



WEST BENGAL STATE UNIVERSITY

B.Sc. Honours 6th Semester Examination, 2023

CEMACOR13T-CHEMISTRY (CC13)

INORGANIC CHEMISTRY-V

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.
Candidates should answer in their own words and adhere to the word limit as practicable.
All symbols are of usual significance.*

Answer any *three* questions taking *one* from each unit

Unit-I

1. (a) What are trace elements in biological systems? Why are they so called? Give names of two essential ultra trace elements. 1+1+1
- (b) Between Hb-O₂ and Hb which one is paramagnetic? "Both O₂ and CO are neutral molecule but CO can destroy the normal activity of Hb" — Comment on it. 2+2
- (c) Define facilitated diffusion in the context of ion transport across biological membrane. Why is the sodium-potassium exchange process described as sodium-potassium pump? 2+2
- (d) Give active site structure of Cytochrome C. 2
- (e) What are the harmful effects of arsenic in human body? Mention the method of removal by Chelation therapy. 3
2. (a) Describe the structure and electron-transport process of 4Fe-4S ferredoxin. 3
- (b) Give the structural features and functions of "blue blood". 2+2
- (c) Mention the toxic effect of lead. How Pb toxicity is removed from body? 3
- (d) Why nature chooses Zn as hydrolytic enzymes but Fe and Cu as e-transfer enzyme in biological system? 3
- (e) What is Wilson's disease? How it can be treated with the help of Chelation therapy? 3

Unit-II

3. (a) Write a general method for the preparation of Co₂(CO)₈. 2
- (b) Complete the following reactions: 4



