DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY

LONERE – RAIGAD – 402 103

Winter Semester Examination – December – 2018

Branch: B. Pharmacy **Semester: I**

Subject / code: Pharmaceutical Analysis -I (BP 102T) **Marks: 75**

Date: 19/12/2018 **Time: 3 Hours**

Instructions: *i) All questions are compulsory*

ii) Figures to the right indicate full marks

iii) Draw the diagrams or flow charts wherever necessary.

Q. No. 1 Attempt the following multiple choice questions. **(1 X 20=20)**

1. Which one the following compound is assayed by gravimetric analysis

   A) cerric sulphate B) barium sulphate

   C) calcium gluconate D) Benzoic acid

2. Reduction is ----------of electrons.

   A) loss B) gain

   C) removal D) none of these

3. Gram----------of solute dissolved in 1 liter of solvent gives 1 Normal solution

   A) equivalent Weight B) molecular Weight

   C) Mole D) none of this

4. From the following ----------is not a self indicator?

   A) ferroin B) iodine

   C) potassium permangnate D) cerric sulphate

5. Colour of phenolphthalein in alkaline pH is ----------

   A) yellow B) brown

   C) pink D) red

6. PH is given as----------

   A) $pH=Log [H^-]$ B) $pH=-Log_{10} [H^+]$

   C) $pH=1/[H^+]$ D) $pH=-Log_{10} [OH^-]$

7. Drop of mercury in DME acts as----------electrode.

   A) reference B) indicator

   C) hydrogen D) calomel

8. ----------ml of hydrochloric acid is diluted with1 liter of water to make 1M solution.

A) 36.5 B) 85

C) 8.5 D) 3.65

9. ---------- of the following is hexadentate legand.

A) glycine B) ethylene diamine

C) ammonia D) EDTA

10. Solubility of precipitate is----------on addition of common ions.

A) increased B) decreased

C) remains constant D) none of these

11. In volhard's method ----------is used as titrant.

A) potassium chromate B) ferric ammonium sulphate

C) ammonium thiocyanate D) silver nitrare

12. According to Lewis acid is a substance which----------.

A) accept proton B) accept electron pair

C) donate proton D) donate electron pair

13. Benzene is ----------

A) protophilic solvent B) protogenic solvent

C) aprotic solvent D) amphiprotic solvent

14. Potential of standard hydrogen electrode is----------Volt.

A) 0.245 B) 0.385

C) 0.199 D) 0.0

15. ---------- is the requirement of primary standard substances.

A) purity B) stability

C) no water of hydration D) all of these

16. The ---------states that "The rate of chemical reaction is proportional to the active masses of reacting substances".

A) law of mass action B) first law of thermodynamics

C) second law of thermodynamics D) universal law

17. Iodometry deals with titration of ----------in chemical reation.

A) iodine liberated B) standard solution of iodine

C) both A and B D) none of these

18. In Potentiometry, electrode who potential is remains constant is called as ----------.

A) anode B) indicator electrode

C) reference electrode D) inert electrode

19. Current carrying capacity of ions is nothing but----------.

A) voltage B) conductance

C) potential difference D) ampere

20. Ilkovic equation is given by the formula ----------

A) 607 n $CD^{1/2}.m^{2/3}.t^{1/6}$ B) 307 n $CD^{1/2}.m^{2/3}.t^{1/6}$

C) 700 n $CD^{1/2}.m^{2/3}.t^{1/6}$ D) 706 n $CD^{1/2}.m^{2/3}.t^{1/6}$

Q. No. 2 Attempt any two of the following **(10 X 2=20)**

1. Explain principle of Conductometric titration and explain Conductometric titration curve with example for

   i) Strong acid Vs strong base ii) weak acid Vs strong base

   iii) Strong acid Vs weak base iv) weak acid Vs weak base

2. Describe in detail 'Theories of acid base Indicators'.
3. Explain in detail various steps involved in gravimetric analysis.

Q. No. 3 Attempt any seven of the following **(5X 7=35)**

1. Define Errors; explain its types and method of minimizing determinant errors.
2. Explain types of solvents used in non-aqueous titration with suitable examples.
3. How will you prepare i) 0.1N sodium hydroxide ii)0.5 N sodium thiosulphate
4. Explain in detail principle and mechanism of diazotization titrations.
5. Differentiate between Iodimetry & Iodometry.
6. Enlist different methods of precipitation titrations. Explain mohr's method.
7. Explain concept of oxidation & reduction with example.
8. Explain principal & mechanism of metal ion indicators.
9. What is reference electrode? Write construction and working of standard hydrogen electrode.

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