Rajiv Gandhi University of Health Sciences

First Year M. Pharm Degree Examination – NOV 2016

[Time: 3 Hours] [Max. Marks: 100]

Modern Pharmaceutical Analysis

(Revised Scheme 4)

Q.P. CODE: 9336

Your answers should be specific to the questions asked.
Draw neat, labeled diagrams wherever necessary.

LONG ESSAY (Answer any TWO) **2 X 20 = 40 Marks**

1. What is chemical shift? Explain types of chemical shift giving suitable examples. Add a note on coupling constant.
2. Describe instrumentation of HPLC. Add a note on Van Deemter equation and explain the terms involved in it. (12+8)
3. What are analyzers? Write construction and working of Quadrupole Analyzer and TOF Analyzer. Add a note on types of peaks in mass spectra.

SHORT ESSAY (Answer any FIVE) **5 X 10 = 50 Marks**

4. Explain the principle and write the equations used in simultaneous determination of two compounds by UV spectroscopic method.
5. Explain the working principle of FT-IR with neat labeled diagram of interferometer.
6. Write a note on (I) Octant rule and (ii) Isotachophoresis.
7. Define and derive an equation for Bragg's law and brief note on Bravis Lattice.
8. What are open tubular columns in GC? Note on differential scanning calorimetry.
9. Write characteristic vibrational frequencies in the Infrared Spectrum, peak positions in ^{1}H-nmr spectrum (δ) with split patterns and structures of typical fragments (with m/e values) in mass spectrum for the organic compound "phenyl acetic acid'.

SHORT NOTES **2 X 5 = 10 Marks**

10. What is Student 'T' Test? Write its significance.
11. Explain the need for ethics in Animal experimentation.

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