ANNA UNIVERSITY CHENNAI :: CHENNAI 600 025

REGULATIONS 2009
CREDIT SYSTEM

(This Regulation is applicable to the students admitted to the various **University Departments** under Faculties of the University from the academic year 2009-2010).

POST GRADUATE PROGRAMMES

1. PRELIMINARY DEFINITIONS AND NOMENCLATURE

In these Regulations, unless the context otherwise requires:

i. "**Programme**" means Degree Programme. e.g. M.E., M.Tech. Degree Programme

ii. **"Specialisation"** means the discipline of the Post Graduate Degree Programme like Structural Engineering, Engineering Design, etc.

iii. "**Course**" means a Theory or Practical subject that is normally studied in a semester, like Applied Mathematics, Advanced Thermodynamics, High Voltage Lab., etc.

iv. **"Director, Academic Courses"** means the authority of the University who is responsible for all academic activities of the University Departments for implementation of relevant rules of this Regulations.

v. "**Head of the Institution**" means the Dean of the campus.

vi. **"Chairman"** means Head of the Faculty.

vii. **"Head of the Department"** means Head of the concerned Department of the University.

viii. **"Controller of Examinations"** means the Authority of the University who is responsible for all activities of the University Examinations.

ix. "**University**" means ANNA UNIVERSITY, CHENNAI.

2. PROGRAMMES OFFERED, MODE OF STUDY AND ADMISSION REQUIREMENTS

2.1 PROGRAMMES OFFERED

A candidate may be offered one of the branches of study from those approved by the University.

(i) Programmes offered in the Faculty of Civil Engineering

M.E. Structural Engineering	Full-Time & Part-Time
M.E. Irrigation Water Management	Full-Time & Part-Time
M.E. Hydrology & Water Resources Engineering	Full-Time & Part-Time
M.E. Environmental Management	Full-Time (SS)* & Part-Time (SS)*
M.E. Transportation Engineering	Full-Time
M.E. Soil Mechanics & Foundation Engineering	Full-Time & Part-Time

M.E. Construction Engineering & Management	Full-Time & Part-Time
M.E. Environmental Engineering	Full-Time & Part-Time
M.E. Geomatics	Full-Time(SS)* & Part-Time
M.Tech. Remote Sensing	Full-Time & Part-Time
M.E. Integrated Water Resource Management	Full-Time & Part-Time
M.Tech. Coastal Management	Full-Time (SS)* & Part-Time

* SS-Self Supported Programmes

(ii) Programmes offered in the Faculty of Mechanical Engineering

M.E. Internal Combustion Engineering	Full-Time & Part-Time (SS)*
M.E. Energy Engineering	Full-Time & Part-Time (SS)*
M.E. Computer Integrated Manufacturing	Full-Time & Part-Time (SS)*
M.E. Refrigeration and Air Conditioning Engineering	Full-Time & Part-Time (SS)*
M.E. Engineering Design	Full-Time
M.E. Aeronautical Engineering	Full-Time & Part- Time
M.E. Automobile Engineering	Full-Time & Part-Time
M.E. Industrial Engineering	Full-Time
M.E. Manufacturing Engineering	Full-Time & Part-Time
M.E. Mechatronics	Full-Time & Part-Time
M.E. Manufacturing System Management	Full-Time (SS)*
M.E. Product Design and Development	Part-Time (SS)*
M.E. Quality Engineering & Management	Part-Time (SS)*
M.E. Computer Aided Design	Part-Time (SS)*
M.E. Printing & Packaging Engineering	Full-Time & Part-Time (SS)*
M.E. Aerospace Technology	Full-Time
M.E. Solar Energy	Full-Time (SS)*

(iii) Programmes offered in the Faculty of Electrical Engineering

M.E. Power Systems Engineering	Full-Time & Part-Time
M.E. Power Electronics and Drives	Full-Time & Part-Time (SS)*
M.E. Embedded System Technologies	Full-Time (SS)* & Part-Time (SS)*
M.E. High Voltage Engineering	Full-Time
M.E. Control & Instrumentation Engineering	Full-Time
M.E. Instrumentation Engineering	Full-Time & Part-Time
M.E. Electrical Drives and Embedded Control	Part-Time

(iv) Programmes offered in the Faculty of Information & Communication Engineering

M.E. Computer Science & Engineering	Full-Time & Part-Time (SS)*
M.E. Computer Science & Engineering with specialization in Knowledge Engineering and computational Linguistics	Full-Time (SS)*
M.E. Software Engineering	Full-Time
M.E. Communication Systems	Full-Time
M.E. Optical Communication	Full-Time
M.E. VLSI Design	Full-Time (SS)*
M.E. Medical Electronics	Full-Time (SS)* & Part-Time (SS)*
M.E. Multimedia Technology	Full-Time (SS)*
M.E. Bio-Medical Engineering	Full-Time (SS)*
M.E. Communication and Networking	Full-Time
M.E. Avionics	Full-Time
M.E. Applied Electronics	Full-Time & Part-Time (SS)*
M.Tech. Information Technology	Full-Time (SS)*
M.Tech. Laser & Electro Optical Engineering	Full-Time
M.E. System Engineering & Operations Research	Part-Time (SS)*
M.C.A. Master of Computer Applications	Full-Time & Part-Time (SS)*

(v) Programmes offered in the Faculty of Technology

M.Tech. Chemical Engineering	Full-Time
M.Tech. Textile Technology	Full-Time
M.Tech. Ceramic Technology	Full-Time
M.Tech. Petroleum Refining & Petro-Chemicals	Full-Time
M.Tech. Polymer Science and Engineering Technology	Full-Time (SS)*
M.Tech. Environmental Science & Tech.	Full-Time (SS)*
M.Tech. Biotechnology	Full-Time
M.Tech. Bio Pharmaceutical Technology	Full-Time (SS)*
M.Tech. Sugar Engineering	Full-Time
M.Tech. Leather Technology	Full-Time
M.Tech. Footwear Science and Engineering	Full-Time
M.Tech. Nano Science and Technology	Full-Time (SS)*
M.Tech. Food Technology	Full-Time (SS)*
M.Tech. Rubber Technology	Full-Time (SS)*

* Self Supported Course

(vi) Programmes offered in the Faculty of Science & Humanities

M.Sc. Applied Mathematics	Full-Time
M.Sc. Medical Physics	Full-Time
M.Sc. Applied Chemistry	Full-Time
M.Sc. Applied Geology	Full-Time
M.Sc. Materials Science	Full-Time
M.Sc. Electronic Media	Full-Time (SS)*
M.Sc. Environmental Science	Full-Time (SS)*
M.Sc. Science and Technology Communication	Full-Time (SS)*
M.Sc. Computational Biology	Full-Time (SS)*

(vii) Programmes offered in the Faculty of Management Sciences

Master of Business Administration (MBA)	Full-Time & Part-Time (SS)*
M.B.A. Hospitality Management	Full-Time (SS)*

* Self Supported Course

2.1.1   The eligible entry qualifications approved by the University are listed in **Table 1**.

2.2.   MODES OF STUDY:

2.2.1   **Full-Time:**
Candidates admitted under 'Full-Time' should be available in the University departments during the entire duration of working hours (From Morning to Evening on Full-Time basis) for the curricular, co-curricular and extra-curricular activities.

The Full-time candidates should not attend any other Full-time programme(s) / course(s) or take up any Full-Time job / Part-Time job in any Institution or company during the period of Full- Time programme. Violation of the above rules will result in cancellation of admission to the PG programme.

2.2.2   **Part-Time - Day Time Mode:**
This mode of study is applicable to those candidates admitted under sponsored category (Government Agencies / Teacher candidates). In this mode of study, the candidates are required to attend classes along with Full-time students for the required number of courses and complete the course in three years.

2.2.3   **Part-Time - Evening:**

In this mode of study, separate classes are conducted in the evenings.

2.2.4   Conversion from one mode of study to other is not permitted.

2.3   ADMISSION REQUIREMENTS:

2.3.1   Candidates for admission to the first semester of the Post Graduate Degree Programme shall be required to have passed an appropriate qualifying Degree

Examination of Anna University as specified in **Table 1** or any examination of other University or authority accepted by the Syndicate of Anna University Chennai as equivalent thereto.

2.3.2 The Syndicate of the University may decide to restrict admission in any particular year to candidates having the subset of qualifications prescribed at the time of admission.

2.3.3 Not withstanding the qualifying examination the candidate might have passed, he/she shall have a minimum level of proficiency in the appropriate Programme / courses as prescribed by the Syndicate of the University from time to time.

2.3.4 Eligibility conditions for admission such as the class obtained, the number of attempts in the qualifying examination and physical fitness will be as prescribed by the Syndicate of the University from time to time.

2.3.5 All Part-Time candidates should satisfy other conditions regarding experience, Sponsorship etc., that may be prescribed by the Syndicate from time to time.

2.3.6 A candidate seeking admission to Part-Time mode of study, shall have his/her place of employment within a distance of 90 km from the University campuses.

3. DURATION AND STRUCTURE OF THE P.G.PROGRAMMES:

3.1 The minimum and maximum period for completion of the P.G.Programmes are given below:

Programme	Min. No. of Semesters	Max. No. of Semesters
M.E./M.Tech. (Full-Time)	4	8
M.E./M.Tech. (Part Time)	6	12
M.C.A. (Full Time / Part Time)	6	12
M.B.A. (Full Time)	4	8
M.B.A. (Part Time)	6	12
M.Sc. (Full Time) (2 Years)	4	8

3.2. The P.G. Programmes will consist of:
Core courses
Elective courses
Project work
The Programme will also include design projects/seminars/ practicals /practical training, if they are specified in the Curriculum.

3.3. The Curriculum and Syllabi of all the P.G. Programmes shall be approved by the Academic Council of Anna University.

The number of credits to be earned for the successful completion of the Programme shall be as specified in the Curriculum of the respective specialization of the P.G. Programmes.

3.4. Each semester shall normally consist of 90 working days or 350 periods each of 50 minutes duration for full time mode (400 periods for M.B.A.) and 200 periods each of 50 minute duration for part-time mode. The Head of the Department shall ensure that every teacher imparts instruction as per the number of periods specified in the syllabus and that the teacher teaches the full content of the specified syllabus for the course (subject) being taught. End-Semester Examination will be scheduled after the last working day of the semester.

3.5.   The Curriculum of P.G.Programmes shall be so designed that the prescribed credits required for the award of the degree shall be within the limits specified below: (**Table – 2**).

PROGRAMME	PRESCRIBED CREDIT RANGE
M.E. / M.Tech.	65 to 75

PROGRAMME	PRESCRIBED CREDITS
M.C.A.	118
M.B.A.	90

PROGRAMME	PRESCRIBED CREDIT RANGE
M.Sc. (2 Years)	75 – 80

3.6   Credits will be assigned to the courses for different modes of study as given below:

3.6.1   The following will apply to all modes of P.G. Programmes.

- One credit for each lecture period allotted per week
- One credit for each tutorial period allotted per week
- One credit for each seminar/practical session of two periods designed per week.

3.6.2   Four weeks of practical training in any industrial / research laboratory correspond to one credit, and is applicable to all modes of study.

3.7   The electives from the curriculum are to be chosen with the approval of the Head of the Department concerned.

3.7.1   A candidate may be permitted by the Head of the Department to choose a maximum of two electives from P.G. Programmes offered in any other department of the University during the period of his/her study, provided the Head of the Department offering such course also approves such request subject to no clash in the time-table for the lecture classes of both departments.

3.7.2   The Curriculum and Syllabi of all the P.G. Programmes shall be approved by the Academic Council of Anna University Chennai.

The number of credits to be earned for the successful completion of the Programme shall be as specified in the Curriculum of the respective specialization of the P.G. Programmes.

3.8 PROJECT WORK

The project work for M.E. / M.Tech. consists of Phase – I and Phase – II. The phase – I is to be under taken during III semester and Phase – II, which is a continuation of Phase – I is to be undertaken during IV semester.

3.8.1 MINIMUM CREDIT REQUIREMENTS TO DO THE PROJECT

Minimum credits shall be as follows:

PROGRAMME	MINIMUM NO. OF CREDITS TO BE EARNED
M.E. / M.Tech	24 (for Phase – I)
M.C.A.	70
M.B.A.	50
M.Sc. (2 years)	40

3.8.2 If the candidate has not earned the requisite minimum credits, he / she has to complete the arrears (at least to the extent of earning the minimum credits specified) and then enroll for the project (Phase - I) work in the subsequent semester.

3.8.3 In case of candidates of M.E. / M.Tech. not completing Phase - I of project work successfully, the candidates can undertake Phase - I again in the subsequent semester. In such cases the candidates can enroll for Phase-II, only after successful completion of Phase I.

3.8.4 Project work shall be carried out under the supervision of a "qualified teacher" in the Department concerned. In this context "qualified teacher" means the faculty member possessing Ph.D degree or PG degree with a minimum of 3 years experience in teaching PG courses.

3.8.5 A candidate may, however, in certain cases, be permitted to work on projects in an Industrial/Research Organization, on the recommendations of the Head of his/her Department. In such cases, the Project work shall be jointly supervised by a supervisor of the department and an expert-as a joint supervisor from the organization and the student shall be instructed to meet the supervisor periodically and to attend the review committee meetings for evaluating the progress.

3.8.6 The Project work (Phase II in the case of M.E/M.Tech) shall be pursued for a minimum of 16 weeks during the final semester.

3.8.7 The deadline for submission of final Project Report is 60 calendar days from the last working day of the semester in which project / thesis / dissertation is done. However, the Phase-I of the Project work in the case M.E. / M.Tech. shall be submitted within a maximum period of 30 calendar days from the last working day of the semester as per the academic calendar published by the University.

4   EVALUATION OF PROJECT WORK

The evaluation of Project Work for Phase I & Phase II shall be done independently in the respective semesters and marks shall be allotted as per the weightages given in Clause 13.

There shall be three assessments (each 100 marks) during the semester by a review committee. The student shall make presentation on the progress made before the committee. The Head of the Department shall constitute the review committee for each branch of study. The total marks obtained in the three assessments shall be reduced to 45 marks and rounded to the nearest integer. There will be a viva-voce examination during End-Semester examination conducted by a committee consisting of the supervisor, one internal examiner and one external examiner. The internal examiner and the external examiner shall be appointed by the Chairman of the respective Faculty from the panel of examiners submitted by the HOD. The remaining 5 marks shall be distributed for attendance as prescribed in clause 8.7.

4.1   The project work shall be evaluated for a maximum of 100 marks of which 50 marks will be through internal assessment.

There should be a three reviews for each phase (Phase I and Phase II) to be conducted separately with Internals 50 marks and External 50 marks for each phase which can be distributed as detailed below.

Project work	Internal 45 + 5 Attendance			External			
	Review I	Review II	Review III	Thesis Submission (External)	Viva – Voce (30 Marks)		
					Supervisor	External	Internal
Phase – I	15	15	15	20	10	10	10
Phase - II	15	15	15	20	10	10	10

4.2   The Project Report prepared according to approved guidelines and duly signed by the supervisor(s) and the Head of the Department shall be submitted to the Head of the Institution.

4.2.1   The evaluation of the Project work Phase - I & Phase - II (M.E. / M.Tech.) will be based on the project report submitted in each of the Phase – I & Phase - II semesters and a Viva-Voce Examination by a team consisting of the supervisor, a common internal examiner (other than the supervisor) and a common External Examiner for each programme. The common internal examiner and the external examiner shall be appointed by the University for Phase – I and Phase – II evaluation.

4.2.2   If the candidate fails to obtain 50% of the internal assessment marks in the Phase–I and Phase–II, he/she will not be permitted to submit the report for that particular semester and has to re-enroll for the same in the subsequent semester.

4.2.3   If a candidate fails to submit the project report on or before the specified deadline, he/she is deemed to have failed in the Project Work and shall re-enroll for the same in a subsequent semester. This applies to both Phase–I and Phase–II in the case of M.E. / M.Tech. and the Final Project work of M.B.A. / M.C.A.

If a candidate fails in the viva-voce examinations of Phase–I he/she has to resubmit the Project Report within 30 days from the date of declaration of the results. If he / she fails in the viva-voce examination of Phase–II of Project work of M.E. / M.Tech. or the Final Project work of M.B.A. / M.C.A, he/she shall resubmit the Project report within 60 days from the date of declaration of the results. For this purpose the same Internal and External examiner shall evaluate the resubmitted report.

4.2.4   Every candidate doing M.E. / M.Tech., shall send a paper / patent for publication in a journal or a conference. An acknowledgement from the Supervisor for having communicated to the journal or conference shall be attached to the report of the project work. Such acknowledgements shall be sent to the Controller of Examination along with the evaluation marks by the team of examiners without which the thesis shall not be accepted.

4.2.5   A copy of the approved project report after the successful completion of viva-voice examinations shall be kept in the library of the college / institution.

4.2.6   A student who has passed all the courses prescribed in the curriculum for the award of the degree shall not be permitted to re-enroll to improve his/her marks in a course or the aggregate marks / CGPA.

4.2.7   Practical training / Industrial Attachment / Summer Project if specified in the Curriculum shall not exceed the maximum duration of 4 weeks and should be organized by the Head of the Department for every student.

4.2.8   At the end of Practical training / Industrial attachment / Summer Project the candidate shall submit a certificate from the organization where he/she has undergone training and also a brief report. The evaluation will be made based on this report and a Viva-Voce Examination, conducted internally by a Departmental Committee constituted by the Head of the Institution. Certificates submitted by the students shall be attached to the mark list sent by the Head of the Institution.

5.   FACULTY ADVISER

To help the students in planning their courses of study and for general advice on the academic Programme, the Head of the Department will attach a certain number of students to a teacher of the Department who shall function as Faculty Adviser for those students throughout their period of study. Such Faculty Adviser shall advise the students and monitor the courses taken by the students, check the attendance and progress of the students attached to him/her and counsel them periodically. If necessary, the faculty adviser may also discuss with or inform the parents about the progress of the students.

6.   CLASS COMMITTEE

6.1   A Class Committee for a semester consists of teachers of the concerned classes, student Representatives, Faculty Advisor and a chairperson who is not ordinarily allotted teaching work to that particular class / batch. It is like the 'Quality Circle' (more commonly used in industries) with the overall goal of improving the teaching-learning process. The functions of the class committee include

- Resolving academic issues experienced by students in the class room and in the laboratories

- Clarifying the regulations of their degree Programme and the details of rules therein

- Informing the student representatives "the academic schedule" including the number of assessments, the dates and the syllabus coverage for each assessment period.

- Informing the student representatives the details of regulations regarding the weightage used for each assessment. In the case of practical courses (laboratory/ drawing/ project work/ seminar etc.,) the breakup of marks for each experiment/ exercise/ module of work, should be clearly discussed in the class committee meeting and informed to the students through the class representatives.

- Analyzing the performance of the students of the class after each test and finding the ways and means of improving the students performance.

- Identifying the weak students, if any, in any subjects and requesting the teachers concerned to provide some additional help or guidance or coaching to such weak students as often as possible.

6.2   The class committee for a class is normally constituted by the Head of the Department. However, if the students of different specializations are mixed in a class, the class committee is to be constituted by the Chairperson of the Faculty.

6.3   The class committee shall be constituted within a week of the commencement of a semester.

6.4   At least 2 student representatives (usually 1 boy and 1 girl) shall be included in the class committee.

6.5   The chairperson of the class committee may invite the Head of the Department / Deans of campuses to any class committee meeting.

6.6   The Chairperson of the concerned faculty may participate in any class committee of the Institution as and when deemed necessary.

6.7   The chairperson is required to prepare the minutes of every meeting, submit the same to the Head of the Department within two days of the meeting and arrange to circulate among the students concerned and teachers. If there are some points in the minutes requiring action by the University, the same shall be brought to the notice of the **Director, Academic Courses** by the Head of the Department.

6.8   The first meeting of the class committee shall be held **within 10 days from the date of commencement of the semester**, in order to inform the students about the nature and weightage of assessments within the framework of the Regulations. Two or three subsequent meetings may be held at suitable intervals in a semester. During these meetings the student members representing the entire class, shall meaningfully interact and express the opinions and suggestions of the students of this entire class to improve the effectiveness of the teaching-learning process.

6.9   The Head of the Department with the approval of the Chairman of the Faculty shall appoint as Class Adviser, Faculty Adviser, Class Committee Chairman, Internal and External Examiners and Review Committee etc.

7.   COURSE COMMITTEE FOR COMMON COURSES

Each common theory course offered to more than one group of students shall have a "Course Committee" comprising all the teachers teaching the common course with one of them as nominated as Course Coordinator. The nomination of the course Coordinator shall be made by the Chairman depending upon whether all the teachers teaching the common course belong to a single department or to several departments. The 'Course committee' shall meet as often as possible and ensure uniform evaluation of the tests and arrive at a common scheme of evaluation for the tests. The course committee may also prepare a common question paper for the test(s) as well as for the End Semester Examinations.

8.   PROCEDURES FOR AWARDING MARKS FOR INTERNAL ASSESSMENT

8.1   Internal Assessment is fixed as 50 marks (consisting of 45 marks for tests and 5 marks for attendance) in each course of study for all P.G. Programmes. The student shall write End-Semester Examinations to score additional 50 marks (25 marks for practical courses).

8.2   Internal assessment for Theory courses:

The maximum marks for Internal Assessment shall be 50 marks in case of theory courses. Three tests each carrying 100 marks shall be conducted by the Department. The Total marks obtained in the best 2 tests out of 3 put together should be reduced to 45 marks and rounded to the nearest integer. The remaining 5 marks shall be distributed for attendance as prescribed in clause 8.7.

However in the case of MBA, 2 tests each carrying 100 marks shall be conducted by the Department. The marks obtained in 2 tests shall be reduced to 45 and rounded to the nearest integer. The remaining 5 marks shall be distributed for attendance as prescribed in clause 8.7.

8.3   Internal assessment for Practical Courses:

The maximum marks for Internal Assessment shall be 75 in case of Practical courses
Every practical experiment shall be evaluated based on conduct of experiment and records maintained. There shall be at least one mid-semester test. The criteria for arriving at the internal assessment marks of 70 shall be decided (based on the recommendation of the class committee) by the Head of the Department and announced at the beginning of every semester. The remaining 5 marks shall be distributed for attendance as prescribed in clause 8.7.

8.4   Internal assessment for Theory Courses with Laboratory component:

The maximum marks for Internal Assessment shall be 50 in case of theory courses with Laboratory component.
If there is a theory course with Laboratory component, there shall be three tests: the first two tests (each 100 marks) will be from theory portions and the third test (maximum mark 100) will be for laboratory component. The sum of marks of all three tests shall be reduced to 45 marks and rounded to the nearest integer. The remaining 5 marks shall be distributed for attendance as prescribed in clause 8.7.

8.5   Seminar:

If seminar is prescribed in the curriculum, the same is to be considered as purely INTERNAL (with 100% internal marks only). Every student is expected to present a minimum of 4 seminars per semester and for each seminar marks can be equally apportioned. At the end of the semester the marks can be consolidated and taken as the final mark and hence, there is no need for End semester examination for SEMINAR.

8.6   At the end of Practical training / Industrial attachment / Summer Project the candidate shall submit a certificate from the organization where he/she has undergone training and also a brief report. The evaluation will be made based on this report and a Viva-Voce Examination, conducted internally by a Departmental Committee constituted by the Head of the Department. Certificates submitted by the candidate shall be attached to the mark list sent by the Head of the Department.

8.7   Attendance

The remaining 5 marks for attendance shall be awarded as given below:

Theory and Practical courses and Project Work
76% to 80%   of attendance   - 1 mark
81% to 85%   of attendance   - 2 marks
86% to 90%   of attendance   - 3 marks
91% to 95%   of attendance   - 4 marks
96% to 100% of attendance   - 5 marks

9.   REQUIREMENTS FOR COMPLETION OF A SEMESTER

9.1   A candidate who has fulfilled the following conditions shall be deemed to have satisfied the requirements for completion of a semester.

Ideally every student is expected to attend all classes and earn 100% attendance. However in order to allow provision for certain unavoidable reasons such as hospitalization / accident / specific illness the student is expected to earn a minimum of 75% attendance.

Therefore he/she shall secure not less than 75% of overall attendance in that semester taking into account the total number of periods in all courses attended by the candidate as against the total number of periods in all courses offered during that semester.

9.2   However, a candidate who <u>secures overall attendance between 65% and 74%</u> in that current semester due to medical reasons (prolonged hospitalization / accident / specific illness / Participation in Sports events) may be permitted to appear for the current semester examinations subject to the condition that the candidate shall submit the medical certificate / sports participation certificate to the Head of the Department. The same shall be forwarded to the Additional Controller of Examinations, Anna University Chennai for record purposes.

9.3   Candidates who could secure **less than 65%** overall attendance and candidates who do not satisfy the clauses 9.1 & 9.2 will not be permitted to write the end-semester examination of that current semester and are not permitted to go to next semester. They are required to repeat the incomplete semester in the next academic year.

10.   END-SEMESTER EXAMINATIONS:

The examinations shall ordinarily be conducted between November - December during the odd semesters and between April and May in the even semesters. The maximum marks for each theory course shall be 100 comprising 50 marks for internal assessment and 50 marks for the end-semester examinations. For practical courses the maximum marks shall be 100 comprising 75 marks for internal assessment and 25 marks for the end-semester examinations.

10.1   There shall be one end-semester examination of 3 hours duration for each lecture based course.

10.2   The mini-project, if specified in the curriculum, will be evaluated based on a report and a viva voce examination. The internal examiner and the external examiner shall be appointed by the Head of the department.

10.3   The evaluation of the Project work will be based on the project report and a Viva-Voce Examination by a team consisting of the supervisor, a internal examiner and an External Examiner. The internal examiner and the external examiner shall be appointed by the Chairman of the respective Faculty from among the panel submitted by the HODs.

10.4   If a student indulges in malpractice during tests/examinations, the student shall be liable for punitive action as prescribed by the University from time to time.

10.5   The evaluation of the credit based seminar will be based on a viva-voce examination conducted by an examiner nominated by the HoD at the end of the semester.

11.   REQUIRMENTS FOR APPEARING FOR END-SEMESTER EXAMINATION

A candidate shall normally be permitted to appear for the end-semester examination of the current semester if he/she has satisfied the semester completion requirements (vide Clause 9) and has enrolled for examinations in all courses of that semester including that of arrears, if any.

12.   PASSING REQUIRMENTS

12.1   A Candidate who secures not less than 50% of total marks (Internal Assessment and End Semester Examinations) prescribed for the courses with a minimum of 50 % of the marks prescribed for the end-semester examination in both theory and Practical courses (including project works) shall be declared to have passed in the Examination.

12.2   If a candidate fails to secure a pass in a particular course, it is mandatory that he / she shall register and reappear for the examination in that course during the next semester when examination is conducted in that course; he / she should continue to register and reappear for the examination till he / she secures a pass.

The internal assessment marks obtained by the candidate in the first appearance shall be retained and considered valid for all subsequent attempts till the candidate secures a pass.

However, from the 3rd attempt onwards if a candidate fails to obtain pass marks (IA + End Semester Examination) as per clause 12.1 then the alternate passing requirement shall be as follows:

The candidate should secure 50% and above the maximum marks prescribed for the university examinations alone.

13.   WEIGHTAGES:

The following will be the weightages for different courses.

(i) Lecture or Lecture cum Tutorial based course:
Internal Assessments	- 50%
Semester Examination	- 50%

(ii) Laboratory based courses
Internal Assessments	- 75%
Semester Examination	- 25%

iii) Project work
Internal Assessments	- 50%
Evaluation of Project Report by external examiner	- 20%
Viva-Voce Examination	- 30%

iv) Seminar/Industrial Training/Summer Projects
Internal Assessment	-100%

14.   AWARD OF LETTER GRADES

14.1   All assessments of a course will be done on absolute marks basis. However, for the purpose of reporting the performance of a candidate, letter grades, each carrying certain points, will be awarded as per the range of total marks (out of 100) obtained by the candidate, as detailed below following a flexible grading system:

Letter grade	Grade Points
S	10
A	9
B	8
C	7
D	6
E	5
U	0

I	0
W	0

A student is deemed to have passed and acquired the corresponding credits in a particular course if he / she **obtained** any one of the following grades: "S", "A", "B", "C", "D", "E".

"U" denotes unsatisfactory grade which requires Reappearance (RA) in the examination for that particular course. (RA will figure in Result sheets & Grade sheets).

The Letter "**W**" denotes **withdrawal** from the course. (Clause 18)

("**W'** will figure in the **Result Sheets and Grade sheets).**

The Letter "I" denotes inadequate attendance (as per clause 11) and hence prevention from writing the End Semester Examination.

("**I'** will figure only in the **Result Sheets).**

14.2   GRADE SHEET:

After results are declared, Grade Sheets will be issued to each student which will contain   the following details:

- **The college in which the candidate has studied**
- **The list of courses enrolled during the semester and the grade scored.**
- **The Grade Point Average (GPA) for the semester and**
- **The Cumulative Grade Point Average (CGPA) of all courses enrolled from first semester onwards.**

GPA for a semester is the ratio of the sum of the products of the number of credits for courses acquired   and the corresponding points   to the sum of the number of credits for the courses acquired in the semester.

$$GPA = \frac{\text{Sum of [Credits acquired x Grade points]}}{\text{Sum of Credits acquired}}$$

CGPA will be calculated in a similar manner, considering all the courses registered from first semester. "U", "I" and "W" grades will be excluded for calculating GPA and CGPA.

$$CGPA = \frac{\sum_{i=1}^{n} C_i GP_i}{\sum_{i=1}^{n} C_i}$$

where **C_i** – is the Credits assigned to the course

GP_i – is the point corresponding to the grade obtained for each Course

n – is number of all Courses successfully cleared during the particular semester in the

case of GPA and during all the semesters in the case of CGPA

15. ELIGIBILITY FOR THE AWARD OF THE DEGREE

15.1 A student shall be declared to be eligible for the award of the Degree if he/she has

- Successfully acquired the required credits as specified in the Curriculum corresponding to his/her Programme within the stipulated time.
- No disciplinary action is pending against him/her.
- Successfully completed the field visit/ industrial training, if any, as prescribed in the curriculum.
- The award of the degree must be approved by the Syndicate.

16. CLASSIFICATION OF THE DEGREE AWARDED

16.1 A candidate who qualifies for the award of the Degree (vide clause 15) having passed the examination in all the courses in his/her first appearance within the specified minimum number of semesters securing a **CGPA of not less than 8.50** shall be declared to have passed the examination in First Class with Distinction. For this purpose the withdrawal from examination (vide clause 18) will not be construed as an appearance. Further, the authorized break of study (vide clause19.3) will not be counted for the purpose of classification**.**

16.2 A candidate who qualifies for the award of the Degree (vide clause 15) having passed the examination in all the courses within the specified minimum number of semesters plus one year (two semesters), securing a **CGPA of not less than 6.50** shall be declared to have passed the examination in **First Class**. For this purpose the authorized break of study (vide clause 19.3) will not be counted for the purpose of classification.

16.3 All other candidates (not covered in clauses 16.1 and 16.2) who otherwise qualify for the award of the degree (vide Clause 15) shall be declared to have passed the examination in **Second Class**.

16.4 A candidate who is absent in semester examination in a course / project work after having enrolled for the same shall be considered to have appeared in that examination for the purpose of classification.

17 REVALUATION

A candidate can apply for revaluation of his/her semester examination answer paper in a theory course, within 2 weeks from the declaration of results, on payment of a prescribed fee through proper application to the Additional Controller of Examinations through the Head of Departments. The Additional Controller of Examination will arrange for the revaluation and the results will be intimated to the candidate concerned through the Head of the Department. Revaluation is not permitted for practical courses, seminars, practical training and for project work.

18. **PROVISION FOR WITHDRAWAL FROM EXAMINATION:**

A candidate may, for valid reasons (medically unfit / unexpected family situations), be granted permission to withdraw from appearing for any course or courses of only one semester examination during the entire   duration of the degree Programme.   Also only one application for withdrawal is permitted for that semester examination in which withdrawal is sought.

Withdrawal application shall be valid only if the candidate is, otherwise, eligible to write the examination and only if it is recommended by the HOD and submitted to the **Director, Academic Courses**, prior to the commencement of the examination in that course or courses.

Withdrawal shall not be construed as an appearance for the eligibility of a candidate for classification of degree under clause 16.1 & 16.2.

(i) "Withdrawal application is to be made within TEN days prior to the commencement of the examination".

(ii) "Withdrawal is NOT permitted for arrears examinations of the previous semesters".

(iii) Notwithstanding the requirement of mandatory TEN days notice, applications for withdrawal for special cases under extraordinary conditions will be considered on the merit of the case.

19. **AUTHORIZED BREAK OF STUDY FROM A PROGRAMME**

19.1 **Break of Study shall be granted only once for valid reasons for a maximum of one year during the entire period of study of the degree programme.** However, in extraordinary situation the candidate may apply for additional break of study not exceeding another one year by paying prescribed fee for break of study.   If a candidate intends to temporarily discontinue the programme in the middle of the semester for valid reasons, and rejoin the programme in a later semester, permission may be granted based on the merits of the case provided he / she applies to the **Director, Academic Courses** in advance, but not later than the last date for registering for the end semester examination of the semester in question, through the Head of the Department stating the reasons therefor and the probable date of rejoining the programme.

However, if the candidate has not completed the first semester of the programme, Break of Study will be considered only on valid medical reasons.

19.2 The candidate permitted to rejoin the Programme after the break shall be governed by the rules and regulations in force at the time of rejoining. Such candidates may have to do additional courses as prescribed by the Director, Academic Courses if the Regulation is changed.

19.3 The authorized break of study will not be counted for the duration specified for passing all the courses for the purpose of classification. (vide Clause 16.1 and 16.2).

19.4 The total period for completion of the Programme reckoned from, the commencement of the first semester to which the candidate was admitted shall not exceed the maximum period specified in clause 3 irrespective of the period of break of study in order that he/she may be eligible for the award of the degree (vide clause 15).

19.5 If any student is detained for want of requisite attendance, progress and good conduct, the period spent in that semester shall not be considered as permitted 'Break of Study' and Clause 19.3 is not applicable for this case.

20. DISCIPLINE

Every student is required to observe disciplined and decorous behaviour both inside and outside the college and not to indulge in any activity which will tend to bring down the prestige of the University / College. In the event of an act of indiscipline being reported, the Registrar shall constitute a disciplinary committee consisting of senior faculty to inquire into the acts of indiscipline and to recommend suitable disciplinary action for approval and implementation.

21. REVISION OF REGULATION AND CURRICULUM

The University may from time to time revise, amend or change the Regulations, scheme of examinations and syllabi and if necessary the same brought to the Academic Council and the Syndicate the approval.

T A B L E - 1

**ELIGIBLE ENTRY QUALIFICATIONS FOR ADMISSION TO P.G PROGRAMMES
OFFERED IN UNIVERSITY DEPARTMENTS**

I. FACULTY OF CIVIL ENGINEERING

Sl.No.	P.G.Programmes Offered	Qualifications for Admission
1.	M.E. Environmental Engineering	B.E./B.Tech (Civil/ Chemical/ Geoinformatics / Bio-Technology / Industrial Bio-Technology) (or) B.E./ B.Tech. (any branch) with 3 years of relevant experience / B.Tech. (Energy and Environment Engineering) of Tamil Nadu Agricultural University, Coimbatore.
2.	M.E. Structural Engineering	B.E./B.Tech. (Civil)
3.	M.E. Hydrology and Water Resources Engineering	B.E./B.Tech. (Civil / Geoinformatics)
4.	M.E. Soil Mechanics and Foundation Engineering	B.E./B.Tech. (Civil)
5.	M.E. Transportation Engineering	B.E./B.Tech. (Civil / Geoinformatics) / B.Arch
6.	M.E. Irrigation Water Management	B.E./ B.Tech.(Civil/ Agriculture Engineering/ Geoinformatics)
7.	M.E. Construction Engineering and Management	B.E./B.Tech. Civil
8.	M.Tech. Remote Sensing	B.E./ B.Tech. (Civil/ Mining/ Agricultural Engineering/ EEE/ ECE/ CSE) (or) Four-year B.Sc. (Agri/ Forestry/ Horticulture/ Fishery) (or) M.Sc. (Geography/ Geology/ Physics) **Note:** The candidate must have studied at least two courses of Mathematics at the level of UG / PG in the case of B.Sc. (4 years) and M.Sc. B.Tech. (Energy and Environment Engineering) of Tamil Nadu Agricultural University, Coimbatore. B.E. (Agricultural and Irrigation Engineering)
9.	M.E. Environmental Management	B.E. / B.Tech (Civil/ Chemical/ Geoinformatics (or) B.E. / B.Tech. (all branches) with 3 years relevant experience. B.Tech. (Energy and Environment Engineering) of Tamil Nadu Agricultural University, Coimbatore.
10.	M.E. Geoinformatics	B.E./B.Tech.(Civil / Geoinformatics) Or M.Sc. Applied Geology / B.Tech. (Energy and Environment Engineering) of Tamil Nadu Agricultural University, Coimbatore.
11.	M.E. Integrated Water Resource Management	B.E./ B.Tech. (Civil/ Geo Informatics/ Agriculture Engineering). B.Tech. (Energy and Environment Engineering) of Tamil Nadu Agricultural University, Coimbatore. B.E. (Agricultural and Irrigation Engineering)

12	M.Tech. Coastal Management	B.E./B.Tech (Civil / Marine / Geo-informatics / Chemical Engineering / EEE* / ECE* / Biotechnology*). (or)
		Four-Year B.Sc* (Agriculture/ Forestry/ Fishery). (or) M.Sc. (Geology/ Applied Geology/ Marine Biology/ Oceanography / Environmental Science / Oceanography and Coastal Area Studies). B.Tech. (Energy and Environment Engineering) of Tamil Nadu Agricultural University, Coimbatore.
		NOTE:
		Candidates mentioned under this qualification category (*) require a minimum of 2 years experience in the field of Coastal Management for admission to M.Tech Coastal Management Programme.

II. FACULTY OF MECHANICAL ENGINEERING

Sl.No	P.G. Programmes Offered	Qualifications for Admission
1.	M.E. Engineering Design	B.E./B.Tech. (Mechanical/Auto/ Production/ Manufacturing/Industrial Engg./ Mechatronics / Marine Engineering)
2.	M.E. Industrial Engineering	B.E./B.Tech.(All branches)
3.	M.E. Computer Integrated Manufacturing	B.E./B.Tech. (Mechanical/Auto/Production/ Manufacturing/Computer Integrated Manufacturing./ Metallurgy/ Industrial Engg / Mechatronics)
4.	M.E. Internal Combustion Engineering	B.E./B.Tech. (Mech/Auto./ Mechatronics / Marine Engineering)
5.	M.E. Refrigeration and Air Conditioning Engineering	B.E./B.Tech. (Mech./Auto/Marine Engg.)
6.	M.E. Energy Engineering	B.E./B.Tech. (Mech./Auto/E.E.E./ Chemical/Petro-chemical / Petroleum Engg./ Petroleum Refining & Petro-Chemical Engineering)
		B.Tech. (Energy and Environment Engineering) of Tamil Nadu Agricultural University, Coimbatore.
7.	M.E. Product Design and Development	B.E./B.Tech (Mech./Auto. / Mfg. / Production / Indl.Engg. / Mechatronics)
8.	M.E. Computer Aided Design	B.E./B.Tech (Mech./Auto. / Mfg. / Production / Industrial Engg / Mechatronics / Marine / Aeronautical.)

9.	M.E. Quality Engineering and Management	B.E / B.Tech. (All branches)
10.	M.E. Printing and Packing Technology	B.E/B.Tech (Printing Technology/ Mechanical/ Manufacturing/ Production Engineering/ Production Technology/ Chemical Engineering/ Chemical Technology/ Polymer Engg.,/ Polymer Technology/ Plastic Technology/ Rubber and Plastic Technology/ Polymer Science and Engineering/ B.Tech Packing Technology)
11.	M.E. Mechatronics	B.E / B.Tech (Mech./ Auto./ Production / Electronics / ECE / Instrumentation / EEE / IC / EI / Aeronautical / CSE / Mechatronics / Manufacturing)
12.	M.E. Aeronautical Engineering	B.E / B.Tech (Aeronautical / Mech. / Civil / Mechatronics)
13.	M.E. Manufacturing Engineering	B.E / B.Tech (Prod. / Auto. / Mech. / Indl. / Metallurgy / Mfg. / Mechatronics)
14.	M.E. Manufacturing System Management	B.E / B.Tech (Mech. / Mfg. / Industrial / Printing / Auto. / Prod. / Mechatronics / Metallurgy / Mining)
15.	M.E. Automobile Engineering	B.E / B.Tech (Auto. / Mech. / Production / Mfg. / Mechatronics
16.	M.E. Solar Engineering (from 2010 -2011)	B.E / B.Tech. Mechanical Engineering /EEE / Energy Engg / Energy and Environmental Engineering /Mechanical and Energy Engineering / Agricultural and Irrigation Engineering / Agricultural Engineering

III. FACULTY OF ELECTRICAL ENGINEERING

SI.No	P.G. Programmes Offered	Qualifications for Admission
1.	M.E. Power Systems Engg.	B.E./B.Tech. (EEE / I&C / E&I)
2.	M.E. High Voltage Engg.	B.E. /B.Tech. (EEE / I&C / E&I)
3.	M.E. Control & Instrumentation	B.E. / B.Tech. (EEE / ECE / E&I / I&C / Electronics/ Instrumentation)
4.	M.E. Power Electronics & Drives	B.E. / B.Tech. (EEE / ECE / E&I / I&C / Electronics/ Instrumentation)
5.	M.E. Electrical Drives and Embedded Controls	B.E./B.Tech (EEE / ECE / Electronics / Instrumentation / E&I / I&C)
6.	M.E. Embedded System Technologies	B.E. (EEE/ECE/CSE/ I&C/E&I) B.Tech. (IT/Electronics/Instrumentation)
7.	M.E. Instrumentation Engineering	B.E / B.Tech (Electronics / Instrumentation / ECE / EEE / E&I / I&C)

IV. FACULTY OF INFORMATION AND COMMUNICATION ENGINEERING

Sl.No.	P.G. Programmes Offered	Qualifications for Admission*
1.	M.E. Applied Electronics	B.E./B.Tech. (EEE / ECE / Electronics/ E&I / I&C / Instrumentation / Biomedical / Biomedical Instrumentation / B.E. Medical Electronics)
2.	M.E. Medical Electronics	B.E /B.Tech. (ECE/Electronics /E&I/I&C / Instrumentation/ Biomedical / Biomedical Instrumentation / B.E. Medical Electronics)
3.	M.E. Optical Communication	B.E./B.Tech. (ECE / Electronics)
4.	M.E. Communication Systems	B.E. / B.Tech. (ECE / Electronics)
5.	M.E. Computer Science and Engineering	B.E./B.Tech. (EEE / ECE / Electronics / IT / CSE / I&C / E&I / Instrumentation) or M.C.A. * or M.Sc. 5 years integrated (IT / CSE / Software Engineering) B.E. (Computer Hardware and Software)
6.	M.E. Software Engineering	B.E/B.Tech (CSE / IT) / M.C.A. * or M.Sc. 5 years integrated (IT / CSE / Software Engineering) B.E. (Computer Hardware and Software)
7.	Master of Computer Applications (M.C.A.)	Any degree The candidate should have studied core mathematics / statistics as one of the subject at the degree level.
8.	M.Tech. Laser & Electro Optical Engg.	M.Sc. (Physics/Material Science/ Electronics) Or B.E./B.Tech. (ECE/EEE/Electronics/E&I/I&C/ Instrumentation)
9.	M.E. VLSI Design	B.E./B.Tech. (ECE/EEE/Electronics/Instrumentation/ E&I/I&C/CSE/IT)
10.	M.E. Multimedia Technology	B.E./B.Tech. (CSE /IT /EEE /ECE /Electronics)
11.	M.Tech. Information Technology	B.E/B.Tech (EEE / ECE / IT / CSE / Electronics / B.E. Computer Hardware and Software)
12.	M.E. Systems Engg. & Operations Research	B.E./B.Tech (any branch) or M.Sc (Maths/Statistics) M.Sc. 5 years Integrated (CS/IT/Software Engineering or MCA*)
13.	M.E. Bio Medical Engineering	B.E/B.Tech (All branches) (or) M.Sc. (Medical Physics)
14.	M.E. Avionics	B.E / B.Tech (Aero. / Electronics / Instrumentation. / EEE / ECE / E&I / I&C) (or) M.Sc. ** (Physics / Electronics / Computer Science) and having a minimum of two years experience in an approved organization.
15.	M.E. Communication and Networking	B.E / B.Tech (Electronics / ECE / CSE / IT)
16.	M.E. Computer Science & Engineering with specialization in Knowledge Engineering	B.E / B.Tech (EEE / ECE / Electronics / IT / CSE / E&I / I&C / Instrumentation (or) M.Sc (5 years) Software Engg. / IT / CS (or) M.C.A*

V. FACULTY OF TECHNOLOGY

Sl. No.	P.G. Programmes Offered	Qualifications for Admission
1.	M.Tech. Chemical Engineering	B.E./B.Tech (Chemical Engg./Electro-Chemical Engg./ Pharmaceutical Tech./Petroleum Engg./Petroleum Tech./ Food Tech./Food Processing Engg./Petrochemicals/Petroleum Refining & Petro Chemicals)
2.	M.Tech. Textile Technology	B.E./B.Tech. (Textile Technology./ Textile Chemistry)
3.	M.Tech. Ceramic Technology	B.E / B.Tech (Chemical Engg. / Ceramic Tech. / Metallurgy / Ceramic & Cement Tech. / Petroleum Tech. / Petroleum Engg. / Petrochemicals / Petroleum Refining & Petro Chemicals) (or) M.Sc (Material Science)
4.	M.Tech. Petroleum Refining & Petro-Chemicals	B.E / B.Tech (Chemical Engg. / Petroleum Refining & Petro Chemical / Petroleum Tech. / Petroleum Engg. / (or) M.Sc (Petroleum Technology)
5.	M.Tech. Polymer Science & Engineering	M.Sc (Polymer Science / Material Science / Applied Chemistry / Chemistry) (or) B.E / B.Tech (Polymer / Chemical / Plastic / Textile / Mechanical)
6.	M.Tech. Environmental Science & Tech.	B.Tech. (Chemical Engg. / Industrial Bio tech / Biotech / Chemical & Electro Chemical Engg. / Petroleum Tech / Petroleum Engg. / Petrochemicals / Petroleum Refining & Petro Chemicals) and B.E. Civil Engineering & Geoinformatics (or) M.Sc (Applied Chemistry, Environmental Chemistry / Bio Technology)
7.	M.Tech. Biotechnology	B.Tech (Chemical Engg. / Biotechnology/ Bioengineering / Pharmaceutical Tech. Engg. / Biochemical /Leather Technology/ Industrial Bio-Technology/ Petroleum Technology/ Petroleum Engg/ Petro-Chemicals/Petroleum Refining Petro-Chemicals Or B.Pharm Or / M.Sc Life Sciences (With Mathematics in XII Level)
8.	M.Tech. Bio Pharmaceutical Technology	B.Tech (Chemical Engg. / Biotechnology/ Industrial Bio-Technology /Biomedical Engg. / Bioengineering / Pharmaceutical/ Biochemical Engg) Or

SI. No.		Qualifications for Admission
		B.Pharm Or / M.Sc (Biochemistry/ Microbiology/ Genetic Engineering/ Bio Technology/ Genetice and Molecular Biology)
9.	M.Tech. Sugar Engineering	B.E / B.Tech (Civil / Mech. / Electrical / Chemical / Agri.) (Exclusively for Engineers working in Tamil Nadu Co-operative Sugar Mills)
10.	M.Tech. Leather Technology	B.E / B.Tech (Leather Technology)
11.	M.Tech. Footwear Science & Engineering	B.E. / B.Tech (Leather Technology / Mechanical Engineering / Textile Technology (Textile Chemistry))
12.	M.Tech. Nano Science and Technology	B.E. / B.Tech. (Mech. / ECE / Ceramic / Engineering Physics / Biotech. / Chemical / Biomedical) Or M.Sc. (Physics / Materials Science / Chemistry / Applied Chemistry / Bio Chemistry / Biotechnology) with Mathematics as one of the subjects at B.Sc. Level.
13.	M.Tech. Food Technology	B. E. / B. Tech. (Food Technology / Biotechnology / Pharmaceutical Technology / Chemical Engineering / Mechanical Engineering / Agriculture Engineering / Dairy Technology) Or M. Sc. (Food Science & Nutrition / Biotechnology / Biochemistry / Microbiology / Horticulture / Fisheries Science)
14.	M.Tech. Rubber Technology (from 2010 – 2011)	B.E. / B.Tech (Rubber Technology and / or Plastic Technology / polymer Technology / Mechanical Engineering / Chemical Engineering / Material Science and Engineering / Automobile Engineering / Production Engineering Or M.Sc. Degree(Chemistry / Applied Chemistry / Polymer Chemistry / Material Science

VI. FACULTY OF SCIENCE AND HUMANITIES

SI. No.	P.G. Programmes Offered	Qualifications for Admission
1.	M.Sc. Mathematics	B.Sc. Mathematics / Applied Science
2.	M.Sc. Materials Science	B.Sc. Physics with Mathematics as an ancillary course / Applied Science
3.	M.Sc. Medical Physics	B.Sc. Physics with Mathematics as ancillary courses / Applied Science.
4.	M.Sc. Applied Chemistry	B.Sc. Chemistry with Mathematics and Physics as ancillary courses / Applied Sciences
5.	M.Sc. Applied Geology	B.Sc. Geology/Applied Geology/ Physics/ Chemistry/ Environmental Science / Applied Science
6.	M.Sc. Environmental Science	B.Sc. (Environmental Science / Environmental Management/Microbiology/Botany/Zoology/Biology/ Bio-Chemistry/ Chemistry / Plant biology and Plant Biotechnology)

7.	M.Sc. Electronic Media	Any B.Sc. degree / B.A Journalism / Mass Communication / Visual Communication
8.	M.Sc. Computational Biology (from 2010 – 2011)	B.Sc. Physics, B.Sc. Chemistry, B.Sc. Mathematics B.Sc. Biotechnology, B.Sc. Biochemistry, B.Sc. Microbiology B.Sc. Plant Biology and Biotechnology, B.Sc. Animal Biology and Biotechnology with Mathematics at +2 level Compulsory B.Tech. Industrial Biotechnology, B.Tech. Biotechnology B.Tech. Pharmaceutical Technology, B.Tech. Food Technology B.Tech. Chemical Engineering B.E / B.Tech. Information Technology, B.E /B.Tech. Information Science B.E / B.Tech. Computer Science and Engineering B.E / B.Tech. Electrical and Electronics Engineering B.E / B.Tech. Electronics and Communication Engineering B.E / B.Tech. Mechanical Engineering B.E / B.Tech. Biomedical Engineering B.E / B.Tech. Electronics and Instrumentation Engineering

VII. FACULTY OF MANAGEMENT SCIENCES

SI. No.	P.G. Programmes Offered	Qualifications for Admission
1.	M.B.A.	Qualification for admission shall be a pass in any recognized Bachelor's Degree of minimum 3 years duration in any discipline after 10+2 school level
2.	M.B.A. Hospitality Management (from 2010 – 2011)	**ANY BACHELOR'S DEGREE** (10+2+3 or 4 years) or (10+3 years diploma + 3 years) pattern

TABLE – 2
M.E. / M.TECH. / M.C. A. / M.B.A. / M.SC. DEGREE PROGRAMMES OFFERED IN THE
UNIVERSITY DEPARTMENTS

SI. No.	Name of the Programme	MINIMUM TOTAL CREDITS *
FACULTY OF CIVIL ENGINEERING		
1.	M.E. Structural Engineering	**70**
2.	M.E. Construction Engineering and Management	**68**
3.	M.E. Irrigation Water Management	**68**
4.	M.E. Hydrology and Water Resources Engineering	**68**
5.	M.E. Environmental Engineering	**67**
6.	M.E. Transportation Engineering	**67**
7.	M.E. Soil Mechanics and Foundation Engineering	**68**

8.	M.E. Environmental Management	69
9.	M.E. Geomatics	68
10.	M.Tech. Remote Sensing	69
11.	M.E. Integrated Water Resource Management	67
12.	M.Tech. Coastal Management	68
FACULTY OF MECHANICAL ENGINEERING		
13.	M.E. Internal Combustion Engineering	68
14.	M.E. Energy Engineering	69
15.	M.E. Computer Integrated Manufacturing	69
16.	M.E. Refrigeration and Air Conditioning Engineering	70
17.	M.E. Engineering Design	70
18.	M.E. Aeronautical Engineering	70
19.	M.E. Automobile Engineering	69
20.	M.E. Industrial Engineering	70
21.	M.E. Manufacturing Engineering	68
22.	M.E. Mechatronics	68
23.	M.E. Manufacturing System Management	69
24.	M.E. Product Design and Development	72
25.	M.E. Quality Engineering Management	67

* **Minimum Total Credits to be earned by the student admitted to the particular PG programme to become eligible for the award of Degree under Clause 3.5 of Regulations 2009 (PG).**

SI. No.	Name of the Programme	MINIMUM TOTAL CREDITS *
26.	M.E. Computer Aided Design	71
27.	M.E. Printing and Packing Technology	69

28.	M.E. Aerospace Technology
	    LVT
	    ST
		68
		67

29.	M.E. Solar Energy (from 2010 -2011)	69
FACULTY OF ELECTRICAL ENGINEERING		
30.	M.E. Power Systems Engineering	69
31.	M.E. Power Electronics and Drives	66
32.	M.E. Embedded System Technologies	68
33.	M.E. High Voltage Engineering	67
34.	M.E. Control and Instrumentation	69
35.	M.E. Instrumentation Engineering	68
36.	M.E. Electrical Drives and Embedded Control	67
FACULTY OF INFORMATION AND COMMUNICATION ENGINEERING		
37.	M.E. Computer Science and Engineering	65
38.	M.E. Computer Science and Engineering with specialization in Knowledge Engineering and Computational Linguistics	67
39.	M.E. Software Engineering	65
40.	M.E. Communication Systems	68
41.	M.E. Optical Communication	68
42.	M.E.VLSI Design	68
43.	M.E. Medical Electronics	68
44.	M.E. Multimedia Technology	65
45.	M.E. Bio Medical Engineering	68
46.	M.E. Communication and Networking	68
47.	M.E. Avionics	68
48.	M.E. Applied Electronics	68
49.	M.Tech. Information Technology	65
50.	M.Tech. Laser and Electro Optical Engineering	69
51.	Master of Computer Applications (M.C.A.)	119

Sl. No.	Name of the Programme	MINIMUM TOTAL CREDITS *
52.	M.E. System Engineering and Operation Research	69
53.	M.E. (Computer Science and Engineering) Web and Modular Based Credit Banking System	65
FACULTY OF TECHNOLOGY		
54.	M.Tech. Chemical Engineering	68
55.	M.Tech. Textile Technology	65
56.	M.Tech.Ceramic Technology	68
57.	M.Tech. Petroleum Refining and Petro-Chemicals	66
58.	M.Tech. Polymer Technology	65
59.	M.Tech. Environmental Science and Technology	68
60.	M.Tech. Biotechnology	72
61.	M.Tech. Bio Pharmaceutical Technology	72
62.	M.Tech. Plastic Technology	69
63.	M.Tech. Leather Technology	68
64.	M.Tech. Footwear Science and Engineering	67
65.	M.Tech. Nano Science and Technology	73
66.	M.Tech. Food Technology	71
67.	M.Tech. Sugar Engineering	64
68.	M.Tech. Rubber Technology	68
FACULTY OF SCIENCE AND HUMANITIES		
69.	M.Sc. Applied Mathematics (2 years)	80
70.	M.Sc. Medical Physics (2 years)	78
71.	M.Sc. Applied Chemistry (2 years)	80
72.	M.Sc. Applied Geology (2 years)	80
73.	M.Sc. Materials Science (2 years)	79
74.	M.Sc. Science and Technology Communication(2 years)	78
75.	M.Sc. Environmental Science (2 years)	78
76.	M.Sc. Electronics Media (2 years)	79
77.	M.Sc. Computational Biology (2 years)	75
78.	Master of Business Administration (MBA)	90

* **Minimum Total Credits to be earned by the student admitted to the particular PG programme to become eligible for the award of Degree under Clause 3.5 of Regulations 2009 (PG).**