

Direction No. 02 of 2025

“ADMISSION LEADING TO THE DEGREE OF BACHELOR OF SCIENCE (B.Sc.) BASED ON NATIONAL EDUCATION POLICY 2020 (NEP2020) IN THE FACULTY OF SCIENCE AND TECHNOLOGY, DIRECTION, 2025.”

Whereas, The Maharashtra Public Universities Act, 2016 has come into force with effect from 1st March 2017 (Maharashtra Act No. VI of 2017) (hereinafter referred as “the Act”) & the Act is applicable to the Gondwana University, Gadchiroli;

AND

Whereas, the Chairman, U.G.C. New Delhi and State Govt. of Maharashtra has directed the Vice- Chancellor of the university to initiate steps for successful implementation of the National Education Policy 2020 (NEP2020) from the Academic Session 2024- 25.

AND

Whereas, the U.G.C. New Delhi and State Govt of Maharashtra. has formulated and issued guidelines on adoption of National Education Policy 2020 (NEP-2020) 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 National Education Policy 2020 (NEP-2020) at U.G. level programme in all the faculties in the university;

AND

Whereas, as per section 73 (1) & (5) of the Act, an ordinance is required to be framed to implement provisions of National Education Policy 2020 (NEP-2020) in all the academic programmes. However, there is no ordinance in existence in the university for introducing National Education Policy 2020 (NEP-2020) in the faculty of Science and Technology whereas making of an Ordinance is a time-consuming process and there is an urgency to implement provisions of National Education Policy 2020 (NEP-2020) at the Bachelor of Science (B.Sc.) Degree level in the faculty of Science and Technology from the Academic year 2024-25.

Now, therefore, I, Dr. Prashant S Bokare, Vice-Chancellor, Gondwana University, Gadchiroli in exercise of the powers vested in me under provision of section 12(8) of the Act, do hereby issue following Direction: -

1. This Direction shall be called “**EXAMINATIONS LEADING TO THE DEGREE OF**

BACHELOR OF SCIENCE (B.Sc.) BASED ON NATIONAL EDUCATION POLICY 2020 (NEP2020) IN THE FACULTY OF SCIENCE AND TECHNOLOGY, DIRECTION, 2025”.

2. This Direction shall come into force with effect from the date of its issuance.

3. In this Direction, unless the context otherwise requires: -

- a) Academic Year: Two consecutive (one odd + one even) semester constitutes one academic year.
- b) National Education Policy 2020(NEP2020)The NEP2020 provides choice for students to select from the prescribed courses (core, elective or soft skill courses).
- c) Course -A course is essentially a constituent of a Programme. The course should define learning objectives and learning outcome. A course may be designed to comprise lectures / tutorials / laboratory work/ field work/ outreach activities/ project work/ seminars / term papers/ assignments/presentations / self-study etc. or a combination of some of these.
- d) 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 minimum of 1 Hr of Teaching theory/Tutorial and 2 Hr laboratory work/ FP/Project/OJT
- e) Credit point-It is the product of grade points and number or credits for a course.
- f) Grade point —It is numerical weight allotted in each letter grade on 10-point scale.
- g) Letter grade —It is an index of performance of students in a said course. Grades are denoted by letters.

4. Need for academic reforms in Indian Higher Education:

- a) In the knowledge-based society, quality of higher education is of prime importance. There are many concerns about the quality of education imparted to the learners and its overall impact on the development of the nation. In the existing system lack of flexibility in the curriculum and absence of comprehensive national framework for facilitating mutual give and take of the academic programs offered by different higher education providers is the main lacuna. It is the need of time to overview the existing education system and introduce reforms wherever possible.
- b) Recommendations of National Regulating Authority:

The University Grants Commission (UGC), NAAC, Distance Education Council (DEC) and National Knowledge Commission (NKC) have suggested the recommendations to improve the quality and effectiveness of higher education in the country. It is necessary to develop a National Education Policy in tune with global trends and adoption of grading system for assessing learner's performance. Today, there is a need for fully convertible National Education System, acceptable to all other universities in the form of credits.

c) The Concept of NEP-2020 in Brief:

The National Education Policy (NEP) 2020 is a comprehensive framework introduced by the Government of India for development of education in the country. It aims to overhaul the education system to make it more inclusive, flexible, and aligned with global standards. The policy was approved on July 29, 2020, and it addresses several aspects of education, ranging from school education to higher education.

Overall, NEP 2020 seeks to create a more inclusive, accessible, and flexible education system in India, aligning it with the demands of the 21st century while aiming for sustainable development in education. It aims for a transformation in the way education is delivered and received, fostering skills that are vital for personal growth, societal contribution, and economic development.

d) Need for Introduction of NEP 2020: The introduction of NEP 2020 in higher education is seen as a crucial step to address several challenges that the Indian education system faces while also preparing students for the demands of the 21st-century. The key reasons for the introduction of NEP 2020 in higher education are as follows:

i. Improving Quality of Education

- Global Competitiveness: The policy aims to improve the quality of higher education by introducing more rigorous, multidisciplinary, and research-oriented curricula, making Indian institutions more competitive globally.
- Curricular Reforms: It seeks to update and modernize curricula to reflect the latest advancements in knowledge and technology, addressing the gap between current educational practices and the evolving needs of the workforce.
- Research and Innovation: By creating a National Research Foundation (NRF) and promoting innovation, NEP 2020 intends to make research a central part of higher education, encouraging cutting-edge developments in various fields.

ii. Expanding Access and Inclusivity

- **Increased Enrollment:** NEP 2020 targets an increase in the Gross Enrollment Ratio (GER) for higher education to 50% by 2035, ensuring more students have access to quality education beyond school.
- **Equity and Inclusion:** The policy emphasizes inclusion, offering more opportunities for marginalized groups, including students from rural areas, economically disadvantaged backgrounds, women, and students with disabilities.
- **Flexible Learning Pathways:** The introduction of multiple entry and exit points, along with flexible degree options (such as 3-year, 4-year, and even part-time courses), caters to diverse needs and encourages lifelong learning.

iii. Promoting Multi-disciplinarity:

- **Holistic Learning:** NEP 2020 encourages students to explore multiple disciplines during their higher education journey. For instance, students can now combine courses in Science, Commerce, and Humanities, breaking the traditional boundaries of discipline-specific learning.
- **Interdisciplinary Approach:** The policy promotes interdisciplinary education and research, encouraging a broader perspective, critical thinking, and problem-solving abilities that are essential in today's complex, interconnected world.

iv. Enhancing Employability

- **Vocational Education Integration:** NEP 2020 seeks to integrate vocational education into mainstream higher education, which can equip students with industry-relevant skills and enhance their employability.
- **Focus on Critical Skills:** The policy emphasizes developing critical thinking, problem-solving, and other life skills. These competencies are essential for students to succeed in dynamic work environments, where practical skills are as important as theoretical knowledge.

v. Autonomy and Institutional Development

- **Institutional Autonomy:** NEP 2020 proposes granting greater autonomy to higher educational institutions, encouraging them to innovate in teaching, research, and administration.
- **Accreditation and Accountability:** The policy also stresses the need for stronger regulatory frameworks that ensure quality while allowing institutions the freedom to design and deliver programs suitable to contemporary needs.

vi. Encouraging Digital Transformation

- **Digital Learning:** The policy strongly advocates for the integration of technology in higher education to enhance learning experiences, especially in remote and underserved areas. This can help bridge educational disparities and create more equitable access.
- **Blended Learning:** It encourages the adoption of online learning platforms, MOOCs (Massive Open Online Courses), and digital resources, offering flexibility.

e) Advantages of Credit System:

- Shift in focus from teacher-centric to student-centric education, since the workload is calculated on the time spent in learning, and not in teaching.
- Helps to record work and document learner workload.
- Helps self-paced learning.
- Allows more flexibility to the learners to choose the programs.
- Respects “Learner Autonomy”. Allows learners to choose according to their own learning needs, interests and aptitudes.
- Makes education more broad-based. One can take credits by combining unique combinations.
- Facilitates learner mobility. Offers the opportunity to shift at different times and in different institutions. Credits earned at one institution can be transferred to another.
- Is beneficial for achieving more transparency and compatibility between different educational structures.
- A credit system can facilitate recognition procedures as well as access to higher education for non-traditional learners.

f) Scientific Approach to Implementation:

To implement the credit system, a scientific approach has to be adopted for the benefit of the learner.

5. (i) The following shall be the examinations leading to the award of Degree of Bachelor of Science in the Faculty of Science and Technology.

- a. B.Sc Part-I all subjects, (semester I and II examinations.)
- b. B.Sc. Part II, all subjects (semester III and IV examinations); and
- c. B.Sc. Part III, all subjects (semester V and VI examinations) and
- d. B.Sc. Part IV, all subjects (semester VII and VIII examinations).

(ii) The Duration of the Program: The duration of undergraduate (U.G.) Program (B.Sc.) in the Faculty of Science and Technology shall be of three/four academic years consisting of six/eight semesters.

6. Admission and Eligibility criteria: Subject to their compliance with the provisions of this direction and of other ordinance in force from time to time, an applicant for admission to Semester I of NEP 2020, B.Sc. I, must have passed higher secondary (10+ 2) or an equivalent course recognized from M.S. Board/ CBSE/or any recognized body by state or central Govt.
7. (I) The student passing H. S.C examination with Physics, Chemistry and Mathematics shall be offered the following subjects at B.Sc. I examination as per the annexure-I
 (II) The students passing H.S.C. examination (M.C.V.C. stream) with technical trades/ Paramedical/Agricultural/Fisheries group/ Engineering and technology, Computer Science group shall be eligible for the admission to NEP2020 semester pattern B.Sc. I course as per their eligibility and subjects offered at that level.
8. Every examinee for the B.Sc. (Semester I & II) Examinations shall be examined inas per annexure I and II.
9. In the case of B.Sc. Part-II, (Sem. III & IV Examinations): - The student shall have passed not less than one academic year previously the (B.Sc. Part-I, Sem. I & II Examinations) of the University or an examination recognized as equivalent thereto, and
10. In the case of the B.Sc. III, (Sem. V & VI Examinations) :- The student shall have passed not less than one Academic year previously the (B.Sc. Part-II) (Sem. III & IV) Examinations of the University or an examination recognized as equivalent thereto:
11. In the case of the B.Sc.IV, (Sem. VII& VIII Examinations):- The student shall have passed not less than one Academic year previously the (B.Sc. Part-III) (Sem. V&Vi) Examinations of the University or an examination recognized as equivalent thereto

Eligibility for Award of Certificate/Diploma/Degree/Honours or Research Degree:

Semester Completion	No. of Minimum Credits Required	Additional Credit Requirement	Eligible For
I and II	40	4 credits for NSQF Course/ /Internship	UG Certificate in Science
III and IV	84	4 credits for NSQF Course/ Internship	UG Diploma in Science
V and VI	124	Not Required	Bachelor of Science Degree with Major and Minor OR Continue with Major and Minor
VII and VIII	164	Not Required	Bachelor of Science Degree (Honours/Research) With Major and Minor

Types of Courses

A student admitted to this program is required to undergo and successfully complete the following types of courses as mentioned in the scheme of examination:

Sr. No.	Course Type	Choice for Selection
1	Major Subject	<p>A student is required to select 2 'MAJOR' subjects from Group-I from amongst the choices provided in this scheme of examination for the 1st semester as per Annexure-I and from Group-II from amongst the choices provided in this scheme of examination for the 2nd semester as per Annexure-VII. The last date for selection of 'Major' subject may be decided by the college but it shall not be later than 15 days after commencement of classes for that Semester. Change of major subject shall not be permitted after the examination form is submitted. A student should continue the same 'MAJOR' in all semesters</p>
2	Open Elective Course (OE)	<p>A student is required to select an 'OPEN ELECTIVE' from the 'Open Elective Basket' (Annexure-II, Group-I for semester I and Annexure-VIII for semester II.) of the given program offered by the university. Such an 'OPEN ELECTIVE' cannot be selected from the subjects chosen by a student as 'Major' subjects.</p> <p>OR</p> <p>A student is allowed to earn credits for 'OPEN ELECTIVE' by successfully completing online courses of equivalent credits from SWAYAM/NPTEL learning platforms or institute of national repute like IITs, IIMs, IISCs, IIITs, NITs. However, this needs to be informed by a student to the university through college before commencement of the semester and an application for transfer of credits is required to be made by student.</p> <p>If a student completes an 'OPEN ELECTIVE' from other faculty or online learning platform having more than 2 credits, it will be considered equivalent to 2 credits in this program</p>
3	Vocational Skill Course (VSC)	<p>A student is required to successfully complete the 'VOCATIONAL SKILL COURSE' based on the core subject and as mentioned in this scheme of examination appended herewith as Annexure-III, Group-I for semester I and Annexure-IX for semester II. This course must be a course corresponding to the 'MAJOR' selected by a student.</p> <p>OR</p> <p>A student is allowed to earn credits for 'VOCATIONAL SKILL COURSE' by successfully completing online courses</p>

		of equivalent credits from SWAYAM/NPTEL learning platforms. However, this needs to be informed by student to the university through college before commencement of the semester and an application for transfer of credits is required to be made by student.
4	Skill Enhancement Course (SEC)	A student is required to select a 'SKILL ENHANCEMENT COURSE' from the basket provided by the university for this purpose appended herewith as Annexure-IV for semester I and Annexure-X for semester II. A separate notification and guidelines in this regard shall be displayed by the university on its website. OR A student is allowed to earn credits for 'SKILL ENHANCEMENT COURSE' by successfully completing online courses of equivalent credits from SWAYAM/NPTEL learning platforms or the courses from 'Sector Skill Council.' However, this needs to be informed by student to the university through college before commencement of the semester and an application for transfer of credits is required to be made by student.
5	Value Education Course (VEC)	A student is required to undergo and successfully complete the 'VALUE EDUCATION COURSE' as mentioned in this scheme of examination appended herewith as Annexure-V for semester I and Annexure-XI for semester II.
6	Ability Enhancement Course (AEC)	A student is required to undergo and successfully complete the 'ABILITY ENHANCEMENT COURSE' as mentioned in this scheme of examination appended herewith as Annexure-VI for semester I and Annexure-XII for semester II.
7	Indian Knowledge System Course (IKS)	A student is required to undergo and successfully complete the 'INDIAN KNOWLEDGE SYSTEM COURSE' as offered in this course and mentioned in the scheme of examination.
8	Co-Curricular Course (CC)	A student is required to select a 'Co-Curricular Course' from amongst the basket provided under the direction/regulation governing B.sc. Program. This course must be completed at the college where the student has taken admission and transfer of credit is not permissible for this type of the course.

1. Grade Conversion Table and Computation of SGPA and CGPA

Table 3: Grade Conversion Table (Theory)

SN	Letter Grade	Grade Point Range	Mark Range (%)	Performance
1	O	9.00 - 10.00	90 - 100	Outstanding
2	A+	8.00 - < 9.00	80 - < 90	Excellent

3	A	7.00 - < 8.00	70 - < 80	Very Good
4	B+	6.00 - < 7.00	60 - < 70	Good
5	B	5.50 - < 6.00	55 - < 60	Above Average
6	C	5.00 - < 5.50	50 - < 55	Average
7	P	4.00 - < 5.00	40 - < 50	Pass
8	F	Below 4	Below 40	Fail
9	AB	0	-	Absent

Table 4: Grade Conversion Table (Practical)

SN	Letter Grade	Grade Point Range	Mark Range (%)	Performance
1	O	9.00 - 10.00	90 - 100	Outstanding
2	A+	8.00 - < 9.00	80 - < 90	Excellent
3	A	7.00 - < 8.00	70 - < 80	Very Good
4	B+	6.00 - < 7.00	60 - < 70	Good
5	B	5.50 - < 6.00	55 - < 60	Above Average
6	P	5.00 - < 5.50	50 - < 55	Pass
7	F	Below 5	Below 50	Fail
8	AB	0	-	Absent

Note: -When students take audit courses, they may be given pass (P) or fail (F) grade without any credits.

Computation of SGPA & CGPA:

The UGC recommends the following procedure to compute the Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA):

i. The SGPA is the ratio of sum of the product of the number of credits with the grade points scored by a student in all the courses taken by a student and the sum of the number of credits of all the courses undergone by a student, i.e

$$SGPA (S_i) = \frac{\sum(C_i \times G_i)}{\sum C_i}$$

Where, C_i is the number of credits of the i^{th} course and G_i is the grade point scored by the student in the i^{th} course.

ii. The CGPA is also calculated in the same manner taking into account all the courses undergone by a student over all the semesters of a programme, i.e.

$$CGPA = \frac{\sum(C_i \times S_i)}{\sum C_i}$$

Where S_i is the SGPA of the i^{th} semester and C_i is the total number of credits in that semester.

iii. The SGPA and CGPA shall be rounded off to 2 decimal points

iv. CGPA to Percentage (%) conversion formula:

$$\text{Percentage (\%)} = (CGPA) * 10$$

12. Credit Specifications:

- a. Theory/Tutorial Courses: One hour/credit/week (a minimum of 15 hours of teaching per credit is required in a semester).
- b. Laboratory/Performance Based Courses: A minimum of 30 hours in laboratory or Performance Based activities is required in a semester. Performance based activities include Studio activities, Workshop based activities, internship, Apprenticeship, Field based learning, community engagement learning, etc.
- c. Each semester will consist of at least 15 weeks of Academic Work equivalent to 90 actual teaching days.

13. Assessment

- The final total assessment of examinees shall be made in terms of Continuous Internal Assessment (CA) for 20% component and Semester End Examination (UA) for 80% component for each THEORY course mentioned in the scheme of examination.
- The final total assessment of examinees shall be made in terms of Continuous Internal Assessment (CA) and Semester End Examination (UA) for each PRACTICAL course as mentioned in the scheme of examination.
- 'On Job Training/Internship' being a PRACTICAL course shall be assessed as given in the scheme as per the 'Evaluation Rubrics' mentioned in **Annexure – III**.
- 'Research Project' being a PRACTICAL course shall be assessed as given in the scheme as per the 'Evaluation Rubrics' mentioned in **Annexure – III**.

Table 5: Continuous Internal Assessment

1a	Attendance of the student during a particular semester	05 Marks
1b	An assignment based on curriculum to be assessed by the teacher concerned	05 Marks
1c	Subject wise class test or Performance Based Activities conducted by the teacher concerned	10Marks
1	Continuous Internal Evaluation Total marks	20

- Expected Performance Based Activities shall consist of the following: (a) Group Discussion (b) Seminars (c) Power Point Presentations (d) Elocution (e) Debate (f) Role Play (g) Case Studies (h) Educational Games. The teacher is expected to undertake a minimum of four of the aforesaid activity.
- The CA marks will be communicated to the University at the end of each semester, but before the semester end examinations / as instructed by the university. These marks will be considered for the declaration of the results.
- The record of CA marks, evaluation & results should be maintained for a period of three year by the respective institute/college for verification by the competent authority.

14. Attainment of Course Outcomes

a. Continuous Internal Assessment shall be carried out at college/department level in such a way the attainment of prescribed learning outcomes can be measured. The college/department concerned is required to define outcome (4-6) for every course.

b. Semester End Examinations are conducted by the university. The question papers for these examinations are required to be set in such a way that the attainment of prescribed learning outcomes can be measured.

15. Standard of Passing

The scope of the subject, percentage of passing in Theory and Project and Internal Assessment will be governed as per following rules:

- (i) In order to pass the Bachelor of Science (B. sc.) 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th Semester Examinations, an examinee shall obtain not less than 40% (Letter Grade P) marks in each theory course/paper, taking UA & CA together. Whereas, for practical/performance-based examination an examinee shall obtain not less than 50% (Letter Grade P) marks in each practical, taking UA & CA together. Moreover, a student is required to secure not less than 50% marks in aggregate i.e., taking all courses together in order to become eligible for the award of B. Sc. degree.
- (ii) An examinee who is unsuccessful at the examination shall be eligible for admission to the subsequent examinations on payment of a fresh fee prescribed for the examination together with the conditions of the ordinance in force from time to time.
- (iii) The candidates who pass all the semester examinations in the first attempt are eligible for ranks.
- (iv) The results of the candidates who have passed the Semester-IV examination but not passed the lower semester examinations shall be declared as NCL (not completed lower semester examinations). Such candidates shall be eligible for the Degree only after successful completion of all the lower semester examinations.
- (v) The successful examinees at the B.sc. semester IV examination shall be awarded division based on CGPA as follows:

Table 6: CGPA Vs Division

CGPA	Division
7.5 and above	1 st division with distinction
6 to 7.49	1 st division
5 to 5.99	2 nd division

- (vi) Provisions of **Ordinance No. 3 of 2007 of Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur** relating to the award of Grace Marks for passing and examination, securing higher division / class and for securing distinction in subject(s) shall be applicable till the own Direction/Ordinance of Gondwana University, Gadchiroli in this regard will come into force.

- (vii) University guidelines and directions issued from time to time regarding improvement of Results, Reassessment/Revaluation and Incentive Marks shall be applicable to B.sc. Programs covered under this direction.

16. NORMS OF A.T.K.T: -

The admission to the program shall be subjected to ATKT rules as given below:

- A student shall be allowed to keep term for semester II irrespective of grades obtained in each course of semester I but must have appeared at least one university theory examination.
 - A student shall be allowed to keep term for semester III if he/she passes (grade E or above in each course) each of semester I & semester II Or He/ She passes two courses in each semester.
 - A student shall be allowed to keep term for semester IV irrespective of grades obtained in each course of semester III & can appear for Semester IV examination.
 - A student shall be allowed to keep term for semester V, if he / She passes semester I,II, III &IV. Or He / She has passed Semester I & Semester II and Pass in at least 1 course each of Semester III &IV.
 - A student shall be allowed to keep term for Sem VI irrespective of grades obtained in each course of Semester V. There will be supplementary examination conducted for external evaluation (Semester end) by the university.
 - A student shall be allowed to keep term for Sem VII when he/she passes all previous semester Examinations. There will be supplementary examination conducted for external evaluation (Semester end) by the university.
17. There shall be total Six semester/Eight Semester, in U.G. level B.Sc. program
 18. Each semester shall comprise minimum 90 (Ninety) actual teaching days.
 19. All theory papers shall be divided into minimum four units and maximum six units.
 20. The scope and limitations of the subjects of all semester opted by the students shall be indicated in the respective syllabi from time to time. The medium of instruction and examination shall be in English but may answer either in English/Hindi or Marathi, except for the courses in languages.
 21. The fees for the tuition, examination, Laboratory and other fees shall be as prescribed by the University from time to time.
 22. The theory question paper will be as per NEP2020 examination pattern as decided by respective B.O.S.

23. All theory examinations shall be conducted by Gondwana University Gadchiroli at the end of each Semester.
24. Practical examination for all semesters shall be conducted as per the examination scheme prescribed.
25. Duration of practical examinations shall be 6 to 8 hrs, for one or two days, depending upon subject and number of students.
26. The number of papers, practical, teaching hours, the maximum marks allotted and minimum marks which an examinee must obtain in order to pass the examination, all details are shown in Appendices appended to this Direction.
27. The scheme of awarding marks for internal assessment with every detail shall be as per appendix appended with this Direction.
28. Notwithstanding anything to the contrary of this Direction, no candidates shall be admitted to B.Sc. part I, (semester 1 and II), B.Sc. II- (Sem. III and IV) and B.Sc. final (semester V and VI) examinations under this Direction, if he/she has already passed the corresponding or an equivalent examination of any other statutory University.
29. As soon as possible after the examinations, the Board of Examination shall publish a list of successful examinees at the B.Sc. Part-1, (Sem. I & II) B.Sc. Part-11, (Sem. III & IV) and B.Sc. Final (Sem. V & VI) Examinations. The result of all examinations shall be classified on the basis of semester Grade point Average 'SGPA' evaluated as specified in the adopted model (Appendix D).
30. The examinees who have secured pass grade in all subjects prescribed for all the examinations shall be eligible for the award of Degree of Bachelor of Science. The classification of division of examinees for the award of Degree of Bachelor of Science shall be on the basis of Cumulative Grade Point Average 'CGPA' evaluated by accounting SGPA of all semesters as demonstrated in the Appendix D.
31. Successful Examiners at the final examination shall be on payment of the prescribed fees, will be entitled for the award of the degree in the prescribed form signed by the Vice-Chancellor.

20. 32. Abbreviations Used :

CA: College Assessment; UA: University Assessment

List of Annexures:

Annexure – A: Scheme of teaching & examination for Semester I of B.sc.


Annexure – I: List of Core Subjects for Subject Group-I

Annexure – II: List of open Electives Group-A

Annexure – III: List of Practical/Vocational Skill Course based on Core Subject – I (VSC)

- Annexure – IV:** List of Subject for Skill Enhancement Course (SEC)
Annexure – V: List of Subject for Value Education Courses (VEC)
Annexure – VI: List of Ability Enhancement Course (AEC)
Annexure – B: Scheme of teaching & examination for Semester II of B.sc.
Annexure – VII:List of Core Subjects for Subject Group-II
Annexure – VIII: List of open Electives Group-A & Group-B
Annexure – IX:List of Practical/Vocational Skill Course based on Core Subject – I (VSC)
Annexure – X:List of Subject for Skill Enhancement Course (SEC)
Annexure – XI: List of Subject for Value Education Courses (VEC)
Annexure – XII:List of Ability Enhancement Course (AEC)

Date: 27/01/2025
Place: Gadchiroli


(Dr. Prashant S. Bokare)
Vice-Chancellor

Semester Grade Point Average (SGPA): It is the measure of performance of work done in a semester. It is the ratio of total credit points earned by a student in various courses registered in a semester & the total course credits taken during that semester.

Cumulative Grade Point Average (CGPA): The CGPA is the ratio of total credit points earned by a student in various courses in all semester and the sum of total credits of all courses in all semester.

Types of Courses –

Courses in a Programme may be of three kinds: Core, Elective & Foundation.

1. Core course: This is the course which is to be studied compulsorily by a student as a core requirement of a Programme in a said discipline of study.

2. Elective Courses:

Elective course is a course which is to be chosen from a pool of paper, it may be

- Supportive to the discipline of study.
- Providing an expanded scope.
- Enabling learner to get an exposure to some other discipline / domain
- Nurturing students' proficiency /skill.

An Elective may be generic elective, focusing on those courses, which add generic proficiency. *An elective* may be discipline centric or may be chosen from an unrelated discipline. It may be called *Open Elective*.

3. Foundation Course:

May be of two kinds: *Compulsory Foundation (Ability Enhancement Compulsory Course)* & *Elective Foundation (Skill Enhancement Course)*. Compulsory foundation is those courses based upon contents that leads to knowledge enhancement. They are mandatory for all disciplines. Elective foundation courses are value-based & aimed at man- making education.

Gondwana University, Gadchiroli
NEP 2020 U.G. PROGRAMME SESSION 2024-25
Faculty of Science and Technology
Programme Name - B.Sc.Sem-I (Level – 4.5)

Revised Examination Scheme & Basket

Sr. No.	Course Category	Subject name		Total Credit	Teaching Scheme (Hrs)			Examination Scheme								Total Marks	
								Theory				Practical					
					Theory	Practical	Total Hrs.	UA	CA	Total Mark	Min. Passing	Duration of Exam (Hrs.)	UA	CA	Total Mark		Min. Passing
1	Core Subject-I	Select any Two core group subject from Annexure-I	i) Subject- I	02	02	--	02	40	10	50	20	02					50
			ii) Subject- II	02	02	--	02	40	10	50	20	02					50
			iii) Practical Based on subject - I	02	--	04	04	--	--	--	--	--	30	20	50	25	50
			iv) Practical Based on subject - II	02	--	04	04	--	--	--	--	--	30	20	50	25	50
2	OE	Group-A (Any one from Annexure-II)		02	02	--	02	40	10	50	20	02	--	--	--	--	50
3	VSC	Advanced Laboratory Practical based on core group subject-I, including hands on training, wherever applicable (Annexure- III)		02	--	04	04	--	--	--	--	--	30	20	50	25	50
4	SEC	Skill based course (Any one from Annexure-IV)		02	02	--	02	40	10	50	20	02	--	--	-	-	50
5	VEC	Audit course(Any one from Annexure-V)		02	02	--	02	--	50	50	20	--	--	--	--	--	50
6	AEC	English/Marathi/Hindi/Bengali/Pali/Supplementary English, Annexure-VI		02	02	--	02	40	10	50	20	02	--	--	--	--	50
7	IKS	Generic IKS		02	02	--	02	40	10	50	20	02	--	--	--	--	50
8	CC	NCC/NSS/Yoga/Sports(Any one)		02	--	04	04	--	--	--	--	--	--	50	50	25	50
Total				22	14	16	30	240	110	350	140	12	90	110	200	100	550

Note(s):

- As per open elective (OE) is concerned, students shall opt any one subject from Group-A to be Chosen Compulsory from Faculty other than that of the core subject
- Generic IKS will be common for all Faculties in the first Semester as per Government letter No. क्र.एनईपी.२०२२/प्र.क्र.०९/विशि-३(शिकाना)दिनांक२५जानेवारी, २०२४.

B.Sc. SEMESTER I**ANNEXURE-I****LIST OF CORE SUBJECTS**

Sr No	Name of Faculty	Core Group Subjects	Name of Papers
1	Faculty of Science and Technology	Computer Science	Programming Logic and Technique
2		Environmental Science	Introduction to Environmental Science
3		Chemistry	Basic Inorganic Chemistry
4		Mathematics	Differential Calculus
5		Microbiology	General Microbiology and Microbial Technique
6		Botany	History and Development Botany
7		Electronics	Semiconductor devices and circuits
8		Biochemistry	Human Physiology
9		Geology	General Geology and Mineralogy
10		Biotechnology	Cell Biology
11		Zoology	Life and diversity of animals non Chordate(Protozoa to Ammelida)
12		Physics	Mechanics
13		Home Science	Fundamentals of Food Science and Nutrition OR Fundamentals of Home Science Extension

B. Sc. SEMESTER - I

ANNEXURE-II

LIST OF OPEN ELECTIVES GROUP - A

Sr No	Name of Faculty	Core Group Subjects	Name of Papers	
1	Faculty of Science and Technology	Computer Science	Fundamentals of Computer	Foundation of Computing
			MS Word	Google Doc
2		Environmental Science	Environment and Society	Gender and Environment
			Environmental Studies	Socioeconomic Elements of the Environment
3		Chemistry	Chemistry in daily life	Introduction to basic Chemistry
			Daily life Chemistry 2	Environmental Chemistry-I
4		Mathematics	Quantitative Aptitude-I	Logical Reasoning
5		Microbiology	Development of Microbiology	Microbial world and Diversity
			Bacteriology and Virology	Microbial products – Bio fertilizers and Bio pesticide
6		Botany	Bamboo Cultivation	Organic Farming
			Minor Forest Produce	Tendu Cultivation
7		Electronics	Electronics component and Instrument	Troubleshooting of Electronics Gadgets
8		Biochemistry	Chemical Basis of life	Blood and Blood disorders
9		Geology	Industrial application of Rocks	Fundamentals of Topographic Maps
10	Biotechnology	Biotechnology for human Welfare		
11	Zoology	Vermicomposting	Poultry	
12	Physics	Physics in Every Day life: Measurements and Application	Physics and Society	
		Introduction to Astronomy	Physics and Music	
13	Home Science	Basic Chemistry	Housing and Home Furnishing	
14	Language in Science	Foundation course in Communicative English	Foundation course in content writing	
15	Faculty of Humanities	Political Science	Rural Development	Human rights
		Home Economics	Event Management	Gender Education

16			Human and Non Human Resources	Self Employment
17		Geography	A Geography of Tourism	Physical Geography-I
18		Sociology	Sociology of social welfare-I	Sociology of Environment and Society
19		Economics	Introductory Economics-I	Agriculture Economics-I
			Indian Economic Policy- I	Economy of Maharashtra- I
20		Hindi	प्रशासनिक और व्यावसायिक पत्र लेखन, भाग -1	हिन्दी साहित्य का इतिहास आदिकाल- भाग-1
21		Marathi	मराठी साहित्य:नाटक अभ्यासपुस्तक : तुझे आहे तुजपाशी- पु. ल. देशपांडे	प्रवासवर्णन : सर्जनात्मक लेखन आणि वाचन
22		English	Foundation course in communicative English	Foundation course in Content Writing
23		History	Political history of Ancient India	Idea of Bharat
24		Ambedkar Thought	Dr Ambedkar on social integration	Dr Ambedkar on state reorganisation on Pakistan
25		Pali Language	व्यवहारीक पालि	विनय पित्तक परिचय
			मज्झिमनिकाय परिचय	
26		Fashion Designing	Introduction of sewing Machine	Shaping devices
			Yarn and Fabric	
27		Psychology	Biological Psychology –I	Developmental Psychology-I
			Organizational Psychology-I	Consumer and Advertisement Psychology-I
28		Public Administration	Good Governance	Tribal development
29		Indian Music	Critical studies of Ragas Talas-I	Introduction on to Indian Music
30		Military Science	India's Internal Security-I	War after Independence in India
31		NCC	Indian Armed Forces	Challenges of Internal security of India
32	Faculty of Commerce and Management	Commerce	Digital Marketing -I	Stock Marketing –I
33			Labour Economics-I	Basics of Banking
			Corporate Communication-I	
34		Language in Commerce	Foundation course in Communicative English	Foundation course in content writing

Note :- Only one, 2 credits subject other than faculty of the core subject to be chosen amongst above

Open Elective Group - A mentioned in the above Annexure - II

B. Sc. SEMESTER - I**ANNEXURE- III****LIST OF SUBJECT FOR VOCATIONAL SKILL COURSES BASED ON CORE SUBJECT - I (VSC)**

Sr No	Name of Faculty	Core Group Subjects	Name of Papers
1	Faculty of Science and Technology	Computer Science	Google Tools
2		Environmental Science	Water Sampling and analysis
3		Chemistry	Inorganic practical skills - I
4		Mathematics	Computational Mathematics Laboratory
5		Microbiology	Laboratory Techniques in Microbiology
6		Botany	Practical Based on core subject
7		Electronics	Semiconductor devices Laboratory
8		Biochemistry	Medical Laboratory Technique
9		Geology	Megascopic Identification of Minerals
10		Biotechnology	Mushroom Cultivation
11		Zoology	Advanced Lab Technique
12		Physics	Mechanical Measurement Techniques OR Advance Instrumentation and Measurement Technique
13		Home Science	Practical Skill Related to Home Science

Note :- 2 credits Practical / Vocational Course given against core subject is mandatory as mentioned in the above Annexure - III

B. Sc. SEMESTER - I

ANNEXURE-IV

LIST OF SUBJECT FOR SKILL ENHANCEMENT COURSE (SEC)

Sr No	Name of Faculty	Core Group Subjects	Name of Papers
1	Faculty of Science and Technology	Computer Science	Information Communication Technology
2		Environmental Science	Environmental studies
3		Chemistry	Water Treatment-I
4		Mathematics	Probability
5		Microbiology	Instrumentation in microbiology
6		Botany	Mushroom cultivation
7		Electronics	E-waste Management
8		Biochemistry	Basic laboratory skill in Biochemistry
9		Geology	Basic industrial mineralogy
10		Biotechnology	Biotechnological skills and analytical techniques
11		Zoology	Clinical instrumentation techniques
12		Physics	Physics workshop skills OR Laboratory and Technique
13		Home Science	Extension Learning OR Food Adulteration OR Dyeing & Printing
14	Faculty of Humanities	Political Science	Maharashtra gram panchayat code
15		Home Economics	Value, goals and standards
16		Geography	Disaster management
17		Sociology	Social survey
18		Economics	Banking system-I
19		Hindi	व्यावसायिक पत्र लेखन
20		Marathi	व्यक्तीमत्व विकास आणि भाषा
21		English	Functional English-I
22		History	Archives in India
23		Ambedkar Thought	Development of Constitution of India
24		Pali	भारतीय पालि साहित्य व परराष्ट्रीय पालि साहित्य सहसंबंध
25		Fashion Designing	Art in Craft
26		Psychology	Soft skills development-I
27		Public Administration	Communication Skills
28		Indian Music	Critical Studies of Ragas and Talas
29		Military Science	Road Safety and Traffic Management-I
30		NCC	Personality Development
31	Faculty of	Commerce	Business Economics - I

32	Commerce and Management		Marketing Management - I
33			Human Resource Management - I
34			Information & Communication Technology - I
35			Principle of Management -I

Note :- Only one, 2 credits SEC to be chosen from the above Annexure –IV

B. Sc. SEMESTER - I

ANNEXURE- V

LIST OF SUBJECT FOR VALUE ADDED COURSES (VEC)

Sr. No.	Name of subject
1	I.P.R.(Intellectual Property Rights)
2	Environmental studies
3	Constitution of India
4	Indian Democracy, Election and Good Governance
5	D.P.R. Writing

Note :- Only one, 2 credits VEC to be chosen from the above Annexure - V

B. Sc. SEMESTER - I

ANNEXURE- VI

LIST OF ABILITY ENHANCEMENT COURSE (AEC)

Sr. No.	Name of subject
1.	English / Supplementary English
2.	Marathi OR Hindi OR Pali OR Bengali

Note :- 1) Student shall opt English OR Supplementary English in Semester –I and any one from Marathi, Hindi, Pali and Bengali in Semester- II and Vice a Versa.



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Annexure - 'B'

Revised Examination Scheme & Basket

Sr. No.	Course Category	Subject name		Total Credit	Teaching Scheme (Hrs)			Examination Scheme								Total Marks	
								Theory				Practical					
					Theory	Practical	Total Hrs.	UA	CA	Total Mark	Min. Passing	Duration of Exam (Hrs.)	UA	CA	Total Mark		Min. Passing
1	Core Subject-I	Select any Two core group subject from Annexure-VII	i) Subject- I	02	02	--	02	40	10	50	20	02					50
			ii) Subject- II	02	02	--	02	40	10	50	20	02					50
			iii) Practical Based on subject - I	02	--	04	04	--	--	--	--	--	30	20	50	25	50
			iv) Practical Based on subject - II	02	--	04	04	--	--	--	--	--	30	20	50	25	50
2	OE	Group-A (Any one from Annexure-VIII)		02	02	--	02	40	10	50	20	02	--	--	--	--	50
		Group-B (Any one from Annexure-VIII)		02	02	--	02	40	10	50	20	02	--	--	--	--	50
3	VSC	Advanced Laboratory Practical based on core group subject including hands on training (Annexure- IX)		02	--	04	04	--	--	--	--	--	30	20	50	25	50
4	SEC	Skill based course (any one from Annexure-X)		02	02	--	02	40	10	50	20	02	--	--	-	-	50
5	VEC	Audit course (Any one from Annexure-XI)		02	02	--	02	--	50	50	20	--	--	--	--	--	50
6	AEC	English/Marathi/Hindi/Bengali/Pali/ Supplementary English, (Annexure-XII)		02	02	--	02	40	10	50	20	02	--	--	--	--	50
7	CC	NCC/NSS/Yoga/Sports(Any one)		02	--	04	04	--	--	--	--	--	--	50	50	25	50
Total				22	14	16	30	240	110	350	140	12	90	110	200	100	550

Note(s):

- As per open elective (OE) is concerned, students shall opt any one subject from Group-A to be Chosen Compulsory from Faculty other than that of the core subject.

B.Sc. SEMESTER II**ANNEXURE-VII****LIST OF CORE SUBJECTS**

Sr No	Name of Faculty	Core Group Subjects	Name of Papers
1	Faculty of Science and Technology	Computer Science	Programming with "C"
2		Environmental Science	Ecology
3		Chemistry	Basic Organic Chemistry
4		Mathematics	Integral calculus
5		Microbiology	Applied Microbiology
6		Botany	Botany in Twenty First Century
7		Electronics	Digital Electronics
8		Biochemistry	Cell Biology and Biomolecules
9		Geology	Crystallography and Optical Mineralogy
10		Biotechnology	Fundamentals of Microbiology
11		Zoology	Life and diversity of animals non Chordate(Arthropod to Hemichordate)
12		Physics	Magneto Statistics and Electromagnetic waves
13		Home Science	Fundamentals of Family Resource Management OR Fundamental of Textile & Clothing OR Fundamental of Human Development

B.Sc. SEMESTER II

ANNEXURE-VIII

LIST OF OPEN ELECTIVES GROUP-A & GROUP B

Sr. No	Name of Faculty	Core Group of Subject	Name of subject	
			Group A	Group B
1	Faculty of Science and Technology	Computer Science	Video Conferencing and Tools	Basics of Internet
2			MS - Excel	Google Sheets
3		Environmental Science	Environmental Education	Global Environmental Concerns
			Fundamentals of natural Resources	Water and Water Resources
4		Chemistry	Chemistry of Drugs-I	Chemistry of Drugs-II
			Material Chemistry-II	Environmental Chemistry-II
5		Mathematics	Mathematical and Computational Thinking	Business Mathematics
6		Microbiology	Food Microbiology	Air, Soil and Water Microbiology
			Food Fermentation Technology	Mushroom Cultivation Technology
7		Botany	Green House Technology	Nursery Development
			Bamboo Technology	Moha Cultivation
8		Electronics	Domestic Equipment Maintenance	Renewable Energy and Energy Harvesting
9		Biochemistry	Basics of Microbiology	Indigenous System of Health and medicine
			Health and Wellness	Food Biochemistry
10	Geology	Introduction of landforms	Groundwater Quality and Management	
11	Biotechnology	Application of Biotechnology in Agriculture	Biotechnology for Society	
12	Zoology	Apiculture	Sericulture	
13	Physics	Environmental Physics	Energy Sources	
		Introduction to Geophysics	Energy Audit	
14	Home Science	Basic Physics	Ecology & Environment	
		Fabric Studies	Communicative Development	
		Food Additives	Infant Stimulation & Toddlerhood	
15	Language in Science	Foundation course in Spoken English	Introduction to Basic Language Skills	
16	Faculty of Humanities	Political Science	Election and Voter Behavior	Good Governance
		Home Economics	Work Simplification	Flower Arrangement
			Timing and Energy Management	Water Harvesting

17		Geography	Geography of Health	Physical Geography-II
18		Sociology	Sociology of social welfare-II	Sociology of Marriage & Family
19		Economics	Introductory Economics-II	Agriculture Economics –II
			Indian Economics Policy-II	Economy of Maharashtra- II
20		Hindi	प्रशासनिक और व्यावसायिक पत्र लेखन, भाग -II	हिन्दी साहित्य का इतिहास आदिकाल-भाग-II
21		Marathi	मराठी साहित्य : कविता (निवडक) अभ्यासपुस्तक : आधुनिक मराठी कविता	कविता : सर्जनात्मक लेखन आणि वाचन
22		English	Foundation Course in Spoken English	Introduction to Basic Language Skills
24		History	Ancient Indian Administration	Ancient Indian Economics and Economy
24		Ambedkar Thought	Dr. Ambedkar's Approach to Social Problems of Minorities , Caste, Women, Poverty and illitracy	Dr Ambedkar and Conversion to Buddhism
25		Pali Language	पालिभाषा पारीभाषीक शब्द	अंगुत्तरनिकाय परिचय
26		B. A. Fashion Designing	Fabric Construction	Personality Development
			Pattern Desiging	
27		Psychology	Biological Psychology –II	Developmental Psychology-II
			Organizational Psychology-II	Consumer and Advertisement Psychology-II
28		Public Administration	Public Policy	Rural Development
29		Indian Music	Critical studies of Ragas Talas-II	Introduction of Indian Music and fine Arts –II
30		Military Science	Indians Internal Security –II	Indian Military Operations
31		NCC	War after Independence	External Security Threats
32	Faculty of Commerce and Management	Commerce	Digital Marketing -II	Stock Marketing -II
33			Labour Economics-II	Basics Insurance
			Corporate Communication-II	
34		Language in Commerce	Foundation course in Spoken English	Introduction to Basic Language Skills

Note :- 1) Only one, 2 credits subject other than the faculty of core subject to be chosen amongst above

Open Elective Group – A mentioned in the above Annexure - VIII

2) Only one, 2 credits subject other than the faculty of core subject to be chosen amongst Above Open Elective Group – B mentioned in the above Annexure - VIII

B.Sc. SEMESTER II**ANNEXURE-IX****LIST OF SUBJECT FOR VOCATIONAL SKILL COURSES BESTED ON CORE SUBJECT - II (VSC)**

Sr No	Name of Faculty	Core Group Subjects	Name of Papers
1	Faculty of Science and Technology	Computer Science	Web designing using HTML
2		Environmental Science	Ecological Field and Applied Experiments
3		Chemistry	Organic Practical Skills-II
4		Mathematics	Python Programming
5		Microbiology	Production of Bio fertilizers and bio pesticides
6		Botany	Herbal Technology
7		Electronics	Digital Electronic Laboratory
8		Biochemistry	Analysis of Bio molecules
9		Geology	Study of Crystals, Microscopic Identification minerals and Field works (Based on Group II)
10		Biotechnology	Bio fertilizers and bio pesticides Production
11		Zoology	Advanced Lab Technique
12		Physics	Basic Electronic Instrumentation and Measurement Skills OR Advance Electromagnetism Circuit design
13		Home Science	Practical Skill related to Home Science

Note :- 2 credits Practical / Vocational Course given against core subject is mandatory as mentioned in the above Annexure - IX

B.Sc. SEMESTER II

ANNEXURE- X

LIST OF SUBJECT FOR SKILL ENHANCEMENT COURSE (SEC)

Sr No	Name of Faculty	Core Group of Subject	Name of subject
1	Faculty of Science and Technology	Computer Science	Data Analysis Using Excel
2		Environmental Science	Water Conservation System
3		Chemistry	Chemistry of Boiler Troubles
4		Mathematics	Mathematical Modelling
5		Microbiology	Vermicomposting
6		Botany	Floriculture
7		Electronics	Fundamentals of Electronics
8		Biochemistry	Bio analytical Techniques
9		Geology	Fundamental of Hydro Geology
10		Biotechnology	Fermentation Technology
11		Zoology	Clinical Instrumentation Technique
12		Physics	Electrical Circuit and Network Skill OR Applied Measurement and Instrumentation Skills
13		Home Science	Food preservation
14	Faculty of Humanities	Political Science	Human Empowerment
15		Home Economics	Banking Sector
16		Geography	Water Management
17		Sociology	Case Study
18		Economics	Banking system-II
19		Hindi	मिडीया लेखन
20		Marathi	जाहिरात मसुदा लेखन
21		English	Foundation course in English in Social Media
22		History	Museum in India
23		Ambedkar Thought	Atrocity Act
24		Pali	पालि भाषेचा आधुनिक काळात वापर
25		Fashion Designing	Jewellery Art
26		Psychology	Soft skills development-II
27		Public Administration	Personality Development
28		Indian Music	Critical Studies of Ragas and Talas II
29		Military Science	Road Safety and Traffic Management-II

30		NCC	Computer Application
31	Faculty of Commerce and Management	Commerce	Business Economics – II
32			Marketing Management – II
33			Human Resource Management – II
34			Information & Communication Technology- II
35			Principle Management-II

Note :- Only one, 2 credits SEC to be chosen amongst subjects of three Faculties from the above Annexure-X

B.Sc. SEMESTER II

ANNEXURE- XI

LIST OF SUBJECT FOR VALUE ADDED COURSES (VEC)

Sr. No.	Name of subject
1	I..P.R. (Intellectual Property Rights)
2	Environmental studies
3	Constitution of India
4	Indian Democracy, Election and Good Governance
5	D.P.R. writing

Note :- Only one, 2 credits subject VEC to be chosen from the above Annexure - XI

B.Sc. SEMESTER II

ANNEXURE- XI

LIST OF ABILITY ENHANCEMENT COURSE (AEC)

Sr. No.	Name of subject
1.	English / Supplementary English
2.	Marathi OR Hindi OR Pali OR Bengali

Note :- 1) Student shall opt English OR Supplementary English in Semester –I and any one from Marathi, Hindi, Pali and Bengali in Semester- II and Vise a Versa.