

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT**TEST-1 EXAMINATION- February -2018****B. Tech (1st Semester) Bioinformatics****COURSE CODE: 10B11BI211****MAX. MARKS: 15****COURSE NAME: Structural Biology****COURSE CREDITS: 04****MAX. TIME: 1 HR**

- Q1. Describe an Amino acid. **1 Mark**
- Q2. What are the three common obstacles in protein folding and how can they be overcome? **5 Marks**
- Q3. What are the commonalities and differences between greek-key motif and jelly roll motif? Explain via topology diagrams AND with examples of protein containing greek-key and jelly roll motif. **2 Marks**
- Q4. Which of the following sequence is completely buried, partially buried/exposed, and completely exposed? **2 Marks**
- Sequence 1: INEGFDLLRSG
- Sequence 2: LSFAAAMNGLA
- Sequence 3: KEDAKGKSEEE
- Q5. "Different amino acid sequences have similar 3D structure". Explain this statement. **2 Marks**
- Q6. How many helices are there in hemoglobin? What mutation causes hemoglobin to polymerize and explain as to the mechanism of polymerization. **1 Mark**
- Q7. What is the repeating unit in a polypeptide chain? **1 Mark**
- Q8. _____ interactions stabilize the binding of Retinol in Retinol binding protein. **1 Mark**