

**Rajiv Gandhi University of Health Sciences**  
**First Year M. Pharm Degree Examination – May 2012**

[Time: 3 Hours]

[Max. Marks: 100]

**MODERN PHARMACEUTICAL ANALYSIS**

**(RS 2 & RS 3)**

**Q.P. CODE: 9201**

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

**LONG ESSAY (Answer any TWO)**

**2 X 20 = 40 Marks**

1. With the help of a neat diagram explain the components of a double beam uv-visible spectrophotometer. Discuss the applications of uv-visible spectroscopy in pharmacy
2. Discuss the fragmentation types in mass spectrometry with suitable examples. write detailed notes on 'Molecular ion' 'metastable ion'
3. Elaborate the principle and theory behind IR spectroscopy. Write an essay on radiation source, monochromators and detectors used in IR spectroscopy

**SHORT ESSAY (Answer any FIVE)**

**5 X 10 = 50 Marks**

4. Explain the phenomena of optical rotatory dispersion and circular dichroism
5. Describe the following (i) FAB-MS and (ii) MALDI-MS
6. Write notes on various techniques used in visualization of spots in TLC with example
7. What is the principle involved in gas chromatography and what are its applications
8. Explain 'Isoelectric Focusing' and 'Immunoelectrophoresis'
9. Discuss  $^{13}\text{C}$ -NMR spectroscopy and its applications

**SHORT NOTES**

**2 X 5 = 10 Marks**

10. What is the principle of X-ray diffraction method
11. Write notes on chi-square test

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