

U.G. 5th Semester Examination - 2020

CHEMISTRY

[HONOURS]

Discipline Specific Elective (DSE)

Course Code : CHEM(H)DSE-P-2B/PR

[PRACTICAL]

Full Marks : 20

Time : 2 Hours

*The figures in the right-hand margin indicate marks.*Answer any **four** questions:

5×4=20

1. a) Explain pink coloured $[\text{Co}(\text{H}_2\text{O})_6]^{2+}$ turns into blue $[\text{Co}(\text{H}_2\text{O})_4]^{2+}$ on dehydration.
- b) Why hydrogen bonded O-H appears as broad band?
- c) Which compound is used as internal standard during D_2O exchange? 2+2+1=5
2. a) Write down the some safety precaution may be useful for minimization of accident in laboratory.
- b) What is complexometric titration?
- c) How will you determine metallic element in food and beverage industry? 2+1+2=5

[Turn over]

3. a) What is the basic principle of IR spectra?
- b) Show the schematic diagram of Gas Chromatograph. 2+3=5
4. a) How does HPLC help in speciation of organic pollutant in environmental sample?
- b) Write down the function of Glass electrode. 3+2=5
5. a) How can you separate carbohydrates HPLC?
- b) Write down the types of liquid-liquid extraction may exist?
- c) How can you check purity of sample of phenol? 2+2+1=5
6. a) Why only KCl and NH_4NO_3 are used in salt bridge?
- b) Why voltameters are not used for EMF measurement?
- c) What is the function of Nicolprism? 2+2+1=5