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**24-CH-43**

**M.Sc. IV SEMESTER [MAIN/ATKT] EXAMINATION  
JUNE - JULY 2024**

**CHEMISTRY**

Paper - III

**[Biochemistry]**

*[Max. Marks : 75]*

*[Time : 3:00 Hrs.]*

*[Min. Marks : 26]*

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**Note :** Candidate should write his/her Roll Number at the prescribed space on the question paper.  
Student should not write anything on question paper.  
Attempt five questions. Each question carries an internal choice.  
Each question carries **15 marks**.

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**Q. 1** What do you understand by Bulk and Trace metals with special reference to Zn and Co and  $\text{Na}^+ / \text{K}^+$  pump ?

**OR**

Explain the following -

- i) Metal Complexes in transmission of energy.
- ii) DNA Polymerization.

**Q. 2** Describe the photo synthetic electron transport chain.

**OR**

Explain the process of biological nitrogen fixation.

**Q 3** Explain the mechanism of action of Chemotrypsin.

**OR**

Explain reversible and irreversible Inhibition of enzymes,

**Q. 4** Describe different methods of isolation and purification of enzymes.

**OR**

Explain the following in detail -

- i) Structure and biological functions of co-enzyme thiamine pyrophosphate and pyridoxal phosphate.
- ii) Host - Guest chemistry of Enzyme model.

**P.T.O.**

**Q. 5** Give structure and function of cell membrane and transport of Ions in detail.

**OR**

Write notes on -

- i) Standard free energy change in biochemical reactions.
- ii) Synthesis of ATP from ADP.

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