

RAMANANDA COLLEGE, BISHNUPUR, BANKURA

6th SEMESTER (HONOURS) PRACTICAL EXAMINATIONS, 2021

Subject: CHEMISTRY

Course ID: 61421

Course Title: Inorganic Chemistry V

Full Marks: 15

Time: 2 Hour

The figures in the margin indicate full marks

*Candidates are required to give their answers in their own words
as far as practicable.*

Answer any one question

- 1 a. Which radicals are detected by chromylchloride test? Write down the chemical reactions and the observation. 1+2
- b. What happens when (Cite chemical reactions with characteristic observation): 2X4
- (i) $\text{NO}_2^- / \text{NO}_3^-$ salts are heated with conc. H_2SO_4 and Cu-turnings?
- (ii) Borax bead test for Cu-salt in oxidising and in reducing flame?
- (iii) Zinc oxide heated in charcoal block with cobalt nitrate solution in oxidising flame?
- (iv) Calcium fluoride heated with conc. H_2SO_4 in glass test tube?
- c. Describe briefly the procedure of identification of chloride, bromide and iodide radicals in a mixture. 2
- d. Which radicals are called interfering acid radicals and Why? 2
2. a. Explain why during analytical group separation, group II radicals are precipitated with H_2S in HCl medium but group IIIB radicals with H_2S in $\text{NH}_4\text{Cl-NH}_4\text{OH}$ medium? 4
- b. Describe with relevant chemical reactions, the identification procedure of $[\text{Fe}(\text{CN})_6]^{3-}$, $[\text{Fe}(\text{CN})_6]^{4-}$ and SCN^- in a mixture. 4
- c. Why conc. H_2SO_4 is necessary for the test of borate radical but not necessary for free boric acid? Explain the test with chemical reactions and the characteristic observation. 3
- d. Discuss with chemical reactions of chromium and manganese in the fusion test. 2
- e. Describe the test of Ni^{2+} with dimethylglyoxime. Draw the structure of the Ni-complex. 2

