COURSE CODE: 15B11BI511   MAX. MARKS: 25

COURSE NAME: Structural Bioinformatics

COURSE CREDITS: 04   1   MAX. TIME: 1.5 HRS

Note: *All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means. Marks are indicated against each question in square brackets.*

Q1. Distinguish between proper and improper dihedral angles with figures. Describe the importance of these two angles in a force field.   **5 Marks (COII and COIII)**

Q2. Compare and contrast some of the first-principle based methods of protein tertiary structure prediction.   **5 Marks (COII)**

Q3. Using a flowchart distinguish SCOP and CATH.   **5 Marks (COI)**

Q4. Expand CASP and CAFASP. You have developed a method for predicting structures using evolutionary information at the sequence level. Which category of CASP will you participate under?   **5 Marks (COII)**

Q5. Describe the multi-step process of homology modeling. Plot the graph indicating the twilight zone. Indicate all parts of the plot.   **5 Marks (COII)**