

REGULATIONS
for
ADMISSION, SCHEME AND SYLLABI
for
M.Tech. DEGREE COURSE
(with effect from 2011 admissions)



MAHATMA GANDHI UNIVERSITY
KOTTAYAM
KERALA

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REGULATIONS FOR MASTER OF TECHNOLOGY (M.Tech) PROGRAMME

R1. CONDITIONS FOR ADMISSION

Bachelor's degree in appropriate branch of engineering with minimum of 60% marks aggregate or equivalent in the appropriate branch of engineering.

R2.DURATION OF THE COURSE

The course leading to the degree of master of technology will span over a period of four semesters (two years). Span of a semester will be six months and the total working hours will be 450.

R3.PROGRAMME COORDINATOR

To help the students in planning their courses of study and for getting general advice on academic programme, the concerned department will assign a programme coordinator for M.Tech. programme under the department. The programme coordinator will be the overall in charge in all matters concerning the students' work and progress.

R4. CURRICULUM

The curriculum will comprise the courses of study as given in the scheme in accordance with the prescribed syllabi.

Candidates will be required to undertake a suitable master's research project work and industrial training and mini project in consultation with the head of the department and the faculty advisor and submit the project report and industrial training report there on at the end of the respective semesters, on dates announced by the college/department.

R5. REQUIREMENTS OF ATTENDANCE AND PROGRESS

- i. A candidate will be deemed to have completed the requirements of study of any semester and permitted to appear each University end semester examinations (ESE) only if,
 - a) The candidate has kept not less than 75% of attendance in each of the subjects of the total number of working days of the concerned semester
 - b) His/her progress has been good
 - c) His/her character and conduct has been good
 - d) He/She has minimum of 50 % of sessional marks for each subject.
- ii. A student who has an attendance and sessional marks lower than 75% and 50% respectively will not be permitted to appear for the ESE and he/she has to redo the semester at the next available opportunity. However a candidate can repeat the course

or have condonation of attendance or temporary break of study, only once during entire programme.

Note: As these are academic mandatory prerequisites no exemption will be granted in these cases whatever may be the causes.

R6. PROCEDURE FOR COMPLETING COURSE

- i. The Examinations of the odd semesters will be conducted only in odd semesters and that of the even semesters only in even semesters.
- ii. A candidate may proceed to the course of study for the next semester only after completing the requirements of attendance and progress (Regulation clause R5) of the previous semester.
- iii. A candidate is eligible for condonation of shortage of attendance only once in the entire programme subject to the conditions given below.
 - a) His conduct and progress must be good as certified by the Principal.
 - b) Condonation will be granted only on medical grounds if he/she has secured not less than 65% of attendance.
 - c) By the recommendation of the head of the institution, the condonation shall be granted subject to rules and procedures prescribed by the University from time to time.
 - d) It is open to Vice Chancellor to grant condonation of shortage of attendance on the recommendation of the head of the institution.
- iv. A student who is not eligible for condonation of shortage of attendance shall repeat the course in full including the sessional work in the next immediate chance. The sessional marks earned during repetition of course alone will be counted in such case.
- v. A student can repeat the course only once in the entire course of study only on medical reasons (hospitalization / accident / specific illness). The hospitalization must be informed by the parent in writing with the certificate obtained from the Government medical officer to the faculty in charge of programme coordination, head of the department and Principal within fifteen days of hospitalization.
- vi. He/She shall repeat the course work in full (including sessionals) in a particular semester/year once and within 6 consecutive semesters.
- vii. He/She shall not combine his course work with regular course work of any other semester.
- viii. He/She shall not be allowed to repeat the course work of any semester if he/she has already passed that semester examination in full.
- ix. A candidate who has been registered for the higher semester examination will not be allowed to repeat the course work, in lower semesters.

R7. EXAMINATION AND VALUATION

The chairman / chairperson for examinations will be appointed by the University and selected from among the senior faculty members having specialization in concerned engineering discipline from Government engineering colleges / aided engineering colleges.

a. Theory Examinations

There will be end semester University examination [ESE] at the end of each semester. There is no provision for improvement examinations. The medium of instruction, examinations, seminar and project report etc will be English only.

To conduct all the theory examinations, a chief superintendent and an assistant chief superintendent from senior faculty members of engineering discipline are to be appointed by the principal and approved by the University.

An external chief superintendent from among the senior faculty of Government engineering colleges / aided engineering colleges / NIT/ engineering colleges under Government of Kerala will be appointed by the University as an observer for conducting all theory examinations.

b. Duties of the Observer

The observer along with the chief superintendent at the centre has to ensure the smooth conduct of examinations. It is the joint-responsibility of the chief superintendent and the observer to:

1. Verify the sealing on the packets containing question papers, prior to the commencement of each of each examination.
2. Note the serial numbers / code of the answer books and additional sheets supplied on each day/ examination.
3. Ensure that sufficient numbers of invigilators are deployed in each examination hall.
4. Visit the examination halls during examination to ensure proper invigilation by the invigilators.
5. Report malpractices / irregularities / insufficiencies if any, through proper channel.
6. Verify the number of answer books with the attendance statement, for each examination.
7. Ensure that the bundles of the answer scripts are properly sealed and signed immediately after the examination.
8. Send the answer scripts to the University at the earliest. If there is any delay in sending the answer books, they should be kept in safe custody at the centre till they are sent.

c. Practical Examinations

The principals of the engineering colleges with the help of chairmen/chairperson of all branches should arrange the practical examination for all semesters with approval from the University.

Bonafide laboratory record / Master's project report / industrial training/ seminar report etc. are mandatory for appearing for the practical / viva-voce examinations.

To conduct practical examination, University will appoint an internal examiner from a panel of faculty ([specialization in the relevant subject](#)) of concerned engineering college and an external examiner from other engineering colleges. The examiners together will conduct the exam and decide the marks to be awarded to the candidates. The mark list filled and duly signed by the examiners should forward to the chairman by the internal examiner. The internal examiner will be the custodian of the valued answer script till the commencement of subsequent examination. There is no provision for revaluation.

To conduct third semester industrial training evaluation and fourth semester thesis evaluation and master's comprehensive viva voce examination, University will appoint a panel of examiners from the faculty of concerned engineering colleges with at least one external examiner from Government engineering colleges / aided engineering colleges / NIT/ engineering colleges under Government of Kerala.

Faculty members retired as professors up to 70 years of age, from NIT/ Government engineering colleges / aided engineering colleges / engineering colleges under Government of Kerala will also be appointed as external examiners for the conduct of practical / industrial training evaluation / Thesis evaluation / master's comprehensive viva voce and end semester University examinations.

The University will verify the qualification and field of specialization and experience of all faculty members who are appointed as examiners.

The word "faculty" confines only to those who handle regular theory subjects in the appropriate branch of engineering discipline and have specialisation in the concerned discipline.

d. Valuation

[For the first and second semester theory examinations double valuation will be conducted. The university will appoint two examiners from different colleges from the panel of examiners.](#)

The candidate will be awarded the average of the marks awarded by the two examiners. However if the difference in the mark awarded by the two examiners exceeds 10%, a third external examiner will revalue the paper. In such cases, the average of the highest two among the three marks will be awarded to the candidate. There is no provision for revaluation.

R8. PASSING REQUIREMENTS AND PROVISIONS

- i) All 80 credits should be earned by a candidate to be qualified for the degree.
- ii) The candidate should have cleared all dues to the institute/University.
- iii) No disciplinary action is pending against him/her.
- iv) Passing requirement for a student shall be a minimum of 50% marks (Theory and sessional put together), subjected to a minimum of 40% marks for the theory.

- v) A candidate, who is absent or secures a grade F or less than 40% in ESE in any subject carrying sessional marks and ESE marks, will retain the already secured sessional marks for subsequent **supplementary** appearance in the examination of that subject.
- vi) A candidate who fails to submit the report on the project/industrial training within the prescribed date (or whose report is not accepted for reasons of incompleteness or other serious deficiencies) will have to register, redo the project / industrial training and submit the report at the end of a subsequent semester.
- vii) A candidate who successfully completes the course satisfying all the passing requirements of the courses will be declared to be qualified for the award of M.Tech. degree.
- viii) Candidates who have passed all subjects of the four semesters at the first opportunity within four consecutive chances after the commencement of his/her study shall be ranked based on the CGPA obtained. **In the case of a tie in the CGPA the total theory marks of the students who have secured same CGPA shall be considered for finalizing the rank.**
- ix) A candidate who qualifies for the award of M.Tech. degree having passed all the subjects of all the four semesters within a period of maximum six consecutive semesters after the commencement of his/her study and secures a CGPA of 8 and above considering all the four semesters, will be declared to have passed the M.Tech degree in **FIRST CLASS with DISTINCTION**.
- x) A candidate who qualifies for the award of M.Tech. degree having passed all the subjects of all the four semesters within a period of maximum six consecutive semesters after the commencement of his/her study and secures a CGPA of 6.75 and above considering all the four semesters will be declared to have passed the M.Tech degree in **FIRST CLASS**.
- xi) All other successful candidates will be declared to have passed the M.Tech. degree in **SECOND CLASS**.
- xii) **In the case of a student (regular / repeated /temporary break study) who has taken a **supplementary** chance for passing a subject, only **minimum pass grade (E)** will be **considered** in that subject for all classification purpose.**
- xiii) **A temporary break of study/ course repeated student who is appearing first time for a University examination within six consecutive semesters after the commencement of his/her study is considered as first chance and the marks secured will be considered for all classification purpose.**
- xiv) **A student absent in the first eligible chance / failed in the first appearance in the University examination and subsequently appearing for the University examination in next chance within six consecutive semesters after the commencement of his/her study, is considered as **supplementary chance**.**

- xv) Candidates shall be declared to have qualified for the award of the M.Tech degree provided the candidate has successfully completed the course requirements and has passed all the prescribed subjects of study in the four semesters within a maximum period of five years from the commencement of his/her study.
- xvi) Every candidate shall, based on his/her project work/dissertation, send a paper for publication in journal or a conference in which all papers are published after usual review.
- xvii) **Minimum for a pass**
 - a) A candidate shall be declared to have passed a semester examination in full in the first appearance if he/she secures not less than 6 CGPA with a minimum of 'E' grade for the all individual subject in that semester.
 - b) A candidate shall be declared to have passed in an individual subject of a semester examination if he/she secures grade 'E' or above.
 - c) A candidate who does not secure a full pass in a semester examination as per clause (a) above will have to pass in all the subjects of the semester examination as per clause (b) above before he is declared to have passed in that semester examination in full.

R9. LEAVE RULES

All students are eligible for a leave of 15 days per semester and no provision of carry over to subsequent semesters.

R10. TEACHING ASSISTANCESHIP

Teaching assistance of three hours per week to be assigned to the each student.

R11. INDUSTRIAL TRAINING / THESIS WORK IN INDUSTRY OR OTHER ORGANISATION

The following details should be submitted to head of the institution through the head of the department and faculty advisor and should be approved before commencement of the industrial training / thesis work.

A committee appointed by the head of the department should go through the request of each student and fix in advance;

- a) Area of the industrial training / thesis work and organisation.
- b) An internal guide (Faculty of the post graduate programme or any faculty of concerned engineering college with minimum post graduate degree)
- c) The name and designation of the external guide (Scientist or Engineer), if any.

Evaluation of industrial training/masters research project work will be taken up only after the student completes the entire core subjects as well as elective subjects requirements. However the candidates are eligible to appear for the master's comprehensive viva voce

only after the successful completion of the first three semesters of the master's degree programme.

In the third semester industrial training period should be a minimum of two months for civil, mechanical branches. In the third semester for all branches industrial training and or miniproject for two months duration.

R12. ELECTIVES

There should be at least 1/3 of students of the sanctioned strength of class for an elective to be offered.

New electives may be introduced according to need of emerging fields in technology from time to time. The University should approve the names of electives and its syllabi before the subject offered.

R13. TEMPORARY BREAK OF STUDY

If a candidate intends to temporarily discontinue (allowed only on medical reasons certified by a Government medical officer) the programme in the middle of a semester and intends to rejoin the programme later in the respective semester, the candidate shall apply to the University for the permission through the head of the institution with recommendation from the head of the department, before the last date for payment of examination fee of the semester.

A candidate is permitted to rejoin the programme at the respective semester and when it is offered after the break of study, will be governed by the rules & regulations and scheme & syllabi in force at the time of joining subject to the approval from the University.

R14. SCHEME OF EVALUATION

a. Credit System

Each subject shall have a certain number of credits assigned to it depending upon the academic load and the nature and importance of the subject. The credit associated with each subject will be shown in the prescribed scheme and syllabi. Each course shall have an integer number of credits, which reflects its weightage.

b. Grading

The University shall award the letter grade to students based on the marks secured by them in both internal assessment and semester end examinations taken together in the subjects registered. Each letter grade indicates a qualitative assessment of the student's performance and is associated with a specified number of grade points. The grading system along with the grade points for each grade, applicable to passed candidates is shown below. All passed candidate will be allotted a grade S, A, B, C, D, E, F according to the total marks scored by him/her.

There will be a continuous evaluation system. Various components of evaluation are Teachers' Assessment (TA), Class Tests (CT) and University end semester examination

(ESE). To make the evaluation more effective, teachers' assessment could be broken into various components like assignments, quizzes, attendance, group discussions, tutorials, seminars, field visit reports etc. These two components i.e., TA & CT put together will form the sessional components. End semester examination will be conducted by the institute through concerned affiliating University, as per its rules and regulations.

On the basis total marks (TA+CT+ESE) for each subject obtained, a letter grade should be awarded, where S = 10, A = 9, B = 8, C = 7, D = 6, E = 5, F = 0. "F" denotes failure in the course.

All letter grades except 'F' will be awarded if the marks for the University examination is 40 % or above and the total mark (TA+CT+ESE) is 50 % or above. No absolute mark will be indicated in the grade card. Letter grade corresponding to total marks (TA+CT+ESE) and the corresponding grade point in a ten point scale is described below.

Range of % of total marks	Letter grade	Grade point
90 to 100	S	10
80 to 89	A	9
70 to 79	B	8
60 to 69	C	7
55 to 59	D	6
50 to 54	E	5
0 to 49	F	0

c. Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA)

Semester grade point average is the semester wise average points obtained by each student in a ten point scale. SGPA for a particular semester is calculated as per the formula shown below.

$$SGPA = \frac{\sum_{i=1}^n C_i G_i}{\sum_{i=1}^n C_i}$$

Where, n is the number of subjects registered during the semester, C_i is the number of credits allotted to i^{th} subject as per the scheme, and G_i is the grade points corresponding to the grade awarded to the student for the subject.

d. Cumulative Grade Point Average (CGPA) shall be computed for all the students at the end of each semester by taking into consideration their performance in the present and the past semesters as follows:

$$\text{CGPA} = \frac{\sum_{i=1}^m C_i G_i}{\sum_{i=1}^m C_i}$$

Where, m is the number of courses registered up to that semester, C_i is the number of credits allotted to i^{th} subject as per the scheme, and G_i is the grade points corresponding to the grade awarded to the student for the subject.

SGPA and CGPA shall be rounded to two decimal points.

e. Grade Card

The grade card issued to the students shall contain course number and subject name, credits for the subject, letter grades obtained, SGPA for the semester and CGPA up to that particular semester. In addition to the grade cards for each semester all successful candidate shall also be issued a consolidated statement grades. On specific request from a candidate and after remitting the prescribed fees the University shall issue detailed marks to the individual candidate.

R15. REVISION OF REGULATIONS

Notwithstanding all that has been stated above the University has the right to modify any of the regulations, scheme of studies, examinations and syllabi from time to time.