

 **GONDWANA UNIVERSITY, GADCHIROLI.**

DIRECTION NO. 33 OF 2017

EXAMINATIONS LEADING TO THE DEGREE OF BACHELOR OF SCIENCE AND INFORMATION TECHNOLOGY (B.SC.IT.) (SIX SEMESTER DEGREE COURSE) BASED ON CHOICE BASED CREDIT SYSTEM IN THE FACULTY OF SCIENCE AND TECHNOLOGY DIRECTION, 2017.

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

Whereas, The Maharashtra Public Universities Act, 2016 has come into force with effect from 1st March 2017 (Maharashtra Act No. VI of 2017) (hereinafter referred to as the Act);

AND

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

AND

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

AND

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

AND

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

AND

Whereas, the matter to introduce choice based credit system is required to be regulated by an ordinance to be made in this behalf;

AND

Whereas, no Ordinance is in existence in the university for introducing choice based credit system in the faculty of Science and Technology;

AND

Whereas, making of an Ordinance for introducing choice based credit system in the faculty of Science and Technology is a time consuming process;

AND

Whereas, the choice based credit system is to be introduced at the Bachelor of Science Degree (B.Sc. I.T.) level in the faculty of Science and Technology from the Academic year 2017-18.

AND

Whereas, Direction No. 15 of 2017 , regulating the matter, issued on 20/07/2017 is require to be repealed;

Now, therefore, I,Dr. N.V. Kalyankar, Vice-chancellor, Gondwana University, Gadchiroli in exercise of the powers vested in me under provision of section 12(8) of the Maharashtra Public Universities Act,2016 do hereby issue following Directions to repeal Direction No. 15 of 2017 and to replace the said repealed Direction :-

1. This Direction shall be called "Examinations leading to the Degree of Bachelor of Science ((B.Sc. I.T.) (Six semester Degree Course) based on Choice based credit system in the faculty of Science and Technology, Direction, 2017."
2. This Direction shall come into force with effect from the Academic year 2017-18 for Ist and IInd semester of the Bachelor degree course and onwards i.e. Bachelor of Science (Information Technology) Degree.
3. In this Direction, unless the context otherwise requires :-
 - (1) **Academic Year** :Two consecutive (one odd+ one even) semester constitutes one Academic year.
 - (2) **Choice Based Credit Systems (CBCS)**:The CBCS provides choice for students to select from the prescribed courses (core, elective or soft skill courses).
 - (3) **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.
 - (4) **Credit**: A unit by which the course work is measured. It determines the number of hours of Instructions required per week.
 - (5) **Credit Point**: It is the product of grade points & number of credits for a

- course.
- (6) **Grade Point:** It is numerical weight allotted in each letter grade on 7 point scale.
- (7) **Letter Grade:** It is an index of performance of students in a said course. Grades are denoted by O, A+, A, B+, B, C, E & F.
- (8) **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.
- (9) **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.
- (10) **Programme:** An educational program leading to award of degrees, diplomas or certificates.
- (11) **Semester:** Each semester will have 90 teaching days.
- (12) **Transcript or Grade Card Certificate:** Based on the grades earned, a grade card should be issued to student after every semester. It should display the details (course code, title, number of credits, grade) along with **SGPA** of that semester & **CGPA** earned till that semester.

4. **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 a content that leads to knowledge enhancement. They are mandatory for all disciplines. Elective foundation courses are value-based & aimed at man-making education.

5. Salient features of Course:

- i) Each semester is consists of Max. 7 papers including project, if any, and there will be Max. 3 practical courses in each semester
 - ii) Each Theory course will be of 4 credits and each Lab course (Practicals) will be of 2 credits.
 - iii) Each regular student will have to appear for all the credits of each semester mentioned in the scheme.
 - iv) Total credits for B.Sc.(IT) course shall be 132 Credit.
6. The duration of the B.Sc.(IT) course shall be of three academic years consisting of six semesters with the University examination at the end of each semester namely:
- B.Sc.(IT) Part I : Semester I & Semester II Examinations
 - B.Sc.(IT) Part II : Semester III & Semester IV Examinations
 - B.Sc.(IT) Part III : Semester V & Semester VI Examinations

Examination will be held as per the time-table schedule decided during the Academic year

Sr. No.	Name of the Examination	Main Examination	Supplementary Examination
1	B.Sc.(IT) - Semester I, III, V	Winter	Summer
2	B.Sc.(IT) - Semester II, IV, VI	Summer	Winter

7. The examination specified in the preceding paragraph shall be held semester wise at such places and on such dates as prescribed by University.

ELIGIBILITY TO THE COURSE:

8. Subject to his compliance with the provisions of this direction and of other ordinances in force from time to time, the following applicant candidates shall be eligible for admission to B.Sc.(IT) course and examinations thereof.

Eligibility:-

B.Sc.(IT) I - A student who has passed 12th examination with Mathematics as one of subjects or an examination recognized as equivalent thereto.

9. **Eligibility Criteria for Higher Semester Examinations:** Following rules are to be followed while admitting into the next higher semester.

Sr. No.	Semester	ATKT/Promotion Rules
1	I	-----
2	II	A students enrolled in Semester I shall be allowed to keep term for semester II if candidate has appeared for at least one paper of University Examination of semester I.
3	III	Candidate should have passed at least 2 Theory papers from each semester and must clear all practical's of both semester.
4	IV	A students enrolled in Semester III shall be allowed to keep term for semester IV if Candidate have appeared for at least one paper of University Examination of semester III.
5	V	A student shall be allowed to keep term for semester V if he / She passes 1 st Year (Semester I and II) And Candidate should have appeared and passed at least 1 Group (2 Theory papers) from each Semester III and Semester IV and must clear all practical's of both semester.
6	VI	A students enrolled in Semester V shall be allowed to keep term for semester VI if Candidate have appeared for at least one paper of University Examination of semester V.

10. Absorption scheme for failure students of the --

i) Credit Based Semester Pattern:

While switching over to Choice Based Credit System, the failure students of credit based semester pattern will be given only **Three** chances to clear the examination.

- a) The candidates who have cleared Part I examination of the Credit Based Semester Pattern examinations shall get admission to Third Semester of Part II of the Choice Based Credit System directly.
- b) The candidates who have cleared Part I and Part II examination of the Credit Based Semester Pattern examinations shall get admission to Fifth Semester of Part III of the Choice Based Credit System directly.

ii) Annual pattern:

- a) The candidates who have cleared first year of annual pattern shall get admission to Semester III of the Choice Based Credit System directly.
- b) The candidates who have cleared Second year of annual pattern shall get admission to Semester V of the Choice Based Credit System directly.
11. Without prejudice to other provisions of Ordinance No. 6 relating to „Examinations in general], provisions of Para 5, 8, 9, 10, 26, 31 and 32 of the said ordinance shall apply to every student admitted to this course.
12. The fees for the tuition, examination, laboratory and other fees shall be as prescribed by the university from time to time.
13. a) The scope of the subject shall be as prescribed in the syllabus.
b) The medium of instruction and examination shall be English.
14. The details of Papers, Practical, Project and maximum marks assigned to each one and minimum marks to pass them in the examination, shall be as prescribed in the course structure mentioned in Para 20 and 21.
15. The provisions for award of grace marks for passing an examination, securing higher grade in subject(s) as updated from time to time shall apply to the examination under this direction.
16. The names of the successful examinee passing the examination as a whole in the minimum prescribed period and securing the grades equivalent to first and second division shall be arranged in order of merit as provided in ordinance No. 6 relating to Examinations in general.
17. Successful examinees at the end of B.Sc.(IT)course who obtained CGPA above 7.51 shall be placed in First Division with distinction, those obtaining CGPA from 6.00 to 7.50 shall be placed in First Division, those obtaining CGPA from 4.50 to 5.99 shall be placed in Second Division and those obtaining CGPA from 4.00 to 4.49 shall be placed in Third Division.
18. No candidate shall be admitted to an examination under this direction, if he / she has already passed the same examination of this university or of any other university.

19. Fairness in Assessment:

For fairness of assessment in the examination following rules must be governed,

- i) In case of theory paper valuation, at least one valuer must be appointed from other university.

ii) In case of the assessment of Practical/Project reports, the work should be undertaken by internal as well as external examiners.

20. Scheme for choice based credit system for B.Sc. (IT) Programme.

Semester	Core Course	Elective Course (EC)	Foundation Course		Discipline Specific Elective (DSE)
			Ability Enhancement Compulsory Course (AECC)	Skill Enhancement Courses (SEC)	
SEM-I	Core Group 1 Core Group 2 Core Group 3 (Lab1 and Lab2)	One paper need to be select out of two papers and Lab.	AECC-I (English) AECC-II (Marathi / Supl. English / Hindi / Other Language)		
SEM-II	Core Group 4 Core Group 5 Core Group 6 (Lab1 and Lab2)	One paper need to be select out of two papers and Lab.	AECC III (English) AECC IV (Marathi/Supl. English/Hindi/ Other Language)		
SEM-III	Core Group 7 Core Group 8 Core Group 9 (Lab1 and Lab2)	One paper need to be select out of two papers and Lab.		SEC-I: Environmental Studies (Compulsory)	
SEM-IV	Core Group 10 Core Group 11 Core Group 12 (Lab1 and Lab2)	One paper need to be select out of two papers and Lab.		SEC-II: Foundation Course	
SEM-V		One paper need to be select out of two papers and Lab.		SEC-III: Foundation Course	DSE-I
SEM-VI		One paper need to be select out of two papers and Lab.		SEC-IV: Foundation Course	DSE-II

21. Course Structure

Scheme of teaching and examination under semester pattern Choice Based Credit System (CBCS) for B.Sc.(IT)program shall be as given below,

B.Sc. (IT)-I(Semester - I)									
Subject	Paper Code	Paper Name	Total Period /Week	Credit	% of Assessment			Min. Passing (40%)	
					IA	UE	Total		
Ability Enhancement	UBITT101	English (Business Communication-I)	4	4	20	80	100	40	
Compulsory Code (AECC-I and AECC-II)	UBITT102.1	Elective 1. Supplementary English 2. Marathi 3. Hindi	4	4	20	80	100	40	
	UBITT102.2								
	UBITT102.3								
Core Courses (Core I and Core II)	UBITT103	Information and Communication Technology	4	4	20	80	100	40	
	UBITT104	Developing Programming Logic and Techniques	4	4	20	80	100	40	
Elective Course (EC-I)	UBITT105.1 UBITT105.2	Elective 1. Digital Electronics 2. Hardware Interfacing	4	4	20	80	100	40	
Core III Lab (based on Core I and Core II)	UBITP106	Lab on UBITT103	4 Prac. Per Batch	2	20	30	50	20	
	UBITP107	Lab on UBITT104	4 Prac. Per Batch	2	20	30	50	20	
EC based Lab	UBITP108	Lab on UBITT105.1 or UBITT105.2	4Prac. Per Batch	2	20	30	50	20	
Total					26	160	490	650	260

- **Core:** Major theory papers in the concerned subject. Each Practical is of 2 Period per Batch. Each week there should be 2 practical per batch's. From Elective Courses, students need to select one paper.
IA(Internal Assessment) :It will be evaluated by Internal Examiner appointed by College in consultation with the University. (Refer Appendix 1)
- **UE**(University Examination): It will be evaluated by External Examiner appointed by University. (Refer Appendix 1 & 3)
- **Period:** Each period is of 48 minutes or as per Government direction from time to time.
- In Paper Code
 - 1st Letter (U) : Represent it a Under Graduate Course.
 - Next 3 Letter (BIT) :Represent it is Bachelor of Science in Information Technology.
 - Next Letter (T/P) : T : Represent Theory Paper (Refer Appendix 1 & 3)
P:Represent Practical (Refer Appendix 1 & 2)
S : Represent Seminar (Refer Appendix 1)
 - Next Letter (1) : Represent Semester (1- 1st, 2 – 2nd and so on 6-6th Semester)
 - Last two letter : Represent Paper No. for Ex. 01 Represent Paper 1
 - **Lab*** :
 - 1)Not more than two students should be allowed to do practical on one machine.
 - 2)Wherever possible Practicals should be perform using Open Source Software.
- **Batch:** Each batch can be of Maximum 16 students.

*Student must appear for University Practical Examination otherwise he/she will be treated as fail. However their Internal marks will be carried forward. In Group, candidate must appear each theory paper.

B.Sc. (IT) -I (Semester - II)

Subject	Paper Code	Paper Name	Total Period /Week	Credit	% of Assessment			
					IA	UE	Total	Min. Passing (40%)
Ability Enhancement Compulsory Course (AECC-III and AECC-IV)	UBITT201	English (Business Communication-II)	4	4	20	80	100	40
	UBITT202.1	<u>Elective</u> 1. Supplementary English 2. Marathi 3. Hindi	4	4	20	80	100	40
	UBITT202.2							
UBITT202.3								
Core Courses (Core IV and Core V)	UBITT203	Structured Programming using 'C'	4	4	20	80	100	40
	UBITT204	Discrete Mathematics	4	4	20	80	100	40
Elective Course (EC-II)	UBITT205.1	<u>Elective</u> 1. Database Management System 2. Operation Research	4	4	20	80	100	40
	UBITT205.2							
Core VI Lab (based on Core IV and Core V)	UBITP206	Lab on UBITT203	4 Prac. Per Batch	2	20	30	50	20
	UBITP207	Lab on UBITT204	4 Prac. Per Batch	2	20	30	50	20
EC based Lab	UBITP208	Lab on UBITT205.1 or UBITT205.2	4 Prac. Per Batch	2	20	30	50	20
Total				26	160	490	650	260

Sem I and Sem II is of 26 credit while Sem III, Sem IV, Sem V and Sem VI is of 20 credits each. Total credit for the entire course of BCA is 132.

Note: The Practical and Project shall be evaluated by both the External and Internal Examiner appointed by University.

1. Credit, Grade, SGPA & CGPA

B.Sc.(IT) Program shall consist of six semesters, wherein the student has to complete certain number of credits. Each Subject (Paper, Practicals, Project and Seminar) has some fixed number of credits. The types of subject subheads are: Core, Core Practical, Discipline Specific Elective, Discipline Specific Elective Practicals, Skill Enhancement course, Ability Enhancement Course and Elective course.

a) Credits and Grade:

It is a unit by which the course work is measured. It determines the number of hours of instructions required per week. One credit is equivalent to one hour of teaching (lecture or tutorial) or two hours of practical work / field work per week. **There will be 1 credit for 16-20 hours for Theory papers and Practical to be spent by the student per course in one semester.**

Depending on the marks scored in a subject, student is given a Grade. Each grade has got certain grade points as follows:

Marks Obtained	Letter Grade	Grade Point
91-100	O (Outstanding)	10
81-90	A+ (Excellent)	09
71-80	A (Very Good)	08
55-70	B+ (Good)	07
51-54	B (Satisfactory)	06
41-50	C (Average)	05
= 40	P (Pass)	04
<40	F (Fail)	0
Ab	Ab (Absent)	0

Table 1: Letter grade and Grade Point based on Marks Scored

A student obtaining Grades F and Ab shall be considered failed and will be required to reappear for the examination.

b) Computation of SGPA and CGPA

Following is the 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.

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

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.

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 program, i.e.

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

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

22. Awarding Certificate and Degree

- i) Successful examinees at the end of B.Sc.(IT) Semester I, II, III, IV, V & VI examinations shall be entitled to receive a **Certificate/ Marksheet / Transcript** signed by the Director Board of examination and evaluation (B.O.E.&V.) of the University.
 - ii) After successful completion of B.Sc.(IT) course and on payment of prescribed fees he/she will receive a Degree in the prescribed format, signed by the Vice-Chancellor.
- 23 Evaluation rules, practical examination rules, and pattern of question paper shall be as provided under Appendices – 1, 2 and 3 respectively appended with this direction.
24. Direction No. 15 of 2017 issued on 20/07/2017 in respect of Examinations leading to the Degree of Bachelor of Science and Information Technology(B.Sc. IT.)(Six semester Degree Course) based on Choice based credit system in the Faculty of Science and Technology, Direction 2017 shall stand repeal in its effect and applications.

Gadchiroli:

Dated : 27/07/2017


(Dr. N.V. Kalyankar)
Vice-Chancellor

Appendix 1

Evaluation Rules

A) Internal Assessment:

1. The internal assessment marks shall be awarded by the concerned teacher.
2. The internal assessment marks shall be sent to the University after the Assessment in the prescribed format and direction by University.
3. General guidelines for Internal Assessment are:
 - a) The internal assessment marks assigned to each theory paper on the basis of the performance in any two assignments (each of Max. 5/10 marks) as described below selected by concerned teacher.
 1. Class Test / Sessional examination
 2. On-line Test
 3. Theory Assignments
 4. Programming Assignments
 5. Study tour
 6. Industrial visits
 7. Visit to educational institutions and research organizations, field work, Conference etc
 8. Group discussions
 9. Seminar Presentation
 10. Publishing Research Paper
 11. Review of Research Papers
 12. Participation in Departmental Activities
 - b) There shall be no separate / extra allotment of work load to the concerned teacher related to above assignments. He/ She shall conduct the Internal assessment activity during the regular teaching days / periods as a part of regular teaching activity.
 - c) The concerned teacher / department / college shall have to keep the record of all the above activities until six months after the declaration of the results of that semester.
 - d) At the beginning of each semester, every teacher / department / college shall inform his / her students unambiguously the method he / she propose to adopt and the scheme of marking for internal assessment. (Prescribed in syllabus of respective Subjects)
 - e) Teacher shall announce the schedule of activity for internal assessment in advance in consultation with HOD.

B) Seminar

In Seminar, the student will have to deliver a seminar on any topic relevant to the syllabus / subject encompassing the recent trends and development in that field / subject. The topic of the seminar will be decided at the beginning of each semester in consultation with the supervising teachers. The student has to deliver the seminar which will be followed by discussion.

The students should submit the seminar report typed and properly bound in one copy to the head of the department along with soft copy in CD. The said shall be evaluated by the concerned supervisor / head of the department. The concerned teacher / department / college