GONDWANA UNIVERSITY, GADCHIROLI.

Ordinance No. 13 of 2017.

EXAMINATIONS LEADING TO THE DEGREE OF MASTER OF COMPUTER APPLICATIONS (M.C.A.) IN THE FACULTY OF SCIENCE (SEMESTER PATTERN WITH CREDIT GRADE SYSTEM) ORDINANCE, 2017.

WHEREAS, it is expedite to provide an ordinance in respect of Examinations leading the Degree of Master of Computer Applications (M.C.A.) in the faculty of science, (semester pattern with credit grade system) for the purposes 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 **Master of Computer Applications (M.C.A.)** in the Faculty of Science (semester pattern with Credit Grade System) Ordinance, 2017."
2. This Ordinance shall come into force from the date of its making by the Management council.
3. The duration of M.C.A. course shall be of three academic years consisting of six semesters with University examinations at the end of each semester namely:
   (a) M.C.A. Part I: Semester I st & Semester II nd Examinations;
   (b) M.C.A. Part II: Semester III rd & Semester IV th Examinations; and
   (c) M.C.A. Part III: Semester V th & Semester VI th Examinations.
4. The examinations 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. **Eligibility:-**
   MCA I - A student who has passed 12th standard examination with Mathematics as one of the subject in Science Stream along with Graduation in any stream and having Valid CET Score and fulfil other norms laid down by AICTE shall be enrolled for this course.

   Or

   Candidates who have passed Bachelor of Computer Applications (BCA), Bachelor of Computer Science (BCS), Bachelor of Science (Computer/Information Technology) degree courses are not required to fulfill the requirement of having studied Mathematics or Statistics as one of the subjects at 10+2 level or higher level examination and such candidates shall be eligible for First Year of three-years Full Time Post Graduate Degree Course in M.C.A.

   Or

   Graduate student who studied Statistics as one of the subjects during Graduation and having Valid CET Score and fulfil other norms laid down by AICTE shall be enrolled for this course.
7. **Direct Admission to MCA II** – A student who cleared the PGDCS&A course of the University, or R.T.M. Nagpur University, Nagpur shall be enrolled directly to MCA II (Sem. III), subject to satisfaction of other norms laid down by AICTE and availability of seats in the colleges running M.C.A. Course.
8. 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.
9. The fees for the examination shall be as prescribed by the university from time to time.
10. The scope of the subject for M.C.A. 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 provide under Appendices-A,B,C,D,E and F.

12. There will be 5 theory papers in odd Semester while 4 papers in Even Semesters. In Even Semester i.e. in 2nd and 4th student need to perform one project based on Computer Software and/or Hardware on related topic. In each semester there will be 2 practical papers based on Computer papers.
13. In the 6th semester, there will be one Major project based on computer topic that student need to be carried 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 6th semester, a major project that student need to carry out is consist of 700 marks that includes project work, seminar.
    (7) Internal Assessment marks shall be comprising 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, and
        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 number of computers and printers available at the center i.e. if ratio of student and number of computer is same.

(a) If there is 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 Programme.	40 Marks
2) One question to Write Programme or from Practical Index	20 Marks
3) Record	20 Marks
4) Viva	20Marks
	100 Total Marks

iii Project: Head/coordinator of Computer Dept. shall reject any title which is already carried out in any course in the college. He shall maintain a Record regarding

lists of projects along with other details (like Project Title, Guide, Session, Platform and Number of students working on project) that was carried out so far and shall show to external examiner at the time of examination. ***If any project found duplicate of nature then it will be considered as copy and action will be taken against Head/Coordinator. In case of Non approved lecturer, action will be taken against the Principal of the 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 for other University student to Gondwana University :-**

I. No objection certificate from Previous College and/or From previous university is required along with satisfaction of criteria given below-

1) Admission to 3rd Semester if student cleared 1st year of M.C.A .

2) Admission to 5th Semester if Student cleared 1st year and atleast 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 Ist and at least appeared in one Theory paper of University Examination.
3	III	Must clear at least Two Theory Papers of Semester Ist and 2nd
4	IV	Must Clear all Internal Assessment and practical examination of Semester IIIrd and at least appeared in one Theory paper of Semester IIIrd of University Examination.
5	V	Must clear Semester Ist and Semester IInd and should have cleared at least Two Papers of Semester IIIrd and IVth
6	VI	Must Clear all Internal Assessment and practical examination of Semester Vth andat least appeared in one Theory paper of Semester Vth for 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. The examinee at each of the examination shall have an option to declare 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 when the application form is submitted to any of the examination. Once this option is exercised, it shall be binding on the examinee and it shall not be evoked under any circumstances.

20. The classification of the examinee successful at the semester end examinations and at the end of final semester examination shall be as per the guidelines of credit grade system as prescribed in **Appendix G,** appended with this Ordinance.

21. 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 No. 6 relating to examinations in general.

22. No candidate shall be admitted to an examination under this Ordinance, if he/she has already passed the same examination of this university or of any other university.

23. 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.

24. This course is based on credit grade semester pattern and therefore, it will be regulated by the guidelines the given in **Appendix-G** which is a part of this Ordinance.

(Statement of object and reasons)

To regulate the admission, course structure and Examination leading to the Degree of Master of Computer Applications (M.C.A.) (semester pattern with credit Grade system) (three years Degree course comprising of six semester), the Vice-Chancellor of the University had issued Direction Nos.111 of 2012 dated 27/06/2012 and 111(A) of 2014 dated 03/11/2014 under provision of sub section(8) of section 14 of the Maharashtra Universities Act,1994.

Provisions made under the above mentioned two Directions are required to be included in the Ordinance to be prepare in that behalf because of this, the Draft Ordinance is prepared for its consideration by the Academic council and the Management council of the University.

Appendix -A

Teaching and Examination scheme for-

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	40

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 -B

Teaching and Examination scheme for-

MCA - I (Semester – II)

Sr. No	Paper Code	Papers/Practicals	Credit	Teaching Scheme per week (hrs.)			Examination Scheme			
							Max. Marks		Total Marks	Minimum Passing
				Th	Pr	Total	External Marks (T) / (E)	Internal Marks (I)		
1	2MCA1	System Management	4	4	-	4	80	20	100	40
2	2MCA2	Data Warehousing and SQL	4	4	-	4	80	20	100	40
3	2MCA3	System Analysis with Project Management	4	4	-	4	80	20	100	40
4	2MCA4	E-Commerce and Web Design	4	4	-	4	80	20	100	40
5	2MCA5	Project (Based on OOPS Concepts)	2		4	4	50	50	100	40
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

Appendix -C

Teaching and Examination scheme for-

MCA - II (Semester –III)

Sr. No	Paper Code	Papers/Practicals	Credit	Teaching Scheme per week (hrs.)			Examination Scheme			
							Max. Marks		Total Marks	Minimum Passing
				Th	Pr	Total	External Marks (T) / (E)	Internal Marks (I)		
1	MCA 231	Paper-1 Distributed Database	4	4	-	4	80	20	100	40
2	MCA 232	Paper-2 Advance Java Concept	4	4	-	4	80	20	100	40
3	MCA 233	Paper-3 Cyber Security	4	4	-	4	80	20	100	40
4	MCA 234	Paper-4 Research Methodology and Operational Techniques	4	4	-	4	80	20	100	40
5	MCA 235	Paper-5 Front End Development using VB.Net	4	4		4	80	20	100	40
6	MCA 236	Paper-6 Practical-I based on theory Paper-1,2,&3	2	-	6	6	50	50	100	20+20=40 (E)+(I)
7	MCA 237	Paper-7 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 -D

Teaching and Examination scheme for-

MCA - II (Semester –IV)

Sr. No	Paper Code	Papers/Practicals	Credit	Teaching Scheme per week (hrs.)			Examination Scheme			
							Max. Marks		Total Marks	Minimum Passing
				Th	Pr	Total	External Marks (T) / (E)	Internal Marks (I)		
1	MCA 241	Paper-1 Android Application Development	4	4	-	4	80	20	100	40
2	MCA 242	Paper-2 Digital and Cyber Forensics	4	4	-	4	80	20	100	40
3	MCA 243	Paper-3 C# NET	4	4	-	4	80	20	100	40
4	MCA 244	Paper-4 Computer Graphics	4	4	-	4	80	20	100	40
5	MCA 245	Paper-5 Project (Based on subject learn in Second year)	2	16	4	4	50	50	100	40
6	MCA 246	Paper-6 Practical-I based on theory Paper-1,2	2	-	6	6	50	50	100	20+20=40 (E)+(I)
7	MCA 247	Paper-7 Practical-II based on theory paper- 3 and 4 with Mat Lab	2	-	6	6	50	50	100	20+20=40 (E)+(I)
Total			22	20	16	32	**470**	**200**	**700**	**280**

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

Appendix –E

Teaching and Examination scheme for-

Final Year MCA - III (Semester –V)

Sr. No	Paper Code	Papers/Practicals	Credit	Teaching Scheme per week (hrs.)			Examination Scheme			
							Max. Marks		Total Marks	Minimum Passing
				Th	Pr	Total	External Marks (T) / (E)	Internal Marks (I)		

1	5MCA1	Dynamic Web Development	4	4	-	4	80	20	100	40
2	5MCA2	Advance Computer Network	4	4	-	4	80	20	100	40
3	5MCA3	Software Testing	4	4	-	4	80	20	100	40
4	5MCA4	Cloud Computing	4	4	-	4	80	20	100	40
5	5MCA5.1	Embedded Systems	4	4	-	4	80	50	100	40
	5MCA5.2	Web Services & Service Oriented Architecture	-	-	-	-	-	-	-	-
	5MCA5.3	Soft Computing Techniques	-	-	-	-	-	-	-	-
6	5MCA6	Practical-I Based on Theory Paper 1,2,and 3	2		6	6	50	50	100	40
7	5MCA7	Practical-II Based on Theory Paper 4 and 5	2		6	6	50	50	100	40
Total			24	20	12	32	**470**	**200**	**700**	**280**

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

Appendix –F

Teaching and Examination scheme for-

Final Year MCA (Semester –VI)

Sr. No	Paper Code	Papers/Practicals	Credit	Teaching Scheme per week (hrs.)			Examination Scheme			
							Max. Marks		Total Marks	Minimum Passing
				Th	Pr	Total	External Marks (T) / (E)	Internal Marks (I)		
1	6MCA1	Dynamic Web Development	16	-	-	-	150	150	300	120
3	6MCA2	Software Testing	4	-	-	-	100	100	200	80
Total			24	-	-	-	**250**	**250**	**500**	**200**

Appendix -G

CREDIT-GRADE SYSTEM FOR P.G. Degree (M.C.A.)

1. 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 ordinarilybe 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.

2. 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 65	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

3. Grade Proposed Norms:-

O: Outstanding
A: Very Good
B: Good
C: Average
D: Satisfactory
E: Pass
F: Fail

4. Conversion of Marks to Grades and Calculations of GPA (Grade Point Average):-

In the Credit and Grade Point System, the assessment of individual Course in the concerned examination 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)

∑CG: Sum of Product of Credits & Grades points

∑C: Sum of Credits points

$$SGPA = \frac{\sum CG}{\sum C}$$

5. 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.

$$\textbf{SGPA} = [C_iG_i + C_{ii}G_{ii} + \ldots\ldots + C_nG_n] / (C_i + C_{ii} + \ldots + C_n)$$

SGPA: Semester Grade Point Average shall be calculated for individual semesters. (It is also designed as GPA)

6. 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.

A student will be allotted a cumulative Grade Point Average (**CGPA**) after clearing all the 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 shall 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:

7. Grade Proposed Norms

(i) **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;

(ii) **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;

(iii) **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;

(iv) **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;

(v) **D: Satisfactory:** Some points discussed (45 to 49%)
Basic knowledge of the primary material, some organization, acceptable language or expression;

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

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

8. Reporting of Learners Performance (Grade Card):-

(a) 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.

(b) 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.

(c) 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.

Master of Computer Application(MCA)
Question Paper Scheme

Time:3 Hours **Max. Marks:80**

01: Either (From Unit 1) **8+8=16**
a)
b)
or
c)
d)
02: Either (From Unit 2) **8+8=16**
a)
b)
or
c)
d)
03: Either (From Unit 3) **8+8=16**
a)
b)
or
c)
d)
04: Either (From Unit 4) **8+8=16**
a)
b)
or
c)
d)
05 One Compulsory question from each unit **4+4=16**