

Sem - I (G)

Paper (GCE-1-P) [Practical Examination]

F.M - 30 Time - 2 hr

Ans any 15 (fifteen) questions

Each question is of 2 marks

1. How many millilitre of 0.01(N) HCl will be required to titrate 20 ml 0.01(N) Na_2CO_3 solution using
i) Methyl orange indicator ; ii) phenolphthalein indicator
2+2

2. The required volume of $S \left(\frac{N}{10}\right)$ HCl for the titration of 25 ml of a mixture of Na_2CO_3 and NaHCO_3 is
i) V_1 ml (in presence of phenolphthalein)
ii) V_2 ml (volume required for titration of given NaHCO_3 and produced NaHCO_3 from half neutralisation of Na_2CO_3 in presence of Methyl orange indicator)

Calculate i) amount of Na_2CO_3 (in gm) and ii) amount of NaHCO_3 (in gm) in the mixture (25ml) using the above data. 2+2

3. i) Why the solution of oxalic acid should not be boiled while titrating it with KMnO_4 solution?
ii) Balance the above equation by ion-electron method. 1+1

4. i) Name the indicator used for the estimation of an unknown Fe(II) solution with standard $\text{K}_2\text{Cr}_2\text{O}_7$ solution

ii) What is the colour of the solution at the end point? 1+1

5. i) Which two compounds make a starch solution?

ii) Write down the equation for iodometric estimation of an unknown Cu^{2+} solution? 1+1

6. What is the use of NH_4SCN in the iodometric estimation of Cu^{2+} 2
7. What is the role of H_3PO_4 in the estimation of Fe(II) by $\text{K}_2\text{Cr}_2\text{O}_7$ solution? 2
8. i) What is the role of SnCl_2 in the estimation of Fe(III) ? Do SnCl_2 react as an oxidising agent or a reducing agent?
 ii) Write down the reaction of SnCl_2 with FeCl_3 . 1+1
9. Balance (by ion-electron method) the reaction of Fe^{2+} by $\text{Cr}_2\text{O}_7^{2-}$ in acidic medium 2
10. Calculate the equivalent weight of $\text{K}_2\text{Cr}_2\text{O}_7$ (acting as oxidising agent) in acid medium. 2
 ($\text{K} = 39.1$, $\text{Cr} = 52$, $\text{O} = 16$)
11. Calculate the equivalent weight of KMnO_4 (as oxidising agent) in acidic medium 2
 ($\text{K} = 39.1$, $\text{Mn} = 55$, $\text{O} = 16$)
12. Calculate the equivalent weight of $\text{H}_2\text{C}_2\text{O}_4 \cdot 2\text{H}_2\text{O}$ (as reducing agent) in acid medium. 2
13. How much (in gm) Na_2CO_3 is required to prepare 1 L ($\frac{N}{10}$) Na_2CO_3 solution? 2
14. State whether Mohr's salt is a primary or secondary standard compound? 2
15. Balance (by ion electron method) the reaction of Cu^{2+} with I^- . 2
16. Write down the formulae of one acid/base and one redox indicator. 2

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