

**U.G. 6th Semester Examination - 2021**

**CHEMISTRY**

**[HONOURS]**

**Course Code : CHEM-H-CC-P-13**

**[PRACTICAL]**

Full Marks : 20

Time : 2 Hours

*The figures in the right-hand margin indicate marks.*

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

Answer any **two** questions: 10×2=20

1. a) What do you mean by micro and semimicro analysis? What is meant by solubility, solubility product and common ion effect. 2+3=5
- b) What is flame test? Why conc. HCl is used for performing the flame test? 1+2=3
- c) Write the reactions when borax is heated in a flame. 2
2. a) Write the names and symbol of the metal ions present in Group IV and specify the corresponding group reagent. 2+2=4

- b) You are given an aqueous solution of  $\text{CuSO}_4$ . How would you confirm the presence of  $\text{SO}_4^{2-}$  ion in the solution? Give reaction. 2
- c) How nitrate can be detected in presence of nitrite. Present it in tabular form. 2
- d) Write the reactions with observation when borax bead test is performed with  $\text{CoO}$ . 2
3. a) What is sublimation reaction? What is observed when  $\text{ZnO}$  is heated in a dry test tube? 1+1=2
- b) Write down the reactions involved in the oxidative fusion test for  $\text{Mn}^{2+}$ . 3
- c) What do you mean by chromyl chloride test? 3
- d) What is Nessler's reagent? 2
4. a) Write the reaction of  $\text{PO}_4^{3-}$  with ammonium molybdate. 2
- b) Write down the balanced equation of the reaction of  $\text{Fe}^{3+}$  with  $\text{NH}_4\text{SCN}$ . 2
- c) Give the tests in tabular form for the cation and anion in  $\text{PbSO}_4$  as an insoluble residue. 5
- b) What do you mean by spot test? 1

[Turn over]