

# **ORDINANCES GOVERNING POSTGRADUATE PROGRAMMES**

**Passed in the 9<sup>th</sup> Senate Meeting held on Friday, September 13, 2019**



**RAJIV GANDHI INSTITUTE OF PETROLEUM TECHNOLOGY  
JAIS, AMETHI**

## **Acknowledgement**

The Ordinance for the postgraduate programmes at Rajiv Gandhi Institute of Petroleum Technology, Jais was prepared by largely following the PG Ordinance of Indian Institute of Technology BHU. IIT BHU is duly acknowledged for the same.

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## **1. INTRODUCTION**

The Rajiv Gandhi Institute of Petroleum Technology (RGIPT), Jais was established by the Ministry of Petroleum and Natural Gas, Government of India. The Institute has been accorded the status of “Institute of National Importance” along the lines of the Indian Institutes of Technology (IIT) under a special Act of Parliament (“Rajiv Gandhi Institute of Petroleum Technology Act 2007”). RGIPT is a domain specific Institute and the prime objective of the Institute is to provide world class education, training, and research to roll out efficient human resources to meet the growing requirements of the Petroleum & Energy sector. The aspiration is to develop India as a global manpower hub for the entire Petroleum and Energy Sector. The Institute is empowered to award degrees in its own right. The active participation of the leading Oil Companies in the academic activities makes our MBA programme unique. Their constant guidance and knowledge sharing results in an enriching learning experience for the students of Department of Management Studies. RGIPT is co-promoted as an energy domain specific institute by six leading Oil Public Sector Units (ONGC, IOCL, OIL, GAIL, BPCL and HPCL) in association with the Oil Industry Development Board (OIDB). The Institute is associating with leading International Universities/Institutions specializing in the domain of Petroleum Technology.

The Institute has at present two Engineering Departments, i.e. Department of Petroleum Engineering and Department of Chemical Engineering.

The Institute has a Basic Sciences and Humanities Department consisting of faculty members from different branches of Sciences including Chemistry, Physics and Mathematical science and various social sciences areas including English, Sociology etc.

The institute has a department of Management studies consisting faculty members from diverse areas ranging from Accounting, Economics, Finance, Marketing, Human resources to Business Strategy.

The Institute offers four year B. Tech. Degree programmes, two year Master of Technology (M. Tech.) programmes, and two year MBA programme. All the academic units offer Ph.D. programmes.

Joint registrations for Ph.D. programmes involving more than one Department are encouraged to promote multi-disciplinary research.

The P.G. programmes of the Rajiv Gandhi Institute of Petroleum Technology, Jais are aimed to impart education with sound theoretical and experimental background in frontier areas of research in engineering, sciences and interdisciplinary subjects. The emphasis of P.G. programme is on understanding the scientific basis and engineering principles involved in solving problems of practical importance in the relevant field using multidisciplinary approaches. An important component of these programmes is to inculcate the habit of independent thinking and initiative by the students in planning and execution of their research work. These programmes seek to train manpower of the highest quality and competence, having academic values and work ethics in the students for societal, industrial and national service.

With these goals in view, the postgraduate programmes include courses, seminars and project/thesis through which a student may develop rational thinking and conceptual clarity to hone intellectual and innovative skills, with emphasis on a practical approach.

The rules and procedures stated in these ordinances shall govern the PG programmes of the Institute for the students admitted in academic years 2019-20 and onwards. The various Departments may impose such additional requirements to suit their particular academic expectations, subject to the approval of the Senate Postgraduate Committee (SPGC).

The SPGC, established according to the by-laws of the Senate, operates through the Department Postgraduate Committees (DPGCs) to administer all aspects of the PG programmes. The constitution, jurisdiction and functions of the SPGC and the DPGC are given in Annexure – I.

### **1.1. Postgraduate Programmes**

1. The Institute offers programmes leading to the Master of Technology (M. Tech.) degree in Chemical Engineering and Petroleum Engineering.
2. Programmes leading to the Doctor of Philosophy (Ph.D.) degree exist in Chemical Engineering, Petroleum Engineering, Civil Engineering, Electrical Engineering, Electronics Engineering, Mechanical Engineering, Chemistry, Mathematical Sciences, Physics and Humanistic Studies including English.
3. Special programmes to cater the specific needs of any major sector such as Petroleum, Defence, Railways or industry may be initiated in the Institute subject to the approval of the Educational Policy Committee (EPC) and the Senate.

### **1.2. Waiver of Requirements in Special Cases**

The procedures and requirements stated in these ordinances, other than those in Section 2.3 (Eligibility for Admission and Reservation of Seats) and Section 7.7 (Academic Performance Requirement) may be waived by the Chairman, Senate under special circumstances for cogent reasons on the recommendation of the DPGC and the Dean (Academic Affairs). All such exceptions shall be reported to the Senate in its next meeting.

## **2. ADMISSION**

### **2.1. Academic Session**

The academic session of the Institute is divided into three parts: two regular semesters and a summer term as notified by the academic calendar of the Institute. The **Odd Semester** will normally commence in the last week of July or first week of August and the **Even Semester** in the First week of January every year. The summer term will run from the middle of May to the middle of July.

Each of the two regular semesters consists of about 18 weeks with one week of intra-semester recess. The last two weeks of each semester are utilized for end semester examinations and one week period during the semester is utilized for the Mid Term examinations. Thus, there are about 13-14 working weeks in each semester. The summer term consists of about 8 working weeks including Mid Term examinations and end semester examination.

### **2.2. Admission Calendar**

1. Admissions to the M.Tech., and Ph.D. programmes may be made in either or both of the two regular semesters.
2. Admissions to the M.Tech., and Ph.D. programmes are normally made in April-May for the odd semester and in November-December for the even semester. The Dean (Academic Affairs) will notify the admission calendar in each semester.
3. The Indian Nationals Residing Abroad (INRA)/from external in PMRF may be admitted to Ph.D. programmes during the course of a semester as per the provisions of Section 2.4.B.

### **2.3. Reservation of Seats**

Reservation of seats for various reserved categories shall be as notified by the Government of India.

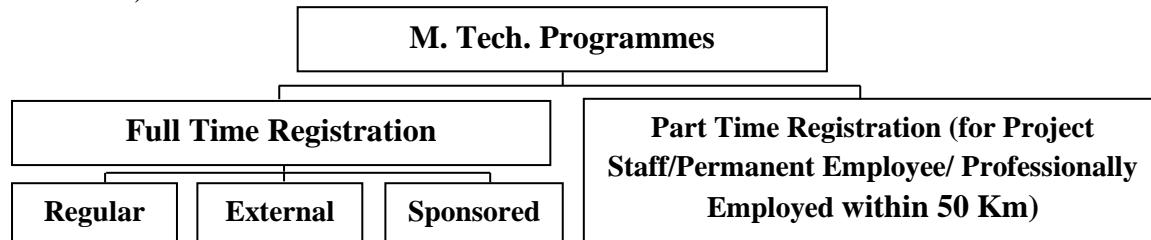
Annexure–III provides the details of the reservations approved by the BoG.

#### **2.4. Eligibility for Admission**

##### **2.4.A. MASTER'S DEGREE PROGRAMMES**

###### **2.4.A.1. M. Tech.**

A candidate may apply for any of the four categories of registration as given below subject to the fulfilment of requirements, minimum qualification (A.2.1) and eligibility criteria (**Table 2, Annexure-II**).



###### **2.4.A.1.1 Full Time Regular Registration Category**

Candidates who possess the requisite qualifications as indicated in **Table 2 of Annexure - II** are eligible for admission to postgraduate programmes in the respective Departments of the Institute leading to M. Tech. degree. The candidates should have secured a minimum of 60% marks / 6.0 CPI (on a 10.0 point scale) in the qualifying degree. In addition, they must have qualified in the Graduate Aptitude Test in Engineering (GATE) for M. Tech. Programmes with validity not expired.

###### **2.4.A.1.2 Financial Assistance**

Financial assistance in the form of Institute Assistantships is available to the students admitted to M. Tech., under Full Time regular registration category. Presently the Assistantships @ Rs. 12,400/- per month is available. A student shall be assigned duties up to eight hours per week by the departments to avail the Teaching Assistantship. The renewal of assistantship is contingent on the student's satisfactory performance in the academic programme and in the discharge of assistantship duties on a semester to semester basis.

No student shall be admitted to Full time Regular Registration Category without Institute Assistantship. No student can get financial assistance from more than one source at a time.

###### **2.4.A.1.3 Full Time External Registration Category**

A candidate working in an external R&D organization or in an industry recognized by the Institute (the list of recognized external R&D organizations and industries is given in Annexure – IV), which is equipped with necessary research and library facilities may be considered for admission to M. Tech. programmes, provided he/she satisfies the eligibility criteria laid down for the programme concerned (**see Sec. A.2.1 and Table 2 Annexure-II**). Such a candidate must show satisfactory performance in the interview, must be sponsored by his/her employer and must have been in employment with the sponsoring organization for at least two years at the time of admission.

The requirement of qualifying in GATE is waived off for such candidates for the purpose of admission to PG programmes.

The employer must undertake to pay full salary to the candidate and relieve him/her from the duty to enable the candidate to stay on the campus and to complete the course work requirements.

The candidate should submit a certificate obtained from his/her organization that the research facilities of his/her organization would be made available to him/her for carrying out research.

He/she should also provide the bio-data of the prospective supervisor along with his/her consent, who would be supervising the candidate's work at his/her organization.

[N.B. Letter of appointment and Form – 16 for two years of service is required from the employer at the time of written test/interview.]

In addition, an R&D organization/industry or a research area in the specific organization may be recognised by the Institute as per the following procedure. On the recommendation of the DPGC, the SPGC will constitute a committee to assess and approve an R & D organization/ industry for admission of sponsored candidates to M. Tech. programmes. The committee may, upon inspection, also approve all the areas in which R & D activities are going on in that organization.

#### **2.4.A.1.4 Full Time Sponsored Registration Category**

A candidate who is sponsored by a teaching institution or by an R&D organization or by an industry is eligible for admission to M. Tech. programmes, provided he/she satisfies the eligibility criteria laid down for the programme concerned (**see Sec. A.2.1 and Table 2 Annexure-II**). He/she must have been in service of the sponsoring institution/organization for at least two years at the time of admission. The sponsoring organization must specifically undertake to provide full salary to the candidate and to relieve him/her to pursue the programme for its full duration. Such candidates have to complete the requirements of the programme by staying on-campus for the full duration of the programme.

The requirement of qualifying in GATE is waived off for such candidates for the purpose of admission to PG programmes.

[N.B. Letter of appointment and Form – 16 for two years of service is required from the employer at the time of written test/interview. In addition, the candidate must submit an undertaking that he/she will continue to submit Form – 16 for the subsequent years till he/she completes the programme.]

#### **2.4.A.1.5 Part-time Registration Category**

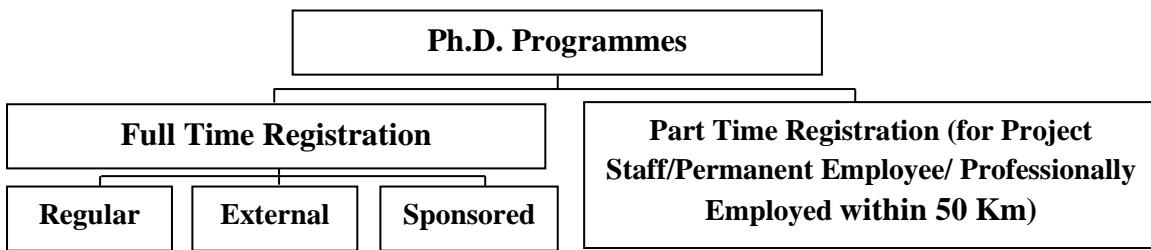
The Institute offers part-time M. Tech. programmes for permanent staff and faculty members of the Institute as well as research assistants working in an externally funded research project running in the Institute, provided they satisfy the eligibility criteria laid down for the programme concerned (**see Sec. A.2.1 and Table 2 Annexure-II**). Such a candidate should submit a no-objection certificate from the Head of the Department/ Principal Investigator as the case may be as applicable. They will be required to attend to normal duties assigned to them by the Department/ the Principal Investigator of the research project.

The Institute offers part time M. Tech. Programme also to a professionally employed person, who pursues the programme while continuing the duties of his/her service provided the sponsoring institution/organization is located within a distance of 50 km from the Institute and engaged in broad areas of M. Tech. Programme applied. He/she must be a regular employee of the sponsoring organization/institution for at least two year. No objection certificate from the Head of the Institution/organization must be enclosed with the application. The candidate must satisfy the eligibility criteria laid down for the programme concerned.

[N.B.: Letter of appointment and Form 16 issued by the employer for two years of service is required at the time of written test/interview. In addition, the must submit an undertaking that he/she shall continue to submit Form 16 for the subsequent years till he/she completes the programme.]

### **2.4.B. Ph.D. DEGREE PROGRAMMES**

A candidate may apply for any of the four categories of registration as given below subject to the fulfilment of requirements, minimum qualification (B.1.) and eligibility criteria (**Table 3, Annexure-II**).



#### **2.4.B.1 Full Time Regular Registration Category**

Applicants must have the requisite qualification with minimum marks/CPI as mentioned below in the discipline concerned or in an allied discipline/area. A list of allied disciplines and research areas currently available for Ph.D. Programmes is given in **Table 3** and **4** respectively of **Annexure – II**.

##### **2.4.B.1.1 Minimum Qualification:**

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

- a) Applicants with master's degree in engineering in the discipline concerned or in an allied discipline/area must have a minimum of 60% marks or 6.0 CPI (on a 10.0 point scale) at the master's degree level.
- b) Applicants with bachelor's degree in engineering in the discipline concerned or in an allied discipline/area must have a minimum of 75% marks or 7.5 CPI (on a 10.0 point scale) at the bachelor's degree level. Applicant with more than two years of professional experience, the minimum requirement shall be 70% marks or 7.0 CPI (on 10 point scale) at bachelor degree provide the degree is from an Institution funded by the Central Government.
- c) Applicants with master's degree in science as an allied discipline/area (where science is an allied discipline/area), must satisfy each of the following criteria:
  - (i) A minimum of 65% marks or 6.5 CPI (on a 10.0 point scale) at the master's degree level,
  - (ii) A minimum of 60% marks or 6.0 CPI (on a 10.0 point scale) at the bachelor's degree level.

###### **Ph.D. in Sciences**

- a) Applicants with master's degree in science in the discipline concerned or in an allied discipline/area must have a minimum of 60% marks or 6.0 CPI (on a 10.0 point scale) at the master's degree level.
- b) Applicants with four year bachelor's degree in Science in the discipline concerned or in an allied discipline/area must have a minimum of 75% marks or 7.5 CPI (on a 10.0 point scale) at the bachelor's degree level. Applicant with more than two years of professional experience, the minimum requirement shall be 70% marks or 7.0 CPI (on 10 point scale) at bachelor degree provided the degree is from an Institution funded by the Central Government.

###### **Ph.D. in Humanistic Studies**

- a) Applicants with Master's degree in relevant subject or allied subjects with a minimum CPI of 6.00 on a 10.0 point scale (or 60% marks) in the qualifying degree.
- b) Applicants with Master's degree in Science or allied subjects with a minimum CPI of 6.00 on a 10.0 point scale (or 60% marks) in the qualifying degree.
- c) Applicants with Bachelor's degree in Engineering or Sciences (4-Year program) with a minimum CPI of 7.50 on a 10.0 point scale (or 75% marks) in the bachelor degree. Applicant with more than two years of professional experience, the minimum requirement shall be 70% marks or 7.0 CPI (on 10 point scale) at bachelor degree provide the degree is from an Institution funded by the Central Government.

## **Ph.D. in Management Studies**

A Master's degree or its equivalent in the relevant discipline with first class or 60% marks (55% for SC/ST/PwD) or CPI/CGPA of 6.0.

**OR**

A Bachelor's degree in Engineering/Technology with first class or 60% marks (55% for SC/ST/PwD) or CPI/CGPA of 6.0.

**OR**

Any professional qualifications such as CA, ICWA & CS with minimum 50% aggregate marks (45% for SC/ST/PwD) and minimum of 60% aggregate marks in the preceding degree.

Candidates who fulfil the above mentioned eligibility criteria and have a qualified score of any of these examinations: CAT/GRE/GMAT/NET (UGC/CSIR) are eligible to apply.

**Important:** The candidates must hold a Bachelor's/Master's degree of any of the universities incorporated by an Act of the Central or State Legislature in India or other education institutions established by an Act of Parliament or declared to be deemed as a university under section 3 of UGC Act, 1956, or possess an equivalent qualification recognized by the Ministry of HRD, Government of India, or possess an equivalent qualification from an institution approved by AICTE.

Candidates appearing for their final year examination in the current academic year may also apply, however, their admission to the program will be provisional subject to their successful completion of all requirements for obtaining the relevant degree by the date of notified by institute.

### **General Eligibility Criteria**

1. First class or 60% marks (55% marks for SC/ST/PwD)/CGPA or CPI of 6.0 in Master's Degree in Engineering/ Technology (M.E./M. Tech.) or equivalent and qualified score of GATE Exam, taken before or after M. Tech is acceptable.
2. First class or 60% marks (55% marks for SC/ST/PH)/CGPA or CPI of 6.0 Bachelor's Degree in Engineering/ Technology and qualified GATE score.
3. First class or 60% marks (55% marks for SC/ST/PH)/CGPA or CPI of 6.0 in Master's degree in relevant discipline and qualified score of GATE/ CSIR/ UGC/ NBHM/ DBT/ GPAT/ Rajiv Gandhi National Fellowship/ Maulana Azad National Fellowship/ DST Inspire Award or any similar Fellowship.

#### **2.4.B.1.2 Financial Assistance**

Financial assistance in the form of Institute Assistantships is available to the students admitted to Ph.D. programmes under Full Time regular registration category. Such students must have qualified GATE.

Presently the Assistantships @ Rs. 31,000/- per month is available to full time students admitted to the Ph.D. programmes.

The NET-LS qualified students may also be eligible for Institute Assistantship in Humanistic Studies Department provided they have CPI 7.0 (on a 10 point scale) or 70% marks in the qualifying examination.

A student shall be assigned duties up to eight hours per week by the departments to avail the Teaching Assistantship. The renewal of assistantship is contingent on the student's satisfactory

performance in the academic programme and in the discharge of assistantship duties on a semester to semester basis.

The number of available Institute Assistantship should not be considered as available seats. Applicants who are either of sponsored registration category or who are already awarded fellowship by external agencies or Part time registration category or external registration category can submit their applications for admission in departments even if there is no Institute Assistantship available.

- a) Full Institute Assistantship upon completion of the project (provided the remaining project duration at the time of registration was at least one year) fellowship be given to those students who had qualified for Institute Assistantship or were recipient of JRF/SRF through national level tests conducted by UGC, CSIR, Department of Biotechnology, etc.;
- b) Other Ph.D. Students working in various projects be given half of the Institute Assistantship upon completion and closure of their Project Fellowship. However, such Ph.D. students may join projects once again by leaving Institute Assistantship, when selected in any new Project with the Supervisor;
- c) The uniform period of 5-years of Ph.D. will be calculated from the date of registration in Ph.D. irrespective of the fact that they have received fellowship from Project or Institute;
- d) In case a student who has qualified for Institute Assistantship and is supported by project funds, may revert to being supported by Institute Fellowship (Full fellowship), if needed.
- e) In case a student has submitted thesis before 5 years of registration, the Institute Assistantship may continue on the recommendation of DPGC and approval of Dean (Academic Affairs) upto 5 years or date of oral examination which ever is earlier. Such students shall register for zero credits.

No student shall be admitted to Full time Regular Registration Category without Institute Assistantship or National-level Scholarships/Fellowships. No student can get financial assistance from more than one source at a time.

#### **2.4.B.1.3 Admission of Candidates having National-level Scholarships including PMRF**

There is a provision for admission to Ph.D. programmes for candidates who fulfill the eligibility criteria for the respective programmes and also have qualified in any of the national level JRF/SRF tests conducted by UGC, CSIR, Department of Biotechnology, or DST-INSPIRE fellowship or Dr. K.S. Krishnan Fellowship of DAE, etc.

Applicants must have requisite qualification with minimum marks/CPI (**see Sec. B.1. and Table 3 Annexure-II**). Such candidates may be offered admission after an interview as and when they apply in Departments where they are eligible. For PMRF candidates the requirement of interview is waived off. They will be recommended by DPGC to register for the programme at the next available semester. Such candidates who are applying for admission in response to this advertisement for the current session will go through similar process of selection as above.

#### **2.4.B.1.5 Full Time External Registration category**

A candidate working in an external R&D organization or in an industry recognized by the Institute (the list of recognized external R&D organizations and industries is given in **Annexure – IV**), which is equipped with necessary research and library facilities can also apply for admission to Ph.D. programmes, provided he/she satisfies the eligibility criteria laid down for the programme concerned (**see Sec. B.1 and Table 3 Annexure-II**). Such a candidate must show satisfactory performance in the interview, must be sponsored by his/her employer and must have been in employment with the sponsoring organization for at least two years at the time of admission.

The employer must undertake to pay full salary to the candidate and relieve him/her from the duty to enable the candidate to stay on the campus and to complete the course work requirements (This is not a requirement for candidates who are working in organizations located within a distance of 50 km from the Institute). The requirement of earning credits through course work shall be waived off

by Dean (Academic Affairs) on the recommendation of DPGC provided the candidate has M.Tech. as qualifying degree from a centrally funded Institute.

The candidate should submit a certificate obtained from his/her organization that the research facilities of his/her organization would be made available to him/her for carrying out research. He/she should also provide the bio-data of the prospective supervisor along with his/her consent, who would be supervising the candidate's work at his/her organization.

[N.B. Letter of appointment and Form – 16 for two years of service is required from the employer at the time of interview.]

In addition, an R&D organization/industry or a research area in the specific organization may be recognised by the Institute as per the following procedure. On the recommendation of the DPGC, the SPGC will constitute a committee to assess and approve an R & D organization/ industry for admission of sponsored candidates to carry out Ph.D. research in a specified area. The committee may, upon inspection, also approve all the areas in which R & D activities are going on in that organization.

An application for admission from a candidate working in the approved organization will be considered only if he/she wishes to work in the approved area.

#### **2.4.B.1.6 Full Time Sponsored Registration Category**

A candidate who is sponsored by a teaching institution or by an R&D organization or by an industry can also apply for admission to Ph.D. programmes, provided he/she satisfies the eligibility criteria laid down for the programme concerned (**see Sec. B.1 and Table 3 Annexure-II**). He/she must have been in service of the sponsoring institution/organization for at least two years at the time of admission. The sponsoring organization must specifically undertake to provide full salary to the candidate and to relieve him/her to pursue the programme for its full duration. Such candidates have to complete the requirements of the programme by staying on-campus for the full duration of the programme.

[N.B. Letter of appointment and Form – 16 issued by the employer for two years of service is required at the time of written test / interview. In addition, the candidate must submit an undertaking that he/she will continue to submit Form – 16 for the subsequent years till he/she completes the programme.]

#### **2.4.B.1.7 Part-time Registration Category**

The Institute offers part-time Ph.D. programmes for permanent staff and faculty members of the Institute as well as research assistants/JRFs/SRFs working in an externally funded research project running in the Institute, provided they satisfy the eligibility criteria laid down for the programme concerned (**see B.1 and Table 3 Annexure-II**). Such a candidate should submit a no-objection certificate from the Head of the Department/Principal Investigator as the case may be (See Form I & II of the Application Form) as applicable. They will be required to attend to normal duties assigned to them by the Department/ the Principal Investigator of the research project.

The Institute offers part time Ph.D. Programme also to a professionally employed person, who pursues the programme while continuing the duties of his/her service provided the sponsoring institution/organization is located within a distance of 50 km from the Institute and engaged in broad areas of Ph.D. Programme applied. He/she must be a regular employee of the sponsoring organization/institution for at least two year. No objection certificate from the Head of the Institution /organization must be enclosed with the application. The candidate must satisfy the eligibility criteria laid down for the programme concerned (**see Sec. B.1 and Table 3 Annexure-II**).

[N.B.: Letter of appointment and Form 16 issued by the employer for two years of service is required at the time of written test/interview. In addition, the candidate must submit an undertaking that

he/she shall continue to submit Form 16 for the subsequent years till he/she completes the programme]

## **2.5. SELECTION PROCESS**

### **2.5.1 M. Tech. Programme**

1. The applicants must apply for admission to M. Tech. programmes when advertised by the Institute.
2. All admissions will be made on approval by the Chairman, Senate on the recommendations of the duly constituted selection committees and the Dean (Academic Affairs). A selection committee will consist of all regular faculty members, and a faculty member from another Department/ School as nominee of Dean (Academic Affairs). Chairperson of the Committee shall be appointed by DPGC. The constitution of the selection committee will be proposed by the DPGC and approved by Dean (Academic Affairs).
3. The selection committee may form separate sub-committees, if necessary, to select candidates belonging to different categories, viz., sponsored, QIP, etc. It is necessary to prepare separate merit lists for each of these cases. Notwithstanding any other clause contained in these ordinances, all such candidates should satisfy the specified minimum requirements of marks/CPI in the qualifying degree.
4. For Full time regular category, candidates shortlisted on the basis of GATE Score which is valid and above the qualifying pass mark, may be selected for M.Tech.. programmes either on the basis of their GATE score or written test or interview or on the basis of any combination of these as declared by the individual department.

For admission under other categories, requirement of qualifying GATE is waived off and also such candidates are exempted from appearing in the written test.

5. At first, a merit list of all applicants who have qualified in the admission test/interview shall be prepared and the seats allocated to the Open Category shall be filled up in order of merit from this merit list. Remaining qualified applicants shall be allotted seats category-wise.
6. Candidates for whom results of the qualifying examination are not declared at the time of written test/interview may also be considered for written test/interview. In case such candidates are selected, their admission will be provisional subject to the condition that they produce proof of completing all the examinations including the project/thesis examination and the viva voce before the date of registration. Such candidates are required to produce the evidence of their having passed the qualifying degree examination with at least the minimum marks for eligibility by the last date for document submission as mentioned in the academic calendar (usually about 8 weeks from the date of registration), failing which their admission shall be cancelled.
7. Upon approval, the Head of the Department concerned will issue the admission letters to the candidates who will be required to accept the offer of admission by depositing the prescribed fee before a specified date.
8. In case a candidate does not accept the offer by paying the prescribed fee by the specified date, the offer of admission may stand withdrawn, and the admission may be offered to the candidates in the waiting list, if any, in order of merit.
9. The offer of admission may also stand withdrawn if the candidate who has accepted the offer fails to register by the date for late registration.

### **2.5.2 Ph.D. Programme**

1. The applicants must apply for admission to Ph.D. programmes when advertised by the Institute.
2. All admissions will be made on approval by the Chairman, Senate on the recommendations of the duly constituted selection committees and the Dean (Academic Affairs). A selection

committee will consist of all regular faculty members, and a faculty member from another Department as nominee of Dean (Academic Affairs). Chairperson of the Committee shall be appointed by DPGC. The constitution of the selection committee will be proposed by the DPGC and approved by the Dean (Academic Affairs).

3. The selection committee may form separate sub-committees, if necessary, to select candidates belonging to different categories, viz., sponsored, QIP, etc. It is necessary to prepare separate merit lists for each of these cases. Notwithstanding any other clause contained in these ordinances, all such candidates should satisfy the specified minimum requirements of marks/CPI in the qualifying degree.
4. Admission to Ph.D. will be based on written test and interview of the candidates shortlisted by the Department concerned.
5. The following category of applicants shall be exempted from appearing in the written test:
  - a) External Registration Category
  - b) Sponsored Registration Category
  - c) Part-time Registration Category
  - d) Candidates having National Level Scholarships
  - e) Outstanding candidates from Premier Institution:
    - i) Applicants who have qualifying degree from IITs/RGIPT with CPI of 8.00 or above (on a 10.0 point scale).
    - ii) THERE WILL NOT BE ANY CATEGORY-WISE OR SPECIALIZATION-WISE SEATS for selection under the above type;
    - iii) The number of seats in this type will be 20% of the “announced number of seats” and shall be considered as “Supernumerary seats”. Any fractional number arrived at would be rounded to higher integer;
    - iv) Interview should be conducted for this type of candidates PRIOR to the conduct of Written Test for remaining candidates;
    - v) Any candidate who could not qualify in the said Interview, through this channel, is eligible to take regular selection procedure of Written Test and Interview. Since, the candidate has been interviewed once, he/she will not appear again in the interview and marks of the first interview will be considered for preparing merit list.
6. Further, if qualifying marks are specified in written test and/or interview a 5% relaxation will be given to SC/ST candidate. If a candidate avails such relaxation, he/she shall not be considered for admission in general category.
7. At first, a merit list of all applicants who have qualified in the admission test/interview shall be prepared and the seats allocated to the Open Category shall be filled up in order of merit from this merit list. Remaining qualified applicants shall be allotted seats category-wise.
8. Candidates for whom results of the qualifying examination are not declared at the time of written test/interview may also be considered for written test/interview. In case such candidates are selected, their admission will be provisional subject to the condition that they produce proof of completing all the examinations including the project/thesis examination and the viva voce before the date of registration. Such candidates are required to produce the evidence of their having passed the qualifying degree examination with at least the minimum marks for eligibility by the last date for document submission as mentioned in the academic calendar (usually about 8 weeks from the date of registration), failing which their admission shall be cancelled.
8. Upon approval of Chairman, Senate, the Head of the Department concerned will issue admission letters to the candidates who will be required to accept the offer of admission by depositing the prescribed fee before a specified date.

9. In case a candidate does not accept the offer by paying the prescribed fee by the specified date, the offer of admission will stand withdrawn, and the admission will be offered to the candidates in the waiting list, if any, in order of merit.

**Note:** 1. Mere fulfilment of eligibility criteria does not guarantee admission in a programme. The candidates' performance in the written test and interview should be at the levels expected for the respective programmes.

## 2.6. ADMISSION OF FOREIGN NATIONALS

Admissions to Ph.D. Programmes are available for Indian nationals residing abroad (INRA) and foreign nationals (those applying through Study in India Programme of MHRD) as per details given below.

1. Indian Nationals Residing Abroad (INRA): Candidates must have been residing abroad continuously for at least one year at the time of applying for admission. Their applications may be processed by the departments as and when they are received or according to any schedule convenient to the departments. The applications should be scrutinized to make sure that, in terms of qualifications, they are comparable with the candidates admitted in the general category.
2. The applications of foreign nationals, who are sponsored by the Indian Council of Cultural Relations (ICCR) directly or through Study in India Programme of MHRD, will be scrutinized by the departments concerned to assess their suitability for admission to the programme. The recommendations of the Department will be sent to the Chairman, Senate through the Dean (Academic Affairs) for approval.

**Note:** Candidates belonging to the above two categories should satisfy the eligibility conditions laid down in section 2.4 and should have qualified GRE. Any non-GRE qualified candidate, may also be considered for admission. However, such candidates shall have to study and pass a suitably designed English Course

Further, all foreign nationals, if admitted shall study and pass a course on Research Methodology. Above courses shall be in addition to course work specified in the Ordinances.

## 2.7. Admission of Non-Degree Students

1. A non-degree student is a student who is registered for a degree in a recognized Institute or university in India or abroad, and who is officially sponsored by that Institute or university to complete part of his/her academic requirements at RGIPT. For that purpose the non-degree student may carry out research, or take courses for credit or otherwise, or may use other academic facilities. However, any credits earned by a non-degree student cannot be used to apply for any degree programme at RGIPT at any time.
2. A candidate will be admitted as a non-degree student on a duly sponsored application to the Dean (Academic Affairs) who will recommend admission on the advice of DPGC to the Chairman Senate for approval. The strength of non-degree students in any programme of a Department should not be more than 5% of the sanctioned strength.
3. Students so admitted will be governed by all rules, regulations and discipline of the Institute and shall pay registration fee prescribed for such students.
4. If a foreign national student wishes to register as a non-degree student, his/her application should be routed through ICCR or other suitable Government of India's programme and will be processed according to the clause 2 above.

## 3. REGISTRATION

1. A student is required to register at the beginning of each semester for the courses/thesis credits that he/she intends to pursue in that semester. The registration process involves:

- i) Submitting a duly filled proforma (as per Section 4.2) to be followed in the semester to the Academic Office, after approval by the DPGC concerned. The student may also fill the Registration Form on line in advance or day of registration as announced by the Institute.
  - ii) Payment of fees for that semester and clearance of outstanding dues, if any, a priori on-line or on the day of registration; and
  - iii) Signing the registration roll in the concerned Department.
  - iv) All students who are on semester leave/maternity leave etc at the time of registration and not including leave under Clause 4 shall also register for zero credits or reduced credits.
2. A new entrant (to the postgraduate programme) who is awaiting the results of the qualifying examination, will be allowed to register "provisionally" on submission of a certificate from his/her institution certifying that he/she has appeared in the final qualifying examination (including all papers in theory, practical, project, submission of thesis, oral, etc.). The candidate will submit attested copies of the certificates of having passed the qualifying examination with marks not less than the specified minimum by the last date for document submission as specified in the academic calendar (usually about 8 weeks from the date of registration).
3. All students who are not on authorized leave must continue to register in the following semester till they submit their thesis. However, if a student submits his/her thesis on or before the last date for adding/dropping of courses (as notified in the academic calendar), he/she need not register in that semester.
4. The INRA students and the foreign nationals who are admitted to Ph.D. programme during a semester will be required to register for research credits with proportionate reduction in units for remaining time in the semester, as decided by the Convener, DPGC or the faculty advisor. [IC: Section 2.7.]
5. Ph.D. students who have submitted their thesis and are waiting for the defence of the thesis may register for zero credits. They may, however, apply for leave from the Institute with permission to defend thesis while on leave. Such students do not have to pay the registration fee.
6. In very special cases, students who have completed all the thesis work and analysis related to the thesis and are on sanctioned leave, the Dean (Academic Affairs) on the specific recommendations of the DPGC may allow submission of thesis without registration.
7. On the recommendation of the DPGC and the approval of the Dean (Academic Affairs), the employees of RGIPT and QIP students registered for the Ph.D. programmes who have completed the course and thesis credit requirements and the prescribed residence period may not register in the following semester, provided they have completed research work related to their thesis. However, they will be required to submit their theses within the prescribed maximum period (specified in Section 7.1).
8. A student under the external registration category must complete the residence requirements (as laid down in Section 7.1) before the beginning of the semester in which he/she wants to register for thesis credits for the first time.
9. A student under the external registration category, who has completed the minimum residence requirements can register for thesis credits during the period starting from one week prior to the end of the previous semester till the late registration date of the next semester, provided he/she has been awarded grades for the previous semester. As such, the student shall come back to the Institute for giving the examination of the semester.

### **3.1. Late Registration**

1. If for any compelling reason like illness, a student is unable to register on the day of registration, he/she will be allowed to register till the day of late registration specified in the academic

calendar along with late registration fee as specified by the Institute. No late registration is permitted for the summer term [IC: Section 4.4.].

2. In exceptional cases, the Chairman, Senate on the recommendation of the Dean (Academic Affairs) and DPGC may permit registration beyond the date of late registration. In such a case, the student will be allowed to register only for thesis credits.
3. If a student has already filled the on-line course Registration Form and also paid the Registration Fee online; prior to the announced date of Registration and happens to physically absent on the day of Registration is deemed to be late for Registration unless otherwise he is permitted according to sub-clause 1 and 2 above.
4. Late registrations due to prolonged summer internships are not permitted beyond the date specified for late registration in the Academic Calendar.

In case the student fails to report and register on or before the date of late of registration without any bonafide reason and, the student also does not report to the Institute the reason for the same within two weeks of the date of late registration for that semester is liable to be cancelled.

### **3.2. Academic Advising**

A student will be advised in the selection of courses either by the Convener, DPGC or by the faculty adviser appointed by the DPGC of the Department concerned. A student registering for thesis units must have a thesis supervisor assigned to him/her.

### **3.3. Semester Load Requirements**

1. A semester load is defined as equivalent of about 55 credits. A student registering solely for thesis work, may register for 5 thesis units, each of which carrying 11 credits. For a well-merited case, the Dean (Academic Affairs) may permit a student on the recommendation of the Convener, DPGC, to register for a maximum of 20% overload (i.e. 11 additional credits with equivalent integral number of courses/thesis units) or a minimum of 20% under load (i.e. 11 credits less with equivalent integral number of courses/thesis units).
2. The normal semester load for a part-time student is equivalent of 33 credits. For a well-merited case, the Dean (Academic Affairs) may permit a part-time student to register for a maximum of 44 credits (with equivalent integral number of courses/thesis units) and a minimum of 22 credits (with equivalent integral number of courses/thesis units) during a regular semester.
3. A student in the external registration programme when registering for thesis credits, to be carried out at his/her organization, can register for a maximum of 33 credits (3 units) or a minimum of 22 credits (2 units) during the regular semester.
4. A student is normally expected to register for thesis credits only after completing the course work requirements. However, to fulfil the semester load requirements, a student may be permitted by the DPGC to register for thesis credits after the first semester.

Notwithstanding the above, if a student is permitted to go for internship for research work under any programme as per an MoU with an organization either within the country or abroad such students will be governed by the agreed conditions of the MoU and can be permitted to register at the appropriate time.

### **3.4. Summer Term Registration**

Students may register in the summer term for up to a maximum of half the normal semester load (a maximum of 3 Theory courses) including courses from all previous Semesters. A student cannot register for a course in summer term, if the course is not offered. [IC: Section 7.4]

### **3.5. Adding/Dropping of Courses and Withdrawing from Courses**

1. Adding and dropping of courses after registration is permitted on student's request. It is permitted only if student's request is endorsed by the instructor of the course and is also endorsed by the Convener, DPGC. The last date of applying for adding and dropping of courses is specified in the academic calendar. No adding or dropping of courses is permitted in the summer term.
2. Also, a student may be required to drop a course at any stage if it is determined that he/she does not fulfil the prerequisites for the course, or if a timetable clash exists which does not permit him/her to attend all the meetings of the course, or any rule in these ordinances which forbids him/her to take the course(s) that he/she has registered for.
3. The DPGC in consultation with the instructor and with the approval of the Dean (Academic Affairs) may allow a student at his/her request to withdraw from one or more courses during the semester, if he/she has been sick for considerable time and has submitted a certificate to the satisfaction of the DPGC, but the reduced load shall not be less than the minimum semester load (specified in Section 4.3). A student in the first semester of his/her academic programme and on full semester load may also withdraw up to a maximum of one course on the recommendation of the DPGC and approval of the Dean (Academic Affairs). The withdrawal can be made within two weeks after the mid-term examinations.

### **3.6. Change of Registration from M. Tech. Programme to Ph.D. Programme**

A student registered for the two year M. Tech. programme may be allowed in the beginning of the third / fourth semester to change his/her registration to that of the Ph.D. programme on the recommendation of DPGC and with the approval of Dean (Academic Affairs). Since this is a change of programme, Section 2.3 rules are not automatically applicable. Instead, one of the following two conditions must be satisfied.

- a) The student (i) satisfies the eligibility criteria for admission to Ph.D. programme as specified in Section 2.3.3/2.3.4/2.3.6 but completes two semesters of the M. Tech. programme, (ii) completes the course work prescribed for the M. Tech. programme, and (iii) obtains a CPI of at least 8.0.
- b) The student (i) does not satisfy the eligibility criteria for admission to Ph.D. programme as specified in Section 2.3.3/2.3.4/2.3.6 but completes three semesters of the M. Tech. programme, (ii) completes the course work prescribed for the M. Tech. programme, and (iii) obtains a CPI of at least 8.5.

Such a change of registration shall be reported to the Senate. Students in part-time M. Tech. programme are not permitted to change over to part-time or full-time Ph.D. programme.

For such students the effective date of registration in Ph.D. Programme will be taken as the date on which he/she got registered to M. Tech. programme. He/she will be eligible for Assistantship of a Ph.D. student from the date of change of programme.

### **3.7. Change of Registration from Full-Time to External Registration Programme**

If a student, admitted to M.Tech.. programme as a full time regular student, gets a professional employment after completing the course work requirements and minimum residence period in accordance with Section 7.1, he/she may be permitted, with the recommendation of DPGC and Dean (Academic Affairs) and approval of the Chairman, Senate, to do his/her thesis work at his/her prospective organization, provided the organization is one of the approved organizations by the Institute listed in Annexure – IV. Such a student has to submit (i) the consent of the organization for carrying out the thesis work at the organization and (ii) the consent of a prospective external

supervisor (along with his/her bio-data) from the organization before availing this facility. He/she has to register for every semester till he/she submits the thesis work as an external student.

If a student, who has registered for a Ph.D. programme as a full time regular student, gets a professional employment after passing the comprehensive examination and giving the state-of-the-art seminar, he/she can be permitted, with the recommendation of DPGC and Dean (Academic Affairs) and approval of the Chairman, Senate, to do the rest of his/her thesis work at his/her prospective organization, provided the organization is one of the approved organizations by the Institute listed in Annexure – IV. Such a student has to submit (i) the consent of the organization for carrying out the thesis work at the organization and (ii) the consent of a prospective external supervisor (along with his/her bio-data) from the organization before availing this facility. He/she has to register for every semester till he/she submits the thesis work as an external student.

### **3.8. Paid Internship**

A full time regular student of M. Tech., if already completed the specified course work and registered for thesis credits only, gets an employment or paid internship may be permitted with the recommendation of DPGC and approval of the Chairman, Senate to do his/her thesis work at the prospective organization provided the DPGC approves that the organization has infrastructure/facility to carry out the proposed thesis work. The DPGC should not disapprove any paid internship on the ground that no faculty could be appointed as internal Supervisor. Such a student has to submit with the recommendation of the internal supervisor (i) the consent of organization for carrying out the thesis work at the organization, (ii) the consent of prospective external supervisor (along with his/her biodata) from the organization before availing this facility. He/she will register for every semester will he/she submits the thesis work.

The M. Tech. Thesis Oral Examination Committee shall be constituted as provided in the PG Ordinance with the external supervisor as an additional member. The student shall not be entitled to any fellowship/stipend/TA from the Institute from the date of commencement of paid internship/employment.

## **4. ATTENDANCE AND LEAVE RULES**

### **4.1. Attendance Requirements**

Attendance is important for learning from the teacher inside a classroom or a laboratory. The understanding that a teacher can transmit to the students as well as the learning that can take place from discussions in the classroom may not be attainable merely from textbooks. The attendance is an Institute requirement and needs to be fulfilled on a course by course basis. The student is expected to be present in all the classes i.e. 100% attendance. A grace of only 25% in attendance is allowed for minor illness and urgencies, for which no application will be required to be submitted.

For a student who has an absence above 25% in a course, whatever may be the reason for a shortfall in attendance, his/her registration in the course will stand cancelled. A student is required to be responsible keep track of his attendance during the semester continuously. The absence of 25% shall be calculated on the absolute number, rounded off to the next higher integer of the actual number of classes held in a course.

Further, relaxation of seven days be provided to a student who has obtained prior approval of the Dean (Academic Affairs) through the Dean (Student Affairs), Dean (R&D) or concerned Head of the Department to represent the Institute in various activities and also for presenting research paper. This relaxation may also be granted by the Dean (Academic Affairs) for prolonged illness of duration of 2 weeks or more on recommendation of DUGC and approval of Dean (Academic Affairs). Any illness of duration less than 2 weeks shall not be considered for the above mentioned relaxation.

## **4.2. Leave Rules**

Students may be granted leave under Sections 4.2.1 and 4.2.2 on application to the Head of the Department concerned through the Convener, DPGC. Leave under Sections 4.2.3 and 4.2.4 will be sanctioned by Dean (Academic Affairs) on the recommendation of DPGC. Applications must be submitted at least one week in advance of the date of commencement of the leave requested. However, in case of casual leave, the student is expected to submit/arrange to submit his/her leave application within 48 hours of availing such leave. Leave for a period longer than that specified in Sections 4.2.1, 4.2.2 and 4.2.3 may be sanctioned by Dean (Academic Affairs) on the recommendation of DPGC and it will entail loss of financial assistantship for the extended period.

These leave rules mentioned in Sections 4.2.1 to 4.2.5 relate only to Institute Assistantship. They do not alter or reduce the attendance requirements specified in Section 4.1, which is required for academic purposes.

### **4.2.1. Vacation and Casual Leave**

1. A postgraduate student may be allowed vacation leave of up to 15 days per semester with a maximum of 30 days in an academic year, during any period of the Institute's vacation or intra-semester recess. The vacation leave not availed in a semester may be carried over to the next semester but not from one academic session to the next academic session.
2. In addition, a student may be allowed casual leave for up to 8 days per semester subject to the condition that such leave will not be allowed for longer than 6 days at a time. The casual leave cannot be combined with any other kind of leave, and will not be carried over.
3. There will be no loss of financial assistantship for students going on vacation or casual leave.

### **4.2.2. Medical Leave**

Leave on medical ground, duly supported by a medical certificate, may be granted to a student for up to eight days per semester. Leave not availed may be carried over to the next semester up to a maximum of 8 days. However, at a stretch, the medical leave shall not exceed 15 days. Such leave shall not entail any loss of financial assistantship.

### **4.2.3. Maternity Leave**

A female student may be granted Maternity/ **Child Care Leave for a maximum of 240 days**. Further, a leave upto 6 weeks is admissible for miscarriage including medical termination of pregnancy. Such leave can be combined with any other leave due and will not entail any loss of financial assistantship.

Further, such students may be not allowed any relaxation in the maximum duration of the Ph.D. Programme.

In both the above cases, if the student is given earlier complete semester leave (or drop) due to any serious medical reasons such period will be excluded in counting the total period.

### **4.2.4. Semester Leave**

Semester leave for up to a maximum of two semesters for M. Tech., and Ph.D. students may be sanctioned for *bona fide* reasons. Except for medical reasons, such leave would not normally be sanctioned before a student has completed his/her residence requirements and in no case before the student has spent two semesters in the programme. However, on medical considerations such leave may be sanctioned after his/her stay of one semester. Leave for more than one semester at a time will not be granted except for the cases mentioned in Section 4.2.5.

#### **4.2.5. Leave for Professional Employment**

If a student admitted to M. Tech. programme gets a professional employment after completing the course work requirements, he/she may be granted semester leave for more than one semester at a stretch to join his/her job. Such a student can take leave from his/her employer at a later date and re-join the Institute by registering for thesis credits to complete the M. Tech. programme without exceeding the maximum time limit from the date of his/her first registration as specified in Section 7.1. If he/she is unable to complete the thesis within the above maximum period, he/she will not be allowed to continue in the programme.

This provision also exists for a student admitted to the Ph.D. programme, who has given the state-of-the-art seminar and who has completed the minimum residence requirements. Such a student can later take leave from his/her employer and re-join the Institute by registering for thesis credits to complete the Ph.D. programme without exceeding the maximum time limit from the date of his/her first registration as specified for completion of the programme in Section 7.1. If he/she is unable to submit the thesis within the above maximum period, he/she will not be allowed to continue in the programme.

A student, who have completed the requirement for Course Work within two semesters or at the earliest at the end of the First Semester and may give SOTA before the end of the Semester in which they had registered for thesis credits. Such students admitted to Ph.D. programme and who have given their state-of-the-art, but have not completed residence requirement. However, for such students resident for a part of semester before and after the leave shall not be counted as a residence period.

#### **4.2.6 Medical Certificate**

If a student falls ill while on the campus of the Institute, the medical certificate must be obtained from the designated medical officer of the Institute. If he/she falls ill outside the campus while on sanctioned leave, the medical certificate must be obtained from a registered medical practitioner. To satisfy itself, the Institute may require medical examination to be performed by a designated doctor in the vicinity.

#### **4.2.7. Absence for More than 4 Weeks on Sanctioned Leave**

If a registered student is absent on sanctioned leave for a period of 4 weeks or more at a stretch, Dean (Academic Affairs) may decide to convert the leave to a semester leave, or reduce the thesis units (in blocks of 11 credits) appropriately, in case the student is registered only for thesis units.

#### **4.2.8. 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 DPGC and approval of the Dean (Academic Affairs).

### **5. PERMISSION TO PROCEED FOR ACADEMIC WORK OUTSIDE RGIPT**

#### **5.1. Permission to Proceed to Other Academic Institutions and Research Organizations as Non-Degree Students**

In order to help students broaden their horizons and enrich their cultural and academic experience, provision to proceed to other academic institutions and research organizations in India or abroad as non-degree students is available. Rules and procedures to be followed for availing this provision are as follows:

- i) An M. Tech. or a Ph.D. student who satisfies the minimum conditions laid down in paragraph (ii) below may proceed to another academic institution or research organization in India or

abroad with prior permission of the Dean (Academic Affairs) on the recommendation of the DPGC.

- ii) Only those postgraduate students who have spent at least two semesters and have a CPI of at least 8.0 are eligible to proceed as non-degree students elsewhere.
- iii) For permission to spend time as a non-degree student elsewhere, an eligible student will make an application to the Dean (Academic Affairs) through the DPGC, duly supported by a statement of purpose to undertake the proposed work and sufficient information about the Department/Institution for the purposes of paragraph (iv) below.
- iv) The DPGC will consider the student's application forwarded by the supervisor/faculty adviser and will determine if the proposed programme of work is of such a nature that waiver for at least 33 credits per regular semester or 11 credits per summer term is possible. The Dean (Academic Affairs) may approve the application on the recommendation of the DPGC. In all such cases, the student will be informed about the requirements he/she must fulfil to apply for academic credit on his/her return.
- v) Permission to proceed to an institution as a non-degree student does not imply that the student will automatically get any waiver from the academic requirements of RGIPT, as laid down in this document.
- vi) The student, after completion of the work, will apply for waiver from requirements of his/her programme at RGIPT supported by an official transcript of the grades obtained and whatever material the DPGC may require for the purpose given in paragraph (vii) below. This Clause will also apply for any course(s) done remotely, for which prior permission was taken.
- vii) The DPGC concerned will evaluate the work done by the student and will make recommendations to the Dean (Academic Affairs) after determining by whatever means it deems fit, the equivalent RGIPT courses/requirements for which the student may be given a waiver.
- viii) On the recommendation of the DPGC, the Dean (Academic Affairs) may allow the waiver for a maximum of 55 credits. Against each requirement for which a waiver is granted, a "T" would appear on the grade report with an explanatory note that T stands for waiver/transfer for the work done at the Institution concerned. All such credits earned by waiver shall not be counted for SPI/CPI calculations.
- ix) The minimum residence requirement for the students who avail of this provision will remain unchanged for Ph.D. students but may be reduced by one semester for M. Tech. students, provided they spend at least one semester duration or two quarters of at least 6 weeks duration each as non-degree students elsewhere with prior permission.
- x) Those students who are selected by the Institute as per the recommendations of a competent body constituted by the Senate for such purpose to proceed on any institutional exchange programme will also have to go through the procedure and rules for the waiver of credits as outlined in paragraphs (vi), (vii), (viii) and (ix) above.

These provisions given in this section are not applicable for the students going under the DAAD fellowship programme or MoU signed by the Institute/GoI and they will be governed by the norms/procedures as specified by DAAD or according to the MoU.

## **5.2. Permission to Proceed for Academic Activities (without being a non-degree student)**

- (i) The PG students can be permitted to proceed for academic activities outside RGIPT to carry out field work, library work, computational work, experimental work, and Lab works, and also to attend conferences, short term courses and to undertake other research work during Summer

or Winter breaks, etc. Permission for a period of up to 30 days may be sanctioned by the DPGC of the Department concerned, with intimation to Dean (Academic Affairs), based on an application duly forwarded by the supervisor(s). If such permission is required for a period longer than 30 days, the same may be granted by the Dean (Academic Affairs) on the recommendation of the DPGC of the Department concerned and such a period may be counted for their residence requirements.

- (ii) In case the collaborative research is outside RGIPT, the DPGC is required to make specific recommendations of cases where the student is seeking permission to avail this provision to carry out work at premier institutions outside RGIPT including those overseas, for one semester (exceptional cases one year may be approved by the Chairman, Senate) to make use of the special facilities or expertise available at such places. While making such special recommendations DPGC should consider the following:
  - i) whether such expertise is not available in the RGIPT; or
  - ii) whether the work is likely to create a new area of research in our institute.; or
  - iii) whether the Supervisor is also visiting the place or having collaborative researches and thus having formal/informal linkages with the said Institution/Laboratory.
  - iv) whether any fellowship is provided to the student by the host.

## **6. ACADEMIC REQUIREMENTS**

### **6.1. Minimum Residence, Maximum Duration and Academic Requirements**

The following Table lists the minimum residence and maximum duration allowed in the programme, and credit requirements for graduation in the various programmes (to be read together with Section 2.4 and Tables 2 & 3 of Annexure – II):

**The requirement of earning credits through course work shall be waived off by Dean (Academic Affairs) on the recommendation of DPGC for a student admitted to Ph.D. under external registration programme provided he/she has M.Tech. as qualifying degree from a premier Institution in India.**

*"Course Work" includes only postgraduate course credits as well as permitted undergraduate course credits (up to a maximum number of 2 courses of level 4), unless stated otherwise. To satisfy the "Minimum Residence" requirements, registration must be over consecutive semesters; exception will be made only if the student is on authorized leave. "Maximum Duration" is counted from the date of student's first registration. SPI/CPI will be calculated only on the basis of course work.*

Programme	Minimum Total Credits	Minimum Credits through Course Work	Minimum Credits through Thesis Work	Minimum Number of Courses <sup>1</sup>	Minimum Residence <sup>2</sup>	Maximum Duration
M.Tech.	220	88	99	8	4 Semesters	4 Years
Ph.D. for students with M.Tech.	220	44	110	4	4 Semesters	6 Years <sup>3</sup>
Ph.D. for students with M.Sc.	275	66	110	6	5 Semesters	6 Years <sup>3</sup>
Ph.D. for students with B.Tech./4 yr. B.S.	330	88	110	8	6 Semesters	7 Years
M.B.A.	220	88	99	8	4 Semesters	4 Years

1. The 'Minimum Number of Courses' is only indicative and in case of any difference, the minimum number of credits through course work will be required to be fulfilled.
2. Students admitted to Ph.D. under External Registration programme will be required to stay on the campus at least as long as it takes to (i) complete the required course work, (ii) pass the comprehensive examination, and to (iii) give the state-of-the-art seminar.

3. Add an additional year in case of part-time/external students.
4. **If requirement of minimum course credits is waived off, a student under external registration will have to earn the total minimum credits through thesis work only.**

The minimum specified for each category is arrived at on the basis of optimum credits per semester. This gives flexibility to a student to choose more/less credits between courses and research work to make up for the minimum credit requirement for a programme.

A Department may prescribe, with prior approval of the Dean (Academic Affairs), additional credits of courses/thesis over and above the minimum specified in the above Table.

#### **Calculation of credits for M. Tech. and Ph.D. Programmes:**

The credits assigned for the course work is given by

$$C = 3L + 2T + P$$

where L indicates the number of lecture hours per week, T indicates the number of tutorial hours per week, P indicates the number of practical hours per week.

#### **6.2. Extension of Programme**

No student who has completed the prescribed maximum duration in the programme shall be allowed to register in the subsequent semester unless he/she has been granted extension of the programme by the Chairman, Senate on the recommendations of the DPGC and the Dean (Academic Affairs).

#### **6.3. Audit Courses**

The students are permitted to audit courses, with the consent of the instructor concerned, but such courses shall not be shown either on the registration form or on the grade report.

#### **6.4. Evaluation of Academic Performance in a Course**

1. In each course a student is registered, he/she earns certain approved credits and is awarded a letter grade indicating his/her overall performance in that course.
2. A student shall be continuously evaluated for his/her academic performance in a course through tutorials, practical's, home assignments, term papers, field work, seminars, quizzes, Periodical Tests, Mid Term Examination, the End-Semester Examination, as applicable.

The distribution of weightage for each component shall be as follows:

(a) <b>Theory Courses with Laboratory:</b>		
(i) End Semester Examination	50	
(ii) Mid Semester Examination	20	
(iii) Laboratory Work	20	
(iv) Quizzes/short tests, tutorials, assignments	10	
	<b>Total</b>	<b>100</b>
(b) <b>Theory Courses without Laboratory:</b>		
(i) End Semester Examination	60	
(ii) Mid Semester Examination	30	
(iii) Quizzes/short tests, tutorials, assignments	10	
	<b>Total</b>	<b>100</b>
(c) <b>Laboratory Courses:</b>		
(i) Sessional work, quizzes and regularity	50	
(ii) Practical examination	50	
	<b>Total</b>	<b>100</b>

**Coordination Committee:**

- (a) For each course of a semester, a Course Coordination Committee (CCC) shall be constituted by the DPGC. The DPGC shall also nominate one faculty from amongst the members of the committee to act as the Convener of the committee. For subjects requiring class room instructions the Coordination Committee shall consist of all the teachers involved in teaching and conducting classes for that course (lectures, tutorials, field works, drawing/design work, practical laboratories, workshop classes, seminars, etc.). The committee shall have at least two members. If only one teacher is involved in teaching, the DPGC will include one additional faculty of the area related to the course as member in the committee. In no case a tutor or teaching assistant is permitted to conduct theory courses. They may be engaged for tutorial classes and for laboratory classes under the guidance of course convener.
- (b) The CCC\* shall have the following functions during the semester.
- i) Planning and coordination of teaching theory as well as practical subjects.
  - ii) Scheduling home assignments, quizzes, tutorials, etc.
  - iii) Conducting and assessing short tests, etc.
  - iv) Setting of question papers for Mid Term and End Semester Examinations. The following should be observed by the Coordination Committee:
    - a) Question paper should be designed in such a manner that it covers the complete syllabus as per course structure and content given in course booklet/Academic Portal and announced to the student by the concerned teacher at the beginning of the semester.
    - b) Question paper should be designed in a manner that it contain the questions of varying difficulty levels.  
For example: Paper should have the fair balance of questions containing direct question/ logical reasoning/ analytical ability/ mathematical ability/ case studies and questions of applied nature depending upon the subject.
    - c) The question paper should be designed in a manner that students should complete the paper in the prescribed duration of the examinations. The question paper should not be short or long duration i.e. time distribution should be fair.
    - d) Marks assigned to the questions should be fairly distributed over all units of the course content of the concerned subject.
  - v) Evaluation of Answer books and preparation of final marks list and submission of grades to the Examination Section, Office of Dean (Academic Affairs).

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\* If only one teacher is involved in teaching, all the functions except setting of question papers for Mid Term and End Semester Examination shall be carried out by the convener only.

The following grading systems and attendance rules shall be applicable to different categories of M. Tech. & Ph.D. students of RGIPT.

### **Grading System applicable for**

<b>Grade</b>	<b>Grade Point</b>	<b>Description</b>
<b>A*</b>	<b>10</b>	<b>Outstanding (Extraordinarily high level of learning)</b>
<b>A+</b>	<b>10</b>	<b>Excellent</b>
<b>A</b>	<b>9</b>	<b>Very Good</b>
<b>B+</b>	<b>8</b>	<b>Good</b>
<b>B</b>	<b>7</b>	<b>Very Fair</b>
<b>C+</b>	<b>6</b>	<b>Fair</b>
<b>C</b>	<b>5</b>	<b>Average</b>
<b>F</b>	<b>0</b>	<b>Fail (Extremely low level of learning)</b>
<b>S</b>	<b>---</b>	<b>(Research Unit) Satisfactory</b>
<b>X</b>	<b>---</b>	<b>(Research Unit) Unsatisfactory</b>
<b>I</b>	<b>---</b>	<b>Incomplete</b>
<b>T</b>	<b>---</b>	<b>Waiver/ Transfer</b>
<b>Z</b>	<b>0</b>	<b>Deregistered from Course</b>

3. If a student does not complete all the requirements for a course for a genuine reason, the instructor may award the grade I (Incomplete), awaiting completion of work. An I grade may also be awarded if the student has not appeared in the end semester examination for cogent reasons. If the reason for missing the end semester examination is not accepted as a cogent reason by the competent authority, the I grade shall be converted to fail grade F; otherwise, a make-up end semester examination shall be conducted and the grade I shall be replaced by the grade obtained by the student, as per the provisions of this document. An I grade must be converted by the instructor to a regular letter grade by the last date for such conversion specified in the Academic Calendar, failing which it is automatically converted to an F grade by the Dean (Academic Affairs) Office. Unless otherwise there is a written request from the instructor for extension of the last date which is accepted by a competent authority.
4. A student getting an F grade in a course must repeat the course. If the course happens to be an elective course, he/she can substitute the same by another elective course with the permission of the Convener, DPGC.
5. If an M. Tech. student does not secure a CPI of at least 6.0 at the end of a semester/summer term, he/she may be allowed to repeat a course in which he/she has obtained grades C or D, or substitute the course (if it is an elective course) by another elective course with the permission of the Convener, DPGC.

If a Ph.D. student does not secure a CPI of at least 6.5 at the end of immediate following Summer Term after the completion of two regular semesters from the date of admission, he/she may be allowed to repeat a course in which he/she has obtained grade C or D, or substitute the course (if it is an elective course) by another elective course with the permission of the Convener, DPGC.

Whenever a student is permitted to repeat or substitute a course, the new letter grade replaces the old letter grade in the computation of the CPI, but, both the grades appear on his/her grade report.

6. A student registers for thesis credits for M. Tech. or Ph.D. programme in units of 11 credits in a semester. A semester load of research work is equivalent to 5 units.

At the end of the semester, the progress made by an M. Tech. student towards the thesis work during the semester will be assessed by the supervisor(s) and the grade S/X will be awarded for each thesis unit if the work is satisfactory/unsatisfactory, as the case may be.

At the end of the semester, the Research Progress Evaluation Committee (RPEC) (Section 11.2.1) appointed for the purpose will assess the progress made by a Ph.D. student towards the thesis work during the semester and the grade S/X will be awarded for each thesis unit if the work is satisfactory/unsatisfactory, as the case may be.

Thus a student registered for 5 units can get one of the following six combinations, namely, 5S, 4S+1X, 3S+2X, 2S+3X, 1S+4X or 5X.

Format for the M.Tech. and Ph.D. thesis grades in student's grade reports

Thesis Units	Maximum Thesis Credits	Grading Options
5	55	5S, 4S+1X, 3S+2X, 2S+3X, 1S+4X or 5X
4	44	4S, 3S+1X, 2S+2X, 1S+3X or 4X
3	33	3S, 2S+1X, 1S+2X or 3X
2	22	2S, 1S+1X or 2X
1	11	1S or 1X
0	0	0S+0X

7. If a student is on leave for a part of the semester or submits his/her thesis in the middle of a semester, the Dean (Academic Affairs) may reduce his/her thesis units appropriately, on the recommendation DPGC.
8. In addition to the above, a separate oral examination will be conducted for M.Tech. students as outlined in Section 10.4.1.

## 6.5. Computation of the Semester Performance Index (SPI) and Cumulative Performance Index (CPI)

The Semester Performance Index (SPI) is a weighted average of the grade points earned by a student in courses credited and describes his/her academic performance in a semester. If the grade points associated with the letter grades awarded to a student are  $G_1, G_2, G_3, G_4$ , and  $G_5$  in five courses and the corresponding credits are  $C_1, C_2, C_3, C_4$ , and  $C_5$ , the SPI is given by

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

The Cumulative Performance Index (CPI) indicates the overall academic performance of a student in all the courses registered up to and including the latest completed semester/summer term. It is computed in the same manner as the SPI, considering all the courses (say,  $n$ ), and is given by

$$CPI = \frac{\sum_{i=1}^n C_i \times G_i}{\sum_{i=1}^n C_i}$$

where  $C_1, C_2$ , etc. are the credits for the courses that the student has registered for all the semesters including the summer terms completed and  $G_1, G_2$ , etc. are respectively the corresponding grade points.

In the computation of both SPI and CPI, courses with S, X and T grades are ignored.

Where necessary, the CPI may be converted to its percentage equivalent by multiplying the same by 10.

## **6.6. Make-up Examination**

If a student, for cogent reasons such as illness, etc., fails to appear in the mid-term/ the end-semester examination in one or more course(s), he/she may make a request personally or through someone to the Dean (Academic Affairs) duly forwarded by the Convener, DPGC for a make-up examination within two days of the date of the scheduled examination. Such a request must, however, be made on a prescribed form, available in the office of the Dean (Academic Affairs), giving reasons for the failure to appear in the end-semester examination with a certificate from the designated medical officer of the Institute, in case the failure was due to illness.

The make-up examination is ordinarily scheduled after the end semester examination but before the last date for submission of grades. However, if the illness due to which such an examination was requested prolongs the make-up examination may be conducted at a suitable date but well before the date of registration for the next semester. [Senate Resol. No. 13.6.7]

## **6.7. Academic Performance Requirement**

1. The students in the M. Tech./Ph.D. programme have to fulfil the credits requirement as specified in Section 6.1.
  2. The minimum CPI requirement for graduation is
    - M. Tech. programme : 6.0.
    - Ph.D. programme : 6.5.
  3. The DPGC will keep a watch on the progress of students who earn less than 50% of credits at the end of first semester and issue a letter stating that they should fulfil the requirements as per the following clause with intimation to the Dean (Academic Affairs).
    4. If a student, at the end of the summer term after the second semester, fails to earn at least 50% of the total credits of the cumulative load up to that point, he/she shall be deemed to have earned zero credits and all the grades he/she has obtained in both the first and the second semesters will be cancelled. Such a student has to repeat the programme by registering again for the programme as a fresh candidate. However, for the purpose of maximum duration of the course the date of his/her first registration shall be treated as the starting point. The grade report shall indicate that the previous grades are cancelled and the fresh grades are for the semesters which he/she has repeated.
- The duration of the Institute Assistantship also will normally be limited to the stipulated period mentioned during the award of the fellowship.
5. The DPGC will also keep a watch on the M. Tech./Ph.D. students who are registered for the thesis credits and will issue a warning letter to a student if he/she accumulates two X grades in the thesis units.

6. An M. Tech. student will normally be not allowed to continue in the programme if he/she accumulates four or more X grades in the thesis units.
7. A Ph.D. student will normally be not allowed to continue in the programme if he/she accumulates eight or more X grades in the thesis units.
8. The cases of termination of the programme of such students will be presented to the Senate by the Dean (Academic Affairs) based on the recommendation of the DPGC concerned.
9. The termination letter is issued by the Head of the Department after receiving the communication from the Dean (Academic Affairs).

### **6.8. Exit from Ph.D. in Engineering**

A Ph.D. student in an engineering Department may exit from the programme with an M. Tech.. degree provided

- (i) he/she does not already hold a master's degree in engineering;
- (ii) a request to this effect is made at least six months before the exit but not before the student has completed two-and-half years (excluding the period of sanctioned leave, if any) in the programme;
- (iii) the request is approved by the Senate on the recommendations of DPGC and Dean (Academic Affairs); and
- (iv) the student has completed all the requirements of the M. Tech. degree (including thesis).

This provision is available only for the students admitted in those Departments in which already a two year M. Tech.. programme is existing.

## **7. COMPREHENSIVE EXAMINATION OF Ph.D. STUDENTS**

1. Students registered in the Ph.D. programme must pass a comprehensive examination designed to test the overall comprehension of the student in the various subjects. A student can appear in the comprehensive examination only after he/she has completed the course requirements and satisfied the minimum specified CPI requirement.

If the requirement of course credit is waived off for a student registered under external registration category DPGC shall permit the student to appear in the comprehensive examination within six months from the registration after admission without fulfilling the above requirements.

2. Students with B. Tech., M.Sc. or M.A. degrees or part-time students with M. Tech.. or equivalent degrees admitted to Ph.D. programmes may appear in the comprehensive examination earliest at the end of the second semester, but must pass the same before the end of the fifth semester after their first registration. Students admitted with M. Tech. or equivalent degrees may appear in the comprehensive examination earliest at the end of the first semester, but must pass the same before the end of the fourth semester after their first registration. The above time limits are exclusive of the period of sanctioned leave, if any.

3. The examination will be in oral form but may be supplemented with a written part.
4. The comprehensive examination board will consist of at least three but not more than five faculty members of the student's Department plus one faculty member from outside the Department. There may be two faculty members from outside the Department/ School in case the co-supervisor is from outside the Department. In case of external registration candidates, the external supervisor from the R & D organization may be invited to be a member of the examination board. Constitution of the board will be proposed by the DPGC in consultation with the Head of the Department and the thesis supervisor, if already assigned, and will be forwarded to the Dean (Academic Affairs) who will send it to the Chairman, Senate for approval. The thesis supervisor of the student, if already assigned, will be the Chairman of the

board. In case no thesis supervisor is assigned, the Convener, DPGC or the Faculty Advisor will be the Chairman of the board.

5. A student will be considered to have passed the comprehensive examination if all the members (with the exception of at most one member) of the board are satisfied with student's performance in the examination. The report of the comprehensive examination will be sent to the Dean (Academic Affairs).
6. In case a student does not pass the comprehensive examination in his/her first attempt, a second comprehensive examination will be conducted with a gap of at least one semester by the same board that was constituted earlier unless a different board is approved by the Chairman, Senate on the recommendation of the DPGC and the Dean (Academic Affairs).

Students can register for Thesis Credits in any semester once supervisor(s) is (are) allotted but normally after the course work is over. However, they should complete their Comprehensive and give SOTA during the Semester subsequent to completion of their course work.

The student who is allotted a Supervisor within the first academic year may register for thesis credits in addition to the course credits that he/she might have registered for clearing the comprehensive. However, the total credits (Thesis + Course) should not exceed 55, the normal Semester load.

This provision is not to override the requirements of Clauses 8 and 9, and such students are required to give their SOTA at the end of the semester in which they registered for thesis credits first time. In addition they should clear their comprehensive during the subsequent semester.

7. The examination board may also recommend additional course work in case of extremely low performance of a candidate.
8. If a student fails twice in the comprehensive examination, he/she would have to leave the Ph.D. programme. All such cases shall be brought to the notice of the Senate.

## **8. CANDIDACY FOR THE Ph.D. DEGREE**

A student enrolled in the Ph.D. programme is formally admitted to the candidacy for the Ph.D. degree after he/she has completed the course requirements for the degree with at least the minimum required CPI, and has passed the comprehensive examination. Only such students who are admitted to the candidacy will be allowed to submit Ph.D. theses in accordance with the guidelines laid down in Section 10.3.2.

## **9. STATE-OF-THE-ART SEMINAR**

Every Ph.D. student admitted to the candidacy for the Ph.D. degree is required to give a general seminar in the Department in the presence of Research Programme Evaluation Committee (RPEC) [IC: Section 10.2.1], covering the State-of-the-Art (SOTA) of the proposed area of research. This seminar must be given before the end of the semester in which the student had registered for thesis credits first time. A report of satisfactory completion of this requirement is to be communicated to Dean (Academic Affairs) through the convenor DPGC by the thesis supervisor. The supervisor will be the Chairman of the SOTA Seminar.

## **10. THESIS AND THESIS EXAMINATION**

### **10.1. Appointment of Thesis Supervisors for M. Tech., and Ph.D. Students**

1. A student shall not normally have more than two supervisors (Supervisor and a Co-Supervisor) at any given time. In case of students under external registration programme, the co-supervisor shall be from the sponsoring organization, who shall be referred to as external supervisor.

2. The supervisor(s) will normally be appointed at the end of the first semester for M. Tech. students. The Supervisor shall be appointed within thirty days from the date of registration for a Ph.D. student.

However, a student under external registration programme may be allotted supervisors (one from the Institute and the other (external supervisor) from the sponsoring organization) at the time of first registration to the Ph.D. programme.

Till the supervisor is appointed, a faculty advisor may be appointed by the DPGC for all students admitted in a particular semester, who will advise on the selection of courses, oversee the performance and credit requirements of each one of that batch of students.

3. Thesis supervisor(s) of a student will be appointed from amongst the faculty members of the Department by the Dean (Academic Affairs) on the recommendation of DPGC. In case of a Ph.D. student who is required to work in two Departments, he/she will have supervisor from the Department in which the student has enrolled for Ph.D. programme and the co-supervisor from the other Department.
4. DST-INSPIRE Faculty or a Faculty Fellow selected by any other Scheme similar to DST-INSPIRE may be permitted to supervise a Ph.D. student or M. Tech.. student only if it is a Joint Supervision along with an identified Co-Supervisor. The Supervisor and Co-Supervisor together are required to submit an undertaking that they are jointly working in the area and in case the Supervisor, who happens to be DST-INSPIRE Faculty, ever leaves the Institute, the Co-Supervisor is fully conversant with the work and will continue to guide the research student on the same topic by becoming the main Supervisor.

The above conditions also apply for guidance of a Ph.D. student for an Assistant Professor on contract. For guidance of M. Tech.. student, he/she may guide independently as Supervisor, if his/her tenure permits.

Visiting Faculty, who wish to participate in the research activities of the Department, may do so by offering their mentorship and guidance to the research. If such collaboration work results in publication/s then the Visiting Faculty becomes a Co-author. However, the Visiting Faculty may be associated as Co-Supervisor for M. Tech. thesis if his/her tenure permits.

If a faculty member takes a Ph.D. student, within Two years before one's date of retirement, a Co-Supervisor (not due to retire within 3 years) must be taken with the condition that the Supervisor and Co-Supervisor together are required to submit an undertaking that they are jointly working in the area and after retirement of the Supervisor, the Co-Supervisor who is fully conversant with the work will continue to guide the research student on the same topic by becoming the main Supervisor.

Under exceptional circumstances, an employee of RGIPT with the rank of senior scientific officer and above and having a doctoral degree in the discipline concerned can be appointed as a supervisor/co-supervisor of a Ph.D. student. The recommendation of the DPGC through the Dean (Academic Affairs), regarding the merit and qualifications of the supervisor/ co-supervisor under consideration will be sent to the Chairman, Senate for approval. Such an employee can be appointed as supervisor/co-supervisor for only one Ph.D. student at a time.

5. In exceptional cases a student can have a co-supervisor from outside the Institute on the recommendation of the DPGC and the Dean (Academic Affairs) and approval of the Chairman, Senate.
6. The appointment or change of supervisor(s) will be communicated to the Dean (Academic Affairs) by the DPGC. No change/addition of supervisor(s) is allowed after the thesis has been submitted.

7. In case there has been a change/addition in the supervisor(s), the M. Tech. thesis will not be submitted earlier than three months and the Ph.D. thesis will not be submitted earlier than six months from the date of such a change.
8. If a student's supervisor proceeds on long leave for more than one year in case of Ph.D. students, and on leave for more than three months in case of M. Tech. students, the DPGC shall appoint a new supervisor or a co-supervisor in consultation with the supervisor and the student. In such a case the number of supervisors may be more than two if an external supervisor already exists. If the supervisor of a student proceeds on leave for not more than one year in case of Ph.D. students\*, and not more than three months in case of M. Tech.. students, the DPGC may appoint a programme coordinator to take care of the various formalities.
10. If all research work and related analysis are complete except for writing and submission of the thesis, and the supervisor proposes to go on leave, the DPGC may appoint a programme coordinator, to take care of the formalities, such as providing the list of examiners, conducting the oral examination, etc.
11. In case a supervisor resigns/retires/expires or otherwise ceases to be a faculty member of the Institute, the DPGC will appoint a new supervisor or co-supervisor.
12. In case a faculty member is due to retire in less than two years' time, he/she will not be appointed as a supervisor for a Ph.D. student. However, he/she can be appointed as a co-supervisor for a Ph.D. student and Supervisor for M. Tech. student.
13. In such extra-ordinary situations as and when a supervisor refuses to supervise a student *or a student is not willing to continue with the allotted Supervisor during the course of the thesis work* the candidate may be given an option to identify another supervisor from the same Department and transfer his/her thesis credits earned thus far, under the new supervisor. Alternatively, the candidate may be given a choice to transfer his/her registration to another Department where a matching research area exists and a faculty member is willing to supervise the student. The two DPGCs concerned should come to a mutual agreement. The matter should be sent to Chairman, Senate, through Dean (Academic Affairs) for approval.

However, this provision cannot be exercised as a matter of right.

**\*Note:** The comprehensive examination can be conducted by the Convener, DPGC or the programme coordinator. However, the SOTA, open seminar, thesis submission, defense, etc. might get postponed till the supervisor returns. However, if the student has a co-supervisor, these things may be taken care of by the co-supervisor.

## 10.2. Constitution of Committees/Boards for Thesis and Oral Examination

### 10.2.1. Research Progress Evaluation Committee

The Research Progress Evaluation Committee (RPEC) for a Ph.D. student consists of the Supervisor(s), one subject expert from the Department and one member from outside the Department. The RPEC examines the research progress of the candidate at the end of each semester and awards grades. The Supervisor will be the Chairman of the RPEC. The committee is constituted by the supervisor and approved by the DPGC and communicated to the Dean (Academic Affairs).

### 10.2.2. M. Tech. Thesis Oral Examination Committee

1. The thesis will be examined by an oral examination committee proposed by the thesis supervisor(s)/programme coordinator in consultation with the Head of the Department concerned. It will be recommended by the DPGC and approved by the Dean (Academic Affairs).

2. The committee shall consist of the thesis supervisor(s) and at least two but not more than four other members, one of whom should belong to a Department other than the student's Department. The thesis supervisor will act as the Chairman of the Committee.

#### **10.2.3. Ph.D. Thesis Board**

1. The thesis board shall consist of six members in addition to the thesis supervisor(s) and is approved by the Chairman, Senate. Four members from outside of the Institute, two members from the Institute; in which one is from the department and one is from outside of the Department, and Supervisor constitute the Thesis board of a PhD candidate. Unless some special circumstances make it impractical, at least two members of the thesis board (other than the supervisor(s)) must be from outside the Institute and at least one of these two must be from within the country. Thesis supervisor will be the chairman of the board.

2. The procedure for constituting the thesis board is given below.

- i) The thesis board may be proposed at the most 4 weeks before the submission of the thesis.
- ii) The thesis supervisor(s), in consultation with the Head of the Department shall propose a list of examiners consisting of at least six names for the thesis board (in addition to the thesis supervisor(s)). This list, along with an adequate number of copies of the synopsis (prepared according to the format prescribed in "Specification and Information Regarding the Preparation of Thesis", **as per Annexure-IX**), shall be forwarded by the DPGC to the Dean (Academic Affairs). This may be done about one month before the submission of the thesis, so that necessary processing of selection of examiners and obtaining their consent can be carried out by the Dean (Academic Affairs).

In case the Thesis work spans an allied discipline, then names of examiners from the allied discipline may also be included.

- iii) The Chairman, Senate in consultation with the Dean (Academic Affairs) will select the members of the thesis board from this list. If considered necessary, the Chairman, Senate may require additional names of experts to be submitted or may select members outside the list(s) thus submitted. In case the Chairman, Senate is the supervisor/co-supervisor of the student concerned, the Dean (Academic Affairs) will select the members of the thesis board. In case Dean (Academic Affairs) is the supervisor of the student concerned, the Chairman, Senate will select the members of the thesis board.
- iv) The names of the members of the thesis board shall be kept confidential till successful completion of the thesis evaluation. However, on completion of Ph.D. thesis evaluation (as detailed in Section 10.4.3), the Academic Section will send to the thesis supervisor(s) the names of the Institute faculty who are the members of the thesis board, as well as that member who is from outside the Institute but is from within the country so that these names can be included in the proposed list of the members of oral board.

#### **10.2.4. Ph.D. Oral Board**

1. The oral board shall consist of four members in addition to the thesis supervisor(s). Of the four, three shall be from among the faculty members of the Institute (including those, if any, on the thesis board) and one shall be from among the members of the thesis board within the country but outside the Institute. Of the three members from RGIPT at least one shall be from a Department, which is different from the student's own. The thesis supervisor will act as the Chairman of the Ph.D. Oral Board.
2. The thesis supervisor(s) in consultation with the Head of the Department shall propose the constitution of the oral board through the DPGC to the Dean (Academic Affairs) who will forward it to the Chairman, Senate for approval.

### **10.3. Submission of Thesis**

#### **10.3.1. M. Tech. Thesis**

After the M. Tech. oral examination committee has been constituted, unbound copies of the thesis one for each examiner of the oral board, (prepared according to the format prescribed in the “Specification and Information Regarding the Preparation of Thesis”, **as per Annexure-VI**), will be submitted to the Convener, DPGC, at least 10 days before the probable date of oral examination. The concerned DPGC will arrange to send the copies of the thesis to the examiner after taking approval of Dean (Academic Affairs). Two copies of the abstract (approximately 250 words) should also be submitted along with the thesis.

#### **10.3.2. Ph.D. Thesis**

Ph.D. thesis can be submitted only after the thesis board has been duly approved and the intimation of the satisfactory completion of the open seminar has been received. Bound copies of the Ph.D. thesis (prepared according to the format prescribed in the “Specification and Information Regarding the Preparation of Thesis”, **as per Annexure-VI**) one for each examiner of the thesis board plus an adequate number of additional copies for the oral board, will be submitted to the Dean (Academic Affairs) through the DPGC.

A student may submit soft copy of an extended abstract (of about 1500 words) a month in advance of the submission of the Ph.D. thesis, along with a requisition to the Dean (Academic Affairs) through the Convener, DPGC for initiating the process of appointment of thesis board.

In addition to the above, Quality Journal may be classified as those Journals indexed by SCI/SCI Extended/SCOPUS. The requirement of publication of two papers be fulfilled by all the Ph.D. students, irrespective of their registration date.

### **10.4. Processing of the Thesis**

#### **10.4.1. M Tech Oral Examination**

1. The oral examination will be conducted within four months from the date of submission of the thesis. If a student does not appear in the oral examination within this time period, his/her programme would be deemed to have been terminated. Request for reinstatement in the programme by such a student should be addressed to the Chairman, Senate. The request may be considered by the Senate and in case the Senate grants the request it shall specify the requirements that the student must fulfil for the award of the degree.
2. The thesis supervisor will intimate the date of the oral examination to the Office of the Dean (Academic Affairs).
3. The oral examination committee will evaluate the thesis, conduct the oral examination and send a report of the examination to the Dean (Academic Affairs) through DPGC.
4. A thesis will be considered to have been accepted if all members of the oral examination committee recommend its acceptance. A thesis, which is not accepted, will be considered to have been rejected. Upon acceptance, the candidate is expected to submit the bound copies to the Office of the Dean (Academic Affairs) incorporating corrections, if any, normally within one week of the acceptance of the thesis by the oral examination committee.
5. If a thesis is rejected in the present form but recommended for resubmission after incorporating any modification/correction suggested by the oral examination committee, oral examination of the resubmitted thesis will be conducted by the original committee unless a different committee is approved. If the re-submitted thesis is rejected, the matter will be reported to the Senate for appropriate action.
6. Acceptance of the thesis will be reported to the Senate for approval.

#### **10.4.2. Open Seminar of Ph.D. Students**

Before proceeding to finalize the thesis, each Ph.D. student must deliver a seminar open to faculty and students in which the research work will be presented to obtain comments, suggestions and criticism, if any, which may be incorporated in his/her thesis. A notice of the seminar must be displayed at least four days in advance. A thesis can be submitted only after the satisfactory fulfilment of this requirement. The thesis supervisor will be the Chairman of the open seminar. Upon successful completion of the seminar, an intimation that the open seminar has been given will be communicated by the thesis supervisor to the Dean (Academic Affairs) through the Convener, DPGC.

#### **10.4.3. Ph.D. Thesis Evaluation by the Thesis Board**

1. After the synopsis has been submitted and the thesis board constituted, the Dean (Academic Affairs) will send a letter by e-mail/fax to each member of the thesis board enclosing a copy of the synopsis and requesting him/her to serve as an examiner for the thesis. If the examiner refuses or no response is received for two weeks (with a reminder being sent after one week), then steps will be taken to appoint another examiner.

2. On receipt of the acceptance for being an examiner, a copy of the thesis along with a thesis evaluation form for the examiner's report will be sent to each examiner.

In case the Examiners' report is not received within six weeks of dispatch of the thesis, a reminder will be sent by the Dean (Academic Affairs) and if there is no reply from the Examiners within the next four weeks then, Chairman, Senate will appoint a new Examiner.

3. In case Dean (Academic Affairs) is the supervisor of the student concerned, above processing (detailed in paras 1 and 2) will be done by the Chairman, Senate.

4. When an examiner's report is received, the Dean (Academic Affairs) will place it in one of the following four categories:

- i) **Category I:** An examiner accepts the thesis in the present form or suggests corrections regarding punctuation, grammar, spelling or language.

The supervisor(s) can use their discretion regarding incorporation of such suggestions.

- ii) **Category II:** An examiner points out minor technical mistakes, raises some queries or suggests modifications but does not imply that the acceptance of the thesis is subject to removal of these defects to the examiner's satisfaction.

The supervisor will be intimated to pass on the said comments to the student and obtain his/her written responses. The copies of the Thesis will be sent to the Dean (Academic Affairs) after incorporating the corrections in the body of the thesis and also attaching a separate sheet describing the changes. Upon receipt of the status of corrections, the Dean (Academic Affairs) will inform the examiner(s) concerned, the responses by the candidate to the comments made by the Examiner(s).

- iii) **Category III:** An examiner does not recommend acceptance of the thesis in the present form, and raises technical points suggesting mandatory modifications which must be answered/carried out to the examiner's satisfaction before the thesis can be accepted.

The student is required to make the necessary changes in consultation with the supervisor(s) and resubmit the thesis, along with a point-by-point response to the queries of the examiner. The supervisor will then communicate to the Dean (Academic Affairs), the changes made in the thesis, if any, in response to the examiner's comments along with an explanatory note which will be sent to the examiner (by the Dean (Academic Affairs)) with a request to respond within six weeks. If the examiner's response is not received within four weeks, a reminder will be sent and if no reply is received within a further period of four weeks, new examiner will be appointed by the Chairman, Senate.

**iv) Category IV:** An examiner conclusively rejects the thesis for the award of the degree.

5. Copies of the categorized report (without the identity of the examiner) will be sent to the thesis supervisor(s) and the Head of the Department concerned.
6. On completion of the process detailed above, the Dean (Academic Affairs) will intimate the supervisor the concurrence of the Chairman, Senate, if given, to initiate the constitution of the oral board. This concurrence of the Chairman, Senate will be given if all the examiners recommend acceptance of the thesis. If one of the examiners rejects the thesis, the matter will be referred to the Chairman, Senate for deciding further course of action. If two or more examiners reject the thesis, the thesis will be rejected.
7. The Dean (Academic Affairs) will send a copy of the thesis report to the Supervisor/Chairman of the Oral Board with a covering letter asking to constitute the oral board, under a copy to the concerned Head of the Department. However, he would send only the copy of the covering letter to the concerned Convener, DPGC, for information.

#### **10.4.4. Ph.D. Oral Examination**

1. The Ph.D. oral examination will be an open examination. The supervisor will be the Chairman of the oral board and will fix the date of the oral examination and intimate the date to the Office of the Dean (Academic Affairs).
2. If a member of the oral board, communicates in advance, his/her inability to be present or fails to be present on the specified date and time, the Chairman, Senate may appoint another member in his/her place, in consultation with the thesis supervisor(s)/programme coordinator, Head of the Department and Dean (Academic Affairs).
3. Each member of the oral board will be given a copy of the thesis along with the entire set of thesis examiner's reports and modifications thereto, if any, at least one week before the date of the oral examination.
4. The oral board shall
  - i) examine the thesis reports,
  - ii) examine if necessary modifications suggested by the thesis examiners have been incorporated,
  - iii) elicit the candidate's replies to the questions raised by the thesis examiners,
  - iv) authenticate the work as the student's own,
  - v) judge if the presentation of the work by the student and the answers to the questions asked have been satisfactory, and
  - vi) give a report of the examination, which will be communicated by the supervisor(s) to the Dean (Academic Affairs) through the Convener, DPGC.
5. If all, except at most one member, declare the student as passed, the student shall be deemed to have passed.
6. If a candidate has not passed, the oral board will specify whether
  - i) the candidate may be given another chance to appear in the oral examination and will specify the approximate date for re-examination. The original oral board will conduct the re-examination unless a different oral board is approved by the Chairman, Senate. In the re-examination, the board will declare whether the student has passed or failed as per the criteria laid down above but will not recommend holding a third oral examination.
  - ii) the candidate is declared to have failed.
7. On receipt of the report that the student has passed the oral examination, Dean (Academic Affairs) will recommend to the Senate for the award of Ph.D. degree.

8. If the candidate has failed, the matter will be brought to the attention of the Senate for further action.
9. The Chairman, Senate may order a special procedure for the evaluation of a Ph.D. thesis to protect the work of classified nature involving national security and sovereignty and/or to protect the intellectual property rights of the candidate, the supervisor and the Institute.

#### **10.5. Date of Award for Ph.D. Degree:**

The **date of award** of the Ph.D. degree shall be the same as the **date of submission** of the thesis, if the thesis is accepted without revision. If any examiner has asked for re-submission of thesis and re-evaluation by the examiner again, the **date of award** of the Ph.D. degree shall be the **date of submission** of the revised thesis.

### **11. GRADUATION REQUIREMENTS**

A student shall be deemed to have completed the graduation requirements, if the student has

- i) passed all the prescribed courses (as specified in course structure),
- ii) attained the minimum required CPI,
- iii) earned the minimum number of credits through course work and thesis work and the minimum number of total credits prescribed for the programme,
- iv) satisfied the minimum residence requirements,
- v) satisfied all the requirements specified by the concerned Department, if any,
- vi) satisfied the quality of expectations for the thesis as specified by the thesis board,
- vii) at least two research publications for Ph.D. (accepted for publication/published) (to be submitted separately), and
- viii) satisfied all the requirements specified by the Senate and the Ordinances.

In addition, the student should have paid all the dues to the Institute and, should have no pending case of indiscipline.

### **12. REMOVAL OF DIFFICULTY**

Notwithstanding anything contained in these ordinances, the Senate of the Rajiv Gandhi Institute of Petroleum Technology, Jais reserves the right to modify/amend without notice, the curricula, procedures, requirements, and rules pertaining to its postgraduate programmes.

Any doubt or dispute about the interpretation of these Ordinances shall be referred to the Chairman, Senate of the Rajiv Gandhi Institute of Petroleum Technology, Jais, whose decision shall be final and binding.

## **POSTGRADUATE COMMITTEES**

Each Department shall have a Department Postgraduate Committee (DPGC) consisting of a Convener to be nominated by the Head of the Department/Coordinator of the School in consultation with the faculty of the Department, the Head of the Department/Coordinator of the School and a minimum of four and a maximum of eight faculty members to be chosen by the Department, and two students, one from the Ph.D. programme and the other from the M. Tech.. programme. If an M.Tech. programme does not exist in a Department, both students shall be from the Ph.D. programme. The student members shall be chosen by the postgraduate students of the Department for a period of one academic year.

The Senate Postgraduate Committee (SPGC) shall consist of the Conveners of all the DPGCs, and four additional student members, of whom two shall be from the Ph.D. programme, and two shall be from the M.Tech. programme. The student members shall be nominated by the Students' Senate. The Dean (Academic affairs) will serve as the Chairman of the SPGC.

The SPGC shall have jurisdiction in the following matters concerning the postgraduate programmes of the Institute: the formal approval of new courses of instruction, modification of courses already approved, the credit value of courses, the formal approval of admission of postgraduate students, the admission of qualified students to candidacy for degrees, the rules governing the form of presentation and disposal of theses, the conduct of oral and written examinations and in such other related matters as may be referred to it by the Senate.

The functions of the SPGC shall consist primarily of general policy determination, coordination and review, but the Senate shall retain the power of final review. In the discharge of its responsibilities the committee shall make full use of the appraisals and recommendations of the various Departments concerned. This committee shall be assisted by the DPGCs.

The student members shall not participate when the cases of academic evaluation of individual students are being considered, although the students' opinion might be sought prior to taking any decision.

**Table 1: M.Tech. Programmes and the Specializations****A. Programmes in the Engineering Disciplines**

<b>Programmes</b>	<b>Specialization</b>
M.Tech. in Petroleum Engineering	Reservoir Engineering, Drilling Engineering, Production Engineering
M.Tech. in Chemical Engineering	Petroleum Refining, Petrochemicals, Electrochemical and Corrosion Engineering

**Table 2: M.Tech. Programmes and the Requisite Qualifications**

The pre-requisites for the M.Tech. programmes in Petroleum and Chemical Engineering is given below. However, a candidate possessing a degree that does not exactly conform to the degrees listed below may be considered for admission, based on the performance in written test and/or interview and provided that the interview/admission committee, upon scrutiny of the list of courses done and credits earned by the candidate, finds that the degree concerned is at par with those listed below.

**A. Programmes without specializations**

<b>Discipline</b>	<b>Eligibility</b>
Petroleum Engineering	B.Tech. or an equivalent degree in Petroleum Engg/Petroleum Technology/Chemical Engineering and allied areas with a valid GATE score in Petroleum Engineering/Chemical Engineering.
Chemical Engineering	B.Tech. or an equivalent degree in Chemical Engg. or Bio-Chemical Engg. /Electrochemical Engg. /Energy Engg. /Environmental Engg. /Food Processing Engg./Petrochemical Engg./Chemical Technology/Oil Technology/Paint Technology/Plastic Technology/Polymer Technology/Bio-Technology/Food Technology with a valid GATE score in Chemical Engineering

**NOTE:** 1. Candidates desirous of applying for admission to different M.Tech. programmes must send separate applications to the Department concerned for M.Tech. programmes being offered by the Department. Separate applications are also required for inter-disciplinary programmes offered by the same Department.

Candidates desirous of applying for admission to different M.Tech. programmes must send their original application to the Department which is their first preference and copy of their application to each of their other preferred Departments.

2. Not more than 40% of the total seats in the Departments, wherever candidates from allied disciplines are declared eligible for admission, shall be open for any one allied discipline. However, preference will be given for eligible candidates from the discipline based on their performance in the written test/interview.
3. Not more than 40% of the total seats in interdisciplinary programmes in Schools will be open for any ONE branch of Engineering or Science.

**Table 3 : Departments/Disciplines and Allied Disciplines / Areas for Ph.D. Programmes.**

Most of the Bachelor's and Master's degrees that are being awarded in the disciplines/areas in the country and abroad are listed in the following. However, a candidate possessing a degree that does not exactly conform to the degrees listed below may be considered for admission, based on the performance in written test and/or interview and provided that the interview/admission committee, upon scrutiny of the list of courses done and credits earned by the candidate, finds that the degree concerned is at par with those listed below.

Departments/ Schools offering the Programme	Discipline	Allied Disciplines/ Areas
Department of Petroleum Engineering and Geosciences	Petroleum Engineering and Geosciences	Bachelor's/Master's degree in any Petroleum Engineering Master's degree in geoscience, geophysics, geology, geoinformatics
Department of Chemical Engineering & Engineering Sciences	Chemical Engineering	Bachelors or Master's Degree in Engineering/Technology in Chemical Engineering and its allied areas, Materials and Metallurgical Engineering, Mechanical Engineering, Civil Engineering, Environmental Engineering, and a valid GATE score. or Master's degree in relevant disciplines such as Physics, Physical Chemistry, Materials Science, Nanoscience, or equivalent and valid GATE score. **Masters in Geoinformatics, Civil, Computer Science, Electrical, Electronics Engineering, Computer Application, Mechanical, Mathematics, Physics, and Statistics or equivalent and qualified score of GATE/NET exam, taken before or after master degree.
		M.Sc.(Engg.)/M.E./M.Tech. degree in Applied Mechanics, Mining Engineering, Chemical Engineering, Chemical Engineering and Technology, Chemical Technology, Mechanical Engineering, Aerospace Engineering, Naval Engineering, Industrial Engineering, Agricultural Engineering. M.Sc.(Engg.)/M.E./M.Tech. in Geoinformatics, Geomatics, Remote Sensing, Remote Sensing and GIS. M.E./M.Tech. in Computer Science and Engineering, Computer Engineering. B.Sc.(Engg.)./B.E./B.Tech./M.Sc.(Engg.)/M.E./M.Tech. or equivalent degree in Environmental Engineering, Environmental Science and Engineering, Environmental Science and Technology. M.Sc./M.Tech. in Geophysics, Geology.
	Electrical Engineering	B.Tech. & M.Tech. in Electronics Engineering.
	Materials Science and Engineering	Bachelors or Master's Degree in Engineering/Technology in Chemical Engineering and its allied areas, Materials and Metallurgical Engineering, Mechanical Engineering, and a valid GATE score. or Master's degree in relevant disciplines such as Physics, Physical Chemistry, Materials Science, Nanoscience, or equivalent and valid

<b>Departments/ Schools offering the Programme</b>	<b>Discipline</b>	<b>Allied Disciplines/ Areas</b>
		GATE score.
Department of Department of Basic Sciences & Humanities	Chemistry	M.Sc./M.Tech. in Microbiology/ Chemistry/ Industrial Chemistry/ Applied Chemistry/ Biochemistry/ Biotechnology/ Medicinal Chemistry/ Materials Science & Technology/ Environmental Science and Nano Technology with chemistry as a subject at Bachelor Level.
	Mathematical Sciences	Master's degree in Statistics/ Computer Science/ Computer Engineering, with Mathematics as a subject at Bachelor's level. Bachelor's degree (B.Tech./B.E.) in Mathematics and Computing/ Computer Engineering/Computer Science.
	Physics	M.Sc./M.Tech. in Applied Physics, Engineering Physics, Bio-Physics, Electronics Engg., Materials Science, Ceramic Engg., Metallurgical Engg., Electrical Engg., Bio-Informatics, Geomatics and Geoinformatics, Computer Science, Computer Engg., Mechanical Engg., Mathematics, Chemistry, Remote Sensing, Astrophysics, Space Physics, Applied Optics, Atmospheric Physics, Fibre Optics & Photonics, Nanotechnology and Biotechnology.
	Humanities and Social Sciences	Master's/Bachelor's degree in any Engineering discipline; Master's degree in any Science discipline; 4-year – Bachelor's Science degree.

**Table-4: Discipline-wise Research Areas for Ph.D. Programmes.**

The discipline-wise the Research Areas in the Ph.D. programmes are listed below.

Disciplines	Research Areas
Chemical Engineering	Fuel cell, biomass conversion, gas encapsulation and storage, nanocatalysis, photocatalysis, membranes, crystallization, microfluidics, polymers, nanomaterials.
Petroleum Engineering	Enhanced oil recovery, nanodrilling fluids, gas hydrates, prospecting, source rock evaluation, mud formulation
Civil Engineering	Structural Engineering; Hydraulics and Water Resources Engineering; Environmental Engineering; Geotechnical Engineering; Transportation Engineering; Geo-informatics; Engineering Geosciences.
Electrical Engineering	Electrical machines & Drives; Power Electronics; Control Systems; Power Systems
Electronics Engineering	Microwave Engineering; Digital Techniques and Instrumentation; Microelectronics, Communication System Engineering
Humanities and Social Sciences	<ul style="list-style-type: none"> <li>a) English (Literature, Professional Communication, Cultural Studies, Film Studies, Narrative Studies)</li> <li>b) Philosophy (Indian and Western Logic, Peace and Ahimsa Studies, Gandhian Philosophy, Value Education, Humanistic Philosophy)</li> <li>c) Computational Linguistics (MT, CALL, Computational Semantics, Grammar Formalism, Sanskrit Computation Linguistics)</li> <li>d) Psychology (Intelligence, Indigenous Research, Macro Organizational Behaviour)</li> <li>e) Sociology (Environmental Sociology, Sustainable Urbanization, Smart Cities)</li> <li>f) History</li> <li>g) Political Science</li> </ul>
Management	Operations Movement, SCM, Production Systems, Accounting & Finance, Marketing, Organizational Behavior, HRM, Oil & Gas, Public Policy, Energy Management & Economics.
Chemistry	Synthetic Chemistry, Environmental Chemistry, Surface Chemistry, Computational Chemistry, polymers, nanocatalysis, metal organic frameworks, materials, hydrogels, petrochemicals, nanomedicine, physical chemistry
Mathematical Sciences	Harmonic Analysis, Differential Geometry, Numerical Wavelet methods for partial differential equations, Numerical Analysis of PDEs, Mathematical Image Processing, Stochastic Modeling (Queuing Theory), Integral Equations, Numerical Analysis, Optimization, Fluid Dynamics, Biomechanics, Non-Linear Waves, Graph Theory and Network Science, Rings and Modules, Mathematical Modeling and Porous Media, Soft Computing, Fuzzy Sets, Algebraic Numerical Techniques, Mathematical Modeling on heat Transfer Problem.
Physics	Solar & Space Plasma Physics, Condensed Matter Physics (Theory), Quantum Information, Condensed Matter Physics (Experiment) & Materials Science (Experiment), Biophysics, Photonics (Theory and Experiment), Remote Sensing, High Energy Physics, Nuclear Physics, Cosmology.
Materials Science &	Polymers, Oxides, Nanoparticles for energy sector, Photovoltaics, Photocatalysis,

<b>Disciplines</b>	<b>Research Areas</b>
Engineering	Modeling and simulations of material structures and processes.
Geoscience	Isotope Geochemistry, organic petrography, Hydrology and Watershed Processes, Remote Sensing and Geographic Information Systems, Paleoenvironments and the Sedimentary Record, Biogeochemistry of Soil Systems, Geophysics and Structural Geology.

## **RESERVATION OF SEATS**

### **SC/ST Category**

In each programme 15 per cent seats are reserved for the Scheduled Castes (SC) candidates and 7.5 per cent seats are reserved for the Scheduled Tribes (ST) candidates. Such candidates are required to produce at the time of admission an **original certificate** in the prescribed format (see Annexure III.1).

### **OBC Category**

Board of Governors has approved 27 per cent reservation for Other Backward Classes (OBCs) candidates (other than those covered under the category of “creamy layer”). The reservation is applicable to those OBC candidates who satisfy the following eligibility requirements.

1. They belong to one of the castes listed against the state of their residence on the web-site of **National Commission of Backward Classes (NCBC)**, i.e., they belong to the **central list of OBC** (visit the URL: <http://ncbc.nic.in/backward-classes/index.html>).
2. They are excluded from the Creamy Layer as provided in the OM No. 36012/22/93-(SCT) dated 8th September, 1993 of the Ministry of Personnel, Public Grievance and Pension, Department of Personnel and Training as amended by that Department vide OM No. 36033/3/2004-Estt.(Res) dated 9th March, 2004 and any other notification that may take place before the admission. More details on the definition of Creamy Layer are available at the following links:

<http://ncbc.nic.in/html/creamylayer.html>

<http://persmin.gov.in/WriteData/WMS/ScanDocument/36033%2004%20April2005.htm>

To ensure that the benefit of reservation is given only to the **OBCs excluded from the Creamy Layer** (as per the above-mentioned Office Memorandum), candidates belonging to the OBC category are required to produce at the time of admission an **original certificate** in the prescribed format (see Annexure III.2).

### **PC Category**

In each category of seats (unreserved and reserved), 5% seats are reserved for the Physically Challenged (PC) candidates and are to be filled up as per the admission procedure laid down for that category. In case one or more of the seats reserved for the PC candidates in a category remain vacant, those are permitted to be filled up by the other candidates belonging to the same category.

### **EWSs Category**

In each programme 10% additional seats reserved for Economically Weaker Sections (EWSs) candidates. Such candidates are required to produce at the time of admission an **original certificate** in the prescribed format (see Annexure III.4).

**ANNEXURE III.I**  
(Format of SC/ST Certificate)

**FORM OF THE CERTIFICATE TO BE PRODUCED BY SCHEDULED CASTE AND  
SCHEDULED TRIBE CANDIDATES IN SUPPORT OF THEIR CLAIM**

1. This is to certify that Shri/Shrimati/Kumari\* \_\_\_\_\_ son/daughter\* of \_\_\_\_\_ of Village/Town\* \_\_\_\_\_ in District/Division\* \_\_\_\_\_ of State/Union Territory\* \_\_\_\_\_ belongs to the \_\_\_\_\_ Caste/Tribe\* which is recognised as a Scheduled Caste/Scheduled Tribe\* under:-

The Constitution (Scheduled Castes) Order, 1950

\*The Constitution (Scheduled Tribes) Order, 1950

\*The Constitution (Scheduled Castes) (Union Territories) Order, 1951

\*The Constitution (Scheduled Tribes) (Union Territories) Order, 1951

[As amended by the Scheduled Castes and Scheduled Tribes Lists (Modification Order) 1956, the Bombay Reorganisation Act, 1960, the Punjab Reorganisation Act, 1966, the State of Himachal Pradesh Act, 1970, the North Eastern Areas (Reorganisation) Act, 1971, the Scheduled Castes and Scheduled Tribes Orders, (Amendment) Act, 1976 and the Scheduled Castes and Scheduled Tribes Orders (Amendment) Act, 2002].

\*The Constitution (Jammu & Kashmir) Scheduled Castes Order, 1956;

\*The Constitution (Andaman and Nicobar Islands) Scheduled Tribes Order, 1959, as amended by the Scheduled Castes and Scheduled Tribes Order (Amendment) Act, 1976;

\*The Constitution (Dadara and Nagar Haveli) Scheduled Castes, Order, 1962;

\*The Constitution (Dadara and Nagar Haveli) Scheduled Tribes, Order, 1962;

\*The Constitution (Pondicherry) Scheduled Castes Order, 1964;

\*The Constitution (Uttar Pradesh) Scheduled Tribes Order, 1967;

\*The Constitution (Goa, Daman and Diu) Scheduled Castes Order, 1968;

\*The Constitution (Goa, Daman and Diu) Scheduled Tribes Order, 1968;

\*The Constitution (Nagaland) Scheduled Tribes Order, 1970;

\*The Constitution (Sikkim) Scheduled Castes Order, 1978;

\*The Constitution (Sikkim) Scheduled Tribes Order, 1978;

\*The Constitution (Jammu and Kashmir) Scheduled Tribes Order, 1989;

\*The Constitution (Scheduled Castes) Orders (Amendment) Act, 1990;

\*The Constitution (Scheduled Tribes) Order (Amendment) Act, 1991;

\*The Constitution (Scheduled Tribes) Order (Second Amendment) Act, 1991;

2. This certificate is issued on the basis of the Scheduled Castes/Scheduled Tribes\* Certificate issued to Shri/Shrimati\* \_\_\_\_\_ father/mother\* of Shri/Shrimati/Kumari\* \_\_\_\_\_ of Village/Town\* \_\_\_\_\_ in District/Division\* \_\_\_\_\_ of the State/Union Territory\* \_\_\_\_\_ who belong to the Caste/Tribe\* which is recognized as a Scheduled Caste/Scheduled Tribe\* in the State/Union Territory\* \_\_\_\_\_ issued by the \_\_\_\_\_ dated \_\_\_\_\_.

3. Shri/Shrimati/Kumari\* \_\_\_\_\_ and/or\* his/her\* family ordinarily reside(s)\*\* in village/town\* \_\_\_\_\_ of \_\_\_\_\_ District/Division\* of the State/Union Territory\* of \_\_\_\_\_.

Signature \_\_\_\_\_

Designation \_\_\_\_\_

(with seal of Office)

Place \_\_\_\_\_ State/Union Territory\* \_\_\_\_\_

Date \_\_\_\_\_

**\*Please delete the word(s) which are not applicable.**

## IMPORTANT NOTES

1. The term “ordinarily reside(s)\*\* used here will have the same meaning as in Section 20 of the Representation of the People Act, 1950.
2. Officers competent to issue Caste/Tribe certificates:
  - (i) District Magistrate/Additional District Magistrate/Collector/Deputy Commissioner/Additional Deputy Commissioner/Deputy Collector/1st Class Stipendiary Magistrate/City Magistrate/Sub-Divisional Magistrate/Taluka Magistrate/Executive Magistrate/Extra Assistant Commissioner.
  - (ii) Chief Presidency Magistrate/Additional Chief Presidency Magistrate/Presidency Magistrate.
  - (iii) Revenue Officers not below the rank of Tehsildar.
  - (iv) Sub-Divisional Officer of the area where the candidate and/or his family normally reside(s).
  - (v) Administrator/Secretary to Administrator/Development Officer (Lakshdweep Island).
3. Certificate issued by any other authority will be rejected.

**ANNEXURE III.2**  
(Format of OBC Certificate)

**FORM OF CERTIFICATE TO BE PRODUCED BY OTHER BACKWARD CLASSES  
APPLYING FOR ADMISSION TO CENTRAL EDUCATION INSTITUTES UNDER THE  
GOVERNMENT OF INDIA**

This is to certify that Shri/Smt./Kum. \_\_\_\_\_ Son/Daughter of Shri/Smt. \_\_\_\_\_ of Village/Town \_\_\_\_\_ District/Division \_\_\_\_\_ in the \_\_\_\_\_ State belongs to the \_\_\_\_\_

Community which is recognized as a backward class under:

- (i) Resolution No. 12011/68/93-BCC(C) dated 10/09/93 published in the Gazette of India Extraordinary Part I Section I No. 186 dated 13/09/93.
- (ii) Resolution No. 12011/9/94-BCC dated 19/10/94 published in the Gazette of India Extraordinary Part I Section I No. 163 dated 20/10/94.
- (iii) Resolution No. 12011/7/95-BCC dated 24/05/95 published in the Gazette of India Extraordinary Part I Section I No. 88 dated 25/05/95.
- (iv) Resolution No. 12011/96/94-BCC dated 9/03/96.
- (v) Resolution No. 12011/44/96-BCC dated 6/12/96 published in the Gazette of India Extraordinary Part I Section I No. 210 dated 11/12/96.
- (vi) Resolution No. 12011/13/97-BCC dated 03/12/97.
- (vii) Resolution No. 12011/99/94-BCC dated 11/12/97.
- (viii) Resolution No. 12011/68/98-BCC dated 27/10/99.
- (ix) Resolution No. 12011/88/98-BCC dated 6/12/99 published in the Gazette of India Extraordinary Part I Section I No. 270 dated 06/12/99.
- (x) Resolution No. 12011/36/99-BCC dated 04/04/2000 published in the Gazette of India Extraordinary Part I Section I No. 71 dated 04/04/2000.
- (xi) Resolution No. 12011/44/99-BCC dated 21/09/2000 published in the Gazette of India Extraordinary Part I Section I No. 210 dated 21/09/2000.
- (xii) Resolution No. 12015/9/2000-BCC dated 06/09/2001.
- (xiii) Resolution No. 12011/1/2001-BCC dated 19/06/2003.
- (xiv) Resolution No. 12011/4/2002-BCC dated 13/01/2004.
- (xv) Resolution No. 12011/9/2004-BCC dated 16/01/2006 published in the Gazette of India Extraordinary Part I Section I No. 210 dated 16/01/2006.

Shri/Smt./Kum. \_\_\_\_\_ and/or his family ordinarily reside(s) in the \_\_\_\_\_ District/Division of \_\_\_\_\_ State. This is also to certify that he/she does not belong to the persons/sections (Creamy Layer) mentioned in Column 3 of the Schedule to the Government of India, Department of Personnel & Training O.M. No. 36012/22/93-Estt.(SCT) dated 08/09/93 which is modified vide OM No. 36033/3/2004 Estt.(Res.) dated 09/03/2004.

Dated:  
District Magistrate/  
Deputy Commissioner, etc.  
Seal

**NOTE:**

- (a) The term ‘Ordinarily’ used here will have the same meaning as in Section 20 of the Representation of the People Act, 1950.
- (b) The authorities competent to issue Caste Certificates are indicated below:
- (i) District Magistrate / Additional Magistrate / Collector / Deputy Commissioner / Additional Deputy Commissioner / Deputy Collector / Ist Class Stipendiary Magistrate / Sub-Divisional magistrate / Taluka Magistrate / Executive Magistrate / Extra Assistant Commissioner (not below the rank of Ist Class Stipendiary Magistrate).
  - (ii) Chief Presidency Magistrate / Additional Chief Presidency Magistrate / Presidency Magistrate.
  - (iii) Revenue Officer not below the rank of Tehsildar’ and
  - (iv) Sub-Divisional Officer of the area where the candidate and / or his family resides.

**X-X-X-X-X-X**

**RELAXATION IN THE QUALIFYING MARKS FOR SC/ST CANDIDATES**

**A relaxation of 5% marks / 0.5 CPI shall be admissible on all qualifying marks/CPI for Scheduled Caste and Scheduled Tribe candidates in the admission.**

**Government of .....  
(Name & Address of the authority issuing the certificate)**

**INCOME & ASSESS CERTIFICATE TO BE PRODUCED BY ECONOMICALLY WEAKER  
SECTIONS**

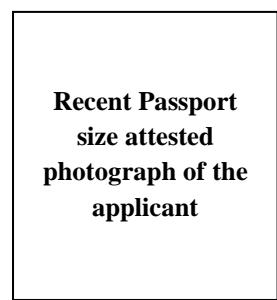
Certificate No. \_\_\_\_\_

Date: \_\_\_\_\_

**VALID FOR THE YEAR \_\_\_\_\_**

This is to certify that Shri/Smt./Kumari \_\_\_\_\_ son/daughter/wife of \_\_\_\_\_ permanent resident of \_\_\_\_\_, Village/Street \_\_\_\_\_ Post Office \_\_\_\_\_ District \_\_\_\_\_ in the State/Union Territory Pin Code \_\_\_\_\_ whose photograph is attested below belongs to Economically Weaker Sections, since the gross annual income\* of his/her "family"\*\* is below Rs. 8 lakh (Rupees Eight Lakh only) for the financial year \_\_\_\_\_. His/her family does not own or possess any of the following assets\*\*\* :

- I. 5 acres of agricultural land and above;
  - II. Residential flat of 1000 sq. ft. and above;
  - III. Residential plot of 100 sq. yards and above in notified municipalities;
  - IV. Residential plot of 200 sq. yards and above in areas other than the notified municipalities.
2. Shri/Smt./Kumari \_\_\_\_\_ belongs to the \_\_\_\_\_ caste which is not recognized as a Scheduled Caste, Scheduled Tribe and Other Backward Classes (Central List).



**Recent Passport  
size attested  
photograph of the  
applicant**

Signature with seal of Office \_\_\_\_\_

Name \_\_\_\_\_

Designation \_\_\_\_\_

\*Note 1: Income covered all sources i.e. salary, agriculture, business, profession, etc.

Note 2: The term "Family" for this purpose include the person, who seeks benefit of reservation, his/her parents and siblings below the age of 18 years as also his/her spouse and children below the age of 18 years

\*\*\*Note 3: The property held by a "Family" in different locations or different places/cities have been clubbed while applying the land or property holding test to determine EWS status.

The benefit of reservation under EWS can be availed upon production of an Income and Asset Certificate issued by a Competent Authority. The Income and Asset Certificate issued by any one of the following authorities in the prescribed format shall only be accepted as proof of candidate's claim as 'belonging to EWS': -

- (i) District Magistrate/Additional District Magistrate/ Collector/ Deputy Commissioner/Additional Deputy Commissioner/ 1st Class Stipendiary Magistrate/ Sub-Divisional Magistrate/ Taluka Magistrate/ Executive Magistrate/ Extra Assistant Commissioner
- (ii) Chief Presidency Magistrate/Additional Chief Presidency Magistrate/Presidency Magistrate
- (iii) Revenue Officer not below the rank of Tehsildar and
- (iv) Sub-Divisional Officer or the area where the candidate and/or his family normally resides.

**LIST OF EXTERNAL R&D ORGANIZATIONS  
RECOGNIZED BY THE INSTITUTE**

1. All R & D Laboratories/Institutions of CSIR, DAE, DOS, DRDO, DST and Ministry of Telecommunication & Information Technology.
2. Bharat Heavy Electricals Limited (BHEL), Research and Development Laboratories.
3. Indian Pharmacopoeia Commission, Ghaziabad.
4. Central Mine Planning and Design Institute Limited, Ranchi.
5. Central Power Research Institute, Bangalore.
6. Central Pulp and Paper Research Institute, Saharanpur.
7. Diesel Locomotive Works (DLW), Jais
8. Hindustan Aeronautics Limited, Lucknow & Korwa.
9. Hindustan Machine Tools (R & D Division), Bangalore.
10. Indian Bureau of Mines, Nagpur.
11. Jyoti Limited, Baroda.
12. Kirloskar Electric Limited, Bangalore.
13. Mechanical Engineering Research and Development Organization, Pune.
14. National Institute of Rock Mechanics, Kolar.
15. National Council for Cement and Building Materials (NCCBM), New Delhi.
16. Raman Research Institute, Bangalore.
17. Tata Steel, Jamshedpur.
18. National Metallurgical Laboratory Extension Centre, Chennai.
19. R & D Centres of various oil PSUs, and private oil companies.

*N.B. All the research areas in which the above organizations are engaged in R&D activities are considered to be approved.*

\* \* \*

## **EXAMPLES FOR CREDIT CALCULATION**

### a) Theory courses with Tutorials

Assuming that there are 4 contact hours per week per course, out of which, one contact hour is devoted to tutorial,

$$C = 3 L + 2 T + P + A$$

$$= 3 \times 3 + 2 \times 1 + 0 + 0 = 9+2 = 11$$

### b) Theory courses without Tutorials

Assuming that there are 3 contact hours per week per course,

$$C = 3 L + 2 T + P + A$$

$$= 3 \times 3 + 0 + 0 + 0 = 9$$

### c) Theory courses with 3 contact hours per week per course and two hours of additional work per week

$$C = 3 L + 2 T + P + A$$

$$= 3 \times 3 + 0 + 0 + 2 = 9+2 = 11$$

### d) Practical courses

Assuming that one hour of preparatory work is required before conducting a 3 hour practical per week,

$$C = 3 L + 2 T + P + A$$

$$= 0 + 0 + 3 + 1 = 4.$$

### e) Thesis credits:

Assuming that a week-long research work by a student can be approximately equated to 5 credits, a semester shall carry 55 credits of research work, which is equivalent to 5 units. In other words, one unit of thesis work is equivalent to 11 credits.

\* \* \*

# **Specification and Information Regarding the Preparation of Thesis**

**(Under Clause 11.4.2 of PG Ordinances)**



**RAJIV GANDHI INSTITUTE OF PETROLEUM TECHNOLOGY  
JAIS, AMETHI**

# **GUIDELINES FOR THESIS PREPARATION**

This document, herein after referred to as **Specification and Information Regarding the Preparation of Thesis**, lists the general and specific requirements governing thesis preparation including guidelines for structuring the content.

## **1. SUBMISSION OF THESIS**

Required number of copies of the thesis and the abstracts are to be submitted to the Dean (Academic Affairs) along with the checklist as per the details given below. Thesis will be submitted only after all other requirements for graduation has been completed successfully, including the thesis credits requirements.

### **Checklist at the time of Thesis Submission (for Office Use)**

**Please see Appendix – D**

#### **1.1 M.Tech.**

Unbound copies of the thesis, one for each examiner of the oral board (including the thesis supervisor(s)) along with two copies of abstract (of about 250 words) should be submitted at least 10 days before the probable date of oral examination. The abstract should include a cover page, the format of which is given in Appendix - A.

After the oral examination board has cleared the thesis, the student should incorporate suggestions and/or corrections (if any) and submit the thesis in the final bound form to the Examination Unit of Office of the Dean (Academic Affairs).

#### **1.2 Ph.D.**

An extended abstract of about 1500 words in PDF format written on a CD along with two print copies is required to be submitted one month in advance of the submission of the thesis for transmission to various examiners. The abstract should include a cover page, the format of which is given in Appendix - A. It may also contain some illustrations if necessary.

Upon intimation from Dean (Academic Affairs), six soft bound (not spiral bound) copies of the thesis should be submitted. In addition, a soft copy of the thesis, split chapter-wise, in PDF format should also be submitted along with the thesis.

## **2 SPECIFICATIONS FOR THESIS FORMAT**

### **2.1 Preparation of thesis and Copies**

- 2.1.1 The thesis needs to be prepared using a standard text processing software and must be printed on both sides of the paper in black text (color for images, if necessary) using a laser printer in Times New Roman with font size 12 pt. Text of the thesis must be in single column on each page.
- 2.1.2 All copies of thesis must be clear, sharp and even, with uniform size and uniformly spaced characters, lines, paragraphs and margins on every page of good quality white paper of 75 gsm or more.
- 2.1.3 Every chapter has to begin on a new page.

### **2.2 Size and Margins**

- 2.2.1 The thesis must be printed only on A4 size white paper.
- 2.2.2 The top and bottom margins should be 25 mm, whereas the left side margins of odd pages and right side margins of even pages should be 35 mm for both textual and non-textual (e.g.,

- figures, tables) pages (if MS word is used "mirror margin" option can be adopted for this purpose).
- 2.2.3 Content should not extend beyond the bottom margin except for completing a footnote, last line of chapter/subdivision, or figure caption.
  - 2.2.4 A sub-head at the bottom of the page should have at least two full lines of content below it. If the sub-head is too short to allow this, it should begin on the next page.
  - 2.2.5 All tables and figures should conform to the same requirements as text. Color may be used for figures. If tables and figures are large, they may be reduced to the standard size (provided the reduced area is not less than 50% of the original) and/or folded just once to flush with the thesis margin. In figures, the tick marks on the axes of the graph and the symbols used in the graph should be distinct and bold enough even after the necessary reduction.
  - 2.2.6 After the thesis is accepted by the oral board for the award of Ph.D. degree, the student should make the final submission of two copies of the thesis in hard bound form, one for record in the examination office of the Institute and the other for keeping in the Institute Main Library. The student may choose to submit printed copies of the thesis either in the standard size (as in 2.2.1) or in a book format that is roughly half of A4. If the book format is adopted for final submission, it should be ensured that all textual and illustrative materials and figures are distinct and legible after reduction in size.
  - 2.2.7 Students should also submit the final thesis in soft form (PDF) in a CD for storage and archival.

### **2.3 Page Numbering**

- 2.3.1 Beginning with the first page of the text in the thesis (chapter 1), all pages should be numbered consecutively and consistently in Arabic numerals through the appendices. On the first page of each chapter the page numbers need not be printed.
- 2.3.2 Page numbers prior to Chapter 1 should be in lower case Roman numerals. The title page is considered to be page (i) but the number is not printed.

### **2.4 Multi-Volume Thesis**

A thesis may be in two or more volumes, if required. The volume separation should come at the end(s) of major division(s). The preliminary pages prior to Chapter 1 are contained only in Volume I, except the title page, which should be present on all the volumes.

### **2.5 Line Spacing**

The general text of the manuscript should be in two line spacing. Long tables, quotations, footnotes, multi-line captions, references and bibliographic entries should be in single spacing.

### **2.6 Tables, Figures and Equations**

- 2.6.1 All Tables (tabulated data) and Figures (charts, graphs, maps, images, diagrams, *etc.*) should be prepared, wherever possible, on the same paper as used to type the text and conform to the specifications outlined earlier. They should be inserted as close to the textual reference as possible.
- 2.6.2 Tables, Figures and Equations should be numbered sequentially Chapter-wise using Arabic numerals. They are referred to in the body of the text capitalizing the first letter of the word and number, as for instance, Table 5.3, Figure 3.11, Equation (4.16), *etc.* where the first number before decimal indicates the Chapter.
- 2.6.3 If Tables and Figures are of only half a page or less, they may appear on the same page as text but separated above and below by triple line spacing. Font size for text of the Table and Figure captions should be the same as for the general text.

- 2.6.4 Good quality Line Drawings/Figures must be drawn using standard software that provides vector rather than bit-map graphics. Figures must be clear in print version with respect to legends, symbols and tick marks etc.
- 2.6.5 Images, Photographs, *etc.* must be scanned in resolution exceeding 200 dpi with 256 grayscales for the monochrome images and with pixel size at least 24 bit per pixel for the color images.

## **2.7 Binding**

The student should submit the copies of the thesis in soft bound form with soft cover (not spiral bound) for Ph.D. and partially bound form (spiral binding, clamping, or filing) for M.Tech, respectively. Once the thesis is accepted by the Oral Board, the student should submit the two numbers of copies of properly bound thesis to the office of Dean (Academic Affairs). The front cover of the bound copy should be the same as the title page of the thesis. The front cover should have printing on the spine to include the author's name, abbreviated thesis title (optional), degree, department, and the year.

## **3. GUIDELINES FOR STRUCTURING CONTENTS**

### **3.1 Sequence of Contents**

The following sequence for the thesis organization should be followed:

- (i) Preliminaries
- (ii) Text of Thesis
- (iii) References and Bibliography
- (iv) Appendices

All the headings are centered (without punctuation) 25 mm down the top edge of the page. The subsequent type-setting begins four spaces below the heading.

### **3.2 Preliminaries**

The preliminaries consists the following in the sequence as mentioned below:

- Title Page
- Certificates
- Acknowledgement and/or Dedication
- Table of Contents
- List of Figures, Tables, Illustrations
- Symbols used
- Preface

#### **3.2.1 Title Page**

Outer cover and inner title page should be on light blue Board for Ph.D. Thesis and on Light CREAME Colour Board for M.Tech. Thesis. Refer to the Format given in **Appendix – B**.

#### **3.2.2 Certificates**

Refer to **Appendix - C.**

#### **3.2.3 Acknowledgement and/or Dedication**

As per student's desire but they should contain only text and no photographs.

#### **3.2.4 Table of Contents**

The Table of contents should list all material that follows it and no preceding material should be listed. Chapter, Section, Subs-section should be mentioned with proper indent along with corresponding page numbers. For sub-sub-sections only title without page numbers may be mentioned (not mandatory). Three levels of indenting is preferred and **in any** case the indenting should not exceed 4 levels.

### 3.2.5 List of Figures, Tables, Illustrations

Tables, figures and illustrations (if used in the thesis) should be listed under separate headings.

### 3.2.6 Symbols used

Various symbols used in the Thesis should be listed along with their meaning.

### 3.2.7 Preface

Preface should contain a brief introduction of the thesis stating its subject, scope and aims of the research work undertaken and the philosophy of approach.

## 3.3 The Text of the Thesis

The text of the thesis contains the following:

- Introduction
- The Body of the Thesis
- Summary and Conclusion

### 3.3.1 Introduction

Introduction forms the first Chapter or its first major division. In either case, it should contain a brief statement of the problem investigated. It should outline the objectives and scope, general character of the research and a review of the investigations already carried out in the field the thesis.

### 3.3.2 The body of Thesis

This is the substance of the thesis inclusive of all divisions, subdivisions, Tables, Figures, etc.

### 3.3.3 Summary and conclusions

This forms the last Chapter of the thesis. A brief summary of the work followed by the salient findings are given here. A further subdivision titled “Scope for Further Work” may follow.

## 3.4 Reference and Bibliography

The list of references should appear as a consolidated list with references listed either alphabetically or sequentially as they appear in the text of the thesis under the subheading “References”. If pertinent works have been consulted but not specifically cited, they should be listed under the subheading “Bibliography”. Spacing and font size should be consistent inside a single reference, and there should be one and half spacing between two different references (see Section 2.5).

Formats to be used for various categories of referencing are given below:

- **Referencing an article in a scientific journal:** The suggested format should contain authors, title of the paper, name of journal, volume number, page numbers and year.
- **Referencing an article published in proceedings of a conference:** The suggested format should contain authors, title of the paper, name of proceedings, publisher's details, page numbers and year.
- **Referencing an article published in a book:** The suggested format should contain authors, the title of the book, editors, publishers if any, year, page number of the article in the book being referred to.
- **Referencing a thesis:** The suggested format should contain author, the title of thesis, where thesis was submitted or awarded, year.

A few examples of formats of references are given below and the student should be consistent in following the style.

### *Journals*

H.E. Exner, "Physical and Chemical Nature of Cemented Carbides," *International Metals Review*, 1979, v. 24, pp. 149-173. OR **24**(1979)149-173 [ if referencing is done on the name of first author in the body of the Thesis, then these references should appear in alphabetical order]

G.E. Spriggs, "The Importance of Atmosphere Control in Hard Metal Production," *Powder Metallurgy*, 1970, v. 13, n. 26, pp. 369-393. OR (26),**13**(1970)369-393

*web references* in specific cases are permitted.

### ***Conference Proceedings***

H.F. Fischmeister, "Development and Present Status of the Science and Technology of Hard Materials," *Science of Hard Materials*, R.K. Viswanadham, D.J. Rowcliffe, and J. Gurland (eds.), Plenum Press, New York, NY, USA, 1982, pp. 1-45.

W.H. Baek, M.H. Hong, S. Lee, and D.T. Chung, "A Study on the Shear Localization Behavior of Tungsten Heavy Alloy," *Tungsten and Refractory Metals 2*, A. Bose and R.J. Dowding (eds.), Metal Powder Industries Federation, Princeton, NJ, USA, 1995, pp. 463-471.

### ***Books***

R.M. German, *Powder Injection Molding*, Metal Powder Industries Federation, Princeton, NJ, USA, 1990.

### ***Thesis***

J.L. Johnson, "Densification, Microstructural Evolution, and Thermal Properties of Liquid Phase Sintered Composites," Ph.D. Thesis, The Pennsylvania State University, University Park, PA, USA, 1994.

### ***Technical Reports***

E.G. Zukas, P.S.Z. Rogers, and R.S. Rogers, "Experimental Evidence for Spheroid Growth Mechanisms in the Liquid Phase Sintered Tungsten Based Composites," Informal Report: Los Alamos Scientific laboratory, USA, 1976, pp. 1-35.

### ***Patents***

V. Oenning and I. S. R. Clark, U. S. Patent No. 4988386, 1991.

## **3.5 Sequencing the references**

References should be appropriately cited in the text in square brackets either by continuous numbering in sequence starting from 1 or by using the first author's name. When sequencing is used for referencing references with continuous numbers, only the first and the last referenced numbers should appear in the square bracket.

## **3.6 Appendices**

3.6.1 Supplementary illustrative materials, original data, and quotations too lengthy for inclusion in the text or which is not immediately essential to an understanding of the subject can be presented in Appendix or Appendices (as Appendix - A , Appendix - B, etc.)

3.6.2 Each appendix with its title should be listed separately in the table of contents. Likewise, tables and figures contained in the Appendices are to be included in the lists of tables and figures, respectively. They may be numbered as Fig. A.11 for Appendix – A or Table B.15 for a Table in Appendix – B.

## **4. CONCLUDING REMARKS**

Guidelines are only the basic requirements for preparing the thesis. Over and above the aforementioned points, a thesis should be reader-friendly in both its appearance and presentation. Several aspects of thesis preparation, particularly style of writing and presentation, have not been discussed in great detail. The student should follow appropriate ideas from standard literature of his/ her area of research, and adopt a uniform style and format throughout the thesis, such as in the structural divisions/subdivisions of the thesis, in the mode of citing references and footnotes in the text, in using dimensions, units and notations, and in preparing tables, figures, etc. It is mandatory to use SI system of units.

Presentation & style of writing should be in impersonal voice (i.e. to be in third person).

## **Appendix - A**

### **FORMAT FOR THE COVER PAGE OF EXTENDED ABSTRACT**

#### **EXTENDED ABSTRACT**

*TITLE OF THE THESIS*



**Name of Student .....**

**Roll No. .....**

**Degree for which submitted .....** **Name of Department .....**

**Signature of the Supervisor**

**("NAME OF THE SUPERVISOR")**

## **Appendix - B**

### **FORMAT FOR THE OUTER COVER AND INNER TITLE PAGE OF THE THESIS**

For M.Tech.

"TITLE OF THE THESIS"



**Thesis submitted in partial fulfillment**

**for the Award of**

**"NAME OF THE DEGREE"**

**in**

**NAME OF DEPARTMENT**

**by**

**"NAME OF THE STUDENT"**

**"NAME OF DEPARTMENT"**

**RAJIV GANDHI INSTITUTE OF PETROLEUM TECHNOLOGY**

**JAIS – 229304**

**"ROLL NUMBER OF THE STUDENT"**

**"YEAR OF SUBMISSION"**



**For Ph.D.**

"TITLE OF THE THESIS"



**Thesis submitted in partial fulfillment**

**for the Award of Degree**

*Doctor of Philosophy*

**by**

"NAME OF THE STUDENT"

"NAME OF DEPARTMENT"

**RAJIV GANDHI INSTITUTE OF PETROLEUM TECHNOLOGY**

**JAIS – 229304**

"ROLL NUMBER OF THE STUDENT"

"YEAR OF SUBMISSION"

## **Appendix - C**

### **FORMAT FOR CERTIFICATES**

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## CERTIFICATE

It is certified that the work contained in the thesis titled "*TITLE OF THE THESIS*" by "*NAME OF THE STUDENT*" has been carried out under my/our supervision and that this work has not been submitted elsewhere for a degree.

It is further certified that the student has fulfilled all the requirements of Comprehensive, Candidacy and SOTA.

**Signature : Supervisor**

(Affiliation)

**Co-Supervisor**

(Affiliation)

**External Supervisor**

(Affiliation)

---

## DECLARATION BY THE CANDIDATE

I, "*NAME OF THE STUDENT*", certify that the work embodied in this thesis is my own bona fide work and carried out by me under the supervision of "*NAME OF THE SUPERVISOR(S)*" from "*THESIS PERIOD*" to ".....", at the "*NAME OF THE DEPARTMENT*", Rajiv Gandhi Institute of Petroleum Technology, Jais. The matter embodied in this thesis has not been submitted for the award of any other degree. I declare that I have faithfully acknowledged and given credits to the research workers wherever their works have been cited in my work in this thesis. I further declare that I have not willfully copied any other's work, paragraphs, text, data, results, etc., reported in journals, books, magazines, reports dissertations, theses, etc., or available at websites and have not included them in this thesis and have not cited as my own work.

Date :

Signature of the Student

Place:

("*NAME OF THE STUDENT*")

---

## **CERTIFICATE BY THE SUPERVISOR(S)**

It is certified that the above statement made by the student is correct to the best of my/our knowledge.

**Supervisor**  
(Affiliation)

**Co-Supervisor**  
(Affiliation)

**External Supervisor**  
(Affiliation)

**Signature of Head of Department**

*"SEAL OF THE DEPARTMENT"*

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## **CERTIFICATE**

CERTIFIED that the work contained in the thesis titled “.....” by Mr./Ms. .... has been carried out under my/our supervision. It is also certified that he/she fulfilled the mandatory requirement of TWO quality publications arose out of his/her thesis work.

It is further certified that the two publications (copies enclosed) of the aforesaid Mr./Ms. .... have been published in the Journals indexed by –

- (a) SCI
- (b) SCI Extended
- (c) SCOPUS
- (d) \*Non-indexed Journals –  
(only in special cases)  
(\*Please enclosed DPGC resolution in this regard)

Signature

Signature

Signature

(                      )  
Name  
**Supervisor**

(                      )  
Name  
**Co-Supervisor**

(                      )  
Name  
**Convener, DPGC**

**SEAL**

**N.B.:** Please strike out the category (a, b, c, d) that is not applicable.

---

## **COPYRIGHT TRANSFER CERTIFICATE**

**Title of the Thesis :** .....

**Name of the Student :** .....

### **Copyright Transfer**

**The undersigned hereby assigns to the Rajiv Gandhi Institute of Petroleum Technology Jais all rights under copyright that may exist in and for the above thesis submitted for the award of the "NAME OF THE DEGREE".**

Date :

Signature of the Student

Place:

(*"NAME OF THE STUDENT"*)

**Note: However, the author may reproduce or authorize others to reproduce material extracted verbatim from the thesis or derivative of the thesis for author's personal use provided that the source and the Institute's copyright notice are indicated.**

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**RAJIV GANDHI INSTITUTE OF PETROLEUM TECHNOLOGY**

**(JAIS, AMETHI)**

**\* \* \***

**FOR SUBMISSION OF PH.D. THESIS  
PERSONAL DETAILS**

Name of Student : \_\_\_\_\_

Roll No. : \_\_\_\_\_ Term of Registration : \_\_\_\_\_

Category of Registration : \_\_\_\_\_

Fulfilled required Minimum Residence period: **4 Semesters / 5 Semesters / 6 Semesters** (Pl.tick)

Supervisor/Co-Supervisor \_\_\_\_\_

Department \_\_\_\_\_

Title of Thesis \_\_\_\_\_  
\_\_\_\_\_

---

**ATTENTION**

**NOTE :** Before submission of Thesis by a student, the following be verified & completed by the Department concerned.

- |  |               |
|--|---------------|
| • Minimum Residence Period completed : 4 Sem./5 Sem./6 Sem.  | <b>YES/NO</b> |
| • Course Credit requirements fulfilled   | <b>YES/NO</b> |
| • Thesis Credits requirements fulfilled  | <b>YES/NO</b> |
| • Passed the Comprehensive Examination   | <b>YES/NO</b> |
| • Admitted to Candidacy (Certificate enclosed)   | <b>YES/NO</b> |
| • SOTA has been completed satisfactorily (Certificate enclosed)  | <b>YES/NO</b> |
| • Open Seminar completed satisfactorily (Certificate enclosed)   | <b>YES/NO</b> |
| • SIX copies of the thesis duly forwarded by the Supervisor & HoD<br><i>(Roll No. of the candidate should be mentioned on each copy)</i> | <b>YES/NO</b> |
| • At least 2 Research Publications in reputed Journals (Published/accepted)  | <b>YES/NO</b> |
| • TWO copies of ABSTRACT of the thesis in about 600 words  | <b>YES/NO</b> |

**P.T.O.**

: 2 :

- ONE CD containing Abstract **YES/NO**
- ONE CD containing Thesis **YES/NO**
- Undertaking from the student duly forwarded by the Supervisor :
  - To the effect that the Thesis has been prepared without resorting to plagiarism **YES/NO**
  - To the effect that the Thesis has not been submitted elsewhere for a Degree **YES/NO**
  - To the effect that Sources used have been cited appropriately **YES/NO**
- Certificate from the Supervisor concerned : **YES/NO**
  - To the effect that Specifications regarding thesis format have been followed
- Copyright transfer certificate **YES/NO**
- Whether Thesis Evaluation Board constituted and communicated to Dean (Academic Affairs) **YES/NO**

Convener, DPGC of the Department

Supervisor/Co-Supervisor