

Please check whether you have got the right question paper.

- N.B:
- All questions are compulsory
 - Figures to right indicate full marks.
 - Draw neat labelled diagrams wherever necessary.
 - Attempt answer of each main question on new page.

- Q. 1 a) Explain the terms. (05)
- Chelating agent
 - Solubility product
 - Buffer capacity
 - Standard reduction potential
 - Oxidizing agent
- b) Answer the following (10)
- Define primary and secondary standard & give one example of each
 - Explain potentiostatic Coulometric method
 - Balance the following equations of redox reaction.
 - $MnO_4^- \rightarrow Mn^{+2}$
 - $Cr^{3+} + IO_3^- \rightarrow Cr_2O_7^{2-} + I^-$
 - Discuss any two factors affecting physical properties of the deposited in electrogravimetry.
 - A 0.15 gm. sample of phthalic acid was dissolved in 100ml of water. When 20ml of diethyl ether was used to extract phthalic acid, 0.05 gm of phthalic acid was recovered, Find out the distribution coefficient for this extraction.
- Q. 2 a) Explain Fajan's method & Write principle reaction & indicator used in assay of NaCl by Volhard's method. (04)
- b) Give principle, composition & standardization of Karl Fisher reagent. (04)
- c) Explain different types of non-aqueous solvents. (03)
- Q. 3 a) Write therapeutic category, labelling and principle of assay of calcium gluconate injection. (04)
- b) Write construction & working of dropping mercury electrode. (04)
- c) Write the type of redox titration & titrant used for assay of ascorbic acid, $KMnO_4$ & paracetamol. (03)
- Q. 4 a) Explain the neutralization curve for strong acid & strong base. (04)
- b) Discuss various unit operations of gravimetric analysis. (04)
- c) Write principle, indicator & titrant used for permanganometry titration (03)
- Q. 5 a) Define capacity factor. Write factors affecting solvent extraction. (04)
- b) Enlist the type of complex metric titration & Write the suitable method used for determination of water hardness. (04)
- c) Define the term accuracy & write a note on types of error. (03)
- Q. 6 a) Solve the following sums. (04)
- How will you prepare 100 ml of 0.02 M $KMnO_4$ solution using 1 M stock solution of $KMnO_4$?
 - When 50 ml of 0.1 M HCl is titrated with 0.1 m NaOH. Calculate the pH for successive addition of 10 & 20 ml of NaOH.
- b) Write a note on Kjeldahl method. (04)
- c) Write a note on assay of Ba^{+2} as $BaSO_4$ (03)