

JAGAN NATH UNIVERSITY, JAIPUR
M. Tech REGULATIONS

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Introduction

Jagan Nath University has a strong commitment to high quality teaching and research for quality education and enhance the professional competence of the students rich in knowledge and innovative in approach. The University offers M. Tech programs to the eligible students who are interested in pursuing higher post-graduate degree in Engineering and technology. The aim of the program is to train the students in high level theoretical and practical knowledge that enables them to tackle complex problems of design and development in the industrial fields as well as pursue further academic excellence through research . The programs provide enough flexibility in respect of lecture courses, laboratory and project work as well as by research , to achieve the objectives.

Preamble

The Degree of Master of Technology (M. Tech) is the post-graduate degree in Engineering and Technology of this University.

In exercise of the powers conferred by Section 23(3) of the Act, the Academic Council of the Jagan Nath University, Jaipur makes the following regulations:

The M. Tech. degree is awarded to a candidate, who, as per these regulations, has passed the examinations after completing the prescribed course work, Seminars , submitted the dissertation containing the report of the M. Tech Project work , in a discipline relevant to his course of study, that makes a contribution to the advancement of knowledge or to innovative methods of application of existing knowledge, or development of equipment/ software ,so as to contribute to the advancement of knowledge/ better understanding of the processes and has had the Dissertation approved by a duly constituted Examiners Committee.

Short Title and Commencement

- 1. These regulations shall be called "The Regulations for the Degree of Master of Technology (M. Tech) of Jagan Nath University, Jaipur".**

These Regulations govern the conditions for M. Tech. program, admission procedure, appointment of Guide(s), imparting courses of instructions, implementation methodology, conduct of the examinations and evaluation of students' performance leading to award of M. Tech. Degree.

Objectives

- To provide excellent education and guidance in the branches of engineering and technology at postgraduate and research level.
- To provide opportunity to undertake real-life project work, applying the skills and knowledge developed in the taught element of the course
- Advancement and proliferation of scientific and technological knowledge.
- To prepare trained manpower to carry out innovative research for creating intellectual property through master and doctoral programmes.
- Inculcate strong research and innovation based mindset in the future engineers, teachers and scientists.
- To ensure high standard of performance in teaching & research
- To develop the scientific and engineering manpower of the highest quality to cater to the needs of the industries and research organization
- To provide a broad grasp of the fundamental principles of the scientific and technological methods through its curriculum.
- Foster links between academia, R & D institutions and the industries.

Master of Technology Programme leading to M. Tech. will be offered in the following branches of in the Faculty of Engineering and Technology of the University

- Computer Science and Engineering
- Information Technology
- Electronics and Communication Engineering
- Civil Engineering
- Mechanical Engineering
- Environmental Engineering
- Any other branch / area which the University may decide later on;

2. Categories of M. Tech Candidates;

There shall be two categories of M. Tech candidates as listed below:

- a) M. Tech through Course work (Full time and Part time) program) or ,
- b) M. Tech by Research .

Admission and Eligibility Criteria for M. Tech Program

2.1 M. Tech (Course work) : The candidate must have passed **B.E./ B. Tech** or equivalent degree or a Masters degree in respective or allied discipline with a minimum of 50% aggregate (all semesters/years) marks or CGPA of 5.5 in 10 point scale and possess a **valid GATE score** or qualified through Admission Test prescribed by the Jagan Nath University.

2.2 M. Tech (Research) : The candidate must have passed **B.E./ B. Tech** or equivalent degree or a Masters degree in respective or allied discipline with a minimum of 50% aggregate (all semesters/years) marks or CGPA of 5.5 in 10 point scale and possess a **valid GATE score** or qualified through Admission Test prescribed by the Jagan Nath University. The candidate must have a minimum working experience of at least **TWO** years after passing the qualifying examination and employed in a Government/ Semi Government organization/ institution recognized by Statutory bodies like **UGC/CSIR/DST/AICTE/Ministry of HRD or any other Ministry.**

3. Duration of M Tech Programme (Full Time and Part Time Programs) & M Tech by Research

The M. Tech Full time programme will be of minimum 2 year duration and M. Tech Part time program will be of 3 year duration for all candidates. The maximum period to complete the M. Tech programme is 4 Year for Full time and 6 Year for Part time, provided the fee is paid for extended year(s). The duration of M Tech by research will be 2 years and the maximum period is 4 years. The maximum or minimum period will be counted from the date of registration to the date of submission of dissertation.

4. COURSE STRUCTURE :

Each M.Tech. Programme will have a curriculum, with syllabi consisting of :

- (a) Core courses, which give a broad base in the main field of study in the academic program concerned
- (b) Elective courses chosen by the student in consultation with the faculty adviser
- (c) Project work where special emphasis is laid on the application of knowledge to real life problems.
- (d) The program will also include seminars and practical training, as prescribed by the Board of Studies in the curriculum & syllabi and approved by The Academic Council.

A student will have to register in all the **core courses** listed in the curriculum of his/her selected area of specialisation and successfully complete all of them. **Electives** will have to be taken from the courses offered by the Department in that particular semester from among the list of approved courses.

4.1 M. Tech Full time Course work :

I Semester

| | |
|--|----------------|
| Three Compulsory Papers and One Elective | 100 Marks each |
| Home Assignment for each Paper | 50 Marks each |
| Vive - Voce | 50 Marks |
| | ----- |
| I Semester Total Marks | 650 |
| | ----- |

II Semester

| | |
|--|----------------|
| Three Compulsory Papers and One Elective | 100 Marks each |
| Home Assignment for each Paper | 50 Marks each |
| Vive - Voce | 50 Marks |
| | ----- |
| II Semester Total Marks | 650 |
| | ----- |

III Semester

| | |
|--------------------------|-----------|
| Seminar 1 | 50 Marks |
| Seminar 2 | 50 Marks |
| Dissertation Preparation | 200 Marks |
| | ----- |
| III Semester Total Marks | 300 |
| | ----- |

IV Semester

| | |
|--------------|-----------|
| Dissertation | 400 Marks |
|--------------|-----------|

Grand Total for M. Tech Full Time All Semesters 2000 Marks

4.2 M. Tech Part time Course work

I Semester

| | |
|--------------------------------|----------------|
| Two Compulsory Papers | 100 Marks each |
| Home Assignment for each Paper | 50 Marks each |
| Vive - Voce | 50 Marks |
| | ----- |
| I Semester Total Marks | 350 |
| | ----- |

II Semester

| | |
|--------------------------------|----------------|
| Two Compulsory Papers | 100 Marks each |
| Home Assignment for each Paper | 50 Marks each |
| Vive - Voce | 50 Marks |
| | ----- |
| II Semester Total Marks | 350 |
| | ----- |

III Semester

| | |
|--------------------------------|----------------|
| Two Elective Papers | 100 Marks each |
| Home Assignment for each Paper | 50 Marks each |
| Vive - Voce | 50 Marks |
| | ----- |
| III Semester Total Marks | 350 |
| | ----- |

IV Semester

| | |
|--------------------------------|----------------|
| Two Elective Papers | 100 Marks each |
| Home Assignment for each Paper | 50 Marks each |
| Vive - Voce | 50 Marks |
| | ----- |
| IV Semester Total Marks | 350 |
| | ----- |

V Semester

| | |
|--------------------------|-----------|
| Seminar 1 | 50 Marks |
| Seminar 2 | 50 Marks |
| Dissertation Preparation | 200 Marks |
| | ----- |
| IV Semester Total Marks | 300 |
| | ----- |

VI Semester

| | |
|--------------|-----------|
| Dissertation | 300 Marks |
| | ----- |

Grand Total for M. Tech Part Time All Semesters 2000 Marks

4.3 M. Tech (Research)

The M. Tech (Research) programme will be of minimum 2 year duration for all candidates. The maximum period to complete the M. Tech (Research) programme is 4 Year, provided the fee is paid for extended year(s). The maximum or minimum period will be counted from the date of registration to the date of submission of dissertation.

For students admitted to M Tech programme by research the course content will be seminar based under which a student will have to present one seminar every fortnight for each of the courses credited throughout the semesters. A brief report is submitted at least one week before the due date of every seminar. A term paper each on a topic related to the courses credited will have to be submitted before the end of the semesters which will be a part of the evaluation process.

1 Semester

| | |
|--|----------------|
| Self Study Courses 4 papers | 100 Marks each |
| Assignment for each course | 50 Marks |
| Seminar I (on proposed area of research) | 50 Marks |
| | ----- |
| Ist Semester Total Marks | 650 |
| | ----- |

Remarks :

- (i) Self study Course of the four papers are theory courses, can be taken from regular M. Tech programme or can be configured depending upon the requirement of research need. These courses will have comprehensive written end semester examination.
- (ii) The paper setting & assignment of the end semester examination of comprehensive self study course for each student shall be carried out by a Panel of examiners consisting of (i) Guide , and (ii) one examiner appointed by the Dean of the Faculty of Engineering and Technology.
- (iii) The student is required to submit two copies of Seminar Report to the guide(s) at any time during the semester in which registered. The student shall make oral presentation on his /her seminar topic as per time schedule decided by guide(s) in front of a Panel of the examiners consisting of (i) Guide (ii) one examiner appointed by Dean of the Faculty and (iii) Head of the Department.

II Semester

| | |
|---|----------------|
| Self Study Courses four papers | 100 Marks each |
| Assignment for each course | 50 Marks each |
| Seminar II (on proposed area of research) | 50 Marks |
| | ----- |
| II Semester Total Marks | 650 |
| | ----- |

Remarks:

- (i) Dissertation Progress Seminar will have one evaluation at the end semester before registration of the next Semester.
- (ii) the examination of dissertation progress seminar will taken by a Committee consisting of Guide, one examiner from the relevant field appointed by the Dean of the Faculty and (iii) Head of the Department.

III Semester

| | |
|-----------------------------------|-----------|
| Seminar and Dissertation Progress | 300 Marks |
|-----------------------------------|-----------|

Remarks:

- (i) Dissertation progress seminar will have one evaluation at the end semester before registration of the next Semester.
- (ii) the examination of Dissertation Progress Seminar III will taken by a Committee consisting of Guide, one examiner from the relevant field appointed by the Dean of the Faculty and (iii) Head of the Department.

IV Semester

| | |
|--------------------------------------|-------------------|
| Dissertation | 400 Marks |
| | ----- |
| Grand total for All Semesters | 2000 Marks |
| | ----- |

Remarks:

- (i) The submission of dissertation shall be allowed only after (i) Synopsis Seminar on the research work carried out by the candidate and of communication of at least one research papers in a referred International or National journal.

- (ii) The Committee for evaluation of the Dissertation would consist of (i) Guide, (ii) One examiner from the relevant field appointed by the Dean of the Faculty and (iii) One examiner appointed by the Vice-Chancellor.
- (iii) The result will be declared only after acceptance or publication of full length paper at least in referred International /National Journal (Mandatory)

The medium of instruction, examination seminar and project report will be English.

5. REGISTRATION

- 5.1** Every student is required to register for relevant M. Tech Program and pursue the prescribed courses of study in respective departments at the commencement of 1st Semester and on the day fixed for such registration and notified in the academic calendar. Moreover, the student will students will have to register for each subsequent Semester till submission of the dissertation.
- 5.2** Students who do not register on the day announced for the purpose may be permitted late registration up to the notified day in academic calendar on the payment of the prescribe late fee. However, late registration is permitted up to maximum TWO weeks. A late fees of Rs. 2000/- will be charged from the candidate afterward and upto four week only.
- 5.3** Only those students will be permitted to register in the next semester who have:
 - a) Cleared all University ,hostel, library dues and fines (if any) of the previous semester.
 - b) Paid all required advance payments of university (if any) for the current semester. and
 - c) Not be debarred from registering on any specific ground.
- 5.4** The procedure for registration for M. Tech (Research) shall be as follows:
 - a) The candidate shall obtain M. Tech (Research) Registration Form (MRF) from the Academic Section after payment of the prescribe fees.
 - b) The entire M. Tech (Research) programme of the candidate shall be finalized by the respective department in accordance with Clause 3 and 4

The M. Tech (Research) programme will include the Self Study Courses, Seminars, Dissertation Progress Seminars to be registered and the delivered by the student and the finally the dissertation in the last semester.

- c) The candidate shall fill in the MRF and the Application Form for the registration in consultation with the Guide(s) and submit them to the Dean of the Faculty of Engineering and Technology through respective Head of the Departments with their comments on the suitability of the program.
- d) The Dean of the Faculty shall approve the M. Tech (Research) programme all of the candidates after due scrutiny of the recommendations received from Head of the Department. He may call for additional information or presentation by the candidate before according approval.

6. COURSE PASSING REQUIREMENT

- 6.1** A candidate will be required to secure at least 40% marks in each of the theory and practical examinations and 50% in aggregate to pass a Semester Examination. The candidate will be promoted to next Semester if at least 25% of the papers are cleared. He will be required to pass all the papers before the M.Tech Degree can be awarded.

7. SEMINAR

All candidates shall present one seminar each in first and second semesters on the topics chosen from the relevant fields. The Chairman of the Department shall organize for conducting of such

seminars through concerned faculty. The Internal Assessment marks for the seminar shall be awarded by the concerned faculty.

The student will submit two copies of Seminar Report to the guide(s) at any time semester in which he/she registered. The student shall make oral presentation on his/her seminar as per time schedule decided by guide(s). The seminar will be assessed, during his presentation by the committee enumerated in Clause - 4.

8. GUIDE

8.1 All the selected candidates shall be assigned one or two Guide(s) by the university at the time of selection. The other guide may be from the place of work of the candidate(s).

8.2 The M. Tech (Research) programme and the title of the research topic of a selected candidate shall be finalized by the Guide(s) after mutual discussion.

8.3 Changes of guide(s) under exceptional circumstances shall be permitted by the Dean of the Faculty, on the recommendation of the Head of the Department after obtaining the consent of (i) the candidate (ii) the present Guide(s) and (iii) the proposed Guide(s).

If the M. Tech (Research) programme and / or area of work require modification due to this change, the entire course programme requirement shall be examined by the Dean in consultation with the HOD and Guide(s). If there is a change in the M. Tech (Research) programme and /or title of work, the registration date may be revised, if found necessary.

8.4 Whenever a Guide leaves the University permanently or temporarily for a period exceeding one year, a new Guide shall appointed be appointed as per 7.3. However if the Guide leaves the university for less than a year, the Dean of the Faculty shall make alternate arrangement, if necessary for the guidance of the students.

8.5 There is no restriction on the number of M. Tech (Research) student registered with a guide at any given time.

8.6 Eligibility of a Guide

- a) The faculty member appointed against permanent post and possessing M.E or M. Tech & or Ph.D in Faculty of Engineering & Technology or Science, shall be recognized as a guide.
- b) In all case of M. Tech (Research) registration, one of the guide(s) shall be compulsorily from the department.
- c) In case of interdisciplinary areas, at least one Guide(s) must belong ton the discipline in which the student is registered. It is mandatory to have one of the Guide from the parent department.
- d) In case the student intend to take a Guide from his work place, the selected Guide should be competent person(s) holding M.E. /M. Tech /Ph.D degree in the respective discipline and get recognized by the University in the first semester.

9. PLACE OF WORK, PROGRESS AND DURATION

On the recommendation of Guide(s) and Dean of the Faculty, the candidate may be allowed the research work for the M. Tech (Research) Degree to be partially or wholly carried out at another organisation duly approved for the purpose by the University for the student concerned.

The Dean of the Faculty shall examine the detail given by the candidate in the application from and may decide either to ask for the further information, if necessary by deputing faculty member(s) to visit the organisation. Only, when the Dean of the Faculty is fully conceived about the adequacy of the research facilities, it shall recommend the case for the admission of the candidate.

The candidate has to carry out M. Tech (research) work in the University or in the other organised place for at least a period of two year from the date of registration before submission of dissertation. The above duration is inclusive of the course work and seminar.

The period of validity of M. Tech (Research) is four years.

10 Assessment Procedure : Tests and Examinations

Assessment will be in the form of continuous evaluation during the semester and end semester examination. The continuous evaluation may be in the form of periodical tests, assignments or combination of both whichever suits the subject best. The teacher will announce the assessment details as decided at the class committee to the students right at the beginning of the semester. The marks awarded for continuous evaluation will be announced at the end of the semester before the commencement of the end semester examinations.

End Semester Examination

There will be one end semester examination of in each lecture based subject. In the case of laboratory based subjects a final examination may or may not be conducted. In the case of projects, a viva voce examination will be conducted at the completion of the project work.

Project Evaluation

At the end of the third semester, thesis work done by the students' shall be assessed by a committee constituted by HOD. At the end of the 4th Semester all the M.Tech. students shall present his/her thesis work before an evaluation committee constituted by the HOD, which will evaluate the work and decide whether the student may be allowed to submit the thesis or whether he/she needs to carry out additional work. This shall be an open presentation. A committee consisting of Programme Coordinator or his nominee (as Chairman), the Guide(as Internal Examiner) and an External Examiner shall conduct the final viva-voce examination.

10.1

- a) The departmental M.Tech Research Progress Committee (MRPC) shall evaluate the process of M Tech (Research) work of the student and upon their satisfaction shall recommended continuation of his work. The department of MRPC shall submit their evaluation report in the prescribe format, through the HOD to the Dean of the Faculty.
- b) If the MRPC is not satisfied with the progress of research work may recommend termination of registration to the University through the Dean of the Faculty concerned.
- c) The MRPC shall compromise of the following members.
 - (i) Concerned guide(s)
 - (ii) One faculty member nominated by the Dean in consultation with the HOD and Guide from the concerned department or the other department who is familiar with the concerned area of research work.
 - (iii) One faculty member from the other department as the chairman of MRPC to be nominated by the chairman Dean of the Faculty.

11. DISSERTATION EVALUATION

11.1 Prior to the submission the synopsis of the Dissertation, a comprehensive internal assessment of the research work would be made by a Panel as enumerated in Clause-4.

The following documents will have to be submitted by the Candidate:

- (i) Certificate from the HOD that the prescribed course work has been completed.
 - (ii) Certificate from the Chairman of the Panel of Examiners for the pre-synopsis Seminar that the pre- synopsis seminar has been completed satisfactorily.
- a) That there is a prima facie case for consideration of the dissertation including the mandatory publication requirement i.e. proof of communication of research paper(s)
 - b). That the dissertation does not contain any work that has been previously submitted for the award of any degree. And

c). The extent of collaboration, if any.

12. The M. Tech dissertation shall be written in English in approved format.

- a) The candidate shall submit four copies of dissertation to the academic section within the Prescribed time limit.
- b) Immediately after satisfactory completion of pre synopsis seminar, Guide(s) will submit the list of the external examiners to the Head of the Department. The list should be consisting of six members from India only.

The HOD upon satisfaction shall forward the same to the Dean of the Faculty for choosing one external Examiner.

The External Examiner shall submit his Report on the following points :

- (i) a critical survey and evaluation of the quality and quantity of the work embodied in the dissertation.
- (ii). questions, if any to be asked or point to be clarified at the viva voce examination, and
- (iii) a definite recommendation as to whether the dissertation is accepted for the award of M. Tech (Research).
- (iv) if the Examiner recommends a revision of the Dissertation, than he should indicate the areas which need to be revised.
- (v) The copy the Examiners Report , when received shall be confidentially made available to the guide(s). The Guide(s) shall send comments to Dean of the Faculty.

13. Dean of the Faculty will submit the Examiners Report and the Guide's comment to the Evaluation Committee comprising of Dean of the Faculty as Chairman, one recognised Guide of the Department and one recognised Guide from other department.

This Committee will recommend to the University whether the dissertation be accepted for the viva voce examination or be rejected or be referred again to a new Examiner after due correction.

- (i) a dissertation may be considered acceptable the holding the viva voce examination if the examiner gives a positive recommendation. If the Examiner recommends rejection it shall be referred to second Examiner to be chosen from the Panel of examiner by the Dean of the Faculty.
- (ii) if the Examiner recommends acceptance of the dissertation subject to the minor modification only once after incorporation the modification, with in a period of three months. The dissertation so resubmitted shall be examined by the same examiner.
- (iii) a dissertation rejected by the Examiner may be submitted to second Examiner after revision, not earlier than one semester and not later than two semester from the date of such intimation to the candidate by the university.
- (iv) Rejection of the dissertation so re-submitted will disqualify the candidate from further consideration for the award of the M. Tech (Research) degree, in the topic of research chosen.
- (v) a candidate whose dissertation has been accepted for the award of he M. Tech (Research) degree, shall be required to defend the work at an open viva voce examination conducted by a Board of Examiners as enumerated in Clause-4
- (vi) the Board of Examiners shall submit its report in prescribed format to the University within three days after completion of viva voce exam.
- (vii)after satisfactory completion of the viva voce examination, the M. Tech (Research) degree may

be conferred upon the candidate after approval by the Board of Management.

- (viii) If a dissertation has been accepted but the candidate fails at the viva voce examination he may be permitted by the Dean of the Faculty to re appear for the viva voce examination again at the later date. The recommendation of the Board of Examiners conducting the viva voce examination shall be considered in the taking a decision in the respect.
- (ix) after successful completion of the viva voce examination, the candidate shall submit to the Academic Section two copies of the approved dissertation duly bound.

The students are graded as under :

| Range of relative Percentile | Letter Grades | Grade Points |
|-------------------------------------|----------------------|---------------------|
| 90-100 | A | 10 |
| 75-89 | B | 8 |
| 55-74 | C | 6 |
| 40-54 | D | 4 |
| 30-39 | E | 2 |
| Below 30 | F | 0 |

14 Eligibility for the award of M.Tech. Degree

A student shall be declared to be eligible for the award of M.Tech. degree if he/she has

- (a) Registered and successfully completed all the credit requirements for the degree with grade 'D' or higher grade in each of the subjects (Theoretical, Laboratory, Workshop, Sessional etc), Seminar, Project etc;
- (b) Obtained a CGPA of 5.00 or more at the end of the semester in which he / she completes all the requirements for the degree;
- (c) No dues to the University, Department, Hostels, library etc; and
- (d) No disciplinary action is pending against him/her.

15. The Act of Plagiarism :

In the case of M. Tech candidates, who have copied another dissertation / thesis / book for M. Tech degree his / her dissertations shall be forfeited and his / her M. Tech registration shall be terminated in this university and also he / she shall be debarred to register for any other programme in this University.

For the abetment of above such action knowingly, the recognition of his/ her supervisor shall be withdrawn for a period of 5 years and he / she shall be debarred from guiding the M. Tech or Ph. D. candidates in this University till such period.
