Total No. of Questions :4]

SEAT No. :

P1872

[Total No. of Pages :2

[5223] - 309

M.Sc. - II

INORGANIC CHEMISTRY

CHI - 332 : Bioinorganic and Inorganic Medicinal Chemistry

(2013 Pattern) (Credit System) (Semester - III)

Time : 3 Hours] *[Max. Marks :50*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to the right indicate full marks.***
3) ***Draw neat diagrams wherever necessary.***

Q1) Answer the following: **[20]**

a) Which element is present at the active centre of carboanhydrase? What is the function of carboanhydrase?

b) Name the type - 1 Copper proteins. What are the pathological disorders caused due to Cu deficiency?

c) Enlist the functions of blue - copper proteins.

d) What is the role of super oxide dismutase in a biological system?

e) Which element is present at the active site centre of tyrosinase? Give the functions of tyrosinase.

f) What is the function of Mo - dependent nitrogenase? Give the overall reaction catalyzed by Mo - dependent nitrogenase.

g) Mention any four biological conversions in which iron - sulfur plays important role.

h) Which technique can be used for production of ^{67}Ga nuclide? Explain in brief.

i) Explain the process of decay of ^{131}In.

j) Which oxidation states of Mn are accessible in biology? Why Mn^{+2} is biologically important?

P.T.O.

Q2) Answer any two of the following: **[10]**

a) Write a note on: Tyrosinase as non blue oxidases.

b) Explain the role of Manganese in peroxidases.

c) Explain the antagonism of Cu and Mo.

d) What is the oxidation state of Vanadium in amavadin? Explain the structural features of amavadin.

Q3) Answer any two of the following: **[10]**

a) What is the function of carboxypeptidase? Explain in brief the structural features of carboxypepsidase.

b) Give an account of differences between type 1 and type 2 copper proteins.

c) Explain the mutase activity of coenzyme B12.

d) Name the metallo enzyme responsible for removal of H_2O_2. Discuss its active site, structure and functions.

Q4) Answer any two of the following: **[10]**

a) Give an account of functions of L-Dopa.

b) Write notes on

i) Antitumor agents.

ii) MRI.

c) Write a note on gamma scintigraphy and its applications.

d) Write a note on hypoxia imaging agents.

❄ ❄ ❄