



R-014-003105

Seat No. _____

M. P. M. (Sem. I) (CBCS) Examination

January - 2019

BP - 103 : Pharmaceutical Analysis - I

Faculty Code : 014

Subject Code : 003105

Time : 3 Hours]

[Total Marks : 80

- Instructions :**
- (1) Figure to the right indicates marks.
 - (2) Answer the three (03) questions from each section.
 - (3) Question one (01) and question five (05) are compulsory.
 - (4) Draw neat and clean diagrams as required.

SECTION - I

- 1 Answer any seven out of ten : 14**
- (1) Comment on: Comment: Water is levelling solvent for HCl & differentiating solvent for CH₃COOH.
 - (2) Give difference between quality assurance and quality control.
 - (3) Give name of end point determination techniques in precipitation titration. Which types of compounds were estimated by Mohr's method ?
 - (4) Why back titration is necessary in Kjeldahl method for nitrogen estimation ?
 - (5) What is adsorption indicator? Give example of adsorption indicators.
 - (6) What is difference between titration and standardization ?
 - (7) Discuss in brief: External indicator method as end point determination in redox titration.
 - (8) What is spectator ions? Explain with examples.
 - (9) What is back titration? When back titration is required ?
 - (10) What is calibration? Why it required ?
- 2 Answer the following question(s) : 13**
- (1) Which are different methods to determined end point 7
in precipitation titration? Write in detail about mohr's
method as chemical end point determination method.

- (2) Which types of compounds are assayed by non-aqueous titration? Write about different types of solvents used in non-aqueous titration. **6**
- 3** Answer the following question(s). **13**
- (1) Define validation. Enlist different validation parameters. Explain in detail about accuracy and precision. **7**
- (2) What is pharmaceutical analysis? Give its application. **6**
- 4** Answer the following question(s). **13**
- (1) Discuss in details about common ion effect. **7**
- (2) Explain levelling & differentiating effect in non-aqueous titration with example. Write a brief note on Metallochrome indicators. **6**

SECTION - II

- 5** Answer any **two** out of three questions. **14**
- (1) What is ligand? Classify ligand with examples. Write a note on EDTA as a hexadentate ligand.
- (2) Define term error. Discuss different sources of pharmaceutical errors. How it should minimize ?
- (3) What is salt? Explain hydrolysis of salt in detail.
- 6** Answer the following question(s). **13**
- (1) What is Diazotization Titration? Write basic principle and end point determination in diazotization titration. **7**
- (2) Define term indicator. Enlist different theories of indicator. Explain Ostwald theory of indicator. **6**
- 7** Answer the following question(s). **13**
- (1) Define pH and derive Henderson - Hesselbach equation for acid and base. **7**
- (2) Which are different methods for writing oxidation-reduction reaction? Write in detail about electron balance method with example. **6**
- 8** Answer the following question(s). **13**
- (1) What is composition of Karl Fischer reagent ? Write basic principle of Karl Fischer titration. Discuss role of pyridine & anhydrous methanol in KFR. **7**
- (2) What is difference between indicator and self indicator ? Give examples of self indicator. Discuss KMnO_4 as a self indicator in redox titration. **6**