

T.Y.B.SC. SEM – V (2014 Course) : SUMMER - 2019
SUBJECT: CHEMISTRY: ANALYTICAL CHEMISTRY-V

Day : Monday
Date : 15/04/2019

Time : 12.00 NOON TO 02.00 PM
Max. Marks :40

S-2019-1009

N. B. :

- 1) All questions are **COMPULSARY**
- 2) Figures to the right indicate **FULL** marks
- 3) Answers to both the sections should be written in **SAME** answer book

SECTION-I

- Q.1** Attempt any **TWO** of the following **(10)**
- a) What is digestion in gravimetric analysis? Describe in detail Ostwald's Internal ripening of ppt.
 - b) Explain the measurement of specific rotation by using polarimeter.
 - c) Explain the TGA curve of copper sulphate pentahydrate and also give the equations.
- Q.2** Attempt any **TWO** of the following **(10)**
- a) Describe any one of the following potentiometric titrations.
 - i) Acid-base titrations
 - ii) Precipitation titrations
 - b) Write any two applications of AAS.
 - c) Define the following terms:
 - i) Solubility product
 - ii) Angle of rotation
 - iii) Spectral interference
 - iv) Thermobalance
 - v) Monochromator

SECTION-II

- Q.3** Attempt any **TWO** of the following **(10)**
- a) Describe the concentration of glass electrode. Show how it can be used to determine pH of the solution.
 - b) What is washing liquid? Discuss any one type of washing liquid in detail.
 - c) List various types of thermal analysis and discuss the applications of TGA.
- Q.4** Attempt any **TWO** of the following **(10)**
- a) The solubility of AgCl in water is 1.55×10^{-3} grams per litre at 27°C . Calculate solubility product of AgCl (At. Wt. of Ag=108, Cl=35.5)
 - b) The specific rotation of fructose containing 6 gm per litre is to be determined when angle of rotations $+2.5^{\circ}$ and tube length is 25cm. Calculate specific rotation and also molar rotation of glucose?
 - c) The solubility product of $\text{Ca}(\text{OH})_2$ is 1.14×10^{-11} grams per liter at 25°C . Calculate the solubility of $\text{Ca}(\text{OH})_2$ in water in grams per liter and moles per litre (MW of $\text{Ca}(\text{OH})_2$ is 74.09).
