

Kandi Raj College
Department of Chemistry
B.Sc. (Hons) Part-II Examination-2021
Paper-VI (Practical)

Time:

Full Mark: 50

A. Inorganic qualitative analysis

1. Answer any five questions 5x2=10
 - a) Why is BaDS superior to diphenylamine as redox indicator?
 - b) Why is $K_2Cr_2O_7$ chosen as primary standard?
 - c) Why after reduction of Fe^{3+} by $SnCl_2$, 10ml $HgCl_2$ is to be added once at time?
 - d) What is the formula of Mohr's salt? Is it a double or complex salt?
 - e) What function NH_4HF_2 plays in the titration of Fe^{2+} with $K_2Cr_2O_7$ in presence of BaDS indicator?
 - f) What function Na_2O_2 plays in the estimation of $Fe(III)$ and $Cr(III)$?

2. Answer any three questions 3x10=30
 - a) What is complexometric titrations? Write the special condition for EDTA Titration? What is the advantage of Calcon over EBT as metal indicator? Draw the structure of Mg-EDTA complex.
2+4+2+2=10
 - b) Write the procedure estimation of calcium (II) and Magnesium (II) from their mixture? 10
 - c) What do you mean by iodometry and iodimetry? The standard reduction potential of Cu^{2+}/Cu^+ is lower than that of I_2/I^- , yet copper is estimated iodometrically. How this become possible? Starch should be added towards the end point-Why? 2+6+2=10
 - d) Can NH_4HF_2 be used in place of H_3PO_4 in the titration of Fe^{2+} with $K_2Cr_2O_7$ in

presence of BaDS indicators? Write the procedure for estimation of $Fe(III)$ and $Mn(II)$ in a mixture. 2+8=10

B. Inorganic Preparation

2x5=10

Answer any two questions

- a) Write the procedure for preparation of oxalato complexes of $Cr(III)$
- b) Write the procedure for preparation of preparation of $[CoHg(SCN)_4]$
- c) Write the procedure for preparation of preparation of Reinecke salt, $(NH_4)[Cr(NH_3)_2(SCN)_4]$, H_2O