

## NPTEL Inorganic chemistry of life – *Principles and perspectives*

### Week 6 - Assignment 6

**W6\_01.** In the protein transferrin (Tr) the binding core has contributions from two tyrosines, one histidine and one aspartic acid. However, when an apo-Tr is titrated with  $\text{Fe}^{3+}$  no binding core is formed unless otherwise carbonate ion is present. What is this known as & how do you interpret the same?

**W6\_02.** In ferritin, while some of the channels are hydrophilic, the others are hydrophobic in nature. Provide reasons? What are the advantages of the presence of such hydrophobic and hydrophilic channels in ferritin?

**W6\_03.** In *cytochrome P450* if the electron is involved in the activation of the enzyme instead of the substrate, there will be a havoc. What is this havoc & how will that happen?

**W6\_04.** What are different types of dioxygenases & How can one differentiate their activities?

**W6\_05.** How does *cytochrome P450* give regio- and stereo- specific product in case of the camphor oxidation?