



**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. Define and derive an equation for Bragg's law. Explain the general rule for fragmentation pattern in mass spectrometry. (8+12)
2. Write a detailed note on interaction of UV-visible radiation with organic compounds. Explain the theory and factors affecting electrophoresis. (8+12)
3. Define chemical shift. Outline with a neat sketch about NMR instrumentation. Explain about FT-NMR.

**SHORT ESSAY (Answer any FIVE)**

**5 X 10 = 50 Marks**

4. Write in detail about the instrumentation of HPTLC.
5. Explain interpretation of any five organic functional group by IR.
6. Write in detail about the detectors and derivatisation techniques in GC.
7. Discuss the phenomena of Circular Dichroism. Write a brief note on differential scanning calorimetry.
8. Explain efficiency parameters of HPLC. How they are calculated from a chromatogram?
9. Discuss various ionization techniques used in mass spectroscopy.

**SHORT NOTES**

**2 X 5 = 10 Marks**

10. Note on Text citation and Bibliography writing
11. Student T-test with relevant example

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