

School of Biological and Life sciences

Department of Biological and Life Sciences

Mid Term Examination

Exam Date: 27 Sep 2023

Time : 90 Minutes

Marks : 50

Sem V - C2UC502T - Structural Biology and Vaccine Development

Your answer should be specific to the question asked

Draw neat labeled diagrams wherever necessary

- 1) What are protein motifs? K2 (2)
- 2) Differentiate between alpha-helix and beta-sheet secondary protein structures. K1 (3)
- 3) Explain the significance of the Ramachandran plot in the context of protein structure. K2 (4)
- 4) Identify the enzymes involved in protein folding pathways and write their mechanism. K2 (6)
- 5) Explain the fundamental principle behind NMR spectroscopy. K3 (6)
- 6) Describe the role of covalent bonds in protein stabilization. Which covalent bond is particularly important in protein structure? K3 (9)
- 7) Can you explain the experiment conducted by Christian Anfinsen that provided support for his dogma? K4 (8)
- 8) Explain the Brags law? Evaluate the importance of Brags law. K4 (12)

OR

Discuss the role of hydrogen bonding in stabilizing secondary structures like alpha-helices and beta-sheets. K4 (12)