

Rajiv Gandhi University of Health Sciences, Karnataka
First Semester M. Pharm Degree Examination - 07-May-2025

Time: Three Hours

Max. Marks: 75 Marks

Modern Pharmaceutical Analytical Techniques

Q.P. CODE: 5101

Your answers should be specific to the questions asked.

Draw neat, labeled diagrams wherever necessary.

Answer All The Questions

10 X 7.5 = 75 Marks

1. Explain the vibrational transitions of IR spectroscopy and briefly outline the instrumentation of FTIR.
2. Explain the principle of NMR spectroscopy. Describe the various factors affecting chemical shift with suitable examples.
3. Describe the theory of mass spectrometry and explain different ionization techniques used in MS.
4. Discuss the different columns and sample injection techniques in GC. Explain any one detectors used in GC.
5. Explain the principle, instrumentation and applications of atomic absorption spectroscopy.
6. What is principle of C^{13} NMR? Why FT - NMR used for obtaining C^{13} NMR? Explain different modes of C^{13} NMR.
7. Define Chromatography. Discuss the principle and application of affinity chromatography.
8. Give an account of continuous paper and isoelectric focusing electrophoresis techniques.
9. Define and derive an equation for Bragg's law. Enlist the applications of X-ray diffraction technique.
10. Enlist the various types of Ion's formed in Mass spectroscopy. Discuss the rules of Mass fragmentation.

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