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| <b>Course title:</b> Proteomics and Protein Engineering  |                          |   |                           |
| <b>Course code:</b> BBP 166  | <b>No. of credits:</b> 3 | <b>L-T-P:</b> 45-0-0  | <b>Learning hours:</b> 45 |
| <b>Pre-requisite course code and title (if any):</b> Principles of Biochemistry and Biophysics (BBP161)  |                          |   |                           |
| <b>Department:</b> Department of Biotechnology   |                          |   |                           |
| <b>Course coordinator:</b> Dr. Chaithanya Madhurantakam  |                          | <b>Course instructor :</b> Dr. Chaithanya Madhurantakam / Dr. Souren Paul |                           |
| <b>Contact details:</b> chaithanya.madhurantakam@terisas.ac.in   |                          |   |                           |
| <b>Course type:</b> Core   |                          | <b>Course offered in:</b> Semester 3                                      |                           |
| <p><b>Course description:</b><br/> Protein engineering has revolutionized the field of biosciences with varied applications and this course will provide students with the concepts along with knowledge of methods and tools used to engineer proteins. Further, the topics in proteomics will deal with outcomes of functional genomics and its applications in the health sector. The myriad of techniques that have evolved in mass spectrometry aiding advanced proteomics will be dealt with in the course.</p>  |                          |   |                           |
| <p><b>Course objectives:</b></p> <ol style="list-style-type: none"> <li>1. Students will be acquainted with methods and tools for protein synthesis and separation.</li> <li>2. Familiarizing students with various domains and platforms used in Mass Spectrometry and concepts related to advanced MS techniques.</li> <li>3. Students will be provided with the concept of designing proteins, artificial macromolecular scaffolds, and its applications.</li> <li>4. Providing students with information on techniques involved in deciphering the structure function relationship in proteins.</li> <li>5. Familiarizing students with varied applications of engineered proteins.</li> </ol> |                          |   |                           |