

**INDIAN INSTITUTE OF TECHNOLOGY**  
**Academic Office**  
**Proposed Rules for Master of Science by Research Programme**

## **GENERAL INFORMATION**

### **Background**

The 2 year M. Tech. programme was conceived many years ago by the government of India as a research-oriented programme, in place of the then-existing 1.5 year M. Tech. programme. In recent years, however, it has been the experience that a majority of students view an M. Tech. as a stepping stone to placement, rather than as a programme with a focus on research.

The M.S by Research programme is intended as an alternative to M.Tech., designed for students with a research and development (R&D) bent of mind. The M.S. by Research programme is designed to have a superior stature compared to the M. Tech. programme, and to prioritize R&D achievements, rather than the amount of time spent, or number of courses taken. It will also be attractive to students who wish to explore R&D, but are not sure enough about their interest to commit to a Ph.D. programme. The M.S. by Research programme can thus serve as a first step towards Ph.D. The R&D experience of these students will benefit industrial R&D labs, ensuring that graduates have a path to high-end jobs in the industry.

The M.S. by Research programme at IIT Bombay is designed to be substantially different from the M.Tech. programme in its admission process, its emphasis on research over courses, and its relative flexibility of programme duration. A student must carry out a successful programme of research and submit a thesis based on their research work as a graduation requirement, ensuring students are motivated to carry out research. The normal duration for fulfilling requirements of this program is 3 years. However, early graduation (as early as at the end of 1.5 years) is also possible and encouraged; but early graduation carries a requirement of exceptional quality of research and development.

Several IITs have M.S. by Research programmes; IISc has an equivalent programme, called M. Tech. by Research. These programmes are differentiated from M. Tech. in that a student must carry out a successful programme of research and submit a thesis based on their research work as a graduation requirement, a feature also shared by the IITB M.S. by Research programme. However, several of the other programs do not have a defined normal completion time, which has led at times to significant delays in completing the programme. In contrast, the IITB programme has a defined normal completion time of 3 years, but incentivizes high quality R&D by allowing students whose R&D work is exceptional to graduate early.

### **Preface**

Academic Programmes of the Institute are governed by Rules and Regulations as approved by the Senate, which is the highest Academic body of this Institute. The Senate continuously monitors these programmes and makes appropriate

modifications/improvements from time to time. This booklet gives comprehensive information on the Rules & Regulations for M.S. by Research programme.

This programme is semester-based and hence the students are required to follow certain procedures and meet certain academic requirements for each semester.

It is in the interest of the student that he/she should be fully familiar with the academic systems of this Institute. Particular attention should be paid to the schedule and structure of coursework and project work, the assessment procedure and the rules governing conduct and assessment of these activities.

Academic performance is monitored by the Postgraduate Academic Performance Evaluation Committee (PGAPEC), which reviews status of individuals after reviewing their performance.

### **Academic Programme Committees of the Institute**

Following sections provide the details of the programme and set of rules governing them.

<b>Programme</b>	<b>Specialization</b>	<b>Offered by Dept/ IDP/ Centre/ School</b>
Computer Sc. & Engg.	--	Computer Sc. & Engg.

In order to keep pace with the rapid developments in science and technology and also to keep in view the requirements of the nation and the aspirations of students, it is imperative that the academic programmes of the Institute are reviewed continuously. The Postgraduate Programmes Committee (PGPC) is entrusted with this responsibility. It deliberates upon academic proposals received from the various Departmental Postgraduate Committees ((DPGCs), Interdisciplinary Programmes Committees (IDPCs), School Postgraduate Committees (SPGCs) and Postgraduate Committees for Centre (PGC's). Based on its deliberations, it makes suitable recommendations to the Senate for its approval.

### **Faculty Advisory System**

On joining the Institute, each student is assigned a Faculty Advisor or a group of Faculty Advisors. He/She is expected to consult his/her Faculty Advisor on all matters relating to his/her in-semester and end-semester academic performance and the course workload he/she may take in that particular semester. The students are advised to contact the Faculty Advisor(s) for advice about courses within the framework of the norms laid down for the purpose. The Faculty Advisor for M.S. by Research students is nominated by the Convenor, PGC/IDPC.

Students are expected to identify a M.S. thesis supervisor within 6 months of joining the M.S. programme. For students admitted under the Research Assistant (Project) (RAP) category, their RA project guide will also be their M.S. thesis supervisor. For the student's

project, his/her supervisor automatically becomes a Co-faculty Advisor and normally takes over most of the role played by the Faculty Advisor, after the Supervisor-student assignment is made. For further registration of courses, the students should consult their project supervisor also.

## Programme Structure

The total minimum credit requirement for the programme is 58 course credits + 6 credits for the Communication Skills Course Part I & II. The total course credits are divided between theory courses, laboratory courses, seminars, R&D projects, and may include other academic work like practical training, field visits, etc. as specified by the PCs. Like the Ph.D. programme, and unlike the M.Tech. programme, there are no explicit credits for the thesis.

The normal duration for fulfilling this program is 3 years. However, early completion (as early as at the end of 1.5 years) is also possible and encouraged, subject to exceptional quality of R&D work as detailed later in this document. Students are required to complete all the minimum credits required for the programme, as approved by the Senate from time to time, and complete the M.S. Thesis, within the stipulated duration of the programme.

However, in special cases, the student can be permitted, with an appropriate approval of the competent authority, to complete his/her programme, within **four** years from the date of original registration of the student for the M. S.R. Programme. The maximum duration for registration in the M.S. programme is thus four years.

Table 2 gives, as an example for *the TA category*, the structure of the M.Tech. Programme for the Department of Computer Science and Engineering. In the table, a \* indicates mandatory registration for the course in that semester. Students are expected to register for at least 18 credits in each of Semester I and II. The \*\* for Communication Skills indicates that the course credits are counted separately in the total.

**Table 2: A typical M.S. by Research Programme structure for CSE, TA category**

Sem I		Sem II		Sem III		Sem IV/V/VI	Total Credits
Courses	Credits	Courses	Credits	Courses	Credits		
MS R&D-1*	8	Seminar (CS 694)	4	Elective V	6	MS Thesis	
CS 699* (Software Lab)	8	Elective III*	6	MS Thesis	-		
Elective I*	6	Elective IV*	6				
Elective II	6	MS R&D-2*	8				
		Communication Skills I & II	PP/NP 4+2**				
<b>Total-Credits</b>	<b>28</b>		<b>24+6**</b>		<b>6</b>		<b>58+6**</b>

Table 3 gives, as an example for **the RAP category**, the structure of the M.Tech. Programme for the Department of Computer Science and Engineering. In the table, \* indicates mandatory registration for the course in that semester. Students are expected to register for at least 12 credits in each of Semester I and II.

**Table 3: A typical M.S. by Research Programme structure for CSE, RAP category**

Sem I		Sem II		Sem III		Sem IV		Sem V/VI	Total Credits
Courses	Credits	Courses	Credits	Courses	Credits	Courses	Credits		
MS R&D-1*	8	Seminar (CS 694)	4	Elective III	6	MS Thesis		MS Thesis	
CS 699* (Software Lab)	8	Elective II	6	Elective IV	6	Elective V	6		
Elective 1*	6	MS R&D-2*	8	MS Thesis					
		Communication Skills I & II	PP/NP 4+2**						
<b>Total-Credits</b>	<b>22</b>		<b>18+6**</b>		<b>12</b>		<b>6</b>		<b>58+6**</b>

For all categories of students in CSE the Seminar, M.S. R&D-1 and M.S. R&D-2 are prerequisites for registration for M.S. Thesis. Students can register for the M.S. Thesis starting from Semester III, for a minimum of 1 semester and each semester subsequently until graduation.

## 1. General Information

### MSR 1.1 A) Registration

- 1.1.1 On joining the Institute every student is required to plan his/her academic programme in consultation with a Faculty Advisory Group of the Department/ IDP/ School/ Centre in which the student is admitted. Details of the academic requirements of this programme and details of courses available are given in the bulletin. **The bulletins are available on the website of each Department.**
- 1.1.2 The registration for each semester is carried out through the computerized "Online Registration" programme. This registration is mandatory for all students, and they must register themselves on the prescribed dates announced from time to time. Every student must register in each semester until he/she completes the programme.
- 1.1.3 All students have to clear the Institute and Hostel dues **before Registration.**

- 1.1.4 IIT Bombay follows a semester system, hence registration at the beginning of each semester is mandatory for every student till he/she completes his/her programme of study. If a student does not register in a particular semester without prior permission of the PGAPEC, he/she ceases to be a student and the admission is liable to be cancelled.  
Further, if a student does not register for TWO consecutive regular semesters, the admission will be cancelled by the PGAPEC suo moto.
- 1.1.5 The Faculty Advisory Group is authorized to carry out the course registration and also adjustments as specified later. However, once the student is registered for the thesis work, the thesis supervisor also acts as a Co-faculty Advisor and assumes most of the responsibilities of the Faculty Advisor. A student is to register for courses in the beginning of the semester, which is to be done on the dates announced for the purpose. The Faculty Advisor shall be competent authority to approve the course registration in all cases.
- 1.1.6 Along with the credit courses, a student is normally allowed to take a maximum of Two Audit courses per semester, with the consent of the Project Guide/Faculty Advisor, as appropriate.
- 1.1.7 A student is not permitted to re-register for a course, which he has undergone and in which he has secured AU, DD or higher grades, except for students who are under Academic probation and opt for grade improvement. (Ref. Rule MSR 3.5)
- 1.1.8 Any student who concurrently registers for any postgraduate degree at another organization shall be automatically de-registered at the Institute.

**B) Submission of final year mark sheets/provisional certificates of their qualifying degree by the Master's students**

1. All Postgraduate students should ordinarily submit their certificates latest by 31<sup>st</sup> July /30<sup>th</sup> January respectively when admitted in the Autumn / Spring Semester of a given academic year, after joining the Institute.
2. The students who are unable to submit their certificate by these dates, should apply for extension along with an undertaking stating the due date for submission, giving proper reasons on a prescribed form developed for the purpose.
3. Even if a student does not submit the certificate until the commencement of the Semester end examination, he /she would be allowed to appear in the examination. However, the results of such a student shall be withheld until the required documents are produced.
4. Cases of students who do not submit the certificates after the first semester will be reported to the PGPC and the Senate for further consideration and decisions/actions.

**MSR 1.2 : Course Adjustments**

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

### **MSR 1.3 : Institute Electives**

The M.S.R programme does not include an Institute Elective course in the curriculum.

## **2. Rules and Regulations**

The rules and regulations governing the M.S. programmes are given :

### **MSR 2.1 : Admission**

#### **MSR 2.1.1 (a) : Programme Categories and Financial Support**

The Institute admits M.S. by Research candidates under the following categories :

- i. Teaching Assistantship (TA)/Fellowship Award (FA)
- ii. Institute Research Assistantship (RA)
- iii. Research Assistantship through Project (RAP)
- iv. Project Staff (PS), for Project staff of IIT Bombay
- v. Institute Staff (IS), for faculty/staff of IIT Bombay
- vi. Sponsored candidates (SW)

Admissions to all categories are subject to availability of seats which may vary by category/department/specialization/year. The continuation of the financial support and the registration for the selected programme will be subject to satisfactory performance of the duties assigned by the Academic Unit as well as satisfactory academic performance and fulfillment of the other academic and non-academic requirements, as per rules.

The financial support to TA/RA shall be as per the MHRD/CSIR/UGC norms, and are the same as for M.Tech. students. The TA scholarship shall be for 2 years. Further financial support, for a maximum period upto 1 year may be given from the respective academic units and concerned faculty driven projects. RA/FA/RAP scholarship shall be for 3 years.

For more details regarding the above categories, kindly refer information brochure on Institute portal. (<http://www.iitb.ac.in/newacadhome/toadmission.jsp>)

#### **MSR 2.1.1 (b) : Criteria for admission to M.S. programme through CEP**

There is no admission for M.S. by research programme through CEP.

#### **MSR 2.1.2 : Change of Categories**

Change of student status is permitted, subject to approval of PGAPEC, from one category to another.

1. Admissions to Institute Teaching assistantship (TA), Institute Research Assistantship (RA) categories are on competitive basis and based on valid GATE score.
2. Candidates admitted to Institute Research Assistantship (RA), and Research Assistantship through Projects (RAP) cannot change their category to Institute Teaching Assistantship (TA).

### **MSR 2.1.3 Conversion from M.S. to Ph.D.**

(a) If a student who is pursuing a full time M.S. programme at the Institute also fulfills the minimum qualifications prescribed for admission to any specific Ph.D. programme of the Institute and wishes to change over to that Ph.D. programme, he/she may be permitted to do so provided he/she has obtained an SPI of 9.00 or above after having registered for full credits of coursework (18 for TA and 12 for RA) in the first semester. The student(s) shall apply for the change over by the grading deadline of the first semester, through the DPGCs/IDPCs/SPGCs, who shall forward the applications to the PGAPEC with their recommendations.

### **(b) Change from one PG programme to another**

Change of programme is not applicable for M.S. by Research students

## **2.2 : Pattern of Courses and Credits**

The courses offered for the PG Programmes may be Lecture Courses, Laboratory Courses, Design Courses, Seminars, R & D Projects, Communication Skills(Part I & II).

### **MSR 2.2.1 :**

The credits assigned to a course are dependent upon the contact hours associated with the course and is obtained by adding all these hours. The credits for all the available courses are indicated in the Courses of Study Bulletin.

### **MSR 2.2.2 :**

Students are required to complete all the credits required for the PG programme as approved by the Senate from time to time.

### **MSR 2.2.3 :**

Seminar shall satisfy the following conditions:

- i) The seminar shall carry four credits.
- ii) Seminar shall be treated as a course for the purpose of registration and evaluation.
- iii) Seminar Coordinators appointed by the DPGCs/IDPCs/SPGCs shall organize the Seminars and forward the grades awarded by the panels of examiners to the Academic Office by the end of the Semester.

### **MSR 2.2.4 :**

The general credit structure for full-time students for the M.S. is given in Table 2 and Table 3.

## **3. Course Credit Requirement and Registration for Course**

### **MSR 3.1 :**

The total minimum credit requirement for M.S programme is 58 credits with a further 4+2 credits for the Communication Skills Part I & II PP/NP courses.

Following is a summary of requirements and credit structure, followed by an indicative semester-wise breakdown of credit structure.

- 58 course credits
  - 38 course credits of elective courses
    - At least 12 credits in Semester I
    - At least 12 credits in Semester II
  - 4 credits for Seminar (either in Semester I or II)
  - 16 credits M.S. R&D Projects
    - R&D-1 (8 credits) in Semester I
    - R&D-2 (8 credits) in Semester II
- Communication Skills course (no explicit credits) in Semester I or Semester II
- An M.S. thesis with no explicit credits
  - Work on the thesis is expected to be started in the Summer after Sem II and can be completed earliest by end of Sem III and at the latest by the summer following Sem VI.

### **MSR 3.2 : Part-time students**

Please lookup Table 3 for a typical course structure for part-time students (RA/RAP category). The normal completion time for M.S. by Research for these students is 3 years, which is the same as for full-time students. It is expected that the RAP work will be related to the thesis and hence no extra time is required.

### **MSR3.3 Summer Registration**

Students may be allowed to register for courses, over and above the backlog courses, in the summer semester, but under an 'Additional Learning (AL)' tag. Such courses cannot be re-tagged as "Elective", even later on.

### **MSR 3.4 : Dropping of course(s)**

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

### **MSR.3.4 (i) : Course Withdrawn grade**

After the last date of course adjustment, a student can drop course(s) till the last date of dropping, as announced in the academic calendar. Such courses will appear in the transcripts and final grade card with a 'W' grade (withdrawn grade). These courses will have no impact on SPI/CPI.

### **MSR 3.5 Grade Improvement**

1. A student in a PG Programme, where minimum CPI for coursework is 6.0, will be eligible for repeating a course for grade improvement if he/ she has a CPI less than 6.0 and has been permitted by PGAPEC to continue in the Programme on Academic Probation.
2. For Grade improvement, a student has to re-register in the course in a subsequent semester if the course is offered. The grade obtained in the re-registered course will



supersede the earlier grade and the same will be reflected in the Semester Grade Card and in the Final Transcript.

3. The student can avail this option only for TWO courses in the entire programme and only ONCE for a specific course.

### **MSR 3.6 Course Relaxation for reserved category students**

The students admitted under reserved category (SC/ST) may be permitted to take 1 less course in each semester. This will be with the approval of faculty advisor and PGAPEC or Dean (AP).

### **MR 3.7 : Transfer of course credits completed under CEP**

Not applicable.

### **MSR 3.8 Minimum number of students required to run a particular coursework**

Minimum of 5 students should be registered in a course to be run as a Department/Institute Elective course. If less than 5 students are registered at any given point of time, the concerned DPGC/Head of Academic units may take a decision on case to case basis. Even a single (1) student is registered for a Minor course, the course is required to be offered.

## **4. Course Assessment and Award of Grades**

### **MSR 4.1 Grades**

For every course taken by the students, he/she is assigned a letter grade on his/her combined performance in all the assessments. These grades are described by the following letters and corresponding grade points.

AA (10 points), AB (9 points), BB (8 points), BC (7 points), CC (6 points), CD (5 points), DD (4 points), FF (0 points), FR (0 points), PP (Passed, 0 points), NP (not Passed, 0 points), AU (Passed, 0 points),DX (0 points) and W (0 points). **Minimum passing grade in a course is DD.**

All grades (including FR, DX, W etc.) obtained by a student will be mentioned in the transcript.

### **MSR 4.2 – FF and FR grade**

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

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

### **MSR 4.2.1(A)**

A student getting a **FR** grade has to re-register for the same course if it is a core subject. If this course is an elective course, he/she may register for an alternative course as

prescribed by the DPGC/ IDPC/SPGC, without this being counted as an additional courses.

#### **MSR 4.2.1(B) : 'FR' grade for Academic Malpractice**

(i) “FR” grade may also be awarded for Academic malpractices. Details pertaining to Academic malpractices are available at :

<http://www.iitb.ac.in/newacadhome/punishments201521July.pdf>

(ii) Academic Malpractices are severely dealt with. The details pertaining to Academic malpractices are available at :

<http://www.iitb.ac.in/newacadhome/punishments201521July.pdf>

#### **MSR 4.2.2**

(i) **M.S.**

A student will be permitted to take re-examination for FF grades in a given semester provided the number of FR grades do not exceed those given in MSR 5.2.1. The re-examination is assigned 50% weightage and is conducted as per a declared schedule after the semester-end examination.

**After such a re-examination if the student passes in that course, he/she will be awarded the maximum grade of DD in that course.**

Student with FF grade(s) shall be permitted to write re-examination, if after re-examination they are likely to get a SPI/CPI greater than or equal to 6.00. The SPI/CPI will be calculated before re-examination assuming that he/she gets ‘DD’ grade in re-examination.

#### **MSR 4.3 Audit Grade**

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

#### **MSR 4.4 Additional Learning**

The students have the option of taking a course as “Additional Learning”. These courses can be registered at the time of semester registration of courses. Registration for additional courses will require approval of the faculty advisor. “Additional Learning” tagged courses will be in addition to the minimum course credit requirement and will not affect the SPI/CPI, but the actual grades obtained will be shown in the transcript.

There will be a one-time option of changing the tag of a course. The “Additional Learning” tagged courses can be re-tagged as “Department/Institute Elective” and vis-a-versa. “Core courses” cannot be re-tagged as “Additional Learning” or “Department/Institute Elective”.

The option of permitting a student to register a course as “Audit” is left to the course instructor.”

#### **MSR 4.5 II grade**

The grade II shall be awarded to a student in a lecture/ laboratory course if he/she has satisfactory in-semester performance and has fulfilled the attendance requirement, but has not appeared for the semester-end examination. The student will be eligible for a make-up for the semester-end examination if the absence was due to medical reasons or extraordinary circumstances. For re-examination, the student will have to apply to the Academic Office. In case of absence due to medical reasons, the application should be accompanied by a medical certificate issued/ authenticated by IIT Bombay Hospital. In case of absence due to extraordinary circumstances, the supporting documents should be submitted. The Academic Office will decide whether re-examination is to be allowed, after consulting with UGAPEC/ PGAPEC (in case of medical reasons) and Dean AP (in case of extraordinary circumstances). In case a re-examination is allowed and is conducted, the instructor shall decide the final grade on the basis of sum of in-semester and the re-examination marks. The weightage of the re-examination would be the same as that of the final examination that the student has missed. In all other cases the II grade will be converted to FR grade.

#### **MSR 4.6 Class Attendance Rules**

**DX grade** - “ ‘DX’ grade is awarded to students who have inadequate attendance as per following : IIT Bombay expects one hundred percent (100 %) attendance from its students. If the attendance of the student, as counted with effect from the first contact hour, falls below eighty percent of the total attendance expected, the instructor may award the student, a ‘**Drop due to inadequate attendance**’, ‘**DX**’ grade in that course. For the purpose of CPI calculation, the ‘Drop due to inadequate attendance’ Grade would, be treated as equivalent to a ‘**Course Drop**’ carried out on initiation by the student. In calculating attendance, no specific concession may be given for lack of attendance on Medical grounds. Further, if a student has 80% attendance or more, he/ she cannot be awarded the ‘DX’ grade.”

The only exception to this rule are courses where the instructor has declared that no DX grade will be awarded.

The instructor may also reserve some weightage upto a maximum of 20%, for attendance and/or class participation.

#### **MSR 4.7 Seminar Grade**

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

#### **MSR 4.8**

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

#### **MSR 4.9**

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

#### **MSR 4.10 PP/NP Grade**

Practical Training, Communication skills – I & II courses will be awarded PP/NP grades. No grade points are associated with these grades and performance in these courses is not taken into account in the calculation of the performance indices SPI or CPI. However, the award of the degree is subject to obtaining a PP grade in all such courses.

#### **MSR 4.11 Compensatory time to PwD students**

Compensatory time is to be provided to all PwD students across the Institute during written examination.

For PwD Students, 'compensatory time' will not be less than 20 minutes per hour of examination for persons who are allowed use of scribe/ reader/ lab assistant. All the candidates with benchmark disability not availing the facility of scribe may be allowed additional time of minimum of one hour for examination of 3 hours duration. In case the duration of the examination is less than an hour, then the duration of additional time will be allowed on a prorata basis. Additional time will not be less than 5 minutes and will be in the multiple of 5.

PwD students must inform the instructors in advance regarding their need for compensatory time during examination.

### **5. Performance Requirement and Re-examination in Courses**

#### **MSR 5.1**

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

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

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

SPI will be calculated (after re-examination, if any) on the basis of the final grades awarded AA, AB, BB, BC, CC, CD, DD and **FR**. The SPI is calculated up to two decimal places.

An up-to-date assessment from the time the student entered the Institute is obtained by calculating a number called the Cumulative Performance Index (CPI). The CPI is the weighted average of the grade points obtained in all the courses taken by the student since he/she entered the Institute. It is calculated in the same manner as the SPI.

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

#### **MSR 5.1.1**

In case of a student clearing a failed course, or a course taken in lieu of an earlier course as approved by the Department, the earlier failed grade would be replaced by the new passing grade in calculation of the CPI.

#### **MSR 5.1.2**

For CPI requirement of 6.00 (Rule 5.2.4), if re-examination is allowed and taken, CPI will be calculated using the new grade obtained by the student in the re-exam.

### **MSR 5.2 Discontinuation from the programme**

#### **MSR 5.2.1**

##### **M.S.**

A student will be required to discontinue the programme if at the end of any semester he/she has two or more FR grades.

#### **MSR 5.2.2**

5.2.1 will be applied after re-examination, if any, as permitted by Rule 4.2.2.

#### **MSR 5.2.3**

At the end of a given semester, a student must maintain a CPI of 6.00 (computed with **FR**, if any, but after re-examination grade if re-examination is permitted). Otherwise, the student will be required to discontinue the programme.

### **MSR 5.3 : Academic Probation to the students having lower SPI/CPI than the minimum required for continuation of their studies**

- a. PGAPEC will directly offer probation to the students who are found eligible as per the norms defined by PGAPEC, without waiting for the appeal from the student. However, the necessary declarations from the students and their guardians would still be taken as per requirements in a reasonable time, after grant of probation.
- b. In some cases, wherein , PGAPEC does not offer Probation to a student, an appeal can be made for probation via DPGC to PGAPEC by the students, which PGAPEC could consider on a case by case basis on its merit.
- c. It will be a one time exercise during the study programme of the students for the period of ONE semester and decided by PGAPEC in consultation with the Faculty Advisor and DPGC.
- d. For the Academic Probation Semester, the students must obtain such SPI as to make his/her **course work** CPI greater than or equal to 6.0 immediately on including the performance of the semester of Academic Probation. (Ref : 207<sup>th</sup> meeting of Senate)
- e. **Financial Support during the period of Academic Probation in Masters' Programmes (New Policy) – (Ref. : 198<sup>th</sup> Senate Meeting)**
  - i. The student who is under Academic Probation may continue to be paid Teaching Assistantship/Research Assistantship at the rates applicable to them.

- ii. However, no Teaching Assistantship duties should be given to them on account of the need for them to concentrate on their academic performance and to improve the same.
- iii. Therefore, these students would be expected to pay Non-Concessional Fees applicable to students of their academic programme.

## **6. MS Thesis and Graduation requirements**

### **MSR 6.1 Thesis Structure**

#### **MSR 6.1.1**

Each student shall be given a topic for thesis work as early as at the end of the first semester but not later than the start of the third semester.

#### **MSR 6.1.2**

Each student should have a thesis Supervisor from the faculty of the parent Department to which he/she is admitted. In addition, Co-supervisor(s) from the same Department/ other Department/IDP Group/Center/School may be co-opted by the Supervisor with the approval of DPGC/IDPC/SPGC.

#### **MSR 6.1.3**

Whenever a Supervisor leaves the Institute permanently/temporarily, the DPGC/IDPC/SPGC shall make alternative arrangements for guidance during the supervisor's absence.

### **MSR 6.2 Schedule for Thesis Assessment**

M.S. structure is a flexible timeline for completing the M.S. thesis work. M.S. Thesis registration and work towards the thesis will normally start from Semester III onwards, with registration for each semester similar to Ph.D. registration, with no credits or grade associated with the thesis.

A Research Progress Committee (RPC) for thesis evaluation must be set up at the time of M.S. Thesis registration, and will be similar to the Ph.D. RPC: Guide + 2 examiners. A Progress Seminar at the end of each semester starting from Semester III onwards is required, the final one being the defense. The progress seminar/defense may be presented in the Winter/Summer break after the end of the semester, but must be completed before the start of the following semester, and reported to the Academic Office.

Specifically -

- Progress seminar for odd semesters, beginning from Semester III should be given anytime between 1st November - 31st December.
- Progress seminar for even semesters, beginning from Semester IV should be given anytime between 1st May - 30th June.

- M.S. thesis defense may be anytime after 20th November of Semester III, subject to RPC clearance.

### **MSR 6.3 Submission of Thesis**

1. Students are required to submit the dissertation at least two weeks prior to the date of defense.
2. The viva-voce will be conducted under departmental arrangements.
3. Forms for submission of Dissertation, duly completed must be deposited to the Academic office along with the provisional clearances from Accounts Section and from HCU(Hostel Coordination Unit)/ Hostel.
4. Final thesis evaluation reports are to be sent by the panel of examiners to the Academic Office on completion of viva-voce.

### **MSR 6.4 (A) Late Completion of Progress Seminar**

Whenever any progress seminar is not done by the deadline specified in MSR 6.2, the student is required to:

- a) Make a specific request for extension with justification for submission **at least 15 days before the last date of submission.**
- b) Pay the Institute fees for the next semester.
- c) Formally register for that semester.

### **B) Guidelines on Extension of Submission of M.S. Thesis Report and Examination :**

1. If the thesis is not defended by the deadlines specified for the progress seminar (MSR 6.2) the student must register for an additional semester and pay the semester fee in full.
2. If the thesis has been submitted by the specified deadlines but not defended, a grace period upto 14 days after the due date of submission of thesis may be given for conducting the viva voce (on specific requests made well in advance). In case the Supervisor is not available for a long period, an Acting Supervisor may be appointed by the Head of the Academic Unit for conduct of the final viva voce.
3. The decision of providing Hostel accommodation for students on extension may be taken independently by the Dean (SA)/HCU.

### **MSR 6.5 : Thesis Evaluation**

#### **MSR 6.5.1 : Committee Members for Evaluation**

Progress Seminar	i) Supervisor(s) ii) One Internal Examiner
Thesis Evaluation	The thesis assessment will be done by a Board of Examiners appointed by the DPGC/IDPC/SPGC consisting of the following:  i) Supervisor (s) ii) Internal Examiner iii) DPGC-approved external examiner

	iv) Chairperson: A Professor/ Associate Professor from another academic unit or a different specialization/ research area. The Academic Unit may decide if a Chairperson is needed for the viva or if an Internal Examiner can also act as a Chairperson. In case the Internal Examiner happens to be a Professor / Associate Professor, s/he may be designated to also serve as the Chairperson with prior approval of the Convener, DPGC.
--	---

**MSR 6.5.2:**

- The defense may be scheduled at least two weeks after thesis submission. After this minimum time, the defense may be scheduled at the department level with consent of the examiners.
- The committee may choose to approve the thesis without any changes, with minor changes (to be verified by the advisor), or may recommend major revision with a repeat defense.
- M. S. thesis defense may be anytime after 20th November of Semester III, subject to RPC clearance.

**MSR 6.5.3 Progress Seminar**

Students must submit a report and present a progress seminar to the RPC every semester, beginning from the end of Semester III till the successful completion of thesis. Progress seminars should be given as per the dates specified in MSR 6.2. Individual academic units may consider the last date of report submission prior to the last date of progress seminar presentation.

Extension of date for progress seminar may be considered in exceptional cases only with prior permission. Application for extension must be submitted by the student using appropriate form through proper channel at least TWO WEEKS prior to the expiry of the normal progress seminar schedule as defined by MSR 6.4. Late fine of Rs. 750/ per week will be applicable for delay in progress seminar presentation.

The progress seminar evaluation report in prescribed format must reach the Convener, PGAPEC through Convener, DPGC/PGC within FOUR working days after Progress seminar presentation. A copy of the seminar evaluation report will be made available to the concerned student by the respective Academic Units.

Failure on the part of a student to present progress seminar without prior permission of DPGC and PGAPEC makes his/her MS registration liable for cancellation.

The MS registration of a student will be cancelled on two consecutive "poor performances" including repeat progress seminar, at any stage of the programme.



#### **MR 6.5.4 Re-assessment of thesis presentation**

In case the thesis assessment is not approved after presentation the student should carry out additional work/modifications etc. as suggested by the panel and appear for assessment within six months from the date of previous assessment.

#### **MSR 6.6 Graduation requirements**

The graduation requirements (to be verified by RPC) for an M.S. are as follows:

- Completion of credit requirements with a minimum CPI of 7.5
- PP in Communication Skills course (Parts I & II)
- Completion of the M.S. Thesis with registration of the thesis for at least one semester.
  - Submission of the thesis before four semesters of thesis registration may be permitted subject to fulfilling the early graduation criteria set up by the individual departments.
  - RPC approval to submit thesis and hold the thesis defence.
  - Final M.S. thesis submission, approval by the thesis examination committee, and successful defence.

As an example of the early graduation requirement, the requirements of the CSE Department are as follows:

- The RPC must certify the outstanding quality of the thesis based on externally validated evidence of quality of work done by student through either
  - a. 1 paper (full/short/demo/poster) published/accepted based primarily on students MS research in a recognized venue (CORE ranked), OR
  - b. Extensive software/other development + deployment validated by external usage, which is facilitated primarily by the students work.

Check with the individual departments for up-to-date requirements.

#### **MSR 6.7**

A MSR student should not take up any other assignment before completion of minimum course credit requirements.

#### **MSR 6.8 Submission of Electronic form of Dissertation/ Report**

Dissertations/ Report needs to be submitted in electronic form to the Central Library. Due academic approvals of the final version of the Dissertations/ Reports should be obtained from the supervisor(s) prior to finalizing the archival version of the Dissertation/ Report.

**The student shall submit the prescribed form for submission of dissertation/report to the academic unit/Academic Office, duly signed by the concerned, within ONE month, from the successful completion of the defence. If the copies of dissertation submitted after the due date, a fine of Rs. 5000/- per month from the due date of submission till the date of submission will be levied to the concerned student. (Amended in the 207<sup>th</sup> Senate meeting).**

The final transcripts/provisional degree certificate/final degree certificate will be issued only after receipt of dissertations/reports.

## **MSR 7. Temporary Discontinuation**

### **MSR 7.1.**

In genuine cases, if the DPGC/IDPC/SPGC/CPGC recommends temporary discontinuation after completion of course work the PGAPEC may take a decision on merits for permitting such temporary discontinuation. Such cases will be governed by the following rules. However, they have to submit the following certificates at the time of rejoining the programme:

#### **a) If a break is permitted on medical ground**

1. He/She should submit fitness certificates from the Senior Medical Officer of the Institute or an authorized medical practitioner.
2. Joining report through the Head/Convener of the Dept/Centre/School/ID group.

#### **b) If a break is permitted to join a job**

1. He/She should submit a relieving certificate from the employer.
2. Joining report through the Head/Convener of Dept/Centre/School/ID groups.

### **MSR 7.1.1**

The student must complete the programme within **four** years from the date of original registration for the MS Programme.

### **MSR 7.1.2**

He/She has to work at a stretch for a minimum period of **one semester** at the Institute for completing the M.S. thesis.

## **MSR 8. Exit From M.S.**

A student may apply for exit from M. S. degree, by taking a PGDIIT diploma instead. The requirements for PGDIIT exit will be identical to exit from M.Tech to PGDIIT.

## **MSR 9. Option for conversion to External (EX) category**

1. The students who have completed the coursework in the M.S. programme, but have not completed a thesis, may apply to convert to 'EX' category and complete their thesis externally. Approval of RPC and DPGC/IDPC/SPGC/CPGC is required for the conversion.
2. The student is required to submit the thesis like other M.S. students and must be present in IITB for progress seminars and final thesis evaluations.
3. The student must register and pay regular semester fees till completion of their programme.
4. Students will not be eligible for hostel on conversion to External Category.

## **10. Vacation /Leave Rules**

1. M.S. students are entitled for - i) Winter vacation ii) Summer break (15 days) for the first year.
2. In addition, they are entitled for a maximum of 30 days leave in addition to public holidays, in each academic year of the tenure of the programme.
3. Special Leave to attend Seminars/Conferences in India/abroad with regard to their thesis work / to present research papers, is admissible as follows.

<b>Event</b>	<b>Duration</b>	<b>Stipend</b>	<b>Sanctioning Authority</b>
* Conference / Seminar	5 working day per semester	Yes	Head of the Academic Unit

- \* Academic leave in excess of above shall be considered by the Dean (AP) on the recommendation of the Convener, DPGC.

## **11. Procedure to be adopted by students for research work involving human participation**

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

## **12. Guidelines for award of Institute Medals**

A student will be considered for a medal if the student has obtained overall CPI 9.0 or above and is recommended by his/ her RPC and the DPGC. The grade of "II" on medical ground and/or "W" in a course shall not be a bar.

Following shall be considered a disqualification for award of Medals :

1. The award of "DX" of "FF" or "FR" grade(s) in a course (of any tag i.e. Core, Elective, Additional Learning, etc.)
2. Extension for thesis defense.
3. Any punishment under DAC/ADAC during the programme. (The names of the proposed medalist be verified from the Dean (SA) office for any DAC punishment.)

For more details, please refer to the academic home page > Awards > Description of Awards. (<http://www.iitb.ac.in/newacadhome/medaldetails.jsp>.)