Seat No: _____ Enrollment No: _____

# PARUL UNIVERSITY

## FACULTY OF PHARMACY

### B.Pharm. Summer 2017 - 18 Examination

**Semester: 1** **Date: 31/05/2018**
**Subject Code: BP102T** **Time: 10:00 am to 1:00 pm**
**Subject Name: Pharmaceutical Analysis I** **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. In Argentometric titration, titrant is
   a) Sodium chloride b) Sodium nitrate
   c) Silver chloride d) Silver nitrate
2. 8.5 ml HCl in 1 litre
   a) 0.1 M b) 0.01 M
   c) 0.5 M d) 0.05 M
3. Hydrochloric acid can be standardized by using
   a) Potassium chromate b) Potassium hydrogen phthalate
   c) Sodium benzoate d) Sodium carbonate
4. No. of moles of solute present in one litre of solution is known as
   a) Normality b) Molarity
   c) Formality d) Molality
5. Assay of Ephedrine hydrochloride is based on _____ type of titration.
   a)Aqueous b) Redox
   c)Non aqueous d) Precipiation
6. Water may interfere with non aqueous titration by
   a) acting as strong acid than the weakly acidic drug b) acting as strong base than the weakly basic drug
   c) both d) none
7. Conductivity of ion in solution increases with
   a)Increase in mobility b)Increase in size
   c) Both a and b d) None
8. _____ can be used as primary standard for standardization of NaOH.
   a) Sodium cabonate b) Potassium hydrogen phthalate
   c) Sodium bicabonate d) Potassium dichromate
9. Potentiometer is used to measure
   a) Concentration b) EMF
   c) Temperature d) Conductance
10. Which indicator is used for the estimation of Calcium gluconate
    a) Crystal violet b) Mordant black II
    c) Starch solution d) Phenol red
11. In which of the following titration “oxidation-reduction ‘(Redox) step can be expected
    a) Acid-base titrations b) Cerimetry
    c) Complexometry d) Precipitation titration
12. In Mohr’s method, indicator used is
    a) Potassium chromate b) Phenolphthalein
    c) Methyl red d) Crystal violet
13. Polarisable electrode used in polarography is
    a) Glass electrode b) Calomel electrode
    c) Dropping mercury electrode d) Quinhydrone electrode
14. Qualitative analysis of polarography is based on
    a) Half wave potential b) Electrode potential
    c) Limiting current d) All of above

15. The glass membrane electrode is responsive to____

**(a)** $Mg^{+2}$ b) $H^{+}$

**(c)** $Na^{+}$ d) $Ca^{+2}$

16. Instrumental error is which type of error?

a)Systematic b)Random

c)Both d)None

17. Which of the following is a Primary Standard?

a)$KMnO_4$ b) $I_2$

c) $K_2Cr_2O_7$ d) KI

18. Assay of Sodium chloride is which type of titration?

a) Acid-base b) Complexometry

c)Precipitation d) Redox

19. The process of adding known concentration of reagent solution until it completes the reaction with known volume is called

a) Titrant b) Titration

c) Analysis d) Titrand

20. An acid base titration involves a

a) Neutralization reaction b) Composition reation

c) Single-replacement reaction d) Decomposition reaction

**Q.2 Long Answers (any 2 out of 3) (10 Marks Each)** **(20)**

1. Give different types of redox titrations. Explain iodometry and iodimetry in detail.
2. Describe types of errors and error minimizing methods in detail.
3. Define indicator. Discuss acid-base indicator theories.

**Q.3 Short Answers (any 7 out of 9) (5 Marks Each)** **(35)**

1. Describe principle of Polarography.
2. Classify electrodes involved in potentiometry. Give applications of potentiometry in Analytical chemistry.
3. Derive Henderson- Hesselbalch equation for calculation of pH for buffer solution.
4. Define Co-precipitation. Discuss principle of Gravimetry.
5. Discuss principle of Cerimetry.
6. Discuss construction and working of dropping mercury electrode.
7. Explain Masking and Demasking agents.
8. Explain Conductometric titration involving strong acid and strong base.
9. Discuss principle of Volhard's method.