# GONDWANA UNIVERSITY GADCHIROLI
## Ordinance No. 15 of 2017

**EXAMINATIONS LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY (B.Sc.I.T) IN THE FACULTY OF SCIENCE (Three year Degree course) SEMESTER PATTERN WITH CREDIT-GRADE SYSTEM ORDINANCE,2017**

WHEREAS, it is expedient to provide Ordinance in respect of Examinations leading to the Degree of the Bachelor of Science in information technology {B.Sc. (I.T)} in the faculty of science (Three year Degree course) Semester Pattern with Credit Grade System for the proposes hereinafter appearing, the Management council is hereby pleased to make the following Ordinance:-

1. This Ordinance may be called Examinations leading to the Degree of **Bachelor of Science in Information Technology** {B.Sc. (I.T)} in the Faculty of Science (Three years Degree Course) Semester Pattern with Credit System Ordinance,2017
2. This Ordinance shall come in to force with effect from the date of its making by the Management Council.
3. The course for Degree of B.Sc (Information Technology) under this Ordinance shall extend over a period of three academic years with 6 semesters. At the end of each Semester there shall be a university examination known namely.
    - (a) The bachelor of Science (Information Technology) Part-I-Sem. I&II examinations;
    - (b) The bachelor of Science (Information Technology) Part-II-Sem.III & IV examinations, And
    - (c) The Bachelor of Science (Information Technology) Part-III-SemV &VI examinations.
4. The examination specified in the preceding paragraph shall be held semester wise at such places and on such dates as may be appointed by the university.
5. Subject to his compliance with the provisions of this Ordinance and of other ordinances in force from time to time, the candidate who has prosecuted a regular course of study for not less than one academic year prior to the examination shall be eligible for admission to the examinations.
6. Every applicant for admission to examination shall-
    - **(a) In case of the Bachelor of Science (Information Technology) Part-I examination:-**
      Have passed not less than one academic year previously the 12$^{th}$ standard examination of the Maharashtra State Board of Secondary and Higher secondary Education with English and Mathematics or an examination recognized as equivalent thereto in such subjects and with such standard of attainments as may be prescribed.

      Provided that students passing the 12$^{th}$ standard examination of the Maharashtra state Board of secondary and higher secondary Education and offering Vocational Stream with Mathematics shall be eligible for admission to the Bachelor of information technology part- I course.

    - **(b) In case of the Bachelor of Science (Information Technology) part-II examinations:-**

Have passed not less than one academic year previously the Bachelor of Science (Information Technology) Part-I examination of the University or an examination recognized as equivalent thereto, and

**(c) In case of the Bachelor of Science(Information Technology) Part-III examinations:-**

Have passed not less than one academic year previously the Bachelor of Science (Information Technology) Part- II examinations of the University or an examination recognized as equivalent thereto.

7. Without prejudice to the other provisions of ordinance No. 6 relating to the examinations in General, the provisions of paragraph 5,8,10,31 and 32 of the said ordinance shall apply to every collegiate candidate.

8. The fees for the examination shall be as prescribed by the university from time to time.

9. The scope of the subjects of Bachelor of Science (Information Technology) Part-I, part-II, and final shall be as indicated in the respective syllabi in force from time to time. The medium of the instruction shall be English.

10. The paper and practical in which an examinee is to be examined, the maximum marks prescribed for each paper and practical and the minimum pass mark which the examinee must obtain in order to pass in the subject and the examination shall be as prescribed in **appendices A , B** and C relating to part-I,II,and III respectively.

11. There will be 5 theory papers in each semester

12. In each semester, there will be 2 practical papers based on Computer papers.

**13. Scheme and Passing Criteria:-**
   (1) Min. Passing marks is 35% separately in Theory, Practical and Internal Assessment. Student must pass separately in Practical by scoring min. marks in Internal and External.
   (2) Marks are rounded to next integer for fraction values >= 5. Otherwise ignore the fraction value for deciding passing criteria.
   (3) Each theory paper is consisting of 80 marks and min. passing marks in Theory paper is 28.
   (4) Min. passing marks in Practical examination is 18 (9 + 9) out of 50 (25 + 25) Marks.
   (5) Each theory paper has 20 marks for Internal Assessment and min. passing marks is 07.
   (6) Internal Assessment marks comprising of atleast 4 activities of the following,
      (a). Home Assignment;
      (b). Class Test Examination Performance;
      (c). Seminar;
      (d). Case Studies;
      (e). Group Discussion;
      (f). Field Work;
      (g). Study Tour;
      (h). Paper Presentation;
      (i). Book Review;
      (j). Involvement in Departmental and College Activities.

13. **Practical Examination Scheme:-**
   i) **Time:** Minimum 2 Hours 30 Min. for conducting the practical examination subject to the number of computers and printers available at the center i.e. if ratio of student and number of computer is same.
      (a) If there are less number of computer (50%) than total Enrolled students for practical examination then additional 2 hours

(b) If there is less number of computer (25%) than total Enrolled students for practical examination then additional 4 hours.

### ii) Practical Examination Evaluation Scheme:-

| | |
|---|---|
| (1) One question to Write and Execute for Taking Printout of the Programme; | 20 Marks |
| (2) One question to Write Programme or from Practical Index; | 10 Marks |
| (3) Record; and | 10 Marks |
| (4) Viva. | 10 Marks |

Total: 50 Marks

14. **Absorption Scheme from Yearly Pattern to Semester Pattern (From Other University to Gondwana University):-**
   1) Admission to 3rd Semester, if student has cleared 1st year of B.Sc. (IT) along with practicals.

   2) Admission to 5th Semester if Student cleared 1st year and atleast two Papers of 2nd year of B.Sc. (IT) along with practicals.

15. **ATKT/Promotion Rules**

| Sr. No. | Semester | Promotion Rule |
|---|---|---|
| 1 | 2 | 3 |
| 1 | I | --- |
| 2 | II | Must Cleared all Internal Assessment and practical examination of Semester I and atleast appeared in one Theory paper of Semester I at University Examination. |
| 3 | III | cleared at least 2 Theory Papers of Semester I and A Theory Papers of Semester II. |
| 4 | IV | Cleared all Internal Assessment and practical examination of Semester III and atleast appeared in one Theory paper of Semester III at University Examination. |
| 5 | V | cleared Semester I and Semester II and cleared at least 2 Papers of Semester III and two Papers of Semester IV |
| 6 | VI | Cleared all Internal Assessment and practical examination of Semester V and atleast appeared in one Theory paper of Semester V at University Examination |

16. Minimum marks for passing will be 35% of the total marks allotted to that paper/internal assessment/practical. A candidate has to pass individually in theory /internal assessment/practical.
17. The course is based on Credit Grade Semester pattern and therefore, it will also regulated by guideline and regulation given in Appendix D which as part of this Ordinance.

18. As soon as possible after the examination, Board of examinations will publish a list of successful examines at the Bachelor of Science (Information technology) of Sem I, II, III, IV, V and VI. 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)

19. The examinees who have secured pass grade in all subjects prescribed for all the examination shall be eligible for the award of the Degree of Bachelor of Science(Information technology) The classification of division of examines for the award of the Degree of Bachelor of Science (Information technology) shall be on the basis of Cumulative Grade Point Average 'CGPA' evaluated by accounting SGPA of I,II,III,IV,V and VI semester as demonstrated in the Appendix **D.**

20. No person shall be admitted to the Bachelor of Science (Information Technology) Part- I Part-II and final examination, if he has already passed the corresponding or an equivalent examination of other statutory university.

21. Successful examinee at the Bachelor of Science (Information Technology) final examination shall on payment of the prescribed fee, receive a degree in the prescribed form, signed by the Vice-Chancellor.

# (Statement of object and reasons)

To regulate the admissions course structure and Examination leading to the Degree of Bachelor of Science (Information technology) in the Faculty of Science (Three year degree course) with Semester Pattern and Credit Grade system, the Vice-Chancellor has issued Direction No.113 of 2012 under provision of sub section(8) of section 14 of the Maharashtra University Act,1994.

The above mentioned Direction No.113 of 2012 is required to be converted into an Ordinance as provided under the provision of above mentioned Act, hence this Draft Ordinance is prepared for consideration of the Academic council and the management council of the University.

# Scheme of teaching and Examination

## B.Sc.(I.T.) – Part-I (semester Ist and IInd)

## Semester -Ist

| Sr. No | Paper Code | Papers/Practicals | CREDIT | Teaching Scheme per week (hrs.) | | | Examination Scheme | | Total Marks | Minimum Passing |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Th | Pr | Total | Max. Marks | | | |
| | | | | | | | External Marks (T) / ( E) | Internal Marks (I) | | |
| 1 | 1BIT1 | English | 3 | 4 | - | 4 | 80 | 20 | 100 | 28 (T) 07 (I) |
| 2 | 1BIT2 | Supplementary English / Hindi/Marathi | 3 | 4 | - | 4 | 80 | 20 | 100 | 28 (T) 07 (I) |
| 3 | 1BIT3 | Trends in Information Technology | 3 | 4 | - | 4 | 80 | 20 | 100 | 28 (T) 07 (I) |
| 4 | 1BIT4 | Developing Programming Logic and Techniques. | 3 | 4 | - | 4 | 80 | 20 | 100 | 28 (T) 07 (I) |
| 5 | 1BIT5 | Digital Electronics and Microprocessor | 3 | 4 | - | 4 | 80 | 20 | 100 | 28 (T) 07 (I) |
| 6 | 1BIT6 | System Analysis and Design | 3 | 4 | - | 4 | 80 | 20 | 100 | 28 (T) 07 (I) |
| 7 | 1BIT7 | Practical - I based on IT, Office Automation (MS-Word, MS-Power Point, MS-Excel) and Paper 4 | 2 | - | 4 | 4 | 25 | 25 | 50 | 09+ 09 = 18 (E) + ( I) |
| 8 | 1BIT8 | Practical – II based on Paper 5 | 2 | - | 4 | 4 | 25 | 25 | 50 | 09+ 09 = 18 (E) + ( I) |
| | | Total | 22 | 24 | 8 | 32 | 530 | 170 | 700 | 246 |

- **Internal Theory Paper Marks: It includes Seminar, Assignment, Unit Test, Book Reviews etc**

# Scheme of teaching and Examination

## B.Sc.(I.T.) – Part-I (semester Ist and IInd)

## Semester – II

| Sr. No | Paper Code | Papers/Practicals | CREDIT | Th | Pr | Total | External Marks (T) / ( E) | Internal Marks (I) | Total Marks | Minimum Passing |
|--------|-----------|-------------------|--------|-----|-----|-------|---------------------------|--------------------|-------------|-----------------|
| 1 | 2BIT1 | English | 3 | 4 | - | 4 | 80 | 20 | 100 | 28 (T) 07 (I) |
| 2 | 2BIT2 | Supplementary English / Hindi/Marathi | 3 | 4 | - | 4 | 80 | 20 | 100 | 28 (T) 07 (I) |
| 3 | 2BIT3 | Structured Programming with C | 3 | 4 | - | 4 | 80 | 20 | 100 | 28 (T) 07 (I) |
| 4 | 2BIT4 | Database Management System | 3 | 4 | - | 4 | 80 | 20 | 100 | 28 (T) 07 (I) |
| 5 | 2BIT5 | Fundamentals of Web Designing and Internet | 3 | 4 | - | 4 | 80 | 20 | 100 | 28 (T) 07 (I) |
| 6 | 2BIT6 | Discrete Mathematics | 3 | 4 | - | 4 | 80 | 20 | 100 | 28 (T) 07 (I) |
| 7 | 2BIT7 | Practical - I based on paper 3 and 4 | 2 | - | 4 | 4 | 25 | 25 | 50 | 09+ 09 = 18 (E) + ( I) |
| 8 | 2BIT8 | Practical - II based on Paper 5 | 2 | - | 4 | 4 | 25 | 25 | 50 | 09+ 09 = 18 (E) + ( I) |
| | | Total | 22 | 24 | 8 | 32 | 530 | 170 | 700 | 246 |

- **Internal Theory Paper Marks: It includes Seminar, Assignment, Unit Test, Book Reviews etc**

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

### Course credit:

It is the unit of measurement of course works. Each course shall have an integer number of credits which reflects its weight age. **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.

$$SGPA = [\ C_i G_i + C_{ii} G_{ii} + \ldots\ldots + C_n G_n\ ] / (\ C_i + C_{ii} + \ldots + C_n\ )$$

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 Avegare (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:

**1) Pass in all the courses with more than 35% marks**

| Courses in the semester | Marks % obtained | Grade | Grade points (G) | Credits (C) per Course | $\sum CG = (C \times G)$ | SGPA $=\sum CG/ \sum C$ |
|---|---|---|---|---|---|---|
| Course- I | 55 | B | 4 | 4 | 16 | |
| Course-II | 60 | B | 4 | 4 | 16 | |
| Course-III | 70 | A | 5 | 4 | 20 | 82/20= 4.1 |
| 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 | | | | $\sum C = 20$ | $\sum CG =82$ | 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.

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's