J-1612040701040400 Seat No. _____

Master of Pharmacy Management (Sem. IV) (CBCS) Examination

June / July - 2019

Instrumental Analysis-II

Time : **3** Hours] [Total Marks : **80**

nstructions :

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

SECTION – I

1 Answer any **seven** out of **10** : **14**

(a) What is pulse polarography?
(b) Define equivalence conductance.
(c) Define optical rotation and specific rotation.
(d) Define diffusion current, migration current and residual current.
(e) Differentiate Normal phase chromatography & Reverse Phase chromatography
(f) What is resolution ? Give acceptance criteria for resolution.
(g) What is signal to noise ratio?
(h) What is retention time and elution time?
(i) Comment on : If HETP value is low, the efficiency of the column is Higher.
(j) How multiple extraction is benefited to single extraction?

2 (a) Explain various techniques for development of Paper in Paper chromatography. **7**

(b) Explain Plate and Rate theory of chromatographic separation. **6**

3 (a) What is theromogravimetry? Write a short note on TGA. **7**

(b) Write a short note on pH metry. **6**

4 (a) Write a short note on : Conductometric titrations. **7**

(b) Write a short note on polarimetry. **6**

SECTION – II

5 Answer **two** out of **three** : **14**

(a) Explain the principle, methodology and application of thin layer chromatography.

(b) Write s short note on DME and Derive the ilkovic equation.

(c) State and explain Kohlrausch Law. Give its applications. Describe in brief factors affecting electrolytic conductance.

6 (a) Enlist characteristics of an ideal reference electrode used in potentiometry. Give a brief account of various reference electrodes. **7**

(b) What is the difference between DTA and DSC? State the applications of both the above methods. **6**

7 (a) Write short note on oxygen combustion flask method. **7**

(b) What is polarography? Explain the basic principle of Polarography. Explain modification of polarography. **6**

8 (a) What is extraction? Discuss the factor affecting on solvent extraction. **7**

(b) Partition coefficient is 4 in ether/H_20 system, compare the efficiency of extraction of 10 ml aqueous solution of compound with, **6**

a) 40 ml portion of ether

b) 2 times 20 ml portion of ether

c) 4 times 10 ml portion of ether.

Give the comment