Roll No. | | | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 19

M.Sc (Chemistry) (Campus) (2015 to 2017) (Sem.-3)

BIOPHYSICAL CHEMISTRY

Subject Code : CHL-502

M.Code : 74889

Time : 3 Hrs. Max. Marks : 70

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SIX questions carrying FIVE marks each and students have to attempt ALL questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

Write short notes on the following :

1. Conformation of proteins.
2. Water as reactant.
3. Redox reactions in biological systems.
4. Standard free energy.
5. Entropy and Enthalpy.
6. Circular dichroism (CD) spectroscopy.
7. Equilibrium determination of molecular weights.
8. Membrane equilibria.
9. Biopolymers.
10. UV - Visible spectroscopy.

SECTION-B

11. Describe the structure of DNA.

12. Explain the conformation of biopolymers.

13. What is the relationship between equilibrium constant and standard free energy.

14. Write a note on Nuclear Magnetic Resonance (NMR).

15 What are conformational transitions of polypeptides and proteins?

16. Write a note on nucleic acid structural transitions.

SECTION-C

17. Discuss the role of water in maintaining the native structure of biopolymers.

18. Explain diffraction methods in studying crystal structure of biomolecules.

19. Describe helix - coil transition and reversible protein folding.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.