

INSTITUTE OF INFRASTRUCTURE TECHNOLOGY RESEARCH AND MANAGEMENT- AHMEDABAD

Ph. D. NORMS



CONTENT SHEET

1		Introduction	4
2		Admission	4
	2.1	Academic Session	4
	2.2	Ph. D. Program	5
	2.3	Eligibility for Admission	5
	2.4	Duration of the Program	6
3		Admission Procedure	7
4		Admission Category	7
	4.1	Registration	12
	4.1.1	Semester wise registration	12
	4.2	Dropping of Semester	12
	4.3	Exit from Ph. D. Program	13
5		Programmes of Study	13
	5.1	Curriculum	14
	5.2	Course Credit Structure	14
	5.3	Modes of evaluation for theory courses	14
	5.4	Credit requirements	15
	5.5	Research Progress	15
6		Thesis Submission	16
	6.1	Panel of Examiners	17
	6.2	Thesis Submission Guidelines	17
	6.3	Thesis Evaluation	17
	6.4	Oral Defence	18
7		Attendance and Leaves	20
	7.1	Attendance	20
	7.2	Leaves	20
	7.2.1	Medical Leave	20
	7.2.2	Medical Certificate	21
	7.2.3	Semester / Summer Term Leave	21
	7.2.4	Absence without Sanctioned Leave	21
8		Permission to Proceed for Academic Activities like field work	21

9		Grading	22
	9.1	Grades	22
	9.2	Description of grades	22
	9.3	SPI and CPI	23
	9.3.1	Semester Performance Index (SPI)	23
	9.3.2	Cumulative Performance Index (CPI)	24
	9.4	Grade Norms	25
10		Continuation and Termination of Programme	26
11		Plagiarism Policy	27
12		Change, Modification and Applicability of Academic Policies	27

Abbreviations:

DOAP – Dean of Academic Programmes

ADOAP – Associate Dean of Academic Programmes

DOSA – Dean of Student Affairs

ADOSA – Associate Dean of Student Affairs

PPAC – Program and Performance Appraisal Committee

DPPAC – Department Program and Performance Appraisal Committee

1. Introduction

IITRAM offers a semester based undergraduate, postgraduate and research programs with the following objectives:

- i. to provide a system of technical education capable of responding to change requirements of Technical Manpower
- ii. to bring about qualitative improvement in teaching and learning process
- iii. to inculcate the practice of creating instructional experiences which make the acquisition of knowledge and skill more efficient and effective
- iv. to facilitate and promote studies leading to award of degrees, diploma and certificates
- v. to organize advance studies and promote research with a focus on basic and Applied Sciences, Engineering, Technology and Management
- vi. to achieve excellence in Science, Engineering, Technology, Management and allied areas and matters connected therewith or incidental thereto
- vii. to provide necessary help to encourage entrepreneurship amongst students
- viii. to maintain live contact with Alumni and develop Alumni sponsored programmes
- ix. to promote research, teaching methodology, application of scientific knowledge in the field of infrastructure
- x. to help foster bond between research and academic institutions and infrastructural development agencies for better planning, management, execution, maintenance and standards of infrastructure

2. Admission

2.1 Academic Session

An academic year starts in the month of August each calendar year and ends in the month of July of the next calendar year. Each academic year is divided into three semesters – Autumn, Spring and Summer semesters. The Autumn and Spring semesters are two regular semesters while the Summer semester is a shorter semester. IITRAM currently offers admission to Ph. D. programs in all disciplines in the Autumn Semester and the Spring Semester. The schedule of admission of each semester to various programme in the Institute is notified by Dean / Associate Dean of Academic Programmes.

2.2 Ph. D. Program

Currently, the Doctorate (Ph. D.) program is offered in the following disciplines:

- i) Basic Sciences
(Chemistry, Mathematics, Physics)
- ii) Civil Engineering
- iii) Computer Science Engineering
- iv) Electrical Engineering
- v) Humanities and Social Sciences (HSS)
(English, Economics, Sociology)
- vi) Mechanical Engineering
- vii) Aero-Space Engineering

2.3 Eligibility for Admission

Candidate shall possess the following in appropriate subject areas:

i) **Engineering / Technology:**

Master's degree in relevant subject of Engineering / Technology with First Class* (55%** marks for SC/ST) and Bachelor's degree in relevant subjects of Engineering / Technology with First Class* (55%** marks for SC/ST).

ii) **Basic Sciences:**

Master's degree in relevant subjects of Science / Engineering with First class* (55%** marks for SC/ST) and Bachelor's degree in relevant subjects of Science / Engineering with First class* (55%** marks for SC/ST).

iii) **Humanities and Social Sciences:**

Master's degree in relevant subjects of Arts / Commerce / Science / Engineering / Technology or equivalent degree with 55%** marks for general category (50%*** for SC/ST) and Bachelor's degree in relevant subjects of Arts / Commerce / Science / Engineering / Technology with First class* (55%** marks for SC/ST).

OR

Post graduate Diploma of 2 years duration in relevant subjects with 55%** (50%*** for SC/ST) and Bachelor's degree in relevant subjects of Arts / Commerce / Science / Engineering / Technology with First class* (55%** marks for SC/ST).

Note: *For deciding First Class, the student must fulfil one of the following conditions:

1. A degree of university mentioning first class.
2. A minimum of 60% marks in final year.
3. A minimum of 60% aggregate of all years or as specified by the university.
4. A CPI of 6 (out of 10) or proportional requirements when scales are other than 10.

For deciding 55%** / 50%***, the student must fulfill one of the following condition:

1. A minimum of 55% / 50% in final year.
2. A minimum of 55% / 50% aggregate of all years or as specified by the university.
3. A CPI of 5.5 (out of 10) / 5 (out of 10) or proportional requirements when scales are other than 10.

For candidates satisfying minimum eligibility criteria, following additional credentials (as applicable) are desirable:

- Any Research Fellowship from UGC-NET (including JRF) / UGC - CSIR NET (including JRF) / SLET / GATE / teacher fellowship holder or have passed M. Phil programme.

2.4 Duration of the Program

- Ph. D. programme shall be for a minimum duration of **three** years, including course work and maximum of **six** years.
- The women candidates and persons with disabilities (more than 40% disability) may be allowed a relaxation of two years in the Ph. D. maximum duration. In addition, the women candidates may be provided Maternity Leave / Child Care Leave once in the entire duration of Ph. D. up to 240 days.

3. Admission Procedure

Admission to the Ph.D. Programme of the Institute normally takes place in Autumn Semester and Spring Semester during an academic year. Notification is issued on institute website and through advertisement in national newspaper and regional newspaper. Admission to all categories of students is granted on the basis of written Test and/or Interview. Detailed procedure will be uploaded on the institute's website along with notification.

Prospective candidates satisfying the eligibility criteria are advised to acquaint themselves with the research areas / topics of the faculty members of the Institute for suitable match of interest before applying.

4. Admission Category

The Institute admits Ph.D. candidates under the following categories:

- (I) Full-time (Regular)
- (II) Part-time Scholar

(I) Full-time (Regular) Ph.D. Programme

A student in this category works full-time for his/her PhD degree. Under this category, admissions can be offered in one of the following sub categories as:

(1) Sponsored Candidate (SP):

College teacher / Polytechnic teacher/ Employees of Government Organization / Employees of Public Sector Units are eligible to apply for this sub-category under the full-time Ph.D. programme. Candidates need to be sponsored by their employers for doing research work in the Institute. They are expected to be released for fulltime course work and research at the Institute for a minimum period of three years. This category also includes the candidates who are released from Government organizations or educational institutions on study leave for a period not less than three years for doing research work at IITRAM. They will not receive any financial support from IITRAM. Sponsorship letter should be submitted at the time of interview.

(2) Self-Financed Candidate (SF)

Any candidate fulfilling the eligibility criteria for Ph.D. admissions can apply as Self-Financed candidate. These candidates have to complete their programme within the prescribed time without any financial support from IITRAM.

(3) Fellowship Awardee (FA)

Candidates under this category are necessarily financially supported under various Govt. / Semi Govt. schemes (QIP, CSIR, UGC, DAE, DST, DBT, NBHM, SHODH, etc.) and some other organizations (as per the norms of those organizations). They will not receive any financial support from IITRAM.

(4) Teaching Assistantship (TA)

Students under this category receive financial support from IITRAM as below:

- To get Teaching Assistantship, the students concerned must assist in teaching or research, as assigned by the respective Academic Unit to the extent of 8 hours of work per week.
- The assistantship is payable for a maximum duration of 3 years or up to the thesis submission, whichever is earlier.
- The continuation of the assistantship will be subject to satisfactory performance of the duty assigned by the Academic Units as well as satisfactory academic performance.
- Employees on the rolls (with pay) of any organization are not eligible for admission under this category.

The employees of any organizations receiving salary/pay from parent organization are not eligible for admission under TA category. Such candidates can be considered under SW/SF category, if found suitable.

Admitted Ph.D. students getting assistantships from the Institute are encouraged to join the projects submitted by the Institute and sponsored by external agencies and to obtain the corresponding fellowships in lieu of TA ship.

(5) Research Assistantship through Project (RAP)

Research fellow appointed in the sanctioned projects from various Government agencies, can apply to Ph. D. program of the institute after following the due procedure under this category. The remaining duration of the project at the time of admission should be at least one year. The candidates under this category are eligible for Research Assistantship from the sanctioned project fund based on the following norms:

- For students with M.Tech./M.E. or equivalent degree as the qualifying degree, the assistantship is payable only during the project duration. The monthly assistantship will be as per the project norms.
- Research Assistants have to work for their research project about 20 hours a week. Apart from this they are required to perform academic duties as per the prevailing norms of the institute.
- The continuation of the assistantship will be subject to satisfactory performance of the duties assigned by the Academic Units as well as satisfactory academic performance.
- Employees on the rolls (with pay) of any organization are not eligible for admission under this category.
- If the project gets completed before the student completes his/her PhD programme, his/her category will be converted to that of SELF FINANCED unless he/she is granted an assistantship/fellowship from the Institute or any other agency.
- In case P.I. wishes to leave the institute, the institute can assign a Co-P.I. in consultation with the funding agency. In such a case, the P.I. has to transfer the funds for assistantship to the institute from his grant during the duration of the grant. He/she should be available for any consultation regarding the academic progress of the scholar.

(II) Part-Time Ph.D. Programme

Students under this category are professionally employed persons, including the staff of IITRAM and faculties of other institutes, who perceives the Ph.D. programme; while continuing the duties of his/her services, in the parent organization.

Under the Part-time Scholar categories, the admissions can be offered in one of the following sub categories as:

- (1) College Teacher (CT)
- (2) Institute Staff of IITRAM
- (3) External (EX)

(1) College Teacher (CT)

Faculty members working in recognized academic institutions can apply under the Part-Time Ph.D. programme.

- The competence of these candidates will be assessed along with the regular candidates.
- Place for research will be treated as IITRAM even though candidates may be carrying out part of the work at their original Institute.
- NO OBJECTION CERTIFICATE (NOC) from the employer must be submitted, giving an undertaking that the candidate would be relieved from the normal duties to fulfill the coursework requirements (and comprehensive examination, if applicable), along with the application.
- The candidates selected under this category shall not be entitled for any financial support from IITRAM.
- The Candidates are required to fulfill the coursework requirement (and comprehensive examination, if applicable) of the Ph.D. Programme which is likely to be for a minimum of one semester.
- After fulfilling the mandatory requirement of course work, these candidates will be allowed to register for Ph.D. with a Supervisor from the Institute. Appointment of external co-supervisor is optional based on recommendations of the supervisor and academic review committee's recommendation and acceptance of external supervisor by the Academic Council.

(2) Institute Staff at IITRAM (IS)

- This category is for the persons employed as Institute Staff at IITRAM & fulfilling the minimum eligibility criteria for Ph.D. admissions.
- The candidate should have been employed as Institute Staff for at least 2 years for full time (before the starting of the semester in which admission is sought).

- The concerned academic unit will shortlist the eligible candidates. Admission will be on the basis of written test and interview as applicable to the regular Ph. D. programme.
- If selected, the permanency or otherwise of the candidate will not come in the way of admission process.
- If an employee admitted under this category stops serving as Institute Staff while pursuing the degree, then he/she cannot continue under this category but may be considered under the self-financed (SF) category, in regular Ph. D. programme.
- The shortlisted candidates are required to produce a letter of recommendation from the Head of the Department / Coordinator at the time of interview.

(3) External (EX)

The candidates employed in recognized R&D organizations and desirous of pursuing Ph.D. programme while in employment may apply for admission as external candidates. After fulfilling the residential requirement and completing the course work at the Institute, these candidates will be allowed to register for Ph.D. with a Supervisor (internal) from the Institute and a Co-supervisor (external) from their parent organization where they will be doing the research work. The admissions are based on the following norms:

- The competence of these candidates will be assessed along with the regular candidates.
- The candidate should submit at the time of test/interview the Sponsorship Certificate from the organization in which he / she is employed giving an undertaking that the candidate would be released from the normal duties to fulfill the residential requirement for the coursework (and qualifier examination, if applicable). The certificate should also provide details of facilities relevant to the research programme and available to the candidate.
- The candidate is required to be at the Institute as a fulltime student for the coursework (and qualifier examination, if applicable) of his/her Ph.D. Programme. The minimum residential requirement is of one semester duration for students with M.Tech./M.E. and two semesters for M.Sc./M.Com. or equivalent degree. Depending on the student's background and the programme requirements, an additional semester may be needed to complete the coursework/qualifier examination.

- To promote interaction between the internal supervisor and external co-supervisor, meeting between them should be arranged at least twice in a year in the Institute or in the sponsoring organization.
- The Ph.D. registration of an external candidate would be reviewed at the end of each semester from the date of registration in terms of his progress in courses / seminars / approved research programme by a Research Progress Committee (RPC).
- The option of external registration is for applicants who are working in well-equipped scientific institutions, laboratories, R&D establishments and industrial organizations engaged in research based activities. Persons working in colleges/universities are not eligible under this category (they may apply under CT).
- At the time of joining the programme, the students will have to produce a certificate from his / her employer that he / she has been fully relieved from normal duties during the semester(s) to complete the course work and other academic work at IITRAM.

4.1 Registration

All Ph.D. admissions are provisional until the Confirmation of Registration is completed. This confirmation takes place after six months to a year after admission, and only if academic performance criterion set by the institute is met.

4.1.1 Semester wise registration

Students should register for prescribed courses / thesis work at the beginning of each semester. Without registration, any academic activity undergone by a student will not be counted towards the requirements of his/her degree.

4.2 Dropping of semester

A student can be allowed to drop an entire semester with prior approval of Department Program and Performance Appraisal Committee (DPPAC) in the following cases:

- a) During a semester, if a student finds that he/she is unable to cope with the studies and/or does not have sufficient exposure to most of the courses registered in that semester due to severe health problem(s) or some other valid reasons beyond his/her control, he/she can opt to drop the entire semester on advice from the Faculty Advisor and with the recommendation from Convener, DPPAC. All these cases must be

approved by the PPAC. In case of severe health problems, medical certificate(s) issued by designated Medical Officer of IITRAM is essential. If the medical certificate issued by other hospitals, and/or private practitioners, the certificate should be duly authenticated by the Medical Officer at IITRAM.

- b) If a student wants to work in an industry with the aim to gain valuable work experience, he/she may opt for dropping a semester.
- c) A student will not be permitted to drop a semester after the award of XX grade in end semester examination.
- d) If a student drops the semester after the date of late registration, fees paid for that semester will not be refunded or adjusted in subsequent semesters. However, if a student drops the semester before the date of late registration, he/she has to pay the semester continuation fee for that semester. Semester continuation fee is equal to the 20% of the total stipulated fee, which is prescribed from time to time by institute.
- e) Such break from studies is normally not permitted for a continuous period in excess of one year.
- f) Hostel accommodation and other institutional facilities will not be extended in any semester for which the student has not registered.

4.3 Exit from Ph.D. Programme

A Ph. D. student may withdraw anytime from her/his academic programme, provided s/he makes a written request to this effect, and her/his request is endorsed by DPPAC and approved by PPAC. A letter of withdrawal will be issued by the Head /Co-ordinator of the Department of the student.

5. Programmes of Study

The Ph. D. programme consists of courses in relevant disciplines of their specialization and the research work. These courses are from two broad categories. The first category consists of a one or more General courses, giving exposure of Research Methodology in General and other allied areas. In the Second category, students are exposed to the subjects in their chosen specialization (or field) of study.

After successful completion of the requisite course work, student need to focus on the research work in the chosen field under guidance of the supervisor.

5.1 Curriculum

Every department has prescribed course structure for its Ph.D. program. It prescribes all the courses, laboratories, and other requirements for the degree. It also decides the progression of courses, gives the syllabus and list of text/reference books for each course.

5.2 Course credit structure

For acquiring a particular degree, the student is required to put in a certain quantum of academic work which will be measured in terms of credits. A student earns credits by successfully completing courses and other academic requirements every semester. The amount of credit associated with the course is dependent upon the number of hours of instruction per week in that course. Similarly, the credit associated with any of other activities is dependent upon the quantum of work expected to be put in.

- (1) Theory and Laboratory courses: Courses are broadly classified as Theory courses and Laboratory courses. A theory course consists of Lectures (L), and tutorial (T) hours. Practical (P) hours may be there in special cases. Laboratory courses consist of practical hours and may have tutorial hours in special cases. Credit (C) for a course is dependent on the number of hours of instructions per week in that course.
- (2) Credit Seminar: Credit Seminar is a 2 credit course wherein under the guidance of a faculty member, the student is expected to do an in-depth study in a specialized area. There will be a seminar presentation by the student, before a panel constituted for the purpose by the department. The panel will evaluate the performance of a student at the end of first semester (semester in which admission is sought).

5.3 Modes of evaluation for theory courses

Various modes of assessment are used for rating student performance in theory course. These include quizzes, class tests, home assignments, group assignments, term project, viva-voce, mid semester and end semester examinations. Instructor may offer take home test or open book test. Relative weightage for in-semester evaluation is typically between 50-60%. This will consist of one mid semester test of minimum two hours duration of about 25-30%

weightage to be held as per schedule fixed in the Academic Calendar. Two quizzes (or one quiz and one test), home assignments, group assignments, term project(s), viva-voce shall make up the rest of the assessment. The instructor may set aside a maximum 10% of the in semester marks for active participation in class and the initiatives shown by the student. Make-up for absence from any in-semester evaluations like mid-semester/tests/quizzes will be at the discretion of the instructor with following the due procedure.

The end semester examination will be held as per the schedule fixed in the Academic Calendar and the relative weightage will be 40-50%. It is normally of three hours duration and will cover the full syllabus of the course but not necessarily close book only. The end semester examination is mandatory. The instructor awards an XX grade for those students not appearing in the end semester examination if they have sufficient attendance and satisfactory in-semester performance. Students are eligible for an end semester re-examination only on medical grounds authenticated by designated Medical Officer at IITRAM.

5.4 Credit requirements

Sr. No.	Particulars	Credit requirement
1	Research Scholar admitted to Engineering/ Technology Departments	Minimum 14 credits
2	Research Scholar admitted to Basic Sciences/ Humanities and Social Sciences Departments	Minimum 16 credits

- All research scholars in Engineering, Basic Sciences & Humanities and Social Sciences have to earn minimum 6 credits from core theory subjects.
- Minimum one semester course work at IITRAM is mandatory in the first year of admission.

5.5 Research Progress

Research progress of the student is continuously monitored through the research progress review. The research scholar shall appear before the Research Progress Committee (RPC) once in **six** months to make a presentation of the progress of his/her work for evaluation

and further guidance. The six monthly progress reports shall be submitted by the Research Progress Committee to the Institute with a copy to the research scholar.

6. Thesis Submission

a. When the supervisor is of the opinion that the research work as planned has been completed and the quality of work is up to the mark for submission of Ph.D., he/she will ask the research candidate to prepare a draft copy of the synopsis and submit to the Chairman, RPC with the request to convene the meeting of RPC for open colloquium / synopsis presentation.

b. The research candidate will present **Open Colloquium (Pre-synopsis)** presentation seminar on his research work and it shall be adequately notified by the Chairman RPC, so as to enable interested faculty members and students to attend it.

c. The candidate shall submit requisite number of soft bound copies and one soft copy of the synopsis to the RPC during synopsis presentation.

d. If the RPC is satisfied about the quality of the work and considers it fit for submission as a Ph.D. thesis, it will send its recommendation to competent authority along with two soft bound copies and two soft copy of the synopsis.

e. At the time of delivery of seminar for synopsis, student has to present the rough draft of the thesis to the RPC.

f. The research candidate is expected to publish at least two research papers or accepted for publication in refereed journal of repute (preferably journals included in SCI).

The research candidate shall be required to submit his thesis within 3 months of RPC recommendation for submission of thesis. However, in case a candidate fails to submit his thesis within the stipulated time and has suitable justification for the same, the RPC grant an extension in time.

6.1 Panel of Examiners

A panel of at least ten experts in the area of the Ph.D. thesis would be suggested by the supervisor(s) while forwarding the recommendation of RPC for submission of thesis. Any person working in the laboratory(ies)/ Institution(s) where the research candidate or supervisor(s) from outside the institution, if any, is employed, cannot, however, appear in the panel of examiners. Any person related to the candidate or supervisor(s) should not appear in the panel of examiners.

6.2 Thesis Submission Guidelines

(i) The thesis shall contain a critical account of the candidates research. It should be characterized by discovery of facts or fresh approach towards interpretation of facts and theories or significant contribution to knowledge or development of innovative products and technologies or a combination of these. It should bear evidence of the candidates capacity for analysis and judgment as well as his ability to carry out independent investigation, design or development.

(ii) The research candidate shall submit initially n+3 copies of the thesis in a spiral bound form with a soft cover, where n is the number of supervisor(s), One copy each is for office record and, for external examiners.

(iii) The candidates declaration page will have signature of only the student. The format of the declaration will be as decided by the academic section from time to time.

(iv) The candidate will have to fill proforma as decided by the academic section, for the submission of thesis.

6.3 Thesis Evaluation

1. The thesis will be sent to the examiners by the office of the Director / DG with the request for a detailed assessment report and his/her recommendations on the prescribed proforma as soon as possible in two month's time.

2. Examiners will examine the thesis individually with a view to judge that the thesis is a piece of research work characterized by;

(i) The discovery of facts, or

(ii) A fresh approach towards interpretation and application of facts or theories, or

(iii) Development of innovative products and technologies

3. Each examiner will send detailed comments on the research work along with a clear recommendation stating one of the following:

(i) The thesis is recommended for the award of Ph.D.

or

(ii) The thesis is recommended for the award of Ph.D. Degree subject to the candidate giving satisfactory answers to queries specifically mentioned in the report at the time of oral defence

or

(iii) The thesis is recommended for the award of Ph.D. degree, subject to the minor revision as suggested by the examiner,(Thesis with for minor revision need not be shown to the examiner)

or

(iv) The thesis is recommended for the award of Ph.D. Degree subject to the revision and resubmission of the thesis by the candidate as suggested by the examiner. In addition, the candidate also answers satisfactorily to the queries specifically mentioned in the examiner's report at the time of oral defence,

or

(v) The thesis be rejected.

6.4 Oral Defence

1. If the thesis is recommended for the award of degree, the candidate shall be required to defend his / her work / thesis orally (Oral Defence) before a duly constituted committee hereinafter referred to as the Oral Defence Committee (ODC). The Director / DG shall request the thesis supervisor and Chairman ODC to arrange for the conduct of oral thesis defence. The copies of the report of the thesis examiners shall be sent to the supervisor with the request to provide these to the candidate so that he/she may prepare to answer

the queries raised in the report during oral defence. The oral thesis defence shall be adequately notified so as to enable interested staff members and students to attend it.

2. (i) The ODC shall be with the following constitution:
 - Chairman (outside the Department)
 - External Examiner
 - Internal Examiner: R.P.C. Member
 - Internal Examiner: Faculty from outside department
 - Internal Examiner: Thesis Supervisor(s)

The oral defence of the thesis of the candidate shall be arranged as early as possible and normally within one month from the date of receipt of communication from Director / DG for holding the viva-voce examination.

(ii) The Director / DG will decide that which examiner should be included in the panel for ODC.

3. After successful completion of oral defence, the Oral Defence Committee shall provide to the research candidate a list of all corrections and modifications in the thesis (if required) including suggestions made by the examiners during the thesis evaluation.
4. After the successful completion of oral defence, the candidate is required to make all the changes suggested during the oral defence by the examiners or members of oral defence committee and submit revised soft and hard copies to Director / DG after duly certified by the supervisor(s).
5. On the completion of the oral defence, the Oral Defence Committee shall recommend to the Director / DG, one of the following courses of action:
 - (i) that the degree be awarded; or
 - (ii) that the research candidate be re-examined at a later specified time in a specified manner;
6. Based on the final completion report of oral defence as well as submission of hard copies of the thesis, Provisional Degree certificate will be issued after completion of other formalities as prescribed by the Academic Section / Student Section.

7. Attendance and Leaves

7.1 Attendance

Attendance in the class is compulsory and is monitored. For every student, the institute expects full attendance during every semester of degree programme. However, due to minor illness and other reasons, absence upto 15% is considered on case to case basis. A student not having 85% attendance in a course will not be allowed to appear in the end semester examination and XX grade will be awarded in this case. The student is required to register for the same course in subsequent semesters.

7.2 Leaves

Ph. D. students shall be required to take due approval for appropriate leave of absence prior to leaving from the campus.

- (i) Ph. D. students shall be permitted vacation leave of up to 30 days in an academic year. They shall be permitted to suffix or prefix Institute holidays to such vacation leave.
- (ii) No student shall be allowed more than 9 days of absence from the Institute (including prefix or suffix of the Institute holidays).
- (iii) Ph. D. students shall also be permitted casual leaves of up to 12 days during the year with the permission to suffix Institute holidays to such leaves.
- (iv) A female student shall be granted maternity leave as per the government rules.
- (v) Absence without sanctioned leave may result in the termination of the student's program.
- (vi) Absence without sanctioned leave may also entail loss of financial assistantship/scholarship as applicable for the period of absence.

7.2.1 Medical Leave

Ph. D. students may avail maximum of 8 days per semester and 4 days during the summer term leave on medical ground, duly supported by a medical certificate. Leave not availed may be carried over to the next semester/summer term. However, at a stretch, the medical leave shall not exceed 15 days during a semester and 8 days during the summer term. Such leave shall not entail any loss of financial assistantship.

7.2.2 Medical Certificate

If a student falls ill while on the IITRAM campus, the medical certificate must be obtained from the Institute's medical officer. If s/he falls ill outside the campus while on sanctioned leave, the medical certificate must be obtained from a registered medical practitioner.

If a registered student is absent on sanctioned leave for a period of 4 weeks or more during a semester or one week or more during the summer term at a stretch, Institute PPAC may decide to convert the leave to a semester/term leave, or reduce the thesis credits (in blocks of 4 credits) appropriately, in case the student is registered only for thesis credits.

7.2.3 Semester/Summer Term Leave

Ph. D. students may be sanctioned leave for up to a maximum of two semesters and a summer term for valid reasons, provided the student has completed her/his minimum total credit requirements and has spent two semesters and a summer term in the programme. However, on medical considerations such leave may be sanctioned after her/his stay of one semester. Leave for more than one semester/term at a time will not be granted.

7.2.4 Absence without Sanctioned Leave

Absence without sanctioned leave will entail loss of financial assistantship for the period of absence, and may result in the termination of the student's programme on the recommendation of the DPPAC and approval of DOAP/ADOAP.

8. Permission to Proceed for Academic Activities like fieldwork

The Ph. D. students can be permitted to proceed for academic activities outside IITRAM to carry out field work, library work, computational work, experimental work, and laboratory works, and also to attend conference, courses and to undertake other research work etc. as recommended by the department. Permission for a duration up to 30 days may be sanctioned by the department with an intimation to DOAP / ADOAP and more than 30 days by the Chairperson- PPAC on the recommendation of the Department.

9. Grading

9.1 Grades

For every course taken by a student, he/she is assigned a grade based on his/her combined performance over a semester in all the assessments in that course. These grades are described by the symbols AA, AB, BB, BC, CC, CD, DD, FR, XX, PP, and NP. Each of these indicates a qualitative assessment of the students' performance and also carries the quantitative (numeric equivalent) called the grade point on the scale of 10 as per Table 1.

Table 1: Grade Points

Letter Grade	Grade Point	Remarks
AP	10	Academic Excellence
AA	10	Outstanding
AB	9	Excellent
BB	8	Very good
BC	7	Good
CC	6	Average
CD	5	Below average
DD	4	Marginal; Minimum passing grade
EE	0	Poor, to repeat /re- appear in exam.
FR	0	Need improvement- Repeat the course
XX	0	Fail due to lack of attendance
PP	Pass	Do not carry any grade point
NP	Not Pass	Repeat the course or activity
II	--	Incomplete (due to illness)

PP grade is not used for the calculation of CPI/SPI.

9.2 Description of grades

AP – Grade for Academic excellence: AP grade can be awarded to less than or equal to 2% (or 1 in a course of student strength less than 50) of student strength with a Grade Point of 10 with a line of justification from a faculty member.

AA grade is awarded to students for outstanding achievement. Individual course coordinators may set a criterion for awarding an 'AA' grade. DD grade stands for marginal performance; i.e. it is the minimum passing grade in any course and the percentage requirements may be set different for different courses. Other grades vary between 'AA' and 'DD' as described above.

EE – Grade for Students who failed to meet the passing requirements by less than or equal to 10% of passing marks. EE – Grade can be awarded to students who failed to meet the passing requirements by less than or equal to 10% of passing marks, but have satisfactory performance in the semester. They would be allowed to appear for a make-up examination as described earlier. Such students can be offered a maximum of a 'DD' grade on clearing the course.

II – Grade to support candidates who missed the exams due to illness. II Grade can be awarded when a student does not appear for the final examination but has satisfactory performance in the semester. In such a case the student can appear for the make-up examination as described earlier, provided he/she produces a medical certificate from the institute doctor or a proof of emergency. In such case, there would not be any upper cap of grade for that course. An 'II' grade must, however, be converted by the Instructor-in-charge into an appropriate letter grade and communicated to the undergraduate office by the last date specified in the Academic Calendar. Any outstanding 'II' after this date shall be converted automatically into an FR grade. In the case of project courses 'II' may not be awarded for mere non-completion of the project due to lack of facility etc.

9.3 SPI and CPI

In order to graduate, a student must clear all courses as per the respective programme curriculum, satisfying the minimum credit requirement in each course category.

9.3.1 Semester Performance Index (SPI)

The performance of a student in a semester is indicated by a number called Semester Performance Index, SPI. SPI is the weighted average of the grade points obtained in all the courses registered by the student during the semester. For example, if a student passes courses (theory / laboratory / Projects / Seminar etc.) in a semester with credits C1, C2, C3, C4, and C5 and her /his grade points in these courses are g1, g2, g3, g4, g5 respectively, then her/his SPI is equal to

$$SPI = \frac{C1g1 + C2g2 + C3g3 + C4g4 + C5g5}{C1 + C2 + C3 + C4 + C5}$$

The SPI is calculated to two decimal places. The SPI for any semester will take into consideration the FR grades awarded in that semester. For example, if a student has failed in course 4, the SPI will then be computed as:

$$SPI = \frac{C1g1 + C2g2 + C3g3 + C4 * zero + C5g5}{C1 + C2 + C3 + C4 + C5}$$

The courses which do not form the minimum requirement of the degrees will not be considered for calculation of the SPI. Such additional courses undertaken and the grades earned by the student will be shown separately.

9.3.2 Cumulative Performance Index (CPI)

An up to date assessment of the overall performance of a student from the time s/he entered the Institute is obtained by calculating a number called the Cumulative Performance Index, CPI in a manner similar to the calculation of SPI. The CPI, therefore considers all the courses registered by the student, towards the minimum requirement of the degree s/he has enrolled for, since s/he entered the Institute. The CPI is calculated at the end of every semester up to two decimal places.

The CPI will reflect the failed status in case of FR grade(s), till the course(s) is/are cleared. When the courses(s) is/are cleared by obtaining a pass grade on subsequent registration(s) the CPI will only reflect the new grade and not the fail grades earned earlier.

Example: Up to semester 'X' a student has registered for n courses, among which s/he has a n "FR" grade in course i. The semester grade report at the end of semester 'X' therefore will contain a CPI calculated as:

$$CPI = \frac{C1g1 + C2g2 + C3g3 + \dots + Ci * zero + \dots Cngn}{C1 + C2 + C3 + \dots Ci + \dots Cn}$$

Even if a student has failed in a course more than once, the course will figure only once in the numerator as well as the denominator.

At the end of semester 'X'+1 s/he has registered for four more courses including the backlog course i and has cleared all the courses including the backlog courses, the CPI at the end of this semester is calculated as

$$CPI = \frac{C_1g_1 + C_2g_2 + C_3g_3 + \dots + C_i g_i + \dots C_n g_n}{C_1 + C_2 + C_3 + \dots C_i + \dots C_n}$$

The courses which do not form the minimum requirement of the degrees will not be considered for calculation of the basic CPI. These courses will be shown separately, and a separate CPI will be calculated for these courses. There will also be a combined CPI calculated which considers all the credits earned by the student.

9.4 Grade norms

(a) A student is considered to have passed a course if he/she obtains either DD or a better grade.

(b) The grade FR is awarded if in the opinion of the instructor:

- (i) The performance of the student is very poor,
- (ii) The student has inadequate exposure to the course, or
- (iii) The student engages in any kind of malpractice during the semester.

(c) The candidate with FR grade(s) will have to register for the same course(s) in subsequent semesters when the course(s) are offered again. However, he will not be awarded any grade better than BB.

(d) The grade XX is awarded:

- (i) If the student has less than 85% attendance in the course, or
- (ii) If the student has missed a significant number of in-semester evaluations for non-medical reasons.

The candidate with an XX grade will not be allowed to take the end semester examination.

(e) The candidate with XX grade(s) will have to register for the same course(s) in subsequent semesters when the course(s) are offered again. However, he will not be awarded any grade better than BB except for medical grounds.

(f) The grade XX is awarded in a theory/laboratory course if the student has the requisite 85% attendance and has successfully completed all the in-semester evaluation requirements but has not appeared in the end-semester examination due to medical reasons. Such a student is eligible for a make-up examination before the commencement of the next semester if he/she provides the relevant medical documents approved by

designated Medical Officer at IITRAM. Upon completion of the make-up examination, due grade will be assigned in the place of XX. If the reason for absence is not medical, the XX grade will revert to an FR grade.

(g) Valid reasons for end-semester make-up examination (including the reasons mentioned elsewhere in this document):

(i) Serious illness/personal accident of student and/or

(ii) Serious illness/death/ accident of parent/guardian of student

Each of such cases is to be approved by PPAC.

(h) Academic malpractices: In case of malpractice during any of the in semester evaluations like assignments, quizzes, tests and examinations, the instructor(s) can award an FR grade in the course immediately and report it to the ADAP. If the ADAP feels that the seriousness of the situation warrants it, the matter may be referred to the PPAC and/or Academic Council and serious actions like termination for one semester/term or even from the programme shall be imposed.

10. Continuation and Termination of Programme

Academic performance of students will be monitored regularly and efforts will be made to identify those who are unable to cope with the studies.

The minimum CPI requirement for continuing in the programme or for graduation is 6.5. However, the requirement of minimum CPI may be relaxed and student may be allowed to continue;

a. The minimum CPI (SPI) may be relaxed to 6.0 for the student in which s/he takes admission and registers, the student may be allowed to continue in the following semester on the recommendation of the DPPAC and with the approval of the Chairperson PPAC. A letter of warning will be issued by the Head /Co-ordinator of the Department of the student.

11. Plagiarism Policy

Definitions pla·gia·rism (noun \ 'plā-jə- ,ri-zəm \): the act of using another person's words or ideas without giving credit to that person pla·gia·rize (verb \ 'plā-jə- ,rīz \): to use the words or ideas of another person as if they were your own words or ideas (<http://www.merriam-webster.com/dictionary/plagiarize>). Students copying from each other or from any other sources (including Internet, books, monographs, research papers, etc.) for their academic activities without giving proper reference to the original source fall under plagiarism.

At IITRAM, plagiarism is strictly prohibited. A case of plagiarism will be dealt by DPGC and could be referred to the institute disciplinary action committee; the committee, depending upon the severity of the case may give FF in the course, suspend the student for a certain period, or may expel the student from the institute. A faculty has the right to check the students' submission at any time and take necessary action. It is the responsibility of students to ensure the originality of their work, be aware of this policy and abide by it.

12. Change, Modification and applicability of Academic Policies

Academic policies should be reviewed by PPAC regularly before commencement of a semester and changes /modifications should be recommended to Academic Council for approval. On the other hand, in the interest of students or in the interest of institute, any formal or informal decision taken by PPAC, ADOAP, ADOSA, Faculty Advisor or any other institute body may be changed by Director General (DG) of institute. These norms are valid for other Ph. D. programmes.