



DI-M-2011115

Seat No. _____

M. Pharm. (Sem. II) Examination

April / May – 2015

Modern Analytical Techniques - II

Time : 3 Hours]

[Total Marks : 80

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

SECTION - I

- 1** Any Seven out of eight : **14**
- (a) Define Immunoassay.
 - (b) Which are the stationary phase materials used in ion exchange Chromatography?
 - (c) Enlist the application of thin layer Chromatography.
 - (d) Define isoelectric focussing.
 - (e) Give the application of affinity Chromatography.
 - (f) Enlist the Application of X-ray Diffraction Methods.
 - (g) Enumerate the factor affecting DSC.
 - (h) What is difference between MEIA & CIMA in immunoassay? (any two)
- 2** Answer the following :
- (a) Discuss instrumentation and Pharmaceutical Application of DSC. **8**
 - (b) Differentiate between TGA & DTA. **5**

- 3** Answer the following :
- (a) Briefly Describe X-ray diffraction methods. **8**
- (b) Describe briefly types of ELISA. **5**
- 4** Answer the following :
- (a) Discuss the ion pair chromatography in detail. **8**
- (b) Enlist the types of electrophoresis and discuss the instrumentation involved in Capillary zone electrophoresis. **5**

SECTION - II

- 5** Any two out of three : **14**
- (a) Define super critical fluid chromatography and discuss its Elements.
- (b) Give the fundamental principle and application of ORD.
- (c) Describe the instrumentation of HPTLC.
- 6** Answer the following :
- (a) Enlist interfaces of LC-MS discuss two in detail. **8**
- (b) Briefly discuss the size exclusion chromatography. **5**
- 7** Answer the following :
- (a) Discuss in briefly : Theory of gas chromatography. **8**
- (b) Enlist GC-MS interfaces and discuss in two in detail. **5**
- 8** Answer the following :
- (a) Discuss the following term (any four) **8**
- HETP
 - Retention factor(k)
 - Resolution(R_S)
 - Peak volume
 - Tailing factor
- (b) Discuss in detail : Procedure and application of RIA. **5**