

PE-494

M.Sc. Chemistry (Fourth Semester)

Examination June 2022

Compulsory/Optional

BIOINORGANIC CHEMISTRY AND SUPRA MOLECULAR CHEMISTRY

Paper-III

Time: Three Hours

Maximum Marks: 080

Minimum Passing Marks: 029

Note: Answer from both section as directed. The figures in the right-hand margin indicate marks.

SECTION-A

1. Answer any ten of the following questions:- [1 X 10 = 10]
- What is the oxidation state of Iron in Ferritin and Transferration?
 - What is the function of carboxy peptidase?
 - What is the normal calcium level in blood?
 - Which metal is present in carbonic anhydrase?
 - Define the term chemotherapy.
 - Name the complex used for anticancer drugs.
 - What is the role of Peroxidase?
 - What are molecular correceptor?
 - Define supra molecule correceptor.
 - What do you mean by self assembly?
2. Answer the following questions:- [2 X 5 = 10]
- What are siderophores?
 - How calcium level (optimum level) is maintained in blood plasma?
 - List any four important physiological function of calcium.
 - Write the toxic effects of any two metal ions when present in excess.
 - Name different supra molecular.

SECTION-B

[12 X 5 = 60]

3. Discuss in detail the functioning and structure of Ferritin.
- Or,**
- Write a detail note on extracellular binding protein.
4. Discuss the structural and functions of superoxide dismutase.
- Or,**
- Write in detail about the molybdenum oxotransferase enzyme.
5. What are metal deficiency diseases, also explain about the metals that are used for diagnosis and therapy.
- Or,**
- Write note on the following:-
- Metal-Nucleic acid interaction.
 - Anticancer drug.
6. Explain various types of molecular receptors and their uses.
- Or,**
- Describe the synthesis of co-receptor molecules and their function.
7. Explain supra molecular electronic and ionic devices.
- Or,**
- Write note on the following:-
- Self assembly in supra molecular chemistry.
 - Transport process in reference to supra molecules.