

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

Subject: Chemistry

Course Code: UG/CHEM/201/C-1B

Course Title: Bonding & Molecular Structure, Comparative Studies of p-Block Elements; State of Matter & Chemical Kinetics (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 any one of the following questions:

15×1 = 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 precipitation in sulphate ion detection.
(g) What is the group reagent and precipitated compounds of Group-IV cations?

1+2+3+2+3+2+2=15