



**RCC Institute of Information Technology, Kolkata**  
(Autonomous from Academic Session: 2024 – 2025)

**Syllabus: M. Tech. in Computer Science and Engineering**

| First Semester  |                       |                   |                                                                                                                                                   |               |   |   |           |
|-----------------|-----------------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---|---|-----------|
| Sl. No.         | Category              | Course Code       | Course Name                                                                                                                                       | Contact Hours |   |   | Credits   |
|                 |                       |                   |                                                                                                                                                   | L             | T | P |           |
| 1               | Professional Core     | RCC-PCT-MCSE-101  | Mathematical Foundations of Computer Science                                                                                                      | 3             | 0 | 0 | 3         |
| 2               | Professional Core     | RCC-PCT-MCSE-102  | Advanced Algorithms                                                                                                                               | 3             | 0 | 0 | 3         |
| 3               | Professional Elective | RCC-PET-MCSE-103  | <b>Elective I (PET) –</b><br>A. Soft Computing Techniques<br>B. Advanced DBMS and Data Warehousing<br>C. Graphics and Multimedia                  | 3             | 0 | 0 | 3         |
| 4               | Professional Elective | RCC-PET-MCSE-104  | <b>Elective II (PET) -</b><br>A. Distributed Systems<br>B. Big Data Analytics<br>C. Internet of Things                                            | 3             | 0 | 0 | 3         |
| 5               | Project               | RCC-PROJ-MCSE-105 | Research Methodology and IPR                                                                                                                      | 2             | 0 | 0 | 2         |
| 6               | Professional Core     | RCC-PCL-MCSE-191  | Advanced Programming Lab                                                                                                                          | 0             | 0 | 4 | 2         |
| 7               | Professional Elective | RCC-PEL-MCSE-192  | <b>Elective III (PEL) -</b><br>A. Distributed Systems Lab<br>B. Big Data Analytics Lab<br>C. Internet of Things Lab                               | 0             | 0 | 4 | 2         |
| 8               | Audit/ Mandatory      | RCC-AU-MCSE-181   | Techniques and Languages for Research Paper Writing.                                                                                              | 4             | 0 | 0 | 0         |
| <b>Total</b>    |                       |                   |                                                                                                                                                   |               |   |   | <b>18</b> |
| Second Semester |                       |                   |                                                                                                                                                   |               |   |   |           |
| Sl. No.         | Category              | Course Code       | Course Name                                                                                                                                       | Contact Hours |   |   | Credits   |
|                 |                       |                   |                                                                                                                                                   | L             | T | P |           |
| 1               | Professional Core     | RCC-PCT-MCSE-201  | Data Science                                                                                                                                      | 3             | 0 | 0 | 3         |
| 2               | Professional Core     | RCC-PCT-MCSE-202  | Machine Learning                                                                                                                                  | 3             | 0 | 0 | 3         |
| 3               | Professional Elective | RCC-PET-MCSE-203  | <b>Elective IV (PET) –</b><br>A. Cloud Computing<br>B. Pattern Recognition<br>C. Principles of Computer Security<br>D. High Performance Computing | 3             | 0 | 0 | 3         |
| 4               | Professional Elective | RCC-PET-MCSE-204  | <b>Elective V (PET) –</b><br>A. Digital Image Processing<br>B. NLP                                                                                | 3             | 0 | 0 | 3         |
| 5               | Professional Core     | RCC-PCL-MCSE-291  | Machine Learning with Python Lab                                                                                                                  | 0             | 0 | 4 | 2         |
| 6               | Professional Elective | RCC-PEL-MCSE-292  | <b>Elective VI (PEL) –</b><br>A. Digital Image Processing Lab<br>B. NLP Lab                                                                       | 0             | 0 | 4 | 2         |
| 7               | Project               | RCC-PROJ-MCSE-281 | Minor Project and Seminar                                                                                                                         | 0             | 0 | 4 | 2         |
| 8               | Audit/ Mandatory      | RCC-AU-MCSE-281   | Soft Skill and Personality Development                                                                                                            | 2             | 0 | 0 | 0         |
| 9               | Audit/ Mandatory      | RCC-AU-MCSE-282   | Mental Wellness                                                                                                                                   | 0             | 0 | 3 | 0         |
| <b>Total</b>    |                       |                   |                                                                                                                                                   |               |   |   | <b>18</b> |



**RCC Institute of Information Technology, Kolkata**  
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**Syllabus: M. Tech. in Computer Science and Engineering**

| Third Semester  |                       |                   |                                                                                                                                                                                                                        |               |   |    |           |
|-----------------|-----------------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---|----|-----------|
| Sl. No.         | Category              | Course Code       | Course Name                                                                                                                                                                                                            | Contact Hours |   |    | Credits   |
|                 |                       |                   |                                                                                                                                                                                                                        | L             | T | P  |           |
| 1               | Professional Elective | RCC-PET-MCSE-301  | <b>Elective VII (PET) –</b><br>A. Deep Learning<br>B. Block Chain<br>C. MOOCS-1(NPTEL/SWAYAM) 12 Week Program related to course structure subject to approval of the HOD of the Department.                            | 3             | 0 | 0  | 3         |
| 2               | Open Elective         | RCC-OET-MCSE-301  | <b>Elective VIII (OET) –</b><br>A. MOOCS-2(NPTEL/SWAYAM) 12 Week Program related to course on Engineering/Management/Mathematics subject to approval of the HOD of the Department<br>B. Quantum Information Processing | 3             | 0 | 0  | 3         |
| 3               | Project               | RCC-PROJ-MCSE-381 | Industrial Project/Training (Min 4 weeks total duration 24 hrs.)                                                                                                                                                       | 0             | 0 | 4  | 2         |
| 4               | Project               | RCC-PROJ-MCSE-382 | General Viva-Voce                                                                                                                                                                                                      | 0             | 0 | 0  | 2         |
| 5               | Project               | RCC-PROJ-MCSE-383 | Dissertation I + Defense of Dissertation I                                                                                                                                                                             | 0             | 0 | 12 | 6         |
| <b>Total</b>    |                       |                   |                                                                                                                                                                                                                        |               |   |    | <b>16</b> |
| Fourth Semester |                       |                   |                                                                                                                                                                                                                        |               |   |    |           |
| Sl. No.         | Category              | Course Code       | Course Name                                                                                                                                                                                                            | Contact Hours |   |    | Credits   |
|                 |                       |                   |                                                                                                                                                                                                                        | L             | T | P  |           |
| 1               | Project               | RCC-PROJ-MCSE-481 | Dissertation-II + Defense of Dissertation II                                                                                                                                                                           | 0             | 0 | 32 | 16        |
| <b>Total</b>    |                       |                   |                                                                                                                                                                                                                        |               |   |    | <b>16</b> |