

INDIAN INSTITUTE OF TECHNOLOGY GOA



POST GRADUATE MANUAL

Ph.D. Rules and Regulations

The Institute offers facilities for work leading to Ph.D. in various research areas. IIT Goa offers a Ph.D. Programme in a wide range of areas in Engineering, Science, and Humanities and Social Sciences from the academic year 2018-19. The broad objectives of the Ph.D. programme are: to keep pace with the expanding frontiers of knowledge and to provide research training relevant to the present technical, scientific, social and economic technological and scientific objectives of the country. The academic programme leading to the Ph.D. degree is broad based. It will involve a minimum course credit requirement and a research thesis. The institute will also encourage research in interdisciplinary areas through a system of joint supervision and interdepartmental group activities. The presence of a strong research-oriented faculty provides excellent opportunities for such programmes. The Institute intends to undertake sponsored research and development projects from industrial and other organizations in the public and private sectors. Facilities for research work leading to the Ph. D degree will be made available in all the Science, Engineering and Humanities and Social Sciences departments/schools. In addition to the facilities available in the laboratories and workshops of his/her own department/school, a Ph.D. scholar will have an access to the central facilities available elsewhere in the Institute also. Several Departmental and Institute level seminars will be held throughout the year. A large number of distinguished scientists and engineers both from India and abroad, will be invited to visit the Institute to deliver lectures and hold discussions with the research groups. The Ph.D. student thus will get ample opportunities to pursue their research programmes in a truly stimulating environment. Extracts of the Rules and Regulations governing the Ph.D. programme are given below:

Eligibility for Admission R.1

- a) A Ph.D. student will be considered by the Senate to be eligible for registration for Ph.D. on applying in the prescribed form provided he/she has obtained M. Tech/ ME/ M. Sc. (For Engineering) degree or an equivalent qualification by virtue of an examination.

R. 2

- a) The Degree of Ph.D. may be conferred on an Ph.D. student subject to the following conditions:
 - i) Research work has been carried out under the guidance of Supervisor(s) for at least two years in the case of all Ph.D. students after their date of registration.
 - ii) The thesis submitted by the Ph.D. student is required to be recommended for the award of the Ph.D. degree by two external referees (one Indian and One Foreigner) and by the Board of Examiners constituted for the viva voce examination.
 - iii) Notwithstanding the provision of R.2 (a), a Ph.D. student may be permitted to carry out a part or whole of research work outside the Institute in a factory, laboratory, workshop, worksite or other research centres duly approved for the purpose by the Institute.

R.3

The degree of Ph.D. shall not be conferred as an ad eundem degree (to one whose actual work was done elsewhere). The Student has to spent minimum stipulated time in the Institute for award of Ph.D. degree.

R.4

Notwithstanding the provisions of R.1, the Senate will consider the registration for the Ph.D. degree of a Ph.D. student who has obtained the B.Tech./M.Sc./M.A. degree or an equivalent qualification by virtue of an examination in a subject duly approved by the Senate and has successfully completed the minimum prescribed credit requirements under an approved programme of studies.

R.5

Research Assistant / Teaching Assistants or any other duly approved category of Institute Staff may be registered for the Ph.D. degree under the provisions of R.1/ Part Time / Self Finance / Sponsored (table).

Registration

- a. On joining the Institute every Ph.D. student is required to plan his/her academic programme in consultation with a Supervisor of academic Unit (Department/School/Centre) in which the Ph.D. student is admitted. Details of the academic requirements of this programme and details of courses available are given in the bulletin which will be available in due course.
 - b. The registration for each semester is carried out through the Registration programme. This registration is mandatory for all Ph.D. students, and they must register themselves on the prescribed dates announced from time to time. Every Ph.D. student must register in each semester until he/she completes the programme.
 - c. All Ph.D. student have to clear the Institute and Hostel dues before Registration.
 - d. IIT Goa follows a semester system, hence registration at the beginning of each semester is mandatory for every Ph.D. student till completion of the programme of study. If a Ph.D. student does not register in a particular semester without prior permission of the Doctoral Committee (hereafter will be referred as DC), he/she ceases to be a Ph.D. student and the admission is liable to be cancelled. Further, if an Ph.D. student does not register for two consecutive regular semesters, the admission will be cancelled by the DC Suo moto (on its own motion).
 - e. The Supervisor is authorized to carry out the course registration and also adjustments as specified later.
 - f. Along with the credit courses, an Ph.D. student in consultation with the Supervisor is normally allowed to register for a maximum of TWO Audit course per semester, with the consent of the Ph.D. Supervisor and /or the Convener of the concerned Academic Unit. The registration for this is also to be done in consultation with the Faculty Advisory Group/ Supervisor and at the same time as for the credit courses.
 - g. An Ph.D. student is not permitted to reregister for a course, which he/she has undergone and in which he/she has secured AU, DD or higher grades.
 - h. An Ph.D. student who concurrently registers for any postgraduate degree at another organization shall be automatically deregistered at the Institute.
- i. Registration will be confirmed only after submission of final year mark sheets/provisional certificates of their qualifying degree by the Ph.D. students**
- i. All Ph.D. students should ordinarily submit their certificates within the Academic Calendar when admitted in the Autumn / Spring Semester, of a given academic year, respectively, after joining the Institute.
 - ii. The Ph.D. students who are unable to submit their certificate to Academic Section as prescribed in Academic Calendar, should apply for extension along with an undertaking stating the due date for submission, giving proper reasons on prescribed form to be developed for the purpose.

- iii. Even if an Ph.D. student does not submit the certificate until the commencement of the Semester end examination, he /she would be allowed to appear in the examination. However, the results of such an Ph.D. student shall be withheld until the required documents are produced.
- iv. Cases of Ph.D. students who do not submit the certificates after the first semester will be reported to the DC and the Chairman, Senate for further consideration and decisions/actions.

Course Adjustments

Within the period prescribed in the Academic Calendar, an Ph.D. student can substitute one or more courses by others. For this purpose, the Ph.D. student has to carry out Course Adjustment in consultation with his/ her Faculty Advisory Group.

6. Admission

R. 6.1: Admission Categories

Ph.D. student Status: The Status of the Ph.D. students admitted to the Ph.D. programme shall be classified under any one of the following categories:

A. Fulltime Ph.D. student

- i) Teaching Assistantship (TA)
- ii) Teaching Assistantship through Project (TAP)
- iii) Govt./Semi Govt. Fellowship Award (FA) QIP, CSIR-JRF, UGC-JRF, DAE, DST-INSPIRE, DBT, NBHM, etc.)
- iv) Sponsored / Self Finance

For more details regarding the above categories, kindly refer Ph.D. information brochure on Institute website.

B. Part time Ph.D. student

Teacher
External

R.6.2: Registration/Temporary Withdrawal from/Leaving the Programme

- a) If an Ph.D. student leaves the programme any time within the first two years without prior permissions of the Senate, he/she would forfeit his/her Ph.D. student status.
- b) If an Ph.D. student withdraws from his/her Ph.D. programme any time without intimation (within the first two years) after admission, his/her Ph.D. student status ceases and he/she would not be readmitted with any weightage for the credits acquired the period of stay.
- c) In case a Ph.D. student wishes to withdraw from registration with prior permission of Supervisor/DPGC/CS, he/she may do so only after a period of two years after the date of **Confirmation of Registration** with prior permission of the Chairman, Senate. The application for temporary withdrawal must be endorsed by the Ph.D. Supervisor(s) and the RC of the Institute. Temporary withdrawal could be granted for, up to one year (two semesters) initially. Extension of the duration of withdrawal beyond the period of one year would normally not be encouraged, and could be granted by the Senate on recommendation by the RC, only under

circumstances which the RC deems to be genuinely extraordinary. The period of temporary withdrawal will not be counted, when counting the number of semesters of Ph.D. registration already completed by the Ph.D. student.

7. Eligibility for Admission

R.7.1.: a) Minimum Qualification for Admission (General eligibility criterion for Admission in all Academic Units).

For more details regarding the above, kindly refer Ph.D. Information Brochure on Institute Portal (<http://iitgoa.ac.in/phdadmission.php>)

b) Award of M.Phil. Degree to the Ph.D. students from Science and Social Science Stream

An Ph.D. student who has earned 34 credits through coursework during the Ph.D. Programme may be permitted to register for the M.Phil./MS (R). Programme. This is permitted in the Departments of Physics, Chemistry, Mathematics and Humanities & Social Sciences. To obtain an M.Phil. / MS (R) degree the Ph.D. student must successfully complete one year of project work leading to the dissertation.

c) Award of M.S. by Research to the Ph.D. Ph.D. students from the Engineering Stream

A student pursuing the Ph.D. Programme in an Engineering discipline and who has successfully completed minimum credit requirement of course work may be permitted to register for the M.S. Programme by Research leading to a dissertation. The total duration of M.S. Programme will be 2-3 years.

Procedures for Exit option from Ph.D. Programme to M.S. By Research

1. If DC decides to recommend discontinuation of Ph.D. with an option of conversion to M.S. (Research) then the Ph.D. student will be informed accordingly.
2. The Ph.D. student should apply for conversion within a month, along with a work plan and proposed timelines for the completion of M.S. (Research) / M. Phil degree, through the Supervisor.
3. If the Ph.D. student applies, and the work plan and timelines are approved by the DC then the Ph.D. is discontinued and converted to M.S. (Research).
4. If no response received by the Ph.D. student within a month from the DC may recommend discontinuation of his/her Ph.D., without the option of conversion to M.S. (Research).

Procedures for Evaluation of the M.S. Thesis

1. The M.S. by research theses shall be sent only to one referee out of 2 or 4 referees.
2. On receipt of favourable report (i.e. 'a' or 'b') from the referee and comments of supervisor/Internal Examiner there on, permit the Ph.D. student to appear in the viva-voce examination Only one review by external examiner shall be considered for holding of M.S. by research viva-voce.

3. However, if the examiner recommends minor modifications in the thesis (i.e., 'c'), the viva-voce can be held only after the Internal Examiner certifies that the changes have been carried out.
4. If the referee recommends major revisions in the thesis (i.e., 'd'), the revised thesis should be submitted within 6 months after incorporating the revisions to the satisfaction of the supervisors and internal examiner. This will then be sent for further review.
5. If the referee recommend rejection (i.e. 'e'), an option of a second referee will be sought.
6. If again referee recommend rejection of thesis, the thesis in the current form is rejected. In such a case, a new thesis may be submitted only once for review, after 1 year and not later than 2 years from the date of intimation by the RC.

R.7.2: Concurrent registration of any PG degree at another Organization by any Ph.D. student

Any Ph.D. student who concurrently registers for any Ph.D. at another organization **shall be automatically deregistered** at the Institute.

8. Pattern of Courses and Credits

The courses offered for the Ph.D. Programmes may be: Lecture Courses, Laboratory Courses, Design Courses, Seminars, courses pertaining to Communication skills.

R.8.1: Course Credit Structure

The credit for a course depends upon the contact hours and self-study hours associated with it and is obtained by adding all these hours. The credits for all the available courses are indicated in the Courses of Study available on the web page of Dean AP. There is a provision for the Ph.D. students to credit courses from NPTEL or MOOC under special circumstances after the approval from the Chairman Senate.

R.8.2: Credit Seminar

A Seminar shall satisfy the following conditions:

- a) Each seminar shall carry four credits.
- b) The Seminar shall be treated as a course for the purpose of registration and evaluation.
- c) The Seminar coordinator appointed by the DC (Departmental Committee) shall arrange the seminars and forward the grades awarded by the panels of examiners to the Academic Office by the end of the semester.
- d) A Ph.D. student shall not take more than two Seminars during the entire Ph.D. Programme.

R.8.3 Communication Skills I & II courses (PP/NP course)

- a) These courses are compulsory for all Ph.D. students.
 1. Ph.D. students are normally required to clear the Communication Skills course within the first year.
 2. These courses are additional to the minimum course credit requirement prescribed by the DC.

- b) Exemption from doing Communication Skill course may be given to those Ph.D. students who have completed their qualifying degree programme with Communication Skill course from an IIT. This exemption shall be given only if the Communication Skill course had been completed in the last five years of his/her joining the Ph.D. programme.

R.8.4 Requirement of number of students in a semester

To be revised

9. Course Credit requirements and Registration for courses

All Ph.D. students in the Ph.D. programme are required to acquire the prescribed credits through course work, which shall normally be completed:

- a) Within one year from the date of joining by the Ph.D. students having M.Tech./M.Sc. or equivalent qualification.
- b) Within the first two semesters from the date of joining by the students having B.Tech./M.S./M.A./M.Sc. equivalent qualification. However, the duration could be extended with permission from the Chairman, Senate.

Ph.D. students will be allowed to complete extra credit courses, if necessary.

R.9.1: Applicable to Ph.D. students with M. Tech. or equivalent degree

- a) The credit requirements for Ph.D. students having **M. Tech./M.Phil.** or equivalent qualification, will be a **minimum of 16 credits**, i.e., 2 courses and a seminar and **maximum of 22 credits**. The courses could be taken in any academic unit of the Institute (Department/ School/Centre).
- b) The Ph.D. students may earn up to a maximum of 4 credits through seminars.
- c) Ph.D. students with an M. Tech. degree who have been admitted to the Ph.D. Programme should also undergo at least two courses at the M. Tech./ Ph.D. level in addition to the Seminar requirements.
- d) The Ph.D. students may earn maximum 6 credits through online NPTEL or MOOC courses

R.9.2: Applicable to Ph.D. students with M.Sc./M.A. or equivalent degree and admitted to Ph.D. programme in Science discipline.

- a) The credits requirements for Ph.D. students having M.Sc./M.A. or equivalent qualification admitted to a Science Department/School shall be **34 to 46 credits** and will be **16 credits for HSS**. The courses could be taken in any academic unit (department/school/Centre) in the Institute.
- b) Credits acquired through PG level courses shall be 24 or more (minimum 4 courses).
- c) The Ph.D. students may earn up to a maximum of 8 credits through Seminars, which should be spread over two semesters.
- d) The Ph.D. students may earn credits through online NPTEL or MOOC courses as decided by the DPGC

R.9.3.: Applicable to Ph.D. students with B. Tech or equivalent degree and M.Sc. or equivalent degree admitted to Ph.D. programme in Engineering discipline.

- a) The credits requirements for Ph.D. students having B. Tech or equivalent qualification or M.Sc.

degrees or equivalent qualifications admitted to the Ph.D. programme in any one of the Engineering disciplines shall be **44 to 56 credits**.

- b) The Ph.D. students may earn up to a maximum of 8 credits through Seminars, which should be spread over two semesters.
- c) Credits acquired through PG level courses should be 3 or more. A minimum of 3 PG level courses should be completed for credit requirements.

R.9.4: Minimum/Maximum Course credit registration in a Semester

The Fulltime-Ph.D. students register through their respective Supervisor(s) for not less than 18 credits in the first Semester of the course programme if the total credits required are 18 or more. Other Ph.D. students with course credits requirements below 18 credits shall register through the Supervisor(s) for the entire prescribed credits in the first Semester itself.

R.9.5.: Extension for Commencement of Coursework

Ph.D. students who are unable to commence their course programme during the Semester in which they have been admitted should apply to DC/DPGC/CS and obtain permission to commence their course work in the following semester.

R.9.6: The procedure for registration of courses shall be as follows:

- a) The Ph.D. students, after payment of prescribed semester fees, complete their registration online in consultation with the Supervisor(s) and the academic unit. Such registration is required to be approved by his/her Supervisor.
- b) The Ph.D. students, in consultation with the Supervisor, can carry out course adjustment within the time limit provided in the Academic Calendar.
- c) The DC shall finalize the course programme of the Ph.D. students in consultation with the Supervisor(s).
- d) Recommendations, if any, about reduction of course credits shall be sent to RC by in the beginning of I or II semester along with the applications for registration for due approval.
- e) The Academic Office shall inform the DC of any discrepancy in the Registration. However, the Ph.D. students should ensure on their own that they comply with the credit requirements listed under the rules prescribed above.
- f) The DPGC shall approve the course programmes of all Ph.D. students after due scrutiny.

R.9.9: Adjustment of Course(s)

An Ph.D. student can add to his/her academic load, one or more courses not registered for earlier or substitute one or more courses by others by filling the Course Adjustment Form, within the first two weeks from the commencement of classes provided the course credit requirements as prescribed under R.9.1, R.9.2, R.9.3 remain unchanged.

R.9.10: Dropping of course(s)

An Ph.D. student may drop courses for which he/she may have registered if the academic load for the given semester is found to be too heavy (Course Dropping Form). Such dropping is permissible till the date as given in the academic calendar provided the credits requirements laid down in R.9.1, R.9.2, R.9.3 are not violated.

R.9.11: Duration for Dropping of course(s)

The last date for dropping a course by an Ph.D. student will be two weeks after the mid-semester examination for the semester-long courses and one week after the mid-semester examination for the half-semester courses. The last date for course drop will be included in the Academic Calendar.

Note: The Ph.D. student shall complete the prescribed Course Adjustment Form (CAF) and Course Dropping Form (CDF) in consultation with the Supervisor.

R.9.13 Grade Improvement

1. An Ph.D. student in a Ph.D. Programme, where minimum CPI for coursework is 6.0, will be eligible for repeating/replacing a course for grade improvement if he/she has a CPI less than 6.0 and has been permitted by DC to continue in the Programme on Academic Probation.
2. For Grade improvement, an Ph.D. student has to reregister in the course in a subsequent semester if the course is offered. The grade obtained in the reregistered course will supersede the earlier grade and the same will be reflected in the Semester Grade Card and in the Final Transcript.
3. The Ph.D. student can avail this option only for TWO (02) courses in the programme and only ONCE for a specific course.

10. Course Assessment and Award of Grades

R.10.1: Grade Points

For every course taken by the Ph.D. student, he/she is assigned a grade based on his/her combined performance in all the assessments. These grades are described by the following letters and corresponding grade points. AA (10 points), AB (9 points), BB (8 points), BC (7 points), CC (6 points), CD (5 points), DD (4 points), and FF (0 points), FR (0 points), PP (Passed, 0 points), NP (not Passed, 0 points), AU (Passed, 0 points) DX (0 points).

Minimum passing grade in a course is 'DD'. Some courses are only associated with PP/ NP grades. In such courses, satisfactory completion is indicated by the award of the PP grade.

The minimum passing grade for all UG and PG courses is DD. **However, PG Ph.D. students should acquire a minimum CPI of 6.00 at the end of each semester.** All grades (including FR, DX etc.) obtained by an Ph.D. student will be mentioned in the transcript.

R.10.2: Failure Grades

The letter grades FF and FR shall be treated as failure grades. Re-examination may be permitted for a course if the Ph.D. student obtains FF grade. After such re-examination if the Ph.D. student passes in that course, he/she will be awarded the **maximum grade of 'DD'** in that course. If an Ph.D. student does not take or fails in the re-examination, he/she will be awarded the grade FR

FR grade will be awarded in case(s) where, in the opinion of the Instructor (panel of examiners in case of the Projects), the Ph.D. student has inadequate academic exposure to the course/has very poor performance in the in-semester and/or end-semester examinations.

A Ph.D. student getting a FR grade has to reregister for the same course if it is a core subject. If this course is an elective course, he/she may register for an alternative course as prescribed, without this being counted as an additional course.

An Ph.D. student who obtains a fail grade in a course more than once, the grade points/credits will figure only once in the numerator as well as denominator, respectively, for the purpose of SPI/CPI calculations.

R.10.2.1: 'FR' grade for Academic Malpractice

'FR' grade may also be awarded for Academic malpractices. Details pertaining to Academic malpractices are available on the institute website. Academic Malpractices are severely dealt with as per the norms of IIT Goa.

R.10.3: Re-examination in a course

An Ph.D. student will be permitted to take the re-examination for a course where he/she has an FF grade provided the number of failed backlog courses (with FR grade) does not exceed the limit permitted, i.e., at most two during the entire programme.

R.10.4: Audit Course

The Ph.D. students registered for auditing a course shall be awarded the grade AU if they fulfil the requirement of a minimum of 80% attendance and duly satisfactory in-semester performance as prescribed by the Instructor. The Instructor shall include such AU grades in the final grade report for that course. If the Ph.D. student does not qualify for the grade AU, it will be assumed that the course has been dropped by that Ph.D. student and the semester grade card issued accordingly.

R.10.5: Additional Learning

The Ph.D. students have an option of taking a course as 'Additional Learning'. These courses will be in addition to the minimum course credit requirement and will not affect the SPI/ CPI, but the actual grades obtained will be shown in the grade card and transcript. There will be onetime option of changing the type of a course. Registration for additional courses will require approval of the supervisor/DPGC. The option of permitting Ph.D. student to register a course as 'Audit' is left to the course instructor.

R.10.6: I Grade (Incomplete)

The grade II shall be awarded to an Ph.D. student in a lecture/ laboratory course if he/she has satisfactory in-semester performance and has fulfilled the attendance requirement, but has not appeared for the semester-end examination. The Ph.D. student will be eligible for a makeup for the semester-end examination if the absence was due to medical reasons or extraordinary circumstances. For re-examination, the Ph.D. student will have to apply to the Academic Office. In case of absence due to medical reasons, the application should be accompanied by a medical certificate issued/ authenticated by IIT Goa Hospital. In case of absence due to extraordinary circumstances, the supporting documents should be submitted. The Academic Office will decide

whether re-examination is to be allowed, after consulting with RC (in case of medical reasons) and Dean AP (in case of extraordinary circumstances). In case a re-examination is allowed and is conducted, the instructor shall decide the final grade on the basis of sum of in-semester and the re-examination marks. The weightage of the re-examination would be the same as that of the final examination that the Ph.D. student has missed. In all other cases the II grade will be converted to FR grade.

R.10.7: Seminar Grades

For the Ph.D. students who have submitted the seminar report in time, but the evaluation of which however could not be completed in time, the Seminar Coordinator shall award the grade I and shall forward the grade report to the Academic Office before the end of the semester. All such I grade shall be converted to FR letter grades in due course of time, before one month following the end of the semester.

R.10.8: Non-submission of Seminar Report/Absent for Presentation

If an Ph.D. student either does not submit his seminar report by the prescribed date or he/she is absent for presentation on the scheduled date he/she shall be awarded FF grade unless he/she is given extension by the DC under exceptional circumstances.

R.10.9: Award of Grades in Seminar after obtaining 'FF' in earlier presentation.

All Ph.D. students who get FF grade in Seminar shall be allowed to complete the evaluation during the period earmarked for re-examination and will not be given a grade better than the minimum passing grade, DD.

R.10.10: Class Attendance Rules

A minimum of 80 % attendance is mandatory in all the classes.

The Instructor may decide the attendance rule and announce it in the beginning of the course. It may be a system of giving a percentage weight in Ph.D. student performance evaluation in the course, reserved specifically for attendance and/or class participation. Penalties in attendance and/or class participation should be reflected only in this component of Ph.D. student performance evaluation. The percentage weight for this 'Class Participation' Component should range from 0 to 20 percent. Assigning a zero percent weight for Class Participation automatically implied the earlier

The Ph.D. student would be deregistered from those courses in which they were absent in any one of the first three lectures.

11. Performance requirements in course work for qualifying to register for Ph.D. degree

R.11.1: Required to maintain a minimum CPI of 6.00 at the end of each Semester

The performance of an Ph.D. student in a semester is indicated by a number called the Semester Performance Index (SPI). The SPI is the weighted average of the grade points obtained in all the courses taken by the Ph.D. student during the semester.

Example: Suppose in a given semester, an Ph.D. student has taken five courses having credits C1, C2, C3, C4, C5 and his/her grade points in those courses are G1, G2, G3, G4, G5 respectively. Then his/ her

$$SPI = \frac{C1G1 + C2G2 + C3G3 + C4G4 + C5G5}{C1 + C2 + C3 + C4 + C5}$$

SPI will be calculated (after re-examination, if any) on the basis of the final grades awarded AA, AB, BB, BC, CC, CD, DD and FR. The SPI is calculated up to two decimal places. An up-to-date assessment from the time the Ph.D. student entered the Institute is obtained by calculating a number called the Cumulative Performance Index (CPI). The CPI is the weighted average of the grade points obtained in all the courses taken by the Ph.D. student since he/she entered the Institute. It is calculated in the same manner as the SPI.

R.11.2: For Ph.D. students with credit requirement of 16 to 22 credits

- i) In the first semester, if an Ph.D. student fails in only one course and obtains the grade FF, he/she can avail of a re-examination in that course at the end of first semester. However, if he/she obtains more than one FF grade or an FR grade, he/she is not entitled for a re-examination.
- ii) The credit requirement as prescribed by the DPGC must normally be completed at the end of the first semester but can be extended beyond the first semester if additional courses have been prescribed.

R.11.3: For Ph.D. students with credit requirement of more than 22 credits

- i) An Ph.D. student must not obtain a failure grade (FR) for more than one course in his/her entire course programme, else he/she has to quit the programme.
- ii) In a semester, if an Ph.D. student fails in only one course and obtains the grade FF, and if he/she has not obtained a failure grade (FF or FR) in the first semester then he/she can avail of a re-examination in that course at the end of that semester. However, if an Ph.D. student obtains more than one failure grade, than he/she is not entitled for a re-examination and he/she has to quit the programme.
- iii) In a given semester, if an Ph.D. student fails in only one course and obtains the grade FR (after a re-examination, if any), and if he/she has not obtained a failure grade (FF or FR) in an earlier semester then he/she will register either for the same course or for an alternative course in the next semester, as prescribed by the DPGC.
- iv) The credit requirement as prescribed by the DPGC must normally be completed by the end of the second semester.

R.11.4: Ph.D. students who obtains FF/FR grades as enumerated in R.11.2 & 11.3

All categories of Ph.D. students not fulfilling the requirements as enumerated in R.11.2 and R.11.3 are liable to discontinue their Ph.D. programme. The DPGC will take a decision in this regard after reviewing the cases of such Ph.D. students.

R. 11.5: Compulsory requirement for Confirmation of Ph.D. Registration

Some academic units (departments/schools) prescribe qualifying examinations for the Ph.D. programme. These must be completed successfully prior to confirmation of registration. A Ph.D. student has to qualify in the comprehensive and obtain a letter grade.

R.11.6: Confirmation of Registration

Ph.D. students who successfully complete their course credit requirements in one/ two semester shall be granted registration from the beginning of the semester in which they complete the course credit requirements or from the date of joining the programme, whichever is later.

R.11.7: Additional courses after the confirmation of Registration

All Ph.D. students may be allowed to register for extra credit courses, after confirmation of registration by following the present rules for confirmation of registration i.e. SPI/CPI above 6.00, etc. a) The present procedure for confirmation of registration will continue.
b) Extension of registration beyond the duration as specified in the rules will not be considered due to registration for extra credit courses.

R.11.8: Confirmation of Ph.D. Registration Date

Registration dates of all Ph.D. students shall be decided by the DC. The final approval to the registration shall be granted by the Senate.

R.11.9: Confirmation procedure

The procedure for confirmation of Registration shall be as follows:

- i. Each Ph.D. student, on completion of the course requirements and Qualifying Examination prescribed by RC shall apply for confirmation of Registration.
- ii. The completed application form shall be forwarded by the RC which will consider this application and confirm the date of registration according to the rules, as applicable.

R.11.10: Academic Probation to the Ph.D. students having marginally lower SPI/CPI than the minimum required for continuation of their studies

For Ph.D. students who are identified by RC as ineligible for continuation of the Ph.D. Programmes, the following opportunity is available:

- a) RC will directly offer academic probation to the Ph.D. students who are found eligible as per the norms defined by RC, without waiting for the appeal from the Ph.D. student. However, the necessary declarations from the Ph.D. students would still be taken as per requirements in a reasonable time, after grant of probation.
- b) In some cases, wherein, DC does not offer Probation to an Ph.D. student, an appeal can be made for probation to DPGC by the Ph.D. students, which DC could consider on a case by case basis on its merit.

- c) Academic probation will be a one-time exercise during the study programme of the Ph.D. students for the period of one semester and decided by DC in consultation with the Faculty Advisor/Supervisor
- d) For the Academic Probation Semester, the Ph.D. students must obtain such SPI as to make his/her course work CPI greater than or equal to 6.0 immediately (excluding the dissertation/project work) on including the performance of the semester of Academic Probation.
- e) **Financial Support during the period of Academic Probation in Ph.D. Programmes**
 - i. The Ph.D. students who are under Academic Probation may continue to be paid Teaching Assistantship at the rate applicable to them.
 - ii. However, no Teaching Assistantship duties should be given to them on account of the need for them, to concentrate on their academic performance and to improve the same.
 - iii. Therefore, these Ph.D. students would be expected to pay Non-Concessional Fees applicable to Ph.D. students of their academic programme.

7. Supervisor/Co-supervisor

R.12.1: Selection of Research topics, areas of Research

In each Department/School/Centre, applicants will be given, at the time of selecting the details of various research topics, areas proposed by various faculty members for Ph.D. programmes, so that they will have an opportunity to discuss those topic areas with the respective faculty members and thereafter, submit supervisor selection form. The applicants shall then be interviewed by a committee constituted by the RC.

R.12.2: Assignment of Research Supervisor

The Research Programme and the specific area of research of a selected Ph.D. student shall be finalised by his/ her Supervisor (s) after mutual discussion. All Research Scholars should be finally assigned to Research Supervisor (s) at the time of confirmation of Registration.

R.12.3: Change of Research Supervisor

- a) Change of Supervisor(s) under exceptional circumstances shall be permitted on recommendation of the DC /DPGC after obtaining the consent of (i) the Ph.D. student (ii) the present Supervisor(s) and (iii) the proposed Supervisor(s).
- b) If the research programme and/ or area of the work requires modification due to this change, the Ph.D. student's entire course programme requirement shall be examined by the DC. If there is a change in the research programme and/or area of the work, the registration date may be revised, if found necessary.

R.12.4: Arrangement of Temporary Research Supervisor when the Main Supervisor is on leave

- a) Whenever a Supervisor leaves the Institute permanently or temporarily for a period greater than or equal to six months, the DC shall provide new supervisor(s) for the Ph.D. students being supervised by him/ her before his/her departure. The DC may consider continuation of the original Supervisor on his/her return to the Institute, as Co-Supervisor of his/her Ph.D. students

depending on the period for which he/she has supervised the Ph.D. Programmes of the Ph.D. students concerned

- b) Whenever a Supervisor leaves the Institute temporarily for a period less than one year, the The supervisor will assign a co supervisor or an Administrative supervisor. The DC shall make aa arrangement for the guidance of his/her Ph.D. students with permission of the DC
- c) Any such arrangement made shall be forwarded to DC/ DPGC/Supervisor for prior approval and the decision shall be communicated to the concerned Ph.D. student.

R.12.5: Number of Ph.D. students assigned to the Supervisor

At any given time, the number of Institute Ph.D. students (TA/RA/ part-time/ Sponsored) working with a supervisor shall not exceed 02(two) in each category. However, the DC can decide on the total number of Ph.D. students of all categories working with him/her.

R.12.6: Doctoral Committee (DC)

After the completion of the specified course requirements by a candidate, the Supervisor will constitute a Research Progress Committee (RPC) for all candidates in consultation with the Supervisor and DPGC The DC will normally consist of the Supervisor & Co-Supervisor, a Chairman of the committee from the department (if any) and one other faculty member conversant with the field of research from the department and external member from other department.

The names of the DC members and any subsequent changes in its composition shall be communicated to the Dean for record. Normally one of the RPC members is expected to function as the internal examiner for the evaluation of the thesis.

The DC is expected to monitor the progress of the candidate until the completion of the programme.

13. Place of work, Progress and Duration

On the recommendation of the Supervisor(s) and the DC the Institute may allow the research work for the Ph.D. degree to be partially or wholly carried out at another organization with the following provisions:

13.1: External Organization where an Ph.D. student can carry out the Research

- a) The external organization where an Ph.D. student wishes to carry out the research work partially or wholly shall have to be recognized by the Institute before such work is undertaken with approval from the Chairman Senate.
- b) An external organization may be granted recognition by the DC as an approved place of work.
 - i) The recognition shall normally be given only for the purpose of the individual research project by a particular Ph.D. student.
 - ii) The details of research facilities available at the organisation shall be furnished by the Ph.D. student along with the application for admission to Ph.D. programme.
 - iii) The RC shall examine the details given and may decide either to ask for further information, or even collect first-hand information, if necessary, by deputing faculty member(s) to visit the organisation. Only when the RC is fully convinced about the adequacy of the research facilities and the credentials of the external supervisor, it shall recommend the case to the RC.

R.13.2: Annual Progress Seminar (APS)

(i) All Ph.D. students are required to submit a report (APR – Annual Progress Report) and present a seminar (APS – Annual Progress Seminar) every year to the research progress committee (RPC) in consultation with supervisor and co-supervisor (if applicable) till successful completion of pre-synopsis. Individual academic units may consider the last date of APR submission prior to the last date of APS presentation.

Following is the schedules of APS presentation.

For students joining in Autumn semester: Not later than 30 July. For students joining in Spring semester: 31st December Failing which he will not be allowed for registration.

Students, who have completed six years are required to present a **Progress Seminar** biannually till the successful completion of the pre-synopsis.

To suit the specific requirement of a funding agency, students may apply to the convener, DC for a different but fixed schedule (for every year) for APS presentation.

R.13.3: Requirement for Continuation in the Programme/Scholarship

- a) All Ph.D. students registered for Ph.D. irrespective of their category, shall have to register every semester along with a brief report on the work done in the earlier semester(s) and a plan for the ensuing semester
- b) All candidates, after joining, shall submit, through the supervisor(s), an APS of their work in the previous academic year to the concerned DC once a year in July/January depending upon the time of admission. For all categories of Ph.D. students, this seminar must be given on or before 30th July or 31st December of each year except for the following:

In case of CSIR/UGC/INSPIRE/DBT or similar fellows, the dates of their APS should be fixed by considering the requirements of the funding agency and such a fixed schedule shall be followed strictly. Regular research scholars are liable to lose their financial support if the seminar is delayed beyond the said dates. Such seminars are required to be given (every year) until the synopsis and thesis is submitted.

This is also required for enhancement of assistantship and for confirmation/continuation of their programme.

The following guidelines are being followed for avoiding delays in the presentation of the Annual Progress Seminar:

1. Every Ph.D. student must present the Annual Progress Seminar as per the prescribed schedule every year after the SOTA.
2. In case, due to some valid reasons, if he/she is not able to present Annual Progress Seminar in time, an application for extension must be made at least 15 days before the due date of presentation.
3. Extension will be granted by the Dean on case to case basis from 1st September/1st February as the case may be, till the date of presentation of APS.

4. The report of the Annual Progress Seminar in a prescribed format should reach the Academic Office within four days after the presentation.
5. Delay beyond 30th July/31st December (as applicable) may lead to discontinuation/cancellation of Teaching Assistantship and/or Registration.
6. The assistantship for the period beyond the due date of renewal/enhancement of Assistantship will be released only after receipt of satisfactory report.

The continuance of registration of all Ph.D. students is subject to satisfactory progress made by them.

The above rules are also applicable to CSIR/UGC/INSPIRE/DBT or similar fellows, the date of their APS be fixed by considering requirements of funding agencies and such fixed schedule be followed strictly.

R.13.4: Minimum Period of Research for Submission of Thesis from the date of confirmation:

All Ph.D. students (except external Ph.D. students) have to carry out research in the Institute for at least a period of two calendar years from the date registration after completion of the Qualifier before submission of thesis. External Ph.D. students have to carry out research for at least a period of three calendar years from the date of registration before submission of thesis (after completion of the Qualifier/Comprehensive exam)

R.13.5: Period of Validity of Registration of the Ph.D. Programme

For all categories of Ph.D. students, the period of validity of their Ph.D. registration is six years from the date of registration. The Ph.D. students may submit their thesis before the end of this period subject to the provisions of R.13.4.

R.13.5 a): Registration of Ph.D. programme beyond Five years

Ph.D. students who have been registered for five or more years in the Ph.D. programme are required to submit a properly completed application on the approval form, for extension of Ph.D. registration to the subsequent year in the Ph.D. programme. This application must be completed and submitted on or before the last date for completing the Annual Progress Examination for the year prior to the year for which extension of Ph.D. registration is required.

R.13.6: Procedure to be adopted by Ph.D. students for research work involving human participation

Ph.D. students whose research work involves human participation (either directly or indirectly), should obtain IIT Goa Institute Ethics Committee (IEC) approval prior to start of the study or the component of the study involving human participation. IEC approval is mandatory for all such projects. In fact, this is mandated by several funding agencies also e.g. DST, DBT, CSIR and ICMR. IEC approval is also a prerequisite for such research work to be published in peer reviewed journals of repute. IEC approval cannot be taken retrospectively.

R. 14 Synopsis and Thesis submission and Evaluation

R.14.1: Pre-synopsis Seminar and Examination

The DC will assess the work in consultation with the supervisor(s). The panel must comprise of at least two faculty members other than the Supervisor(s). These will include RPC members.

- a) This panel will assess the work through a pre-synopsis seminar and report. The Ph.D. student can submit the synopsis only if the panel is satisfied about the quality and quantity of the work for submission as a Ph.D. thesis.
- b) Details of the pre-synopsis seminar will be notified so as to enable interested staff members and Ph.D. students to attend.
- c) The Convener of the DC will forward the panel reports to the Academic Office through DPGC in the format prescribed for Pre-Synopsis Examinations. List of Publications/ Conference arising out of the thesis/other outcomes, if any, are to be submitted along with the Pre-synopsis report.
- d) Ph.D. students should submit their synopsis and thesis within three months of the Pre-synopsis seminar date. If the synopsis and thesis are not submitted in the specified period, the Ph.D. student will be asked to present the pre-synopsis seminar again.

R. 14.2: Submission of Synopsis and Thesis

R.14.2.1: Format of synopsis and thesis

The synopsis & thesis should be written in the approved format.

R.14.2.2: Submission of no of copies of synopsis and thesis

Two copies of synopsis should be submitted to the RC and 4/5 copies of thesis to the Academic office along with the prescribed forms for submission and certificates from the Accounts Section and the Hostel that there are no dues against the Ph.D. student. After approval of the RC, the synopsis will be forwarded to the Academic Office along with the forms and the required certificates.

R.14.2.4 Patent is being/ has been filed.

At the time of Synopsis/Thesis submission, the Supervisor should select one of the following options for evaluation of the thesis (included in the Form for submission of synopsis & thesis): 1) The thesis evaluation be processed immediately.

OR

- 2) The processing of the thesis evaluation be taken up after a communication from the Supervisor or six (06) months (whichever is earlier), as a patent is being /has been filed and there is a need to maintain the confidentiality of proprietary information.

OR

- 3) The thesis be sent for evaluation after the Non-Disclosure Agreement has been signed by the examiner, and there is a need to maintain the confidentiality of proprietary information. The Ph.D. student has been informed that obtaining NDA from prospective examiners may delay the thesis evaluation.

R.14.2.5: Required Certificates for submission of Synopsis & Thesis

(included in the Form for submission of synopsis & thesis)

- a) Certificate from the DC that the pre-synopsis seminar examination has been completed satisfactorily.
- b) Certificate from the Ph.D. student and Research Supervisor(s) confirming (i) that there is a prima facie case for consideration of the thesis, (ii) that the thesis does not contain any work which has been previously submitted for the award of any degree except to the extent of collaboration, if any, which may then be specified.
- c) Certificate of authorization from the Research Supervisor(s) for submission of the thesis.
- d) Certificate from the Deputy Registrar (Academic) that the prescribed course credits are completed.

R.14.3: Panel of Referees (External Examiners) for Evaluation of Ph.D. Thesis

R.14.3.1: The Supervisor in consultation with the DC will recommend to the Chairman, Senate, a panel of External Examiners (Referees for thesis evaluation) and the Chairperson (2 names) and Internal Examiner for the Ph.D. Viva-Voce (2 names)

The examiners (Referees for thesis evaluation) who are currently evaluating another thesis from IIT Goa should not normally be included in the panel.

The thesis supervisor will opt for one of the following schemes (Scheme A or Scheme B) for submitting panel of external examiners.

Scheme A

- The Supervisor will give at least 8 names of external examiners (with at least 4 names from within India) for review of Ph.D. Thesis. The academic office will request the external examiners to be reviewers for the thesis and after receiving acceptance, the thesis will be sent to examiners by academic office.
- The thesis will be sent to only 3 examiners out of the 8.

Scheme B

- The supervisor(s) of the Ph.D. student will write to potential examiners (approved by DC) asking them about their willingness to examine the thesis, if requested to by the institute. The draft text for such communication will be available on the academic homepage. After obtaining the willingness of the examiners, 4 names of such examiners (with at least 2 names from within India) will be recommended by supervisor(s). The DC approved list will be then sent to the academic Office.
- The Thesis will be sent to only 3 examiners out of the 4.

R.14.3.2: Selection of Examiners for evaluation of Thesis:

- A) From the panel of external examiners duly approved by the DC, the Chairman, Senate or his nominee will choose 3 names. Additional examiners will be contacted, if the need arises.
- B) The referees independently send the thesis evaluation report to the Academic Office, including following:
 - i) A critical survey and evaluation of the quality and quantity of the work as embodied in the thesis.
 - ii) Questions, if any, to be asked or points to be clarified at the viva-voce examination, and
 - iii) A definite recommendation as to whether the thesis is acceptable for the award of the degree of Doctor of Philosophy.

- C) If a referee in his/her report is not in a position to make a definite recommendation for the award of the degree, he is requested to assist the Chairman Senate in deciding whether the Ph.D. student is required to:
- Make substantial revisions involving rewriting of one or more chapters without, however, doing any further research work.
 - Completely rewrite the thesis, if the thesis, though not acceptable in the present form, reveals sufficient quality and quantity of work to warrant the Ph.D. student being given an opportunity for further research work and/or reinterpretation of results.
- D) The Internal Examiner of the Ph.D. thesis will be a faculty member of the Institute, who is a member of the DC of the concerned Ph.D. student.

R.14.4: Referees Evaluation Reports on Ph.D. Thesis

i. If all the referees recommend acceptance of the thesis as it is (i.e., 'a'), or with clarifications of minor points at the time of the viva voce (i.e., 'b'), the defence can be held directly. ii. If 2 out of 3 referees recommend minor modifications in the thesis (i.e., 'c'), the defence can be held only after the internal examiner certifies that the changes have been carried out. iii. If 2 out of 3 referees recommend major revisions in the thesis (i.e. 'd'), the revised thesis should be resubmitted within 6 months after incorporating the revisions to the satisfaction of the supervisors and internal examiner. This will then be sent for further review.

- iv. If one referee recommends rejection (i.e., 'e'), an opinion of a third examiner will be sought.
- v. If all the 3 referees recommend rejection of the thesis, the thesis in the current form is rejected. In such a case, a new thesis may be submitted only once for review, after 1 year and no later than 2 years from the date of intimation by the DC, after presenting a pre-synopsis seminar.

Note: The copies of the referee reports will be made available to the supervisor/Co-Supervisor and the FC of the Department with an intimation to the Ph.D. student.

In case of (i) above, the copies of reports will be sent to supervisor(s) and Faculty Co-ordinator of the department simultaneously along with the intimation of defence approval.

In case of (ii) & (iii) above, the copies of both the reports to be sent to Supervisor/Co-Supervisor for ensuring that all the corrections including minor modifications in the thesis suggested by the external referees have been/will be incorporated. After receiving the response of the Supervisor/Co-Supervisor, the reports of the referees and the responses of the Supervisor/Co-Supervisor will be sent to DC to ensure that the corrections including minor modifications, revision suggested by the external referees have been/will be incorporated.

The Supervisor/Co-Supervisor and the DC will submit their response within 7 working days from the date of receipt of the reports/supervisors' response for consideration and approval by DPGC and Chairman, Senate.

The Senate shall, however be the final authority in deciding whether the thesis be accepted for the award of the degree.

R.14.5: Approval of holding the defence and Board of Examiners for Defence. DC will approve holding of the viva-voce examination (Ph.D. defence) and Board of Examiners for defence.

An Ph.D. student whose thesis has been accepted for the award of the Ph.D. degree will defend his/her work at an open viva-voce examination conducted by a Board of Examiners **at the**

Institute. The Board of Examiners will be appointed by the Chairman, Senate and it shall consist of:

- i) Chairman of DC will be Chairman of viva-voce committee.
 - ii) The research supervisor(s) from the department.
 - iii) A faculty member of the Institute conversant with the subject to act as the internal examiner; and
 - iv) One of the referees, who has reviewed the thesis (failing which one faculty member from outside the department).
- a) An external examiner, from among the approved panel of examiners, is required in the Board of Examiners for the Ph.D. viva-voce Examination. The Chairperson of the Ph.D. viva-voce examination panel will certify the acceptance of the Thesis and successful conduct of the Ph.D. viva-voce Examination.
 - b) The Board of Examiners will submit its report in the prescribed form to the Senate.

R.14.6: Defence Report

- a) On satisfactory completion of the viva-voce examination, the degree may be conferred upon the Ph.D. student after approval by the Senate.
- b) If a thesis has been accepted but the Ph.D. student fails at the viva-voce examination, he/she may be permitted by the Senate Chairman to reappear for viva-voce examination again at a later date. The recommendations of the Board of Examiners conducting the viva-voce examination will be considered in taking a decision in this respect.

R. 14.7: Submission of Final copies of Thesis

- a) After successful completion of the Ph.D. Viva-voce examination, the Ph.D. student will submit to the Academic Office the final bound hard copies & CD soft copy and one copy to Library, of his/her approved thesis, along with the prescribed form, within one month from the date of defence.

15. Teaching Assistantship

R.15.1: Rate of Assistantship

The Institute Ph.D. students will be paid scholarship at a rate in accordance with the directives from the appropriate authorities.

R.15.2: Tenure of Assistantship

Institute Ph.D. students are eligible to receive Assistantship for a maximum period of **FIVE** years as communicated by the MHRD.

R.15.3: Enhancement of Assistantship

- a) All Institute research scholars shall apply for enhancement of Assistantship two weeks before completion of two years from the date of joining. They shall submit five typed copies of summary of their work described in five to six pages, to the Chairman, DC.
- b) Subject to satisfactory assessment, the candidates will be eligible for enhanced Assistantship after the completion of two years from the date of joining.

- c) If in the opinion of the committee, the enhanced Assistantship cannot be recommended, the committee may stipulate a period of time, not less than three months, for the candidate to reappear before the committee for the consideration of enhanced Assistantship.
- d) **Continuation of Teaching Assistantship until the period of entitlement.**
The Ph.D. students with Teaching Assistantship/ Fellowship/ Financial Support routed through the Institute who submit their thesis before the stipulated period of 5 years, may continue to avail of their financial support until the date of their Ph.D. Viva Voce Examination or the end of the period of their entitlement, whichever is earlier.

The Dean/ Supervisor of the concerned Department/School may recommend such cases by certifying the needs in consultation with the Ph.D. Supervisor(s).

R.15.4: Award of Teaching Assistantship to Ph.D. student with B. Tech from IITs without GATE requirement:

TA ship will be awarded to the Ph.D. student admitted with a B. Tech qualifying degree from the IITs without GATE requirements provided the candidates had a CGPA/CPI greater than or equal to 8.00 on a 10-point scale in their B. Tech degree.

16. Leave Rules

R.16.1:

All Ph.D. students are entitled for leave for a maximum of thirty days per year in addition to Public Holidays. Also 10 days leave on medical reasons is permitted.

R.16.2:

Women Scholars are entitled for maternity leave at the full rate for a period not exceeding 180 days, once during the tenure of their Ph.D. studentship. This should be supported by a medical certificate.

R.16.3:

Male Scholars are entitled for 15 days' paternity leave once during the tenure of their Ph.D. studentship.

This should be supported by a medical certificate.

The Dean or Chairman of DC is authorized to sanction the above leave.

R.16.4:

No vacation in Summer/Winter is admissible.

R.16.5:

Special Leave to attend Seminars/Conferences in India/abroad to present research papers, with the permission of the Dean of Academic Programmes, is admissible.

R.16.6:

Ph.D. students under CSIR/UGC and other categories are governed by the rules of the bodies which provide financial support.