

**B. Pharm.**  
**First Semester Examination (2008-09)**  
**PHARMACEUTICAL ANALYSIS- I**

**Paper Code: PHAR- 112**  
**M.M-80 marks**

**ID: 5093**  
**Time: 3 hrs.**  
**(1x16=16)**

**Section A**

- Q1. Henderson- Hasselbach equation for acidic buffer is \_\_\_\_\_. (1)  
Q2. Equation for solubility product of AgCl is \_\_\_\_\_. (1)  
Q3. Fluorescein indicator is used in \_\_\_\_\_ titrations. (1)  
Q4. Precipitation occurs when ionic product \_\_\_\_\_ solubility product. (1)  
Q5. When observations are taken on the same day, then precision is known as \_\_\_\_\_. (1)  
Q6. In acidic solution, equivalent weight of  $\text{KMnO}_4$  is \_\_\_\_\_. (1)  
Q7. The pH of aqueous solution of NaCl is \_\_\_\_\_. (1)  
Q8.  $\text{AlCl}_3$  is a lewis \_\_\_\_\_. (1)  
Q9. No. of moles of solute per \_\_\_ g of the solvent is known as molality of the solution. (1)  
Q10. Iodine is readily soluble in aqueous solution containing \_\_\_\_\_. (1)  
Q11. \_\_\_\_\_ is used as washing solution in the gravimetric analysis of Aluminium. (1)  
Q12. All the water of crystallization of  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$  is lost at \_\_\_\_\_  $^\circ\text{C}$ . (1)  
Q13. Match the following (4 x 1)
- |                             |  |
|-----------------------------|--|
| a. Ferric ammonium sulphate | (i) NaCl Vs $\text{AgNO}_3$                      |
| b. Potassium chromate       | (ii) HCl Vs $\text{NH}_4\text{OH}$               |
| c. Phenolphthalein          | (iii) $\text{NH}_4\text{SCN}$ Vs $\text{AgNO}_3$ |
| d. Methyl orange            | (iv) NaOH Vs $\text{CH}_3\text{COOH}$            |

**Section B**

**Note:** Attempt any 6 questions.

**(6x4=24)**

- Q1.** What are methods to reduce systematic errors in Pharmaceutical Analysis?
- Q2.** Define "Law of Mass Action"?
- Q3.** Explain titration of strong acid with alkalis by using titration curves?
- Q4.** What is Colloid? Explain the difference between lyophobic and lyophilic colloids?
- Q5.** Explain gravimetric determination of  $\text{BaSO}_4$ ?
- Q6.** Explain Fajan's method in detail?
- Q7.** Write about Oxidation – Reduction titration curve?
- Q8.** Calculate the ionic strength of these solutions
- |     |                        |
|-----|------------------------|
| (a) | 0.16M $\text{NaClO}_4$ |
| (b) | 0.20M $\text{CuSO}_4$  |

### Section C

**Note:** Attempt any 4 questions.

**(4x10=40)**

**Q1.** 25.0ml of 0.1M HCl is titrated with 0.10M NaOH. Calculate the pH at the

- (a) Start of titration
- (b) After addition of 5.0ml titrant
- (c) After addition of 25.0ml titrant
- (d) After addition of 30.0ml of titrant

**Q2.** Explain the following with suitable examples

- (a) Different type of co-precipitation
- (b) Digestion
- (c) Filtration methods
- (d) Washing of precipitate

**Q3.** (a) Explain common ion effect and ionic product of water?

(6)

(b) Write a note on choice of indicator?

(4)

**Q4.** (a) Write theory of Redox titration?

(5+5)

(b) What are the advantages of Ferric Ammonium Sulphate Over Iodine?

**Q5.** Write notes on (any four)

- (a) Thermogravimetric Curves
- (b) Buffer Solution
- (c) Mixed Indicators
- (d) Henderson – Hasselbach equation.