

T.Y.B.SC. SEM – V (2014 Course) : WINTER - 2018
SUBJECT : CHEMISTRY: ANALYTICAL CHEMISTRY-V

Day : Monday
Date : 15/10/2018

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

W-2018-0843

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 gravimetric analysis? Describe the principle of gravimetric analysis
 - b) Explain the principle and instrumentation of TGA.
 - c) How are spectral and chemical interferences prevented or corrected in AAS determination.
- Q.2** Attempt any **TWO** of the following **(10)**
- a) Mention various indicator electrodes used for determination of pH and describe glass electrode in detail.
 - b) Describe apparatus used for DTA with a neat and labeled diagram.
 - c) Explain the term co-precipitation and post-precipitation. Give at least three points to distinguish them.

SECTION-II

- Q.3** Attempt any **TWO** of the following **(10)**
- a) Define angle of rotation. How is the angle of specific rotation measured by using Polarimeter.
 - b) Describe any one method for locating end points of potentiometric titrations
 - c) What is AAS? Describe in brief the instrumentation of AAS with the help of block diagram.
- Q.4** Attempt any **TWO** of the following **(10)**
- a) The solubility product of Mg(OH)_2 is 1.12×10^{-11} at 25°C . Calculate the solubility of Mg(OH)_2 in water in grams per litre and moles per litre.
 - b) The specific rotation of the compound is 162° at 589nm . What is the concentration of solution in moles per litre? If rotation is 0.5° with the length of tube 20cm .
 - c) The solubility product of PbI_2 is 2.4×10^{-8} . What is the minimum concentration of I^- ions that must be added to a solution containing 1×10^{-3} moles per litre of Pb^{+2} ions so as to precipitate lead iodide.

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