

V P & R P T P Science College
Vallabh Vidyanagar
B. Sc. (Third Semester Examination)
US03EICH01 – TRADITIONAL METHODS OF ANALYSIS

Monday, 9th Oct, 2017

Time: 3.00p.m. to 4.00 p.m.

Total Marks: 25

Instructions: (i) All questions are to be attempted in your answer book.
(ii) Figures to the right indicate marks.

- Q.1. Answer the following: [03]
- Solution which maintains constant pH is called
 - saturated solution
 - standard solution
 - buffer solution
 - None of these
 - EDTA is the best _____
 - oxidizing agent
 - reducing agent
 - masking agent
 - chelating agent
 - Which of the following acid is added in titration of potassium permanganate?
 - chromic acid
 - Hydrochloric acid
 - Nitric acid
 - None of these
- .Q.2. Answer any two: [04]
- Define:
 - Titrant and Titrand
 - Equivalence point and End point
 - Define with example: Complexing agent, Chelating agent, Chelate and Stability constant.
 - Define; Oxidizing agent, Reducing agent, Electrochemical cell and Voltage.
- Q.3. Discuss the types of reactions involved in titrimetric analysis. [06]
OR
- Q.3. Show that at the color change interval, pH of the system is $\text{pH} = \text{pK}_{\text{in}} + 1$. [06]
- Q.4. Discuss different types of EDTA titrations. [06]
OR
- Q.4. Define complex ion. Explain stability constant and formation of complex ion by taking proper example. [06]
- Q.5 Show that there sudden change in potential of the system near equivalence point in redox titration by considering Cerium (IV) sulphate- Ferrous sulphate system. [06]
OR
- Q.5 Whether potassium permanganate acts as a primary standard or not? [06]
Why? What are the precautions to be made to store it?



"They conquer who believe they can"