(c) Photosynthesis

(d) Cooperative effect (5,5,5)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 3518 **I**

Unique Paper Code : 2174001003

Name of the Paper : GE: Bioinorganic Chemistry

Name of the Course : **B.Sc. Hons/B.Sc. Prog.**

Semester : I/III/V

Duration : 2 Hours Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **four** questions in all.
3. **All** questions carry equal marks.

1. (a) What are the importance of iron, copper, zinc and cobalt in the biological systems?

(b) Explain the role of ferritin in iron storage.

(c) What is the role of Mg^{2+}ion in energy production? (5,5,5)

2. (a) Explain the term "active transport" with reference to the working of the sodium potassium pump in the animal cells. What is the source of energy for the functioning of the pump? Give a diagrammatic representation of the Na-K Pump.

(b) Briefly describe the function of transferrin.

(c) Explain the Bohr's effect. (5,5,5)

3. (a) Give the structure and role of enzyme carboxyanhydrase.

(b) What are the diseases caused due to the exposure of arsenic and mercury?

(c) What do you mean by oxygenated and deoxygenated heamoglobin and myoglobin? (5,5,5)

4. (a) Draw and explain the structure of Chlorophyll.

(b) Explain why haem cannot group function as a biological oxygen carrier in absence of globin chain.

(c) Discuss the role of Ca^{2+} ion in blood clotting? (5,5,5)

5. (a) What are the causes of cadmium and lead toxicity?

(b) Discuss the poisoning effect of carbon monoxide in respiration.

(c) Draw the oxygen saturation curve for myoglobin and haemoglobin. (5,5,5)

6. Write short note on any **three** of the following :

(a) Classifications of elements in biological system

(b) Metalloporphyrins

P.T.O.