



**JN-1612030701030300** Seat No. \_\_\_\_\_

**Master of Pharmacy Management (Sem. III)  
(CBCS) Examination**

**August / September - 2019**

**Pharmaceutical Analysis - I**

Time : 3 Hours]

[Total Marks : 80

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

**SECTION - I**

- 1 Answer the following question : (Any Seven) 14
- (a) Why drug analysis is important?
  - (b) Why calibrated glassware is to use for analysis?
  - (c) Comment : Calibration and validation both are same.
  - (d) Comment : All types of glassware can be used for analysis.
  - (e) How will you prepare 1N and 1M solution of NaOH?
  - (f) Draw a neutralization curve for strong acid and strong base titration.
  - (g) What is acidimetry and alkalimetry titration?
  - (h) Which type of titrimetric method is used for heavy metal determination?
  - (i) Comment : End point determination is possible without the use of indicator.
  - (j) What is aqueous and non-aqueous titration?
- 2 Answer the following questions :
- (a) What is the significance of calibration? Give advantages of calibration. How will you calibrate pH meter? 7
  - (b) Discuss the role of quality assurance and quality control in pharmaceutical industry. 6

- 3 Answer the following questions :
- (a) What is the principle of volumetric titration? 7  
Discuss primary and secondary standard substances.
- (b) Discuss the Henderson-Hasselbach equation and 6  
give their applicability in volumetric titration.
- 4 Answer the following questions :
- (a) What is redox titration? How they are different from 7  
acid base titration? Discuss with example.
- (b) Write an informative note on : Volhard's method of 6  
titration.

### SECTION - II

- 5 Answer the following questions : (Any Two) 14
- (a) Why standardization is important in titration? How 7  
will you standardize NaOH and  $\text{KmnO}_4$  solution?  
Discuss.
- (b) Write an informative note on : Karl-Fischer titrations.
- (c) What is the difference between back and blank titration? 6  
Why such titration methods are used? Discuss with  
example.
- 6 Answer the following questions :
- (a) Discuss the principle of bromometry and 7  
permanganometry.
- (b) Discuss gravimetry method with example. 6
- 7 Answer the following questions :
- (a) Briefly discuss Mohrs, and Fajans methods of 7  
analysis.
- (b) Write a note on complexometric titrations. 6
- 8 Answer the following questions :
- (a) Differentiate : Iodometry and Iodimetry titration 7  
with example.
- (b) Discuss : Kjeldahl method titrations. 6