

**PARUL UNIVERSITY**  
**FACULTY OF PHARMACY**  
**B. Pharm. Winter 2018 - 19 Examination**

**Semester: 1**  
**Subject Code: BP102T**  
**Subject Name: Pharmaceutical analysis-1**

**Date: 12/12/2018**  
**Time: 10:00 am to 1:00 pm**  
**Total Marks: 75**

**Instructions:**

1. Figures to the right indicate maximum marks.
2. Make suitable assumptions wherever necessary.

**Q.1 Multiple Choice Questions (MCQs) (1 Mark Each)****(20)**

1. The pH of a solution dependent on...
 

a) Concentration of hydrogen ions	b) Temperature of solution
c) Dissociation of acids	d) All of above
2. The standard potential of hydrogen electrode is...
 

a) 1	b) 0
c) 7	d) 14
3. Potassium chloride salt bridge used for...
 

a) Create junction potential	b) Elimination junction potential
c) Help in equilibrium	d) b and c both
4. Following electrode can be used in the presence of oxidizing and reducing agents.
 

a) Quinhydrone	b) Antimony-Antimony oxide
c) Hydrogen electrode	d) Glass membrane electrode
5. Non aqueous titration can be carried out by
 

a) Potentiometers	b) Conductometry
c) Amperometry	d) none
6. Which point indicates end point in first order derivative graph of potentiometric titration?
 

a) $dmf/dv$ is maximum	b) $dmf/dv$ is minimum
c) $dpH/dv$ is maximum	d) a and c both
7. Following cation has the highest conductivity.
 

a) $NH_4^+$	b) $K^+$
c) $Na^+$	d) $H^+$
8. Migration current is due to..
 

a) Oxidisable ions	b) Reducible ions
c) Impurities	d) Supporting electrolyte
9. Half wave potential and Redox potential are almost....
 

a) Related	b) Inversely proportional
c) Same	d) All
10. Spectrophotometry is which type of analytical method?
 

a) Classical	b) Instrumental
c) a and b both	d) none
11. Aprotic solvents are.
 

a) Basic	b) Acidic
c) Neutral	d) Acidic & Basic properties
12. Bond formed in a complex are the following type
 

a) covalent	b) covalent-coordinate
c) Ionic	d) Hydrogen bond
13. In Polarography observations are measured in..
 

a) Resistance	b) Voltage
c) pH	d) Current
14. pH equivalent to pKa at
 

a) pH 7	b) half neutralization point
c) pH 11	d) pH 14

15. In pH, p refers to  
 a) log of hydrogen ions  
 b) negative log of hydrogen ions  
 c) log of OH ions  
 d) All of above
16. Match the following...
- |                     |                      |
|---------------------|----------------------|
| 1) Nernst equation  | a) Potential         |
| 2) Ilkovic equation | b) Migration current |
|                     | c) Diffusion current |
|                     | d) Conductance       |
17.  $\text{pH} + \text{pOH} =$   
 a) 7  
 b) 14  
 c) 9  
 d) 0
18. In polarography which reaction takes place on metal ion...  
 a) neutralization  
 b) half neutralization  
 c) precipitation  
 d) none of these
19. In gravimetric analysis  $\text{Cl}^-$  is precipitated by  
 a) Chromate solution  
 b) dilute  $\text{HNO}_3 + \text{AgNO}_3$   
 c)  $\text{AgNO}_3$  solution  
 d) concn.  $\text{HNO}_3 + \text{AgNO}_3$
20. SI units of conductance is  
 a) cm  
 b) siemens  
 c) volt  
 d) none of these

**Q.2 Long Answers (any 2 out of 3) (10 Mark Each)**

**(20)**

1. Enlist reference and indicator electrode. Explain with diagram give detail on indicator electrode used in potentiometry titration.
2. Explain types of conductometric titration and explain each titration curve with reaction and graph in detail with examples.
3. Explain types of redox titration and give the difference between Iodometry and Iodimetry

**Q.3 Short Answers (any 7 out of 9) (5 Mark Each)**

**(35)**

1. Explain principle of polarography with polarogram
2. Enlist types of Error and explain how to minimize Error.
3. Explain dropping mercury electrode.
4. Classify the instrumental method of analysis.
5. Explain theories of acid base titration.
6. Explain source and types of impurities.
7. Write a note on masking agent and damasking agent.
8. Classify the complexometric titration
9. Write a note on Volhard's method.