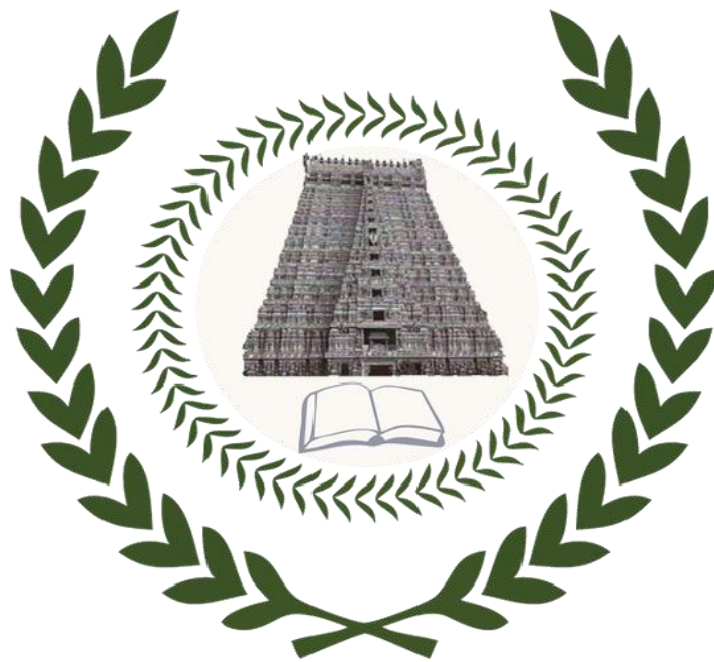


# Ph.D. REGULATIONS

(Effective from 2020)

*Last updated: 5<sup>th</sup> Senate (15, February 2020)*



**INDIAN INSTITUTE OF INFORMATION TECHNOLOGY TIRUCHIRAPPALLI  
NIT CAMPUS, TIRUCHIRAPPALLI -620015**

## CONTENTS

R.1	INTRODUCTION	3
R.2	CATEGORIES	3
R.3	ELIGIBILITY	3
R.4	SELECTION PROCEDURE	4
R.5	ADMISSION PROCEDURE	4
R.6	DURATION OF THE PROGRAMME	4
R.7	CHOICE OF GUIDE	4
R.8	RESEARCH GUIDE(S)	5
R.9	CHANGE OF GUIDE /ADDITION OF CO GUIDE	5
R.10	DOCTORAL COMMITTEE	5
R.11	REGISTRATION	6
R.12	PROGRAM STRUCTURE	6
R.13	PANEL OF EXAMINERS	8
R.14	EVALUATION OF THESIS	9
R.15	VIVA-VOCE EXAMINATION	9
R.16	AWARD OF Ph.D. DEGREE	10
R.17	TEMPORARY BREAK FROM Ph.D. PROGRAMME	10
R.18	LEAVE RULES	10
R.19	RELIEF FROM Ph.D. PROGRAMME TO TAKE UP JOB	10
R.20	CHANGE OF REGISTRATION – FULL TIME TO PART TIME & VICE VERSA	11
R.21	POWER TO MODIFY	11

## **Ph.D. PROGRAMME**

### **RULES AND REGULATIONS**

#### **R.1 INTRODUCTION**

Indian Institute of Information Technology Tiruchirappalli (IIIT) is one among the 19 IIITs established under the non-profit Public-Private Partnership (PPP) Model by MHRD, Government of India, through an Act 74 of 2017 of Parliament. The Institute was established in the year 2013-14. IIIT is an Institute of National Importance and Autonomous Academic Institute funded by Govt. of India, Govt. of Tamil Nadu, and Industry Partners. Industry Partners of IIIT include Tata Consultancy Services (TCS), Cognizant Technology Solutions (CTS), Infosys, Ramco Systems, Electronics Corporation of Tamil Nadu Limited (ELCOT), and Navitas (Take Solutions).

Indian Institute of Information Technology Tiruchirappalli (IIIT) offers research programme leading to the award of Ph.D. degree. The Ph.D. programme is broad based and involves a minimum course credit requirement and a research thesis. The institute also encourages research in interdisciplinary areas through a system of joint supervision and provides excellent opportunities for such programs. The institute undertakes sponsored research and development projects from industries and other organizations of the public as well as private sectors. The degree of Doctor of Philosophy shall be abbreviated as Ph.D. The degree of Ph.D. is granted for research work in the areas recognized by the academic departments of the institute subject to the conditions and regulations contained hereinafter.

The degree of Ph.D. of the Indian Institute of Information Technology Tiruchirappalli shall be conferred on a scholar who fulfills all the requirements specified in the regulations. The degree of Ph.D. will be awarded in the topic of his/her work along with the discipline in which the scholar has registered his /her Ph.D. degree.

Ph.D. degree programme is offered in various departments as follows:

- i) Computer Science Engineering
- ii) Electronics and Communication Engineering
- iii) Mechanical Engineering
- iv) Science and Humanities (Mathematics, Physics, Economics, English)

#### **R.2 CATEGORIES**

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

- a) **Full Time:** Regular full-time scholars without fellowship / JRF fellowship / Sponsored scholars being employees of Defense organization, Research & Development organization, a private industry /institution having MoU with IIIT Tiruchirappalli.
- b) **Part Time:** Regular / Full-time teachers / employees working in Govt./ Govt. aided /Private Engineering/ Technology colleges or Science and Arts Colleges/ Universities / Industry / Public sector organization are considered under this category. At the time of application, the candidate must submit a 'No Objection Certificate' from the Parent College / Organization.

#### **R.3 ELIGIBILITY**

##### **3.1 Ph.D. in Engineering**

- a) Candidates with Master's degree in Engineering/Technology or a Master's degree by Research (M.S. By Research) in Engineering/Technology disciplines with a minimum of 60% aggregate marks (or) CGPA of 6.5/10 in UG or PG for admission under OC/OBC category and 55% aggregate marks or equivalent CGPA

of 6.0/10 for SC/ST candidates.

- b) Candidates with Bachelor's degree in Engineering/Technology with valid GATE Score with a minimum of 90% aggregate marks (or) CGPA of 9.5/10 in UG for admission under OC/OBC category and 85% aggregate marks or equivalent CGPA of 9.0/10 in UG for SC/ST candidates.
- c) Candidates with Bachelor's degree in Engineering/Technology with 15 years of proven experience in reputed industries are eligible.

### **3.2 Ph.D. in Science & Humanities (Mathematics/ Physics/ Economics / English)**

Candidates with First class Bachelor or First class Master degree in Sciences/Humanities in the relevant discipline with minimum 60% aggregate marks (CGPA 6.5/10) in UG or in PG for OC/OBC category and 55% aggregate marks or equivalent CGPA of 6.0 in UG or PG for SC/ST candidates. A valid UGC/CSIR/NET score is mandatory for full-time candidates to avail fellowship.

### **R.4 SELECTION PROCEDURE**

- a) 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.
- b) The candidates short listed based on the written test performance need to appear for a personal interview by the Departmental Research Committee comprising HOD and all eligible guides. The merit list for all the candidates is prepared based on the cumulative score in the written test, interview, marks in UG / PG, experience, research publications/patents, work experience.

### **R.5 ADMISSION PROCEDURE**

- a) Candidates whose selection is approved by the Director will be admitted to the Ph.D. programme after paying the prescribed fees. The candidate should also pay fees every semester as prescribed by the institute failing which registration will be cancelled automatically.
- b) Ordinarily, a candidate is not eligible for re-registration for Ph.D. after cancellation of his/her earlier registration for any reason. However, depending on the merits and considering any special circumstance of the individual case, a candidate may be considered for re-registration after senate approval.

### **R.6 DURATION OF THE PROGRAMME**

- a) A Full-Time scholar can submit the Synopsis and Thesis only after a minimum period of study of 24 months respectively from the date of registration.
- b) A Part Time scholar can submit the Synopsis and Thesis only after a minimum period of study of 36 months respectively from the date of registration.
- c) The maximum period to complete the programme is 6 years for both Full Time and Part Time mode.

### **R.7 ALLOTMENT OF GUIDE**

- a) Allotment of guides to research scholars will be made by the Head of the Department taking into consideration the areas of research of the department and the preferences of the research scholars and guides.
- b) A research scholar may have a guide from an institute other than IIIT Tiruchirappalli. The guide thus chosen may be from another CFTI / reputed research Organizations / Industrial units / R&D Departments / National laboratories / Units of Government / Quasi Government in the area of work of the research scholar. External

guides should have Ph.D. degree. Such guides will need to sign Intellectual Property Right (IPR) agreement and Non-Disclosure Agreement (NDA) as formulated by IIIT Tiruchirappalli.

- c) The scholars admitted under Part-time category from industries / research organizations will normally carry out part or all of his/her research work in their respective industry/ organization/ national laboratories / employing the scholar. For these scholars, there will be one internal guide from IIIT Tiruchirappalli and one external guide / research coordinator from his/her organization who holds a doctoral degree.
- d) For the scholars admitted under Part-time from educational institutions, place of work is IIIT Tiruchirappalli even though he / she may be carrying out a part of work in his / her College / Institution. There will be only one guide i.e. from IIIT Tiruchirappalli.

**R.8 RESEARCH GUIDE(S)**

- a) All regular faculty members of IIIT Tiruchirappalli are eligible to guide.
- b) No guide shall have more than four full-time Ph.D. Scholars selected under Institute fellowship category. Notwithstanding the above, eligible guides can take Ph.D. scholars with sponsorship from various funding agencies and Ph.D. part time candidates up to a total of 10 scholars at any given time. The guides taking Ph.D. scholars for the first time, may take only one scholar at the first instant. (In subsequent years, they can guide additional scholars within the mentioned limit).
- c) External guides: In addition to IIIT Tiruchirappalli faculty, eminent professionals working in reputed research Organizations / Industrial units / R&D Departments / National laboratories / Units of Government / Quasi Government may be recognized and empaneled as eligible guides (external) in specific areas of specialization for interdisciplinary research.
- d) A faculty member appointed as a Ph.D. guide is normally expected to be available to a research scholar in the institute till the thesis is submitted.
- e) However, under unavoidable circumstances, such as resignation, retirement, or death; a guide may not be available to the scholar, and then the Chairman of the Doctoral Committee (DC) may appoint a new guide/additional guide, in consultation with the Chairman, Senate.

**R.9 CHANGE OF GUIDE / ADDITION OF CO-GUIDE**

The Research scholar may request the Chairman, Senate, for a change of guide or add a Co-Guide for valid reasons. The Chairman of the Doctoral Committee (DC) or his nominee shall convene the Doctoral Committee and based on its recommendations, the request shall be considered by the Chairman, Senate.

**R.10 DOCTORAL COMMITTEE**

- a) The HoD will intimate to the Chairman, Senate the area of research, name(s) of the Guide(s) and a panel of names suggested by the guide for the DC for each research scholar, within one week from the date of joining of the research scholar. Chairman Senate will select the internal and external members of the DC.
- b) The following is the composition of the Doctoral Committee (DC):

One senior faculty member from the institute to be nominated by the Research Guide	Chairman
Research Guide(s)	Member(s)

One faculty member from the same or an allied department nominated by the Chairman, Senate or his nominee from the panel of names suggested by the Guide	Member
One external member from Industry / Research establishment / academia to be nominated by the Chairman Senate or his nominee from the panel of names suggested by the Guide	Member

c) **Functions:**

- i. To formulate the course work for the scholar.
- ii. To scrutinize syllabi of courses of directed-study (if any) prepared by the Research Guide(s).
- iii. To review the progress of the scholar every year up to 3 years and once every six months thereafter till the thesis is submitted. 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 and send the progress report to the Chairman, Senate
- iv. To assess and approve the research proposal of the scholar.
- v. To provide suggestions for course corrections/improvements of the work done.
- vi. To recommend the change of guide or appointment of a new guide with valid reasons.
- vii. To participate in the comprehensive viva of the research scholar.
- viii. To assess and approve the adequacy of the work in the Synopsis seminar and communicate the same to Chairman, Senate
- ix. To recommend the Panel of Thesis examiners consisting of 10 (5 National and 5 International) and send to the Chairman, Senate after the Synopsis presentation.
- x. To review the examiner’s report on the thesis and participate in viva-voce.

**R.11 REGISTRATION**

- a) Every scholar will be required to register each semester till the submission of the Thesis. The registration in a semester shall be subjected to the completion of the specified number of credits / courses and the satisfactory progress of his / her research work certified by the guide and as recommended by the DC.
- b) The first DC will meet normally within two weeks of being constituted, where the Research Scholar will make a presentation on the proposed area of research. The DC will fix / approve the date of registration for the Ph.D., programme, considering the proposed research topic and prescribing/approving the courses of study in this meeting. The external member need not be present for the first DC meeting.

**R.12 PROGRAM STRUCTURE**

**12.1 COURSE WORK**

- a) Doctoral Committee in its first meeting shall prescribe two compulsory courses and a set of four electives (online /offline courses) to be completed by the scholar. The coursework for candidates in Engineering and S&H is fixed to a minimum of 12 credits and candidates with B.Tech qualification have to complete minimum of 20 credits.
- b) The number of courses to be undergone by the research scholar over and above the minimum prescribed is decided at the discretion of the Doctoral Committee.

- c) 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 such as IIT / IISC/ NIT /IIIT either in online /offline mode. The Chairman of the DC shall allow for transferring the credits.
- d) 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 GPA of 7.5 and minimum grade permitted for any of the courses taken is “C”.
- e) Scholars, who fail to satisfy the grade requirement, may attempt other prescribed courses or rewrite/re-do (once) the examination/course in which they had scored less than “C”. If they still fail, their registration will be cancelled.
- f) For the scholars under part-time category, four relevant theory courses recommended by the DC shall be taken by the scholar. The requirements relating to course work will be as per norms of full-time scholars. Subsequently, the scholars shall continue their research work on a part-time basis, through regular interaction with the guide.
- g) In the case of directed study subjects, the details of contact classes shall be maintained in the attendance book by the course teacher as allotted by the Head of the Department.

## **12.2 PROGRESS REPORT**

- a) A research scholar shall submit a written report of work done by him / her in the prescribed format to the Guide who shall forward it to the DC within two weeks before the end of each 12 months period from the date of registration upto first 2 years and before the end of each 6 months period beyond 2 years.
- b) A research scholar shall be present before the DC once in a year for the first 3 years and once in a semester thereafter for progress evaluation.

## **12.3 COMPREHENSIVE EXAMINATION**

- a) On the successful completion of the prescribed course works, about one year from the date of registration, the scholar shall undergo a qualifying comprehensive examination to test his / her background knowledge in the broad area of specialization.
- b) The comprehensive examination will cover the topics related to the research. The Comprehensive Viva–Voce Board shall be common for all scholars of a given department for a given batch. The composition of the Comprehensive Viva-Voce Board shall be as follows:
  - c) All members in the DC.
  - d) One External member – Professor from IIT/IISc/IIM/NIT or Scientists/Scientific Officers holding Ph.D. degree and drawing the scale of Professor and above, working in National and Regional Research Laboratories, DRDO, Atomic and Space Research Organizations
  - e) Two senior members of the faculty from same or allied department/s.
  - f) The External member for Comprehensive Viva-Voce Board shall be nominated by the Chairman, Senate from a panel suggested by the Head of the Department in consultation with the Guides.
  - g) The comprehensive examination shall have a written examination (of at least one hour duration) followed by an oral examination.
  - h) Based on the result of the comprehensive examination, the Comprehensive Viva–Voce board shall report to

the Dean (Academic) about the fitness of the scholar to proceed further with his/her Ph.D. work, within two weeks of the date of the examination held.

- i) Based on the results of the comprehensive examination, if a scholar is not approved by the comprehensive Viva-Voce board, a grace period of upto a maximum of six months shall be given for re-examination. If found fit, the scholar shall be permitted to proceed with doctoral work. Otherwise, the scholar's provisional registration will be cancelled.

#### **12.4 SYNOPSIS OF THESIS**

- a) Two seminar presentations, one seminar at the end of the second year and another one prior to submission of synopsis should be given by the research scholar. Two publications should be in SCI/SCIE/SCOPUS Journals with impact factor or one publication in SCI/SCIE/SCOPUS Journals and one patent granted. Out of two publications, atleast one should be from SCI/SCIE with impact factor. The publications in unpaid journals is only considered for submission of synopsis.
- b) On satisfactory completion of the prescribed courses, the comprehensive examination, and the required publications in his/her research area, the research scholar shall submit four copies of the synopsis of his / her research work to the DC. Synopsis presentation and subsequent DC meeting to approve the panel of the examiners will be held in the presence of the Chairman, Senate.
- c) The research scholar should present the synopsis before the DC. The DC will, if it approves the work reported in the synopsis will permit the research scholar to submit the Thesis and recommend a panel of examiners to the Chairman, Senate.

#### **12.5 SUBMISSION OF THESIS**

- a) The research scholar shall, within three months of approval of the synopsis, submit four copies of Thesis embodying the results of investigation. On the recommendation of the Guide and the Chairman, Doctoral Committee, an additional three months may be granted.
- b) If the research scholar is unable to submit the Thesis within the prescribed time, then the scholar should give presentation with updated synopsis and resubmit the copies.
- c) The Thesis submitted for the Ph.D. degree shall contain an account of the research work carried out by the scholar leading to the discovery of new facts or techniques or new correlation of facts already known (analytical and/or experimental and/or hardware oriented in nature), the work being of such quality that it makes a definite contribution to the advancement of knowledge.

#### **R.13 PANEL OF EXAMINERS**

- a) The Thesis shall be referred to two examiners (one from Foreign) chosen by the Chairman, Senate from the panel of examiners submitted by the Guide and recommended by the DC at its synopsis meeting.
- b) Each panel (one for Indian examiner and another for foreign examiner) should have at least five experts in the area of research. The following guidelines to be followed while deciding the panel of examiners.
  1. Indian: Examiners from any IITs./IISc./NITs/IIITs.
  2. Foreign Examiner: Should be from reputed research institutes/universities outside India. In the panel of examiners given by the Guide and should be from universities in USA / UK / Canada / Australia / Germany / Japan / Singapore / Malaysia / Korea.
- c) Co-authors of the paper for the particular scholar should not be nominated as an examiner.
- d) Relatives of the Scholar (or) DC members should not be nominated as an Examiner.



#### **R.14 EVALUATION OF THESIS**

- a) The examiner is expected to send the Thesis evaluation form and detailed report (if any) within sixty days from the date of receipt of the Thesis.
- b) In case of undue delay in receiving the evaluation report, the Chairman, Senate shall appoint another examiner from the panel, for evaluating the Thesis.
- c) If an examiner suggests resubmission of the Thesis, after revision, the research scholar will be allowed to resubmit the Thesis within the time stipulated by the DC failing which the revised Thesis will not be accepted and his/her registration will be cancelled.
- d) If one of the two Thesis examiners declares the Thesis as not recommended, the Thesis shall be referred to a third examiner from the panel for evaluation. After the evaluation, he/she must report the necessary corrections required to be done by the scholar and resubmit the Thesis to the third examiner. If the third examiner still reports the Thesis as not recommended, the registration of the scholar shall stand cancelled.
- e) If reports of two examiners declare the Thesis as 'commended', the DC will consider the reports and recommend for the conduct of Oral examination/Viva-Voce which will be conducted normally within a month from the date of the constitution of the Oral Examination Board. The guide in consultation with DC will suggest a panel of three subject experts for nominating one member for Oral Examination Board.
- f) In all other cases, not covered by the above Regulations, the matter will be referred to the DC and the minutes be forwarded to chairman Senate for approval.

#### **R.15 VIVA-VOCE EXAMINATION**

- a) The following is the composition of the Thesis Oral Examination Board:
  1. Chairman of Doctoral Committee                      Chairman
  2. Guide(s)    Member
  3. Thesis examiner (National) nominated by the Chairman, Senate.
  4. An external examiner – An expert nominated by the Chairman, Senate from a panel suggested by the DC.
  5. Nominee from Academic Office
- b) The Thesis Viva-Voce Examination Board will examine the scholar on his/her Thesis work and evaluate his / her performance as satisfactory (or) otherwise.
- c) If the report of the Viva-Voce Examination Board declares the performance of the research scholar as not satisfactory, he/she may be asked to reappear for Viva-Voce examination at a later date (not earlier than a month and not later than six months from the date of the first oral examination). On the second occasion, the Viva-Voce Examination Board will also include the members of the DC.
- d) If the Thesis Viva-Voce Examination Board on the second occasion also evaluates the performance of the research scholar as not satisfactory, the matter will be referred to the Senate for a decision.
- e) The Viva-Voce Examination 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 the discussion at the oral examination. The Chairman of the Viva-Voce Examination Board shall forward the Thesis (Size: A4) to the Dean (Academic) along with the report of the Viva-Voce Examination Board.

#### **R.16 AWARD OF PH.D. DEGREE**

If the performance of the research scholar in the Viva-Voce Examination is satisfactory, 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.17 TEMPORARY BREAK FROM PH.D. PROGRAMME**

Ph.D. scholars may be permitted to take a temporary break from the programme for maximum of one year for valid reasons, with the recommendation of the DC and the approval of the Chairman, Senate.

#### **R.18 LEAVE RULES**

- a) An Institute Research Scholar is required to carry out his/her research work regularly under the guidance of the Guide(s), without any interruption during the period he/she receives the fellowship.
- b) A Full-Time scholar may be entitled to i) casual leave of 08 days (ii) restricted holiday of 02 days and (iii) medical leave of 10 days, in a calendar year. Any leave not availed of shall not accumulate.
- c) Married Research scholars admitted to the research program of the institute shall, in addition to casual leave and medical leave, be entitled to maternity/paternity leave as per rules of the Government of India, if the request for the leave is supported by a medical certificate from a registered medical practitioner.
- d) A research scholar may be granted leave by the Chairman, Senate for valid reasons, on the recommendation of the Guide and the Head of the Department without fellowship for a total period not exceeding three months, during the entire tenure of fellowship in a maximum of two stages.
- e) Attending Conferences/Workshops/etc., will be treated as "On Duty" Leave. Scholars may take maximum of 10 days in a semester for such purpose.
- f) Duty leave of maximum 60 days in a Calendar year may be granted by HoD on recommendation of Guide for data collection, testing/measurements (if facility is not available within the Institute).

#### **R.19 RELIEF FROM PH.D. PROGRAMME TO TAKE UP JOB**

Ph.D. Scholars, who get appointment and have expressed the desire to carry forward the research, can get relief from the programme by keeping registration alive by paying fees on the following conditions:

- a) Scholars, who take up jobs in organizations with (or) without R&D facilities, will be relieved on their request along with a detailed plan of his/her completion of the work and recommendations of DC, only if they have completed: (i) course work prescribed; (ii) comprehensive examination successfully and (iii) sufficient quantity of research work that is adjudged as satisfactory by DC based on the presentation given and detailed report submitted by the scholar. DC shall instruct the scholar to give an open seminar in the department, on the work completed. The registration will be continued on a Part Time basis. Along with the application, scholar shall submit a letter from the competent authority of the organization in which he/she is going to join, granting permission to continue the research in their organization using the R&D facilities of the organization.
- b) Minimum contact as decided by the guide shall be ensured by the scholars in any semester even after they are relieved. The renewal of their registration for every semester will be considered only if the DC finds his/her progress to be satisfactory and recommends continuance of registration.
- c) No financial assistance will be available to scholars once they are relieved as above.

## **R.20 CHANGE OF REGISTRATION – FULL TIME TO PART TIME & VICE VERSA**

- a) A scholar admitted to part-time registration programme may be allowed to change his/her registration to full-time studies at the beginning of a semester on the recommendation of DC and with the approval of the Chairman, Senate. However, for determining the duration of the programme, one half of the period spent, as a part-time, will be counted.
- b) A scholar admitted to a full-time Ph.D. programme may be permitted to change to a part-time Ph.D. programme on a request from him/her on valid reasons along with a detailed plan of his/her completion of the work, provided:
  - (i) He/she has completed the course work, passed the comprehensive examination, completed sufficient quantity of research work that is adjudged as satisfactory by DC based on the presentation given and detailed report submitted by the scholar.
  - (ii) DC recommended his/her application. DC may instruct the scholar to give an open seminar in the department, on the work completed.
  - (iii) Produce a No Objection Certificate from the Head of the Institution/Organization, where he/she proposes to join along with a letter from the competent authority of the organization in which he/she is going to join/from the employer, granting permission to continue the research.

## **R.21 POWER TO MODIFY**

Notwithstanding all that has been stated above, the Senate has the right to modify any of the above Regulations from time to time.