

U.G. 3rd Semester Examination - 2021

CHEMISTRY

[HONOURS]

Course Code : CHEM-H-CC-P-05

[PRACTICAL]

Full Marks : 20

Time : 2 Hours

The figures in the right-hand margin indicate marks.

Answer any **two** questions:

10×2=20

1. a) i) How does the partition coefficient change with temperature?
- ii) What will be the expression for the partition coefficient when solute is associated or dissociated?
- iii) Briefly discuss the principle for the determination of partition coefficient for the distribution of I₂ between water and CCl₄.
- b) i) Define equivalent conductance of an electrolyte.
- ii) What is the unit of the equivalent conductance?

[Turn over]

- iii) Explain the effect of dilution on specific conductance and equivalent conductance of an electrolyte.
- iv) How the concentrations of each HCl and CH₃COOH in a mixture are determined conductometrically using standardized NaOH solution? 1+1+3+5
- c) i) When are conductometric methods used for kinetic study?
- ii) To study the kinetics of saponification of ester by conductometric method, briefly discuss the theory and experimental procedure. 2+4+4
- d) i) How is the Ostwald's dilution law verified?
- ii) Briefly discuss the principle for the determination of K_a of weak acid. 5+5