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Total No. of Pages : 02

Total No. of Questions : 10

**B.Pharma (2011 to 2016) (Sem.-1)**  
**PHARMACEUTICAL ANALYSIS-I**  
Subject Code : BPHM-103  
Paper ID : [D1104]

Time : 3 Hrs.

Max. Marks : 80

**INSTRUCTION TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of FIFTEEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.
3. SECTION-C contains FOUR questions carrying TEN marks each and students has to attempt any THREE questions.

**SECTION-A****1. Answer briefly :**

- a. Define common ion effect and give its relevance.
- b. What are amphoteric substances? Give two examples.
- c. Why is starch added near the end point in thiosulphate titration?
- d. What is co-precipitation?
- e. Calculate the pH of 0.01 M potassium benzoate solution. pKa for benzoic acid is 4.2.
- f. What will be the normality of a 0.05 M solution of potassium permanganate?
- g. Calculate and express the result to correct number of significant figures :  $(100.0 - 10.05) \times 0.020$ .
- h. What is precision and accuracy in an assay?
- i. Give two pharmaceutical applications of precipitation titrations.
- j. Can we use HCl as acidifying agent in potassium permanganate titrations?

- k. Define buffer.
- l. How will you prepare 0.5 N sulphuric acid? Give calculations for the same.
- m. What are adsorption indicators? Where are these used?
- n. What is the difference between iodometry and iodimetry?
- o. What is standard reduction potential and sign convention?

### SECTION-B

- 2. What is Handerson-Hasselbach equation? What is its relevance in buffer preparation?
- 3. Discuss the theory behind the assay of boric acid.
- 4. Explain the titration curve and indicator selection for neutralization of weak acid with sodium hydroxide.
- 5. What are the factors affecting the solubility of precipitates?
- 6. What are potassium iodate titrations? Give their applications.

### SECTION-C

- 7. What is Volhard's method? Discuss the titration conditions, chemical equations and applications of this method.
- 8. How will you prepare 100 mL of 0.1 N sodium thiosulphate solution? Give the chemistry and stoichiometry involved in its standardization. Comment on its storage conditions.
- 9. Distinguish between determinate and indeterminate errors. How can you minimize errors in pharmaceutical analysis?
- 10. a. What is the importance of flocculation and peptization in gravimetry?  
b. Discuss the gravimetric determination of magnesium.