

## DIRECTION

**No: Acad/101/2012**

**Date: 19/06/2012**

**Subject: Examinations leading to the Degree of B.E. (Four Year Degree Course with Semester Pattern and Credit Grade System) in the Faculty of Engineering and Technology from the year 2012-13.**

Whereas the schemes of teaching & examinations of I and II Semesters of B.E. courses has been accepted by the Academic Committee in its meeting held on 30-04-2012 as per the Semester Pattern with Credit Grade System based on the guidelines given by the A.I.C.T.E., New Delhi for its implementation from the Academic Session 2012-2013,

AND

Whereas admissions to the First Year of B.E. courses are to be made in the Academic Session 2012-2013,

AND

Whereas the matter for admission of the students at the examinations is required to be regulated by an Ordinance,

AND

Whereas the schemes of teaching & examinations of I and II Semesters of B.E. courses as appended with Appendix-A are to be implemented from the academic session 2012-2013,

AND

Whereas the process of making an Ordinance is likely to take some time,

AND

Whereas syllabus for I and II Semester of B.E. courses as appended with Appendix-B are to be implemented from the academic session 2012-2013,

Now, therefore, I, Dr. V S Ainchwar, Vice-Chancellor of Gondwana University, Gadchiroli in exercise of powers confirmed upon me under sub section (8) of Section 14 of the Maharashtra Universities Act, 1994, hereby direct as under:

1. This Direction may be called "Examinations leading to the Degree of B.E. (Four Year Degree Course with Semester Pattern and Credit Grade System) Direction, 2012.
2. This Direction shall come into force w. e. f. its issuance.
3. Subject to the conditions prescribed by the Government from time to time, for admission to First Semester B.E. courses, the candidate shall be considered eligible if he/she has passed 12<sup>th</sup> (10 + 2) Standard Examination of the Maharashtra State Board of Secondary and Higher Secondary Education/CBSE or any other recognized board, with subjects:
  - i) English (Higher or Lower)
  - ii) Modern Indian Language (Higher or Lower)
  - iii) Mathematics and Statistics.
  - iv) Chemistry.
  - v) Physics.

vi) Any other optional subject from out of the list prescribed by the said Secondary and Higher Secondary Education Board.

**OR**

- i) English (Higher or lower)
- ii) Mathematics and Statistics.
- iii) Chemistry
- iv) Physics
- v) Vocational subject (Defined by the said Board as a Technical Subject)

**OR**

\*An Examination recognized by the Gondwana University, Gadchiroli as an equivalent to the specified above.

4. Subject to the conditions prescribed by the Govt. from time to time for direct admission to the Third Semester B.E. the candidates shall be considered eligible:

- a) \*\*that any one, who holds a Diploma with at least 50% marks in appropriate branch of Engineering / Technology from any one of the Polytechniques in Maharashtra State shall be eligible for admission to the 3<sup>rd</sup> (III) Semester of the B E Degree course under this Direction, in the faculty of Engineering and Technology.
- b) \*\*that any one, who holds a B. Sc Degree with Mathematics as a compulsory subject from a recognized University as defined by UGC, with at least 50% marks and passed XII standard with mathematics as a subject shall be eligible for admission to the 3<sup>rd</sup> (III) Semester of the B E Degree course under this Direction, in the faculty of Engineering and Technology.
- c) provided that in case of students belonging to B. Sc. Degree with Mathematics as a compulsory subject, he/she shall clear the subjects of Engineering Graphics / Engineering Drawing, Electrical Engineering and Engineering Mechanics of the I and II Semester of Engineering program along with the III Semester subjects.
- d) provided further that, the students belonging to B.Sc. stream shall be considered only after filling the supernumerary seats in this category with students belonging to the Diploma stream.
- e) \*provided further that students, who have passed Diploma in Engineering & Technology from an AICTE approved institution or B. Sc Degree with Mathematics as a compulsory subject from a recognized University as defined by UGC, shall also be eligible for admission to the I semester of Engineering Degree courses subject to vacancies in the I Semester class in case the vacancies at lateral entry are exhausted. However the admissions shall be based strictly on the eligibility criteria as mentioned in the clause (a) and (b).

The above admission entertained under paragraphs (a), (b), and (e) are subject to change as per G.R./Notification issued by the D.T.E./Govt. of Maharashtra, from time to time.

5. The Degree of Bachelor of Engineering (B.E.) shall be awarded to examinee who in accordance with the provisions of this Direction qualifies for the award in any of the following branches.

- i) Civil Engineering
- ii) Computer Science & Engineering
- iii) Computer Technology
- iv) Electrical (Electronics & Power) Engineering
- v) Electronics Engineering
- vi) Electronics and Communication Engineering
- vii) Electronics and Telecommunication Engineering
- viii) Information Technology
- ix) Instrumentation Engineering
- x) Mechanical Engineering
- xi) Mining Engineering

6. (i) There shall be eight semester examinations leading to the Degree of B.E (First, Second, Third, Fourth, Fifth, Sixth, Seventh & Eight Semester)

(ii) The First & Second Semester B.E. Examinations shall be common for all the branches.

7. The period of Academic Session shall be such as may be notified by the University.

8. The End Semester examination of first, third, fifth and seventh semester shall be held by the University in winter & supplementary examination in summer every year. Further end semester examination of second, fourth, sixth & eighth semester will be held in summer & the supplementary examination in winter every year.

9. The internal and external assessment of student performance incorporates a suitable evaluation scheme based on their performance in different methodological tests/examinations as mentioned below:

For Theory Courses, continuous assessment shall have various components of evaluation as given below:

a) Mid Semester Examination (MSE) will be carrying 10% weightage and shall be conducted independently by each of the college. The weightage for MSE in each subject shall be a maximum of 10 (ten) marks only. Usually one or two such MSEs should be conducted for the given theory course.

b) Internal Evaluation (IE) will be carrying 10% weightage the subjects and shall be monitored based on following parameters. The weightage for IE in each subject shall be limited to maximum of 10 (ten) marks only. It is broken further as given below.

Assignments/quizzes/GDs -	03 marks
Project*/Seminar/Viva voce -	05 marks
Response in classes (CR) -	02 marks

These two components i.e. MSE and IE put together will form the internal assessment components carrying a weightage subject to a maximum of 20 (twenty) marks only.

\*Project – Every student shall be required to submit a printed project report or deliver a seminar, highlighting the current engineering/technology/trend on any topic included in

the syllabus of the given subject. This will be evaluated by the concerned subject teacher or alternatively viva voce shall be conducted to award the marks allotted to this parameter.

- c) End Semester Examination (ESE) carrying 80% weightage shall be conducted for each of the theory course/subject by the institute through Affiliate University, as per its Regulations/Direction subject to maximum marks as specified in the designed curriculum.

**Pattern of End Semester Examination (Theory Course) –**

- i) The prescribed syllabi for each of the theory courses have been divided into *FIVE* units.
- ii) Syllabus has been divided into units equal to the number of question to be answered / attempted in the theory question paper. On each unit there will be a question.
- iii) Number of question/s will be in accordance with the unit/s prescribed in the syllabi for the given subject/paper, i.e. there will be a full question from every unit.
- iv) For every question, there will be internal choice from the same unit.
- v) The question will be either long answer type or short answer type containing number of sub questions with no internal choice.

For Laboratory Courses, continuous assessment shall have various components of evaluation as given below:

- a) Term Work (TW) as internal assessment carrying 50% weightage shall comprise of 8-10 number of experiments/practicals to be performed by each of the students and a written test/viva voce. The weightage for TW which forms the internal assessment component for each of the laboratory course shall be of 25 (Twenty five) marks only and are distributed as follows.

Performance of experiments and journal submission –	10 marks
One Written test on practical topics/viva voce -	10 marks
Attendance (Theory and practical both) -	05 marks

The final certification and acceptance of the term work ensures the satisfactory performance in the given laboratory course and minimum passing in the term work.

- b) Performance and Oral Examination (POE) - External laboratory examination will be assessed based on POE carrying 50% weightage. Herein every examinee has to perform one experiment/practical. This experiment/practical shall be only from the aforesaid list, which the examinee is deemed to have performed during his/her term work. Wherein the performance of experiment is not possible, a written examination shall be conducted. The

oral questions i.e. viva-voce shall also be from the related topics. The weightage for POE in each subject shall be limited to a maximum of 25 (Twenty five) marks only and the break-up shall be as follows.

Performance of experiment/written test:	15 marks
Oral examination/Viva-voce:	10 marks

10. Subject to his/her compliance with the provisions of this Direction & other Ordinances pertaining to Examination in force from time to time, the applicant for admission, at the end of the course of study of a particular semester/session, to an Examination specified in column (1) of the **Table 2** given below, shall be eligible to appear if;

- he/she satisfies with the conditions in the table and the provisions there under.
- he/she complies with the provisions of the ordinance pertaining to the Examination in general from time to time.
- he/she has prosecuted a regular course of study in a college affiliated to the University.
- he/she has in the opinion of the Principal shown satisfactory progress in his/her studies.

**Table 2: ATKT Rules as applicable to B.E. Program**

Name of the Examination B.E.	Students should have passed in all the subjects/courses of the following examination/s	Students should have satisfactorily completed the term work and appeared for at least one theory course of the following examination	Students should have passed in all the subjects except in <b>Four or less</b> number of passing heads of the following examination taken together
I Semester	XII Std or equivalent*	-----	-----
II Semester	-----	I Semester	-----
III Semester	**	II Semester	I and II Semester
IV Semester	-----	III Semester	-----
V Semester	I and II Semester	IV Semester	III and IV Semester
VI Semester	-----	V Semester	-----
VII Semester	III and IV Semester	VI Semester	V and VI Semester
VIII Semester	-----	VII Semester	-----

\*As specified in section 3 and 4(e), \*\*As specified in section 4(a) and 4(b) of this Direction.

Provided,

- (a) that an examinee who has secured pass grade in any subject (theory or laboratory) or subjects shall, at his option, be exempted from appearing in that subject at the subsequent examination.

Examination means the ‘Theory’ and the ‘Laboratory’ with their respective institutional evaluation/assessment being considered as separate heads of passing (though of the same subject), an examinee passing under any one of these, but failing in another, shall at his option, be entitled to get ‘Exemption’ in that part of the subject (either theory or laboratory), in which he has secured the pass grade.

11. The fees for the examination shall be as prescribed by the University from time to time and whenever any change is made in the fees prescribed for any particular examination that shall be notified through a notification for information to the examinees concerned.
12. As per the adopted Model Credit Grade System (CGS), the computation of Semester Grade Point Score (SGPS) and Cumulative Grade Point Score (CGPS) of an examinee shall follow the steps given below:

The marks will be given in all examinations which will include college assessment and university assessment marks. The total marks thus obtained for each Theory / Laboratory shall be converted into Grades as per **Table 3**.

SGPS shall be calculated based on Grade Points corresponding to Grade as given in **Table 3** and the Credits allotted to respective Theory / Laboratory shown in the program scheme for respective semester.

$$SGPS = \frac{\{C_1 \times G_1 + C_2 \times G_2 \dots \dots \dots C_n \times G_n\}}{C_1 + C_2 \dots \dots \dots C_n}$$

Where,  $C_{1\dots n}$  – No of Credits of individual course  
 $G_{1\dots n}$  – Grade points obtained in the respective course.

Cumulative Grade Point Score (CGPS) is indicative of the overall academic performance of a student in the given program, Bachelor of Engineering (B.E.). It shall be computed as cumulative total of the products of actual grade point scores and its weightage in terms credits of VII and VIII semester divided by total no of credits of VII and VIII semester.

$$CGPS = \frac{(SGPS_{VII} \times C_{VII} + SGPS_{VIII} \times C_{VIII})}{C_{VII} + C_{VIII}}$$

Where,  $SGPS_{VII \& VIII}$  – Corresponding grade point scores obtained in VII & VIII Semester  
 $C_{VII \& VIII}$  – Total no of Credits of VII & VIII Semester

13. (i) The theory and laboratory courses in which an examinee is to be examined, the maximum grade for these and the minimum grade which an examinee must obtain in order to secure exemption in the aforesaid course(s) and the examination are detailed in **Table 3**.

**Table 3: Conversion of Marks to Grades in Credit System**

<b>Percentage score, X (Theory)</b>	<b>Percentage score, X (Laboratory)</b>	<b>Grade</b>	<b>Grade Points</b>
$80 \leq X \leq 100$	$85 \leq X \leq 100$	<b>A<sup>+</sup></b>	<b>10</b>
$70 \leq X < 80$	$80 \leq X < 85$	<b>A</b>	<b>9</b>
$60 \leq X < 70$	$75 \leq X < 80$	<b>B<sup>+</sup></b>	<b>8</b>
$55 \leq X < 60$	$70 \leq X < 75$	<b>B</b>	<b>7</b>
$50 \leq X < 55$	$65 \leq X < 70$	<b>C<sup>+</sup></b>	<b>6</b>
$45 \leq X < 50$	$60 \leq X < 65$	<b>C</b>	<b>5</b>
$40 \leq X < 45$	$50 \leq X < 60$	<b>D</b>	<b>4</b>
$00 \leq X < 40$	$00 \leq X < 50$	<b>F</b>	<b>0</b>
Absent in Examination	Absent in Examination	<b>Z</b>	<b>---</b>

(ii) The minimum grade required to be secured for passing at the I/II/III/IV/V/VI/VII/VIII semester examinations shall be ‘**D**’ indicating a percentage score of more than or equal to 40 (and less than 45) for the theory course/s and a percentage score of more than or equal to 50 (and less than 60) for the laboratory course/s.

(iii) The internal and external component of evaluation for a given theory/laboratory course are not considered as separate passing heads instead they together form a single passing head i.e. the qualifying marks to be secured by a student in the given course either theory or laboratory are sum of internal and external components of its evaluation.

14. (i) The scope of the subjects as indicated in the syllabus.  
(ii) The medium of instruction and examination shall be in ‘English’.
15. Provisions of Ordinance to provide grace marks for passing in a particular head and improvement of Division (Higher Class) and getting Distinction in the subject and Condonation of Deficiency of Marks in a course in the faculty of engineering and technology shall apply to each examination under this Direction.
16. An examinee who does not pass, or who fails to present himself/herself for the examination shall be eligible for ‘Readmission’ to the same examination, on payment of a fresh fee and such other fees as may be prescribed from time to time.
17. An unsuccessful examinee, at any of the above examination, shall have an option to carry his/her sessional/term work marks for theory/laboratory examination to his/her successive

attempt at the examination. The examinee, however can forego his/her sessional/term work marks in a subject or subjects, in which case he/she shall be examined for a total of marks comprising the ESE/POE examination and MSE & IE/TW together to form the ‘Grade’, at his/her successive attempts at the examination. Such an option may be availed by the examinee by indicating the same in his/her “Application Form for Examination” and the option once exercised, it shall be “Final and Binding” on the concerned examinee.

18. As soon as possible after the examinations, the Board of Examinations shall publish a list of successful examinees. The result of all examinations shall be classified on the basis of Semester Grade Point Score ‘**SGPS**’ evaluated as specified in the adopted model Credit-Grade System and shall be notified in accordance to the provisions specified in the concerned Ordinance/Direction.
19. Notwithstanding anything to the contrary in this Direction, no one shall be admitted to an examination under this Direction, if he/she has already passed the same examination or an equivalent examination hitherto of any Statutory University.
20. One who has passed the Final B.E. examination of the University in one branch and who desires to take B.E. Degree in another branch, shall be admitted to the Third semester of that branch and shall be governed by this Direction for all other purposes.
21. (i) The examinees who have secured pass grade in all the ‘Subjects’ prescribed for all the “Examinations” shall be eligible for the award of the Degree of Bachelor of Engineering in the given discipline/branch in the Faculty of Engineering and Technology.  
  
(ii) The classification of ‘Grade’ of Examinees for the award of the Degree of Bachelor of Engineering shall be on the basis of CGPS Interval as shown in the Table below wherein Cumulative Grade Point Score ‘**CGPS**’ shall be evaluated by accounting **SGPS** of **VII and VIII Semester** only.

<b>Grade</b>	<b>CGPS Interval</b>
A <sup>+</sup>	9.50 - 10
A	8.50 – 9.49
B <sup>+</sup>	7.50 – 8.49
B	6.50 – 7.49
C <sup>+</sup>	5.50 – 6.49
C	4.50 – 5.49
D	4.0 – 4.49

(iii)The Degree, in the prescribed form shall be signed by the Hon’ble Vice-Chancellor.



22. I, further direct that the aforesaid Direction shall come into force from the date of issuance and shall remain in force till the relevant Ordinance comes into being in accordance with the provisions of the Maharashtra Universities Act, 1994 or is repealed by an issuance of another Direction.

Sd/-  
Dr V S Ainchwar  
Vice-Chancellor

Place: Gadchiroli  
Date: 19<sup>th</sup> June, 2012

### **Description about New First Year B.E. Scheme with Group A & B Subjects**

1. The sanctioned intake and / or the number of candidates admitted to First Year Engineering (semester pattern) shall be divided into two groups as **A & B** in multiples of 60 preferably at the institute level.
2. Group A candidates shall register for Group A subjects in First (I) Semester and Group B candidates shall register for Group B subjects in First (I) Semester.
3. Applied Mathematics -I (Code No 101) will be a common paper to both the Groups A and B during I Semester only.
4. The candidates shall be examined for their subjects from the respective groups as shown in the scheme during the First Semester Examination.
5. In the Second Semester, candidates from Group B shall register for subjects of Group A. Similarly, candidates from Group A shall register for subjects of Group B.
6. During II Semester, Applied Mathematics -II (Code No 102) will replace Applied Mathematics -I (Code No 101) as a common paper to both the Groups A and B.
7. The candidates shall be examined for their subjects from the other groups as shown in the scheme during the Second Semester Examination.

8. Thus, at the end of the First Year, all the subjects shall be studied by the candidates from both the Groups i.e. A and B.
9. The Grade Sheet issued by the Affiliate University shall show only the Group obtained in respective Semester by a student, like First Semester Group A, Second Semester Group B.
10. The exercise on the part of the college shall be to ensure that the candidates fill up the examination forms correctly according to the subjects Group he / she has registered in both I and II Semesters of First Year B.E. Curriculum.

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