B.Sc. 2nd Semester (GE) Practical Examination 2021

Subject: Chemistry Course Code: UG/CHEM/203/GE-2

Course Title: State of Matter & Chemical Kinetics; Chemical Bonding & Molecular Structure, p-Block Elements (P2)

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 possible.

1. Answer <u>any one</u> of the following questions:

 $15 \times 1 = 15$

i) Write down the theoretical background for determination of surface tension of an unknown liquid by drop number method. Discuss the procedure for such determination by varying concentration (say 10%, 7.5% and 5% methanol solution). Present the tables involved for calculation.

4+8+3=15

- ii) (a) What is the consequence of dry test tube heating of a ammonium chloride?
 - (b) How Cr³⁺ is detected by fusion test with fusion mixture?
 - (c) Write the special test for Ni²⁺ ion detection and explain the colour of precipitation.
 - (d) Write the wet test for phosphate ion detection.
 - (e) How wet test for halides are performed? Why white precipitation for chloride ion is formed?
 - (f) With proper reaction cite the compound which is responsible for white precipation in sulphate ion detection.
 - (g) What is the group reagent and precipitated compounds of Group-IV cations?