Multiple choice questions

1. _____ is used as primary standard for standardization of NaOH.
a) Sodium carbonate b) Sodium bicarbonate
c) oxalic acid d) Potassium dichromate
2. Phenolphthalein has a pH range of
a) 6.8 – 8.4 b) 1.2 – 2.8 c) 8.3 – 11.0 d) 4.2 – 6.3
3. Errors arise due to the individual analyst is responsible for them
a) Method error b) Instrumental error c) Personal error d) Random error
4. Solution of known concentration
a) Standard solution b) Concentration c) Solution d) Concentrated solution
5. Primary standard used in redox titration
a) Potassium dichromate b) Oxalic acid c) Arsenic trioxide d) All
6. Acid is a substance which dissociates in water to produce hydrogen ions
a) Arrhenius theory b) Lewis theory c) Bronsted theory d) Lowry theory
7. The colour change is due to ionisation of the acid base indicators
a) Ostwald theory b) Chromophore theory
c) Quinonoid theory d) Resonance theory
8. Substance that can be reversibly oxidized or reduced, having different distinct colour in the individual oxidized and reduced forms
a) Redox indicators b) Redox potential c) Redox number d) Redox state
9. 20 gm NaOH in 500 ml = a) 0.1 N b) 1 N c) 0.5 M d) 0.05 N
10. In oxidation reduction change in _____ of reacting element takes place.
a) Volume b) pH c) Absorbance d) Valency
11. _____ is not an amphiprotic solvent.
a) Water b) Alcohol c) Acetic acid d) None
12. Mordant blue III indicator is used for _____ detection.
a) Aluminium b) Calcium c) Magnesium d) Thorium
13. _____ is not type of co-precipitation.
a) Surface adsorption b) Occlusion c) Crystallization d) Mechanical entrapment
14. Acidic dyes used in Fajan's method
a) Phenol b) Rhodamine series c) Fluorescein d) Thymol blue
15. Oxidation-Reduction titration is also known as
a) Complexometric titration b) Gravimetric titration
c) Redox titration d) Gasometric titration
16. Potentiometry is type of _____ method.
a) Qualitative b) Chromatographic c) Classical d) Electro-chemical
17. Chelating agent is a) Salicylic acid b) EDTA c) Benzoic acid d) Glycerol
18. _____ used as titrant in non-aqueous titration.
a) EDTA b) Perchloric acid c) Sodium nitrite d) Silver nitrite
19. Assay of calcium gluconate _____ used to increase the sharp end point.
a) Magnesium sulphate b) Calcium sulphate
c) Calcium carbonate d) Magnesium carbonate
20. Conductometry used for the measurement of
a) Conductivity b) Potential c) Temperature d) Concentration
21. Standardization of Iodine is done by
a) sodium thiosulphate b) Oxalic acid c) perchloric acid d) None
22. Degree of agreement between measured value and true value is

a) Accuracy b) precision c) Range d) Standard deviation

23. Titration between KCl and $AgNO_3$ are

a) Redox b) Precipitation c) Acid-Base d) Gravimetry

24. 8.5ml of HCl in 1 lt. is

a) 0.1M b) 0.1N c) Both A AN b D) 0.5M

25. The number of gram equivalent of the solute per liter of solution is known as

a) Normality b) Molarity c) Molality d) Mole fraction

26. The number of gm-mole of a solute in 1 liter of solution is known as

a) Normality b) Molarity c) Molality d) Mole fraction

27. The no. of gm-mole of the solute per kg of solution is known as

a) Normality b) Molarity c) Molality d) Mole fraction

28. The ratio of number of gm-mole of a component to total number of gm-mole in mixture or solution is known as

a) Normality b) Molarity c) Molality d) Mole fraction

29. The number of gm of solute per 100ml of solvent is known as

a) Normality b) % wt. by volume c) Molality d) Mole fraction

30. In titration end point can be determined by change in color by

a) Indicator b) Burette c) Conical Flask d) Titrant

31. An example of primary standard is

a) NaOH b) $FeSO_4$ c) $Na_2CO_3$ d) $NH_4OH$

32. The conjugate acid of $HAsO_4$ is

a) $H_3O^+$ b) $AsO_4^+$ c) $H_3AsO_4^+$ d) $H_2AsO_4^+$

33. A solution of known concentration is called as

a) Buffer solution b) Neutral solution c) Standard Sol. D) Saturated Sol

34. An Arrhenius acid is defined as

a) proton donar b) proton acceptor c) produces $H^+$ ion in solution

d) Produces $OH^-$ ions in solution

35. A buffer solution may contain equal moles of

a) Weak acid and strong base b) Strong acid and strong base

c) Weak acid and its conjugate base c) Strong acid and its conjugate base

36. An Arrhenius base is defined as a compound that

a) Accepts $OH^-$ in solution b) Releases $OH^-$ in solution

c) Accepts protons in solution d) Donates proton in solution

37. A chemical indicator in solution consists of

a) A Weak acid and its conjugate base b) Strong acid and its conjugate base

c) A Weak acid and its conjugate acid d) Strong acid and its conjugate acid

38. What does chemical indicator and buffer solution contain?

a) A Weak acid and its conjugate base b) Strong acid and its conjugate base

c) A Weak acid and its conjugate acid d) Strong acid and its conjugate acid

39. When performing a titration, an indicator must always have

a) distinct color change at pH 7 b) Ability to change from colorless to pink

c) A transition point close to equivalence point d) Equivalence point close to stoichiometric point

40. Non aqueous titration is carried for

a) water insoluble drugs b) Weakly acidic drug c) weakly basic drug

d) all of above

41. Example of aprotic solvent

a) carbon tetrachloride b) Benzene c) Toulene d) All

42. Example of Protogenic solvent
a) Sulfuric acid b) HCl c) Nitric acid d) All of above
43. Example of protophillic solvent
a) NaOH b) Lithium methoxide c) Na- methoxide d) All
44. In the preparation of 0.1N HClO4, the quantity of acetic anhydride must be optimum. Comment
a) If added in more quantity then amine drug may acetylate and give wrong results
b) If added in less quantity then water may interfere with titration
c) Formation of acetyl perchlorate can cause explosion.
d) All
45. Perchloric acid is standardized by
a) Benzoic acid b) Potassium hydrogen phthalate c) Oxalic acid d) tartaric acid
46. Which of the indicator is used in non aqueous titrations?
a) Crystal violet b) Oracet Blue B c) Thymol Blue B d) All
47. AgCl has to filtered off before titration using ……. method
a) Modified Volhard method b) Volhard method c) Fajan's Method d) Mohr's Method
48. Which method follows the principle of formation of colored precipitate at the end point?
a) Fajan's method b) Volhard's method c) Mohr's Method d) All
49. Ferric ammonium sulphate is used as an indicator in
a) Fajan's method b) Volhard's method c) Mohr's Method d) All
50. Potassium chromate is used as an indicator in
a) Fajan's method b) Volhard's method c) Mohr's Method d) Modified Volhard Method
51. Which of the following is an example of adsorption indicator
a) Phenolpthalein b) Eosin c) Methyl Red d) Thymol blue
52. EDTA, a multidentate ligand has how many site for binding?
a) 6 b) 5 c) 4 d) 7
53. End point in complexometric titrations are indicated by
a) Redox b) Metallochromic c) Acid Base d) None
54. Which one is a sequestering agent
a) salicyldoxime b) EDTA c) 8-hydroxy quinoline d) All
55. Indicator used in complexometry
a) Eriochrome Black II b) Mordant Black 2 c) Xylenol orange d) All
56. Calcium gluconate is assayed by
a) complexometry b) Argentometry c) Acid-Base d) Iodometry
57. Technique where analyte is separated from a solution as precipitate and converted to compound of known composition is
a) Volatilization Gravimetry b) Precipitation Gravimetry c) Electro-gravimetry d) Argentometry
58. Weight of analyte per unit weight of precipitate is……. factor
a) Precipitation b) Gravimetric c) Electrogravimetric d)None of above
59. Digestion of precipitate is known as
a) Aging b) Ostwald ripening c) Gravimetric factor c) co-precipitation
60. Unit of conductance in SI is
a) Volt b) Ampere c) Mhos d) Siemens

61.Hydrogen and Hydroxide ions have both potent
a) Conductivity b) Molar conductance c) conductance enhancers d) All
62. Example of reference electrode is except
a) Calomel electrode b) Silver silver electrode c) Std. H electrode d) Antimony electrode
63. Which of the following is used as indicator electrode in polarography?
a) Glass b) Dropping mercury electrode c) Platinum d) Silver
64. For qualitative analysis by polarography, characteristic parameter is
a) Diffusion current b) Half wave potential c) Voltage d) All
65. Residual current is sum of condensor current and
a) Limiting current b) Faradic current c) Migration Current d) Ilkovic current
66. Oxidation involves
a) Loss of H2 b) Loss of O2 C) Gain in H2 d) Gain in electrons
67. Reduction involves
a) Loss of H2 b) Loss of O2 C) Gain in H2 d) Gain in electrons
68. Formation of electrical double layer in polarography is during formation of
a) Residual current b) Limiting Current c) Diffusion current d) Migration current
69. Difference between residual and limiting current is
a) Migration I b) Kinetic I c) Diffusion I d) Faradic I
70. When the current reaches a steady state, it is called as
a) Migration I b) Kinetic I c) Limiting I d) Diffusion I
71. When conc. of oxidized and reduced forms at electrode surface is equal, it is
a) Half wave potential b) Faradic I c) Migration I d) Diffusion I
72. When rate of diffusion of ions is equal to rate of reduction of ions, it is called as
a) Migration I b) Kinetic I c) Limiting I d) Diffusion I