INDIAN INSTITUTE OF TECHNOLOGY BOMBAY

RULES AND REGULATIONS

Ph.D. Programme

Academic Office

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Ph.D. Programme

As a result of the sound research base and extensive infrastructural facilities available, the Institute offers a Ph.D. Programme in a wide range of areas in Engineering, Science, Design and Humanities & Social Sciences. 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 social and economic objectives of the country.

The academic programme leading to the Ph.D. degree is broad-based. It 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 interdepartmental group activities. The presence of a strong research oriented faculty provides excellent opportunities for such programmes. The Institute undertakes 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 are available in the all Science, Engineering, Design and Humanities & Social Sciences departments. In addition to the facilities available in the laboratories and Workshops of his/her own department, a Ph.D. scholar has access to the central facilities available elsewhere in the Institute also. Several departmental and Institute-level seminars are held throughout the year. A large number of distinguished scientists and engineers both from India and abroad, visit the Institute to deliver lectures and hold discussions with the research groups. The Ph.D. students thus get ample opportunities to pursue their research programmes in a truly stimulating environment.

Ph.D. Rules and Regulations:-

Ordinances

The Ordinances of the Institute shall take precedence over the Rules in the matter of any dispute.

O.D. 1 :

a) A student will be considered by the Senate to be eligible for registration for the degree of Doctor of Philosophy on his/her making an application in the prescribed form provided he/she has obtained M.Tech. degree of this Institute or an equivalent qualification by virtue of an examination.

b) A student who possesses an M.Tech./M.Phil. degree or equivalent qualification is not ipso facto eligible for registration but shall be required to fulfill the minimum credit requirement under an approved programme of studies.

O.D. 2 :

a) The Degree of Doctor of Philosophy may be conferred on a student subject to the following conditions :

i) Research work has been carried out at the Institute under the guidance of Supervisor(s) for **at least two years in the case of all students** (except external students) and **three years in the case of external students after their date of registration** on a topic duly approved by the Senate.

ii) The thesis submitted by the student is required to be recommended for the award of the Ph.D. degree by two external referees and by the Board of Examiners constituted for the viva-voce examination.

b) Notwithstanding the provision of O.D.2 (a), a student registered for the degree of Doctor of Philosophy may be permitted to carry out a part or the whole of his/her research work outside the Institute in a factory, laboratory, workshop, worksite or other research centres duly approved for the purpose by the Institute.

O.D.3 :

The degree of Doctor of Philosophy shall not be conferred as an ad eundem degree.

O.D.4 :

Notwithstanding the provisions of O.D.1, the Senate will consider the registration for the degree of Doctor of Philosophy of a 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.

O.D.5 :

Institute Faculty, Research Assistant, Technical Assistants or any other duly approved category of Institute Staff may be registered for the degree of Doctor of Philosophy under the provisions of O.D.1 and O.D.4.

Rules and Regulations :

The Institute offers facilities for work leading to the degree of Doctor of Philosophy (Ph.D.) in various departmental and Interdisciplinary research areas. Extracts of the Rules and Regulations governing the Ph.D. programme are given below:

REGISTRATION

1. On joining the Institute every student is required to plan his/her academic programme in consultation with a Faculty Advisory Group of the academic Unit (Department/Interdisciplinary Programme/ School/ Centre in which the student is admitted. Details of the academic requirements of this programme and details of courses available are given in the bulletin. **The bulletins are available on the website of each academic unit**.

2. The registration for each semester is carried out through the computerized "Online Registration" programme. This registration is mandatory for all students, and they must register themselves on the prescribed dates announced from time to time. Every student must register in each semester until he/she completes the programme.

3. All students have to clear the Institute and Hostel dues **before Registration**.

4. If a student does not register for the regular Semester (Autumn or Spring) without prior written permission of PGAPEC, his/her name is likely to be struck off from the rolls of the Institute and he/she may not normally be readmitted. To obtain prior permission, the student must

apply to PGAPEC at least one month in advance of the date of registration.

5. The Faculty Advisory Group is authorized to carry out the course registration and also adjustments as specified later.

6. Along with the credit courses, a student is normally allowed to register for a maximum of TWO Audit course per semester, with consent of the Ph.D. Supervisor and /or the Head/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.

7. A student is not permitted to re-register for a course, which he/she has undergone and in which he/she has secured AU, DD or higher grades.

8. Any student who concurrently registers for any postgraduate degree at another organization shall be automatically de-registered at the Institute.

9. Submission of final year mark sheets/provisonal certificates of their qualifying degree by the Master's students (Ref: 197th Senate Meeting)

a) All Postgraduate students should ordinarily submit their certificates latest by 30th September /30th January respectively when admitted in the Autumn / Spring Semester of a given academic year, after joining the Institute.
b) The students who are unable to submit their certificate by these dates, 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.
c) Even if a 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 a student shall be withheld until the required documents are produced.
d) Cases of students who do not submit the certificates after the first semester will be reported to the PGPC and the Senate for further consideration and decisions/actions.

COURSE ADJUSTMENTS

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

1. **Admission :**

R. 1.1 : (Amended as resolved in 141st meeting of the Senate held on 11.3.98)

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

1. **Full-time Research Scholar :**

a) Institute Research Scholars (Teaching Assistant)

b) Govt./Semi Govt. Fellowship Awardees
   (QIP, CSIR, UGC, DAE, DST, DBT, NBHM and so on)

c) Sponsored candidates (SW)

d) Self-financed (Indian/Foreign/Study Leave) (SF)

e) Indian Council for Cultural Research Awardees (Foreign Students)

2. **Part-time Reasearch Scholar :**

f) Institute Faculty/Staff (IS)

g) Project Staff (PS)

h) Research Assistants (RA)

i) External candidates (Sponsored) (EX)

j) College Teacher (Self-financed) (CT)
   (Candidates from Colleges/Educational Institutes carrying out Research work during week-ends, holidays and vacations at IIT Bombay)

a) **Institute Research Scholars (Teaching Assistant (TA) :**

   Institute Research Scholars are considered for Teaching Assistantship.

b) **Govt./Semi Govt. Fellowship Awardees**
   (QIP, CSIR, UGC, DAE, DST, DBT, NBHM and so on)

These candidates are considered for financial support from Govt./Semi Govt. schemes. The admission procedure and other requirements are same as applicable to Institute Research Scholars.

c) Sponsored Candidates (SW):

These candidates are sponsored by recognized R&D organizations for doing research work in the Institute on a full time basis. Candidates are expected to be released for full time research work at the Institute for a minimum period of three years. They will not receive any financial support from the Institute.

d) Self Financed (Indian/Foreign)/Study Leave (SF):

1) Indian: This category refers to persons with experience and with good track record to join the doctoral programme. They are admitted along with the regular research students through the usual admission procedure but they would not get any financial support from the Institute.

2) Foreign: These students are admitted through the Embassy of the respective Govts. after getting approval from the Ministry of External Affairs and a no objection certificate from the Ministry of Human Resources Development, Department of Education, Govt. of India.

3) Study Leave: This category refers to candidates who are released from governmental or educational institutions on study leave for a period of not less than three years for doing research work at the Institute.

e) College Teacher (CT):

    i)   The Institute will decide the competence of the candidates along with the regular candidates at the time of the admission.

    ii)   A "no objection" certificate from the college as well as a letter from the university stating that the university has no objection to IIT Bombay awarding the Ph.D. degree is required at the time of admission.

    iii)   The place of work is IIT Bombay even though he/she may be carrying out a part of work in his/her College/Institution.

    iv)   An External supervisor is optional based on the recommendations from the supervisor/s and DPGC/IDPC/PGC of the respective department/ID Group/centre/school.

    v)   Candidates should be available to the supervisor during weekends, holidays and vacations for work related to the Doctoral Programme.

    vi)   The fee structure for these candidates will be as applicable to self-financing Candidates.

    vii)   Hostel accommodation will not be provided during the regular semester except during the first semester. However, they may be permitted to stay in the hostels during the vacation on payment of guest charges as per hostel rules.

    viii) Rules for evaluation of Academic Performance of these candidates will be the same as applicable to other categories.

f) ICCR Awardees (Foreign Nationals) (FN):

These students are sponsored by their Governments and awarded a scholarship by the Govt. of India, ICCR. They should apply for admission through Indian Embassy in their country.

g) Institute Faculty/Staff (IS):

This category refers to candidates who are permanent employees of the Institute, with more than 2 years of services who are admitted to the Ph.D. Programme. They are expected to work for their Ph.D. Programme after fulfilling their normal duties.

h) Project Staff (PS):

This category refers to candidates who are working on various Projects undertaken by the Institute and admitted to the Ph.D. programme, if the duration of the Project at the time of admission is around 3 years. They are expected to work for their Ph.D. Programme after fulfilling their normal duties.

i) Research Assistantship (RA):

Depending upon the requirements, each Department/Centre/School may induct one Research Assistant every year.

i) Students who have valid GATE/UGC/CSIR/NBHM, etc. score will be considered   for Assistantship.
ii) These Research Assistants have to look after the laboratories and also assist in teaching or research or other work assigned by the Head of the Department/ Centre/School or Convener, IDPC.
iii) They are required to work for about 16-20 hours a week. **They have to complete the Ph.D. Programme in five/six years,** depending on their qualifying degrees.

j) <u>**External candidates (Sponsored) (EX):**</u>

After fulfilling the one/two semester(s) residential requirement at the Institute, these candidates will be allowed to register for the Ph.D. with a supervisor from the Institute (Internal) and the other from their parent organization (External) where they will be doing the research work. They shall produce a sponsorship certificate from the parent organization along with the application for admission.

R.1.2 :

a) If a student leaves the programme any time within the first two years without prior permissions of the Senate, he/she would forfeit his/her student status.

b) If a student withdraws from his/her Ph.D. programme any time without intimation (within the first two years) after admission, his/her 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 student wishes to temporarily withdraw from his/her Ph.D. Programme, he/she may do so only after a period of two years following his/her date of **Confirmation of Registration** with prior permission of the Senate. The application for temporary withdrawal must be endorsed by the Ph.D. Supervisor(s) and the Postgraduate Committee (PGC) of the academic unit in which the student is registered. Temporary withdrawal could be granted for, upto 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 PGAPEC, only under circumstances which the PGAPEC 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 student. **(Amended as resolved in 196ᵗʰ Senate held on 23-09-2009)**

d) A Research scholar, if recommended by DPGC/IDPC, recognised by PGPC and approved by Senate, may be allowed to change his/her status to "external student" earlier than 2 years if,

   (i)   he/she has completed all courses.

   (ii)   He/she gets a sponsorship certificate from the organization (recognised by PGPC) he/she joins and

   (iii)   He/she is able to get a suitable local supervisor to act as guide in the broad area of research approved by the DPGC/IDPC. The student is required to complete all the formalities regarding the change of status within one year of leaving the Institute.

1. Eligibility for Admission

R.2.1. : Minimum Qualification for Admission

One of the following in appropriate areas:

1) First Class or Equivalent Master's Degree in Engineering/Technology(55% for SC/ST)
2) A First class Master's degree in Science (55% for SC/ST) or a first class in Bachelor's degree in Engineering/Technology (55% for SC/ST) and a valid GATE score or an award of a CSIR/UGC/NBHM/DBT Research fellowship.
3) **Candidates not having a valid GATE score** or not having CSIR/UGC/NBHM/DBT award can be considered for admission to the Ph.D. programme if they have minimum of 2 years of professional work experience. **However, they will not be considered for Teaching/Research Assistantship.**

   Each Department/School/Centre/Interdisciplinary group has additional eligibility requirements, which are given in text under each department of the Ph.D. Information Brochure.

R.2.2 : Change from M.Tech. to Ph.D.

a) If a particular student who is pursuing a full time M.Tech. Programme at the Institute fulfils the minimum qualifications prescribed for admission to any specific Ph.D. programme of the Institute and wishes to change over to that Ph.D. Programme, he/she may be permitted to do so provided he/she has obtained an SPI of 9.00 or above after having registered for 38 credits of course work in the first semester (See M.Tech. rules MR 2.1 (2) and MR 2.1 (3)).

   Note:

   The student(s) shall apply for the change over by the end of the first semester through the DPGCs/IDPCs/PGCs, will forward the application with due recommendations to the PGAPEC for consideration.

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

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

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

A student pursuing the Ph.D. Programme in an Engineering discipline and who has successfully completed 22-34 credits of course work (22 for students with M.Tech. qualification and 34 for students with B.Tech./B.E. qualification) 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.
(Ref. 136th Meeting of the Senate held on 24-11-1996)

Procedures for Evaluation of the M.S. Thesis (Ref : 190th Senate Mtg.):

1. The thesis be sent to two external examiners.
2. The **first report** to be received from any of the two external examiners report be considered (if favourable) to permit the student to appear in the Viva Voce examination.
3. However, if this examiner has marked either option (d)- The thesis requires major modifications/revision. The nature of the modifications required are indicated. It is recommended that the revised thesis be referred again by an external examiner. OR option (e) – The thesis be rejected, the office may wait for the recommendation of the second referee and if favourable, may be considered to permit the student to appear in the viva-voce examination.
4. If both reports are unfavourable, the PGAPEC may treat each such case individually on a case to case basis.
5. The Viva-voce examination be conducted by a committee similar to the Committee for the final stage evaluation of the M.Tech. Project.
6. The M.S. Degree be awarded after receipt of favourable reports and a successful viva-voce examination. For a successful Viva Voce examination, a grade better than or equal to 'CC' must be earned by the student in the Viva Voce examination.

R.2.3: The following procedure is to be followed for change from one programme to another (Ref. 141st Senate Meeting):

i)   These Transfers will be considered on a case-to-case basis.

ii)   Request for a change of PG programme should come from the student and should be endorsed by the Supervisor/RPC.

iii)   The application for consideration for admission to another PG programme should be routed through the Postgraduate Committee of the Dept./Group/Centre/ School in which the student was originally registered. It must also be recommended favourably by the Postgraduate Committee of the academic unit (Department/ Centre/ School/ Interdisciplinary Progamme) to which the student wishes to be admitted.

iv)   The candidates should satisfy all the academic requirements for the award of the degree for which he is being considered.

v)   DPGC/IDPC/PGC may recommend the time limits for submission of Dissertation/Thesis, if required.

vi)   The request will then be considered by PGAPEC and put up for subsequent approval by the Senate, if the PGAPEC recommends the change.

R.2.4 Any student who concurrently registers for any postgraduate degree at another organization shall be automatically deregistered at the Institute.

3. 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.3.1 :

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 Bulletin.

R.3.2: 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 co-ordinator appointed by the DPGCs/IDPCs/PGCs 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 student shall not take more than two Seminars during the entire Ph.D. Programme.

R.3.3 Communication Skills course (PP/NP course) (Ref:165th Senate meeting)

   a) This course is compulsory for all Ph.D. students.

b) Ph.D. students are normally required to clear the Communication Skills course within the first two semesters.

c) This course is an addition to the minimum course credit requirement prescribed by the DPGCs/IDPCs.

d) Students having a qualifying degree from IIT who have cleared the 'Communication Skills' course during their M.Tech. Programme are exempted from this requirement.

4. Course Credit requirements and Registration for courses

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

a) Within one semester from the date of joining by the students having M.Tech. or equivalent qualification and

b) Within the first two semesters from the date of joining by the students having B.Tech./M.S./M.A./equivalent qualification.

Ph.D. students will be allowed to complete extra credit courses, if necessary (Ref: 168th Senate meeting)

R.4.1 : (Applicable to students with M.Tech. or equivalent degree)
        (amended as resolved in 136th Senate meeting held on 27.11.1996)

a) The credit requirements for 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/ Centre/ School/ Interdisciplinary programme).

b) The students may earn upto a maximum of 4 credits through seminars.

c) 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.

R.4.2 : (Applicable to students with M.Sc./M.A. or equivalent degree and admitted to Ph.D. programme in Science discipline).

e) The credits requirements for students having **M.Sc./M.A. or equivalent qualification admitted to a Science Department shall be 34 to 46 credits**. The courses could be taken in any academic unit (department/ centre/ interdisciplinary programme/ school) in the Institute.

f) **Credits acquired through PG level courses shall be 24 or more** (minimum 4 courses).

g) The students may earn up to a **maximum of 8 credits through Seminars**, which should be spread over two semesters.

R.4.3. : (Applicable to 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 students having B.Tech. or equivalent qualification shall be 44 to 56 credits**. The same number of credits should also be earned by students with M.Sc. degrees of equivalent qualifications admitted to the Ph.D. programme in any one of the Engineering disciplines.

b) The students may earn up to a maximum of 8 credits through Seminars, which should be spread over two semesters.

c) The students may also register for a R&D project to complete credits.

d) **Credits acquired through PG level courses shall be 30 or more**. (minimum 5 courses)

R.4.4.1 : (Applicable to students of Biomedical Engineering)

a) Students with B.Tech./MBBS/M.Sc. or equivalent

   I semester - 40 credits (36 credits of courses + 1 Seminar)

   II semester - 22 credits (18 credits of courses + 1 Seminar)

b) Students with M.Tech. in Biomedical Engineering.
   I semester - 22 credits (18 credits of courses + 1 Seminar)

c) Students with other M.Tech. degree (or equivalent)

   I semester - 34 credits (30 credits of courses + 1 Seminar)

R.4.4.2 : (Applicable to School of Management)
        (Amended as resolved in 186th Senate meeting held on 19.10.2007)

        The course requirement for students entering with an M.Mgt. or an equivalent degree should be a minimum of 40 credits and maximum of 64 credits. For all other students the course requirement would vary between 52 to 64 credits.

Candidates who register for the minimum credits should complete them within two semesters as per rule, whereas students who have been assigned course credit requirements more than minimum, may be considered on a case by case basis by the PGC of the School. Their time period of completion of coursework may be appropriately recommended to the PGAPEC. However, the total period admissible for completing the programme will remain unchanged in all cases.

R.4.4.3: (Applicable to IDC Ph.D. progamme) (Ref: 173rd Senate Mtg. held on 23rd March 2005)
a) For students with Postgraduate design qualifications, the credit requirement is 24 credits:
    I semester – 20 credits; II semester – 4 credits
b) For students with Undergraduate design qualifications the credit requirement is 56 credits and the courses will be common with the existing M.Des. Programme.

R.4.5. :
This rule applies to students who have a coursework requirement of two semesters. The DPGCs/IDPCs shall carefully examine any case of reduction in course credits and recommend such cases to the PGAPEC, giving appropriate justification in terms of any relevant post B.Tech./M.Sc./M.A. or equivalent qualification or proven capacity for independent research. While approving the cases of students who have been recommended by the respective PGCs/IDPCs for reduced course credits, the reason for prescribing such reduced course credits shall be placed by the PGAPEC before the Senate for information. In no case shall the reduced credits requirements be less than **24 credits**.

R.4.6 :
The **full-time students** shall register through their respective Faculty Adviser(s)/ 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. However, staff members of the Institute admitted to Ph.D. programme shall register **for not more than 18 credits in the first Semester** of the programme if the total credits required are 28 or more. Other 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.4.7. :
A language course shall not form a part of the minimum requirements of credits, prescribed for students with M.Tech. or equivalent qualification.

R.4.8. :
Students who are unable to commence their course programme during the Semester in which they have been admitted should apply to PGAPEC through

DPGC/IDPCs/PGCs and obtain permission to commence their course work in the following semester.

R.4.9 : The procedure for registration for courses shall be as follows:
a) The students, after payment of prescribed semester fees, complete their registration On-line in consultation with the faculty advisor(s)/ Supervisor(s) in the academic unit. Such registration is required to be approved by his/her faculty advisor/ Supervisor.

b) The students, in consultation with the supervisor/faculty advisor, can carry out course adjustment within the time limit provided in the Academic Calendar.

c) The DPGC/ IDPC/ PGC shall finalize the course programme of the students in consultation with the Supervisor(s).

d) Recommendations, if any, about reduction of course credits shall be sent to PGAPEC by DPGC/IDPC/PGC in the beginning of the I or II semester along with the applications for registration for due approval.

e) The Academic Office shall inform the PGAPEC of any discrepancy in the Registration. However, the students should ensure on their own that they comply with the credit requirements listed under R.4.1, R.4.2,R.4.3,R.4.4, R.4.4.1,R.4.4.2. R.4.4.3 above.

f) The PGAPEC shall approve the course programmes of all students after due scrutiny.

R.4.10 :
A 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.4.1, R.4.2, R.4.3, R.4.4, R.4.4.1, R.4.4.2, R.4.4.3 remain unchanged.

R.4.11 :
A student registered under R.4.2 and R.4.3 may drop in the first or second semester one or two 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 calender provided the credits requirements laid down in R.4.1,R.4.2, R.4.3, R.4.4.1, R.4.4.2 and R.4.4.3 are not violated.

R.4.12 : Dropping of course(s) (Ref. 203rd Meeting of the Senate)
Students will be permitted to drop courses upto one week prior to the last day of instruction in the semester, subject to the student maintaining the minimum

credit requirement or load in that semester as prescribed for his/ her Academic Programmme.

Note :
The student shall complete the prescribed Course Adjustment Form (CAF) and Course Dropping Form (CDF) in consultation with the supervisor/ faculty advisor.

5. Course Assessment and Award of Grades

R.5.1 :
For every course taken by the 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), NP (not Passed). **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 students should acquire a minimum CPI of 6.00 at the end of each semester**.

R.5.2 :
The letter grades FF and FR shall be treated as failure grades. **Re-examination may be permitted for a course if the student obtains FF grade**. After such re-examination **if the student passes in that course, he/she will be awarded the maximum grade of DD* in that course**. If a student does not take or fails in the re-examination, he/she will be awarded the grade FR. (*Ref. : 167th Senate Meeting).

R.5.3 :
A 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. (Ref. 167th Meeting of the Senate and 182nd Senate).

R.5.4 : Audit Course
The students registered for auditing a course shall be awarded the grade AU if they fulfill 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 student does not qualify for the grade AU, it will be assumed that the course has been dropped** by that student and the semester grade card issued accordingly.

R.5.5 : II grades

The grade II shall be awarded to a candidate in a lecture course in which the candidate has satisfactory in-semester performance but where he/she could not appear for the end-semester examination for bonafide reasons viz. of an illness or a serious accident to himself/ herself, death of a parent/ guardian or similar serious circumstances. In the case of illness or accident to the candidate, the application for the re-examination should be supported by the medical certificate from the Senior Medical Officer of the Institute or a Civil Surgeon. A student obtaining the grade II is entitled for a re-examination in that course and after such a re-examination, the Instructor will award an appropriate grade to him/her. If no medical certificate is received, before the re-examination schedule, his/her II grade will be converted into FR and result will be finalized accordingly.

R.5.6 : Seminar Grades

For the students who have submitted the seminar report in time, but the evaluation of which however could not be completed in time, the Seminar Co-ordinator shall award the grade II and shall forward the grade report to the Academic Office before the end of the semester. All such II grades shall be converted into suitable letter grades in due course of time, before one month following the end of the semester.

R.5.7 :

If a 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 coordinator under exceptional circumstances.

R.5.8 :

All 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**. (Ref. 167th Meeting of the Senate).

R.5.9 : Class Attendance Rules (DX grade) (Ref : 202nd meeting of Senate)

Every Instructor must, in the first week of the semester, clearly and unambiguously announce one of the following **TWO Options (A, B)** that he/ she would adopt, for the purpose of accounting for the attendance of the student in evaluation of student performance. The option chosen, should be indicated in the course data as registered with the Application Software Cell (ASC). In case an instructor fails to exercise the choice explicitly, **Option A below, would be the default choice.**

Option A: If the attendance of the student, as counted with effect from the first contact hour held after the last date of course adjustment, falls below eighty percent of the total attendance expected with effect from that date, the Instructor would award the student a '**Drop due to Inadequate Attendance**', '**DX**' **Grade** in

that course. This 'Drop due to Inadequate Attendance' Grade would, for the purpose of CPI calculation, be treated as **equivalent to a 'Course Drop' carried out on initiation by the student**. In calculating attendance, no specific concession is to be given for lack of attendance on medical grounds, beyond the fact that a minimum of only eighty percent attendance is required for the 'Drop due to Inadequate Attendance' **not** to be awarded. This Option should, in the long run, be administered automatically through the Application Software Cell (ASC), once the automated system for attendance can be put in place.

        Option B: The Instructor decides and announces in the beginning, a system of **percentage weight** in 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 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 Option I – where there was no penalty for shortfall in attendance. This Option should be administered by the instructor himself/ herself.

6. PERFORMANCE REQUIREMENTS IN COURSE WORK FOR QUALIFIYING TO REGISTER FOR THE PH.D. DEGREE

R.6.1:
ALL STUDENTS ARE REQUIRED TO MAINTAIN A CPI OF 6.00 AT THE END OF EACH SEMESTER.

The performance of a 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 student during the semester.

Example : Suppose in a given semester, a student has taken five courses having credits C_1, C_2, C_3, C_4, C_5 and his/her grade points in those courses are G_1, G_2, G_3, G_4, G_5 respectively.

Then his/ her

$$SPI = \frac{C_1 G_1 + C_2 G_2 + C_3 G_3 + C_4 G_4 + C_5 G_5}{C_1 + C_2 + C_3 + C_4 + C_5}$$

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 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 student since he/ she entered the Institute. It is calculated in the same manner as the SPI.

R.6.2: FOR CANDIDATES WITH CREDIT REQUIREMENT OF 16 TO 22 CREDITS

i) In the first semester, if a 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/IDPC/PGC 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.6.3: FOR CANDIDATES WITH CREDIT REQUIREMENT OF MORE THAN 22 CREDITS

i) A 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 a 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 a 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 a 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/IDPC/PGC.

iv) The credit requirement as prescribed by the DPGC/IDPC/PGC must normally be completed by the end of the second semester.

R.6.4:

All categories of students not fulfilling the requirements as enumerated in R.6.1 and R.6.2 are liable to discontinue their Ph.D. programme. The PGAPEC will take a decision in this regard after reviewing the cases of such students.

R. 6.5 Qualifier Examinations :

Some academic units (departments/ interdisciplinary programmes/ centres/ schools) prescribe qualifying examinations for the Ph.D. programme. These must be completed successfully prior to confirmation of registration.

R.6.6: Confirmation of Registration

(a) Students registered under R.4.1 who successfully complete their course credit requirements in one 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.

(b) Students registered under R.4.2 or R 4.3 shall be granted registration from the first working day of the semester following the one in which they complete 18 course credits, provided they complete the remaining course credit requirement in the two semesters following the date of registration so granted.

(c) Students registered under R.4.4.2 shall be granted registration on the following basis:
  i. For B.E./ B.Tech./ M.Sc./ M.Com./ M.A. or equivalent degree holders, the date of confirmation of Registration shall be one semester from the date of Joining.
  ii. For M.E./ M.Tech./ or equivalent degree holders the date of confirmation shall be the date of joining if they complete the course work in ONE semester or one semester from the date of joining if they take two or more semesters for course work.
  iii. For M.Mgt./ MBA students the date of confirmation of registration will shall be the date of joining, if they complete the course work in ONE semester or one semester from the date of joining if they take two or more semesters for course work.

R.6.7: 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.
  (Ref. 168th Meeting of the Senate)

R.6.8:

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

R.6.9: Confirmation procedure

The procedure for confirmation of Registration shall be as follows:

i) Each student, on completion of the course requirements and Qualifying Examination prescribed by DPGC/IDPC/PGC shall apply for confirmation of Registration.

ii) The completed application form shall be forwarded by the DPGC/IDPC/PGC to the PGAPEC, which will consider this application and confirm the date of registration according to the rules R.6.1 to R.6.8 above, as applicable.

R.6.10 : Academic Probation to the students having marginally lower SPI/CPI than the minimum required for continuation of their studies (Ref: 184th and 190th Senate Mtg.)

For students who are identified by PGAPEC as ineligible for continuation of the Doctoral Programmes, the following opportunity is available :

a) Such students can apply to be placed under `Academic Probation'.
b) Academic probation will be a one time exercise during the study programme of the students for the period of ONE semester and decided by PGAPEC in consultation with the Faculty Advisor and DPGC's.
c) For the Academic Probation Semester, the students must obtain such SPI as to make his/her CPI greater than or equal to 6.00 immediately on including the performance of the semester of Academic Probation.
d) The concerned students must submit a declaration in the prescribed format for consideration by PGAPEC before allowing the facility of Academic Probation.
e) **Financial Support during the period of Academic Probation in Ph.D. Programmes (New Policy) - [Amended as resolved in 198th Senate Meeting held on 24-03-2010]**

   i. The student who are under Academic Probation may continue to be paid Teaching Assistantship/Research 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 students would be expected to pay Non-Concessional Fees applicable to students of their academic programme.
   iv. The date of implementation in general, shall be prospective from the 198th Meeting of the Senate and not restropective. However, specific cases may be considered for retrospective implementation if deemed fit by the Convener, PGAPEC and/or Chairman, Senate.

7. Supervisor/Co-supervisor

R.7.1:

In each Department, 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, indicate their choice in order of preference. The applicants shall then be interviewed by a committee constituted by the DPGC/IDPC/PGC.

R.7.2:
a) All selected students shall be assigned tentatively to research supervisor(s) at the time of selection. However, a Doctoral (Ph.D.) student may opt to find a supervisor at the end of the first semester, if he/she so desires. The Head of the Department would act as supervisor until the student is assigned to a supervisor.

b) Each external student shall have only one Supervisor in the sponsoring organization where he/she is employed and one or two at the Institute.

c) The Research Programme and the specific area of research of a selected 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.7.3:
a) Change of Supervisor(s) under exceptional circumstances shall be permitted on recommendation of the DPGC/IDPC/PGC after obtaining the consent of (i) the 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 student's entire course programme requirement shall be examined by the DPGCs/IDPCs/PGC. 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.7.4:
a) Whenever a Supervisor leaves the Institute permanently or temporarily for a period greater than or equal to one year, the DPGCs/IDPCs/PGCs shall provide new supervisor(s) for the students being supervised by him/ her before his/her departure.

b) Whenever a Supervisor leaves the Institute temporarily for a period less than one year, the DPGCs/IDPCs/PGC shall make an alternate arrangement for the guidance of his/her students.

c) The DPGC/ IDPC/ PGC may consider continuation of the original Supervisor on his/her return to the Institute, as Co-Supervisor of his/her students depending on the period for which he/she has supervised the Ph.D. Programmes of the students concerned.

d) Any such arrangements made shall be forwarded to PGAPEC for prior approval.

R.7.5:
At any given time, the number of Institute research scholars working with a supervisor shall not exceed three while the total number of all categories of research students working with him/her shall not normally exceed eight.

R.7.6: RESEARCH PROGRESS COMMITTEE
After the completion of the specified course requirements by a candidate, the DPGC/IDPC/ PGC will constitute a Research Progress Committee (RPC) for all candidates in consultation with the Supervisor and Co-Supervisor if any. The RPC will normally consist of the Supervisor & Co-Supervisor (if any) and two other faculty members conversant with the field of research. The Co-Supervisor and/or member of the RPC may be from outside the Institute. (Ref. 136th Meeting of the Senate).

The names of the RPC members and any subsequent changes in its composition shall be communicated by the DPGC/IDPC/PGC to the PGAPEC for record.

Normally one of the RPC members is expected to function as the internal examiner for the evaluation of the thesis.
The RPC is expected to monitor the progress of the candidate until the completion of the programme.

8. Place of work, Progress and Duration
On the recommendation of the Supervisor(s) and the DPGCs/IDPCs/PGCs 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:-

R.8.1:
a) The external organization where a student wishes to carry out the research work partially or wholly shall have to be recognized by the Institute before such work is undertaken. **Persons working in Institutions, which are affiliated to Universities where facilities for registration of postgraduate programmes exist are not eligible for registration as external students**. The financial and other implications, if any, of such an arrangement should be finalised at the Institute level. The student, however, shall not be permitted to change his/her student status (as given under R.1.1) while working at such an organization.

b) An external organization may be granted recognition by the PGPC 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 student.

   ii) The details of research facilities available at the organisation shall be furnished by the student along with the application for admission to Ph.D. programme.

   iii)The DPGC/IDPC/PGC 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 DPGC/IDPC/PGC is fully convinced about the adequacy of the research facilities and the credentials of the external supervisor, it shall recommend the case to the PGPC.

R.8.2 :
All **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.

a) All candidates, after joining, shall submit, through the supervisor(s), an Annual Progress Seminar of their work in the previous academic year to the concerned DPGC/IDPC/PGC once a year in July/January depending upon the time of admission. For all categories of students, this seminar must be given on or before 31st August or 31st January of each year except for the following :
In case of CSIR/UGC fellows, the dates of their Annual Progress Seminar should be fixed by considering the requirements of the funding agency and such a fixed schedule shall be followed strictly : as amended in the 179th Meeting of Senate held on 12.05.2006. 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 renewal/enhancement of assistantship and for confirmation/continuation of their programme.

All external students must also give, at least one Seminar per year at the Institute until they submit the synopsis and thesis according to the schedules described above.

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.

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 PGAPEC on case to case basis with or without fine @ Rs. 750/- per week, from 1st September/1st February as the case may be, till the date of presentation of APS.

4. If the application for late presentation of the Annual Progress Seminar is made after the due date an additional fine of Rs.750/- will be charged for not applying for extension in time.

5. The report of the Annual Progress Seminar in a prescribed format should reach the Academic Office within four days after the presentation.

6. Delay beyond 30th September/28th February (as applicable) may lead to discontinuation/cancellation of Teaching Assistantship and/or Registration.

7. The assistantship for the period beyond the due date of renewal/ enhancement of Assistantship will be released only after receipt of satisfactory report subject to recovery of fine, if any.

8. All Research Scholars, irrespective of their basic qualifications should give Annual Progress Seminars after completion of one year of their date of joining. This is applicable to Research Scholars who have joined their Ph.D. Programme effective from July 2003. (Ref. 167th Meeting of the Senate).

9. **Ph.D. students who have been registered for five or more years in the Ph.D. programme are required to submit a properly complted application on the approval form, for extension of Ph.D. registration to the subsequent year in the Ph.D. programme. This application must be complted 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. A penalty of Rs. 750/- per week or part thereof, shall be imposed for any delay in completing this process, beyond this deadline. (Ref. 197th Senate Adjoured Meeting held on 27-01-2010)**

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

The above rules are also applicable to CSIR/UGC fellows. In case of CSIR/UGC Fellows, the date of their APS be fixed by considering requirements of funding agencies and such fixed schedule be followed strictly (179th Senate meeting).

R.8.3 :

a) Every external student shall carry out a part of study pertaining to his/her research work residing at the Institute for a period, which shall in no case be less than one semester.

b) **Residential requirement must be fulfilled in the first two semesters for students with B.Tech./M.Sc./M.A. or equivalent qualification** who have been advised to acquire 18 or more credits.

c) **Students with M.Tech./M.E. or equivalent qualification** who are advised to acquire between 16 to 22 credits have to fulfill the residential requirement **in the first semester only**.

d) Students sponsored by a local Organisation may, on the basis of an application recommended by DPGC/IDPC, be exempted from stay on the Institute campus while fulfilling the requirements under (a) above. However, the work under this rule shall be carried out during normal working hours of the Institute.

e) The organization has to certify that the student has been fully relieved of normal duties/ granted leave during the period of the residential requirement.

f) External students will be provided with hostel accommodation only during the semester(s) in which the residential requirement is fulfilled.

R.8.4 :
All students (except external students) have to carry out research in the Institute for at least a period of **two calendar years from the date registration** before submission of thesis. **External students have to carry out research for at least a period of three calendar years from the date of registration** before submission of thesis.

R.8.5 :

a) **For all categories of students, the period of validity of their Ph.D. registration is six years from the date of registration**. The students may submit their thesis before the end of this period subject to the provisions of R.8.4.

b) Research scholars/Staff who have completed their pre-synopsis seminar and examination may be permitted by PGAPEC, on recommendation of the DPGCs/IDPCs/PGCs, to leave the Institute and submit the synopsis and thesis together from outside within a period of four months from the date of

pre-synopsis provided they fulfill the provisions of all other rules. In case the student does not submit his/her synopsis & thesis together within four months from the date of presentation of pre-synopsis seminar, his/her registration will be deemed to be cancelled.

9. <u>Thesis Evaluation</u>

R.9.1(i) : Pre-synopsis Seminar and Examination

Prior to the submission of the synopsis and thesis, a comprehensive internal assessment of the research work should be made by a panel appointed by the DPGC/IDPC/PGC in consultation with the supervisor(s). The panel must comprise of atleast two faculty members <u>other than</u> the Supervisor(s). These would normally include RPC members.

a) This panel shall assess the work through a pre-synopsis seminar and report. The 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 shall be adequately notified so as to enable interested staff members and students to attend the same.

c) The Convener of the DPGC/IDPC/PGC shall forward the panel reports to the Academic Office in the format prescribed for Pre-synopsis Examinations.

R.9.1(ii) : Two Published papers

Prior to the submission of the synopsis and thesis, the following requirements have to be met by the student:

- At least <u>two papers</u> published/accepted for publication in refereed journals of repute
  OR
- At least <u>one paper</u> published/accepted for publication in a refered journal of repute and atleast <u>one paper</u> published/accepted for publication in the proceedings of an International Conference.

The concerned PGCs will be the authority to decide upon the quality of journal and standard of publications and its equivalence (Ref. 177th Meeting at the Senate held on 19th October 2005)(applicable to students joined in July 2005 and onwards).

R.9.2 : Submission of Synopsis and Thesis

R.9.2.1 The student shall submit 4 copies of the synopsis and 5-6 copies of the thesis to the DPGC/IDPC/PGC within a period of four months from the date of presentation of pre-synopsis seminar. **In case the Synopsis and Thesis are**

not submitted in the specified period, the student may be asked to present another pre-synopsis seminar.

R.9.2.2 The synopsis written in the approved format shall be submitted to the DPGC/IDPC/PGC, four copies of the synopsis will be submitted to the Academic Office with the certificates listed in point 9.2.3 below.

R.9.2.3
(a) Certificate from the Deputy Registrar (Academic) that the prescribed course credits are completed.
(b) Certificate from the Convener, DPGC/IDPC/PGC that the pre-synopsis seminar examination has been completed satisfactorily.
(c) Certificate from the 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 or any degree except to the extent of collaboration as specified in 9.23 c(iii) and (iii) the extent of collaboration, if any.

R.9.2.4 Postgraduate Committee (PGC) should take the concurrence of the Research Progress Committee (RPC) /panel for the pre-synopsis examination of the concerned Research Scholar before accepting the synopsis and forwarding it along with the panel of External Examiner. The RPC/panel for pre-synopsis examination should ensure that the literary presentation of the synopsis is of acceptable standard and the technical contents of the synopsis are representative of the contributious of the Ph.D. thesis being submitted.

R.9.2.5 Students should also submit an electronic copy of the synopsis in PDF format, which is to be mailed to dracad@iitb.ac.in

R.9.2.6 The thesis shall be written in the approved format fo Thesis. Guidelines for Thesis preparation may be collected from the Academic Office/downloaded from academic website.

R.9.2.7 The DPGC/IDPC/PGC in consultation with the Supervisor(s) shall recommend to the PGPC, a panel of 8 External Examiners (experts for thesis evaluation) as well as the names of the Chairperson (2 names) and Internal Examiner for the Ph.D. Viva-Voce.

R.9.2.8 Experts who have been thesis examiners during the preceding one or two years, should not normally be included in the panel.

R.9.2.9 The DPGC/IDPC/PGC should send the panel of examiners to the Academic office in closed CONFIDENTIAL cover at least eight days before the date of submission of synopsis and thesis by the student. (Ref. 171st Meeting of the Senate).

R.9.2.10 Along with the thesis, the student shall submit the requisite forms containing the authorization from the Research Supervisor(s) for submission of the thesis and a certificate from the Accounts Section and the Hostel that there are no dues against the student.

R.9.3: **Format for Synopsis and Thesis**

The length of the Synopsis shall be one thousand to four thousand words including tables and figures. The Synopsis should be typed on A-4 size papers in one and half space. Guidelines for preparation of the Synopsis and the Thesis may be collected from the Academic Office.

R.9.4:
A) **Selection of Examiners from the Panel of Examiners :**
   i) From the panel of external examiners duly approved by the PGPC, the Chairman, Senate or his nominee will chose **5** names. The synopsis of the thesis will initially be sent to first **three** examiners. The fourth and/ or fifth examiner are subsequently invited as alternatives, if one or more of the first three examiners indicated cannot be appointed. Two names will be suggested to serve as Chairman, Board of Examiners, for conducting the Viva-Voce, the supervisor being free to request either person. **(amended as resolved in 136^{th,} 181st and 190th meeting of the Senate).**

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OR

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   ii) **(204th Senate meeting   held on 11th May 2011)**
     a) The students who already have more than two quality publications in journals at the time of submission of the Ph.D. Thesis : On specific recommendation to that effect, by the Research Progress Committee (RPC)/ the Presynopsis Examination Committee of the particular Ph.D. Student, followed by due endorsement by the concerned Postgraduate Committee (PGC) of the Academic Unit (DPGC/ CPGC/ SPGC/ IDPC) the following   modification   of the mechanism of final evaluation   of   the   Ph.D.   Thesis   would   be permitted: The   Thesis   would   be   sent   for evaluation   to   two external   examiners from   among   a   panel   of   external   examiners recommended   by   the   concerned   PGC,   and   selected   by   the Chairman,   Senate   or   his nominee (currently the Dean, Academic Programmes). In addition, the concerned PGC would recommend a panel of possible examiners **from within the Institut**e, who could also evaluate the Ph.D. Thesis, just as an external examiner would. The Chairman, Senate or his nominee (currently the Dean, Academic Programmes) would select one examiner from among this panel as the third examiner of the Thesis. **Permission for the conduct of the Ph.D. Viva Voce Examination would be granted on receipt of two favourable reports from among the three examiners so appointed.**

b) An **external examiner,** from among the approved panel of examiners, w**ould always be required in the panel** for the Ph.D. Viva Voce Examination. In other words, it is did not permissible to substitute the external examiner in the Ph.D. Viva Voce Examination by an examiner from within the Institute. However, the external examiner could participate in the examination by means of **Video Conferencing in case he/she could not be physically present for whatever reason(s). The Chairperson of the Ph.D. Viva Voce Examination Panel would be required to certify the acceptance of the Thesis and successful conduct of the Ph.D. Viva Voce Examination on behalf of the external examiner, when the external examiner participated through Video Conferencing.**

c). In addition, the requirement of an **internal examine**r in the Ph.D. Viva Voce Examination Panel, who fulfilled the same role as was currently assigned to the internal examiner, would **continue to hold.**

d)The modified scheme in Point R.9.4.A) ii) a) above, is applicable **only for the case of students who already had an extraordinary record of publications as evaluated by the RPC/ Presynopsis Examination Committee and the PGC and with the specific recommendation of the RPC/ Presynopsis Examination Committee and the PGC.** The modification was meant to provide a strong incentive, for doing better than average work, leading to the Ph.D. Thesis. It is also emphasized that, as of the present, **only quality publications are to be treated as external markers which allow for such a special concession.**

e) The present **minimum requirement of publications/ publication equivalents would continue for submission of Ph.D. Theses.**

f). If the modified scheme described in Point R.9.4.A) ii) a) **is not applied, then the scheme described in R.9.4. A l) of sending the Thesis to three external examiners and conducting the Ph.D. Viva Voce Examination on receipt of two favourable reports from external examiners and the concurrence of the internal examiner + supervisor, would continue as per current practice and procedure.**

B) The referees shall independently report to the Senate through the Registrar of the Institute, preferably within six weeks from the date of their receipt of the thesis. The Registrar should convey to the referees that their reports should include:

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) The Internal Examiner of the Ph.D. thesis will be a faculty member of the Institute, who is a member of the RPC of the concerned student.

> **It is recommended that the panel of examiners for thesis evaluation shall contain at least two experts from reputed Institutions outside the country.** (Ref. 136th Senate Meeting held on 27.11.1996)

D) If a referee in his/her report is not in a position to make a definite recommendation for the award of the degree, he should be requested to assist the Senate in deciding whether the student is required to :

i) Make substantial revisions involving rewriting of one or more chapters without, however, doing any further research work.

ii) Completely rewrite the Thesis, if the thesis, though not acceptable in the present form, reveals sufficient quality and quantity of work to warrant the student being given an opportunity for further research work and/or reinterpretation of results.

R.9.5:
a) The copies of the referee's report will be made available to the supervisor/co-supervisor and the internal examiner. They may submit their report for consideration and approval by the PGAPEC ensuring that all the corrections including minor modifications, revision suggested by the external referees have been/will be incorporated. They may also recommend whether the presence of an external examiner is required during the Ph.D. defence. (amended as resolved in 136th Senate meeting held on 27.11.1996)

b) On the basis of the referee's reports, the comments of the Supervisor(s) and Internal examiner(s) thereon, the PGAPEC shall, recommend to the Chairman, Senate whether the thesis be accepted for the viva-voce examination or be rejected or be referred again to a new referee.

c) A thesis may be considered acceptable for holding the viva-voce examination if at least two of the three referees give a positive recommendation. In case two or all three referees give an unfavourable report, the PGAPEC shall look at the case to decide further action.

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

R.9.6:
a) If the referee(s) recommend acceptance of the thesis subject to major modifications only, the thesis can be resubmitted only once after incorporating the modifications, within a period of three months. However, the permissible period of three months is extendable on case-to-case basis for a maximum period of six months.

b) A thesis rejected by two or three referees may be resubmitted after revision, not earlier than one year and not later than two years from the date of such intimation to the student by the PGAPEC. The thesis so resubmitted may be examined by the same referees or by new referees.

c) Rejection of the thesis so resubmitted will disqualify the student from further consideration for the award of the Ph.D. degree, in the topic of research chosen by him.

R.9.7:
a) A student, whose thesis has been accepted for the award of the Ph.D. degree, shall be required to defend his/her work at an open viva-voce examination conducted by a Board of Examiners at the Institute.

b) **The Board of Examiners shall be appointed by the Chairman, Senate and it shall consist of:**
　　i) A professor of the Institute, outside the department as Chairman;
　　ii) The research supervisor(s);
　　iii) A faculty member of the Institute conversant with the subject to act as an internal examiner; and
　　iv) One of the referees, failing which an examiner from the approved panel.

c) The Board of Examiners shall submit its report in the prescribed form to the Senate.

R.9.8:
a) On satisfactory completion of the viva-voce examination, the degree may be conferred upon the student after approval by the Senate.

b) If a thesis has been accepted but the student fails at the viva-voce examination, he/she may be permitted by the Senate Chairman to re-appear for viva-voce examination again at a later date. The recommendations of the Board of Examiners conducting the viva-voce examination shall be considered in taking a decision in this respect.

c) After successful completion of the viva-voce examination, the student shall submit to the Academic Office the first and second copies of his/her approved thesis, duly bound, together with the application for submission of the same in the prescribed format (R.9.3.a).

10. <u>Teaching Assistantship</u>

R.10.1:
The Institute research scholars will be paid scholarship at a rate in accordance with the directives from the appropriate authorities.

R.10.2:
Institute research scholars are eligible to receive Assistantship for a maximum period of four/five years according to their qualifying degree, as communicated by the MHRD.

R.10.3
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 Convener, DPGC through their respective supervisor(s). A special committee either for each research scholar or for a group of them as may be found convenient, consisting of three or four members, including the Supervisor(s) shall be constituted by the DPGC/IDPC/PGC for this purpose. Each research scholar concerned shall give a seminar before this committee which will assess the candidates' work, progress and make suitable recommendations. The recommendations of the committee along with the application for enhancement of scholarship of the research scholar should be forwarded by the DPGC/IDPC/PGC (comments, if any) to the PGAPEC within two weeks after completion of two years.

b) Subject to satisfactory assessment, the candidates will be eligible for enhanced Assistantship from 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 that three months, for the candidate to re-appear before the committee for the consideration of enhanced Assistantship.

d) **Continuation of Teaching Assistantship until the period of entitlement.** (191st Senate 24-12-2008)

The Research Scholars with Teaching Assistantship/ Fellowship/ Financial Support routed through the Institute who submit their thesis before the stipulated period of 4/5 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**.

R.10.4 : Award of Teaching Assistantship to Ph.D. students with B.Tech. from IITs without GATE requirements. (192nd Senate meeting)

Teaching Assistantship will be awarded to the Ph.D students 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.

11. LEAVE RULES

R.11.1
All Research Scholars under TA/RA/SF 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. The leave due can be carried over to the next year and accumulated **upto 90 days**.

R.11.2
Women Scholars are entitled for **maternity leave** at the full rate for a period of not exceeding 180 days, once during the tenure of their studentship. This should be supported by a medical certificate.

R.11.3
Male Scholars are entitled for 15 days **paternity leave** once during the tenure of their award. This should be supported by a medical certificate.
The Head of Department/ Academic unit/ Convener of the Interdisciplinary Programme is authorized to sanction the above leave.

R.11.4
No vacation in Summer/Winter is admissible.

R.11.5 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.11.6 Research Scholars under CSIR/UGC and other categories are governed by the rules of the bodies which provide financial support.

R.11.7 M.Sc. +Ph.D. (Dual Degree) Leave rules
i) Leave rules as applicable for 2 year M.Tech. programme (note : not two year M.Sc. Programme) be followed for such students until the point of confirmation of Ph.D. Registration – typically at the end of the fifth semester of the Dual Degree programme.

ii) Ph.D. Leave rules be followed after the point of Confirmation of Ph.D. Registration.

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