

## M.Tech. Computer Science and Engineering (Specialization offered in Data Sciences/ Cyber Security)

| Sem                                | Subject 1                                                           | Subject 2                                      | Subject 3                      | Subject 4                                 | Subject 5         | Subject 6                                   | L  | T | P  | Weekly Contact Hours | credits |
|------------------------------------|---------------------------------------------------------------------|------------------------------------------------|--------------------------------|-------------------------------------------|-------------------|---------------------------------------------|----|---|----|----------------------|---------|
| I                                  | CSL501<br>Mathematical Foundations of Computer Science<br>3-0-0 (3) | CSL535<br>Advanced Data Structure<br>2-0-2 (3) | PE-1<br>2-0-2 (3)              | PE-2<br>2-0-2 (3)                         | PE-3<br>2-0-2 (3) | OE-1<br>2-0-2 (3)                           | 13 | 0 | 10 | 23                   | 18      |
| II                                 | CSL502<br>Advanced Algorithms<br>2-0-2 (3)                          | PE-4<br>2-0-2 (3)                              | PE-5<br>2-0-2 (3)              | CSL534<br>Programming Course<br>3-0-2 (4) | OE-2<br>2-0-2 (3) | MAL606<br>Research Methodology<br>(2-1-0) 3 | 13 | 1 | 10 | 24                   | 19      |
| III                                | PE-6<br>2-0-2 (3)                                                   | CSD601<br>Dissertation-I<br>0-0-8 (4)          | CSC602<br>Seminar<br>0-0-2 (1) |                                           |                   |                                             | 02 | 0 | 12 | 14                   | 8       |
| IV                                 | CSD602<br>Dissertation-II<br>0-0-24 (12)                            |                                                |                                |                                           |                   |                                             | 0  | 0 | 24 | 24                   | 12      |
| Total Credits of the programme: 57 |                                                                     |                                                |                                |                                           |                   |                                             |    |   |    |                      |         |

### Specialization Electives

| Data Science Specialization                                                           | Cyber Security Specialization                                                                  |
|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>Analytic Databases</li> </ul>                  | <ul style="list-style-type: none"> <li>Applied Cryptography</li> </ul>                         |
| <ul style="list-style-type: none"> <li>Machine Learning for Data Science</li> </ul>   | <ul style="list-style-type: none"> <li>Cyber Security</li> </ul>                               |
| <ul style="list-style-type: none"> <li>Cloud Computing</li> </ul>                     | <ul style="list-style-type: none"> <li>Intrusion Detection and Prevention System</li> </ul>    |
| <ul style="list-style-type: none"> <li>Text and Web Intelligence Analytics</li> </ul> | <ul style="list-style-type: none"> <li>Risk Management Policies and Principles</li> </ul>      |
| <ul style="list-style-type: none"> <li>Big Data Analytics</li> </ul>                  | <ul style="list-style-type: none"> <li>Digital Forensics</li> </ul>                            |
| <ul style="list-style-type: none"> <li>Media Analytics</li> </ul>                     | <ul style="list-style-type: none"> <li>Security in Distributed System</li> </ul>               |
| <ul style="list-style-type: none"> <li>Spatial and Temporal Data Analytics</li> </ul> | <ul style="list-style-type: none"> <li>Secure Coding and Software Vulnerability Lab</li> </ul> |
| <ul style="list-style-type: none"> <li>Social Media Analytics</li> </ul>              | <ul style="list-style-type: none"> <li>Reverse Engineering and Malware Analysis</li> </ul>     |