



## GONDWANA UNIVERSITY, GADCHIROLI

### DIRECTION NO. 4 OF 2020

**EXAMINATIONS LEADING TO THE DEGREE OF BACHELOR OF ENGINEERING (B.E) (EIGHT SEMESTER DEGREE COURSE) BASED ON AICTE PRESCRIBED MODEL CURRICULUM INCORPORATING CHOICE BASED CREDIT SYSTEM (CBCS) IN THE FACULTY OF SCIENCE AND TECHNOLOGY DIRECTION, 2020.**

**(Issued under Provision of Section 12(8) of the Maharashtra Public Universities Act, 2016)**

Whereas, The Maharashtra Public Universities Act, 2016 has come into force with effect from 1<sup>st</sup> March 2017. (Maharashtra Act No. VI of 2017);

AND

Whereas, the above mentioned Act is applicable to the Gondwana University, Gadchiroli from 1<sup>st</sup> March, 2017;

AND

Whereas, the chairman, U.G.C. New Delhi has directed the Vice-Chancellor of the university to initiate steps for successful implementation of the choice based credit system(CBCS) from the Academic Session 2015-16 vide letter D.O.No.F-1-1/2015(CM) dated 8/01/2015 ;

AND

Whereas, the U.G.C. has formulated and issued guidelines on adoption of choice based credit system in all the universities;

AND

Whereas, the Vice-chancellor has directed, on the basis of the resolution of the authorities of the university, to formulate and introduce choice based credit system at U.G. and P.G. level programme in all the faculties in the univesity;

AND

Whereas, the choice based credit system was introduced at the Bachelor of Engineering Degree level in the faculty of Science and Technology from the Academic year 2017-18 vide Direction No. 17 of 2017;

AND

Whereas, the choice based credit system was introduced at the Bachelor of Engineering Degree level in the faculty of Science and Technology from the Academic year 2017-18 vide Ordinance No. 17 of 2017;

AND

Whereas, the apex governing council for professional engineering education has formulated and issued guidelines on adoption of Model Curriculum for Undergraduate Degree Courses [BACHELOR OF ENGINEERING (B.E)] in Engineering & Technology in January 2018;

AND

Whereas, the Faculty of science and Technology in its meeting held on 31.07.2019 has resolved to adapt AICTE prescribed Model Curriculum for Undergraduate Degree Courses [BACHELOR OF ENGINEERING (B.E)] in Engineering & Technology;

AND

Whereas, Hon'ble Vice-chancellor on behalf of the Academic Council on dated 3.08.2019 under the provision of section 12(7) of the Act has approved to adapt AICTE prescribed Model Curriculum for Undergraduate Degree Courses [BACHELOR OF ENGINEERING (B.E)] in Engineering & Technology, considering the exigency of the matter to be regulated;

AND

Whereas, the Faculty of science and Technology in its meeting held on 8.11.2019 has resolved norms and guidelines in respect of number of credits, examination and promotion scheme, estimation of SGPA and CGPA, Grade Tables, Scope for improvement and criteria for the final award of the degree to be incorporated as part of the adapted AICTE prescribed Model Curriculum for Undergraduate Degree Courses [BACHELOR OF ENGINEERING (B.E)] in Engineering & Technology;

AND

Whereas, Hon'ble Vice-chancellor on behalf of the Academic Council on dated 3.11.2019 under the provision of section 12(7) of the Act has approved above mentioned norms and guidelines to be adapted as part of the AICTE prescribed Model Curriculum for Undergraduate Degree Courses [BACHELOR OF ENGINEERING (B.E)] in Engineering & Technology, considering the exigency of the matter to be regulated;

AND

Whereas, no Ordinance is in existence in the University for introducing AICTE prescribed Model Curriculum incorporating choice based credit system in the Faculty of Science and Technology;

AND

Whereas, making of an Ordinance for introducing AICTE prescribed Model Curriculum incorporating Choice Based Credit System in the Faculty of Science and Technology is a time consuming process;

AND

Now, therefore, I, Dr. N.V. Kalyankar, Vice-chancellor, Gondwana University, Gadchiroli in exercise of the powers vested in me under provision of section 12(8) of the Maharashtra Public Universities Act, 2016 do hereby issue following Directions :-

This Direction shall be called **“EXAMINATIONS LEADING TO THE DEGREE OF BACHELOR OF ENGINEERING (B.E) (EIGHT SEMESTER DEGREE COURSE) BASED ON AICTE PRESCRIBED MODEL CURRICULUM INCORPORATING**

## **CHOICE BASED CREDIT SYSTEM (CBCS) IN THE FACULTY OF SCIENCE AND TECHNOLOGY DIRECTION, 2020”.**

1. This Direction shall come into force with effect from the Academic year 2019-20 for I<sup>st</sup> and II<sup>nd</sup> semester of the Bachelor of Engineering (B.E.) Degree course on progressive basis.

### **2. In this direction, unless the context otherwise requires:-**

- 1) **Academic Year:** Two consecutive (one odd + one even) semesters constitute one academic year.
- 2) **Choice Based Credit System (CBCS):** The CBCS provides choice for students to select from the prescribed courses (core, elective or minor or soft skill courses).
- 3) **Course:** Usually referred to, as ‘papers’ is a component of a program. All courses need not carry the same weight. The courses should define learning objectives and learning outcomes. A course may be designed to comprise lectures/tutorials/laboratory work/field work/outreach activities/project work/vocational training /viva /seminars /term papers/assignments/ presentations/self-study etc. or a combination of some of these.
- 4) **Credit Based Semester System (CBCS):** Under the CBSS, the requirement for awarding a degree or diploma or certificate is prescribed in terms of number of credits to be completed by the students.
- 5) **Credit Point:** It is the product of grade point and number of credits for a course.
- 6) **Credit:** A unit by which the course work is measured. It determines the number of hours of instructions required per week. One credit is equivalent to one hour of teaching (lecture or tutorial) or two hours of practical work/field work per week, as far as possible
- 7) **Cumulative Grade Point Average (CGPA):** It is a measure of overall cumulative performance of a student over all semesters. The SGPA is the ratio of total credit points secured by a student in various courses in all semesters and the sum of the total credits of all courses in all the semesters. It is expressed up to two decimal places.
- 8) **Grade Point:** It is numerical weight allotted to each letter grade on a 10 point scale.
- 9) **Letter Grade:** It is an index of the performance of students in a said course. Grades are denoted by letters A+, A, B+,B, C+, C,D, F and Z.
- 10) **Program:** An educational program leading to award of a Degree, diploma or certificate.
- 11) **Semester Grade Point Average (SGPA):** It is a measure of performance of work done in a semester. It is ratio of total credit points secured by a student in various courses registered in a

semester and the total course credits taken during that semester. It shall be expressed up to two decimal places.

- 12) **Semester:** Each semester will consist of 15-18 weeks of academic work equivalent to 90 actual teaching days. The odd semester may be scheduled from July to December and even semester from January to June.
- 13) **Transcript or Grade Card or Certificate:** Based on the grades earned, a grade certificate shall be issued to all the registered students after every semester. The grade certificate will display the course details (code, title, number of credits, grade secured) along with SGPA of that semester and CGPA earned till that semester.

### 3. ABBREVIATION

L	Lecture	MC	Mandatory courses
T	Tutorial	PROJ	Project
P	Practical	MSE	Mid Semester Examination
BSC	Basic Science Courses	IE	Internal Evaluation
ESC	Engineering Science Course	ESE	End Semester Examination
HSMC	Humanities and Social Sciences including Management courses	TW	Term work
PCC	Professional core courses	POE	Performance & Oral Examination
PEC	Professional Elective courses	BoS	Board of Studies (Board)
OEC	Open Elective courses		

### 4. ELIGIBILITY FOR ADMISSION TO PROGRAM AT FIRST YEAR LEVEL

The candidate shall be eligible for admission to the First Year B.E., subject to the conditions prescribed by the Government of Maharashtra from time to time. AND s/he shall have passed 12<sup>th</sup> (HSC) Standard Examination of the Maharashtra State Board of Secondary Education or its equivalent, with the subjects:

- i) English (Higher or Lower)
- ii) Modern Indian Language (Higher or Lower)
- iii) Mathematics and Statistics
- iv) Chemistry
- v) Physics
- vi) And/or any other condition prescribed and revised by the Director, Technical Education, Government of Maharashtra from time to time.

## **5. ELIGIBILITY FOR ADMISSION TO PROGRAM AT SECOND YEAR LEVEL**

Admission of a Candidate directly to the Third Semester B.E. Level shall be termed as Lateral Entry. The Eligibility conditions for lateral entry directly to the 3<sup>rd</sup> semester B.E. shall be governed by the rules prescribed and updated from time to time by the Director of Technical Education, Government of Maharashtra. However, the general eligibility conditions shall be as mentioned below:

(i) That the Candidate should have passed Three Years Diploma Program with at least 50% marks in appropriate branch of Engineering/Technology from within the State of Maharashtra or its equivalent,

**OR**

(ii) That the Candidate should have passed Three Years B.Sc(Bachelor of Science) examination of this University or any other University recognized by the UGC/MHRD with Mathematics, as a compulsory subject, with minimum 50 % marks(CGPA = 5.75), after passed XII(HSC) standard with mathematics as a subject.

However, candidates admitted under such category shall be required to clear Courses of Engineering Graphics/Engineering Drawing, Electrical Engineering and Engineering Mechanical of the I and II Semester B.E. Program, along with the III semester B.E. Courses. The eligibility for admission into V Semester B.E. shall remain same, as usual.

(iii) The candidate should have passed four years B.E. degree program of this University or its equivalent from any other University, recognized by the UGC/MHRD. However, s/he will be eligible for admission to the discipline/Branch other than one in which s/he has already acquired his B.E. or its equivalent degree.

## **6. VARIOUS DISCIPLINES/BRANCHES UNDER FOUR YEARS B.E. DEGREE PROGRAM**

The Degree of Bachelor of Engineering (B.E.), as per AICTE prescribed model Curriculum incorporating Choice Based Credit System (CBCS) shall be awarded to the examinee who in accordance with the provisions of this Direction and shall qualify for the award in any of the following Disciplines/Branches:

<b>Sr. No.</b>	<b>Title of the Discipline/Branch</b>	<b>CODE</b>
<b>1</b>	Civil Engineering	<b>CE</b>
<b>2</b>	Electrical Engineering	<b>EE</b>
<b>3</b>	Electronics & Telecommunication Engineering	<b>ET</b>

4	Mechanical Engineering	ML
5	Computer Science & Engineering	CS
6	Instrumentation Engineering	IE

The Disciplines/Branches of Engineering may be appended from time to time, if granted to start, by the concerned Governing Bodies to the affiliated colleges in the University.

## 7. DEFINITION OF CREDIT

- 1 Hr. Lecture (L) per week - 1 credit
- 1 Hr. Tutorial (T) per week - 1 credit
- 2 Hours Practical (Lab)/week - 1 credit

## 8. NUMBER OF CREDITS FOR THE PROGRAM

A sum of 160 credits is required to be earned by a given student to be eligible to get award of the Under-Graduate degree of Bachelor of Engineering (B.E.).

## 9. STRUCTURE, EXAMINATION SCHEME AND SYLLABUS OF UNDER-GRADUATE ENGINEERING PROGRAM

Sr. No.	Abbreviations	Particulars of Category	Suggested Breakup of Credits (Total 160)
1	HSMC	Humanities and Social Sciences including Management courses	12*
2	BSC	Basic Science courses	25*
3	ESC	Engineering Science courses including workshop, drawing, basics of electrical/mechanical/computer etc.	24*
4	PCC	Professional core courses	48*
5	PEC	Professional Elective courses relevant to chosen specialization/branch	18*
6	OEC	Open subjects – Electives from other technical and /or emerging subjects	18*
7	PROJ	Project work, seminar and internship in industry or elsewhere	15*
8	MC	Mandatory Courses [Environmental Sciences, Induction Program, Indian Constitution, Essence of Indian Knowledge Tradition]	(non-credit)
Total			160*

\*Minor variation is allowed as per need of the respective disciplines of engineering offered.

Semester wise course structure and syllabus is affixed with **Appendix-I** whereas examination scheme is affixed with **Appendix-IV**.

## **10. INTERNAL & END SEMESTER EXAMINATIONS**

- (i) There shall be eight semester examinations leading to the Degree of B.E. Examinations shall be common for all the branches.
- (ii) The period of Academic Session shall be such as may be notified by the University through its Academic Calendar.
- (iii) The End Semester Examination (ESE) 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 is 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.
- (iv) The internal and external assessment of student performance shall be as mentioned in details in Teaching and Examination Scheme of the respective Branches of Engineering program.
- (v) The Mid semester Examination (MSE) marks shall be based on Student's performance in the Internal Theory examination(s) conducted by the respective Colleges However, the Internal Evaluation (IE) part shall be based on student's performance in Assignments/quizzes/GDs/Seminar/Viva voce/Response Classes.
- (vi) The Term Work (TW) shall be Internal Assessment marks based on assessment of student in Practical/timely submission of completed Journal/Internal vica etc. However, the performance & Oral Examination (POE) shall be an external practical examination to be conducted at College only, on the dates announced by the University. The mark shall be on the basic of students performance in conduct of Practical and/or Oral (on the related topics) to be conducted in the presence of External Examiner, as per rules of the University. Wherever possible, the practical performance must be conducted, before Oral Examination.
- (vii) The pattern of End Semester Examination(ESE) to be conducted by the University shall be as mentioned below:
  - (a) The prescribed syllabi for each of the theory courses have been divided into FIVE units for a Three Hours Paper and FOUR Units for a Two Hours Paper.
  - (b) Syllabus has been divided into units equal to the number of question to be answered /attempted in ESE.
  - (c) There will be question on each unit.