COURSE CODE: 10B11BI211   MAX. MARKS: 35

COURSE NAME: Structural Biology

COURSE CREDITS: 04   MAX. TIME 2 HRS

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

Q1. Write the 3 letter and one letter code of amino acids and classify them according to their

physicochemical properties   **5 Marks**

Q2. Describe Bragg's law and describe the factors that affect protein crystallography.   **3 Marks**

Q3. What are Bravais lattices and explain what a space group is with a diagram.   **2 marks**

Q4. Describe the phase problem in X-ray crystallography and explain the three methods to solve

this problem.   **5 Marks**

Q5. Compare and contrast 1D and 2D NMR spectroscopy method. List the 2D methods.   **5 Marks**

Q6. How can you reduce the entropy of a given protein when it can take multiple conformations.

Explain in detail.   **5 Marks**

Q7. Define the following: **1X5=5Marks**

    a. Fold Symmetry

    b. Sequence motif

    c. Structural motif

    d. Unit Cell

    e. Asymmetric Unit

Q8. Distinguish between A, B, and Z form of DNA.   **5 Marks**