

 **GONDWANA UNIVERSITY, GADCHIROLI.**

DIRECTION NO. 36 OF 2017

EXAMINATIONS LEADING TO THE DIPLOMA IN HARDWARE AND NETWORKING TECHNOLOGY (D.H.N.T.) (TWO SEMESTER DIPLOMA 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 Diploma in Hard working and Networking level in the faculty of Science and Technology from the Academic year 2017-18.

AND

Whereas, Direction No. 23 of 2017, regulating the matter, issued on 21/07/2017 is require to be repealed.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Universities Act,2016 do hereby issue following Directions to repeal Direction No 23 of 2017 and to replace the said repealed Direction:-

1. This Direction shall be called "Examinations leading to the Diploma in Hard working and Networking and Technology (D.H.N.T.) (Two semester Diploma 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 Diploma in Hard

working and Networking Technology course and onwards i.e. Diploma in Hard working and Networking Technology.

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 takenduring 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. **Type 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 4 papers including project if any and there will be 3 practical courses in each semester
- ii) Each Theory course will be of 4 credits and each Lab course (Practical's) is of 2 credits.
- iii) Each regular student will have to appear for all the 22 credits of each semester.
- iv) Total credits for DHNTcourse is 44Credit.

6. The duration of the DHNTcourse shall be of One academic years consisting of two semesters with the University examinations at the end of each semester namely:

- DHNT : Semester I & Semester II Examination

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

Sr. No.	Name of the examination	Main Examination	Supplementary Examination
1	DHNT- Semester I	Winter	Summer
2	DHNT- Semester II	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 the admission to DHNT and examinations thereof.

9. Eligibility:-

DHNT—A student who passed 12th examination in any Stream can enroll for this course.

10. Eligibility Criteria for Higher Semester Examinations: Following rules 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 University Examination of semester I.

11. Without prejudice to other provisions of Ordinance No. 6 relating to the 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 is 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, is prescribed in the course structure mentioned in Para No. 21.

15. The provisions of Direction No. 3 of 2007 for the 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 6 relating to examinations in general.

17. Successful examinees at the end of DHNTcourse 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 have 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 the work should be undertaken by internal as well as external examiners.

20 . Scheme for choice based credit system for DHNT Programme.

Semester	Core Course	Elective Course (EC)	Foundation Course
SEM-I	Core Group 1 Core Group 2 Core Group 3 (Lab1 & Lab2)	One paper need to be select out of two papers and having Lab	AECC-I (English)
SEM-II	Core Group 4 Core Group 5 Core Group 6 (Lab1 & Lab2)	One paper need to be select out of two papers and having Lab	AECC-II (English)

21 Course Structure

Scheme of teaching and examination under semester pattern Choice Based Credit System (CBCS) for DHNTprogram is as given below,

DHNT (Semester I)

Subject	Paper Code	Paper Name	Total Period /Week	Credit	% of Assessment			
					IA	UE	Total	Min. Passing (40%)
Ability Enhancement Compulsory Course (AECC)	DHNTT101	English (Business Communication - I)	4	4	20	80	100	40
Core Course	DHNTT102	Information and Communication Technology	4	4	20	80	100	40
	DHNTT103	Computer Hardware and Peripherals	4	4	20	80	100	40
Elective	DHNTT104.1	Elective						40
Course (EC)	DHNTT104.2	1. Digital Electronics 2. Computer Architecture and Organization	4	4	20	80	100	
Core based Lab1	DHNTT105	Lab on DHNTT102	4 Prac. Per Batch	2	20	30	50	20
Core based Lab2	DHNTT106	Lab on DHNTT 103	4 Prac. Per Batch	2	20	30	50	20
EC based Lab	DHNTT107	Lab on DHNTT104.1 or DHNTT104.2	4 Prac. Per Batch	2	20	30	50	20
Total				22	140	410	550	220

- **Core:** Major theory papers in the concerned subject.
- **Discipline Specific Elective:** These papers will be specialization in the concerned subject.
- **Skill Enhancement course:** Student can choose this paper from any subject.
- **Ability Enhancement (Compulsory foundation) :** It is courses based upon a content that leads to knowledge enhancement.
- **From Elective Courses (Either Skill based and Discipline Specific),**

students need to select one paper form each.

- **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 (D) : Represent it a Diploma Course
 - Next 3 Letter (HNT) : Represent it is,Hardware and Networking 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 Practical's 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 his/her Internal marks will be carried forward.

DHNT (Semester II)

Subject	Paper Code	Paper Name	Total Period /Week	Credit	% of Assessment			Min. Passing (40%)
					IA	UE	Total	
Ability Enhancement Compulsory Course (AECC)	DHNTT201	English (Business Communication - II)	4	4	20	80	100	40
Core	DHNTT202	Network Essential and Management	4	4	20	80	100	40
	DHNTT203	Introduction to Operating System	4	4	20	80	100	40
Elective Course (EC)	DHNTT204.1 DHNTT204.1	Elective 1. PC-Maintenance 2. Computer Hardware and Interfacing	4	4	20	80	100	40
Core based Lab1	DHNT205	Lab on DHNTT202	4 Prac. Per Batch	2	20	30	50	20
Core based Lab2	DHNT206	Lab on DHNTT 103	4 Prac. Per Batch	2	20	30	50	20
EC based Lab	DHNT207	Lab on (DHNTT204.1 or DHNTT204.1)	4 Prac. Per Batch	2	20	30	50	20
Total				22	140	410	550	220

Total credit for the entire course of DHNT is 44.

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

22 Credit, Grade, SGPA & CGPA

DHNT Program shall consist of two semesters, wherein the student has to complete certain number of credits as indicated in para No. 21. 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 Practical's, Skill Enhancement course, Ability Enhancement 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 at least 30-40 hours for 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.

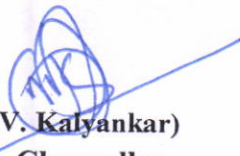
The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts. For example $7.318333 = 7.32$

23 .Awarding Certificate and Degree

- i) Successful examinees at the end of DHNT Semester I & II examinations shall be entitled to receive a **Certificate/ Marksheet / Transcript** signed by the Director of Board of Controller of Examination and evaluation.
- ii) After successful completion of DHNT course and on payment of prescribed fees he/she will receive a Diploma in the prescribed format, signed by the Vice-Chancellor.
- 24 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.
- 25 Direction No. 23 of 2017 issued on 20/07/2017 in respect of Examinations leading to the Diploma in Hardware and Networking Technology (D.H.N.T.)(Two semester Diploma Course) based on choice based credit system in the Faculty of Science and Technology Direction,2017 shall stand repeal in its effect and application.

Gadchiroli:

Dated : 27/09/2017


(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 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) Practical Assessment:

Time: Minimum 2 Hours 30 Min. for conducting the practical examination subject to the condition the availability of computers and printers at the center.

Marks Distribution: A practical mark will be allocated by Internal & External Examiner as per the following format,

Sr. No.	Particulars	Marks in %
a.	Writing, Execution and Printout of Program-I	40%
b.	Writing Program-II	20%
c.	Practical Record	20%
d.	Viva Voce	20%

Note: 1) The Written work should be completed within max. 45 minutes.

2) For execution and taking printout max. 45 minutes is reserved.

C) Theory Paper Assessment: Theory papers will be held as per the scheduled given by the university and examinee needs to score minimum 40% of marks to clear the paper including internal assessment marks.

D) Revaluation: There is also a provision for the Revaluation only for theory papers examination conducted by University (i.e. it is not applicable for Internal Assessment) as per the rules and fee structure prescribed by University.

Appendix 2
Practical Examination

1. Each practical scheme of marking shall be as per given in the scheme.
2. Practical performance shall be jointly evaluated by the External and Internal Examiner.
In case of discrepancy, the External Examiner's decision shall be final.
3. Duration of practical examination will be Minimum 2 Hours 30 Min.
4. The Practical Record of every student shall carry a certificate as shown below, duly signed by the teacher-in-charge and the Head of the Department. If the student fails to submit his / her certified Practical Record duly signed by the Teacher-In-Charge and the Head of the Department, he / she shall not be allowed to appear for the Practical Examination and no Marks shall be allotted to the student.
5. The certificate template shall be as follows:

CERTIFICATE
Name of the College / Institution: _____ Name of the Department: _____
This is to certify that this Practical Record contains the bonafide record of the practical work of Mr. / Mrs. / Ku. _____ of DHNT (Semester _____) during the academic year _____.
The candidate has satisfactorily completed the practical's prescribed for the course by Gondwana University, Gadchiroli for the subject _____
Dated: __ / __ / ____
Signature of the teacher who taught the examinee
1. _____ 2. _____
Head of the Department

Appendix-3
Pattern of Question Paper

General Rules and Regulations regarding pattern of question paper for the semester end examination is as given below:

1. There will be four units in each paper.
2. Maximum marks of each theory paper will be 80.
3. Question paper will consist of five questions, each of 16 marks.
4. Four questions will be based on four units with internal choice.
5. Fifth question will be compulsory with questions from each of the four units having equal weightage and there will be no internal choice.

Diploma in Hardware and Networking Technology	
DHNT	Semester – [I / II]
Paper No. :	Paper Name:
Time: 3 Hours]	[Max. Marks: 80
Note: 1) All questions are compulsory and carry equal marks.	
2) Draw Neat and Labeled diagram and use supporting data wherever necessary.	
3) Avoid vague answers and write specific points/answer related to questions.	
<hr/>	
Q1 Either (From Unit 1)	
a)	8
b)	8
Or	
c)	8
d)	8
Q2 Either (From Unit 2)	
a)	8
b)	8
Or	
c)	8
d)	8
Q3 Either (From Unit 3)	
a)	8
b)	8
Or	
c)	8
d)	8
Q4 Either (From Unit 4)	
a)	8
b)	8
Or	
c)	8
d)	8
Q5 Solve all questions	
a)(From Unit 1)	4
b) (From Unit 2)	4
c)(From Unit 3)	4
d) (From Unit 4)	4