

# **PG Regulations 2019**

**M.Tech., M.Arch., M.Sc., M.C.A., M.B.A.**



**NATIONAL INSTITUTE OF TECHNOLOGY  
TIRUCHIRAPPALLI - 620 015**

# PG REGULATIONS 2019

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**M.1.0. Admission**

Qualification for admission will be as per the criteria specified by the admission authority of Government of India.

**M.1.1** A maximum of two QIP scholars (teacher candidates recommended by National QIP coordinator) per programme may be admitted to selected M.Tech. and M.Arch. programs on full time basis. These QIP scholars should satisfy the conditions regarding admissions that may be prescribed by the Institute.

**M.1.2.** The criteria for admission of foreign students to PG programs shall be as follows:

- i. Students should have earned their qualifying degree from a University /Institute recognized by the Association of Indian Universities / similar Indian body.
- ii. Students nominated by foreign Governments may be accepted to PG programs, without any further test/interview, if their request for admission is routed through MHRD / any agency of the Government of India.
- iii. Students of Indian origin seeking admission to PG programs under NRI quota should have a valid GATE score, if they have obtained their qualifying degree in India.
- iv. Students of Indian origin seeking admission to PG programs under NRI quota should have a valid GRE/GMAT/TOEFL score, if they have obtained their qualifying degree outside India.
- v. The tuition fee for NRI students and foreign nationals may be fixed at rates similar to those for UG programs under DASA/NRI categories, whichever is higher.
- vi. The tuition fee, for nominees of foreign Governments, may be fixed at about five times the rate paid by Indian students.
- vii. A maximum of three seats (additional) may be set aside in each PG programme, for the foreign students.

**M.2.0. Structure of Postgraduate Programs**

Every Post-Graduate programme will have a curriculum with syllabi consisting of (i) Core courses, (ii) Elective Courses, (iii) Open Elective courses (iv) Project work (v) Laboratory / Studio and the flexible curriculum system is applicable as prescribed by the respective Boards of Studies in the curriculum and syllabi and approved by the Senate.

**M.2.1.** The Institute presently offers the following postgraduate programs:

**Master of Technology (M.Tech.)**

- |   |   |
|---|---|
| 1. Chemical Engineering                   | 12. Material science and Engineering    |
| 2. Communication Systems                  | 13. Non-Destructive Testing             |
| 3. Computer Science and Engineering       | 14. Power Electronics                   |
| 4. Construction Technology and Management | 15. Power Systems                       |
| 5. Data Analytics                         | 16. Process Control and Instrumentation |
| 6. Energy Engineering                     | 17. Structural Engineering              |
| 7. Environmental Engineering              | 18. Thermal Power Engineering           |

- |  |   |
|--|---|
| 8. Industrial Engineering and Management | 19. Transportation Engineering and Management |
| 9. Industrial metallurgy                 | 20. VLSI System                               |
| 10. Industrial Safety Engineering        | 21. Welding Engineering                       |
| 11. Manufacturing Technology             |   |

**Master of Architecture (M.Arch.)**

1. Energy Efficient & Sustainable Architecture

**Master of Science (M.Sc.)**

- |                     |                |
|---------------------|----------------|
| 1. Chemistry        | 3. Mathematics |
| 2. Computer Science | 4. Physics     |

**Master of Computer Applications (MCA)****Master of Business Administration (MBA)**

**M.2.2.** The curriculum for all the Post-Graduate programs shall be drawn such that the minimum total number of credits for the successful completion of the programme will be as in the following table:

Programme	Minimum Credit for the courses	Credit for Project Work	Minimum Total Credits required
M.Tech.	40	24	64
M.Arch.	36	24	60
M.Sc.	57	8	65
MCA	93	12	105
MBA	78	2	80

**M.2.3.** One credit each for one lecture hour and one tutorial hour per week. A “three-credit lecture based course”, for instance, will involve about 40 lecture hours spread through the semester, with three lecture hours per week.

**M.2.4.** For the elective courses, a student may be permitted by the Head of the Department (subject to the consent of the Teacher offering the said course concerned) to take a maximum of 2 elective courses from among the elective courses of other Post-Graduate programs. Further, the teacher shall not offer the elective course if five or less than five students have opted for the course.

**M 2.5. Course Plan**

- Every theory/laboratory course shall have a course plan prepared by the course teacher well before the start of the semester. The course plans for core, elective, open elective courses will have details of the overview of the course, course objectives, course outcome, course teaching and learning activities and course assessment methods and reassessment policy.
- Each course will have tailor-made assessment models viz. group tasks, assignments, report on field visit, quizzes, open book tests, laboratory exercises,

mini-project and end of semester summative assessment etc. The course plan will also have details of attendance requirements, academic integrity and plagiarism and information on study materials.

- iii. The course plan, after due approval by the class committee chairperson (CC) and the Head of the Department offering the course, shall be uploaded in the intranet by the teacher.
- iv. The Course plans for all courses offered by the Institute will be available in the intranet site for reference by the faculty and students

### **M.3.0. Faculty Advisor**

The Head of the Department shall assign a faculty every year for each PG programme who will be called as Faculty Adviser. The Faculty Adviser will help the students in planning their courses of study and for getting general advice regarding either the academic programme or any other activity.

### **M.4.0. Class Committee**

Every class of the Post-Graduate programme will have a class committee constituted by the respective Head of the Department, for improving the teaching - learning process. The activities of the Class Committee should be taken in earnest and the minutes of the Class Committee meetings should be promptly recorded.

#### **M.4.1.** The composition of the class committee will be as follows:

- i. A senior faculty of the department, preferably not offering a course for that class, nominated by the Head of the Department as Chairperson.
- ii. All teachers handling courses including project guides, if any, for that shall become members.
- iii. Two students of the class nominated by the Head of the Department - Members.
- iv. In case the students for a particular course are drawn from different programs (as may be in electives), due care should be taken to ensure that the membership of the Class Committee is representative of the class population.

#### **M.4.2.** The functions of the class committee will be as follows:

- i. The class committee shall meet thrice during the semester. The first meeting will be held within two weeks from the date of commencement of the semester in which the nature of the broad assessment procedure for the different courses will be discussed. The second and third meetings will be held six weeks and ten weeks respectively from the commencement of a semester to meaningfully interact and express opinions and suggestions to improve the effectiveness of teaching - learning process and analyze the performance of the students in the assessments. The Chairperson of the class committee should send the minutes of the class committee meetings to the Dean (Academic) through the Head of the Department, immediately after the class committee meetings.
- ii. During the first meeting of the class committee, faculty members shall submit their respective course plans to the class committee Chairperson and head of the department for approval and uploading the intranet site.

- iii. Any innovation in any course plan not agreed by the class committee or the HoD will be referred to the Chairperson of the Senate for approval.

#### **M.4.3 Summer Internship/Industrial Training**

The students are encouraged to undergo internship in industry for a minimum period of four weeks during summer. Attachment with an academic institution within the country (IISc/IITs/NITs/IIITs and CFTIs) or University abroad is also permitted. A report is to be submitted to the HoD through the program coordinator at the end of summer Internship.

#### **M.5.0. Enrolment and Registration**

Except for the first semester, registration for a semester will be done during a specified week before the end semester examination of the previous semester. Late registration/enrolment will be permitted with a fine up to two weeks from the last date specified for registration.

**M.5.1.** A student will be eligible for enrolment only if he/she has cleared all the dues to the Institute, Hostel, Library up to the end of the previous semester, provided he/she is not debarred for enrolment by a disciplinary action of the Institute.

**M.5.2.** The student makes the choice of courses in consultation with his/her Faculty Adviser.

**M.5.3.** A student is considered to have completed a pre-requisite course if he/she has fulfilled the attendance requirements and also attended all the assessments in that course.

#### **M.6.0. Attendance**

At least 75% attendance in each course is mandatory. A maximum of 10% shall be allowed under On Duty (OD) category. Students with less than 65% of attendance shall be prevented from writing the final assessment and shall be awarded 'V' grade. Students awarded 'V' grade must compulsorily redo the course.

#### **M.7.0. Assessment Procedure – Tests and Examinations**

##### **M.7.1. M.Tech./M.Arch./M.Sc./MCA/MBA – Theory/Laboratory/Studio courses**

Each course shall have assessments carried out according to the Course Plan (M 2.5) drawn by the faculty who handles the course. The assessments of a course are in alignment with the course learning outcomes. Normally, both question paper setting and valuation of answer papers for all the examinations shall be carried out by the teacher who had handles the course. However, the Chairperson of the Senate will have the discretion to appoint any other teacher or external examiner for setting question paper and valuing the answer scripts of the students in any course.

The following will be the weightages for different courses:

Assessment	%Weightage
Assessments during the session	50-70
Final assessment	30-50
<b>Total</b>	100

**M.7.2:** M.Tech./M.Arch./M.Sc./MCA – Project Work

Project work will be carried out in the III and IV semesters for M.Tech. and M.Arch. programs. For M.Sc. and MCA, the project work would be carried out in IV semester and VI semester respectively.

**M.7.3.** The continuous evaluation of the project work shall be carried out by the Department Project Evaluation Committee (DPEC) the constitution of which is as follows. All the members should hold PhD degree.

Chairperson	Professor
One Member	Professor or Associate Professor
One Member	Associate Professor or Assistant Professor

**M.7.4.** The DPEC shall be constituted by the Head of the Department at the beginning of every academic year. Each PG programme shall have a separate DPEC. The DPEC constituted shall be for the entire academic year.

**M.7.5.** The Chairperson/member shall be substituted in the DPEC by another senior faculty member (nominated by the Head of the Department) for the continuous evaluation of a student guided by him/her.

**M.7.6.** The last date for submission of thesis of the M.Tech. and M.Arch. first phase project work is 31<sup>st</sup> December (or last working day of December) and the last date for submission of thesis of the second phase M.Tech. and M.Arch./ IV semester M.Sc./ VI semester MCA project work is 31<sup>st</sup> May (or last working day of May).

**M.7.7.** Panel of external examiners shall be drawn by the Head of the Department, from the list of examiners suggested by all the guides. The panel has to be approved by the Dean (Academic) or his/her nominee. External examiners may be identified for groups of minimum five students each, depending on the area of project.

**M.7.8.** The examiners should be a faculty of IITs/ IISc/NITs/ reputed engineering institutions (government/government aided)/ scientists from central labs. Retired faculty/ scientists from these institutions serving in other organizations shall also be in the panel of examiners.

**M.7.9.** M. Tech. Students who want to do their project work as intern in industries/research institutions within India or abroad are permitted with the prior approval from Project Supervisor, HoD, and Dean (Academic). Such students can present their progress reviews and Phase - I Viva-Voce examination through Video Conferencing. They shall have to submit soft copy of the progress report before each review and the phase – I project thesis duly certified by the external supervisor. However, it is mandatory to

submit a hard copy of Phase – II project thesis on or before the last date of submission and physically present during the Phase – II Viva-Voce Examination as per the PG regulations.

**M.7.10.** No Stipend will be paid during the period of attachment with the industry.

**M.7.11:** M.Tech. (Project work evaluation)

A preliminary review of the topics chosen by the students is to be conducted during the end of July every year. All the faculty of the department shall be present for the preliminary review. There is no evaluation for this review. The respective guides may apprise the DPEC about the scope of the work and the expectation of the outcome.

**M.7.12.** The end semester project phase I viva-voce shall be examined by an examiner from the same / allied department and the guide together. The external examiner for phase I is optional.

**M.7.13.** The end semester project phase II viva-voce shall be examined by the external examiner and the guide together.

**M.7.14.** The break-up of project evaluation in phase I and phase II of the project work is as follows:

Continuous evaluation			End semester final evaluation		
Phase	%weightage	Schedule*	Phase	%weightage	Schedule
<b>I &amp; II</b>			<b>I</b>		
Review I	10	5 <sup>th</sup> Week	Viva Voce	50	1 <sup>st</sup> /2 <sup>nd</sup> week of January
Review II	20	10 <sup>th</sup> Week	<b>II</b>		
Review III	20	15 <sup>th</sup> Week	Viva Voce	50	1 <sup>st</sup> /2 <sup>nd</sup> week of June

\*From the date of Institute reopening

### The weightage for phase I & II of the project

Phase I	
Review I	%Weightage
Identification of title	5
Literature survey/scope	5
<b>Review II:</b>	
Methodology adopted	5
PPT presentation	10
Answers to queries	5
<b>Review III:</b>	
Results obtained	10
PPT presentation	5
Answers to queries	5
<b>Project Viva Voce</b>	
Project report	15
PPT presentation	5
Presentation skills	5
Viva-Voce	25

Phase II	
Review I	%Weightage
Time schedule/plan	5
Innovation in work	5
<b>Review II:</b>	
Intermediate results	10
PPT presentation	5
Answers to queries	5
<b>Review III:</b>	
Further results/work	10
PPT presentation	5
Answers to queries	5
<b>Project Viva Voce</b>	
Project report	15
Project outcome (conclusions)	5
Presentation	5
Viva-Voce	25



**M.7.15. M.Sc./MCA (Project work evaluation)**

The end semester project viva-voce shall be examined by a panel consisting of the DPEC and an external examiner. The assessment pattern will be as follows:

Assessment	%Weightage
<b>a) Continuous Assessment</b>	
i. Based on two presentations/one presentations and one report, by the student before the DPEC	25
ii. Based on evaluation of final project report by the internal guide	25
<b>b) End semester Viva-voce examination</b>	50

**M.7.16. MBA (Project work evaluation)**

Assessment	%Weightage
Assessments during the session	50-70
Final assessment	30-50
Total	100

Summer Project: The assessment of summer project will be based on a viva-voce examination by a Project Evaluation Committee consisting of the Head of the Department or his nominee and the Project Guide.

Assessment	% Weightage
Reporting & Follow up during internship period	25
Final Project report evaluation by internal guide	25
Project presentation & Viva-voce	50

**M.8.0. Reassessments**

The course plan shall outline the policy and eligibility criteria for compensation assessment for the students who fail to attend the regular assessment process during the course due to genuine reasons or reassessment for those failing the course due to poor performance.

**M.9.0. Performance Analysis Committee**

Performance Analysis Committee will consist of the same members as the class committee - but including the Head of the Department and excluding the student members. The meeting of the Performance Analysis Committee is to be held in one week from the last day of the final assessment, to analyze the performance of the students in all courses of study and finalize the grade ranges for each course and forward the statement of grades along with the attendance register to the Office of the Dean (Academic) immediately through the Head of the department. The PAC, by collective wisdom, should ensure that the clustering/grading/pass - fail decisions have been reasonably balanced. The Dean (Academic) (or duly authorized Associate Dean) shall go through the statement of grades (and the duly filled attendance register). In case of any problem that cannot be set right by the Dean (Academic) then the Chairperson, Senate is authorized to take appropriate action in his regard.

**M.10.0. Passing and Declaration of Examination Results**

The Institute follows relative grading to decide the mark ranges for grades. All assessments of a course will be carried out on the basis of marks. Absolute Grading policy shall be incorporated if the number of students per theory course is less than 10.

**M.10.1.** Publication in one reputed journal / reputed conference is desirable before completion of Phase – II project work.

**M.10.2.** A minimum of 30% should be scored in the final assessment (for all courses) for a pass. The passing minimum for all the courses shall be the maximum of 35% or Class Average/2.

**M.10.3.** The award of “S” grade in theory courses for PG programs is restricted to a maximum of 10% of the total number of students appeared for the theory courses. The award of “S” grade for laboratory courses and Project work for the PG programs is restricted to 20% of the total number of students appeared for the course. The grading structure adopted by the faculty for the course handled by him/her, is subject to the scrutiny of the PAC and subsequently the Senate.

**M.10.4.** Any issues related to Grading will be decided by the Dean (Academic), in consultation with the Chairperson of the Senate.

**M.10.5.** The letter grades and the corresponding grade points are as follows:

Letter Grade	S	A	B	C	D	E	F	X	V
Grade Point	10	9	8	7	6	5	0	-	-

Students scoring less than the passing minimum shall be deemed to have failed and be given ‘F’ grade. ‘V’ indicates lack of required attendance. ‘X’ indicates the student has not attended the final assessment.

**M.10.6.** A student who earns a minimum of 5 grade points in a course is declared to have successfully completed the course.

**M.11.0. Revaluation of Answer Papers**

The answer scripts shall, here after, be retained in the custody of the teacher (examiner) after the process of valuation. The teacher shall, in the first week of the subsequent semester, make available (in his/her presence) the answer scripts to the students who had appeared in the said examination. In case of any student feeling aggrieved over the valuation, he/she can contact the concerned teacher within three weeks from the commencement of the semester immediately following the announcement of the results. The student shall have access to his/her answer paper(s) in the end semester examination which may be shown to him/her by the teacher(s) concerned. If the teacher feels that the case is genuine, the teacher may re-examine the case and forward a revised grade, if any, to the Dean (Academic) courses through the Head of the Department and the performance analysis committee.

**M.12.0. Movement to Higher Semester**

A student will be permitted to proceed to the next higher semester of a programme only if the student has satisfied M.6.0.

**M.12.1.** Any student appearing for reassessments in any course, two years after the first appearance in that course, will be governed by the syllabus in force.

### **M.13.0. Programme Duration**

The minimum duration required for the completion of the various Post-Graduate programs is listed in the following Table. A student may complete the programme at a slower pace by taking more time, but in any case not exceeding the maximum duration.

<b>Programme</b>	<b>Minimum period</b>	<b>Maximum period</b>
M.Tech.	4 Semesters	8 Semesters
M.Arch.	4 Semesters	8 Semesters
M.Sc.	4 Semesters	8 Semesters
MCA	6 Semesters	10 Semesters
MBA	6 Trimesters	10 Trimesters

**M.13.1.** The duration of each semester will normally be 90 working days (18 calendar weeks), inclusive of examination days.

### **M.14.0. Temporary Break of Study from the Programme**

A student may be permitted by the Dean (Academic) to withdraw from the programme for a year, for reasons of ill-health or other valid reasons on the recommendation of the Head of the Department.

**M.14.1.** Such students who have availed temporary break and re-join shall be governed by the rules, regulations, and syllabus in force, at the time of his/her re-joining the programme subject to conditions stated in M.13.0

### **M.15.0 Grade Cards**

After the results are declared, Grade Cards will be issued to each student and will contain the list of courses (with L T P C details) for that semester and the grades obtained by the student.

**M.15.1.** Grade Point Average (GPA) for each semester will be calculated only for those students who have passed all the subjects of that semester. Similarly, Cumulative Grade Point Average (CGPA) up to any semester will be calculated only for those students who have passed all the subjects up to that semester. GPA is the ratio of the sum of products of the number of credits of a course ( $C_i$ ) with grade points scored in that course ( $GP_i$ ), taken for all the courses in that semester, to the sum of the number of credits of all the courses ( $n$ ) in the semester,  $N$  the total number of courses for the entire programme.

$$GPA = \frac{\sum_{i=1}^n C_i * GP_i}{\sum_{i=1}^n C_i} \qquad CGPA = \frac{\sum_{i=1}^n C_i * GP_i}{\sum_{i=1}^N C_i}$$

### **M.16.0. Consolidated Statement of Grades**

A student should have appeared for the semester examination in any particular course (mere appearance for the continuous assessment tests is not sufficient) to be eligible for the award of the grade in the course. At the end of the programme, all successful

students will be furnished with a consolidated statement of grades which will contain the following particulars:

- i. Grades in the courses of the semesters (inclusive of LTPC details).
- ii. CGPA, and
- iii. Classification (First class with Distinction/First class/Second class)

#### **M.17.0. Eligibility for the Degree**

A student shall be eligible for the award of the Master's degree in the appropriate programme if the student has:

- i. Undergone the prescribed programme of study by earning the minimum total number of credits specified in the programme within the maximum duration as specified in M.13.0.
- ii. No dues to the institution, Library, Hostels, etc.
- iii. No disciplinary action pending against him/her.

#### **M.18.0. Award of Degree**

The students have to complete the prescribed courses of study and satisfy other related norms. The Senate shall, before the annual convocation, recommend the award of degree to each eligible student by name.

#### **M.19.0. Eligibility for the Award of Institute Medal**

The criteria for the institute medal winner is based on the student who obtains highest CGPA in the class graduating with the regular period. Students having highest CGPA with break shall not be considered for the purpose of award of the institute Medal.

#### **M.20.0. Classification**

After successful completion of the programme, the P.G. degree will be awarded as per the following classifications based on CGPA.

- i. Students who get a CGPA of 8.5 and above and who complete the programme in the minimum period, passing all the courses in the first appearance itself, will be declared to have passed in first class with distinction. For this purpose, withdrawal from examination and authorized break of study (M.14) will not be counted.
- ii. Students who get a CGPA of 6.5 and above but below 8.5 and who complete the programme in the minimum period plus authorized break (M.14.0) will be declared to have passed in first class.
- iii. Students who get a CGPA of below 6.5 and who complete the programme within the maximum prescribed period after joining the institute, will be declared to have passed in second class.

#### **M.21.0. Discipline**

Every student is required 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 prestige of the Institute.

##### **M.21.1 General conduct of students in the examination halls / laboratories**

Students should abide by the restrictions imposed by the institute from time to time.

- Possessing a mobile phone, carrying bits of paper, talking to other students, copying from others during an assessment will be treated as punishable dishonesty.
- Zero mark to be awarded for the offenders. For copying from another student, both students get the same penalty of zero mark.
- The malpractice and the award of the punishment shall be reported through the Head of the Department to the Office of the Dean Academic.

**M.21.2** Any act of indiscipline of a student will be referred to a Discipline and Welfare Committee constituted by the Senate. The Committee will enquire into the charges and recommend suitable punishment as per the student code of conduct approved the senate if the charges are substantiated. The Senate will consider the recommendation of the Discipline and Welfare Committee for appropriate action. The committee will report the action taken at the next meeting of the Senate.

**M.21.3** The student may appeal to the Chairperson, Senate.

#### **M.22.0. Academic Dishonesty & Plagiarism**

- i. Possessing a mobile phone, carrying bits of paper, talking to other students, copying from others during an assessment will be treated as punishable dishonesty.
- ii. Zero mark to be awarded for the offenders. For copying from another student, both students get the same penalty of zero mark.
- iii. The departmental disciplinary committee including the course faculty member, PAC chairperson and the HoD, as members shall verify the facts of the malpractice and award the punishment if the student is found guilty. The report shall be submitted to the Academic office.

#### **M.23.0. Ragging**

Ragging of any dimension is a criminal and non-bailable offence in India. The current State and Central legislations provide for stringent punishment, including Imprisonment. Once the involvement of a student is established in ragging, the offending student will be dismissed from the Institution and will not be admitted into any other Institution. Avenues also exist for collective punishment, if individuals cannot be identified in this inhuman act. Every senior student of the Institute, along with the parent, shall give an undertaking every year in this regard and this should be submitted at the time of enrolment.

#### **M.24.0. Power to Modify**

The Senate - as the Supreme academic body of the Institute - may, from time to time, revise, amend or alter the regulations, courses of study and syllabus as and when found necessary. Any other relevant rules needing urgent revisions can be framed and implemented by the Chairperson of the Senate and ratified in the subsequent Senate meeting. In case of difference of opinion regarding the interpretation of any of the regulations, the decision of the Chairperson of the Senate shall be final.

**M.24.1.** Notwithstanding all that has been stated earlier/elsewhere, the Senate of the Institute has the right to modify any of the above rules and regulations from time to time.