



RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY

DIRECTION NO. 43 OF 2016

**DIRECTION GOVERNING THE EXAMINATION LEADING TO THE DEGREE OF
MASTER OF COMPUTER MANAGEMENT (MCM)
Choice Based Credit System (CBCS)**

WHEREAS the Maharashtra Universities Act No. XXXV of 1994 has come into force with effect from 22nd July, 1994.

AND

WHEREAS the amendment to the said Act came to be effected from 2016-2017.

AND

WHEREAS the Faculty of Commerce at its meeting held on 14.2.2012 have decided to update and upgrade the existing syllabus for the award of the degree of Master of Computer Management commensurate with the curricula existing in the various Universities in India and with a view to include the latest trends in the commerce stream as well as to design it to suit to the needs of the industries and corporate houses as provided under Section 38(a) of the Act.

AND

WHEREAS the Coordinator of the Faculty of Commerce concurred with the recommendations of the Special Task Committee in Computer Application in the Faculty of Commerce .

AND

WHEREAS the Special Task Committee in Computer Application in its meetings held on 24.2.2016 updated the existing syllabi and recommended some modifications in the scheme of examination for postgraduate courses,

AND

WHEREAS the Coordinator, Faculty of Commerce has consented to the changes in the syllabus and the scheme of examination for the award of Master of Computer Management Degree,

AND

WHEREAS the Vice-Chancellor, Nagpur University, Nagpur approved the recommendations so made by the Special Task Committee in the Faculty of Commerce duly concurred by the Coordinator, Faculty of Commerce as required under Section 38 (a) of the Act .

AND

WHEREAS it is expedient to provide and Ordinance for the purpose of prescribing examinations leading to the degree of Master of Computer Management in the Faculty of Commerce and phasic repeal of Ordinance No. 21 of 1994 governing the existing course of Master of Computer Management.

AND

WHEREAS As per the Advice of the Vice Chancellor, Coordinator, Faculty of Commerce & Coordinator, Special Task Committee (Computer Application) in the meeting held on 4.1.2016 constituted sub-committee for syllabus restructuring of MCM with Semester pattern.

The Sub-committee submitted the Semester Draft Syllabus of MCM in meeting held on 24.2.2016.

Now, therefore, I, Dr. S. P. Kane, Vice-Chancellor, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur in exercise of the powers vested in me under Section 14(8) of the Maharashtra University Act of 1994 do hereby issue the following direction:

This direction shall be called “DIRECTION REGARDING EXAMINATIONS LEADING TO THE MASTER OF COMPUTER MANAGEMENT Choice Based Credit System (CBCS) IN THE FACULTY OF COMMERCE, RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR”.

1. 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,

2. 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.
3. The Examinations Specified in above paragraph (i.e., Paragraph – 2) above shall be held twice a year (Winter + Summer) at such places and on such dates as may be fixed by the University.
4. 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 MCM Semester - I and appeared in Semester - II Examination.

OR

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

- (D) An applicant of MCM Semester - IV Examination shall have passed MCM Semester - I, Semester - II or equivalent Diploma and appeared in Semester - III Examination.

Admission to Semester	Candidate should have passed in following examinations	Candidate should have competed the term and filled examination form
Semester - I	Degree Examination	-
Semester - II	-	Semester – I
Semester - III	PGDCCA /PGDCS/ Semester-I	(Not applicable for PGDCCA/ PGDCS) Semester-II
Semester - IV	Semester-I & II	Semester - III

5. 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.
6. 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.

With the issuance of this Direction, The Direction No 24 of 2012 (Credit based Semester Pattern) shall stand repealed.

Nagpur
Date :21.6.2016

Sd/-
Dr. S. P. Kane
Vice-Chancellor

7. 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	Min Marks	Internal Assessment	Min Marks	Credits
Theory								
1CMT1	Fundamental of Information Technology	I	4	80	40	20	10	4
1CMT2	Programming in C & OOPs Concept	II	4	80	40	20	10	4
1CMT3	Introduction to Operating Systems	III	4	80	40	20	10	4
1CMT4	Computerized Accounting (Tally ERP 9)	IV	4	80	40	20	10	4
Practical								
1CMP5	Practical-I :Programming in C & Operating Systems	P-I	8	100	50	Nil	Nil	4
1CMP6	Practical-II :Tally (ERP 9)& MS-Office	P-II	8	100	50	Nil	Nil	4
	Total		32	520				24

Notes:

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

(B) MCM Part-I

Semester – II

Course Code	Subjects	Paper	Teaching Scheme per weeks (hr)	End Sem Examination	Min Marks	Internal Assessment	Min Marks	Credits
Theory								
2CMT1	Management Information Systems	I	4	80	40	20	10	4
2CMT2	Core Java	II	4	80	40	20	10	4
2CMT3	Quantity Techniques & Operation Research	III	4	80	40	20	10	4
2CMT4	E-Commerce and Web Designing	IV	4	80	40	20	10	4
Practical								
2CMP5	Practical-I :Core Java	P-I	8	100	50	Nil	Nil	4
2CMP6	Practical-II : HTML, JavaScript	P-II	8	100	50	Nil	Nil	4
	Total		32	520				24

Notes:

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

(C) MCM Part-II

Semester – III

Course Code	Subjects	Paper	Teaching Scheme per weeks (hr)	End Sem Examination	Min Marks	Internal Assessment	Min Marks	Credits
Theory								
3CMT1	Advance Database Management System	I	4	80	40	20	10	4
3CMT2	Principles & Techniques of Management	II	4	80	40	20	10	4
3CMT3	Electives : (i) PHP & MySQL (ii) VB.Net (iii) C#.Net	III	4	80	40	20	10	4
3CMT4	Compulsory Foundation (i) Research Methodology	IV	4	80	40	20	10	4
Practical								
3CMP5	Practical- I :SQL & PL/SQL	P-I	8	100	50	Nil	Nil	4
3CMP6	Practical-II :Electives	P-II	8	100	50	Nil	Nil	4
	Total		32	520				24

Notes:

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

(D) MCM Part-II

Semester – IV

Course Code	Subjects	Paper	Teaching Scheme per weeks (hr)	End Sem Examination	Min Marks	Internal Assessment	Min Marks	Credits
Theory								
4CMT1	ASP.Net	I	4	80	40	20	10	4
4CMT2	Electives: (i) Advance Java (ii) Android Programming (iii) Python	II	4	80	40	20	10	4
4CMT3	Elective Foundation: (i) Big Data &Hadoop (ii) Software Engineering (iii)Strategic Management	III	4	80	40	20	10	4
Practical								
4CMP4	Practical-I: ASP.Net	P-I	8	100	50	Nil	Nil	4
4CMP5	Practical-II: Electives	P-II	8	100	50	Nil	Nil	4
Project								
4CMP6	PROJECT	Project	8	100	50	-----	-----	4
Total			36	540				24

Notes:

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

8. In order to pass the examination, an examinee shall obtain not less than 50 % marks in each of the theory papers and each of the practical and the project and Internal Assessment (Sessional) separately.
 - (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.
9.
 - (A) The scope of the subjects and pattern of examination shall be as indicated insyllabi.
 - (B) The Medium of instructions and examinations shall be in ENGLISH only.
10. Applicant for MCM Examination prosecuting regular course of study shall not be permitted to join any other course in this or any other University.
11. **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 be based 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.
 - 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 external examination will thus be 40 out of 80 and for internal examination, 10 out of 20 and aggregate marks taking both together will be 50 marks.
- There shall be no internal marks in Practical and Project Examination.

11. (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.

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
40 - 49	P (Pass)	4

00 - 39	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)
4.00 to 4.99	P (Pass)	Pass
0	F (Fail)	Fail
0	AB (Absent)	Absent

12. 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.
13. 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.
14. 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.

15. 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.
16. 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.
17. This Scheme shall come into force from the academic session 2016-17.
18. The Provisions of Ordinance No. 21 of 1994 governing the existing course for Master of Computer Management stands repealed physically on implementation of this Direction.

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.

- | | | |
|--------------|------------|------------|
| 1. }
2. } | Unit - I | 8 x 2 = 16 |
| 3. }
4. } | Unit - II | |
| 5. }
6. } | Unit - III | |
| 7. }
8. } | Unit - IV | |

Part - B

- N. B. – 1. Each question carries three marks.
2. Answers should not more than ten lines.

- | | | |
|--------------|------------|------------|
| 1. }
2. } | Unit - I | 8 x 3 = 24 |
| 3. }
4. } | Unit - II | |
| 5. }
6. } | Unit - III | |
| 7. }
8. } | Unit - IV | |

Part - C

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

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

1. **Either**
- | | | | | |
|-----|---|----------|-----------|----|
| (A) | } | Unit - I | OR | 5 |
| (B) | | | | 5 |
| (C) | | | | 10 |
2. **Either**
- | | | | | |
|-----|---|-----------|-----------|----|
| (A) | } | Unit - II | OR | 5 |
| (B) | | | | 5 |
| (C) | | | | 10 |
3. **Either**
- | | | | | |
|-----|---|------------|-----------|----|
| (A) | } | Unit - III | OR | 5 |
| (B) | | | | 5 |
| (C) | | | | 10 |
4. **Either**
- | | | | | |
|-----|---|-----------|-----------|----|
| (A) | } | Unit - IV | OR | 5 |
| (B) | | | | 5 |
| (C) | | | | 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-today 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/OOPSetc.).
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/OOPSetc.).
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
experiments prescribed by Rastrashant Tukdoji Maharaj Nagpur University for the subject
_____ during the academic year _____.

Signature
Practical In-charge Head of the Department

Signature

Signature
Internal Examiner

Signature
External Examiner

Date: _____

Classification Of Practical Marks :-

	Practical – I	Marks
1.	Writing a Program or Problem (Algorithm & Flowchart)	40
2.	Execute on a computer	
3.	Taking Hard Copy	
	Practical – II	
1.	Writing a Program or Problem (Algorithm & Program)	20
	Viva Voce	20
	Practical Record	20
<hr/>		
	Total Marks	100

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

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 (Semester Pattern) → New Course CBCS Pattern (Choice Based Credit System)

Sr. No	Old Course (Semester Pattern)	M. Marks	Sr. No	New Course CBCS Pattern (Choice Based Credit System)	Max Marks
Semester – I					
Theory			Theory		
I	Fundamental of Information Technology	80	1CMT1	Fundamental of Information Technology	80
II	Programming in C	80	1CMT2	Programming in C & OOPs Concept	80
III	Introduction to Operating Systems	80	1CMT3	Introduction to Operating Systems	80
IV	Computerized Accounting (Tally)	80	1CMT4	Computerized Accounting (Tally ERP 9)	80
Practical			Practical		
P - I	Practical - I : Programming in C & Operating Systems	100	1CMP5	Practical - I : Programming in C & Operating Systems	100
P - II	Practical -II : Tally & MS-Office	100	1CMP6	Practical - II : Tally (ERP 9) &Ms-Office	100

(B) MCM Part – I (Semester - II)**Old Course (Semester Pattern)→New Course CBCS Pattern (Choice Based Credit System)**

Sr. No	Old Course (Semester Pattern)	M. Marks	Sr. No	New Course CBCS Pattern (Choice Based Credit System)	Max Marks
Semester – II					
Theory			Theory		
I	Management Information Systems and Software Engineering	80	2CMT1	Management Information Systems	80
II	Visual Basic Programming	80	2CMT2	Core Java	80
III	Principles & Techniques of Management	80	2CMT3	Quantity Techniques & Operation Research	80
IV	E-Commerce and Web Designing	80	2CMT4	E-Commerce and Web Designing	80
Practical			Practical		
P - I	Practical-I : Visual Basic	100	2CMP5	Practical-I :Core Java	100
P - II	Practical-II : HTML, JavaScript	100	2CMP6	Practical-II : HTML, JavaScript	100

(C) MCM Part – II (Semester - III)**Old Course (Semester Pattern) → New Course Pattern (Choice Based Credit System)**

Sr. No	Old Course (Semester Pattern)	M. Marks	Sr. No	New Course Pattern (Choice Based Credit System)	Max Marks
Semester – III					
Theory			Theory		
I	Quantitative Techniques & OR	80	3CMT1	Advance Database Management System	80
II	Core Java	80	3CMT2	Principles & Techniques of Management	80
III	DBMS and oracle	80	3CMT3	Electives : (i) PHP & MySQL (ii) VB.Net (iii) C#.Net	80
IV	Research Methodology & Software Product & Project Management	80	3CMT4	Compulsory Foundation (i) Research Methodology	80
Practical			Practical		
P - I	Practical-I : Core Java	100	3CMP5	Practical- I :SQL & PL/SQL	100
P - II	Practical-II : Oracle	100	3CMP6	Practical-II :Electives	100

(D) MCM Part – II (Semester - IV)**Old Course (Semester Pattern)→New Course Pattern (Choice Based Credit System)**

Sr. No	Old Course (Semester Pattern)	M. Marks	Sr. No	New Course Pattern (Choice Based Credit System)	Max Marks
Semester – IV					
Theory			Theory		
I	Information Security & Cyber Laws	80	4CMT1	ASP.Net	80
II	PHP& My-SQL	80	4CMT2	Electives: (i) Advance Java (ii) Android Programming (iii) Python	80
III	Electives : (i) Advanced Java (ii) OOPS & C++ (iii) ASP.Net	80	4CMT3	Elective Foundation: (i) Big Data &Hadoop (ii) Software Engineering (iii)Strategic Management	80
Practical			Practical		
P - I	Practical-I : PHP& My-SQL	80	4CMP4	Practical-I: ASP.Net	100
P - II	Practical-II : Elective	100	4CMP5	Practical-II: Electives	100
Project			Project		
Proj	PROJECT	100	4CMP6	PROJECT	100