Pharmaceutical Analysis-1 Question bank B pharmacy semester-1

**Pharmaceutical Analysis-1 Qb by rguhs**

**UNIT-1**

**LONG ESSAY (10 Marks)**

1. Deline and classify errors? Describe the various methods to minimize the errors.
2. What is acid-base titration? Explain the Neutralisation curve in acid-base titration.
3. Discuss iodometry and lodimetry titrations briefly with examples.
4. What are different methods of expressing concentration? How do you prepare and standardize a) 250ml of 0. 1M sulphuric acid solution b) 500ml of 0.5N potassium permanganate solution.
5. What are nonaqucous titrations? Explain in detail the types of solvents used in non-aqueous titrations. Write the assay of Sodium Benzoate.
6. Explain the basic principles involved in redox titrations? Give the applications of titration with Potassium iodate.
7. What are primary and secondary standards? Give examples of primary

standards used in different types of titrations. Enlist the ideal properties of the primary standard.

1. Explain the procedure for the selection of indicators in the titration between a strong acid and strong base using neutralization curves.
2. Define oxidation and reduction. Give the applications of cerrimetry with suitable examples.
3. Define and classify determinate errors with examples. List the methods of minimizing errors.
4. Classify acid-base titrations. Explain the Quinonoid theory of indicators With example.
5. Define oxidizing and reducing agents with suitable examples. Explain the principle involved in the iodometric titrations.
6. What are errors and classify them? Defíne accuracy and precision. Describe the steps to minimize errors.
7. What are Neutralization curves? Explain the selection of indicators in the titration between weak acid with the strong base using neutralization curves.
8. Define oxidation and reduction. Explain the principle involved in titration with potassium dichromate. Give its applications with suitable examples.
9. Write short notes on a) primary standards and secondary standards. b) minimization of errors.
10. What are Neutralization curves? Explain the selection of indicators in the titration between the weak base with strong acid using neutralization curves.
11. Classify redox titrations. Give the applications of cerimetry und

bromatometry.

SHORT ESSAY(05 Marks)

1. What are the primary and secondary standards? Give the ideal requirements of a primary standard. 10
2. How do you calculate the equivalent weight and molecular weight of a substance. Give exanmples.
3. Write the principle and procedure of Non-aqueous titration involving halogenated salt of weak bases.
4. Explain the mechanism of action of indicators in Fajan's method.
5. Define and classify ligands with examples.
6. Give the application of the Gravimetrie technique in the quantitative detemination of barium as Barium sulphate.
7. Explain the conductometric titration curves for strong acid with a weak base.
8. Write the construction and working of Glass electrodes with advantages and disadvantages.
9. What type of compounds can be considered as primary standards and why? Give suitable examples.
10. Explain the principle involved in the estimation of a mixture of strong acids. weak acid against a strong base.
11. How do you prepare and standardize 0.1N perchloric acid solution?
12. Classify the various EDTA titrations and explain each one in detail.
13. What is precipitation titration and give the principle involved in the assay of Sodium Chloride?
14. Why Gravimetric estimation is preferred for a certain types of compounds. Give the principle involved in the Barium Sulphate estimation.
15. Define Specific conductance and Molar conductance. Draw the schematic diagram of conductometric instrumental assembly.
16. Explain the different steps involved in locating the endpoint in Potentiometric titrations.
17. What is a polarographic curve? T low it is plotted? Mention different areas in the polarographic curves.
18. Write the equation involved in the titration of iodine and sodium thiosulphate solutions. And explain the reactants and products.
19. Explain the theory of acid-base indicators in detail.
20. What is leveling effect in non aqueous titrimetry. Explain in detail.
21. Discuss the principle and applications of Argentometric titrations with Example.
22. Explain the principle involved in the Complexometric titrations in detail and how ill you estimate Magnesium Sulphate.
23. What is meant by Giravimetrie analysis? Describe the techniques used for the successfiul estimation of Barium.
24. Explain the Conductometric titration curve ofa mixture of weak and strong acids with strong alkali.
25. What are the reference and indicator electrodes used in potentiometrie titrations? Explain construction and working of any one electrode.
26. Write the principle and applications of Polarographic analysis. .5, and
27. How do you prepare and standardise the following compounds a) 500ml of 0.1N hydrochloric acid b) 250ml of 0.1N sodium hydroxide.
28. What is the usefulness of mixed and universal indicators.
29. Explain the uses of the following in non aqueous titrations a) perchloric acid b) acetic acid c) acetic anhydride d) crystal violet.
30. Explain the principle and procedure involved in the Volhards method and modified Volhards method.
31. Explain the principle and procedure involved in the estimation of Calcium Gluconate.
32. Explain what is co-precipitation and post-precipitation with examples.
33. Explain the titrimetric curves obtained in conductometric titration a) strong acid Vs weak base b) strong base Vs strong acid.
34. Explain the construction and working of the glass electrodes. What are the advantages of the glass electrode?
35. Give the construction and working of DME.
36. What is pharmaceutical analysis? Explain different types of analysis. What is its scope in pharmacy?
37. what are indicators? Explain the theory of indicators used in acid-base

titrations?

1. Explain the reason why water is not used in non-aqueous titration.
2. Give the mechanism of action of adsorption indicators with suitable examples.
3. Classify complexometric titrations. Explain each type with suitable examples.
4. What is gravimetry? Explain the following terms a) Digestion b) ignition c)Ash treatment d) Inceneration.
5. Write the principle, instrumentation, and applications of conductometry.
6. Enumerate the various types of electrodes in potentiometry. Give the working of the Calomel electrode.
7. What is polarography? Explain the terms a) limiting current b) polarographic maxima c) diffusion current d) supporting electrolytes.
8. What is standardization? What type of substances should be standardised? How do you prepare 200ml of 0.5 N Oxalic acid solution?
9. Briefly explain the different theories of indicators.
10. What is non-aqueous titration? Give the principle and procedure involved in the estimation of Ephedrine Hydrochloride.
11. Classify precipitation titration with examples. Explain Mohr's method in detail.
12. Write a note on buffers used in the complexometric titration.
13. Write a note on the washing of precipitate in gravimetric analysis.
14. Write the construction and working of the conductivity cell.
15. Explain the principle involved in potentiometric titration. Give the construction, working, advantages, and disadvantages of glass electrodes.
16. Give the construction, working, and applications of rotating platinum electrodes.

SHORT ANSWERS(02 Marks Questions)

1. Explain the importance of significant figures.
2. What is back titration? Give example.
3. What is redox potential?
4. What are acid-base indicators? give examples.
5. What are leveling and differentiating effects?
6. What are Masking and Demasking Agents?
7. Define co-precipitation and post-precipitation.
8. What are self-indicators? Give examples.
9. Define Molar conductance and Specific conductance.
10. M. Define the terms Normality, Molarity.
11. Define accuracy and precision.
12. Give two examples for redox indicators.
13. Define Neutralisation curve. Give its importance.
14. What are Aprotic solvents? Give example.
15. What are chelating agents? Give examples
16. What is the importance of the common ion effect in gravimetry
17. Define oxidation and reduction for example.
18. What is a conductivity cell.
19. Write the differences between conductometry and potentiometry.
20. What are atomic mass and molecular mass?
21. Give an example of personal error and operative error.
22. Give one example each for self indicator and internal indicator.
23. How do you determine the endpoint in acid-base titrations
24. Name some indicators used in non-aqueous titrations.
25. What are sequestering agents? Give examples.
26. Why ignition process is carried out in gravimetry.
27. Calculate the equivalent weight of Potassium Permanganate and lodine.
28. Define conductance and resistance
29. 29 What is Null point potentiometry?
30. Give the pH range of phenolphthalein and methyl orange indicators.
31. Give the role of starch as an indicator in redox titrations.
32. Give a list of methods of expressing concentration.
33. How do you calculate stoichiometric endpoints in acid-base titrations?
34. Name the solvents used in non-aqueous titrations.
35. What is the difference between chelates and the complexes?
36. List the optimum conditions for precipitation in gravimetric analysis.
37. Calculate the equivalent weight of Hydrogen peroxide and Oxalic acid.
38. Name two compounds that can be estimated by conductometry.
39. Write the importance of the Nernst equation.
40. 40 What are systematic errors and random errors? Give examples. 1.2
41. What is the color change interval of an acid-base indicator? Give its importance.
42. How do you prepare acetous Perchloric Acid?
43. Complete and balance the equations KMnO4+H2S04
44. What is the masking agent? Give example for masking by precipitation.
45. Write the conditions for the process of digestion in Gravimetry.
46. What are Specific conductance and Molar condutance?
47. 47 What is a standard hydrogen electrode?
48. Define Qualitative Analysis and Quantitative Analysis.
49. What is Cerimetry? Give its applications.
50. Differntiate between the molar and normal solutions? What data is required to prepare these solutions.
51. Write about a) instrumental error b) significant figures.
52. Define mixed indicators and universal indicators.
53. What are the precautions to be taken while preparing perchloric acid as titrant.
54. Write the structure of EDTA.
55. Name two compounds estimated by gravimetry.
56. Give the formula to calculate the equivalents in redox titration.
57. Give the difference between iodometry and iodimetry.
58. Give the units for conductance and resistance.
59. Give one example each for indicator electrode and reference electrode.