

**PHARMACEUTICAL ANALYSIS****(2012 Scheme)****Time: 3 Hours****Total Marks: 100**

- Answer all Questions.
- Write equations wherever necessary.

**Essay****(3x10=30)**

1. Name the conditions that a reaction must satisfy for being used in a precipitation titration. Explain the applications of precipitation titrations with suitable examples.
2. Classify volumetric methods and briefly explain each method. Explain the method of calibration of a burette
3. Discuss the ionic theory of indicator using phenolphthalein as example. Explain the method of preparation and standardization of 0.1 N Tetra butyl ammonium hydroxide in toluene-methanol.

**Short notes****(14x5=70)**

4. Salt effect in gravimetric analysis with examples.
5. Explain briefly the steps involved in quantitative analysis
6. Explain Bronsted-Lowry and Lewis concept of acids and bases. What are its advantages and limitations.
7. In the titration of 0.1N acetic acid versus 0.1N NaOH, if Litmus (  $pT=7.0$  ) is used as the indicator, what type of error is introduced. State whether litmus is a suitable indicator or not. Justify your answer.
8. Classify and define types of solvents used in non-aqueous titrations
9. Describe the types of complexometric titrations
10. Explain the method of preparation and standardization of standard solution of disodium EDTA
11. applications of masking in complexometric analysis with examples
12. Explain the advantages of dichrometry over permanganometry.
13. Explain the method of preparation and standardization of standard solution of 0.1N potassium dichromate.
14. Explain the conditions for iodometric titrations.
15. The effect of temperature and pH on completeness of precipitation in gravimetric analysis.
16. Describe the Kjeldhal method of nitrogen estimation
17. Method of preparation and standardization of 0.1N sodium nitrite solution

\*\*\*\*\*