GONDWANA UNIVERSITY GADCHIROLI

Faculty of Science

DIRECTION NO. 106 OF 2012

DIRECTION GOVERNING THE EXAMINATION LEADING TO THE DEGREE OF

विज्ञान स्नातक BACHELOR OF SCIENCE - SEMESTER PATTERN WITH CREDIT GRADE SYSTEM

WHEREAS, the University Grants commission, New Delhi vide D.O. No. F-2.2008.(XI Plan), dated 31 January 2008 regarding new initiatives under the XI plan- Academic reforms in the University has suggested for improving quality of higher education and to initiate the academic reform at the earliest,

AND

WHEREAS, the Board of studies in the faculty of science in their meeting held during 23.04.12 prepared the syllabi and scheme of examination for Bachelor of science, under Graduate Degree course and recommended for introducing the Credit Grade semester pattern in faculty of science from the academic session 2012-13,

AND

WHEREAS the recommendations of various Board of Studies in the Faculty of Science regarding framing of various syllabi and introduction and implementation of Semester Pattern Examination System at under graduate level was considered in its meeting held on 02.05.12 and approved the recommendation of board of studies regarding the syllabi and the scheme of examination passed by the respective board of studies for the award of विज्ञान स्नातक Bachelor of Science degree in the Faculty of Sciences.

AND

WHEREAS, the Academic council in its meeting held on 09/05/12 considered and approved the recommendations of Faculty of Science for introducing Credit Grade semester pattern for award of विज्ञान स्नातक Bachelor of Science Degree in the Faculty of Science

AND

WHEREAS, new scheme of examination as per semester pattern is to be implemented from the Academic Session 2012-13 for Semester-I & onwards and the matter is required to be regulated by Ordinance,

AND

WHEREAS, ordinance making is a time consuming process, therefore, I, Dr.V.S.Ainchwar, Vice Chancellor of Gondawana University Gadchiroli in the exercise of powers conferred upon me under section 14(8) of the Maharashtra University Act, 1994 do hereby issue the following Direction.

1. This direction may be called as Examination leading to विज्ञान स्नातक the **Degree of Bachelor of Science** (Three years degree course semester pattern), Direction, 2012.
2. The Direction shall come in to force with effect from the date of its issuance.
3. (i)The following shall be the examination leading to the Degree of Bachelor of science in the faculty if science.

1. विज्ञान स्नातक B.Sc Part-I, semester I and II Examination
2. विज्ञान स्नातक B.Sc. Part II, semester III and IV examination
3. विज्ञान स्नातक B.Sc. Part III, semester V and VI examination.

(ii)The Duration of the program: The duration of undergraduate (U.G.) program for faculty of Science (B.Sc) shall be of three academic years consisting of six semesters.

4. 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 B.Sc I, must have passed higher secondary (10+ 2) or an equivalent course recognized from M.S. Board/ CBSE/or recognized body.

5. (I) The student passing H.S.C examination with Physics, Chemistry and Mathematics shall offer the following subjects at B.Sc. I examination.

   i. English and any one of the following languages Marathi, Hindi, and supplementary English.
   ii. Three optional subjects at least one subject from each of the following groups **A&B** shall be selected.

Group A: Chemistry, Electronics, Mathematics.
Group B: Physics, Geology, Computer Science
The student passing H.S.S. Examination with Chemistry and Biology shall offer following subjects:

   i. English and any one of the following languages, Marathi, Hindi, and supplementary English.
   ii. Chemistry
   iii. Two optional subjects from the following group **C** are selected.

Group C: Botany, Zoology, Biochemistry, Environmental Science, Microbiology, Biotechnology, Industrial fish and fisheries and Geology

For vocational subjects sanctioned by U.G.C. there shall be the following scheme of combination of subjects:

a. Student with Mathematics at H.S.C. examination shall select two subjects from **Group D** along with one vocational subject available.

b. Students passing with Biology, at H.S.C. examination, shall select two subjects from **Group E** along with one vocational subject available.

Group D: Physics, Chemistry, Mathematics, Electronics, Computer Science and Geology.

Group E: Chemistry, Botany, Zoology, Microbiology, Environmental Science, Biochemistry, biotechnology and Geology, Industrial Fish and fisheries

II) The students passing H.S.C. examination (M.C.V.C. stream) with technical trades shall be eligible for the admission to B.Sc. I course as follow:

a. Paramedical/Agricultural/Fisheries group: can take any allowed combination of three from the following subjects: - Zoology, Botany, Microbiology. Biochemistry, Biotechnology, Environmental science, Industrial fish and fisheries, Chemistry, Geology.
b. Engineering and technology, Computer Science group: can take any allowed combination of three from the following: - Physics, Chemistry, Computer Science, Mathematics and Electronics,Geology

III) Every examinee for the B.Sc.Part I (Semester I &II) Examination shall be examined in:

a) Compulsory English
b) Any one of the following languages: Marathi, Hindi, Supplementary English
c) Any one combination allowed/available at the concerned college or Institute as shown in **Appendix E.**

IV) **In the case of (B.Sc. Part-II, Sem-III & IV) Examination: -** have passed not less than one academic year previously the (B.Sc. Part-I, Sem-I & II) Examination of the University or an examination recognized as equivalent thereto, and

V) **In the case of the (B.Sc. Final, Sem-V & VI) Examination:-** have passed not less than one academic year previously the (B.Sc. Part-II, Sem-III & IV) Examination of the University or an examination recognized as equivalent thereto:

6. Norms of A.T.K.T:

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

For admission to Semester	Candidates should have passed in all subjects of following examination	Candidates should have satisfactorily completed the term work and appeared for at least one paper of the following exam	Candidates should have passed at least 40% subjects of
Sem I	XIIth class or equivalent	-----	-----
Sem II	----	Ist semester	-----
Sem III	----	-----	Semester I & II

			separately(two subjects from each)
Sem IV	----	IIIrd semester	-----
Sem V	Semester I and II	-----	Semester III & IV separately(one subject from each)
Sem VI	----	Vth semester	-----

7. There shall be total six semester, in U.G. level B.Sc. program
8. Each semester shall comprise 90 (Ninety) actual teaching days.
9. Every subject (Except languages and Mathematics) in each semester will comprises of –
   a. Two theory papers – 50 marks each
   b. One internal assessment, based on two theory papers – 10 marks each.
   c. One practical/Laboratory work- Total 30 marks
10. For Mathematics-
    a. Two theory papers- 60 marks each
    b. One internal assessment based on two theory papers for 15 marks each
11. In addition to above, Semester I & II will have
    a. One compulsory English paper of 100 marks with 20 marks for internal assessment.
    b. One second language paper of 100 marks with 20 marks for internal assessment.
12. All theory papers shall be divided into four units.
13. 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 English, except for the courses in languages.
14. The fees for the tuition, examination, Laboratory and other fees shall be prescribed by the University from time to time.
15. The theory question paper will follow similar pattern for maximum subjects with interunit choice (Computer Science, Mathematics & Chemistry with "Intraunit" choice) and equal weightage to all questions. Duration of each theory paper shall be three hours. There will be five questions each of 10 marks. Fifth question will be based on entire syllabus. All questions are compulsory with internal choice. Questions may be subdivided into sub questions.
16. All theory examinations shall be conducted by Gondwana University Gadchiroli at the end of each Semester.
17. Practical examination for all semesters shall be conducted twice in a year, at the end of each semester, by Gondwana University, Gadchiroli.
18. Duration of practical examinations shall be 6 to 8 hrs, for one or two day, depending upon subject and number of students.
19. The number of papers, practicals, 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 **A** & **B** appended to this Direction.

20. The scheme of awarding marks for internal assessment with every detail shall be as per appendix **C** with this Direction.
21. Notwithstanding anything to the contrary of this direction no candidates shall be admitted to B.Sc. part I, semester I and II, B.Sc II-Sem-III and IV and B.Sc final semester V and VI examinations under this direction, if he has already passed the corresponding or an equivalent examination of any other statutory University.
22. As soon as possible after the examinations the Board of Examination shall publish a list of successful examinees at the B.Sc Part-I, Sem-I &II; B.Sc. Part-II, 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 Credit-Grade system (Appendix **D**).
23. The examinees who have secured pass grade in all subjects prescribed for all the examination shall be eligible for the award of विज्ञान स्नातक Degree of Bachelor of Science. The classification of division of examinee 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 V and VI semester as demonstrated in the Appendix **D**----
24. Successful Examinees 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.

25. Absorption scheme to switch over from yearly to semester pattern

(From other University to Gondwana University)

a) The candidates who have cleared first year annual pattern examination in the subject shall get admission to third semester directly by matchable scheme. However, candidates who are allowed to keep term will not be eligible for admission to third semester unless they clear all the papers and practicals of first year annual pattern examination.
b) Admission to 5^{th} semester, student should clear second year annual pattern examination in all subjects.

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.

Place:Gadchiroli
Date:27-6-2012

Sd/-
(Dr. V.S. Ainchwar)
Vice Chancellor

Appendix-A

Bachelor of Science

Teaching and Examination scheme

Three year (Six SEMESTERS) Degree course

B.Sc. I (Semester I and II)

Sr .No	Subjects	Teaching scheme				Examination Scheme										
						Theory							Practical			
		Th+Tu Periods	Pr(Periods)	Total periods	Credits	Duration Hrs.	Max.mark Th paper	Min Passing Marks Th	Max marks IA	Min.passing IA	Total	Min. passing Marks	Duration hrs.	Max. mark practical	Min.passing marks	Total marks
1.	Compulsory English	4	--	4	4	3	80	28	20	07	100	35	--	--	--	100
2.	Second Language	3	--	3	2	3	80	28	20	07	100	35	--	--	--	100
3.	Science subjects excluding Mathematics (paper I)	3+ @	--	6+ @	2	3	50	35	10	07	120	42	--	--	--	150
4.	Science subjects excluding Mathematics (paper II)	3+ @	--		2	3	50		10				--	--	--	
5.	Science subjects excluding Mathematics (practical)	--	--	6	2	--	--	--	--	--	--	--	6 – 8*	30	11	
6.	Mathematics (Paper I)	4+1	--	8+ 2	3	3	60	42	15	11	150	53	--	--	--	150
7.	Mathematics (Paper II)	4+1	--		3	3	60		15				--	--	--	
	Grand total of semester I and II = 450+200 Total 650 marks per semester &Total credits/semester=24															

Note: Th=theory, Pr=practical, Tu=tutorial, IA=Internal Assessment, @ = Tutorials wherever applicable, * = If required for two days.

Minimum marks for passing will be 35% of the total marks allotted to theory/ internal assessment/ practical. A candidate has to pass individually in theory / internal assessment / practical separately.

Appendix-B

Bachelor of Science

Teaching and Examination scheme

Three year (SIX SEMESTERS) Degree course

B.Sc. Part II and Final (Semester III, IV, V and VI)

Sr.No	Subjects	Teaching scheme				Examination Scheme										
						Theory							Practical			
		Th+Tu Periods	Pr(Periods)	Total periods	Credits	Duration hrs	Maxi.mark Th paper	Min Passing Marks Th	Max marks IA	Min.passing IA	Total	Min. passing Marks	Duration hrs.	Max.marks practical	Min.passing marks	Total marks
1.	Science subjects excluding Mathematics (paper I)	3+ @	--	6 + @	2	3	50	35	10	07	120	42	--	--	--	150
2.	Science subjects excluding Mathematics (paper II)	3+ @	--		2	3	50		10				--	--	--	
3.	Science subjects excluding Mathematics (practical)	--	--	6	2	--	--	--	--	--	--	--	6 – 8 *	30	11	
4.	Mathematics (Paper I)	4+1	--	8 + 2	3	3	60	42	15	11	150	53	--	--	--	150
5.	Mathematics (Paper II)	4+1	--		3	3	60		15				--	--	--	
	Grand total of semester I and II = 450 Total 450 marks per semester &Total credits/semester=18															

Note: Th=theory, Pr=practical, Tu=tutorial, IA=Internal Assessment, @ = Tutorials wherever applicable, * = If required for two days.

Minimum marks for passing will be 35% of the total marks allotted to theory/ internal assessment/ practical. A candidate has to pass individuality in theory / internal assessment / practical separately.

Note: 1) The strength of a batch of practical and Tutorial for Under-Graduate classes shall be 16 with an addition of 10% with the permission of Vice-Chancellor.

(2) A period will be counted of 48 minutes duration at Under-graduate level.

Appendix-C

Bachelor of Science

Three year (Six SEMESTERS) Degree course

Evaluation of Internal Assessment

The internal assessment marks assigned to each theory paper as mentioned in Appendix-A and B shall be awarded on the basis of following parameter. Each BOS shall have right to decide the distribution of marks for internal assessment but there should be separate evaluation for each theory paper. Internal assessment shall be done by University approved teacher in relevant subjects. Internal assessment shall be done by the respective college one month prior to the final exam of each semester. The marks shall be sent to the university immediately after the internal assessment is over.

Internal assessment parameters

- Class test/multiple choice question objective/open book test/unit test etc.
- Home assignments/case study/quizzes/group Discussion.
- Attendance
- Seminar or project etc.
- Industrial visit/field work/visit to research Institute.
- Active participation in routine class instructional deliveries i.e. case
- Overall conduct as a responsible student, skill in articulation, leadership qualities expressed in co-curricular activities etc.

Note:

1. The concerned teacher shall have to keep the record of all the above activities till the passing out of that batch.

2. At the beginning of each semester, every teacher shall inform his/her students unambiguously the method he/she proposes to adopt a scheme of marking for the internal assessment.

3. Teacher shall announce the schedule of activity for Internal Assessment in advance in consultation with HOD/ Principal.

Appendix-D

CREDIT-GRADE SYSTEM FOR U.G. (B.Sc.)

Course credit:

It is the unit of measurement of course works. Each course shall have an integer number of credits which reflects its weightage. **One Credit means one period of one hour duration.**

The number of Credits of a course in a given semester shall ordinarily calculated as under

Number of Credits = L + T + P/2

Where L, T and P represent the number of Lecture, Tutorial and Practical hours per week. The fraction is to be rounded off to next integer value. One Practical / Lab without theory of one hour equal to one credit.

Grade:

It is the measure of performance quality. At the end of each semester, a student is awarded a letter grade in each of his/her course taking into account his/her performance based on the various component of evaluation i.e. on the basis of total marks in each theory course and in each laboratory course.

When the performance exhibited by examinees is assessed in qualitative terms and impressions so obtained by the examiners are directly expressed in terms of letter grades, it is called 'Direct grading'.

The method that is based on a predetermined standard which become a reference point for a learner's performance is called "Absolute grading".

The Absolute grading system of Seven (07) points is the most popular grading system.

Performance Grading Scale

Marks Obtained %	Grade	Grade Point
75 & above	O	6
65 to 74.99	A	5
55 to 64.99	B	4
45 to 54.99	C	3
40 to 44.99	D	2
35 to 39.99	E	1
34.99 & below	F	0

Grade Proposed Norms

O: Outstanding
A: Very Good
B: Good
C: Average
D: Satisfactory
E: Pass
F: Fail

Conversion of Marks to Grades and Calculations of GPA (Grade Point Average)

In the Credit and Grade Point System, the assessment of individual Courses in the concerned examinations will be on the basis of marks only, but the marks shall later be converted into Grades by some mechanism wherein the overall performance of the Learners can be reflected after considering the Credit Points for any given course. However, the overall evaluation shall be designated in terms of Grade. There are some abbreviations used here that need understanding of each and every parameter involved in grade computation and the evaluation mechanism. The abbreviations and formulae used are as follows:-

Abbreviations and Formula's Used:-

G: Grade

GP: Grade Points

C: Credits

CP: Credit Points

CG: Credits X Grades (Product of credits & Grades)

$\sum$CG: Sum of Product of Credits & Grades points

$\sum$C: Sum of Credits points

$$SGPA = \frac{\sum CG}{\sum C}$$

Semester Grade point average (SGPA)

It is indicative of performance of a student in the given semester. The Grade Point average for a semester is obtained by adding the products of Actual Grade points and relative weightage for different courses as shown in the scheme for respective semester and dividing the total credit hours for that semester as illustrated below.

$$\mathbf{SGPA = [\ C_iG_i + C_{ii}G_{ii} + \ldots\ldots + C_nG_n\ ] / (\ C_i + C_{ii} + \ldots + C_n\ )}$$

SGPA: Semester Grade Point Average shall be calculated for individual semesters. (It is also designed as GPA)

Cumulative Grade Point Average (CGPA)

The cumulative Grade Point Average (CGPA) is indicative of the overall academic performance of a student in all the courses registered up to and including the latest completed semester. It is the cumulative total of the products of actual grade point and its weightage upto last semester divided by total credits of all the semesters.

$$CGPA = \sum_{i=0}^{n} c_i \, g_i \; \sum_{i=0}^{n} c_i$$

CGPA: Cumulative Grade Point Average shall be calculated for the entire Program by considering all the semesters taken together.

Note: If a student is permitted to repeat any semester/course, the new letter grade will replace the old letter grade in the computation of the CGPA.

After calculating the SGPA for an individual semester and the CGPA for entire program, the value can be matched with the grade in the Grade Point table as per the Seven (07) Points Grading System and expressed as a single designated GRADE such as O, A, B, etc…

Illustration of Calculation:-
The illustration for the conversion of marks into grades in theory & practical, if any in individual courses are as shown below:
For e g:Pass in all the courses with more than 35% marks

Courses in the semester	Marks % obtained	Grade	Grade points (G)	Credits (C) per Course	∑ CG = (C × G)	SGPA =∑CG/ ∑C
Course- I	55	B	4	4	16	82/20= 4.1
Course-II	60	B	4	4	16	
Course-III	70	A	5	4	20	
Course-IV	80	O	6	3	18	
Course-V	40	D	2	3	06	
Course-VI	45	C	3	2	06	
Passes Credit earned = 20				∑C = 20	∑CG =82	Grade = B

Reporting of Learners Performance (Grade Card)

The grade cards can be issued to the Learners on the basis of the above calculations in a uniform format given by the University. The grade cards of the Examinations conducted by the University shall be signed by the Controller of Examinations only as per the provision in the University Act.

The grade card will reflect the marks obtained by the Learner, Credit points of the individual Course as well as Semester, conversion of marks into grades, calculation of SGPA for each individual semester and the CGPA for the complete Program at the end of the final semester.

The grade card shall be issued with SGPA & Grade in case of middle semesters or CGPA
& Grade in case of final semester only to those learners who have completed all the Courses & semesters of that program successfully. However, the learners those who are unsuccessful or carry the courses under ATKT rule will not get the SGPA & Grade in case of middle semesters or CGPA & Grade in case of the final semester unless and until they successfully complete their pending courses or semesters under the concerned program.

Gondwana University, Gadchiroli
MODEL GRADE CARD
Program: Bachelor of Science (B.Sc) SEMESTER I

Examination Seat No.	**Name of the Candidates**	**Month & year of Examination**	**Photo Of Candidate**
1	**A, B, C, D.**	**October, 2012**	

Course code	**Marks Obtained**			**Total**	**Percentage %**	**Grades**	**Grade points**	**Credit Points**	**CG=C×G**	**GDA= ∑CG/ ∑C**
	Theory	I.A	Practical							
Comp. English	55	18	--	73	73	A	6	4	24	132/24 = 5.5
Marathi	48	20	--	68	68	A	6	2	12	
Zoology	65	18	25	108	72	A	6	6	36	
Microbiology	52	16	22	90	60	B	5	6	30	
Chemistry	50	20	25	95	64	B	5	6	30	
								∑C=24	∑CG=132	Grade=B

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.

Appendix-E

Student shall offer any combination allowed/available at the concerned college or Institute as shown below:

1. CPM - Physics, Chemistry, Mathematics
2. CZB - Chemistry, Zoology, Botany
3. CZG - Chemistry, Zoology, Geology
4. CPG - Chemistry, Physics, Geology
5. CBG - Chemistry, Botany, Geology
6. CMG - Chemistry, Mathematics, Geology
7. CZM - Chemistry, Zoology, Microbiology
8. CBM - Chemistry, Botany, Microbiology
9. CBB - Chemistry, Biochemistry, Botany
10. CBZ - Chemistry, Biochemistry, Zoology
11. CBM - Chemistry, Biochemistry, Microbiology
12. PME - Physics, Mathematics, Electronics
13. PCE - Physics, Chemistry, Electronics
14. CZE - Chemistry, Zoology, Environmental Science
15. CBE - Chemistry, Botany, Environmental Science
16. CME - Chemistry, Microbiology, Environmental Science
17. CZI - Chemistry, Zoology, Industrial fish and fisheries
18. PMC - Physics, Mathematics, Computer Science
19. BCB - Chemistry, Biochemistry, Biotechnology
20. BBB - Biochemistry, Botany, Biotechnology
21. BZB - Biochemistry, Zoology, Biotechnology
22. BMB - Biochemistry, Microbiology, Biotechnology
23. BMZ - Biotechnology, Microbiology, Zoology
24. BMC- Biotechnology, Microbiology, Chemistry
25. BMB - Biotechnology, Microbiology, Botany
26. ECM - Electronics, Computer science, Mathematics
27. PCC - Physics, Chemistry, Computer Science
28. MCC - Mathematics, Chemistry, Computer Science
29. BBC - Biotechnology, Botany, Chemistry
30. BCZ - Biotechnology, Chemistry, Zoology
31. CBM - Chemistry, Biochemistry ,Mathematics
32. CBG - Chemistry, Biochemistry, Geology
33. CGE - Chemistry, Geology, Environmental Science
34. CPE - Chemistry, Physics, Environmental Science
35. CME - Chemistry, Mathematics, Environmental Science