Rajiv Gandhi University of Health Sciences, Karnataka

First Semester M. Pharm Degree Examination - 29-May-2024

[Time: 3 Hours] **[Max. Marks: 75]**

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 different parts of NMR Spectrometer with a neat schematic diagram. Add a note on NMR applications.
2. Discuss the principle of Mass Spectroscopy. Explain the construction and working of Quadrupole and Time of Flight Analysers in MS.
3. Explain the different parts of HPLC with a neat diagram.
4. State BEER and Lambert's Law. Discuss the different electronic transitions that occur in UV region.
5. Explain briefly the instrumentation and applications of AAS.
6. Discuss the derivatization techniques used in Gas Chromatography and HPLC.
7. Define and derive Bragg's law. Enlist the application of X-ray diffraction techniques.
8. Define chemical shift. Explain the various factors affecting chemical shifts.
9. Explain the principle concept involved in affinity and Ion Exchange chromatography.
10. Describe the principle and theory of electrophoresis. Write down the application of Gel electrophoresis.

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