NPTEL Inorganic chemistry of life – *Principles and perspectives*

Week 2 - Assignment 2

W2_01. How do you establish whether a given amino acid residue present in a metalloenzyme is critical for its function or not?

W2_02. What all you think that it can happen when the original transition metal ion is replaced by another transition metal ion in a metalloenzyme and why?

W2_03. Given that the general trend of ligands in perturbing the octahedral crystal field splitting energy follows: halides < O-ligands < N-ligands < C-ligands. How do you explain this?

W2_04. Arrange the amino acids, viz., Asp, His, Lys and Ser as per increasing pKa of their side chains and give your argument

W2_05. As you know that while Fe^{2+} (Co^{2+}) is labile, Fe^{3+} (Co^{3+}) is inert. What makes it so and why is it so?