

GROUP - (A) ELECTIVE PAPERS
PAPER III. BIOINORGANIC AND SUPRA MOLECULAR CHEMISTRY

M.M. - 75

60 Hrs. (2 Hrs./Week)

Units	Topics	Hrs.
I	Metal Storage Transport and Biomineralization Ferritin, transferrin and siderophores.	05 Hrs.
II	Calcium in Biology Calcium in living cells, transport and regulation, molecular aspects of intramolecular processes, extracellular binding proteins.	06 Hrs.
III	Metalloenzymes Zinc enzymes - carboxypeptidase and carbonic anhydrase. Iron enzymes catalase, peroxidase and cytochrome P-450. Copper enzymes - superoxide dismutase. Molybdenum oxatransferase enzymes - xanthine oxidase. Coenzyme vitamin B ₁₂ .	20 Hrs.
IV	Metal-Nucleic Acid Interactions Metal ions and metal complexes interactions. Metal complexes - nucleic acids.	06 Hrs.
	Metals in Medicine Metal deficiency and disease, toxic effects of metals, metals used for diagnosis and chemotherapy with particular reference to anticancer drugs.	05 Hrs.
V	Supramolecular Chemistry Concepts and language. (a) Molecular recognition: Molecular receptors for different types of molecules arisonic substrates, design and synthesis of coreceptor molecules and multiple recognition. (b) Supramolecular reactivity and catalysis. (c) Transport processes and carrier design. (d) Supramolecular devices. Supramolecular photochemistry, supramolecular electronic, ionic and switching devices. Some example of self-assembly in supramolecular chemistry.	18 Hrs.