

Q.P. Code : 28446

[Time: 2 $\frac{1}{2}$ Hours]

[Marks: 60]

Please check whether you have got the right question paper.

- N.B:
1. Answer **all five** questions.
 2. All questions carry **equal** marks.
 3. Draw neat and labelled diagrams where necessary.

- Q.1** a) Elaborate the importance of weak interactions in the structure of proteins. **06**
b) Explain the geometrics of covalent interaction in conformation of proteins **06**
- OR**
- Q.1** Describe the principle, working, and applications of Raman spectroscopy. **12**
- Q.2** Explain the following modification of proteins.
- a) Phosphorylation **06**
b) Lipidation **06**
- OR**
- Q.2** Describe the biocatalytic approaches for biohybrid structures. **12**
- Q.3** Explain the general principles of metal coordination with reference to signal transduction metalloproteins. **12**
- OR**
- Q.3** Write a short note on:-
- a) Oxygen transport proteins in invertebrates **06**
b) Metalloenzymes **06**
- Q.4** Describe the following interactions with a suitable example:-
- a) Protein-sugar interactions **06**
b) DNA-protein interactions **06**
- OR**
- Q.4** Describe the advanced techniques used in the diagnostics of disease due to structural alternation of DNA. **12**
- Q.5** Write short notes on **any three**: **12**
- a) Applications of ORD
b) Signal transduction metalloproteins
c) Methylation in protein modification
d) p53 in cancer
e) Triple helix
f) Cytochrome c
-