REGULATIONS

SPECIFIC TO

POST GRADUATE PROGRAMME

M.TECH. DEGREE

NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL
Post Srinivasnagar, Mangalore - 575025, India.
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CONTENTS

REGULATIONS
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M.Tech. Degree Programme

{also refer: REGULATIONS (General) – Common to all Degree Programmes}

1.   DEGREE PROGRAMMES:

1.1   Post Graduate M.Tech. Degree Programmes are offered in the following disciplines by the respective programme hosting departments listed below:

(a) Department of Civil Engineering   (CV)
      i.   Structural Engineering   (ST)
      ii.   Geotechnical Engineering   (GT)
      iii.   Environmental Engineering   (EN)
      iv.   Transportation Systems Engineering   (TS)
      v.   Construction Technology and Management   (CM)
(b) Department of Applied Mechanics and Hydraulics   (AM)
      vi.   Marine Structures   (MS)
      vii.   Water Resources Engineering and Management   (WR)
            (Hydraulics and Water Resources Engineering)   (HW)
(c) Department of Mining Engineering   (MN)
      viii.   Rock Mechanics and Ground Control   (RG)
(d) Department of Computer Engineering   (CO)
      ix.   Computer Science and Engineering   (CS)
      x.   Computer Science and Engineering – Information Security   (IS)
(e) Department of Electronics and Communication Engineering   (EC)
      xi.   VLSI Design   (VL)
            (MicroElectronics)   (MI)
      xii.   Communication Engineering   (CE)
            (Digital Electronics and Advanced Communication)   (DE)
(f) Department of Electrical and Electronics Engineering   (EE)
      xiii.   Power and Energy Systems   (PS)
      xiv.   Power Electronics and Energy Conversion   (PE)
(g) Department of Mechanical Engineering   (ME)
      xv.   Thermal Engineering   (TH)
            (Heat Power Engineering)   (HP)
      xvi.   Manufacturing Engineering   (MF)
            (Advanced Manufacturing Engineering)   (MF)
      xvii.   Mechatronics Engineering   (MC)
(h) Department of Chemical Engineering   (CH)
      xviii. Chemical Plant Design   (PD)
      xix.   Industrial Pollution Control   (PC)
      xx.   Industrial Bio-Technology   (IB)
(i) Department of Metallurgical and Materials Engineering   (MT)
      xxi.   Process Metallurgy   (PM)
      xxii. Materials Engineering   (ML)
(j) Department of Mathematical And Computational Sciences   (MA)
      xxiii. System Analysis and Computer Applications   (SY)

1.2   The provisions of these Regulations shall be applicable to any new disciplines and/or that may be introduced from time to time and appended to the above list.

2.   ADMISSION:

2.1   **Student Status:**   There are six types of student status in the M.Tech. degree Programme:

(a) Full-time student on GATE-Scholarship
(b) Full-time sponsored student on QIP/EFIP(AICTE)
(c) Full-time/Part-time sponsored student from Industry or other Organizations including Educational Institutions
(d) Full-time non-sponsored non-scholarship student
(e) Part-time sponsored staff of NITK
(f) Part-time student, selected as Teaching Assistant of NITK.

Note:

i.   *Duration:* For full-time students, the duration of study shall be a minimum of FOUR semesters and a maximum of FOUR years. For part-time students, the duration will be a minimum of FIVE semesters and a maximum of FIVE years.

ii.   A student of type (a) will receive GATE-Scholarship for the duration of four semesters, which is subjected to the GATE-Scholarship rules of MHRD.

iii. Student of the type (c) shall be sponsored and financed by the sponsoring organization. He should produce a sponsorship-cum-clearance certificate in the given format of the Institute.

iv.   A non-sponsored non-scholarship (self-financed) student of type (d) will not receive any financial assistance from the Institute.

v.   A part-time student of type (e) shall produce a sponsorship-cum-clearance certificate from the Director, NITK.

vi.   A Part-time student of type (f), selected as a Teaching Assistant, will be paid the Teaching Assistantship, and shall be governed by the *applicable rules* of the Institute. Total number of seats under this category may vary from year to year depending on the number of such Teaching Assistantships available.

vii. No student can receive scholarship/assistantship from more than one source.

2.2   Admissions will be made in accordance with the instructions received from MHRD from time to time. Seats are reserved for candidates belonging to Scheduled Casts and Scheduled Tribes, Physically challenged candidates, children of defence personnel and other categories as per the guidelines issued by MHRD.

2.3   The minimum eligibility criteria for admission for the various M.Tech. Degree programmes shall be specified in the Institute Information Bulletin or the Prospectus. However, some general criteria are mentioned below.

2.4   The criteria for selection/admission for full-time students on GATE Scholarship will include the GATE score, performance in the qualifying examination, letters of reference, and interview. However the admission to other categories will be based on performance in qualifying exam, interview and other guidelines issued by the Senate from time to time. The prescribed qualifying examinations are given separately in the *Prospectus* or the *Institute Information Brochure* for each M.Tech. Programme.

2.5   Admission to a M.Tech. Programme shall be open to candidates who passed the prescribed qualifying examination with a Cumulative Grade Point Average (CGPA) of at least 5.5 in the 0-10 scale grading system, OR not less than 55% marks in the aggregate (taking into account the marks scored in all the subjects of all the public/university examinations conducted during the entire prescribed period for the degree programme). However, this prescribed minimum shall be a CGPA of 5.0 OR 50% marks in the aggregate for SC/ST candidates.

2.6   A limited number of admissions is offered to Foreign Nationals and Indians Living Abroad in accordance with the rules applicable for such admission, issued from time to time, by MHRD.

2.7   If, at any time after admission, it is found that a candidate had not in fact fulfilled all the requirements stipulated in the offer of admission, in any form whatsoever, including possible misinformation etc., the Dean (AA) shall report the matter to the Senate, recommending revoking the admission of the candidate.

2.8   Candidates have to fulfil the medical standards required for admission as prescribed in the *Institute Information Brochure* or the *Prospectus*.

2.9   The Institute reserves the right to cancel the admissions of any student and ask him to discontinue his studies at any stage of his study period on the grounds of unsatisfactory academic performance or indiscipline or any misconduct.

2.10   The decision of the Senate regarding the admissions is final and binding.

2.11   Student Exchange Programmes and the Transfer of Credits in such cases shall be as per the corresponding MOU approved by Competent Authority.

2.12   Every Post Graduate student of the Institute shall be associated with *Parent Department*, offering the degree programme that the student undergoes, throughout his study period.

3.   COURSE STRUCTURE;

3.1   The total course package for a M.Tech. Degree Programme will typically consist of the following components.

a) Core Courses	≥ 20 Credits
b) Elective Courses	≥ 09 Credits
c) Major Project	= 20 Credits
d) Mandatory Learning Courses	= 04 Credits

3.2   The Department Post Graduate Committee (DPGC) will discuss and recommend the exact credits offered for the programme for the above components, the semester-wise distribution among them, as well as the syllabi of all postgraduate courses offered by the department from time to time before sending the same to the Board of Studies (BOS). The BOS will consider the proposals from the departments and make recommendations to the senate for consideration and approval.

3.3   The Minimum Credit Requirement for the M.Tech. Degree is 60.

3.4   *Major Project:*

(a) The Major Project carries 20 credits and spreads over TWO semesters, normally during 3rd and 4th semesters (or as recommended by DPGC). The progress of the Project Work shall be monitored by the Project Guide.

(b) The method of evaluation, including intermediate assessment shall be evolved by the pertinent DPGC.

(c) A candidate shall submit 5 copies of the Report of the Project Work to Chairman, DPGC, on or before the specified date. The Report shall be in the format prescribed by the Institute.

(d) The last date for the submission of Report shall be *FOUR* weeks before the closure of the semester in which the project work credits have been registered for, and is expected to be completed, or as announced by the Dean (AA).

(e) The final evaluation is done by a Project Work Evaluation Committee (PWEC) constituted by the pertinent DPGC. There shall be an open seminar followed by a viva-voce examination as part of the final evaluation. After the final evaluation, appropriate double-letter grade is awarded, which will not however be considered for SGPA and CGPA calculations.

(f) Extension of time, usually not exceeding 3 months at a stretch, from the announced last date for submission of the Project Report may be granted by the Dean (Academic Affairs) on recommendation from the Chairman, DPGC.

(g) If in the opinion of the PWEC, the Project Report is acceptable with minor modifications for the passing grade 'DD', the PWEC shall value and instruct the candidate suitably to incorporate the necessary modifications and to resubmit it to the Chairman, PWEC. After such resubmission, the Chairman, PWEC will certify that the necessary modifications have been incorporated.

(h) The title of the Project Report shall be indicated in the Student Progress Report.

3.5   *Mandatory Learning Courses:*

These are courses that must be completed by the student at appropriate time as suggested by the Faculty Adviser or the DPGC. The 'S' grade is awarded for satisfactory completion of the course and 'N' grade is awarded for non-completion of the course. In case 'N' grade is awarded the student has to re-register for the same course wherein he has no alternative options. However, he can opt for other courses if he has been provided with multiple options. The 'S' and 'N' grades do not carry grade-points and hence not included in the SGPA, CGPA computations.

Courses that come under this category are the following:

(a) Practical Training / Minor Project:

This course is a 2-credit course. A full-time student will complete the Practical Training or the Minor Project at appropriate time stipulated by DPGC and register for it in the following Semester. The duration and the details, including the assessment scheme, shall be decided by the faculty advisor, with approval from DPGC.

(b) Seminar:

This course is a 2-credit course to be completed at appropriate time stipulated by DPGC. The student will make presentations on topics of academic interest.

4.   DEGREE REQUIREMENTS:

4.1   The degree requirements of a student for the M.Tech. Degree programme are as follows:

(a) Institute Requirements:
    (i)   Minimum Earned Credit Requirement for Degree is   60.
    (ii)   Securing a CGPA of at least 5.50 in the Course Work.
    (iii) Satisfactory completion of all Mandatory Learning Courses.

(b) Programme Requirements:
Minimum Earned Credit Requirements on all Core Courses, Elective Courses and Major Project as specified by the DPGC and conforming to Clause No: 3 (Course Structure) above.

(c)   The Maximum duration for a student for complying to the degree requirement from the date of registration for his first semester, is FOUR years for full-time registration and   FIVE years for part-time registration.

5.   ATTENDANCE REQUIREMENTS:

5.1   All students must attend every lecture, tutorial and practical classes.

5.2   To account for approved leave of absence (eg. representing the Institute in sports, games or athletics; placement activities; NCC/NSS activities; etc.) and/or any other such contingencies like medical emergencies, etc., the attendance requirement shall be a *minimum of 75%* of the classes actually conducted.

5.3   A student with less than 75% attendance in a course during a semester, in lectures, tutorials and practicals taken together as applicable, shall be awarded '*FF*' grade in that course, irrespective of his academic performance, and irrespective of the nature of absence.

6.   TERMINATION FROM THE PROGRAMME:

A student shall be required to leave the Institute without the award of the Degree, under the following circumstances:

(a) If a student fails to earn the minimum credit specified below:

(i) Full-time student

Check Point	Credit Threshold
End of FIRST year	20

(ii) Part-time student

Check Point	Credit Threshold
End of FIRST year	10
End of SECOND year	20

Note: The period of temporary withdrawal is not to be counted for the above Credit Threshold.

(b) If a student is absent for more than 6(Six) weeks in a semester without sanctioned leave.

(c) If a CGPA of at least *5.50* is not secured in the course work.
   {*in such cases the student is given the option of getting the P.G. Diploma
   instead of the M.Tech. Degree*}.

(d) Based on disciplinary action suggested by the Senate, on the recommendation of the appropriate committee.

NOTE: Under any circumstances of termination, the conditions specified in Permanent Withdrawal (refer: Clause No: G8.2) shall also apply.

7.   COMMITTEES / FUNCTIONARIES:

The following committees shall be constituted for the Post Graduate Degree programme:

7.1   Board of Studies (BOS-PG):

Constitution:

(a)	Dean (AA)	…	*Chairman*
(b)	Dean (Administration)	…	Member
(c)	Dean (Planning & Development)	…	Member
(d)	Dean (Student's Affairs)	…	Member
(e)	Chair persons of all divisions	…	Members
(f)	Chairman of each DPGC/ his nominee	…	Member
(g)	BOG members representing the faculty	…	Members
(h)	Associate Dean (PG&R)	…	*Convenor*
(i)	Associate Dean (UG)	…	Member
(j)	Dy. Registrar (Academic Affairs)	…	*Secretary*
(k)	TWO External Experts	…	Members

Note:
- There shall be one BOS-PG for the entire Institute.
- The Chairman may co-opt and/or invite more members including outside experts.
- The quorum of each meeting will be *NINE*.

Functions (Highlights):

i. To consider the recommendations of the DPGC on matters relating to postgraduate programme and to make suitable recommendations to the Senate.

ii. To approve curriculum framed/revised by DPGC for the postgraduate courses of study.

iii. To ensure that all norms and Regulations pertaining to postgraduate programme are strictly followed.

iv. To make periodic review of these Regulations pertaining to postgraduate programme and to recommend to the Senate any modifications thereof.

v. To review the academic performances and make suitable recommendations to the Senate regarding declaration of results, award of degrees etc.

vi. To recommend to the Senate, the award of stipends, scholarships, medals & prizes etc.

vii. To draw up general time table for the postgraduate course and finalise the PG academic calendar to be put up to the Senate for approval.

viii. To review the cases of malpractice in examinations and to recommend to the Director the punishment in such cases.

ix. To constitute a sub-committee for monitoring the implementation of the academic curriculum provided by the BOS and to provide guidance in curriculum assessment, evaluation process.

x. To conduct at least one meeting each semester and send the Resolutions to the Chairman of the Senate, and also to maintain a record of the same in the office of the Dean(AA).

xi. Any appropriate responsibility or function assigned by the Senate or the Chairman of the Senate.

7.2 Departmental Post Graduate Committee (DPGC):

Constitution:

(a)	H.O.D	…	Chairman
(b)	Two Professors (by rotation for one year)	…	Members
(c)	Two Assistant Professors (by rotation for one year)	…	Members
(d)	Two Lecturers (by rotation for one year)	…	Members

Note:

- There shall be one DPGC for every department that is involved in the teaching for any of the PG degree programmes.
- The Secretary (DPGC) shall be nominated by the Chairman on rotation basis for a period of one year.
- The Chairman may co-opt and/or invite more members including at most three outside experts.
- The quorum for each meeting shall be *FIVE*.

Functions (Highlights):

i. To monitor the conduct of all postgraduate courses of the department.

ii. To ensure academic standard and excellence of the courses offered by the department.

iii. To oversee the evaluation each of the students in a class, for each of the courses.

iv. To develop the curriculum for postgraduate courses offered by the department, and recommend the same to the BOS.

v. Moderation (only if and when found necessary) in consultation with the Course Instructor, and approval of the finalized grades, before submission of the same to the Dean(AA).

vi. To consolidate the registration of the student and communicate to Course Instructors, Dean (AA).

vii. To conduct performance appraisal of Course Instructors.

viii. To provide feedback of the performance appraisal to the Course Instructor and concerned authorities.

ix. To consider any matter related to the postgraduate programme of the department.

x. In cases where a course is taught by more than one faculty member, or by different faculty members for different sections of students, DPGC shall co-ordinate (only in case of need) among all such faculty members regarding the teaching and evaluation of such courses.

xi. To conduct at least two meetings each semester and send the Resolutions of the meeting to Dean (AA), and also to maintain a record of the same in the department.

xii. Any appropriate responsibility or function assigned by the Senate or the Chairman of the Senate or the BOS or the Chairman of the BOS.

7.3 Project Work Evaluation Committee (PWEC)

Constitution:

(a)	Chairman of DPGC or his nominee	…	Chairman
(b)	Project Guide(s)	…	Member(s)
(c)	One referee from outside the Department, selected by the DPGC	…	Member

Note:

- There shall be one PWEC for each PG project work.
- One external guide/referee, if any, invited as a member of PWEC, is entitled for TA/DA as per the Institute Rules.

Functions (Highlights):

(o) To evaluate the PG project work and to award an appropriate letter grade. The chairman of PWEC shall submit the report, signed by all the members of the PWEC, to DPGC. The DPGC Chairman shall forward this report to Dean (AA) without moderation.

7.4 Project Guide:

Functions (Highlights):

i. He will help the student under him in selecting the Project topic.

ii. He shall monitor the progress of the student working under him.

iii. He shall report to the DPGC the performance of the student from time to time.

iv. He will coordinate with the HOD/DPGC to arrange for facilities to carry out the project work.

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