

Exam Date & Time: 07-Dec-2018 (09:30 AM - 12:30 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

BPharm Semester I - End-Semester Examination December 2018

PQA-BP-102 T: Pharmaceutical Analysis I

Date: 07-12-2018

Pharmaceutical Analysis-I [PQA-BP102T]

Marks: 75

Duration: 180 mins.

I Multiple Choice Questions (MCQs)

Answer all the questions.

Section Duration: 30 mins

- 1) What is the molarity of a solution of sodium chloride prepared by dissolving 1.47 g in 25 mL of water (t weight of Na= 23g; Cl=35.5g) (1)
 - 1) 0.5 M 2) 1 M 3) 2 M 4) 5 M
- 2) Which of the following is not a primary standard? (1)

Potassium			
1) hydrogen phthalate	2) Sodium carbonate	3) Hydrochloric acid	4) Oxalic acid
- 3) How many significant figures are present in the number 0.000670? (1)
 - 1) 6 2) 7 3) 2 4) 3
- 4) The pH of 0.1 M acetic acid solution is (1)
 - 1) 2.87 2) 1 3) 3.57 4) 0
- 5) Which of the following statement is not true with respect to "Proportional errors" (1)

	These errors occur because of the presence of interfering impurities in the sample.	The relative magnitude of constant error would increase with the increasing quantity of the substance being analyzed.	Proportional errors are also called as additive errors
1) It is dependent on the amount of substance being analyzed	2)	3)	4)
- 6) The equivalent weight of potassium permanganate in alkaline condition is (Molecular weight of potassium permanganate: 158.034 g/mol) (1)
 - 1) 158 2) 31.6 3) 52.6 4) 49.03

- 7) The redox reaction is in equilibrium with respect to the value of K and E^0
- 1) $K = > 1; E^0 = > 0$ 2) $K = < 1; E^0 = < 0$ 3) $K = > 1; E^0 = 0$ 4) $K = 1; E^0 = 0$ (1)
- 8) Bromine solution is the mixture of
- 1) potassium bromite and potassium bromide 2) potassium bromate and potassium bromide 3) potassium bromate and potassium bromite 4) potassium bromite and potassium bromate (1)
- 9) If acidified Potassium Dichromate(VI) ($K_2Cr_2O_7$) acts as oxidizing agent, color changes from
- 1) orange to red 2) orange to green 3) yellow to green 4) yellow to red (1)
- 10) Residual precipitation titration method
- 1) Mohr's titration 2) Volhard's titration 3) Fajan's titrations 4) Gay-Lussac Method (1)
- 11) Which one of the following is mono-dentate in nature?
- 1) Ethylene diamine 2) Ethylene glycol-bis (amino ethyl ether) tetra acetic acid 3) Ammonia 4) Diethylene tri-amine penta acetic acid (1)
- 12) Protogenic solvents are
- 1) basic in nature and normally react with acids to form solvated protons 2) acidic in nature and enhances the ability to donate proton to enhance the strength of weak bases 3) acidic & basic nature 4) none (1)
- 13) Which of the following is an inorganic precipitant
- 1) Tetraphenylarsonium chloride 2) Aqueous ammonia 3) Oxalic acid 4) Anthranillic acid (1)
- 14) Trapping of ionic impurities within the crystal and formation of solid solution is called
- 1) Isomorphous co-precipitation 2) Surface adsorption 3) Occulsion 4) Mechanical entrapment (1)
- 15) Why acidity of the solution is maintained till the end point of diazotization titration?
- 1) since amines 2) primary 3) starch- 4) diazonium (1)

are slow diazotisable compound	aromatic amines are involved in the reaction	iodide paper will not detect the nitrous acid	compound formed are unstable in basic pH
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Which of the statement is correct for gravimetry analysis?

- 1) Volume is measured 2) Rapid process 3) Possibility of errors are large 4) No calibration is required (1)
- 17)are used to break the metal ion-complexing agent stable complex. (1)
- 1) masking agent 2) demasking agent 3) peptizing agent 4) precipitating agent
- 18) Why diazotization reaction is carried in ice bath?
- 1) End point is hard to determine 2) Instability of the diazonium compound at elevated temperature 3) Different amino compound reacts with HONO at different rate 4) Sodium nitrate requires time to react with amino group (1)
- 19) Colour change of Murexide - metal complex to free Murexide is from (acidic pH to basic pH) (1)
- 1) Red to blue 2) Yellow to violet 3) Pink to colorless 4) Colorless to pink
- 20)is precipitation of primary precipitate in pure form and slightly soluble foreign substance as second phase during gravimetric analysis. (1)
- 1) Co-precipitation 2) Post-precipitation 3) Surface adsorption 4) Complexation

II Long Answers

Answer all the questions.

- 1) Explain the types of errors and methods to minimize the errors. (10)
- 2) What are redox indicators? Classify them with examples. How the side reaction affects the redox titration? Explain with suitable example (10)

III Short Answers

Answer all the questions.

- 1) What are primary and secondary standards? Give examples. Write any five requirements for a primary standard. (5)

- 2) Calculate the initial pH and the pH at neutralization point for the titration of 0.1M acetic acid Vs 0.1M sodium hydroxide. (5)
- 3) What are argentometric titrations? Explain principle of Mohr's method for the estimation of sodium chloride (5)
- 4) What is Iodometry titration? Explain the principle involved in the estimation of copper sulphate. (5)
- 5) Define masking and demasking? Write a note on types of masking. (5)
- 6) Explain the estimation of ephedrine hydrochloride by non-aqueous titration. (5)
- 7) Write the applications of gravimetric analysis. (5)

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