

## MCA

### Objectives

To create high calibre solution architects and innovators for software development who will also be sensitive to societal concerns. The main objectives of this course are to prepare the youth to take up positions as system analysts, system engineers, software engineers, programmers and of course as versatile teachers in any area of computer applications. Accordingly, the course curriculum aims at developing 'systems thinking', 'abstract thinking', 'skills to analyze and synthesize' and 'skills to apply knowledge' through 'extensive problem-solving sessions', 'hands on practice under various hardware/software environments', 'three minor projects and 'one semester full-time industrial training'. In addition, 'social interaction skills', 'communication skills', 'life skills', 'entrepreneurial skills', and 'research skills' which are necessary for career growth and for leading quality life are also imparted.

### Mission

By teaching 'things just not words', 'how to think', and 'how to self-learn'.

### Programme Outcomes

Learning Outcomes from Master of Computer Applications (MCA) Programme: At the end of the course the student should be able to:

- Analyse problems and design effective and efficient software solutions.
- Develop software under latest Application Development Environments.
- Learn new technologies with ease and be productive at all times.
- Read, write, and contribute to technical literature.
- Work in teams.
- Be a good citizen in all respects.

### Programme Structure

| SEMESTER I    |                                       |              |      |       |       |                       |      |
|---------------|---------------------------------------|--------------|------|-------|-------|-----------------------|------|
| Course Number | Course Title                          | Credit Value | #Lec | #Tut. | #Lab. | Weightage for EoTE/IA | EoTM |
| 101           | Basics of Software Development Skills | 4            | 3    | 2     | -     | 0.6/0.4               | Univ |
| 102           | Elementary Algorithmics               | 4            | 3    | 2     | -     | 0.6/0.4               | Univ |

|              |                             |           |           |           |           |                       |           |
|--------------|-----------------------------|-----------|-----------|-----------|-----------|-----------------------|-----------|
| 103          | Database Management Systems | 4         | 3         | 2         | -         | 0.6/0.4               | Univ      |
| 104          | Discrete Structures I       | 3         | 2         | 2         | -         | 0.6/0.4               | Univ      |
| 105          | Management Functions        | 3         | 2         | 2         | -         | 0.6/0.4               | Univ      |
| 106          | Programming with C          | 4         | 2         | -         | 4         | 0.6/0.4               | Univ      |
| 107          | Web Supporting Technologies | 4         | 2         | -         | 4         | 0.6/0.4               | Univ      |
| 108          | General Course I            | 2         | -         | -         | 4         | Continuous Assessment | Institute |
| <b>Total</b> |                             | <b>28</b> | <b>17</b> | <b>10</b> | <b>12</b> | <b>-</b>              | <b>-</b>  |

| <b>SEMESTER II</b>   |                                     |                     |             |              |              |                              |             |
|----------------------|-------------------------------------|---------------------|-------------|--------------|--------------|------------------------------|-------------|
| <b>Course Number</b> | <b>Course Title</b>                 | <b>Credit Value</b> | <b>#Lec</b> | <b>#Tut.</b> | <b>#Lab.</b> | <b>Weightage for EoTE/IA</b> | <b>EoTM</b> |
| 201                  | Computer Architecture               | 4                   | 3           | 2            | -            | 0.6/0.4                      | Univ        |
| 202                  | Object Oriented Analysis and Design | 4                   | 3           | 2            | -            | 0.6/0.4                      | Univ        |
| 203                  | Business Information Systems        | 4                   | 3           | 2            | -            | 0.6/0.4                      | Univ        |
| 204                  | Discrete Structures II              | 3                   | 2           | 2            | -            | 0.6/0.4                      | Univ        |
| 205                  | Financial Accounting and Management | 3                   | 2           | 2            | -            | 0.6/0.4                      | Univ        |
| 206                  | Database Management with Oracle     | 4                   | 2           | -            | 4            | 0.6/0.4                      | Univ        |
| 207                  | Project I                           | 2                   | -           | -            | 4            | 0.6/0.4                      | Univ        |
| 208                  | General Course II                   | 2                   | -           | -            | 4            | Continuous Assessment        | Institute   |
| <b>Total</b>         |                                     | <b>26</b>           | <b>15</b>   | <b>10</b>    | <b>12</b>    | <b>-</b>                     | <b>-</b>    |

| <b>SEMESTER III</b>  |                     |                     |             |              |              |                              |             |
|----------------------|---------------------|---------------------|-------------|--------------|--------------|------------------------------|-------------|
| <b>Course Number</b> | <b>Course Title</b> | <b>Credit Value</b> | <b>#Lec</b> | <b>#Tut.</b> | <b>#Lab.</b> | <b>Weightage for EoTE/IA</b> | <b>EoTM</b> |

|              |   |           |           |           |           |                       |           |
|--------------|---|-----------|-----------|-----------|-----------|-----------------------|-----------|
| CC301        | Operating System Concepts                             | 4         | 3         | 2         | -         | 0.6/0.4               | Univ      |
| CC302        | Computer Networks                                     | 4         | 3         | 2         | -         | 0.6/0.4               | Univ      |
| CC303        | Software Engineering                                  | 4         | 3         | 2         | -         | 0.6/0.4               | Univ      |
| CC304        | Empirical Methods for Researching Information Systems | 3         | 2         | 2         | -         | 0.6/0.4               | Univ      |
| CC305        | Organizational Behavior                               | 3         | 2         | 2         | -         | 0.6/0.4               | Univ      |
| CC306#       | Programming with Java                                 | 4         | 2         | -         | 4         | 0.6/0.4               | Univ      |
| PR02         | Project II  | 2         | -         | -         | 4         | 0.6/0.4               | Univ      |
| EL01         | LAB Elective I  | 3         | 1         | -         | 4         | Continuous Assessment | Institute |
| GC03         | General Course III                                    | 2         | -         | -         | 4         | Continuous Assessment | Institute |
| <b>Total</b> |   | <b>29</b> | <b>16</b> | <b>10</b> | <b>16</b> | <b>-</b>              | <b>-</b>  |

| <b>SEMESTER IV</b>   |                            |                     |             |              |              |                              |             |
|----------------------|----------------------------|---------------------|-------------|--------------|--------------|------------------------------|-------------|
| <b>Course Number</b> | <b>Course Title</b>        | <b>Credit Value</b> | <b>#Lec</b> | <b>#Tut.</b> | <b>#Lab.</b> | <b>Weightage for EoTE/IA</b> | <b>EoTM</b> |
| CC401                | Applied Data Structures    | 4                   | 3           | 2            | -            | 0.6/0.4                      | Univ        |
| CC402                | Design Patterns and HCI    | 4                   | 3           | 2            | -            | 0.6/0.4                      | Univ        |
| CC403                | Probability and Simulation | 3                   | 2           | 2            | -            | 0.6/0.4                      | Univ        |
| EC                   | Elective Course I          | 4                   | 4           | -            | -            | Continuous Assessment        | Institute   |
| EC                   | Elective Course II         | 4                   | 4           | -            | -            | Continuous Assessment        | Univ        |
| CC306#               | Dot Net Technologies       | 4                   | 2           | -            | 4            | 0.6/0.4                      | Univ        |
| PR02                 | Project III                | 2                   | -           | -            | 4            | 0.6/0.4                      | Univ        |
| EL01                 | LAB Elective II            | 3                   | 1           | -            | 4            | Continuous Assessment        | Institute   |
| GC03                 | General Course IV          | 2                   | -           | -            | 4            | Continuous Assessment        | Institute   |

|              |           |           |           |           |          |          |
|--------------|-----------|-----------|-----------|-----------|----------|----------|
| <b>Total</b> | <b>30</b> | <b>18</b> | <b>08</b> | <b>16</b> | <b>-</b> | <b>-</b> |
|--------------|-----------|-----------|-----------|-----------|----------|----------|

| <b>SEMESTER V</b>    |                              |                     |             |              |              |                              |             |
|----------------------|------------------------------|---------------------|-------------|--------------|--------------|------------------------------|-------------|
| <b>Course Number</b> | <b>Course Title</b>          | <b>Credit Value</b> | <b>#Lec</b> | <b>#Tut.</b> | <b>#Lab.</b> | <b>Weightage for EoTE/IA</b> | <b>EoTM</b> |
| CC501                | Soft Computing               | 4                   | 3           | 2            | -            | 0.6/0.4                      | Univ        |
| CC502                | Finite Automata and Grammars | 4                   | 3           | 2            | -            | 0.6/0.4                      | Univ        |
| CC503                | Software Project Management  | 3                   | 3           | 2            | -            | 0.6/0.4                      | Univ        |
| EC03                 | Elective Course III          | 4                   | 4           | -            | -            | Continuous Assessment        | Institute   |
| EC04                 | Elective Course IV           | 4                   | 4           | -            | -            | Continuous Assessment        | Univ        |
| PR04                 | Project IV                   | 2                   | -           | -            | 4            | 0.6/0.4                      | Univ        |
| EL03                 | LAB Elective III             | 3                   | -           | -            | 4            | Continuous Assessment        | Institute   |
| GC05                 | General Course V             | 2                   | -           | -            | 4            | Continuous Assessment        | Institute   |
| <b>Total</b>         |                              | <b>27</b>           | <b>18</b>   | <b>06</b>    | <b>12</b>    | <b>-</b>                     | <b>-</b>    |

| <b>SEMESTER VI</b>   |                     |                     |             |              |              |                              |             |
|----------------------|---------------------|---------------------|-------------|--------------|--------------|------------------------------|-------------|
| <b>Course Number</b> | <b>Course Title</b> | <b>Credit Value</b> | <b>#Lec</b> | <b>#Tut.</b> | <b>#Lab.</b> | <b>Weightage for EoTE/IA</b> | <b>EoTM</b> |
| PR601                | Internship Project  | 10                  | -           | -            | -            | 0.6/0.4                      | Univ        |

There is no theory examination conducted by university for courses CC106, CC107, CC206, CC306, and CC406. The four electives, the three Lab electives, and General Courses are finalized by the respective institutes.