

M.Sc. DEGREE EXAMINATION, EVEN SEMESTER 2021
II Year III Semester
Inorganic Chemistry - III

Max.marks :25

Answer any **FIVE** questions ($5 \times 5 = 25$) Marks

1. Discuss IR and Raman spectra of sulphato and nitrate based metal complexes.
2. Distinguish between strong field and weak field ligands.
3. Explain the Mossbauer spectrum of $\text{FeSO}_4 \cdot \text{H}_2\text{O}$ and $\text{FeCl}_3 \cdot 6\text{H}_2\text{O}$.
4. Sketch the ESR spectrum of $[\text{Mn}(\text{H}_2\text{O})]^{2+}$ complex and explain.
5. Discuss the principle and uses of SEM.
6. Explain Jahn Teller distortions using an example.
7. Draw ^{19}F -NMR and ^{31}P -NMR splitting pattern of PF_5 molecule and explain.