BRAINWARE UNIVERSITY

Term End Examination 2018 -19

Programme – Bachelor of Pharmacy

Course Name – Pharmaceutical Analysis I

Course Code – BP102T

(Semester – 1)

Time allotted: 3 Hours **Full Marks: 75**

[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) 20 x 1 = 20

1. *Choose the correct alternative from the following*

(i) Voltametry is an example of what kind of analytical method?

a. Volumetric method
b. Analytical spectroscopic method
c. Analytical separation method
d. Electroanalytical method

(ii) The equivalent weight of hydrochloric acid is:

a. 37
b. 50
c. 36.5
d. 40

(iii) Which of these is a hyphenated technique of analysis?

a. Gas chromatography-Mass spectroscopy
b. Differential scanning calorimetry
c. Capillary electrophoresis
d. None of the above

(iv) Molarity is expressed as

a. Number of moles of solute in 1000 ml 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 above.

(v) Which one of the following is a primary standard?

a. Oxalic acid
b. Sodium hydroxide
c. Perchloric acid
d. Hydrochloric acid

(vi) How many significant figures are there in 60875?

a. five b. four
c. three d. two

(vii) The normality of a solution containing 98 g of H_2SO_4 in 1000 ml solution is

a. 1.0 b. 2.0
c. 0.5 d. 0.6

(viii) A measure of how closely a measured quantity agrees with the true value is

a. Absolute error b. Accuracy
c. Precision d. Variance

(ix) Which one of the following is a secondary standard?

a. Arsenic trioxide b. Anhydrous sodium carbonate
c. Sulphuric acid d. Benzoic acid

(x) Which of the following is an analytical separation method?

a. Coulometry b. Capillary electrophoresis
c. Polarography d. None of the above

(xi) Which one of the following is NOT a polyprotic acid

a. H_2SO_4 b. H_3PO_4
c. H_3BO_3 d. HCl

(xii) Lead acetate cotton is used in the limit test of _____

a. Lead b. Arsenic
c. Chloride d. Iron

(xiii) pH is defined as

a. $-\log [H^+]$ b. $-\ln [H^+]$
c. $\log [H^+]$ d. $\ln [H^+]$

(xiv) Dithizone is used in the limit test of _____

a. Lead b. Sulphate
c. Iron d. Arsenic

(xv) Which of the following is a protogenic solvent?

a. Sulphuric acid b. Sodium hydroxide
c. Potassium hydroxide d. Water

(xvi) In alkaline solution the colour of red litmus paper turns _____

a. pink b. blue
c. colourless d. yellow

(xvii) The titration of ammonium thiocyanate [NH_4SCN] vs silver nitrate [$AgNO_3$] is commonly termed as

a. Volhard's method b. Mohr's method

c. Fajan's method d. None of these

(xviii) Which of these is a self-indicator?

a. Potassium permanganate b. Sodium chloride

c. Iodine d. Sodium hydroxide

(xix) Potassium permanganate is used in

a. Non aqueous titration b. Redox titration

c. Acid base titration d. Argentometric titration

(xx) pM indicators are used in

a. Complexometric titration b. Iodometry

c. Cerimetry d. Redox titration

Group – B

(Short Answer Type Questions) 7 x 5 = 35

Answer any *seven* from the following

2. Write a short note on different kind of errors and ways to minimize them. 5
3. Describe the method for preparation and standardization of 1M hydrochloric acid solution. 5
4. Give the definition of Pharmaceutical analysis and write about its scope. 5
5. Explain Ostwald's theory of indicators in acid base titration. 5
6. Explain Quinonoid theory of indicators in acid base titration. 5
7. Write short note on pM indicators. 5
8. Find the pH of a buffer solution containing 0.2 moles per litre CH_3COONa and 0.15 moles per litre CH_3COOH. K_a for acetic acid is 1.8×10^{-5}. 5
9. Differentiate between iodometry and iodimetry. 5
10. What is conductivity water and how it is prepared. 5

Group – C

(Long Answer Type Questions) 2 x 10 = 20

Answer any *two* from the following

11. Describe the preparation and standardization of 0.02M potassium permanganate solution. 10
12. (a) Write about redox indicators. 4
    (b) Explain Fajan's method of Argentometric titration. 6
13. (a) What is Werner's coordination number? 4
    (b) Write a note on masking and demasking agents. 6
