



स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ

नांदेड- ४३१६०६ (महाराष्ट्र)

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY
NANDED-431606, MAHARASHTRA STATE, INDIA.

Established on 17th September 1994 - Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade



ACADEMIC (I-BOARD OF STUDIES) SECTION

Phone: (02462) 229542

Fax : (02462) 229574

Website: www.srtmun.ac.in

E-mail: bos.srtmun@gmail.com

अभियांत्रिकी विद्याशाखेच्या पदवी व पदव्युत्तर
अभ्यासक्रमांना शैक्षणिक वर्ष २०१६-१७
पासून CGPA System लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, प्रस्तुत विद्यापीठाच्या अभियांत्रिकी विद्याशाखेतील पदवी व पदव्युत्तर अभ्यासक्रमांना यापूर्वी **Absolute Grading** आधारित **CGPA** पद्धत अस्तित्वात होती. त्यात सुधारणा करून शैक्षणिक वर्ष २०१६-१७ पासून **Relational Grading** आधारित **Cumulative Grade Point Average (CGPA) System** लागू करण्यात येत आहे.

सदरील नियमावली व परिपत्रक प्रस्तुत विद्यापीठाच्या www.srtmun.ac.in या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड - ४३१ ६०६.
जा.क्र.: शैक्षणिक-०१/परिपत्रक/अभियांत्रिकी-सीजीपीए/
२०१६-१७/९६७
दिनांक : १९.०८.२०१६.



[Handwritten Signature]
संचालक

महाविद्यालय व विद्यापीठ विकास मंडळ

प्रत माहिती व पुढील कार्यवाहीस्तव :

- १) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
- २) मा. परीक्षा नियंत्रक यांचे कार्यालय, प्रस्तुत विद्यापीठ.
- ३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
- ४) उपकुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
- ५) साहाय्यक कुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
- ६) सिस्टम एक्सपर्ट, यू.जी.सी. कक्ष, प्रस्तुत विद्यापीठ.

SWAMI RAMANAND TEERTH MARATHAWADA UNIVERSITY, NANDED

Rules and Regulations relating to the Degree of Bachelor of Engineering (B.E.)

1. Introduction

The University has taken a decision to implement the cumulative grade point average (CGPA) system for evaluation of the candidate at under graduate and post graduate level. This shall apply for faculty of engineering and technology from academic year 2016-17.

Credit system is a systematic way of describing an educational programme by attaching credits to its components. The definition of credits may be based on different parameters, such as student workload, learning outcomes and contact hours. It is a student centric system based on the **student workload** required to achieve the objectives of a programme. It should facilitate academic recognition of the courses and mobility of the students. Credits assignment is based on the principle that Credits can only be obtained after successful completion of the work required and appropriate assessment of the learning outcomes achieved. As per the AICTE norms 2L/week of lectures are 2 credits, while 2h/week of practicals / tutorials are 1 credit. This may be taken as the basis.

Student workload consists of the time required to complete all prescribed learning activities such as attendance at lectures / practicals, seminars, projects, etc. Credits are allocated to all the educational components of a study programme and indicate the quantity of work each component requires to achieve its specific objectives.

Evaluation is an important component of any teaching & learning process. The University gives emphasis on continuous evaluation by conducting two midterm periodic tests and end semester exam for theory courses. Considerable freedom has been given to the teacher in deciding the mode of evaluation of the students in laboratory courses. The performance of the students will be documented by a **grade** at the end of the semester. The grading scale ranks the students on a statistical basis. Therefore, statistical data on student performance is prerequisite for applying the grading system.

2. System of Evaluation (Grading System)

Every subject/course (theory) will be evaluated in a semester for following components

1. Test (20 Marks) : Two tests each of 20 marks will be taken. First test will be conducted after 4 to 5 weeks of starting of the semester based on first two units and second test will be conducted after 9-10 weeks of starting of semester based on unit no. 3 and 4. The average of the two tests will be communicated to the University before the start of the final end semester examination. The test marks out of 20 will be reflected in Mark sheet as average of the marks obtained in two tests.
2. End semester examination will be out of 80 Marks based on the entire syllabus of the subject/course.

At the end of every semester, a student is awarded a grade based on his / her performance in examinations in every course as per the structure of the year for the respective programme out of 100. A grade is assigned to each head based on marks obtained by a student in examination of the course. The marks obtained in in-semester and end-semester examination are considered together to calculate the grade of the course. These grades represented by the letters A+, A, B+, B etc. and their equivalent grade points are given in Table 1.

Table 1. Grade and Grade Point

Letter Grade	Grade points (Numerical Value)	Description of Performance
A+	10	Outstanding
A	9	Excellent
B+	8	Very Good
B	7	Good
C+	6	Satisfactory
C	5	Above Average
D	4	Pass
F	0	Fail
ABS	0	Absent
WPC	0	Whole Performance Cancelled

3. The statistical grading system

For the award of grades in a course, all component wise evaluation shall be done in marks out of 100. The marks of different components viz. In-semester Test Examinations, End-Semester Examination will have to be added before grading. Marks so obtained shall be out of 100 and the same would be converted to grades following the guidelines given below.

The statistical method shall invariably be used in the evaluation at the university level. The mean (\bar{X}) and the standard deviation (σ) of marks obtained of all the students in a course shall be calculated and the grades shall be awarded to a student depending upon the marks and the mean and the standard deviation as per Table 2 given below. Students whose score is less than 40 will be awarded F grade & will be treated as fail & will have to reappear for examination.

Table 2. The statistical grading system

Range of Marks	Grade
$\bar{X} + 1.5\sigma \leq \text{Marks obtained} < 100$	A+
$\bar{X} + \sigma \leq \text{Marks obtained} < \bar{X} + 1.5\sigma$	A
$\bar{X} + 0.5\sigma \leq \text{Marks obtained} < \bar{X} + \sigma$	B+
$\bar{X} \leq \text{Marks obtained} < \bar{X} + 0.5\sigma$	B
$\bar{X} - 0.5\sigma \leq \text{Marks obtained} < \bar{X}$	C+
$\bar{X} - \sigma \leq \text{Marks obtained} < \bar{X} - 0.5\sigma$	C
$\bar{X} - 1.5\sigma \text{ or } 40 \text{ whichever is more} \leq \text{Marks obtained} < \bar{X} - \sigma$	D
$0 \leq \text{Marks obtained} < \bar{X} - 1.5\sigma \text{ or } 40 \text{ whichever is more}$	F

If the number of students are less than 30 in any of the course/subject at the University level examination, then the absolute grading system be used, described as follows
 Award of grades based on Absolute Marks system: the award of grades on absolute marks out of 100 shall be made as shown in the Table.3

Table 3. Absolute grading system

Range of Marks	Grade
91-100	A+
80-90	A
73-79	B+
64-72	B
55-63	C+
46-54	C
40-45	D
0-39	F

For the students appearing in any subject (for second and higher attempts), the maximum grade shall be B+. There will be only five pass grades for students appearing in examinations for second and higher attempts namely B+, B, C+, C and D as shown in table 4. If the number of students are more than 30, the statistical method (as shown in Table 2) be used and if less than 30 then absolute grading (As shown in Table 3) be used.

The test marks will be carried forward and the student is expected to appear for University exam if he/she fails in any of the subjects.

Statistical grading for students appearing for examinations for more than 1 attempt is shown in Table 4. Absolute grading for students appearing for examinations for more than 1 attempt is shown in Table 5.

Table 4. Statistical grading for students appearing for examinations for more than 1 attempt

Range of Marks	Grade
$\bar{X} + 1.5\sigma \leq \text{Marks obtained} < 100$	B+
$\bar{X} + 0.75\sigma \leq \text{Marks obtained} < \bar{X} + 1.5\sigma$	B
$\bar{X} \leq \text{Marks obtained} < \bar{X} + 0.75\sigma$	C+
$\bar{X} - 0.75\sigma \leq \text{Marks obtained} < \bar{X}$	C
$40 \leq \text{Marks obtained} < \bar{X} - 0.75\sigma$	D
$0 \leq \text{Marks obtained} < \bar{X} - 1.5\sigma$ or 40 whichever is more	F

Table 5. Absolute grading for students appearing for examinations for more than 1 attempt

Range of Marks	Grade
81-100	B+
71-80	B
61-70	C+
51-60	C
40-50	D
0-39	F

4. Performance Indices

At First year the CGPA is calculated and denoted by FYGPA and maintained separately.

4.1 Calculation of Semester Grade point Average (SGA)

The performance of a student in a semester is indicated by a number called SGA. The SGA is the weighted average of grade points obtained in all the courses as per structure of the programme during the semester.

$$SGA = \frac{\sum_{j=1}^m C_j P_j}{\sum_{j=1}^m C_j}$$

Where C_j = The number of credits assigned in the j^{th} course of a semester for which SGA is to be calculated.

P_j = Grade points earned in the j^{th} course

j = 1, 2, 3, ..., m, m represents the number of courses as per structure of the programme in the concerned semester.

4.2 Calculation of Cumulative Grade point Average (CGPA)

An up to date assessment of the overall performance of a student from the time of his / her first registration is obtained by calculating a number called CGPA, which is weighted average of the grade points obtained in all the courses registered by the student since he / she entered the institute.

$$CGA = \frac{\sum_{j=1}^m C_j P_j}{\sum_{j=1}^m C_j}$$

Where C_j = The number of credits earned in the j^{th} course up to the semester for which CGPA is to be calculated

P_j = Grade points earned in the j^{th} course. A letter lower than D (i.e. Grade points < 4) in a course shall not be considered for calculation of CGPA

$j = 1, 2, \dots, m$, m represents the number of course in the structure of the programme to semester for which the CGA is to be calculated.

Both SGA and CGA are calculated up to two decimal places.

4.3 FY CGPA Sample Calculations

For First year SGPA / CGPA calculations to be maintained separately which may be called as First year performance index (FYGPA).

However SGPA / CGPA for second year to Final year may be separately maintained (Final result will be on the basis of CGPA of SY to Final Year).

For 1st Year FYGPA Index Calculations

I st Sem. 5 Theory Papers	-	(3+1) x 5 = 20 credits
+ Workshop 1 credit	-	21 credits
II nd Sem. 5 Theory Papers	-	(3+1) x 5 = 20 Units
+ Communication Skills	-	Audit Courses

Total Credits = 41

Though theory subject is carrying 03 credits it will be associated with 04 lectures / week & practical 1 credit = 2 hrs. / week

FYCGA will be calculated the same way as for second year

$$\text{Avg. for the subject} = \frac{T1 \times \text{Theory marks out of 100} + \text{Practical marks out of 100} \times P1}{T1 + P1}$$

& grade will be awarded on the basis of average marks for the subject

4.4 Sample Calculation of CGPA

Following procedure may be adopted

Final grade in the subject

$$\text{Average Marks} = \frac{(\text{Marks in Theory out of 100} \times \text{Theory credits of subject} + \text{Marks in Practical out of 100} \times \text{Practical credits})}{(\text{Theory} + \text{Practical credits})}$$

e.g.

Grade awarded in subject will be based on average marks in the subject with T1 theory credits & P1 practical credit

A student gets 58 marks out of 80

+ 16 marks out of 20 in Test

Total marks in Theory = 58 + 16 = 74

A student gets 26 out of 30 in Term Work + 62 out of 70 in Uni. Practical exam

Total Marks = 26 + 62 = 88

$$\text{Average Marks} = \frac{74 \times T1 + 88 \times P1}{(T1 + P1)} = \frac{74 \times 4 + 88 \times 1}{05} = 76.8$$

Note : T1 ó Theory Credits = 4 P1ó Practical Credits = 1

The candidates who obtained 40% and more marks of the total marks of a subject head shall be deemed to have passed the respective subject.

The candidates who obtained less than 40% marks of the total marks of a subject head shall be deemed to have failed the respective subject.

5. Passing Rules (CGPA)

- Passing Heads will be (Theory + Test) as a single Head & (TW + Practical) also as a Single Head of Passing.
- No question of re-test, re-term work.
- Failed students will have to appear only in University exams Theory & Practical.
- Marks obtained in University Theory must be above 32 (40%) out of 80.
- Marks obtained in University Practical must be 28 (40%) out of 70.

6. Relation between CGPA & Percentage

Column of total marks is to be evaluated as average marks obtained by using the following formula

$$\text{Avg. Marks} = \frac{\text{Theory credits} \times \text{Marks obtained out of 100 in Theory (Final Exam + Test)} + \text{Practicals credit} \times \text{Marks obtained out of 100 (TW + Practical)}}{(\text{Theory credits} + \text{Practicals credits})}$$

$$\text{Semester \%} = \frac{\hat{U} \text{ Average marks in a semester}}{\text{No. of Heads}}$$

$$\text{Calculation \%} = \frac{\hat{U} \text{ Cumulative sum of average marks in all the subjects}}{\text{No. of Heads of all subjects}}$$

7. Guidelines for Setting Question Paper of End semester exam (University Theory exam)

Maximum corresponding marks in the university examination should be 80 only and for paper of 60 marks proportionate adjustments be made.

Unit	Maximum Marks in Uni. Exam out of 80
Unit 1	16 / 17
Unit 2	16 / 17
Unit 3	16 / 17
Unit 4	18 / 19
Unit 5	18 / 19
Unit 6	18 / 19

Paper setting pattern

- Q. 1 & Q. 8 compulsory of 14 marks each
- Q. 1 should be set from Unit 1, 2, 3
- Q. 8 should be set from Unit 4, 5, 6
- From Q. 2, 3, 4 - solve any two questions based on Unit 1, 2, 3 of 12 marks each
- From Q. 5, 6, 7 - solve any two questions based on Unit 4, 5, 6 of 14 marks each

Every student should get minimum marks to earn -DØ grade according to the number of credits shown against the subject. Otherwise he/she has to re-appear the examination till he/she gets -DØ and above Grade.

After successful completion of programme a degree is awarded.

The medium of instruction is English.

8. Rules of ATKT

1. A student after having appeared FE exam shall be allowed to keep term for SE course if he / she has a backlog of not more than three subjects of FE exam.
2. A student after having appeared SE exam shall be allowed to keep term for the TE course if he / she has no backlog of FE and he / she has a backlog of not more than three theory subjects and two practical subjects of SE exam.
3. A student after having appeared TE exam shall be allowed to keep term for the BE course if he / she has no backlog of SE and he / she has a backlog of not more than three theory subjects & two practical subjects of TE exam.

9. Improvement of Performance

If any student is failed to secure First Class at the end of B.E. programme then he/she may be allowed to improve the class by Re-registering for max. 6 subjects of the courses he/she studied during second year to Final year of B.E. programme. In case there is, no improvement in performance the previous result will be retained.

10. Award of class

The candidates who successfully complete all course / curriculum requirements of B.E. Programmes shall be awarded class as specified below.

- a) Those who score CGPA of 8.25 and above shall be awarded First Class with Distinction.

b) Those who score CGPA of 6.50 and above but below 8.25 shall be awarded First Class.

c) Those who score CGPA below 6.50 shall be awarded Second Class.

Following will be the equivalent percentage of CGPA on Ten Point Scale :

The Formula used to convert CGPA to percentage is

$$\text{Percentage of Marks} = (\text{CGPA} \times 0.5) \times 10$$

Table 6. Conversion from CGPA to Percentage

Cumulative Grade Point Average (CGPA)	Equivalent Percentage of Marks
6.00	55.0
6.25	57.5
6.50	60
7.25	67.5
7.75	72.5
8.25	77.5

11. UT Facility

In this CGPA system only grades are shown on the marks memo hence there will be no UT Facility.

12. Grace Rules

Grace rules are applicable as per corresponding University Ordinance.

13. Additional Marks

Facility of additional marks for NCC, NSS and Sports are as per University rules.

14. Miscellaneous

a) Although CGPA will be given in the Semester grade report, however class will be awarded on even semester grade report.

b) Notwithstanding anything said above if a course is revised / restructured then transient provisions at the time of revision / restructuring shall be applicable.

***** All sample calculations have been done for paper of 80 marks, for paper of 60/40 marks proportionate conversions be considered.**