Exam Date & Time: 21-Mar-2022 (10:00 AM - 01:00 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

Pharmaceutical Analysis-1, PQA_BP102T MARCH 2022

Pharmaceutical Analysis-I [PQA-BP102T - S2]

Marks: 75 **Duration: 180 mins.**

I Multiple Choice Questions (MCQs)

Answer all the questions. Section Duration: 30 mins

1) In One of the following, EMF is measured

(1)

1)	Volumetry		2)	Gravimetry		3)	Potentiometry		4)	Conductometry	

2) Antitubarcular drug Isoniazid is assayed by.....titration

(1)

1)	Redox		2)	Neutralization		3)	Precipitation		4)	Complexometric	

3) Equivalent weight of anhydrous oxalic acid is

(1)

1)	35		2)	45		3)	30		4)	20	

4) .....is measured using UV Visible spectrophotometer

(1)

1)	Conductance		2)	Fluorescence		3)	Absorption of light		4)	Current	

5) One of the following is an external indicator

1)	Starch iodide paper		2)	Potassium permanganate		3)	Starch mucilage		4)	Ferroin	

(1)

6) 4.0 gm of sodium hydroxide dissolved in 1 litre solvent gives .....M solution

(1)

1)	0.1		2)	1		3)	0.01		4)	0.001	

7) Concentration of miscible liquids is usually expressed in

(1)

1)	%v/v		2)	%w/v		3)	%w/w		4)	Molal	

8) In one of the chemical compound, molecular weight and equivalent weight are different

(1)

1)	Sulphuric acid		2)	Mohr's salt		3)	HCl		4)	Sodium hydroxide	

9) Mohr's salt is used to standardize ceric ammonium sulphate, but ceric ammonium sulphate is also standardize using one of the following primary standard

1)	Oxalic acid		2)	Arsenic trioxide		3)	Sodium oxalate		4)	Sodium thiosulphate	

10) Ferrous sulphate is assayed by ceric ammonium sulphate as titrant. But one of the following can also be used as titrant

1)	Iodine		2)	Sodium thiosulphate		3)	Oxalic acid		4)	Potassium permanganate	

11) 10 ml of 0.1M solution of sodium hydroxide is completely neutralized with 10 ml of hydrochloric acid.
What is the molarity of hydrochloric acid?

1)	0.1		2)	0.2		3)	0.010		4)	0.110	

12) Maximum number of groups that can be bound to the ion is its_____

1)	Co-ordination number		2)	Atomic number		3)	Mass number		4)	Valency	

13) The physico-chemical process underlying the digestion is called _____

1)	Peptization		2)	Ostwald ripening		3)	Crystallization		4)	Ignition	

14) If a complexing agent can form more than one bond with polyvalent ion, then it is considered as _____ (1)

1)	Unidentate		2)	Tridentate		3)	Bidentate		4)	Polydentate	

(1)

15) Masking and demasking techniques are used for improving _____ in complexometric titration

1)	Endpoint		2)	Speed		3)	Selectivity		4)	Reproducibility	

16) Iodine tincture is assayed by

1)	Bromatometry		2)	Potassium iodate titration		3)	Cerimetry		4)	Dichrometry	

17) Neutralization curve is expressed as

1)	pH vs pKa		2)	pH vs volume of titrant		3)	pKa vs volume of titrant		4)	pH vs volume of titrand	

18) According to Bronsted - Lowry Theory concept which sentence is true? (1)

(1)

1)	Proton donor is acid		2)	Proton acceptor is acid		3)	Electron pair donor is acid		4)	Electron pair acceptor is acid	

19) Which of the following titrations will have the equivalence point at a pH more than 8?

1)	HCl and NH_3		2)	CH_3COOH AND NH_3		3)	HCl and NaOH		4)	CH_3COOH AND NaOH	

(1)

20) 25 ml of a solution of barium hydroxide, on titration with 0.1 molar solution of HCl, gave a titre value of 35ml. Molarity of barium hydroxide solution was:

(1)

1)	0.07		2)	0.14		3)	0.28		4)	0.35	

II Long

Answers Answer all the questions.

1) Explain modified Volhard's and Mohr's method of precipitation titration in detail with supporting chemial reaction (10)

2) a) Explain the titration curve for ferrous sulphate Vs Ceric sulphate by showing the emf calculations after adding 10, 50, 90, 99,99.1, 100.1, 101, 110 ml of titrant and at equivalence point. b) Explain titration plot for the same. (8+2 marks) (10)

III Short

Answers Answer all the questions.

1) a) Explain the principle in the assay of copper sulphate by Iodometry.
b) Write principle in the standardization titrant used above. (3+2 marks) (5)

2) Briefly explain co-precipitation by occlusion (5)

3) Briefly explain diazotisation titration with examples (5)

4) Write the principle involved in assay of ethosuximide (5)

5) Compare the theories of acid-base titration with suitable examples (5)

6) Explain the principle involved in potassium bromate titration with its molecular reaction (5)

7) Explain the working mechanism of phenolphthalein as an indicator with the help of benzenoid quinonoid theory (5)

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