



BRAINWARE UNIVERSITY

Term End Examination 2023-2024
Programme – B.Pharm-2022/B.Pharm-2023
Course Name – Pharmaceutical Analysis I
Course Code - BP102T
(Semester I)

Library
Brainware University
398, Ramkrishnanagar Road, Barasat
Kolkata, West Bengal-700125

Full Marks : 75

Time : 3:0 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 20=20

1. Choose the correct alternative from the following :

- (i) Choose the correct one, the Molarity of a solution containing 49 g of H₂SO₄ in 1000 ml solution is
- a) 1
b) 2
c) 0.5
d) 0.6
- (ii) Select one, Which is used as indicator for non-aqueous titration?
- a) crystal violet
b) oracet blue B
c) thymol blue
d) All of each
- (iii) Choose the correct one, which one of the following is an example of mixed indicator?
- a) Neutral red and methylene blue
b) Methyl orange and phenolphthalein
c) Neutral red and methyl orange
d) Both Neutral red and methylene blue & Neutral red and methyl orange
- (iv) Select the compound which is not estimated by Complex metric titration.
- a) Magnesium trisilicate
b) Ferrous ammonium citrate
c) Calcium lactate
d) Progesterone
- (v) Select the correct option, The commonly used acid in non aqueous titration is,
- a) Acetic acid
b) Perchloric acid
c) Formic acid
d) None of these
- (vi) Select the correct one, Oxidation-Reduction titration is also known as
- a) complexometric titration
b) Gravimetric titration
c) Redox titration
d) Gasometric titration
- (vii) Choose the correct option, In the preparation of the 0.1 (N) perchloric acid amount of acetic anhydride should be optimum. Why?
- a) if added more quantity then amine drug may acetylate and causes erroneous result
b) if added less quantity then water may interfere with the titration.
c) formation of acetyl perchlorate can cause explosion
d) All of each

- (viii) Choose the correct one, which one is used as indicator for non-aqueous titration?
- a) crystal violet
b) oracet blue B
c) thymol blue
d) All of each
- (ix) Select the correct one, What is the endpoint of a Volhard titration in which chloride ions are determined?
- a) Formation of a red color
b) Formation of a white precipitate
c) Formation of a pink colored precipitate
d) Disappearance of a white precipitate
- (x) Choose the correct one, the molarity of a solution containing 98 g of H₂SO₄ in 1000 ml solution is
- a) 2
b) 0.3
c) 1
d) 0.5
- (xi) Identify the correct option from the following, Potentiometry is an example of what kind of analytical method?
- a) Electroanalytical method
b) Analytical separation method
c) Analytical spectroscopic method
d) Volumetric method
- (xii) identify the correct option from the following, Molarity is expressed as
- a) Number of moles of solute in 1kg of solvent.
b) Number of moles of solute in 1000 ml of solution.
c) Number of equivalent weights of solute in 1000 ml solution
d) None of the these.
- (xiii) identify the correct option from the following, Which one of the following is a primary standard?
- a) Potassium hydrogen phthalate
b) Sodium hydroxide
c) Perchloric acid
d) Sulphuric acid
- (xiv) identify the correct option from the following, A measure of how closely a measured quantity agrees with the true value is
- a) Absolute error
b) Accuracy
c) Precision
d) Variance
- (xv) Identify the correct option, Which one of the following is a secondary standard?
- a) Sodium hydroxide
b) As₂O₃
c) Oxalic acid
d) KHP
- (xvi) Choose the correct one, the equivalent weight of perchloric acid is:
- a) 100.5
b) 75.5
c) 45.5
d) 63.5
- (xvii) identify the correct option from the following, KmnO₄ is a
- a) Acid
b) Base
c) salt
d) None of these
- (xviii) Choose the correct one, which of the following is a protophilic solvent?
- a) Lithium hydroxide
b) Sodium hydroxide
c) Potassium hydroxide
d) All of each
- (xix) Select the correct option, Thioglycolic acid is used in the limit test of _____
- a) Lead
b) Arsenic
c) Chloride
d) Iron
- (xx) The electrochemical method which is used to measure electro motive force is called as
- a) Amperometry
b) Conductometry
c) Polarography
d) Potentiometry

Group-B

(Short Answer Type Questions)

5 x 7=35

2. Write the between Mohr's method and Volhard's method. (5)
3. Write the difference between iodometry and iodimetry. (5)

4. Explain the method for preparation and standardization of 0.1N oxalic acid solution. (5)

5. Classify "Errors" along with examples of each classification. (5)

6. Explain different types of Complexometric titration. (5)

7. Describe in brief about construction and reference of Standard hydrogen electrode. (5)

OR

Describe in brief about electrochemical cell. (5)

8. Write the principle involving polarography. (5)

OR

Write the methods to determine end point of potentiometric titration (5)

Group-C

(Long Answer Type Questions)

10 x 2=20

9. Describe the methodology and working reactions under "preparation and standardisation of 0.1N ceric ammonium sulphate". (10)

10. Explain briefly about the neutralization curve of strong acid vs. strong base and estimate the pH of a buffer containing 0.1M CH₃COONa and 0.03M of CH₃COOH. pK_a for CH₃COOH is 4.57. (10)

OR

Explain the redox indicators & Fajan's method of Argentometric titration. (10)

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