

GONDWANA UNIVERSITY GADCHIROLI

FACULTY OF SCIENCE

DIRECTION NO. 111 of 2012

DIRECTION RELATING TO THE EXAMINATION LEADING TO THE DEGREE OF MASTER OF COMPUTER APPLICATION, SEMESTER PATTERN WITH CREDIT GRADE SYSTEM (Issued under Section 14(8) of the Maharashtra Universities Act, 1994)

WHEREAS, Maharashtra Universities Act, 1994 (Hereinafter referred to as Act) has come into force from 22nd July, 1994 and was amended from time to time,

AND

WHEREAS, the University Grants Commission, New Delhi vide letter No.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 all the Science subjects in their meeting held during 23.04.12 prepared the syllabi and scheme of the examination for the Master of Computer Application degree and recommended for starting of the Credit Grade Semester system in the Faculty of Science from the academic session 2012-13,

AND

Whereas, in the faculty of science in its meeting held on 02.05.12 considered 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 for Master of Computer Application degree in the Faculty of Science.

AND

WHEREAS, the Dean, Faculty of Science has consented to the syllabi and the scheme of examination for the award of degree, of Master of Computer Application.

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 system for award of Master of Computer Application degree in the Faculty of Science.

AND

WHEREAS, ordinance making is a time consuming process, therefore, I, Dr. V.S. Ainchwar, Vice Chancellor Gondwana University, Gadchiroli in 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 “Direction relating to examinations leading to the Degree of **Master of Computer Application** in the Faculty of Science (Credit Grade Semester System).
2. The direction shall come into force from the date of its issue by Hon’ble Vice Chancellor and shall remain in force till the relevant ordinance comes into being in accordance with the provisions of the Act.
3. The duration of MCA course shall be of three academic years consisting of six semester with University examinations at the end of each semester namely:
 - a. MCA Part I: Semester I & Semester II Examination
 - b. MCA Part II: Semester III & Semester IV Examination
 - c. MCA Part III: Semester V & Semester VI Examination
4. The examination specified in the preceding paragraph shall be held semester wise at such places and such dates as may be appointed by the university.
5. Subject to their compliance with the provisions of this Direction and of other directions/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 examination.
6. **Eligibility:-**

MCA I - A student who passed 12th examination with Mathematics as one of the subject in Science Stream along with Graduation in any stream and having Valid CET Score and other norms laid down by AICTE can enroll for this course.

Or

Graduate student who studied Statistics as one of the subject during Graduation and having Valid CET Score and other norms laid down by AICTE can enroll for this course.
7. **Direct Admission to MCA II** – A student who cleared the PGDCS&A course of Gondwana University, Gadchiroli or RTM Nagpur University, Nagpur can enroll directly to MCA II (Sem I), subject to satisfaction of other norms laid down by AICTE and availability of seats in the colleges running MCA Course.
8. Without prejudice to the other provisions of ordinance No. 6 relating to the examination in the General the provisions of paragraph 5, 8, 10, 31 and 32 of the said ordinance shall apply to every collegiate candidate.
9. The fees for the examination shall be as prescribed by the university from time to time.
10. The scope of the subject 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.
11. 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 **Appendix A and B**.

12. There will be 5 theory papers in odd Semester while 4 papers in Even Semesters. In Every Even Semester i.e. in 2nd and 4th semester student need to perform one project based on Computer Software and/or Hardware related topic. In each semester there will be 2 practical papers based on Computer papers.
13. In the six semester there will be one Major project based on computer topic that student need to be carry out alone in Software Industry/Firm/Enterprise where some project works based on computer are carried out.

14. Scheme and Passing Criteria

- 1) Min. Passing marks is 40% separately in Theory, Internal Assessment, Seminar, Practical and Project. Student must pass separately in Practical and Project by scoring min. marks in Internal and External.
- 2) Each theory paper is consisting of 80 marks and min. passing marks in Theory paper is 32.
- 3) Min. passing marks in Practical examination is 40 out of 100 Marks.
- 4) Min. passing marks in Project is 40 out of 100 marks
- 5) Each theory paper has 20 marks for Internal Assessment and min. passing marks is 08.
- 6) In Six semester, a major project that student need to carry out is consist of 700 marks that includes project work, seminar.
- 7) Internal Assessment marks compromise of at least 4 activities of the following,
 - a) Home Assignment
 - b) Class Test Examination Performance
 - c) Case Studies
 - d) Group Discussion
 - e) Field Work
 - f) Study Tour
 - g) Paper Presentation
 - h) Book Review
 - i) Involvement in Departmental and College Activities

15. Practical & Project Examination Scheme

i. Time: Minimum 2 Hours 30 Min. for conducting the practical examination subject to condition number of computers and printers available at the center i.e. if ratio of student and number of computer are same.

- a. If there are less number of computer (50%) than total Enroll students for practical examination then additional 2 hours
- b. If there is less number of computer (25%) than total Enroll students for practical examination then additional 4 hours.

ii. Practical Examination Evaluation Scheme

1) One question to Write and Execute for Taking Printout of Program	40 Marks
2) One question to Write Program or from Practical Index	20 Marks
3) Record	20 Marks
4) Viva	20 Marks
Marks	100

iii Project: Head/coordinator of Computer Dept. must reject any title which is already carried out in any course in the college. It must maintain a Record that lists the projects along with other detail (like Project Title, Guide, Session, Platform and Number of students working on project) that was carried out so far and must be shown to external examiner at the time of examination. ***If any project found duplicate of nature then it will consider as copy and action will taken against Head/Coordinator. In case of Non approved lecture action will be taken against Principal of college.***

Classification of Marks of Project for 2nd Sem and 4th Sem.

Report, Documentation and Project Execution 70 Marks

Viva voce 30 Marks

Total Marks 100 Marks

16. Absorption Scheme from other University to Gondwana University

A No objection certificate from Previous College and/or From previous university is required along with following satisfaction of criteria,

1. Admission to 3rd Semester if student cleared 1st year of MCA .
2. Admission to 5th Semester if Student cleared 1st year and at least two subject of 2nd year of MCA along with practicals.

17. ATKT/Promotion Rules

Sr. No.	Semester	Promotion Rule
1	I	-----
2	II	Must Clear all Internal Assessment and practical examination of Semester I and at least appear in one Theory paper of University Examination.
3	III	Must clear at least 2 Theory Papers of Semester I and 2 Theory Papers of Semester II
4	IV	Must Clear all Internal Assessment and practical examination of Semester III and at least appear in one Theory paper of Semester III of University Examination.
5	V	Must clear Semester I and Semester II and should clear at least 2 Papers of Semester III and 2 Papers of Semester IV
6	VI	Must Clear all Internal Assessment and practical examination of Semester V and at least appear in one Theory paper of Semester V University Examination

18. The fees for the examination, tuition, laboratory and other fees shall be as prescribed by the university from time to time.
19. a) The scope of the subjects shall be as prescribed in the syllabus.
b) The medium of instruction and examination shall be English.
20. The number of papers and the maximum marks assigned to each paper and minimum marks/grade an examinee must obtain, in order to pass examination shall be as prescribed in **Appendix 1 and 2**, appended with this direction.
21. The examinee at each of the examination shall have option of not been declared successful at the examination in case he/she does not secure a minimum of grade equivalent to 55% marks at the examinations. This option will have to be exercised every time the application is submitted to any of the examination. Once this option is exercised, the option shall be binding on the examinee and it shall not be evoked in under any circumstances.
22. The classification of the examinee successful at the semester end examinations and at the end of final semester examination shall be as per the rules and regulations of credit grade semester pattern as prescribed in **Appendix 3**, appended with this direction.
23. The names of the successful examinee passing the examination as a whole in the minimum prescribed period and obtaining prescribed number of places securing the grades equivalent to first and second division shall be arranged in order of merits as provided in ordinance 6 relating to examination in general.
24. 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.
25. Examinee successful at the final examination shall on payment of the prescribed fees, will be entitled for the award of the degree in the prescribed form signed by the Vice Chancellor.
26. This course is based on credit grade semester pattern and therefore, it will be regulated by guidelines and regulations given in **Appendices (1 to 3)** which are part of the direction.

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 1

MCA - I (Semester – I)

Sr. No	Paper Code	Papers/Practicals	Credit	Teaching Scheme per week (hrs.)			Examination Scheme			
				Th	Pr	Total	Max. Marks		Total Marks	Minimum Passing
							External Marks (T) / (E)	Internal Marks (I)		
1	1MCA1	Discrete Mathematics and Graph Theory	4	4	-	4	80	20	100	32 (T) 08 (I)
2	1MCA2	Operating System and Linux	4	4	-	4	80	20	100	32 (T) 08 (I)
3	1MCA3	Digital Electronics and Microprocessor	4	4	-	4	80	20	100	32 (T) 08 (I)
4	1MCA4	Data Structures and File System	4	4	-	4	80	20	100	32 (T) 08 (I)
5	1MCA5	Java Concepts	4	4	-	4	80	20	100	32 (T) 08 (I)
6	1MCA6	Practical-I based on Theory Paper-1,2,3 with IT Lab (Ms-Office)	2	-	6	6	50	50	100	20+20=40 (E)+(I)
7	1MCA7	Practical-II based on Theory Paper-4 and 5	2	-	6	6	50	50	100	20+20=40 (E)+(I)
Total			24	20	12	32	500	200	700	280

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

Appendix 2

MCA - I (Semester – II)

Sr. No	Paper Code	Papers/Practicals	Credit	Teaching Scheme per week (hrs.)			Examination Scheme			
				Th	Pr	Total	Max. Marks		Total Marks	Minimum Passing
							External Marks (T) / (E)	Internal Marks (I)		
1	2MCA1	System Management	4	4	-	4	80	20	100	32 (T) 08 (I)
2	2MCA2	Data Warehousing and SQL	4	4	-	4	80	20	100	32 (T) 08 (I)
3	2MCA3	System Analysis with Project Management	4	4	-	4	80	20	100	32 (T) 08 (I)
4	2MCA4	E-Commerce and Web Design	4	4	-	4	80	20	100	32 (T) 08 (I)
5	2MCA5	Project (Based on OOPS Concepts)	2		4	4	50	50	100	32 (T) 08 (I)
6	2MCA6	Practical-I based on Theory Paper-1 and 2	2	-	6	6	50	50	100	20+20=40 (E)+(I)
7	2MCA7	Practical-II based on Theory Paper-3 and 4	2	-	6	6	50	50	100	20+20=40 (E)+(I)
Total			22	16	16	32	470	230	700	280

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

S.Y . MCA - II (Semester – III)

Sr. No	Paper Code	Papers/Practicals	Teaching Scheme per week (hrs.)			Examination Scheme			
			Th.	Pr	Total	Max. Marks		Total Marks	Minimum Passing (40%)
						External Marks	Internal Marks		
1	3MCA1	Distributed Database	4	-	4	80	20	100	40
2	3MCA2	Advance Java Concepts	4	-	4	80	20	100	40
3	3MCA3	System Security	4	-	4	80	20	100	40
4	3MCA4	Research Methodology and Operational Techniques	4	-	4	80	20	100	40
5	3MCA5	Front End Development using VB.Net	4	-	4	80	20	100	40
6	3MCA6	Practical-I based on Theory Paper-1,2 and 3	-	6	6	50	50	100	40
7	3MCA7	Practical-II based on Theory Paper- 4 and 5	-	6	6	50	50	100	40
Total			20	12	32	500	200	700	280

S.Y.MCA - II (Semester – IV)

Sr. No	Paper Code	Papers/Practicals	Teaching Scheme per week (hrs.)			Examination Scheme			
			Th.	Pr	Total	Max. Marks		Total Marks	Minimum Passing (40%)
						External Marks	Internal Marks		
1	4MCA1	Android Application Development	4	-	4	80	20	100	40
2	4MCA2	Digital And Cyber Forensics	4	-	4	80	20	100	40
3	4MCA3	C #.NET	4	-	4	80	20	100	40
4	4MCA4	Computer Graphics	4	-	4	80	20	100	40
5	4MCA5	Project (Based on subject learn in Second year)		4	4	50	50	100	40
6	4MCA6	Practical-I based on Theory Paper-1,2	-	6	6	50	50	100	40
7	4MCA7	Practical-II based on Theory Paper- 3 and 4 With Mat Lab	-	6	6	50	50	100	40
Total			16	16	32	470	230	700	280

Appendix 3

CREDIT-GRADE SYSTEM FOR P.G. (MCA)

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

$$\text{Number of Credits} = L + T + P/2$$

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
74.99 to 75	A	5
64.99 to 55	B	4
54.99 to 50	C	3
49.99 to 45	D	2
44.99 to 40	E	1
39.99 & 00	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.

$$SGPA = [C_1G_1 + C_{ii}G_{ii} + \dots + C_nG_n] / (C_1 + C_{ii} + \dots + C_n)$$

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.

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

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

A student will be allotted a cumulative Grade Point Average (**CGPA**) after clearing all the four semesters. Again as there is no differential weight system for semesters, the CGPA of a student will be Average of the four SGPA's of that student.

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.

Final Grade Points

Grade Points	Final grade
5.0 to 6.0	O
4.50 to 4.99	A
3.50 to 4.49	B
2.50 to 3.49	C
1.50 to 2.49	D
0.50 to 1.49	E
0.00 to 0.49	F

The formula for GPA will be based on Weighted Average. The final GPA will not be printed unless a student passes courses equivalent to minimum 100 Credits.

If the GPA is higher than the indicated upper limit in the three decimal digit, then the student be awarded higher final grade (e.g. a student getting GPA of 4.492 may be awarded 'A').

While declaring the result, the existing relevant ordinances are applicable. For verification and revaluation existing rules will be applicable.

The description for each of the grades will be as follows:

Grade Proposed Norms

O: Outstanding: Excellent analysis of the topic, (75% and above)

Accurate knowledge of the primary material, wide range of reading, logical development of ideas, Originality in approaching the subject, Neat and systematic organization of content, elegant and lucid style;

A: Very Good: Excellent analysis of the topic, (65 to 74%)

Accurate knowledge of the primary material, acquaintance with seminal publications, logical development of ideas, Neat and systematic organization of content, effective and clear expression;

B: Good: Good analysis and treatment of the topic (55 to 64%)

Basic knowledge of the primary material, logical development of ideas, Neat and systematic organization of content, effective and clear expression;

C: Average: Some important points covered (50 to 54%)

Basic knowledge of the primary material, logical development of ideas, Neat and systematic organization of content, good language or expression;

D: Satisfactory: Some points discussed (45 to 49%)

Basic knowledge of the primary material, some organization, acceptable language or expression;

E: Pass: Any two of the above (40 to 44%)

F: Fail: None of the above (0 to 39%)

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 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.

Syllabus

of

Master of Computer Application

(Three Years Post Graduate Course)

Master of Computer Application (MCA)

Question Paper Scheme

Time: 3 Hours

Max. Marks: 80

Q1 Either (From Unit 1)

a)

b)

Or

c)

d)

8 + 8 = 16

Q2 Either (From Unit 2)

a)

b)

Or

c)

d)

8 + 8 = 16

Q3 Either (From Unit 3)

a)

b)

Or

c)

d)

8 + 8 = 16

Q4 Either (From Unit 4)

a)

b)

Or

c)

d)

$$8 + 8 = 16$$

Q5 One compulsory question from each unit

$$4 * 4 = 16$$

Practical & Project Examination Scheme

- 2) **Time:** Minimum 2 Hours 30 Min. for conducting the practical examination subject to condition number of computers and printers available at the center.
- a. If there are less number of computer (50%) than total Enroll students for practical examination then additional 2 hours
 - b. If there is less number of computer (25%) than total Enroll students for practical examination then additional 4 hours.

3) Practical Examination Evaluation Scheme

- | | |
|---|-----------------------------|
| 1) One question to Write and Execute for Taking Printout of Program | 20 Marks |
| 2) One question to Write Program | 10 Marks |
| 3) Record | 10 Marks |
| 4) Viva | <u>10 Marks</u>
50 Marks |

3) If Course consists of Project then Head/Co-ordinator of Computer Dept. must reject any title which is already carried out in any course in the college. It must maintain a Record that lists the projects along with other detail (like Guide, Session, and Number of students working on project) that was carried out so far and must be shown to external examiner at the time of examination.

Classification of Marks on Project

Report, Documentation and Project Execution	70 Marks
Viva voce	30 Marks

Total Marks	100

The marks of Project shall be notified as a whole out of 100 in Foil/C-Foil.