

Total No. of Questions : 6]

SEAT No. :

P3184

[Total No. of Pages : 3

[5245]- 803

Final Year B. Pharmacy (Semester - VIII)

PHARMACEUTICAL ANALYSIS - VI

(2013 Pattern)

Time : 3 Hours]

[Max. Marks :70

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Neat labeled diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*

SECTION - I

Q1) Answer the following (any one)

[10]

What is chemical shift? Elaborate the factors affecting chemical shift.

OR

Discuss the principle involved in Proton NMR and the instrumentation of conventional 300 MHz NMR instrument.

Q2) Answer the following (Any Five) :

[15]

- a) Differentiate between acetone and acetaldehyde by ^1H NMR.
- b) Relaxation mechanisms in proton NMR.
- c) Discuss the peak area integration method in Proton NMR.
- d) Internal standards in ^1H -NMR spectroscopy.
- e) Significance of coupling constant 'J'.
- f) How will you detect keto-enol conversion using proton NMR?
- g) Rules governing multiplicity of ^1H NMR spectra.

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Q3) Write short Note on (Any Two) : **[10]**

- a) ESR
- b) Shielding and Deshielding
- c) Classify Ion Exchange Resin.
- d) Capillary electrophoresis

SECTION - II

Q4) Answer the following (Any one) **[10]**

Elaborate different system suitability parameters with their respective formula.

OR

Explain principle of Mass spectroscopy. Discuss TOF and Quadrupole mass analyzers.

Q5) Answer the following (Any Five) : **[15]**

- a) Internal standardization technique for quantification in column chromatography.
- b) Draw neat and well labelled diagram of single focusing mass spectrometer
- c) Define generation of metastable ion in field free region.
- d) Resolution in mass spectroscopy
- e) Isocratic Vs Gradient elution
- f) Nitrogen rule in mass spectrometry
- g) Discuss the advantages of UPLC over HPLC.

Q6) Write short Note on (Any Two) :

[10]

- a) Applications of HPLC
- b) Fast Atom Bombardment (FAB) in mass spectrometry.
- c) Chemical ionization in mass spectrometry.
- d) Discuss principle of double focusing mass analyzer.

