated and approved panel of recognized Research Supervisors for the Ph.D. programme of the Institute shall be maintained by the Academic research office.
- (i) All Ph.D. registrants shall be required to work under a Research Supervisor recognized by this Institute.

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- (ii) In the case of Part-Time candidates (External) there shall be a Co-guide / Research Coordinator from the organization where he/she is employed.
 - (iii) Joint-Supervisor for full-time and part-time candidates (Internal) wherever necessary requires the approval of the Board of Research.
 - (iv) When the Research Supervisor of a Scholar happens to be away from the Institute on other assignments for more than six months, he/she may continue to guide the Scholar, but a second Research Supervisor belonging to the Institute faculty shall be officially nominated by the guide with the proof of consent. For scholar with joint supervisor, a second research supervisor is not required.
 - (v) The Professor who is an approved Supervisor of the Institute shall guide only a maximum of 8 scholars (Ph.D./M.S. (By Research) put together) scholars as Supervisor/Joint Supervisor at any time. The Associate Professor who is an approved Supervisor of the Institute shall guide only a maximum of 6 scholars and an Assistant Professor approved Supervisor of the Institute shall guide only a maximum of 4 scholars as Supervisor/Joint Supervisor at any time.
 - (vi) The applicant for Supervisors should fulfill the following criteria within a period of three years preceding to his/her date of application for recognition.
 - o A minimum of ONE unpaid/peer reviewed Research publication indexed in Web of Science (<http://ipsience-help.thomsonreuters.com/incitesLiveJCR/8275-TRS.html>)/ IEEE with good impact factor in relevant area of research.
 - and
 - o Atleast TWO unpaid/peer reviewed research publications indexed in SCOPUS / UGC List of Publications / SCI journals with good Impact Factor in relevant areas of research.
 - (vii) The applicant should have at least one research publication / Project indexed by the above indexing agencies after the completion of his/her Ph.D degree.
 - (viii) Change of Supervisor for a research scholar shall be possible on valid reasons with the consent of both the present and proposed Supervisors. In case, the scholar

requests for change of Supervisor without the consent of the Supervisor, the request shall be considered **based on the recommendation of the Committee** constituted by the Vice-Chancellor. If change of Supervisor is approved, the scholar has to work for a minimum of one year with the new Supervisor and **Synopsis shall be accepted only when the scholar has published atleast one journal publication (as applicable) with new Supervisor.**

- (IX) When a Supervisor of a scholar happens to be away from the Institute for more than one year, an alternate Supervisor shall be nominated by the Director (Academic Research) based on the request of the Supervisor and / or the recommendation of the Head of the Department of the Supervisor.

4.2 **Recognition:** Recognition of Research Supervisor for guiding research work will be accorded by the Board of Management on making an application in the prescribed format and on the recommendations of the Board of Research, provided the applicant possess:

- (i) A Ph.D. Degree in relevant or allied areas of research in which he/she propose to guide the Scholar.
- (ii) A minimum of two research publications published in the relevant or allied areas of research in a refereed Journal or two refereed papers in Conference proceedings and/or patents, within a period of three years preceding the date of application for recognition.
- (iii) The Board of Research may recommend to the Board of Management relaxation of the above requirements in respect of any competent person to be recognized as Research Supervisor even if he / she does not have a Ph.D. Degree in his/her field of specialization, which is of such a nature where it is rare to find supervisors with prescribed qualifications.

- 4.3 Number of Candidates: A Supervisor shall not guide more than six doctoral candidates at any time, unless the Board of Research specifically permits the same under extraordinary circumstances.
- 4.4 Supervisors working in recognized Nationalized Laboratories situated within Tamil Nadu shall also function as Supervisor. However, for such supervisors, a recognized supervisor from Institute Departments or from affiliated Engineering Colleges as Joint Supervisor is mandatory.
- 4.5 Scientists working in Research Institutions / Organizations who entered MoU with the Institute/involved in collaborative sponsored research projects, for a minimum of 3 years shall function as Joint Supervisor for the particular research scholar working in such collaborative project, provided they fulfill the norms of Supervisor recognition of the Institute and the recommendation of the Doctoral Committee.
- 4.6 For interdisciplinary research that requires more than one expert, the Joint Supervisor shall be approved by the Director (Research) based on the request of the Supervisor and the recommendation of the Head of the Department of the Supervisor.

5. DURATION OF THE Ph.D. PROGRAMME

- 5.1 The duration of the Ph.D. programme and the time limit for submission of thesis are counted from the date of provisional registration vide clause 3.6. The minimum and maximum duration of time for submission of thesis are given below:

Duration	Minimum (n)	Maximum (N)
Full Time	Three Years	Five Years
Part Time (Internal / External)	Four Years	Six Years

5.2 Extension of time from the maximum duration:

- (i) The maximum duration permitted for Research programme is (n +2 years) for all disciplines .
- (ii) Under exceptional circumstances the recommendations of the Doctoral committee for extension of time will be considered by the Board of Research for a maximum period of one year in spells of six months at a time. Any further extension will be only at the sole discretion of the Vice-Chancellor based on the recommendation of the Board of Research.
- (iii) Request for such extension (six months at a time) shall be applied to the Director (Academic Research), with the recommendation of the Doctoral Committee, at least one month prior to the end of the maximum period or expiry of the previous extension.
- (iv) The Scholar is eligible to apply for extension of time only if his/her registration is already confirmed.
- (v) RE-REGISTRATION: Vice Chancellor may be requested to get permission for re-registration of Ph.D programme by paying an administrative charge of Rs. 5,000/- after the lapse of maximum period (N+1).
- (vi) Vice Chancellor may be requested to get permission for re-registration of Ph.D programme by paying an administrative charge of Rs.10, 000/- after the removal of name from the rolls.

- 5.3 Research outside the Institute:** During the course of the Ph.D. Programme, for reasons approved by the Doctoral Committee, a Scholar may be permitted by the Institute to spend up to one year in an Institution/Industry or on a project approved for the

purpose, outside the Institute for carrying out research in areas related to the subject of investigation.

- 5.4 Every approved Scholar shall register by paying the initial fees prescribed and then continue to pay the prescribed fees every semester, in order to keep the Ph.D. Registration alive until the thesis is submitted.
- 5.5 The Director (Academic Research) shall permit, if deemed fit for reasons, break of study for the scholar under extraordinary circumstances such as medical grounds and other compelling reasons which warrants his/her absence to the programme. However, the break of study period shall not be counted for the minimum duration of the programme
- 5.6 Break of study to scholars shall be granted upto a maximum period of two years not exceeding one year at a time. Such request with the recommendation of the supervisor should reach the Director (Academic Research) prior to availing break of study. Break of study shall be accounted for the counting of duration of the programme (clause 5). The scholar should remit the semester fees during the break of study period also.

6. DOCTORAL COMMITTEE

- 6.1 The Doctoral Committee shall constitute as under:
- ❖ Research Supervisor, Joint Supervisor if any.
 - ❖ Two or more experts approved by the Board of Research
- 6.2 The supervisor shall request for an alternate member for the doctoral committee from the panel of experts submitted as per clause 3.4 if,
- I. In the case of change of Supervisor.
 - II. Topic of research changed before confirmation of the Provisional Registration.

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- III. Doctoral Committee member is away from the place of work for more than 2 years.
 - IV. Doctoral Committee member passed away.
 - V. Member not responding to attend Doctoral Committee meetings.

In all the above cases or any other compelling reasons, the Director (Academic Research) shall nominate an alternate Doctoral Committee member from the panel furnished by the Supervisor.

- 6.3 The Research Supervisor from the Institute shall be the Convener of the Doctoral Committee. In the event of the Supervisor of the Institute leaving the Institute temporarily the second/Joint- Research Supervisor shall be the Convener.
- 6.4 All the communications shall be routed through concerned Head of Department.

7. COURSE WORK AND COMPREHENSIVE EXAMINATION

- 7.1 Course work:
 - (i) The Doctoral Committee of the Scholar shall meet within a period of one month from the date of communication of the provisional registration and prescribe course work for the Scholar.
 - (ii) A Minimum of four courses at P.G level being offered under any approved programme of Sathyabama Institute of Science and Technology (if necessary from any other approved institution) shall be recommended by the Doctoral Committee from courses approved by the Board of Studies. If a course is newly prescribed for Directed Study, then each such course shall be designed to be covered in not less than 45 contact hours

of instruction and shall be approved by the appropriate Board of Studies. Not more than one directed study course may be prescribed for the Scholar.

- (iii) Course work subjects may be taken from Core or Elective subjects offered at PG level / Core or Elective subjects offered in other institutions at PG level / Coursera / IITs' NPTEL / Online Courses offered by reputed Universities with the recommendation of DC. In case of online courses conducted by other Universities, the scholars are required to attend the examination in Sathyabama Institute of Science and Technology in the presence of the Supervisor.
- (iv) Regularly offered PG electives shall not be taken as Special Elective and the scholar shall wait to undertake such course when it is offered to the PG students in the Department.
It is mandatory that the research scholars should successfully complete the courses prescribed by the DC within two semesters for full time and three semesters for part time from the date of registration of the programme.
- (v) If any course, specific to the area of research has to be newly designed, then such course shall be formulated as a Special Elective to be covered in not less than 45 contact periods of instruction and the course syllabus shall be designed by the Supervisor, recommended by the Doctoral Committee and shall be approved by the appropriate Board of Studies/ Academic Council. These courses shall be of PG level. A scholar shall be permitted to undertake **only one such Special Elective** based on the recommendations by Board of Research in the course work examinations is to be specified.
- (ix) No change in the courses prescribed shall be made without the prior approval of the Doctoral Committee.
- (x) Normally the courses taken after the date of provisional registration only shall count towards this requirement.
- (xi) The prescribed courses shall normally be completed within one year from the date of provisional registration in the

case of full time research scholar and two years in the case of part time research scholars.

7.2 Comprehensive Examination

- (i) On the successful completion of the prescribed course work, as evidenced by the Grade sheet given by the Controller of Examinations, the Doctoral Committee shall conduct for every Scholar a qualifying / comprehensive written and oral examination to test the overall background knowledge of the Scholar in the broad area of specialization. Based on the results of this examination, the Doctoral Committee shall recommend to the Director (Academic Research) for the confirmation of the provisional registration and to proceed further with his/her Ph.D. work within one month from the date of the comprehensive examination held.
- (ii) If, based on the results of the comprehensive examination, a Scholar is not approved by the Doctoral Committee, then a grace period of up to a maximum of One year shall be given, and at the end of which the Scholar shall be re- examined. If found satisfactory, the Doctoral committee shall recommend to the Director (Academic Research) for confirmation to proceed with the doctoral work. Otherwise, the Scholar's provisional registration shall be cancelled.
- (iii) Candidates with M.Phil. Degree, who register for the Ph.D. Programme may be permitted to credit two prescribed courses instead of four. The Board of Research in such cases, may fix the minimum duration of the Ph.D. programme as two / three years as the case may be, based on the recommendations of the Doctoral Committee. However, the comprehensive examination is mandatory and may be conducted accordingly.

8. MONITORING THE PROGRESS OF THE SCHOLAR

- 8.1 Every six months, commencing from the date of provisional registration, the Scholar shall submit progress reports and registration renewal in the prescribed format to the Research Supervisor who shall forward it to the Director (Academic Research) during the payment of semester fee.
- 8.2 The Scholar shall be permitted to change the category if necessary, with prior approval from the Board of Research.
- 8.3 The research supervisor shall arrange to make a presentation by the scholar of his/her work twice a year before the faculty of the department and it is mandatory to convene Doctoral Committee meeting at least once in a year and the minutes of the meeting sent to the Director (Academic Research)

9.0 CONVERSION OF MODE / DISCONTINUATION OF THE PROGRAMME

- 9.1 In case, the Ph. D. scholar wants to change from full time mode to part time mode or vice versa, the scholar has to submit a requisition letter to the Director (Research) through the supervisor. Only after getting approval from Vice Chancellor, the conversion will become effective.
- 9.2 In case, the scholar discontinues from his/her Ph.D programme with his/her own decision or not responding beyond one semester continuously at any stage, his / her registration may be cancelled and the scholar should pay the fees to the institution upto his/her last attendance given in the institution. The last date means that the scholar attended DC meeting/half yearly research scholar meeting/course work classes/ meeting with supervisor or co- supervisor whichever is last attended.

10. CANCELLATION OF REGISTRATION

- 10.1 The registration of a Scholar who has exceeded the period stipulated for the programme as in clause 5.1 and 5.2 shall stand cancelled automatically.
- 10.2 The registration is liable for cancellation administratively by the Director (Academic Research), if
- i. The scholar has not paid the semester fees within the stipulated time.
 - ii. Two consecutive six month progress reports are not submitted or not satisfactory.
 - iii. If the scholar fails to complete the confirmation of provisional registration beyond three years after his/her registration for the Ph.D. programme
 - iv. The performance is not satisfactory to the Doctoral Committee and accordingly recommended for cancellation.
 - v. Prior permission is not obtained for break of study from the Director (Academic Research).
 - vi. The scholar wishes to withdraw the programme and requests to cancel his/her registration.
 - vii. Extension of time (beyond six years) not obtained.
 - viii. Submission of Thesis beyond six months from the date of approval of Synopsis by the Doctoral Committee.
 - ix. Submission of revised thesis incorporating the suggestions of any examiner beyond six months
 - x. The act of plagiarism involved in the journal publication/ Thesis.

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- xi. Contact of Thesis examiners by the scholar regarding Thesis evaluation.
 - xii. Any violation of the rules and regulations of Ph.D. Programme.
- 10.3 In all the above cancellation cases, the fees paid by the scholar shall not be refunded.

11. SYNOPSIS OF THESIS

- 11.1 The scholar shall be permitted to submit the Synopsis only after obtaining the confirmation of provisional registration and completion of the minimum duration of the programme applicable to the scholar, along with
- o A minimum of ONE unpaid/peer reviewed Research publication indexed in Web of Science (<http://ipsience-help.thomsonreuters.com/incitesLiveJCR/8275-TRS.html>)/ IEEE with good impact factor in relevant area of research.
 - and
 - o Atleast TWO unpaid/peer reviewed research publications indexed in SCOPUS / UGC List of Publications / SCI journals with good Impact Factor in relevant areas of research.
 - o Research Publications published in Journals through conferences will not be considered as publications.
- 11.2 Publications of the scholars where a PG student is a corresponding author shall not be considered for processing of his/her Synopsis. The scholar shall not publish research articles with similar contents in part or full in more than one journal, which would result in Self Plagiarism.
- 11.3 However, a scholar shall be permitted to submit the Synopsis (after obtaining confirmation) three months prior to the completion of his/her minimum duration, provided the scholar has published requisite publications in refereed journals stipulated by the Institute, after Joining the programme and specifically recommended by the Doctoral Committee.
- 11.4 If the Doctoral Committee approves the research work reported in the synopsis, it shall forward six copies of the approved synopsis and a soft copy of it in CD to the Director (Academic Research) along with a panel of six experts in the field of research of the scholar with their bio data and list of papers published (three from India and three from abroad).

12. SUBMISSION OF THESIS

- 12.1 The thesis shall report, in an organized and scholarly fashion, an account of the original research work of the Scholar leading to the discovery of new facts or techniques or correlation of facts already known (analytical, experimental, hardware oriented etc.) and demonstrating quality a to make a definite contribution to the advancement of knowledge and the present the findings in an appropriate manner with actual accomplishments of the work, plainly stated and honestly appraised.
- 12.2 Six copies of the thesis shall be prepared in accordance with the format and specification prescribed. Thesis shall be submitted within three months of the approval of the Synopsis by the Doctoral Committee. Under extraordinary circumstances, submission of thesis shall be permitted up to a maximum period of six months with the prior approval of Director (Academic Research).
- 12.3 The thesis shall include a certificate from the concerned Research Supervisor (and Joint Research Supervisor, Co guide, if any) to the effect that the thesis is a record of the bonafide research work carried out by the Scholar under his/her/their supervision and guidance and that the work reported in the thesis has not been submitted elsewhere for a degree or diploma.
- 12.4 Along with the submission of six copies of the thesis, the Scholar shall submit a copy of the thesis in CD ROM duly certified by the Research Supervisor.

13. THESIS EVALUATION

- 13.1 The thesis shall be referred to two examiners (at least one from abroad) nominated by the Vice-Chancellor from the panel of names recommended by the Doctoral Committee. The Vice- Chancellor, if he deems it necessary, may also nominate the examiners from outside the panel.

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- 13.2 The Director (Academic Research) shall take such steps as deemed necessary to enable the reports of the Examiners to be received as quickly as possible.
- 13.3 The examiners shall send his/her willingness to evaluate the thesis within one month from the date of receipt of the synopsis.
- 13.4 The examiners shall send, in the prescribed form, their reports within two months from the date of receipt of the thesis.
- 13.5 The examiner shall include in his / her report an overall assessment, placing the thesis in one of the following categories:
- (a) Recommended for the award of the degree of Doctor of Philosophy: Highly commended/ Commended.
 - (b) Revision required
 - (i) Revised thesis be resubmitted
 - (ii) Revised thesis need not be resubmitted.
 - (c) Not Commended
- 13.6 The Examiner shall enclose a detailed report of about 200 or 300 words (or if necessary a longer report) on the thesis, along with the evaluation form, in dictating the standard of Thesis attained in terms of Originality of work and Publications quality ; the nature and details of the revision to be made in the thesis, Suggestions / Queries from Examiners on the Thesis; Questions to be raised in the Final viva voce ; critical points and basis for rejection of the thesis.
- 13.7 The Doctoral Committee, based on the reports of the examiners, will either provisionally accept the thesis in which case the Scholar is asked to defend his/her work in a public viva-voce oral examination or reject the thesis. The following criteria shall be adopted for this purpose :
- (a) If both the examiners recommend the award of the degree, the thesis shall be provisionally accepted. Any minor revision, modification etc. suggested by the examiners shall be carried out before the viva-voce examination is arranged.

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- (b) If both the examiners do not recommend, the thesis shall be rejected and the registration of the Scholar cancelled.
 - (c) If one examiner recommends the award of the degree while the other does not, then the thesis shall be referred to a third examiner to be nominated by the Vice-Chancellor as in 12.1. If two of the three examiners recommend the award of the degree and one does not, then the thesis shall be referred to the same examiner only in situations such as
 - (i) When the examiner recommends new experiments and major modification involving new methodology and also
 - (ii) The examiner insists the Institute to send the thesis back to the same examiner after revision for offering his final decision on the thesis which should only be either recommended for the award or rejection. In case, the examiner does not insist on sending the thesis back to him, then the Institute may refer the revised thesis to the Doctoral Committee for acceptance.
 - (d) If any examiner recommends revision of the thesis the Scholar shall be permitted only once to revise and resubmit the thesis within six months and the revised thesis shall be referred to the same examiner only in situations such as
 - (i) When the examiner recommends new experiments and major modification involving new methodology and also
 - (ii) The examiner insists the Institute to send the thesis back to the same examiner after revision for offering his final decision on the thesis which should only be either recommended for the award or rejection. In case, the examiner does not insist on sending the thesis back to him, then the Institute may refer the revised thesis to the Doctoral Committee for acceptance.
 - (e) Individual cases not covered by the above clauses shall be referred to the Vice-Chancellor, if he deems it necessary, shall refer the thesis and the comments to the Board of Research which in turn shall refer to the Board of Management, for necessary action.

14. ORAL EXAMINATION

- 14.1 The Doctoral Committee shall recommend to the Institute a panel of three examiners from recognized institutions within India to enable constitution of a Board of viva-voce Examination.

- 14.2 The Board of viva-voce Examination shall be constituted by the Vice-Chancellor as under:
- (a) The Indian Examiner of the thesis or a specialist in the subject if he / she is not available in India at that time.
 - (b) A specialist from a recognized institution from the panel of Members submitted by the Doctoral Committee. The Vice-Chancellor, if deems it necessary, may nominate a member from outside the panel.
 - (c) Research Supervisor of the Scholar in the Institute as the Convener.
 - (d) Joint Research Supervisor/Research co-ordinator, if any.
- 14.3 A minimum of Twenty members excluding Oral Examination Board members shall be present for the Viva-Voce Examination. The viva-voce examination shall be conducted as "Open Defence Type" examination. The decision of the Board of Examiners shall be final.
- 14.4 If the Oral Examination Board reports the performance of the scholar as "not satisfactory" then he/she may opt to reappear for the Oral Examination at a later date (not later than six months from the date of the first Oral Examination). On the second occasion, the Oral Examination Board shall include one more expert nominated by the Vice-Chancellor.
- 14.5 If the performance of the scholar in the Oral Examination in the second occasion also reported to be "not satisfactory", the Vice-Chancellor, if deems it necessary, shall refer the remarks of the Oral Examination Board, along with the Thesis and comments of the Examiners, to a Committee constituted for this purpose and the decision of the Vice-Chancellor shall be final.
15. **AWARD OF Ph.D. DEGREE**
- If the report of the Board of viva-voce Examination is SATISFACTORY, the Scholar will be awarded the Ph.D. Degree with the approval of the Board of Research. The faculty for the award of Ph.D is normally based on the PG qualification of the scholar.

16. PUBLICATION OF THESIS

Papers arising out of the thesis may be published by the Scholar. However, the thesis as a whole shall not be published by the Scholar without the express approval of the Board of Research of the Institute.

17. THE ACT OF PLAGIARISM

17.1 In the case of scholars who have committed the act of plagiarism, his/her Thesis/degree shall be forfeited and his/her research registration shall be cancelled and also he/she shall be debarred to register for any other programme in the Institute.

17.2 For the abatement of above such action, the recognition of his/her Supervisor as a research supervisor shall be withdrawn for a period of five years.

18. POWER TO MODIFY

Notwithstanding anything contained in the above said regulations, the Board of Research reserves the right to modify any of the above said regulations from time to time.