



RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY

'Established by Government of Central Provinces Education Department by Notification No. 513 dated the 1st of August, 1923 & presently a State University governed by Maharashtra Public Universities Act, 2016 (Mah. Act No. VI of 2017)

DIRECTION NO. 10 OF 2023

ADMISSIONS AND EXAMINATIONS LEADING TO THE AWARD OF THE POST GRADUATE DEGREE OF MASTER OF COMPUTER MANAGEMENT (M.C.M.) (CHOICE BASED CREDIT SYSTEM - SEMESTER PATTERN) IN THE FACULTY OF COMMERCE AND MANAGEMENT, DIRECTION 2023

Whereas, the Maharashtra Public Universities Act, 2016 (VI of 2017) (hereinafter the Act VI of 2017) has come in to force in the State of Maharashtra, with effect from 1st March 2017, repealing the Maharashtra Universities Act, 1994;

AND

Whereas, the Rashtrasant Tukadoji Maharaj Nagpur University (hereinafter the 'University'), hitherto governed by the Maharashtra Universities Act 1994, is now being governed by the Act (VI of 2017);

AND

Whereas, under section 34(2) of the Act VI of 2017 the University shall have only four faculties specified in said section;

AND

Whereas, the composition of each faculty in the University is to be such as may be prescribed by the University and the University has issued Direction No. 27 of 2022 prescribing the composition of each faculty in the University whereby subject of Computer Management is under the Faculty of Commerce and Management;

AND

Whereas, the university has issued the Direction No. 10 of 2019 prescribing certain Common conditions for all the undergraduate and post-graduate programmes /courses in the university;

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AND

Whereas, the University had issued the Direction No. 25 of 2017 dated, 29.8.2017 introducing the Master of Computer Management-(M.C.M.) (Choice Based Credit System -Semester Pattern) programme in the former faculty of Commerce from the academic session 2016-17;

AND

Whereas, the Board of Studies, in its meeting held on 26.02.2019 recommended minor changes in the syllabus which were approved and recommended in the Faculty of Commerce and Management in its meeting dated 30.5.2019 and these changes have been approved by the Academic council also in its meeting dated 10.6.2019

AND

Whereas, by virtue of the provisions of the proviso to section 12(8) of the Act the Direction No. 25 of 2017, entitles, "MASTER OF COMPUTER MANAGEMENT-(M.C.M.) (CHOICE BASED CREDIT SYSTEM -SEMESTER PATTERN)" has lapsed, necessitating issuance of the fresh Direction incorporating the provisions of Direction No. 25 of 2017 along with the minor changes in the syllabus as recommended and approved by the various academic bodies;

AND

Whereas, Ordinance making involves a time-consuming process and there is necessity to issue a fresh Direction for regulating the admissions and examinations of the programme leading to the award of the post graduate degree of Master of Computer Management - (M.C.M.) (Choice Based Credit System - Semester Pattern) in the faculty of Commerce and Management.

Now, therefore, I, Dr. Subhash R. Chaudhari, Vice-Chancellor, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur in exercise of the powers vested in me under Section 12(8) of the Maharashtra Public Universities Act of 2016 do hereby issue the following Direction:

1. This Direction shall be called "**ADMISSIONS AND EXAMINATIONS LEADING TO THE AWARD OF THE POST GRADUATE DEGREE OF MASTER OF COMPUTER MANAGEMENT- (M.C.M.) (CHOICE BASED CREDIT SYSTEM - SEMESTER PATTERN) IN THE FACULTY OF COMMERCE AND MANAGEMENT, DIRECTION 2023**".
2. This Direction shall come into force from the date of its issuance, however shall also be applicable to the students who have been admitted to the program as per the provisions of Direction no. 25 of 2017

3. **INTERPRETATION CLAUSE:** In this Direction, unless the context requires otherwise the words and phrases shall have following meaning:-
- a. **“Academic Council”** means Academic Council of R.T.M. Nagpur University.
 - b. **“ATKT”** refers to allowed to keep term in higher semester.
 - c. **“Board of Studies”** means Board of Studies for various subjects of commerce in the faculty of Commerce and Management in the University.
 - d. **“Competent Authority”** (for admission purpose) means an “Authority” established or assigned the duty to regulate admissions in the course by the Government of Maharashtra or an authority constituted by the University, for this purpose.
 - e. **“Credit Points”** refer to the product of No. of credits multiplied by the Grade Point for a given course/paper.
 - f. **“Credit” (C)** for a course is dependent on the number of hours of instruction per week in that course, and is obtained by using a multiplier of one (1) for lecture and a multiplier of half (1/2) for practical (laboratory) hours.
 - g. **“Course”** means a paper/subject (theory or practical) prescribed for any semester of the programme.
 - h. **“Cumulative Grade Point Average (CGPA)”** refers to the Cumulative Grade Point Average weighted across all semesters (4 semesters)
 - i. **“Degree”** means the Post Graduate Degree awarded after successful completion of the programme governed by this Direction.
 - j. **“Fees”** means the fees prescribed by the University/ Shikshan Shulka Samiti of Government of Maharashtra, for the Under Graduate programme in Commerce, from time to time.
 - k. **“Grade letter”** is an index to indicate the performance of a student in a particular course (Paper). It is the transformation of actual marks secured by a student in a course/paper. Grade letters are O, A, B, C, D, F, and AB.
 - l. **“Grade Point”** is the weightage allotted to each grade letter depending on the range of marks awarded in a course/paper.
 - m. **“Graduate programme”** means Bachelors' degree course in Commerce.
 - n. **“Semester Grade Point Average (SGPA)”** refers to the performance of the student in a given semester. SGPA is based on the total credit points earned by the student in all the courses and the total number of credits assigned to the courses/papers in a Semester.
 - o. **“Student”** means student admitted to Post Graduate degree programme in commerce under this direction.

p. "University" means Rashtrasant Tukadoji Maharaj Nagpur University.

4. There shall be FOUR examinations leading to the degree of Master of Computer Management namely:

Part-I

- (1) The Master of Computer Management (MCM) Semester - I Examination,
- (2) The Master of Computer Management (MCM) Semester - II Examination,

Part-II

- (3) The Master of Computer Management (MCM) Semester - III Examination,
- (4) The Master of Computer Management (MCM) Semester - IV Examination,

5. The duration of the Degree Course under this shall be of two academic years. The MCM Semester - I Examination at the end of the first Semester and MCM Semester - II Examination at the end of the Second Semester in First Year and MCM Semester - III Examination at the end of the Semester - III and MCM Semester - IV Examination at the end of Semester - IV in Second Year.

6. The Examinations specified in above paragraph (i.e., Paragraph – 5) above shall be held twice a year (winter + Summer) at such places and on such dates as may be fixed by the University.

7. The details of the procedure for admission as well as eligibility for examination of:

(A) An applicant of the **MCM Semester – I** Examination shall have:

- (i) Obtained a Bachelor degree of this University or an equivalent Bachelor Degree of any statutory University in any faculty.
- (ii) Prosecuted a regular course of study for not less than one Semester in any recognized institution or college affiliated to the R. T. M. Nagpur University where the course will be conducted.

(B) An applicant of the **MCM Semester - II** Examination shall have :

Appeared MCM Semester – I Examination of this University

(C) An Applicant of MCM Semester - III Examination shall have passed 2/3rd of passing heads of MCM Semester – I & Semester – II Examination taken together.

OR

Passed PGDCCA/Post B.Sc. Diploma in Computer Science & Application of Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.

(D) As per the Direction 10 of 2019 A.T.K.T. rules shall be applicable

Admission to Semester	Candidate should have passed in following examinations	Candidate should have completed the term and Filled examination Form
Semester-I	Degree examination	-----
Semester-II	-----	Semester – I
Semester-III	PGDCCA /PGDCSA / 2/3 rd subjects (passing heads) of MCM Sem I & Sem II taken together	Semester – II
Semester-IV	PGDCCA /PGDCSA / 2/3 rd subjects (passing heads) of MCM Sem I & Sem II taken together	Semester – III

8. Teaching and Examination Scheme

Master of Computer Management (MCM)

(A) MCM Part-I

Semester – I

Course Code	Subjects	Paper	Teaching Scheme per weeks (hr)	End Sem Examination	Internal Assessment	Credits
Theory						
1T1	Fundamental of Information Technology	I	4	80	20	4
1T2	Programming in C & OOPs Concept	II	4	80	20	4
1T3	Introduction to Operating Systems	III	4	80	20	4
1T4	Computerized Accounting (Tally ERP 9)	IV	4	80	20	4
Practical						
1P1	Practical-I :Programming in C & Operating Systems	P-I	8	100	Nil	4
1P2	Practical-II :Tally (ERP 9)& MS-Office	P-II	8	100	Nil	4
Total			32	520	80	24

(B) MCM Part-I**Semester – II**

Course Code	Subjects	Paper	Teaching Scheme per weeks (hr)	End Sem Examination	Internal Assessment	Credits
Theory						
2T1	Management Information Systems	I	4	80	20	4
2T2	Core Java	II	4	80	20	4
2T3	Quantity Techniques & Operation Research	III	4	80	20	4
2T4	E-Commerce and Web Designing	IV	4	80	20	4
Practical						
2P1	Practical-I :Core Java	P-I	8	100	Nil	4
2P2	Practical-II : HTML, JavaScript	P-II	8	100	Nil	4
Total			32	520	80	24

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(C) MCM Part-II

Semester – III

Semester – III Course Code	Subjects	Paper	Teaching Scheme per weeks (hr)	End Sem Examination	Internal Assessment	Credits
Theory						
3T1	Advance Database Management System	I	4	80	20	4
3T2	Principles & Techniques of Management	II	4	80	20	4
3T3	Foundation Electives : (i) PHP & MySQL (ii) VB.Net (iii) C#.Net (IV) **	III	4	80	20	4
3T4	Compulsory Foundation (i) Research Methodology	IV	4	80	20	4
Practical						
3P1	Practical- I :SQL & PL/SQL	P-I	8	100	Nil	4
3P2	Practical-II :Electives	P-II	8	100	Nil	4
Total			32	520	80	24

** As per BOS meeting held on 10-5-2019 & faculty meeting held on 30-5-2019 the student may opt for any one foundation elective OR may complete '4' credit course from SWAYAM / NPTEL / MOOCS OR may opt for any one subject from the list of open foundation electives declared by the university.

Copy of SWAYAM / NPTEL / MOOCS Certificate / Mark-sheet shall be submitted to University by college along with IIIrd Semester Internal Marks. Whereas student is free to attempt SWAYAM / NPTEL / MOOCS during I / II / III Sem.

Fees for the SWAYAM / NPTEL / MOOCS course will be borne by student only & directly paid online to SWAYAM / NPTEL / MOOCS.

(D) MCM Part-II

Semester – IV

Semester – IV Course Code	Subjects	Paper	Teaching Scheme per weeks (hr)	End Sem Examination	Internal Assessment	Credits
Theory						
4T1	ASP.Net	I	4	80	20	4
4T2	Electives: (i) Advance Java (ii) Android Programming (iii) Python	II	4	80	20	4
4T3	Elective Foundation: (i) Big Data & Hadoop (ii) Software Engineering (iii) Strategic Management	III	4	80	20	4
Practical						
4P1	Practical-I: ASP.Net	P-I	8	100	Nil	4
4P2	Practical-II: Electives	P-II	8	100	Nil	4
Project						
4P3	PROJECT	Project	8	100	-----	4
Total			36	540	60	24

Notes:

- Duration of one Theory period is 1 hour and of Practical period is 2 hour.
- The candidate has to pass theory papers and practical paper separately.
- One credit is equivalent to one hour of teaching or two hours of practical work per week.
- Each semester will consist of 15 – 18 weeks of academic work equivalent to 90 actual teaching days.
- The odd semester may be scheduled from July to December and even semester from January to June.



9. The scope of the subject, percentage of passing in theory, practical and project will be governed as per following rules:

There will be a combined passing of 50% marks to be secured by an examinee in internal and University theory examination taken together for each course/subject/paper.

(A) An examinee who is unsuccessful in the examination shall be eligible for admission to the subsequent examinations on payment of a fresh fee prescribed for the examination together with the conditions of the ordinance in force from time to time.

10. (A) The scope of the subjects and pattern of examination shall be as indicated in syllabus.

(B) The Medium of instructions and examinations shall be in ENGLISH only.

11. Applicant for MCM Examination prosecuting regular course of study shall not be permitted to join any other course in this or any other University.

12. ASSESSMENT

- The final total assessment of the candidates is made in terms of an internal assessment (Sessional) and an external assessment for each course.
- For each paper, 20 marks will be based on internal assessment and 80 marks for semester end examination (external assessment), unless otherwise stated.
- The division of the 20 marks allotted to internal assessment of theory papers should base on class test, attendance, project assignments, seminar, power point presentation, fieldwork, group discussions or any other innovative practice / activity as determined by the teacher in respective subject and moderated by Head of the Institute/Principal.

Sr. No	Parameters	Max. Marks
1	Internal Marks on the basis of Class Attendance	05
2	Internal Marks on the basis of Class Assignment/ Test	05
3	Internal Marks on the basis of Students Seminar / Students Lecture Forum	05
4	Internal Marks on Students Overall Performance	05
Total Internal Assessment Marks		20

- There shall be no separate / extra allotment of workload to the concerned teacher. He/ She shall conduct the internal assessment activity during the regular teaching days / periods as a part of regular teaching activity.
- At the beginning of each semester, every teacher shall inform his / her students unambiguously the method he / she propose to adopt and the scheme of marking for internal assessment with the prior permission of HOD / principal.
- An unsuccessful examinee at any internal shall be eligible for reexamination on payment of fresh examination fee prescribed by the University as per the respective directions.
- The internal marks will be communicated to the University at the end of each semester, but before the semester end examinations. These marks will be considered for the declaration of the results.
- The record of internal marks, evaluation & result should be maintained for a period of one year by respective institute/college for verification by competent authority.
- The maximum and minimum marks which each subject carries in MCM Semester - I, Semester - II, Semester - III and Semester - IV Examination are as indicated in Paragraph 7. A, B, C and D respectively.
- A copy of Project work shall be submitted to college prior to commencement of Semester - IV Examination for Evaluation by Internal and External Examiner appointed as per University rules.
- Candidate shall submit his/her declaration that the Project is a result of his/her own work and the same has not been previously submitted to any examination of this University or any other University.
- The Practical Examination of each Semester will be conducted by Internal and External Examiner appointed as per University rules.
- The old course students shall be absorbed as per the absorption scheme mentioned in Appendix D.
- If an examinee failed to pass the MCM Degree within five successive years from the date of his/her first admission to particular programme he/she shall be declared as **“Not Fit for the Course” (NFC)** and he/she will not be allowed to appear further for any examination of the course.




STANDARD OF PASSING

- Every candidate must secure 50% marks in each head of passing.
- The passing marks for each Subject / Practical / Project examination will thus be 50% of external and internal examination, both taken together i.e. (50 marks).
- There shall be no internal marks in Practical and Project Examination.

13. (A) There shall be no classification of examinees successful at the MCM Semester-I, Semester – II, Semester - III and Semester-IV Examinations whereas SGPA will be notified.

*** Conversion of Marks to Grades and Calculations of SGPA (Grade Point Average) and CGPA (Cumulative 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 Formulae Used

G: Grade

GP: Grade Points

C: Credits

CP: Credit Points

CG: Credits X Grades (Product of credits & Grades)

SGPA = ΣCG : Sum of Product of Credits & Grades points / ΣC : Sum of Credits points

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

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

CGPA to Percentage (%) Conversion Formula

$$\text{Percentage (\%)} = (\text{CGPA}) * 10$$



After calculating the SGPA for an individual semester and the CGPA for entire programme, the value can be matched with the grade in the Grade Point table as per the ten (10) Points Grading System and expressed as a single designated GRADE such as O, A+, A, B+, B, etc.

Marks	Grade	Grade Points
85 and above	O (Outstanding)	10
75 - 84	A+ (Distinction)	9
71 - 74	A (Very Good)	8
61 - 70	B+ (Good)	7
55 - 60	B(Above Average)	6
50 - 54	C (Average)	5
00 - 49	F (Fail)	0
	AB (Absent)	0

A student obtaining Grade F shall be considered failed and will be required to reappear in the examination.

(B) Division at the MCM Semester - IV Examination shall be declared based on the aggregate marks at the MCM Semester - I, Semester – II, Semester - III and Semester - IV Examination taken together and the CGPA will be calculated and notified.

(C) Successful examinees at the MCM Semester - IV Examination shall be awarded division based on CGPA as follows:

CGPA Range	Final Grade	Equivalent Class/ Division
9.01 to 10.00	O	First Division (Outstanding)
8.01 to 9.00	A+ (Distinction)	First Division(Distinction)
7.01 to 8.00	A(Very Good)	First Division (Very Good)
6.01 to 7.00	B+(Good)	First Division (Good)
5.55 to 6.00	B(Above Average)	Second Division (Above Average)
5.00 to 5.54	C(Average)	Second Division (Average)
0.00 to 4.99	F (Fail)	Fail
0	AB(Absent)	Absent

14. Successful examinees in the MCM Semester Examination shall be awarded Distinction in each subject in which examinees obtain 75% or more marks in that subject at the respective Examination.

15. Unsuccessful examinees at the above examinations can be readmitted to the same examination on payment of a fresh fee and such other fees as may be prescribed by university.

16. Provisions of ordinance No 3 of 2007, relating to the award of grace marks for passing an examination, securing higher division / class and for securing distinction in subject(s) shall be applicable.

17. Notwithstanding anything to the contrary in this Direction, no person shall be admitted to an examination under this Ordinance, if he/ she has already passed the same examination or an equivalent examination of any other University.

18. Examinees successful at MCM Semester - I, Semester - II, Semester-III and Semester-IV Examination shall on payment of the prescribed fees receive a Degree in the prescribed form signed by the Vice-Chancellor.

19. This Scheme shall come into force from the academic session 2019-20.

20. The Provisions of Ordinance No. 25 of 2017 governing the existing course for Master of Computer Management stands repealed physically on implementation of this Direction.

21. Without prejudice to the other provisions of Ordinance No. 6 relating to the Examinations in General, the provisions of Paragraphs 5, 7, 8, 10, 26 and 31 of the said Ordinance shall apply to every collegiate candidate.

22. The fees for the examination shall be as prescribed by the Management Council from time to time and whenever any change is made in the fees prescribed for any particular examination that shall be notified through a notification for information of the examinees concerned.

23. With the issuance of this Direction, The Direction No 25 of 2017 (Choice Based Credit System) shall stand repealed.

Nagpur

Date : 23-2-2023

(Dr. Subhash R. Chaudhari)
Vice-Chancellor

APPENDIX –C
Absorption Scheme MCM

It is notified for general information of all concerned that the failure students of **MCM Old-Course (Semester Pattern)** shall be absorbed in the **New Course CBCS Pattern** introduced from the session 2016-2017 Examination with the following scheme.

- 1) The Failure students of **MCM – I (Semester – I & Semester - II) and MCM – II (Semester – III & Semester - IV)** as per Old Course (Semester Pattern) appeared in **Sum 2016** should clear their backlog papers of **MCM – I (Semester – I & Semester - II) and MCM – II (Semester – III & Semester - IV)** Old Course (Semester Pattern) **till Winter 2017**. If they fail to complete & pass till Winter 2017, then they will have to appear in parallel papers of New Course CBCS Pattern (Choice Based Credit System) as per absorption scheme indicated in Appendix - D.
- 2) The Failure students of **MCM – II (Semester – III)** as per Old Course (Semester Pattern) appeared in **Winter 2016** should clear their backlog papers of **MCM – II (Semester - III)** Old Course (Semester Pattern) **till Summer 2018**. If they fail to complete & pass till Summer 2018, then they will have to appear in parallel papers of New Course CBCS Pattern (Choice Based Credit System) as per absorption scheme indicated in Appendix - D.
- 3) The Failure students of **MCM – II (Semester – IV)** as per Old Course (Semester Pattern) appeared in **Summer 2017** should clear their backlog papers of **MCM – II (Semester - IV)** Old Course (Semester Pattern) **till Winter 2018**. If they fail to complete & pass till Winter 2018, then they will have to appear in parallel papers of New Course CBCS Pattern (Choice Based Credit System) as per absorption scheme indicated in Appendix - D.

APPENDIX –D**(A) MCM Part – I (Semester - I)**

Old Course (Choice Based Credit System) introduced in 2016-2017 with New Course CBCS Pattern (Choice Based Credit System) introduced in 2019-2020

Sr.No	Old Course CBCS Pattern (Choice Based Credit System) Introduced in 2016-2017	M. Marks	Sr. No	New Course CBCS Pattern (Choice Based Credit System) Introduced in 2019-2020	Max Marks
Semester – I					
Theory			Theory		
1T1	Fundamental of Information Technology	80	1T1	Fundamental of Information Technology	80
1T2	Programming in C & OOPs Concept	80	1T2	Programming in C & OOPs Concept	80
1T3	Introduction to Operating Systems	80	1T3	Introduction to Operating Systems	80
1T4	Computerized Accounting (Tally ERP 9)	80	1T4	Computerized Accounting (Tally ERP 9)	80
Practical			Practical		
P - I	Practical - I : Programming in C & Operating Systems	100	1P1	Practical - I : Programming in C & Operating Systems	100
P - II	Practical -II : Tally & MS- Office	100	1P2	Practical - II : Tally (ERP 9) &Ms-Office	100

(B) MCM Part – I (Semester - II)

Old Course (Choice Based Credit System) introduced in 2016-2017 with New Course CBCS Pattern (Choice Based Credit System) introduced in 2019-2020

Sr.No	Old Course CBCS Pattern (Choice Based Credit System) Introduced in 2016-2017	M. Marks	Sr. No	New Course CBCS Pattern (Choice Based Credit System) Introduced in 2019-2020	Max Marks
Semester – II					

Theory			Theory		
2T1	Management Information Systems	80	2T1	Management Information Systems	80
2T2	Core Java	80	2T2	Core Java	80
2T3	Quantity Techniques & Operation Research	80	2T3	Quantity Techniques & Operation Research	80
2T4	E-Commerce and Web Designing	80	2T4	E-Commerce and Web Designing	80
Practical			Practical		
2P1	Practical-I :Core Java	100	2P1	Practical-I :Core Java	100
2P2	Practical-II : HTML, JavaScript	100	2P2	Practical-II : HTML, JavaScript	100

(C) MCM Part – II (Semester - III)

Old Course (Choice Based Credit System) introduced in 2016-2017 with New Course CBCS Pattern (Choice Based Credit System) introduced in 2019-2020

Sr.No	Old Course CBCS Pattern (Choice Based Credit System) Introduced in 2016-2017	M. Marks	Sr. No	New Course CBCS Pattern (Choice Based Credit System) Introduced in 2019-2020	Max Marks
Semester – III					
Theory			Theory		
3T1	Advance Database Management System	80	3T1	Advance Database Management System	80
3T2	Principles & Techniques of Management	80	3T2	Principles & Techniques of Management	80
3T3	Electives : (i) PHP & MySQL (ii) VB.Net (iii) C#.Net	80	3T3	Electives : (i) PHP & MySQL (ii) VB.Net (iii) C#.Net (IV) SWYAM / NPTEL / MOOCS	80
3T4	Compulsory Foundation (i)Research Methodology	80	3T4	Compulsory Foundation (i)Research Methodology	80
Practical			Practical		
3P1	Practical- I :SQL & PL/SQL	100	3P1	Practical- I :SQL & PL/SQL	100

3P2	Practical-II :Electives	100	3P2	Practical-II :Electives	100
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(D) MCM Part – II (Semester - IV)

Old Course (Choice Based Credit System) introduced in 2016-2017 with New Course CBCS Pattern (Choice Based Credit System) introduced in 2019-2020

Sr.No	Old Course CBCS Pattern (Choice Based Credit System) Introduced in 2016-2017	Max. Marks	Sr. No	New Course CBCS Pattern (Choice Based Credit System) Introduced in 2019-2020	Max Marks
Semester – IV					
Theory			Theory		
4T1	ASP.Net	80	4T1	ASP.Net	80
4T2	Electives: (i) Advance Java (ii) Android Programming (iii) Python	80	4T2	Electives: (i) Advance Java (ii) Android Programming (iii) Python	80
4T3	Elective Foundation: (i) Big Data &Hadoop (ii) Software Engineering (iii)Strategic Management	80	4T3	Elective Foundation: (i) Big Data &Hadoop (ii) Software Engineering (iii)Strategic Management	80
Practical			Practical		
4P1	Practical-I:ASP.Net	80	4P1	Practical-I:ASP.Net	100
4P2	Practical-II:Electives	100	4P2	Practical-II:Electives	100
Project			Project		
Proj	PROJECT	100	4P3	PROJECT	100

APPENDIX - II

APPENDIX –A

QUESTION PAPER PATTERN

First / Second / Third / Fourth Semester Master of Computer Management

(MCM) Examination

Choice Based Credit System (CBCS)

Subject Name

Paper - I

Time: 3 Hours

Total Marks: 80

N. B. - a) Draw well labeled diagram wherever necessary.

b) All questions are compulsory.

Part - A

N. B. – 1. Each question carries two marks.

2. Answers should not more than five lines.

Q1.

8 x 2 = 16

- a. Unit - I
- b. Unit - I
- c. Unit - II
- d. Unit - II
- e. Unit - III
- f. Unit - III
- g. Unit - IV
- h. Unit - IV

Part - B

N. B. – 1. Each question carries three marks.

2. Answers should not more than ten lines.

Q2.

8 x 3 = 24

- a. Unit - I
- b. Unit - I
- c. Unit - II
- d. Unit - II

e. Unit - III

f. Unit - III

g. Unit - IV

h. Unit - IV

Part - C

N. B. – 1. Each question carries five or Ten Marks.

2. Answers should not more than 400 words for 5 marks questions and 600 words for 10 Marks questions respectively.

Q3. Either

(A) Unit – I 5

(B) Unit – I 5

OR

(C) Unit – I 10

Q4. Either

(A) Unit – II 5

(B) Unit – II 5

OR

(C) Unit – II 10

Q5. Either

(A) Unit – III 5

(B) Unit – III 5

OR

(C) Unit – III 10

Q6. Either

(A) Unit – IV 5

(B) Unit – IV 5

OR

(C) Unit – IV 10

APPENDIX –B

(A) Project and Classification of Marks on Project

Towards the end of the second year of study, a student will be examined in the course "Project Work".

- a. Project Work may be done individually or in groups (Maximum 3 students) in case of bigger projects. However if project is done in groups, each student must be given a responsibility for a distinct module and care should be taken to monitor the progress of individual student.
- b. The Project Work should be done using the tools covered in Master of Computer Management.
- c. The Project Work should be of such a nature that it could prove useful or be relevant from the commercial / management angle.
- d. The project work will carry 100 marks.
- e. Project Work can be carried out in the Institute or outside with prior permission of the Institute.
- f. The external viva-voce examination for Project Work would be held as per the Examination Time Table of the second year of study, by a panel of one external and one Internal Examiner.

Types of Project

As majority of the students are expected to work out a project in some industry/research and development laboratories/educational institutions/software export companies, it is suggested that the project is to be chosen which should have some direct relevance in day-to-day activities of the candidates in his/her institution. The Applications Areas of project - Financial/Marketing/Database Management System/ Relational Database Management System/E-Commerce /Internet/ Manufacturing/ web Designing / Scientific / ERP etc.

Project Proposal (Synopsis)

The project proposal should be prepared in consultation with the guide. The project guide must be a person having minimum Qualification MCM/ M.Sc. (Computer Science + Information Technology)/ M.Sc. (Mathematics /Electronics/Statistics/Physics + Post B.Sc. Diploma in Computer Science& Application)/MCA. The project proposal should clearly state the objectives and environment of the proposed project to be undertaken. It should have full details in the following form:

Format of Synopsis for Desktop Application

1. Title of the Project.
2. Objectives of the Project.
3. Project Category (DBMS/RDBMS/OOPS etc.).
4. Tools/Platform and Languages to be used.
5. Complete Structure of the System:
 - i. Numbers of Modules and its Description.
 - ii. Modular Chart / System Chart.
 - iii. Data Structures or Tables.
 - iv. Process Logic of each Module.
 - v. Types of Report Generation.
6. References.

Note: Synopsis should not be more than 3-4 pages.

Format of Synopsis for Web Application

1. Title of the Project.
2. Objectives of the Project.
3. Project Category (DBMS/RDBMS/OOPS etc.).
4. Tools/Platform and Languages to be used.

5. Complete Structure of the System:

- i. Number of pages and links their short description.
 - ii. Use / Information of Pages.
 - iii. Feedback Form (if any).
- ## **6. References.**

Note: Synopsis should not be more than 3-4 pages.

Project Report Formulation

Front Page.

College Certificate Page.

Declaration Page.

Acknowledgment Page.

Project Profile.

Index or Content Page.

- i. *Contents _____.

Appendices

- i. List Figures, Tables & Charts.
- ii. Approved copy of Synopsis.

Glossary

*** Contents.**

- i. Introduction.
- ii. Objectives.
- iii. Preliminary System Analysis.
 - Preliminary Investigation.
 - Present System in Use.
 - Flaws in Present System.
 - Need of New System.
 - Feasibility Study.

- Project Category.
- iv. Software Engineering Paradigm Applied
 - Modules
 - System / Modular Chart.
 - v. Software & Hardware Requirement Specification.
 - vi. Detailed System Analysis.
 - Data Flow Diagram.
 - Numbers of Modules and Process Logic.
 - Data Structures and Tables.
 - Entity-Relationship Diagram.
 - vii. System Design.
 - Form Design.
 - Source Code.
 - Input screen & Output Screen.
 - viii. Testing & Validation Checks.
 - ix. System Security Measures.
 - x. Implementation, Evaluation and Maintenance.
 - xi. Future Scope of the project.
 - xii. Suggestion & Conclusion
 - xiii. Bibliography & References.

Note :-

- i. A Student is expected to complete the Assignments based on Syllabus of Practical subjects and submit the same in the form of a files (assignment Record) at the end of Academic Session for the evaluation purpose.
- ii. A student should submit internal assessment of each theory paper prescribed by the subject teacher.
- iii. A Student is expected to deliver a seminar on any course curricular subject / latest trends in IT relevant subject per semester for internal assessment.

Classification Of Marks on Project :-

Report & Documentation	40
Viva voce (External)	40
Viva voce (Internal)	20
<hr/>	
Total Marks	100

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

(B) Practical and Classification of Marks on Practical

1. Practical exam shall be of 4 hours duration.
2. 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.
3. 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.
4. After Viva-Voce and evaluation of practical records of a student by the Internal & External Examiner, both examiners should sign on the certificate of practical records.
5. The certificate template shall be as follows:

Name of the college / Institution

Name of the Department:

CERTIFICATE

This is to certify that Mr./Mrs./Ms. _____
of class MCM Part _____ Semester _____ has satisfactorily completed the
practical experiment prescribed by The Rashtrasant Tukadoji Maharaj Nagpur
University for the subject _____ during the academic year
_____.

Signature

Practical In-charge

Signature

Head of the Department

Signature

Internal Examiner

Signature

External Examiner

Date: _____

Classification Of Practical Marks :-

Practical – I

Marks

1. Writing a Program or Problem

40

(Algorithm & Flowchart)

2. Execute on a computer

3. Taking Hard Copy

Practical – II

1. Writing a Program or Problem 20 (Algorithm & Program)

Viva Voce

20

Practical Record

20

Total Marks

100

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

APPENDIX –C