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MANIPAL ACADEMY OF HIGHER EDUCATION

BPharm Semester I - End-Semester Examination December 2018
PQA-BP-102 T: Pharmaceutical Analysis I
Date:02/01/2019

Pharmaceutical Analysis-I [PQA-BP102T]

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

I Multiple Choice Questions (MCQs)

Answer all the questions. Section Duration: 30 mins

1) Accuracy of a measurement can be obtained from

1) The % Coefficient of variation (CV) 2) The Standard deviation 3) The relative standard deviation 4) The relative error (1)

Correct option is: 4

2) Identify the number that has three significant figures

1) 12300 2) 300 3) 0.006 4) 450.00 (1)

Correct option is: 1

3) 100 mL of 0.1 M Sodium hydroxide can be prepared by dissolving --------g of NaOH in water

1) 40 2) 4 3) 0.4 4) 0.04 (1)

Correct option is: 3

4) How many grams of Na+ are contained in 25.0 g of Na2SO4 (Atomic mass of Na: 22.9, S is 32.0, O is 15.9)

1) 4.10 2) 8.10 3) 2.10 4) 6.10 (1)

Correct option is: 2

5) How many significant figures are present in the number 0.00067080

1) 6 2) 7 3) 5 4) 3 (1)

Correct option is: 3

6) The equivalent weight of potassium permanganate in acid medium is(Molecular weight of potassium permanganate: 158.034 g/mol)

1) 158 2) 31.6 3) 52.6 4) 49.03 (1)

Correct option is: 2

7) The redox forward reaction is spontaneous with respect to the value of K and E^0 (1)

1) K= > 1; E^0 = > 0 2) K= 0 = 3) K= > 1; E^0 = 0 4) K= 1; E^0 = 0

Correct option is: 1

8) 0.1M Iodine solution can be standardized using

1) arsenic trioxide 2) sodium carbonate 3) potassium dichromate 4) potassium bromate (1)

Correct option is: 1

9) If acidified Potassium Dichromate(VI) (K2Cr2O7) acts as oxidizing agent, color changes from

1) orange to red 2) orange to green 3) yellow to green 4) yellow to red (1)

Correct option is: 3

10) The formation of a second colored precipitate at the end point in a precipitation titration

1) Mohr's titration 2) Volhard's titration 3) Fajan's titrations 4) Gay-Lussac Method (1)

Correct option is: 1

11) Protophilic 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)

Correct option is: 1

12) Official primary standard for standardization of perchloric acid solution

1) Potassium hydrogen phthalate 2) Sodium Bicarbonate 3) Potassium dihydrogen phosphate 4) Sodium Methoxide (1)

Correct option is: 1

13) Titrant used in assay of sulpha drugs by diazotization method

1) Sodium nitrate 2) Sodium chloride 3) Silver chloride 4) Silver nitrate (1)

Correct option is: 1

14) How many binding sites does Ethylenediaminetetraacetic acid has

1) 7 2) 4 3) 5 4) 6 (1)

Correct option is: 4

15) Which of the statement is true for the washing solution in gravimetric analysis?

1) It should contain substance which interfere with subsequent 2) It should be easily volatile at the drying temperature of 3) It should form volatile or insoluble product with 4) It should have a dispersive action on a precipitate (1)

determination | the precipitate | precipitate

Correct option is: 2

16) Which of the following is chelating precipitant

1) Tetraphenylarsonium chloride 2) Aqueous ammonia 3) Oxalates 4) Anthranillic acid (1)

Correct option is: 4

17) The end point for an EDTA titration is found by using .....indicators

1) External 2) Metallochromic 3) Redox 4) Acid-base (1)

Correct option is: 2

18) The electrolyte concentration in the supernatant liquid may fall below the coagulation value, and the precipitate may pass into colloidal solution again. This phenomenon is known as

1) Precipitation 2) Filtration 3) Peptisation 4) Curing of precipitate (1)

Correct option is: 3

19) Which one of the following is a primary standard for basic titrant in Non-aqueous titration?

1) Diphenyl guanidine 2) Tris-(hydroxyl methyl) amino methane 3) Phenylcinchonic acid 4) Potassium hydrogenphthalate (1)

Correct option is: 3

20) Which condition should be considered in order to carry out the complexometric titration?

1) Presence of catalyst 2) Presence of buffer solution 3) Stability of Metal-EDTA complex should be more than metal-indicator complex 4) Solution of EDTA should be the titrant (1)

Correct option is: 3

II Long Answers

Answer all the questions.

1) Assay results of content of Paracetamol in given 500 mg Crocin tablets are as follows. As an analyst, justify which method is better for routine analysis.

Trial No.	Method A	Method B
1	500.00 mg	498.80 mg
2	493.80 mg	501.90 mg
3	490.00 mg	504.00 mg
4	505.80 mg	489.80 mg
5	488.10 mg	498.90 mg
6	504.10 mg	500.10 mg

(10)

2) What are Iodimetry and Iodometry? Explain the conditions involved in the Iodometric determination. (10)

III Short Answers

Answer all the questions.

1)	Explain the reaction, calculation of equivalent factor and procedure for the standardization of 0.1M HCl with Sodium carbonate as primary standard	(5)
2)	Calculate the initial pH and the pH at neutralization point for the titration of 0.1M ammonium hydroxides Vs 0.1M hydrochloric acid..	(5)
3)	What are argentometric titrations? Explain principle of Fajan's method for the estimation of sodium chloride	(5)
4)	Why HCl is avoided in titration of FeSO4 against potassium permanganate? Explain	(5)
5)	What is the principle involved in complexometric titration? Explain the back titration in complexometric titration with an example	(5)
6)	Explain the estimation of sodium benzoate by non-aqueous titration	(5)
7)	Write the principle involved in Diazotization reaction. Why diazotization reaction is carried out in ice bath?	(5)

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