

**M.Sc. 1st Semester Examination, 2021**

**Chemistry(Inorganic Practical)**

**Paper –CEM-195(Inorganic Practical)**

**Full Marks : 50**

**Time : 2 hours**

**Group – A**

**Answer any 01 Questions out of 02 Questions. (1X10=10)**

1. What is the role of  $\text{H}_3\text{PO}_4$  and  $\text{NH}_4\text{HF}_2$  in the titration of Fe(II) with  $\text{K}_2\text{Cr}_2\text{O}_7$ ? Why BDS is superior to diphenyl amine as a redox indicator in the above titration?
2. Discuss the principles of quantitative analysis of Iron(III)-copper(II) mixture giving equations for all the chemical reaction involved.

**Group – B**

**Answer any 02 Questions out of 04 Questions. (2x20=40)**

1. Discuss the principle and methodology of estimation of nickel(II) gravimetrically using dimethyl glyoxime as the reagent.
2. Give outlines of the analytical procedure for determination of manganese in pyrolusite.
3. What is Reinecke's salt? Write down the procedure for the synthesis of Reinecke's salt.
4. Briefly discuss the colorimetric estimation of Fe(III) as thiocyanato complex.