

Gondwana University, Gadchiroli.
FACULTY OF SCIENCE
DIRECTION NO. 213 OF 2016.

EXAMINATIONS LEADING TO THE POST B.SC. DIPLOMA IN COMPUTER SCIENCE AND APPLICATION(PGDCS&A) SEMESTER PATTERN, CHOICE BASED CREDIT SYSTEM PATTERN, CHOICE BASED CREDIT SYSTEM, DIRECTION, 2016.

(Issued under Section 14(8) of the Maharashtra Universities Act, 1994)

Whereas, the Chairman of the U.G.C. directed the Vice-Chancellor to initiate steps for successful implementation of the choice based credit system vide letter No. D.O. No. F-1-1/2015(cm) dated 8/1/2015;

AND

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

AND

Whereas, the authorities of the university has adopted the guidelines of the U.G.C. regarding choice based credit system for all the faculties in the university;

AND

Whereas, the above said matter is required to be regulated by an ordinance;

AND

Whereas, making of an ordinance is time consuming process;

Now, therefore, I, Dr. N. V. Kalyankar, Vice-chancellor, Gondwana University, Gadchiroli in exercise of powers vested in me under section 14(8) of the Maharashtra Universities Act, 1994, do hereby issue the following Directions :-

1. This Direction may be called "Examinations leading to the Post B.Sc. Diploma in Computer Science and Application (PGDCS&A), Semester Pattern Choice Based Credit System, Direction, 2016."
2. This Direction shall come into force from the date of its issuance.
3. **Salient features of the Course:**
 - i) Each semester consists of 6 papers including practical/project.
 - ii) Each Theory course will be of 4 credits and Lab courses (Practical's) of 4 credits.
 - iii) Each regular student will have to appear for all the 24 credits of each semester.
 - iv) Total credits for PGDCS&A course shall be 50.
4. The duration of the PGDCS&A course shall be of One academic year consisting of two semesters with the University examinations at the end of each semester namely:
 - PGDCS&A : Semester I & Semester II Examinations.

Sr. No.	Name of the examination	Main Examination	Supplementary Examination
1	PGDCS&A– Semester I	Winter	Summer
2	PGDCS&A– Semester II	Summer	Winter

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

ELIGIBILITY FOR THE COURSE:

6.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 PGDCS&Aand examination thereof.

Eligibility:-

PGDCS&A – A candidate who has passed B.Sc. examination with Maths or Computer as one subject. OR Student who has passed the examination of Bachelor of Computer Application (BCA) OR B.Sc. (Information Technology) OR Bachelor of Engineering Degree examinations.

7.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 he/she has appeared for University Examination of semester I.

8. 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.

9.The fees for the tuition, examination, laboratory and other fees shall be as prescribed by the university from time to time.

10.a) The scope of the subjectis shall be as prescribed in the syllabus.

b) The medium of instruction and examination shall be English.

11. The details of Papers, Practical, Project and maximum marks assigned to each paper and minimum marks to pass in the examinationin the said paper shall be as prescribed in the course structure mentioned in para. 17.

12.The provisions of Direction No. 3 of 2007 for the award of grace marks for passing an examination, securing higher grade in the subject(s) as updated from time to time shall apply to the examination under this Direction.

13.The names of the successful examinee passing the examinations 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.

14.Successful examinees at the end of PGDCS&A course who have 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.

15.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.

16.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.

17Course Structure

Scheme of teaching and examination under semester pattern, Choice Based Credit System (CBCS) for PGDCS&A program shall be as given below:-

PGDCS&A (Semester - I)								
Subject	Paper Code	Paper Name	Total Period /Week	Credit	% of Assessment			
					IA	UE	Total	Min. Passing (40%)
Core	PSCSAT101	Problem Solving Techniques	4	4	20	80	100	40
	PSCSAT102	Operating System and Linux	4	4	20	80	100	40
	PSCSAT103	Programming in ‘C’	4	4	20	80	100	40
Discipline Specific Elective (DSE)	PSCSAT104.1	Elective 1. Discrete Mathematical Structure 2. Numerical Methods	4	4	20	80	100	40
	PSCSAT104.2							
Skill Enhancement Elective (SEE)	PSCSAT105.1	Elective 1. Digital Electronics and	4	4	20	80	100	40

	PSCSAT105.2	Microprocessor 2.PC-Maintenance						
Core Lab*	PSCSAP106	Labon PSCSAT 101, PSCSAT 102 & PSCSAT 103	6	2	50	50	100	40
SEE based Lab	PSCSAP107	Lab on (PSCSAT 104.1 or PSCSAT 104.2) & (PSCSAT105.1 or PSCSAT105.2)	6	2	50	50	100	40
Ability Enhancement	PSCSAS108	Seminar	1	1	25	-	25	10
Total			33	25	255	470	725	290

- **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 appended with this Direction)
- **UE (University Examination):** It will be evaluated by External Examiner appointed by University. (Refer Appendices 1 & 3 appended with this Direction)
- **Period:** Each period shall be of 60 minutes or as per Government direction from time to time.
- In Paper Code
 - 1st Letter (P) : Represent the Post Graduate Diploma Course.
 - 2nd Letter (S) : Represent the Science Faculty
 - 3rd Letter (CSA) : Represent the Computer Science & Application
 - Next Letter (T/P) : T : Represent Theory Paper (Refer Appendices 1 & 3)
P: Represent Practical (Refer Appendices 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 letters : Represent Paper number 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 performed using Open Source Software.

Note: Student must appear for University Practical Examination.

PGDCS&A (Semester - II)								
Subject	Paper Code	Paper Name	Total Period /Week	Credit	% of Assessment			
					IA	UE	Total	Min. Passing (40%)
Core	PSCSAT201	OOPs with C++	4	4	20	80	100	40
	PSCSAT202	System Analysis and Design	4	4	20	80	100	40
	PSCSAT203	Database Management System	4	4	20	80	100	40
Discipline Specific Elective (DSE)	PSCSAT204.1 PSCSAT204.2	<u>Elective</u> 1.Data Warehousing & SQL 2. Java	4	4	20	80	100	40
Skill Enhancement	PSCSAP205	Project	4	4	20	80	100	40
Core Lab	PSCSAP206	Lab on PSCSAT T201 & PSCSAT 203	6	3	50	50	100	40
Discipline Specific based Lab	PSCSAP207	Lab on PSCSAT 204.1 or PSCSAT 204.2	6	2	50	50	100	40
Ability Enhancement	PSCSAS208	Seminar	1	1	25	-	25	10
Total			33	25	255	470	725	290

Total credit for the entire course of PGDCS&A is 50.

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

18.Credit, Grade, SGPA & CGPA

PGDCS&A Program shall consist of two semesters, wherein the student has to complete certain number of credits as indicated in para 17. 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 and 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 shall be given a Grade. Each grade has 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.

Code	Theory/Practical	Credits	Marks Obtained	Out of	Grade Point	Grade Letter	Credit Points (Credit x Grade Points)
Core 1	Paper 1	4	91	100	10	O	4x10=40
Core 2	Paper 2	4	89	100	9	A+	4x9=36
Core 3	Paper 3	4	50	100	5	C	4x5=20
Discipline Specific Elective (DSE)	Paper 4	4	78	100	8	A	4x8=32
Skill Based Course Elective (SBE)	Paper 5	4	89	100	9	A+	4x9=36
Practical 1	Practical based on Core Paper 1-3	2	85	100	9	A+	2x9=18
Practical 2	Practical based on DSE and SBE	2	88	100	10	O	2x10=20
Ability Enhancement	Seminar	1	21	25	9	A+	1 * 9 = 9
Total		25					211
Thus, SGPA = 211/25 = 8.44							

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.

Illustration for CGPA

Semester 1	Semester 2
Credit : 25	Credit : 25
SGPA: 8.44	SGPA: 7.83
Thus, CGPA = $\frac{25 \times 8.44 + 25 \times 7.83}{50}$	
$= \frac{211 + 195.75}{50} = \frac{406.75}{50} = 8.12$	

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

18. **Qualification for Teacher shall be as per the norms of UGC and/or Gondwana University, Gadchiroli.**

19. Award of Certificate and Diploma :-

- i) Successful examinees at the end of PGDCS&ASemester I & II examinations shall be entitled to receive a **Certificate/ Marksheet / Transcript** signed by the Controller of Examinations (COE) of the University.
- ii) After successful completion of PGDCS&A course and on payment of prescribed fees he/she will receive a Diploma in the prescribed format, signed by the Vice-Chancellor.

Gadchiroli.
Dated :20/09/2016

Sd/-
(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 on the direction of the 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, and
 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

shall have to keep the record of Seminar Reports until six months after the declaration of the results of that semester.

C) 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 Examiners as per the following format

Sr. No.	Particulars	Max. Marks
a.	Writing, Execution and Printout of Program	40
b.	Writing Program	20
c.	Practical Record	20
d.	Viva Voce	20
Total		100

- Note:**1) The Written work should be completed within max. 45 minutes.
2) For execution and taking printout max. 45 minutes shall be reserved.

D) Project Courses:

The project proposal should be prepared in consultation with the Internal Guide. The Project Work should be of such a nature that it could prove useful or be relevant from the System-Oriented/Application/Commercial. A student needs to submit one copy of project work along with two soft copies in CD in the department. A detail guideline of Project is given in the Syllabus. Classification of Marks for Project shall be given below,

Sr. No.	Particulars	Max. Marks
a.	Report, Documentation and Project Execution	70
b.	Viva Voce	30
Total		100

E) 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.

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

Appendix 2
Practical Examination

1. Each practical carries 100 marks. The scheme of marking shall be as given in the syllabi of respective subjects.
2. Practical performance shall be jointly evaluated by the External and Internal Examiners.. 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:

C E R T I F I C A T E
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 PGDCS&A (Semester _____) during the academic year _____.
The candidate has satisfactorily completed the practical's prescribed for the course by Gondwana University, Gadchiroli for the subject _____
Date: __/__/____
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 shall be 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.

Post B.Sc. Diploma in Computer Science and Application	
PGDCS&A	Semester – [I / II]
Paper Code :	Paper : Name of Paper
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.	
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