



MU-014-1041003

Seat No. _____

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

January - 2018

BP-102T : Pharmaceutical Analysis - I

Faculty Code : 014

Subject Code : 1041003

Time : 3 Hours]

[Total Marks : 75

- Instructions :** (1) Figures to the right indicates marks.
(2) Draw neat and clean diagram as required.

1 Answer the following question : **10×2=20**

- (a) What do you mean by pharmaceutical analysis?
- (b) Define : Normality and Molarity.
- (c) What is electro analytical technique?
- (d) Explain : Standardization of a solution.
- (e) What is chelating agent? Give its pharmaceutical application.
- (f) Enlist different types of volumetric titrations.
- (g) Give the Ilkovic equation for polarographic technique.
- (h) Which titration technique you will use to determine heavy metal impurity in water?
- (i) What is the difference between acidimetry and alkalimetry?
- (j) Why blank reading is required in titration process?

2 Answer any two out of the following questions : **2×10=20**

- (a) Discuss the concept of primary and secondary standard substances? Enlist the characteristics of primary standard substances. Give the name of primary standard substance used for standardization of KMnO_4 , NaOH , $\text{Na}_2\text{S}_2\text{O}_3$ and HCl .

- (b) Explain the term error. How many types of error affecting pharmaceutical analysis? What are the common steps to overcome such error? Discuss with example.
- (c) Explain the term: Titrant, Titer, End point and Indicator. Discuss the theory of acid-base indicator and discuss titration of strong acid and weak base.

3 Answer any seven out the following questions : **7×5=35**

- (a) What is the difference between aqueous and non aqueous titration? Which types of substances are needed to be titrated by non aqueous titration technique?
- (b) Explain the principle of precipitation titration. Discuss briefly about Mohr's and Volhard's method of titration.
- (c) Write a detail note on Pharmacopoeia.
- (d) What is an impurity? Discuss the different source of impurities in drug product.
- (e) What is the principle of complexometric titration? Discuss metal ion indicators.
- (f) Discuss the various steps of gravimetric analytical technique,
- (g) Discuss the principle and applications of redox titrations. What is the difference between iodimetry and iodometry technique?
- (h) Explain the term conductance and potential. What is the difference between conductometric and potentiometric titration? Explain.
- (i) What is polarographic technique? Discuss the principle of dropping mercury electrode.
