



BRAINWARE UNIVERSITY

Term End Examination 2022

Programme – B.Pharm-2018/B.Pharm-2019/B.Pharm-2020/B.Pharm-2022

Course Name – Pharmaceutical Analysis I

Course Code - BP102T

(Semester I)

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) Name the limit test, where *gutzeit* apparatus is used
- | | |
|---------|-------------|
| a) Lead | b) Sulphate |
| c) Iron | d) Arsenic |
- (ii) Choose the correct one, which of the following is a salt of strong base and weak acid?
- | | |
|----------------------|----------------------|
| a) Sodium chloride | b) Sodium citrate |
| c) Potassium bromide | d) Ammonium chloride |
- (iii) Choose the correct one, According to Bronsted-Lowry Theory an acid is a
- | | |
|--|------------------|
| a) Proton acceptor | b) Proton donor |
| c) Both Proton acceptor & Proton donor | d) None of these |
- (iv) Identify the correct one, Thioglycolic acid is used in the limit test
- | | |
|-------------|------------|
| a) Lead | b) Arsenic |
| c) Chloride | d) Iron |
- (v) Choose the correct one, which of the following is an amphiprotic solvent?
- | | |
|------------------------|----------------------|
| a) Acetic acid | b) Sodium hydroxide |
| c) Potassium hydroxide | d) Hydrochloric acid |
- (vi) Choose the correct one, in acidic solution the color of phenolphthalein is
- | | |
|---------|--------------|
| a) pink | b) colorless |
| c) blue | d) yellow |
- (vii) Select the correct one. The number of moles of a solute per liter of a solution is
- | | |
|-------------|--------------|
| a) Molality | b) Normality |
| c) Molarity | d) None |
- (viii) Select the compound which is not assay by Complex metric titration.
- | | |
|--------------------------|---------------------------|
| a) Magnesium trisilicate | b) Sodium calcium edetate |
| c) Calcium lactate | d) Progesterone |
- (ix) Karl Fischer titration is a kind of-
- | | |
|-----------------------------|--------------------------|
| a) acid base titration | b) non aqueous titration |
| c) complexometric titration | d) None of these |

- (x) Choose the correct one, which of the following is a reference electrode?
a) Standard hydrogen electrode b) Metal indicator electrode
c) Both Standard hydrogen electrode & Metal indicator electrode d) None of these
- (xi) Choose the correct option regarding hyphenated technique of analysis?
a) Gas chromatography-Mass spectroscopy b) Thermal-gravimetry
c) Gas chromatography-Mass spectroscopy & Thermal-gravimetry d) None of these
- (xii) Identify the significant figures are present in 1.6750?
a) five b) four
c) three d) six
- (xiii) Identify the correct one ,The titrant used in Permagnatometry is
a) KMnO_4 b) KBr
c) I_2 d) $\text{K}_2\text{Cr}_2\text{O}_7$
- (xiv) Choose the correct one, Water insoluble drugs are analyzed by _____
a) Alkalimetry b) Gravimetry
c) Non aqueous titration d) Aquametry
- (xv) Identify the secondary standard from the following?
a) Sodium hydroxide b) Anhydrous sodium carbonate
c) sodium hydroxide & Anhydrous sodium carbonate d) None of these
- (xvi) Select the correct option, according to Lewis theory a base is a _____
a) Electron donor b) Electron acceptor
c) Both Electron donor & Electron acceptor d) None of these
- (xvii) identify the equivalent weight of sulphuric acid from the followings
a) 98 b) 75
c) 49 d) 60
- (xviii) Choose the correct one, which of the following is added for the titration of halogen acid salt of weak bases?
a) lead acetate b) mercuric acetate
c) bismuth iodide d) copper sulphide
- (xix) identify the equivalent weight of oxalic acid from the following
a) 63 b) 55
c) 45 d) 100
- (xx) Choose the correct one, Chloroform is a-
a) Aprotic solvent b) Protogenic solvent
c) Protophilic solvent d) None of these

Group-B

(Short Answer Type Questions)

5 x 7=35

- Explain the theory of precipitation titration? What is the criterion of precipitation of an electrolyte? (5)
- Write down the advantages of Gravimetric method. What are the applications of Gravimetric method (5)
- Explain the method for preparation and standardization of 0.1N oxalic acid solution. (5)
- Write the Derivation of the Henderson Hasselbatch equation. (5)
- Write the methods to determine end point of potentiometric titration (5)
- Explain the definition of precipitation titration and the limitations of Mohr's method. Explain common-ion effect? (5)

OR

- Explain the advantages of Gravimetric method with the applications of Gravimetric method. (5)
- Describe the Usanovich and Luxflood theory of acid and bases (5)

OR

Describe the method for preparation and standardization of 1M sodium hydroxide solution. (5)

Group-C

(Long Answer Type Questions)

10 x 2=20

9. Summarize the Electrochemical method of analysis and explain about electrochemical cell. (10)
10. Explain different types of Complexometric titration, complexometric titration curve. (10)

OR

Explain briefly about the neutralization curve of strong acid vs. strong base and With the help of the law of mass action derive the equation for equilibrium constant. (10)
