

# B.Tech & M.Tech

## Course Credit Regulations and Grading System

2009 - 2010



INSTITUTE OF  
**TECHNOLOGY AND MANAGEMENT™**

An Autonomous Institute under Maharshi Dayanand University, Rohtak  
Approved by A.I.C.T.E, Ministry of HRD Govt. of India



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# **COURSE CREDIT REGULATIONS AND GRADING SYSTEM**

**(ITM AUTONOMOUS INSTITUTE)**

## **1. INTRODUCTION TO CREDIT SYSTEM**

- Instructional work at ITM Gurgaon is carried out using credit system of study in semester based system. The salient features of the credit system are:
  - i. Flexibility for students to progress at suitable pace depending on individual interest and ability.
  - ii. Continuous evaluation of students' progress.
  - iii. Award of grades in a course depending on overall performance of a student.
  - iv. Performance measurement by number of earned credits (E.C.), semester grade point average (SGPA) and cumulative grade point average (CGPA). The use of grades helps in achieving a reasonable spread of total marks for a grade and in reducing variations due to evaluation by different teachers.
  - v. Award of degree to a student on the basis of total E. C.s and value of C.G.P.A.
  
- There would be two regular semesters for instructional and evaluation work in each academic year, in addition to summer semester .The odd numbered semesters (I, III, V, VII) would start in July on a specified date and end in November on a date as per the yearly academic calendar. The even numbered semesters ( II,IV,VI, VIII ) would start in January on a specified date and end in May on a date as per the yearly academic calendar . The summer semester would cover practical training in industry / holding of regular classes in some courses where possible as per rules for students who are unable to clear the courses in regular semesters. In such courses, all regulations for various requirements remain the same as for those in a regular semester.

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- The present documents gives course credit regulations and grading system for UG ( Under-graduate B.Tech )and PG ( Post Graduate M.Tech) degrees in Engineering.. The regulations for Ph.D. degree and other degrees will be given separately.
- The credit system including grading award system are now followed at leading institutes in India and abroad . Flexibility in course offering and responsibility in grade evaluation are the hall marks of the systems. The regulations have to be viewed in that context. *In case of any clarification on any point mentioned in this document, the interpretation of the Dean (Academic) of ITM will be treated as FINAL.*

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## 2. COURSE STRUCTURE AND CREDIT SYSTEM

### 2.1. Programmes Offered

ITM (Autonomous), Gurgaon offers a wide range of academic programmes for students with various technical and managerial backgrounds. Admission to these programmes are based on AIEEE which is a reputed national level entrance test followed by personal interviews in some cases. Detailed information in this regard is provided Separately.

The various programmes offered by the ITM (Autonomous), Gurgaon are classified as undergraduate and postgraduate programmes. All the undergraduate programmes admit 10+2 passed students while the students are admitted to the postgraduate programmes after they have obtained atleast a Bachelor degree. Research programmes for Ph. D degree are to be separately covered. The information in the tabular form regarding various programmes with their specialization is listed below:

#### 2.1.1 Undergraduate Programmes

DEPARTMENT	SPECIALIZATION	CODE
CIVIL ENGINEERING	B. TECH. IN CIVIL ENGINEERING	CE1
COMPUTER SC. & AND ENGG.	B. TECH. IN COMPUTER SCIENCE & ENGINEERING	CS1
	B. TECH. IN INFORMATION TECHNOLOGY	IT1
ELECTRONICS AND COMMUNICATION ENGG.	B. TECH. IN ELECTRONIC & COMMUNICATION ENGINEERING.	EC1
	B. TECH. IN ELECTRONICS & INSTRUMENTATION ENGINEERING	EI1
MECHANICAL & AUTOMOBILE ENGG.	B. TECH. IN MECHANICAL ENGINEERING	ME1
	B. TECH. IN AUTOMOBILE ENGINEERING	AE1

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### 2.1.2 Postgraduate Programmes

DEPARTMENT	SPECIALIZATION	CODE
COMPUTER SC. & ENGG.	M. TECH. IN COMPUTER SCIENCE & ENGG.	CS5
	M. TECH. IN SOFTWARE ENGG.	CS6
ELECTRONICS AND COMMUNICATION ENGG.	M. TECH. IN ELECTRONICS & COMMUNICATION ENGG.	EC5
MECHANICAL & AUTOMOBILE ENGG.	M. TECH. IN ROBOTICS & AUTOMATION	ME5
MANAGEMENT STUDIES	MBA	MS5

### 2.2 Academic Departments

Each course is offered by an academic department. Some courses are jointly offered by multiple departments and are called interdisciplinary courses. The various academic departments are given a unique two-letter code which is shown in the table below.

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NAME OF ACADEMIC DEPARTMENT	BRANCH NAME	CODE
DEPARTMENT OF APPLIED SCIENCE & HUMANITIES	APPLIED SCIENCES	AS
	HUMANITIES	HM
DEPARTMENT OF CIVIL ENGG.	CIVIL ENGG.	CE
DEPARTMENT OF CSE & IT	COMPUTER SCIENCE ENGG.	CS
	INFORMATION TECHNOLOGY	IT
	SOFTWARE ENGINEERING	SE
DEPARTMENT OF ECE & EI	ELECTRONICS & COMMUNICATION ENGG.	EC
	ELECTRONICS & INSTRUMENTATION ENGG.	EI
DEPARTMENT OF MECHANICAL & AUTOMOBILE ENGG.	MECHANICAL ENGG.	ME
	AUTOMOBILE ENGG.	AE
	ROBOTICS & AUTOMATION	RA
DEPARTMENT OF MANAGEMENT STUDIES	MANAGEMENT STUDIES	MS

### 2.3 Course Numbering Scheme

Each course at ITM (Autonomous) has a unique number, called as COURSE CODE, which consists of three alphabets, followed by three numerals.

Example and Explanation of a Course Code:-

In the above course code, 

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- i. The first two alphabets combined (from left) denote the 'branch code' of the concerned department offering this course (See section 2.1).
  - ii. The third alphabet character (from left) denotes the 'nature' of this course. Please see the table shown below for the details about the 'nature' of the various courses.
  - iii. The fourth character from left is a numeral which denotes the level of the course which determines the maturity required for registering for this course.
  - iv. **100-400 level courses:** Core and elective courses for UG programmes. These courses are not open to any PG student.
  - v. **500-600 level courses:** Core and elective courses for PG programmes. These courses are not open to any UG student.
  - vi. Last two numerals combined denote the unique identification number for the course. Odd number courses will normally run in odd semesters and even number courses will normally run in even semesters except those which are having zero at the end. The course having zero as the last numeral can run in either semesters.

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Codes for the nature of the course are as follows:

<b>NATURE CODE</b>	<b>NATURE DESCRIPTION</b>
<b>L</b>	<b>ALL LECTURE COURSES HAVING A MINIMUM OF 2 LECTURE PER WEEK WITH/WITHOUT TUTORIAL/PRACTICAL, BUT EXCLUDING N AND V NATURE OF COURSES. (OTHER THAN LECTURE PERIODS, THESE COURSES CAN HAVE TUTORIAL AND PRACTICAL PERIODS). EX. L-T-P STRUCTURES 3-0-0, 3-1-2, 3-0-2, 2-0-0, ETC.</b>
<b>P</b>	<b>LABORATORY BASED COURSES, USUALLY WITHOUT ANY LECTURE ( OR HAVING AT MOST 1 LECTURE) PER WEEK, EX. PRACTICAL OR LABORATORY WORK WITH LTP STRUCTURES LIKE 1-0-3, 0-0-4, 0-1-3, 1-2-6, ETC.</b>
<b>D</b>	<b>PROJECT COURSES LEADING TO DISSERTATION (MAJOR PROJECT, MINOR PROJECT, MINI PROJECT) EX. LTP STRUCTURES 0-0-10, 0-0-6, ETC.</b>
<b>T</b>	<b>INDUSTRIAL OR IN-HOUSE OR PRACTICAL TRAINING TYPE COURSES</b>
<b>C</b>	<b>COLLOQUIUM (OR SEMINAR)</b>
<b>R</b>	<b>PROFESSIONAL PRACTICE</b>
<b>N</b>	<b>INTRODUCTION TO THE PROGRAMME OR INTRODUCTION TO HUMANITIES AND SOCIAL SCIENCES, ETC.</b>
<b>S</b>	<b>INDEPENDENT STUDY COURSES</b>
<b>V</b>	<b>VALUE ADDED COURSES</b>

## 2.4 Credit System

The details regarding various features, methodologies and regulations of the semester based credit system are listed in subsequent sub-sections.

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### 2.4.1 Course Credits Assignment

Each course, except few special courses, has a certain number of credits assigned to it depending upon the needs for its Lecture, Tutorial and Practical periods in a week. This weightage is also indicative of the academic expectation that includes in-class contact and self-study outside of class hours. In a semester-scheme of a Programme, some of the courses are incorporated with heavy-weight of academic importance, some of the courses are incorporated with medium-weight of academic importance, and few courses are incorporated with low-weight. The Experts allot an appropriate weight (L-T-P) to the course at the time of designing the scheme/syllabus of the Programme. Fixing L-T-P for a course is a kind of expert-decision.

The "Credit" of the course is computed from the weight (L-T-P) of the course and thus Credit of a course gets indicated in the scheme of the programme. The credits for courses can be computed from its components as below:-

*Lectures and Tutorials:* One lecture or tutorial period per week per semester is assigned **one** credit.

*Practical/Laboratory:* One laboratory period per week per semester is assigned **half** credit.

The courses which are without any credit are referred to as Non-Credit (NC) courses. The **Credit** of a course thus depends on its L-T-P structure.

Examples:-

1. Consider a course having its L-T-P structure as (3-1-2). The Credit for this course will be  $3+1+1 = 5$  credits.
2. Consider a course having its L-T-P structure as (2-0-1). The Credit for this course will be  $2+0+.5 = 2.5$  credits.

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### **2.4.2 Earned Credits**

At the end of Term End Examination, a letter grade is awarded to a student in each course for which he/she had registered. On obtaining any pass grade or F grade in this course, the student owns the course-credits as his/her **'earned credits'** corresponding to this course applicable for his/her count while computing SGPA or CGPA. A student's performance is measured by the number of 'earned credits' by him/her, then by the "Points earned" from each amount of "earned credit" and finally by the measure "grade point average". A student has the option of auditing some courses. Grades obtained in the audit courses are not counted for computation of grade point average. However, a pass grade is essential for earning credits from an audit course. A minimum number of total earned credits are required in a semester for continuation of registration at any stage to the higher semester (see section-10 for details). A minimum number of total earned credits are also required in order to qualify for a degree at the end of eighth (and hence all eight) semesters.

### **2.4.3 Pre-requisites**

Some courses, other than 100 level courses, have pre-requisites mentioned, which may be another course or some other requirement. A student who has not obtained a pass grade in the pre-requisite or has not satisfied any indicated requirement will not be eligible to register for that course.

### **2.4.4 Course Content Description**

Course content description consists of course code, title of the course, credit and L-T-P, pre-requisite and description of the content. Content description for all the courses are given in the section—. An example is shown here:

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## **MEL306: MACHINE DESIGN II**

**(3 CREDITS; 2-0-2)**

**PRE-REQUISITE COURSE: MEL305**

**DESIGN CONSIDERATIONS FOR FORGING, CASTING AND MACHINING, DESIGN FOR DIFFERENT TYPES OF FLUCTUATING LOADS, STRESS CONCENTRATION, NOTCH SENSITIVITY, FACTORS AFFECTING ENDURANCE LIMIT, DESIGN FOR FATIGUE, GOODMAN AND SODERBERG CRITERION, MINER'S EQUATION, DESIGN OF HELICAL AND LEAF SPRINGS, SURGING OF SPRINGS, SELECTION OF ROLLER AND BALL BEARINGS FROM MANUFACTURER'S CATALOGUE, DESIGN OF JOURNAL BEARINGS USING RAIMONDI AND BOYD'S CHARTS, HYDRODYNAMIC LUBRICATION, SELECTION OF LUBRICANTS AND THEIR PROPERTIES, DESIGN OF GEARS - SPUR, HELICAL, BEVEL AND WORM GEARS, LEWIS EQUATION FOR BEAM STRENGTH, DYNAMIC AND WEAR LOAD CHECK AS PER BUCKINGHAM EQUATION, DESIGN OF MACHINE PARTS USING CAD/PRO.**

### **2.4.5 Programme Coordinator**

Programme coordinator is a senior faculty member of the offering department who will coordinate each and every activities related to that programme with all the concerned persons/departments/sections/offices of the institute.

### **2.4.6 Course Coordinator**

Every course is usually coordinated by a faculty member of the offering Department. He/she has the full responsibility for proper conduction of the classes of that course, coordinating the academic work with other faculty members involved in teaching of that course, moderation of grades and submitting all the required information of that course to the programme coordinator in time. In case of any difficulty faced by any student related to a course, the student is expected to approach the respective course coordinator for advice and clarification.

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### **3. REGISTRATION AND ATTENDANCE RULES**

#### **3.1 Registration**

##### **3.1.1 Purpose**

The purpose of registration is to include the name of a student in the roll lists of the courses that the student wishes to study. Registration is a mandatory procedure to be completed personally by the student for each semester on the specified date as given in the Academic Calendar. If due to serious medical reasons, a student is unable to come personally on the date of registration, he/she may make a written request to the Dean Academic along with a medical certificate and authorize in writing a close relation (parents/brother/sister) to register for the chosen courses. If the Dean accepts the request, registration may be done as per rules.

##### **3.1.2 Late Registration**

No late registration will be possible under any circumstances.

##### **3.1.3 Course Advice**

Before the registration, each student must meet the programme coordinator/adviser appointed by the concerned HOD to choose the appropriate courses keeping in view the past performance, his/her interest in a course, backlog of courses etc.

##### **3.1.4 Credit Course**

Credit courses are the courses having weightage / credits and the points earned in these courses are used in computation of SGPA & CGPA. Credit courses are placed in various categories like Basic Sciences, Engineering Arts and Science courses, Dept. Core courses, Dept. Elective courses, Emerging area Elective, Free electives etc. as per the requirement of the scheme of the programme concerned.

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### **3.1.5 Audit Course**

In addition to Credit courses in various categories like Basic science, Engineering Art and Science courses, Dept. Core courses, Dept. Elective courses, Free electives etc. as per the requirement specified for a discipline, a student may take some Audit courses depending on personal choice of a student. The courses do not carry any earned credits if taken in the audit category. However, a grade (audit pass AP or audit fail AF) will be awarded depending on fulfillment of requirement as per specified norms and the awarded grade will be mentioned in the grade card.

### **3.1.6 Practical Training**

Before going on Practical training, a student must register for practical training course with the approval of Department Training Coordinator (DTC) concerned and TPO of the institute. A report in the specified format must be submitted within 14 days of the regular semester immediately following the training period. A regular grade will be awarded after evaluation process which includes presentation of the report before the department committee convened by the DTC.

### **3.1.7 Value Added Course:**

These courses are special topic courses meant to enhance knowledge of students in courses other than the courses meant for degree courses e.g. Personality Development, Software based courses, knowledge courses etc. Such courses will be run during the semester in modular fashion and will not carry any credit. However, these are compulsory courses and will be evaluated by test. The performance will be indicated by satisfactory grade (S) or non satisfactory grade (NS).

### **3.1.8 Minimum Number of Student in a Course**

No Dept. elective course will run if the number of students registered for a course is less than one third of the strength of a class. This may also depend on the availability of a suitable faculty member in the area of the elective. If on the day of registration, the number of those registered is less

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than the above, the course will be dropped and registration of the students in the concerned course will be cancelled. They may however opt for the available courses on the next working day following the date of registration.

### **3.2 Attendance rules**

A student is expected to attend all lectures, tutorials and practical classes.

#### **3.2.1 Requirements**

In order to account for illness and contingencies of a serious and unavoidable nature, the attendance requirement will be a minimum of 70 % in a course in a semester calculated till the last teaching day. . This requirement will not be relaxed under any circumstances what so ever.

#### **3.2.2 Attendance Calculation Norms**

For the purpose of calculating attendance in each course, the attendance in the number of scheduled lecture class, tutorial class and practical class (regardless of contact hours in the scheduled classes) will be added.

#### **3.2.3 Detained student**

The ineligible student will be placed in ' Detained 'category for the course and the registration for that particular course will be cancelled and ' Detained 'will be mentioned in the grade sheet . The student has to again register for the same course in subsequent regular semester as early as possible, provided CGPA requirement is met and time table permits, if it is a Dept. Core category or a compulsory course as per requirements of the concerned discipline concerned. Otherwise, the course can be substituted by another course in the same category if it happens to be an elective course or a non-compulsory course provided the course can be run keeping in view other constraints like

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- i. Minimum number of students in the course, as decided from time to time.
  - ii. Faculty availability and
  - iii. Availability of Slot / Time table.

### **3.2.4 Midterm Warning for Short attendance**

There will be a provision for issuing a written warning to the students if in any course, his/her attendance falls below 70 % in any course till the completion of approximately half the number of teaching days in a semester as mentioned in the Calender for the semester concerned.

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## 4. GRADING SYSTEM

### 4.1 Introduction

The grading system reflects a student's proficiency in the course. The grade awarded to a student in a course will be based on the performance of the student in minor tests (assignment, viva-voce, lab work, seminar, workshop presentations, group discussions, quiz, etc. whichever be applicable as per scheme) and in the major test, at the end of the semester (or at the end of the Summer Zone if there are any courses to be taught during summer).

In a course, every candidate will be examined as per the syllabus of the concerned programme approved by the Academic Council from time to time. The credits and contact hours per week have been specified for each course in the syllabus.

Appearing in the major test of a course will be allowed to a regular student if:-

- i. He/she has been on the rolls of the Institute during the semester, and he/she has satisfied the attendance criteria in the course as per the **Attendance Rule** (see Section 3.2).
- ii. There is no pending case of indiscipline in his/her name, and
- iii. He/she is not a defaulter in payment of tuition fee or any other dues of ITM (Autonomous), Gurgaon in any case.

### 4.2 Grades and Grade Points

Corresponding to each course registered, a student obtains a letter grade at the end of the semester (i.e. at the end of the semester, irrespective of his presence/absence in the examination). There are eleven (11) types of grades awarded in ITM (Autonomous) to the students as mentioned in the following table:

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ACADEMIC PERFORMANCE	LETTER GRADES	GRADE POINTS
OUTSTANDING	A+	10
EXCELLENT	A	9
VERY GOOD	B+	8
GOOD	B	7
AVERAGE	C+	6
BELOW AVERAGE	C	5
MARGINAL	D	4
FAIL	F	0
AUDIT PASS	AP	-
AUDIT FAIL	AF	-
SATISFACTORY	S	-
NON SATISFACTORY	NS	-

**Note:**

- i. "D" or above grades are pass grades for credit courses (Section 3.1.4).
- ii. AP/AF Grades are awarded for audit courses (Section 3.1.5). 'AP' grade, which is a pass grade, will be awarded if the student gets marks equivalent to "C" grade. Otherwise 'AF' grade will be awarded, which is a 'Fail' grade.
- iii. Audit grades are not used in point/SGPA/CGPA calculations.

In a credit course, if a student obtains any pass grade he/she earns **Points** from this course in the semester concerned.

$$\text{Point} = \text{Credit of the course} \times \text{Grade Point}$$

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### 4.3 Evaluation System

The performance of the student in the credit-grading system is evaluated throughout the semester. The methodology used for the evaluation is tabulated below:

S NO	TYPE OF COURSE	SECTION	PARTICULAR	ALLOTTED MARKS	PASS CRITERIA IN THIS COURSE
1	THEORY (L-T-O) / (L-O-O) (HERE L >1)	A	MAJOR TEST	50%	MUST SECURE AT LEAST 40% MARKS IN SECTION-A AND AT LEAST 40% MARKS IN THE TOTAL MARKS OF SECTION A AND B.
		B	MINOR TESTS	30%	
			CLASS TESTS/TUTORIAL / ASSIGNMENTS / PRESENTATION	20%	
2	THEORY + PRACTICAL (L-T-P) / (L-O-P)	A	THEORY	65%	FOR THEORY FOLLOW S.NO.1 RULE AND FOR PRACTICAL FOLLOW S. NO. 3 RULE.
		B	PRACTICAL	35%	
3	PRACTICAL OR FOR THE COURSES OF (O-O-P) / (1-O-P)		REGULAR PRACTICAL & REPORT WRITING	40%	MUST SECURE AT LEAST 40% MARKS IN TOTAL.
			MID & END SEMESTER PRACTICAL/DRAWING TESTS INCLUDING VIVA-VOCE	60%	

A student has to pass in any course as a whole viz. in both sections A and B for any course in the same semester AS SPECIFIED ABOVE.

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The evaluation of course like Practical training, seminar and dissertation are performed in different manners and discussed as follows:

- i. **Practical Training:** A student has to undergo practical training twice during his/her B. Tech. programme for the specified period mentioned in the syllabi of the training courses, first after fourth semester and second after sixth semester during the summer vacations. Then, he/she will be registered for the practical training course in next semester. The training coordinator of the department will scrutinize the training report and certificates and will arrange the presentation of students in front of the committee constituted by the HOD for the purpose. A regular grade will be awarded by the committee.
- ii. **Seminar:** A topic is usually chosen by a student which is required to get approved by the departmental committee made for the purpose. The evaluation will be done by a seminar evaluation committee to be constituted by the HOD concerned. They will follow their own methodology for awarding grade.
- iii. **Project/Dissertation:** The projects can be done in-house (ITM [Autonomous] campus) or in any industry. It is preferred that students take up in-house projects and fabricate working models which have a long-lasting value for the institute and give a sense of satisfaction to the students. However, when a student is particular in doing the project in an industry, he/she can do so after getting the prior approval from the Departmental Project Committee.

The following points need attention by the student regarding project/dissertation evaluation purpose:

- i. If the project is done in an industry, there should be an External Guide in the industry where the project is being done, in addition to the Internal Guide (from the department/institute).
- ii. The Internal Guide will visit the project site at least once during the course of the project. The Internal Guide should also have

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constant interaction with the External Guide and monitor the progress of the student.

- iii. Students have to finalize their project title, the guide, their batch mates, and the place of work and the schedule of work along with 'Gantt Chart' (activity chart) and submit to the Departmental Project Committee.
- iv. A project diary (a Project/Training Diary is provided by the department to each student having Project/Training as a part of the curriculum) will have to be maintained by every student.
- v. The project work is intended to inculcate the following in the students.
  - Project planning & scheduling skills (Project Management)
  - Practical experience
  - Team working
  - Creativity and research orientation
  - Report writing skills
- vi. Final Year B. Tech. project work may be done individually or in a group not exceeding 4 students.
- vii. There should be continuous evaluation of the students' performance in the project work too.
- viii. Project review and evaluation will be done by a Project Evaluation Committee constituted by the Departmental Project Committee. The Project Guide, the Project Co-ordinator must be members of the Project Evaluation Committee.
- ix. The final viva-voce will be conducted as per the schedule given by the Controller of Examinations. The evaluation during the final viva-voce will be done by the external examiners appointed by the Controller of Examinations. The evaluation will be done as per distribution mentioned in "Project Evaluation Form".

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The Marking scheme is divided into two sections. The following is the breakup regarding the marks in the Project/Dissertation:-

SECTION	CATEGORY	MARKS
<b>A</b> <b>(MID TERM EVALUATION)</b>	<b>COMMITTEE ASSESSMENT</b>	<b>20%</b>
	<b>SUPERVISOR'S ASSESSMENT</b>	<b>10%</b>
<b>B</b> <b>(SEM END EVALUATION)</b>	<b>QUANTUM OF WORK</b>	<b>15%</b>
	<b>WRITTEN REPORT</b>	<b>15%</b>
	<b>PRESENTATION</b>	<b>10%</b>
	<b>ANSWERING QUESTIONS</b>	<b>10%</b>
	<b>SUPERVISOR</b>	<b>20%</b>

#### 4.4 Grading Method

The grading method for evaluating students' performance involves award of grade according to the range of total marks in the course. The total marks are obtained by adding marks for various components as per section 4.3. The range of marks between any two grades are framed in such a manner that the effect of individual marking/checking techniques on the overall grading is minimal.

The award of grades based on marks out of 100 is made as follows:

LOWER LIMIT (MARKS)		GRADE		UPPER LIMIT (MARKS)
91	≤	A+	≤	100
82	≤	A	≤	90
73	≤	B+	≤	81
64	≤	B	≤	72
55	≤	C+	≤	63
46	≤	C	≤	54
40	≤	D	≤	45
0	≤	F	≤	39

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#### 4.5 Grade Point Averages – SGPA and CGPA.

There are two types of Grade Point Averages (GPA), which are:-

- i. Semester Grade Point Average (SGPA)
- ii. Cumulative Grade Point Average (CGPA)

While SGPA is a measure for a semester performance only, CGPA is a measure of performance upto any specified semester beginning from the first semester. Every student earns a distinct SGPA and a distinct CGPA at the end of each specified semester.

##### 4.5.1 Calculations of SGPA for a Semester

All the courses (except audit type and Non-Credit courses) for which a student has registered in the semester and awarded one of the A+, A, B+, B, C+, C, D and F grades in this semester are considered for computing SGPA.

The Mathematical Formula:

$$SGPA = \frac{\sum C_i P_i}{\sum C_i}$$

where

$C_i$  = Course Credit of the course of a semester for which SGPA is to be calculated for a student.

$P_i$  = Grade Point earned by the student in the course.

$i$  = 1, 2, 3.....n, represents the number of courses in that semester.

##### 4.5.2 Calculation of CGPA upto a Semester

All the courses (except audit type and Non-Credit courses) for which a student has registered upto  $r^{\text{th}}$  semester beginning from the first semester and awarded one of the A+, A, B+, B, C+, C, D and F grades are considered in computing the CGPA upto a specified semester.

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The Mathematical Formula

$$CGPA = \frac{\sum C_j P_j}{\sum C_j}$$

where

$C_j$  = Course Credit of the course

(up to the specified semester beginning from the first semester). 5

$P_j$  = Grade Point earned in the course.

$j$  = 1, 2, 3...m, represent the number of courses till  $r^{\text{th}}$  semester.

#### 4.5.3 A Hypothetical Example Showing Computation of SGPA and CGPA:-

Consider the performance of a student Mr. Z in Semester-I, as mentioned below (supposing that Mr. Z has registered for the following six courses as per his scheme).

COURSE NO.	TYPE OF THE COURSE	COURSE CREDIT	GRADE AWARDED (TO THE STUDENT)	EARNED CREDITS (BY THE STUDENT)	EARNED GRADE POINTS (BY THE STUDENT)	POINT EARNED (BY THE STUDENT)
ITLXXX	CORE	5	C+	5	6	30
CSLXXX	CORE	4	C	4	5	20
CSLXXX	CORE	4	A+	4	10	40
PHLXXX	CORE	2	B+	2	8	16
MELXXX	ELECTIVE	4	D	4	4	16
ASNXXX	AUDIT	2	AP	-	-	-
<b>TOTAL =</b>		<b>21</b>		<b>19</b>		<b>122</b>

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**From the above table, the following are computed:-**

Credits registered by Mr. Z in this Semester-I is	=	21
Earned credits in this semester	=	19
Points Earned by Mr. Z in this semester	=	122
SGPA = $122/19$	=	6.42
CGPA = $122/19$	=	6.42

Semester-I performance :- SGPA = 6.42

CGPA = 6.42 (Upto Semester-I)

Now, consider the performance of the same student Mr. Z in Semester-II, as mentioned below (supposing that Mr. Z has registered for the following seven courses as per his scheme).

COURSE NO.	TYPE OF THE COURSE	COURSE CREDIT	GRADE AWARDED (TO THE STUDENT)	EARNED CREDITS (BY THE STUDENT)	GRADE POINTS (EARNED BY THE STUDENT)	POINT EARNED (BY THE STUDENT)
PHLXXX	CORE	5	B+	5	8	40
CSLXXX	CORE	4	F	0	0	00
CSPXXX	CORE	2	B	2	7	14
CSLXXX	CORE	4	D	4	4	16
CALXXX	ELECTIVE	4	A+	4	10	40
ASNXXX	AUDIT	1	AP	-	-	
<b>TOTAL =</b>		<b>20</b>		<b>15</b>		<b>110</b>

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From the above table, the following are computed:-

Credits registered by Mr. Z in this Semester-II is = 20

Earned credits in this semester = 15

Points Earned in this semester = 110

SGPA =  $110/15 = 7.33$

Points Earned in all semesters done so far

= 122 (total of all previous semesters) + 110 (current semester) = 232

Credits Earned in all semesters done so far

= 19 (total of all previous semesters) + 15 (current semester) = 34

CGPA =  $232/34 = 6.82$

Semester-II performance:

SGPA = 7.33

CGPA = 6.82 (Upto Semester-II)

#### **4.5.4 Performance Classification**

A student has to be declared eligible for award of the degree as per section 5.1 for UG and section 6.1 for PG students. Classification of performance of the students at the end of the programme (after completing all the programme requirements) will be based on CGPA (Cumulative Grade Point Average) earned, as indicated below:

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<b>CLASSIFICATION OF PERFORMANCE</b>	<b>CGPA</b>
<b>FIRST CLASS WITH DISTINCTION</b>	<b>8.50 AND ABOVE</b>
<b>FIRST CLASS</b>	<b>6.50 TO 8.49</b>
<b>SECOND CLASS</b>	<b>4.50 TO 6.49</b>
<b>NOT SUCCESSFUL</b>	<b>BELOW 4.50</b>

#### **4.5.5 Moderation of Grades**

Moderation of grades is required to minimize the effect of individual marking/checking techniques. The awards of grades in the courses shall be moderated in the following manner:-

- i. For all the courses offered by the department itself, the grades will be moderated in the department by a committee called the Departmental Moderation Committee (Evaluation) constituted by the HOD (as Chairman), Programme Coordinators of each batch (UG & PG) and all concerned faculty members teaching a course in that semester for that programme.
- ii. For a course taught to students of more than one department, the moderation will be done by a committee with Dean (Academics) as Chairman, all concerned faculty members, Programme Coordinator for the batch in addition to HOD or his/her representative of the concerned department.

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## **5. UG DEGREE REGULATIONS & PERFORMANCE MONITORING**

### **5.1 Degree Requirements**

All the following requirements are mandatorily to be fulfilled for award of B. Tech Degree:

- i. Completion of earned credits as specified in the scheme of each B. Tech. Programme.
- ii. Obtaining a minimum CGPA of 4.5 at the end of the programme.
- iii. If a student completes required credits for B. Tech. with CGPA less than 4.5, he may be allowed to do additional elective course under any category to improve the CGPA within the maximum time limit for the completion of B. Tech. degree.
- iv. Completion of practical training as prescribed by the concerned department.

### **5.2 Academic Performance Monitoring**

#### **5.2.1 For continuation of registration at the end of 1<sup>st</sup> semester**

For continuation of registration at the end of 1<sup>st</sup> semester, a student must score SGPA (Semester

Grade Point Average) at least 4.00.

#### **5.2.2 For continuation of registration at the end of 2<sup>nd</sup> or higher semester**

The following rules will be applicable:

To be eligible for continuation of registration to the semester mentioned in Column-A, a student must have a Pass grade in all the courses (as per scheme) of the semester mentioned in Column-B as below:

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**Column-A****Column-B**

<b>TO BE ELIGIBLE FOR CONTINUATION OF REGISTRATION TO THE FOLLOWING SEMESTER</b>	<b>A STUDENT MUST HAVE A PASS GRADE IN ALL THE COURSES (AS PER SCHEME) OF THE FOLLOWING SEMESTER</b>
<b>5<sup>TH</sup> SEMESTER</b>	<b>1<sup>ST</sup> SEMESTER</b>
<b>6<sup>TH</sup> SEMESTER</b>	<b>2<sup>ND</sup> SEMESTER</b>
<b>7<sup>TH</sup> SEMESTER</b>	<b>3<sup>RD</sup> SEMESTER</b>
<b>8<sup>TH</sup> SEMESTER</b>	<b>4<sup>TH</sup> SEMESTER</b>

**5.3 Maximum Time to Complete the Degree**

The maximum time for completion of B. Tech. degree is seven years. This will not be increased *under any circumstances*.

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## **6. PG DEGREE REGULATIONS & PERFORMANCE MONITORING**

### **6.1 Degree Requirements**

All the following requirements are mandatorily to be fulfilled to get M. Tech Degree:

- i. Completion of earned credits as specified in the scheme of each M. Tech. Programme.
- ii. Obtaining a minimum CGPA of 5.5 at the end of the programme.
- iii. If a student completes required credits for M. Tech. with CGPA less than 5.5, he may be allowed to do additional elective course under any category to improve the CGPA within the maximum time limit for the completion of M. Tech. degree.

### **6.2 Academic Performance Monitoring**

#### **6.2.1 For continuation of registration at the end of 1<sup>st</sup> semester**

For continuation of registration at the end of 1<sup>st</sup> semester, a student must score SGPA (Semester

Grade Point Average) at least 5.00.

#### **6.2.2 For continuation of registration at the end of 2<sup>nd</sup> or higher semester**

To be eligible for continuation of registration at the end of 2<sup>nd</sup> or higher semester, a student must have secured 5.5 CGPA.

### **6.3 Maximum Time to Complete the Degree**

The maximum time for completion of M. Tech. degree is 4 years. This will not be increased *under any circumstances*.

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