

Rajiv Gandhi University of Health Sciences, Karnataka

First Semester M. Pharm Degree Examination - 03-Nov-2023

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. State and explain Beer-Lamberts law and add a note on deviations from its applicability. Discuss about different types of electronic transitions in organic compounds
2. Compare the instrumentation and working of dispersive and Fourier transform IR spectrometers. Write the advantages and disadvantages of the two techniques
3. Write the principles of atomic absorption spectroscopy. List some metals that can be analyzed by AAS and explain about the interferences
4. **Explain the following**
 - a) **Chemical shift**
 - b) **Spin-spin coupling**
 - c) **Nuclear magnetic double resonance**
 - d) **Write a note on FT-NMR**
5. What is fragmentation? Explain the following by taking a simple example
 - a) Fragmentation peaks
 - b) Molecular ion peak
 - c) Base peak
 - d) Isotopic peaks
 - e) Meta stable peaks
6. Describe the instrumentation and working of HPLC with a neat labeled diagram
7. Explain the various stationary and mobile phases used in GC
8. State and explain Bragg's law. Explain rotating crystal technique used in x-ray diffractions studies
9. Explain the principle and working procedure of paper electrophoresis technique
10. Explain the theory and applications of Fluorimetry

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