

# BANGALORE UNIVERSITY

## SCHEME OF STUDY AND EXAMINATION FOR MASTER OF COMPUTER APPLICATIONS (MCA)

| Semester | Paper Code | Title of the paper                                       | Hours /<br>Week | Marks |      |       | Credits |          |
|----------|------------|--|-----------------|-------|------|-------|---------|----------|
|          |            |  |                 | IA    | Exam | Total | Subject | Semester |
| I        | MCA101T    | Problem Solving Techniques using C                       | 4               | 30    | 70   | 100   | 4       | 24       |
|          | MCA102T    | Accounting and Financial Management                      | 4               | 30    | 70   | 100   | 4       |          |
|          | MCA103T    | Digital Electronics and Microprocessor                   | 4               | 30    | 70   | 100   | 4       |          |
|          | MCA104T    | Discrete Mathematics                                     | 4               | 30    | 70   | 100   | 4       |          |
|          | MCA105P    | C Programming Lab  | 8               | 30    | 70   | 100   | 4       |          |
|          | MCA106P    | Accounting Lab   | 8               | 30    | 70   | 100   | 4       |          |
| II       | MCA201T    | Data Structures  | 4               | 30    | 70   | 100   | 4       | 24       |
|          | MCA202T    | Database Management System                               | 4               | 30    | 70   | 100   | 4       |          |
|          | MCA203T    | Computer Networks  | 4               | 30    | 70   | 100   | 4       |          |
|          | MCA204T    | Operating System   | 4               | 30    | 70   | 100   | 4       |          |
|          | MCA205P    | Data Structures Lab                                      | 8               | 30    | 70   | 100   | 4       |          |
|          | MCA206P    | DBMS Lab   | 8               | 30    | 70   | 100   | 4       |          |
| III      | MCA301T    | File Structures  | 4               | 30    | 70   | 100   | 4       | 26       |
|          | MCA302T    | Object Oriented Analysis and Design using UML            | 4               | 30    | 70   | 100   | 4       |          |
|          | MCA303T    | Theory of Computation                                    | 4               | 30    | 70   | 100   | 4       |          |
|          | MCA304T    | Statistical Analysis                                     | 4               | 30    | 70   | 100   | 4       |          |
|          | MCA305P    | File Structures Lab                                      | 8               | 30    | 70   | 100   | 4       |          |
|          | MCA306P    | Object Oriented Analysis and Design using UML Lab        | 8               | 30    | 70   | 100   | 4       |          |
|          | MCA307T    | Soft Core – Quantitative, Teaching and Research Aptitude | 3               | 30    | 70   | 100   | 2       |          |
| IV       | MCA401T    | Advanced Java Programming                                | 4               | 30    | 70   | 100   | 4       | 26       |
|          | MCA402T    | Advanced Algorithms                                      | 4               | 30    | 70   | 100   | 4       |          |
|          | MCA403T    | Advanced Software Engineering                            | 4               | 30    | 70   | 100   | 4       |          |

|    |         |   |    |     |     |     |   |    |
|----|---------|---|----|-----|-----|-----|---|----|
|    | MCA404T | Quantitative Techniques                             | 4  | 30  | 70  | 100 | 4 |    |
|    | MCA405P | Advanced Java Programming Lab                       | 8  | 30  | 70  | 100 | 4 |    |
|    | MCA406P | Advanced Algorithms Lab                             | 8  | 30  | 70  | 100 | 4 |    |
|    | MCA407T | Soft Core – Soft Skills and Personality Development | 3  | 30  | 70  | 100 | 2 |    |
| V  | MCA501T | Advanced Web Programming                            | 4  | 30  | 70  | 100 | 4 | 24 |
|    | MCA502T | Advanced Database Management Systems                | 4  | 30  | 70  | 100 | 4 |    |
|    | MCA503T | Artificial Intelligence                             | 4  | 30  | 70  | 100 | 4 |    |
|    | MCA504T | Open Elective                                       | 4  | 30  | 70  | 100 | 4 |    |
|    | MCA505P | Advanced Web Programming Lab                        | 8  | 30  | 70  | 100 | 4 |    |
|    | MCA506P | Mini Project  | 8  | 30  | 70  | 100 | 4 |    |
| VI | MCA501T | Elective – I  | 4  | 30  | 70  | 100 | 4 | 16 |
|    | MCA502T | Elective – II                                       | 4  | 30  | 70  | 100 | 4 |    |
|    | MCA503P | Main Project  | 16 | 150 | 250 | 400 | 8 |    |

### List of Electives

1. Distributed Operating Systems
2. Software Testing
3. Parallel Algorithms
4. Compiler Design
5. Multimedia Communication
6. e-Governance
7. Image processing
8. Mobile Computing
9. TCP / IP
10. Cloud Computing
11. Storage Area Network
12. Data Mining
13. Big Data Analytics
14. Mobile computing