

RULES AND REGULATIONS

Master of Technology (M.Tech.) Programme



Academic Affairs

(2014-2015)

NATIONAL INSTITUTE OF TECHNOLOGY GOA

**M. Tech. ORDINANCES AND REGULATIONS
(Effective from 2014-15 admissions)**

ORDINANCES

- 1) Eligibility for admission, admission policy and procedure shall be decided from time to time by the Board of Governors (BOG) of the Institute, following guidelines issued by MHRD, Government of India.
- 2) The duration of the M. Tech. programme will normally be of 4 semesters.
- 3) Award of M. Tech. degree shall be in accordance with the regulations of the Senate of the Institute.
- 4) Notwithstanding any that are stated in the regulations, the Senate has the right to modify any of those from time to time.

RULES AND REGULATIONS

M1. Admission

- M1.1 Admission to all courses is made in the ODD semester of an academic year at the first year level based on relative performance in Graduate Aptitude Test for Engineering (GATE) in relevant discipline as per guidelines issued by the Ministry of Human Resources and Development (MHRD), New Delhi from time to time.
- M1.2 The number of seats in each branch of the M. Tech. programme is decided by the Senate of the Institute following the instructions from MHRD, Government of India. Reservation of seats is made as per the directives from MHRD.
- M1.3 At the time of admission, the candidates should have passed/appeared and awaiting results of the final examination of the qualifying degree in relevant discipline as main subjects of study.
- M1.4 Candidates have to fulfill the medical standards required for admission as per rules set up by Institute or guidelines issued by the Ministry of Human Resources and Development (MHRD) from time to time.
- M1.5 The selected candidates will be admitted to the M. Tech. programme after due admission process.
- M1.6 In all matters relating to admission to the M. Tech. programme, the decision of the Institute's Post-Graduate Admission Committee (PAC) and its interpretation given by the Chairperson of the Senate shall be final.
- M1.7 If at any time after admission, it is found that a candidate has not fulfilled any of the requirements stipulated by the Institute, the Academic Affairs Committee (AAC) may revoke the admission of the candidate and report the matter to the Senate.

M2. Structure of the M. Tech. Programme

- M2.1 The medium of instruction, examination and project reports will be English.
- M2.2 Postgraduate (M.Tech Degree) programmes are offered in the following disciplines by the respective programme hosting Departments.
- i) Master of Technology in "Computer Science and Engineering" (M.Tech. (CSE)) by the Department of Computer Science and Engineering (CSE)
 - ii) Master of Technology in "VLSI" (M.Tech. (VLSI)) by the Department of Electronics and Communication Engineering (ECE).
 - iii) Master of Technology in "Power Electronics and Power Systems" (M. Tech. (PEPS)) by the Department of Electrical and Electronics Engineering (EEE)
- Other teaching Department, Humanities and Sciences (HS) shall offer courses for these three different programmes.
- M2.3 Each programme of instruction consists of the following:
- i) An engineering "Programme Core" introducing the student to the state of the art in engineering in the respective branch.
 - ii) A "Programme Elective" enabling the student to opt and undergo a set of specialised courses;
 - iii) A "Professional practice" which includes independent study, seminar, comprehensive-viva, technical communication, etc.
 - iv) A Dissertation work on specialised advanced engineering and/or research work of state of art nature.

- M2.4 Each of the postgraduate programmes will have a curriculum and syllabi for the courses approved by the Senate. Every department has a prescribed course structure which in general terms is known as “Curriculum” or “Courses of Study”. It prescribes courses to be studied in the programme in each of the semesters as well as credits earned. The courses of study bulletin are available in the Institute’s website.
- M2.5 The Institute follows a credit based semester system. There are two regular semesters in a year. The semester that begins in July (*July to December*) is known as ‘ODD’ Semester and the semester that begins in January (*January to June*) is known as ‘EVEN’ Semester. The general pattern is: One credit for each lecture hour per week per semester; Two credits for each laboratory course of three to four hours per week per semester.
- M2.6 The complete programme will consist of 4 categories (as given in the Table 1): Core, Electives, Dissertation work and Professional Practices distributed over four semesters with two semesters per academic year.
- M2.7 The curriculum of any branch of the M. Tech. programmes shall have a total of minimum 64 credits. Minimum credits for each of the categories are specified in Table 1, which have to be earned by students for the award of M.Tech. Degree.
- M2.8 Every course of the M. Tech. programme will be placed in one of the 4 categories as listed in Table.1.

Table 1: Course categories

Sl. No.	Category	Minimum Credits	Remarks
1	Program Core	38	The distribution in Core and Electives is specific to each department.
2	Program Electives (including MOOCs or any other Approved by Institute)		
3	Seminar, Viva Voce and communication skills	4	The course on “Communication Skills and Technical Writing” is compulsory and it is an “Audit” course
4	Dissertation Work	22	
Total Credits		64	

- M2.9 Academically well performing students, with CGPA > 8.0, who never had any backlogs, will only be able to register for additional subjects, within the prescribed 2 years duration. It is to be noted that in the final CGPA calculation, all the credited subjects will be included. (*Amended in 6th Senate Meeting*)

M3. Registration & Enrolment

- M3.1 Students are allowed to pre-register for the elective courses to facilitate the selection of suitable electives from the set of electives that the respective department is ready to offer in the ensuing semester.
- M3.2 For all the admitted students, registration is mandatory for all the semesters and enrolment will be done in the beginning of the semester as per the schedule announced by the AAC. A student will be eligible for enrolment only if he/she satisfies M7.1, and additionally if (i) he/she has cleared all dues in the Institute, Hostel and Library up to the end of the previous semester and (ii) he/she is not debarred from enrolment by a disciplinary action of the Institute.

M3.3 Students are required to submit registration form duly filled in, in consultation with his/her faculty adviser (DCC's representative).

M4. Credit Requirements for Registration

M4.1 M.Tech. students are allowed to register for a maximum of 25 credits in a semester (other than the first semester) with the consent of the faculty Adviser.

If a student finds it difficult to cope with the academic work load in any semester or for any other valid reason, he/she may drop courses within three weeks of the commencement of the semester *or as mentioned in the academic calendar, whichever is earlier*, with the written approval of his/her faculty adviser and HoD. However, the student should ensure that the total number of credits registered for in any semester should enable him/her to earn the minimum number of credits in order to comply with rule M7.1.

M4.2. MOOCs Programme

- i) MOOCs courses will be offered as an elective course in M.Tech programme for each of the branch.
- ii) The courses offered and credits earned will be decided by Heads of the Dept. in consultation with AAC.
- iii) Procedure of evaluation (refer. M13) and attendance requirements (refer. M11) are as per Institute norms.

M5. Departmental Class Committee

M5.1 Every batch/class of the M. Tech. programme shall have a Departmental Class Committee (DCC) consisting of faculty and students. For each branch of the M. Tech. programme, a semester wise DCC shall be constituted by the respective Head of the Department (HoD).

M5.2 For every class there will be Department Class Committee (DCC). The constitution of DCC is as follows:

- i) HoD/HoD's nominee to act as Chairperson,
- ii) All the teachers offering courses,
- iii) Faculty Adviser (one of the teaching faculty member of the Dept. appointed for the class) of the class,
- iv) Two students of the class nominated by the faculty adviser or elected by students among themselves.

M5.3 Term of the DCC shall be one semester (*Amended in 6th Senate Meeting*). The committee shall meet at least twice during the semester. The Director and AAC shall have the right to be present in any meeting of any class committee. The DCC shall record the proceedings of each meeting and communicate a copy of each meeting to the concerned HoD and AAC within three working days after the meeting.

M5.4 Responsibilities of the DCC include the following:

- i) To help the students in planning their courses of study and for general advice on the academic programme,
- ii) Review periodically the progress of the classes,
- iii) To decide which electives should be floated in the next semester,
- iv) Discuss problems concerning curriculum, syllabi and the conduct of the classes,
- v) The DCC, without the student members, is responsible for the finalization of the semester results,
- vi) The method of assessment for any course will be decided by the respective course co-ordinators/instructors.

M6. Dissertation Advisor

- M6.1 Each of the students in the M.Tech. program shall have **one** or **two** dissertation Advisor(s).
- M6.2 The student should choose the dissertation advisor not beyond the end of the second semester.
- M6.3 In case of change of dissertation Advisor(s) is warranted, it should be brought to the notice of concerned dissertation Advisor(s) and DCC and the final consent of DCC is required.

M7. Minimum Requirement to Continue in the Programme (*Amended in 6th Senate Meeting*)

- M7.1 If at the end of the first two semesters of the normal academic programme, if a student has earned less than 26 credits and has a CGPA of less than 5.5, then his enrolment will be terminated.

M8. Maximum Duration of the Programme

- M8.1 The normal duration of the programme is four semesters. However, a student may complete the programme at a slower pace by taking more time, but in any case not more than 6 semesters excluding the semesters withdrawn on medical grounds, etc. However, the students have to satisfy M7.1, failing which action will be initiated to cancel the registration.

M9. Temporary Discontinuation

- M9.1 A student may be permitted by the AAC to discontinue temporarily from the programme for a semester or a longer period for reasons of medical problems. This should be carried out in consultation with the Director. Normally, a student will be permitted to discontinue from the programme only for a maximum duration of two semesters.
- M9.2 Once the student resumes back to his/her course work, post temporary discontinuity, the creditable courses to be registered will be decided by the faculty adviser in consultation with Head of the Dept. The same shall be communicated to AAC.

M10. Discipline

- M10.1 Every student is expected to observe discipline and decorous behavior both inside and outside the campus and not to indulge in any activity, which will tend to bring down the dignity of the Institute.
- M10.2 Any act of indiscipline including any act of ragging of a student reported to the AAC will be referred to Disciplinary Committee (DC) constituted by the Senate. The Committee will enquire into the charges and decide suitable punishment if the charges are substantiated. The DC will also work with the AAC to implement the decision.
- M10.3 The student may appeal to the Chairperson, Senate whose decision will be final. The AAC will report the action taken at the next meeting of the Senate.

M11. Attendance

- M11.1 Every member of the faculty handling a class shall record attendance on all days of instruction. The teacher of the course is required to finalize the attendance on the last instructional day of the course in the semester.
- M11.2 The percentage of attendance calculated on the last instructional day will be reported to the DCC.

- M11.3 A student whose attendance is less than 80% for a course is not eligible to appear for the end – term examination for that course.
- M11.4 The details of all students who have attendance less than 80% in a course will be announced by the teacher in the class. These details will be sent to the concerned HoDs and AAC.
- M11.5 Those who have 80% or more attendance for the period other than their medical leave be considered for condonation of shortage of attendance, provided, the overall attendance in the course including the period of illness does not fall below 75%. Application for condonation recommended by the Faculty Advisor, concerned faculty and the HoD is to be submitted to the AAC on or before the last instructional day of the semester. The AAC, depending on the merit of the case may permit the student to appear for the end semester exam. *A student will be eligible for this concession at most in two semesters during the entire degree programme.* Application for medical leave, supported by medical certificate with endorsement by the Institute Medical Officer (IMO), should reach the HoD within seven days after returning from leave or, on or before the last instructional day of the semester, whichever is earlier.
- M11.6. Students who are involved in extra-curricular activities, and those who represent the Institute in Sports & Games, Cultural Festivals, and Technical Festivals outside the Institute, should take prior approval from the HoD, Faculty Adviser and Teachers of the concerned courses. As an incentive to those, relaxation is provided such that their attendance should not fall below 75%. Additionally, specific to the nature of the activity, a prior approval in writing needs to be taken from the following, citing reasons for absence.
1. Concerned Faculty Advisor and/or Faculty coordinator of the event - Technical Paper presentation/Attending Technical Festival.
 2. Sports officer - Sports & Games.
- All such applications for the condonation should be recommended by the concerned HoD and forwarded to AAC within seven instructional days after the programme/activity.

M12. Assessment Procedure

- M12.1 The DCC will decide from time to time the system of tests and examinations in each subject in consultation with AAC and inform the same to the Senate.

M13. Evaluation Method

- M13.1. For lecture or lecture cum practical courses, a minimum of two tests will be conducted. The details of weightage of marks for the tests and assignments will be decided by the course coordinator in consultation with the DCC. These details will be announced to the students in the beginning of the semester. The AAC should be informed of these details in the beginning of the semester. For laboratory practical, the teacher of the laboratory decides the number of tests.
- M13.2. For all Lecture based courses, mid-term exam (25%) and internal evaluation through class tests/assignments/quizzes, etc (25%), together carry 50% weightage and the End-term examination carries 50% weightage. For laboratory practical, end-term exam is not mandatory. If end-term exam is planned for a practical course, it should be normally conducted before the last instructional day and the *weightage for it should not exceed 40%*. For lecture cum practical courses assessment procedure is to be a properly weighted combination of those for lecture and those for practical components.

M14. Examination

M14.1. There will be one mid-term examination of *one and half hours* duration on each lecture based or lecture cum practical course. There will be one End-term examination of *three hours duration* on each lecture based or lecture cum practical course.

M15. Make up Examination

M15.1 Students who miss the mid-term or the end-term examinations for valid reasons are eligible for a make-up examination with the due approval of AAC.

M15.2 Those who miss mid-term and/or end-term exam should apply to the Head of the concerned department through the faculty advisor *within five days* after the missed exam, giving the reasons for absence. Applications received after this period will not be entertained. All make-up exams for mid-term test should be completed with evaluation within 10 days prior to the end-term exam. All the make-up exams pertaining to the end-term exam should be completed with evaluation before the commencement of the next semester.

M15.3 Permission to appear for make-up exam will be given under exceptional circumstances such as admission to a hospital due to illness or grave family calamities, etc.

Students residing in the Hostels should produce a Medical Certificate issued by Institute Medical Officer (IMO), certifying that he/she was admitted to hospital during the period of exam. The application should be routed through and approved by Chief Warden.

Students residing outside the campus must produce a medical certificate from a Registered Medical practitioner and the same should be duly endorsed by parent/guardian and also by IMO, within five days.

M15.4 A student who misses the make-up exam will normally not be given another make-up exam. However, in exceptional cases of prolonged illness resulting in the student missing a make-up exam, the Chairperson of the Senate may permit the student to appear for a second make-up exam.

M16. M.Tech. Dissertation Evaluation

M16.1 The M.Tech. Dissertation work is done in the last year of the postgraduate programme and is divided into two stages. Normally the first stage is done in ODD semester and the second stage in subsequent EVEN semester. Through the dissertation work, the student has to exhibit depth in terms of engineering or technological innovation or research ability to solve the contemporary problem. On completion of the work, the student will submit a project report that will be evaluated by duly appointed examiners. It is proposed to have at least one expert as part of the examining committee from external Institute/Organisation. The panel of examiners should be finalized by HoD in consultation with all faculty members of the concerned department. The dissertation evaluation will be based on combining the reports of internal examiners and external expert(s). Suitable weightage must be given to the qualitative and quantitative results of the project and evaluated by a viva-voce exam.

M17. Grading

M17.1 The faculty will return evaluated assignments, tutorials, term papers, etc., within two weeks after the respective test/examination.

M17.2 Only the final grades (after approval by DCC) and attendance of all the students should be communicated by the teachers of the courses. Students may seek clarification regarding grades etc., from the concerned Course coordinator, if required.

M17.3 The DCC will be convened within ten days after the last day of the end-term examination. The letter grades to be awarded to the students for different subjects will be finalized at the meeting.

M17.4 Based on the relative performance, each student is awarded a final letter grade in each course. The letter grades and the grade points are as follows:

Grade	Grade points	Description of Grades
S	10	Outstanding
A	9	Excellent
B	8	Very Good
C	7	Good
D	6	Average
P	5	Below Average
F	0	Failure
W	0	Failure due to insufficient attendance
I	0	Actual grade to be awarded later

M17.5 A student is considered to have credited a course or earned credits in respect of a course if he/she secures a grade other than F, W or I for that course.

M17.6 A 'W' grade is treated as equivalent to 'F' for the purpose of CGPA calculation, and the following criteria, in addition to poor attendance (less than 80%) may be considered for the award of 'W' grade:

- (i) badly incomplete in-semester record (due to non-medical reasons),
- (ii) misconduct or use of unfair means in the examination, assignments, etc., or a behavior serious enough to call for disciplinary action in the opinion of the Faculty advisor or teacher of a course.

In such cases, award of 'W' grade is taken up as an immediate action. Further, the case may be referred to the DC for consideration of further punishment depending on the seriousness of the offence.

M18. Declaration of Results

M18.1 A course instructor should show the evaluated answer scripts before grading. The limit fixed for such a disclosure is five days before the last date for receiving grades in the Exam Cell.

M18.2 The necessary number of result sheets for the respective course containing the final grade should be submitted to the concerned DCC. After finalization of the grades at the DCC meeting, hard and soft copies of consolidated grades will be forwarded by the HoD to the Exam cell.

M18.3 Once grades are published, changes if any, will be allowed in case of tabulation errors only. A request for re-tabulation can be made by student to the course teacher within 2 days of result publication. A request for changes in grade due to tabulation errors (if any) can be made by the teacher of the course, by forwarding the request through the DCC to Exam cell.

M19. Repetition of a Course

M19.1 A student who was awarded 'F' or 'W' grade in a course has to repeat it compulsorily when it is offered next. However, a student if he/she is awarded 'F' or 'W' grade in an elective course can choose a different elective.

M20. Grade Point Averages

M20.1 The academic performance of a student in a semester is indicated by the Semester Grade Point Average (SGPA).

$$SGPA = \frac{\sum(C \times GP)}{\sum C}$$

Where, 'C' is the credit of the registered course and the summation is taken over all the registered courses by the student in the semester, except Pass/Fail courses.

'GP' is the grade point obtained for the creditable course. The performance of a student up to and including a particular semester is indicated by the earned credits and the Cumulative Grade Point Average (CGPA).

$$CGPA = \frac{\sum(C \times GP)}{\sum C}$$

Where, the summation is taken for all the courses registered for by the student except Pass/Fail courses, up to and including the current semester.

Note: SGPA and CGPA should be corrected up to two decimal places.

The conversion formula to obtain percentage from CGPA is as follows. (*Amended in 6th Senate Meeting*)

$$\text{Percentage} = (CGPA - 0.5) \times 10.$$

M21. Grade Card

M21.1 The Grade Card issued at the end of each semester to students, will contain the following:

- a) the code, title, credit and category of each course registered in the semester,
- b) the letter grade obtained,
- c) the total number of credits earned by the student up to the end of that semester in each category and grand total, and
- d) SGPA and CGPA.

M21.2 Class/Division

Class/Division classification is based on CGPA calculated on a 10 point scale, and is as follows:

CGPA 8.50 and above	: First Class with distinction
CGPA 6.50 and above, but less than 8.50	: First Class
CGPA 5.50 and above, but less than 6.50	: Second Class

Awards: In order to encourage academic excellence, an Institute level award is constituted for the Best outgoing student based on recommendations made by the HoD's to the Director through the AAC. Additionally, department wise merit certificates will be awarded based on approval of Director in consultation with the AAC and department HoDs. The decisions will be reviewed and need to be approved by Chairperson, Senate and the BOG.

M22. Slow Pace Learning

M22.1 Courses to be registered normally are specified in the curriculum. However, a student may register for a lesser number of credits than specified in the curriculum, provided it does not extend his programme by more than 2 semesters.

M23. Permanent Disqualification

M23.1 If a student neither gets permission for temporary discontinuation nor registers for any course during a semester before earning the minimum credit requirements for the award of the degree, then he/she is deemed to have discontinued the programme permanently and will not be permitted to continue the programme.

M24. Financial Assistance

M24.1 All the admitted students (other than the sponsored candidates) to the various M.Tech. programmes are eligible for financial assistance in the form of Teaching Assistance (TA) during their studentship according to the Institute's rule, duly approved by the Senate according to the guidelines from, MHRD, Government of India, time to time.

M24.2 All the students getting financial assistance are required to put a minimum of eight (8) hours per week during the period of assistantship.

M24.3 The duration of the assistantship is at most for 24 months.

M24.4 For the continuation of Scholarship, a minimum CGPA of 6.0 is required (or as per MHRD rules). (*Amended in 6th Senate Meeting*)

M24.5 The assistantship will be renewed every semester on the recommendation of DCC.

M25. Eligibility for the Award of M. Tech. Degree

M25.1 A student will be declared to be eligible for the award of the M.Tech. Degree if he/she has-

- i) Registered and successfully credited all the core courses including Dissertation work with a minimum CGPA of 5.5 for the entire programme,
- ii) Successfully acquired the credits in the different categories as specified in the curriculum corresponding to the discipline of his/her study within the stipulated time,
- iii) Has no dues with any sections of the Institute including hostels,
- iv) Completed all the required course as specified in Table 1 with minimum credits of 64,
- v) Has no pending disciplinary action against him/her.

The award of the degree must be recommended by the Senate and approved by the Board of Governors of the Institute.

M26. Leaves

M26.1 The number of leaves will be as per the guidelines of MHRD, Govt. of INDIA.

M27. Power to Modify

M27.1 Notwithstanding all that has been stated above, the Chairperson, Senate has the right to modify any of the above regulations from time to time and it will be ratified in the subsequent senate meeting.