# NIT SCHEME
## COURSE OF STUDY AND SCHEME OF EXAMINATION OF B.TECH./B.ARCH./M.TECH/**M.C.A.**
## NATIONAL INSTITUTE OF TECHNOLOGY OF RAIPUR

Branch:- **Master of Computer Applications (M.C.A.)**           Course:- **P.G.**

Semester:- **I$^{st}$ Sem.**

| S. No. | Board of Study | Subject Code | Subject Name | Period Per Week | | | Scheme of Examination | | | Total Marks | Credit [L+(T+P)/2] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | L | T | P | ESE | CT | TA | | |
| 1. | MASTER OF COMP. APP. | CA40111(CA) | Foundation of Information Technology | 4 | 1 | 0 | 100 | 20 | 20 | 140 | 5 |
| 2. | MATHS | MA40112(CA) | Mathematical Foundation of Computer Science | 4 | 1 | 0 | 100 | 20 | 20 | 140 | 5 |
| 3. | MASTER OF COMP. APP. | CA40113(CA) | Programming & Problem Solving in C | 4 | 1 | 0 | 100 | 20 | 20 | 140 | 5 |
| 4. | MASTER OF COMP. APP. | CA40114(CA) | Computer Organization & Architecture | 4 | 1 | 0 | 100 | 20 | 20 | 140 | 5 |
| 5. | HUMANITITES & SOCIAL SCIENCES | HS40115(CA) | Professional Communication in English | 4 | 1 | 0 | 100 | 20 | 20 | 140 | 5 |
| 6. | MASTER OF COMP. APP. | CA40121(CA) | Programming Lab in C | 0 | 0 | 6 | 75 | - | 50 | 125 | 3 |
| 7. | MASTER OF COMP. APP. | CA40122(CA) | Information Technology Lab | 0 | 0 | 6 | 75 | - | 50 | 125 | 3 |
| 8. | HUMANITITES & SOCIAL SCIENCES | HS40123(CA) | Professional Communication in English Lab | 0 | 0 | 2 | - | - | 50 | 50 | 1 |
| | | | **Total** | **20** | **5** | **14** | **650** | **100** | **250** | **1000** | **32** |

Mr. Mithilesh Atulkar           Mr. Harendra Bikrol           Dr. (Mrs.) Priyanka Tripathi           Dr. Sanjay Kumar           Mrs. Annie Thomas

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## COURSE OF STUDY AND SCHEME OF EXAMINATION OF B.TECH./B.ARCH./M.TECH/M.C.A.
## NATIONAL INSTITUTE OF TECHNOLOGY OF RAIPUR

Branch:- **Master of Computer Applications (M.C.A.)**          Course:- **P.G.**
Semester:- **II<sup>nd</sup> Sem.**

| S. No. | Board of Study | Subject Code | Subject Name | Period Per Week | | | Scheme of Examination | | | Total Marks | Credit [L+(T+P)/2] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | L | T | P | ESE | CT | TA | | |
| 1. | MASTER OF COMP. APP. | CA40211(CA) | Operating Systems | 4 | 1 | 0 | 100 | 20 | 20 | 140 | 5 |
| 2. | MASTER OF COMP. APP. | CA40212(CA) | Data Base Management Systems | 4 | 1 | 0 | 100 | 20 | 20 | 140 | 5 |
| 3. | MASTER OF COMP. APP. | CA40213(CA) | Data Structure | 4 | 1 | 0 | 100 | 20 | 20 | 140 | 5 |
| 4. | MATHS | MA40214(CA) | Computer Oriented Numerical Analysis | 4 | 1 | 0 | 100 | 20 | 20 | 140 | 5 |
| 5. | HUMANITITES & SOCIAL SCIENCES | HS40215(CA) | Oral & Written Communication | 4 | 1 | 0 | 100 | 20 | 20 | 140 | 5 |
| 6. | MASTER OF COMP. APP. | CA40221(CA) | Programming Laboratory in RDBMS | 0 | 0 | 6 | 75 | - | 50 | 125 | 3 |
| 7. | MASTER OF COMP. APP. | CA40222(CA) | Data Structure Lab | 0 | 0 | 6 | 75 | - | 50 | 125 | 3 |
| 8. | HUMANITITES & SOCIAL SCIENCES | HS40223(CA) | Oral & Written Communication & Group Discussion Lab | 0 | 0 | 2 | - | - | 50 | 50 | 1 |
| | | | **Total** | **20** | **5** | **14** | **650** | **100** | **250** | **1000** | **32** |

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## NATIONAL INSTITUTE OF TECHNOLOGY OF RAIPUR

Branch:- **Master of Computer Applications (M.C.A.)**          Course:- **P.G.**

Semester:- **IIIrd Sem.**

| S. No. | Board of Study | Subject Code | Subject Name | Period Per Week | | | Scheme of Examination | | | Total Marks | Credit [L+(T+P)/2] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | L | T | P | ESE | CT | TA | | |
| 1. | MASTER OF COMP. APP. | CA40311(CA) | Computer Networks and Communication | 4 | 1 | 0 | 100 | 20 | 20 | 140 | 5 |
| 2. | MATHS | MA40312(CA) | Computer Oriented Optimization | 4 | 1 | 0 | 100 | 20 | 20 | 140 | 5 |
| 3. | MASTER OF COMP. APP. | CA40313(CA) | Formal Language & Automata Theory | 4 | 1 | 0 | 100 | 20 | 20 | 140 | 5 |
| 4. | MASTER OF COMP. APP. | CA40314(CA) | Unix Operating System & Shell Programming | 4 | 1 | 0 | 100 | 20 | 20 | 140 | 5 |
| 5. | MASTER OF COMP. APP. | CA40315(CA) | Object Oriented Analysis, Design & C++ | 4 | 1 | 0 | 100 | 20 | 20 | 140 | 5 |
| 6. | MASTER OF COMP. APP. | CA40321(CA) | Unix Lab | 0 | 0 | 6 | 75 | - | 50 | 125 | 3 |
| 7. | MASTER OF COMP. APP. | CA40322(CA) | Programming Lab in C++ | 0 | 0 | 6 | 75 | - | 50 | 125 | 3 |
| 8. | HUMANITITES & SOCIAL SCIENCES | HS40323(CA) | Personality Development Lab | 0 | 0 | 2 | - | - | 50 | 50 | 1 |
| | | | **Total** | **20** | **5** | **14** | **650** | **100** | **250** | **1000** | **32** |

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## NATIONAL INSTITUTE OF TECHNOLOGY OF RAIPUR

Branch:- **Master of Computer Applications (M.C.A.)**   Course:- **P.G.**

Semester:- **IV<sup>th</sup> Sem.**

| S. No. | Board of Study | Subject Code | Subject Name | Period Per Week | | | Scheme of Examination | | | Total Marks | Credit [L+(T+P)/2] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | L | T | P | ESE | CT | TA | | |
| 1. | MASTER OF COMP. APP. | CA40411(CA) | Artificial Intelligence & Expert System | 4 | 1 | 0 | 100 | 20 | 20 | 140 | 5 |
| 2. | MATHS | MA40412(CA) | Statistical Computing | 4 | 1 | 0 | 100 | 20 | 20 | 140 | 5 |
| 3. | MASTER OF COMP. APP. | CA40413(CA) | Principles of Compiler Design | 4 | 1 | 0 | 100 | 20 | 20 | 140 | 5 |
| 4. | MASTER OF COMP. APP. | CA40414(CA) | Software Engineering | 4 | 1 | 0 | 100 | 20 | 20 | 140 | 5 |
| 5. | MASTER OF COMP. APP. | CA40415(CA) | Computer Graphics & Multimedia | 4 | 1 | 0 | 100 | 20 | 20 | 140 | 5 |
| 6. | MASTER OF COMP. APP. | CA40421(CA) | Artificial Intelligence Lab | 0 | 0 | 4 | 50 | - | 25 | 75 | 2 |
| 7. | MASTER OF COMP. APP. | CA40422(CA) | Computer Graphics Lab | 0 | 0 | 4 | 50 | - | 25 | 75 | 2 |
| 8. | MASTER OF COMP. APP. | CA40423(CA) | Project Lab – I | 0 | 0 | 4 | 50 | - | 50 | 100 | 2 |
| 9. | HUMANITITES & SOCIAL SCIENCES | HS40424(CA) | Report Writing & Seminar | 0 | 0 | 2 | - | - | 50 | 50 | 1 |
| | | | **Total** | **20** | **5** | **14** | **650** | **100** | **250** | **1000** | **32** |

Mr. Mithilesh Atulkar        Mr. Harendra Bikrol        Dr. (Mrs.) Priyanka Tripathi        Dr. Sanjay Kumar        Mrs. Annie Thomas

Branch:- **Master of Computer Applications (M.C.A.)**          Course:- **P.G.**
Semester:- **V<sup>th</sup> Sem.**

| S. No. | Board of Study | Subject Code | Subject Name | Period Per Week | | | Scheme of Examination | | | Total Marks | Credit [L+(T+P)/2] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | L | T | P | ESE | CT | TA | | |
| 1. | MASTER OF COMP. APP. | CA40511(CA) | Advance Programming in Java | 4 | 1 | 0 | 100 | 20 | 20 | 140 | 5 |
| 2. | MASTER OF COMP. APP. | CA40512(CA) | Distributed Computer Systems | 4 | 1 | 0 | 100 | 20 | 20 | 140 | 5 |
| 3. | MASTER OF COMP. APP. | CA40513(CA) | Mobile Computing | 4 | 1 | 0 | 100 | 20 | 20 | 140 | 5 |
| 4. | MASTER OF COMP. APP. | Refer Elective- I | Elective – I | 4 | 1 | 0 | 100 | 20 | 20 | 140 | 5 |
| 5. | MASTER OF COMP. APP. | Refer Elective- II | Elective – II | 4 | 1 | 0 | 100 | 20 | 20 | 140 | 5 |
| 6. | MASTER OF COMP. APP. | CA40521(CA) | Java Programming Lab | 0 | 0 | 6 | 75 | - | 50 | 125 | 3 |
| 7. | MASTER OF COMP. APP. | CA40522(CA) | Project Lab - II | 0 | 0 | 6 | 75 | - | 50 | 125 | 3 |
| 8. | HUMANITITES & SOCIAL SCIENCES | HS40523(CA) | Interview Preparation, Presentation Lab | 0 | 0 | 2 | - | - | 50 | 50 | 1 |
| | | | **Total** | **20** | **5** | **14** | **650** | **100** | **250** | **1000** | **32** |

Note (1)- 1/2 of total strength of students subject to Minimum Strength of thirty students is required to offer an elective in the institute in a particular academic session.

Note (2) - Choice of elective course once made for an examination cannot be changed for future examination.

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Branch:- **Master of Computer Applications (M.C.A.)**　　　　　　　　　Course:- **P.G.**
Semester:- **V^th Sem.**

## Elective –I

CA40531(CA) - Neural Network & Fuzzy Logic
CA40532(CA) - Network Programming
CA40533(CA) - Modeling & Simulation
CA40534(CA) - Enterprise Resource Planning
CA40535(CA) - Management Information Systems
CA40536(CA) - Parallel Processing

## Elective -II

CA40541(CA) - Data Warehousing and Mining
CA40542(CA) - Cryptography & Network security
CA40543(CA) - Analysis and Design of Algorithm
CA40544(CA) - Software Project Management
CA40545(CA) - Digital Image Processing
CA40546(CA) - Research Methodology and Computer Applications

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## NATIONAL INSTITUTE OF TECHNOLOGY OF RAIPUR

Branch:- **Master of Computer Applications (M.C.A.)**          Course:- **P.G.**

Semester:- **VI<sup>th</sup> Sem.**

| S. No. | Board of Studies | Subject Code | Subject | Scheme of Exam Theory / Practical | | | | | Total Marks | Credit L+(T+P)/2 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | L | T | P | ESE | TA | | |
| 1 | MASTER OF COMP. APP. | CA40621(CA) | Project | 4 | - | 32 | 300 | - | 300 | 20 |
| 2 | MASTER OF COMP. APP. | CA40622(CA) | Seminar on Project | - | - | 4 | - | 200 | 200 | 2 |
| | | | **TOTAL** | **4** | **-** | **36** | **300** | **200** | **500** | **22** |

- The work done by the students should be worthy enough to prove the duration of computer applications project as six months.
- The certificate of the company must specify the duration of at least 5 months.
- The Project should be based on application of technical knowledge for attempting to solve live problems.
- Students undergone for project have to send the confirmation letter from the company within 15 days of joining. This letter will consist of information regarding Company name, Guide Name, Project Title, Project start date etc.
- Progress report for every month should be sent to the department during 6 months of Project work
- The students will have to deliver a very formal seminar in the form of Power Point Presentation and 2 copies of Project Report are to be submitted.
- Preferably independent work should be carried out by each student.

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Branch:- **Master of Computer Applications (M.C.A.)**          Course:- **P.G.**

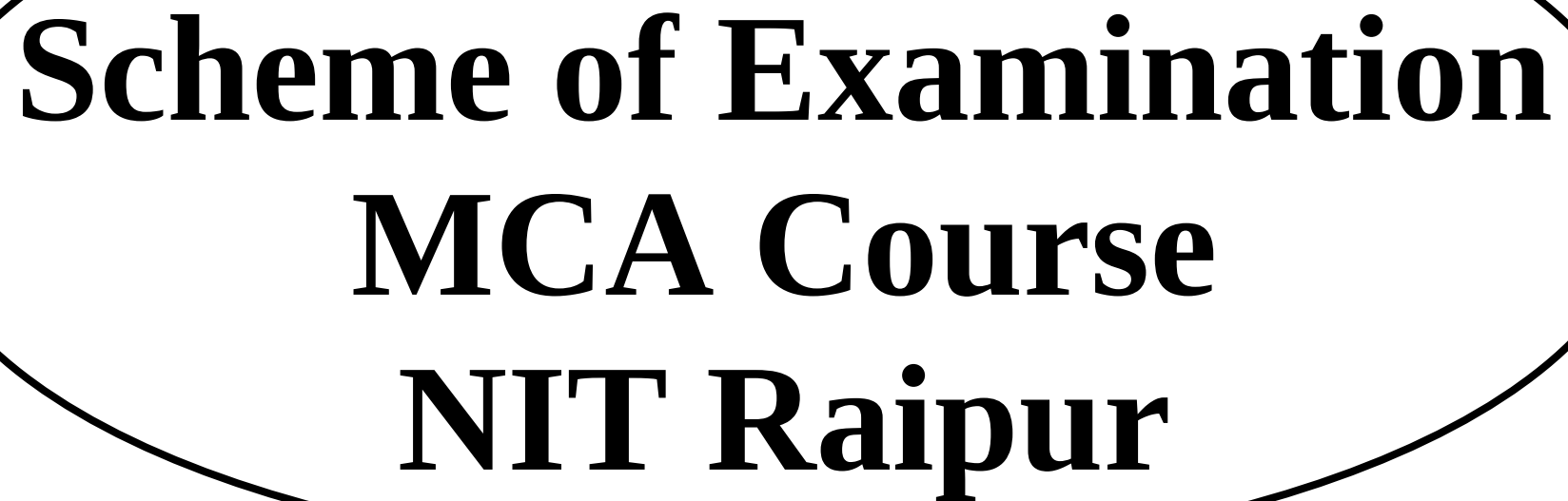| S.No. | Semester | Max. Marks |
|:-----:|:--------:|:----------:|
| 1. | I$^{st}$ | 1000 |
| 2. | II$^{nd}$ | 1000 |
| 3. | III$^{rd}$ | 1000 |
| 4. | IV$^{th}$ | 1000 |
| 5. | V$^{th}$ | 1000 |
| 6. | VI$^{th}$ | 500 |
| **Total** | | **5500** |

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# Scheme of Examination
## MCA Course
## NIT Raipur

Branch:- **Master of Computer Applications (M.C.A.)**                    Course:- **P.G.**
Semester:- **III$^{rd}$ Sem.**

| S. No. | Board of Study | Subject Code | Subject Name |
|---|---|---|---|
| 1. | MASTER OF COMP. APP. | CA40311(CA) | Computer Networks and Communication |
| 2. | MATHS | MA40312(CA) | Computer Oriented Optimization |
| 3. | MASTER OF COMP. APP. | CA40313(CA) | Formal Language & Automata Theory |
| 4. | MASTER OF COMP. APP. | CA40314(CA) | Unix Operating System & Shell Programming |
| 5. | MASTER OF COMP. APP. | CA40315(CA) | Object Oriented Analysis, Design & C++ |
| 6. | MASTER OF COMP. APP. | CA40321(CA) | Unix Lab |
| 7. | MASTER OF COMP. APP. | CA40322(CA) | Programming Lab in C++ |

**Head of the Department**                                             **Dean Academics**