



*(Signature)*

Total No. of Questions : 14 ]

BP 701 T

[ Total No. of Pages : 01

**IV/IV B. PHARMACY (Regular) EXAMINATIONS, NOV/DEC - 2022**  
**Seventh Semester**

**INSTRUMENTAL METHODS OF ANALYSIS - THEORY**

Time : Three Hours

Maximum : 75 Marks

**SECTION - A**

Answer any FIVE Questions.

5x10 = 50 M

1. Write a detailed note on different types of detectors used in UV-visible spectroscopy.
2. Explain the principle, instrumentation, interferences and applications of Flame photometer.
3. Discuss the factor affecting electrophoretic mobility and give a brief account on paper electrophoresis.
4. Describe the instrumentation of High Performance Liquid Chromatography.
5. Give an account on Gel Chromatography.
6. Discuss the sample handling techniques in IR Spectroscopy and add a note on applications of IR Spectroscopy.
7. Explain Quenching and factors affecting Fluorescence.

**SECTION - B**

Answer any FIVE Questions.

5x5 = 25 M

8. Give a brief outline on methodology and applications of Thin Layer Chromatography.
9. Write a note on solvent effect on absorption spectra in UV Visible Spectroscopy.
10. Explain the principle involved in Nepheloturbidometry and outline its instrumentation.
11. Write the advantages, disadvantages and applications of Absorption and Partition column chromatography.
12. Give an account on Sample injection systems used in Gas Chromatography.
13. Describe the methodology of Ion exchange chromatography.
14. Enumerate the applications of High Performance Liquid Chromatography.



Total No. of Questions : 14 ]

BP 701 T

[ Total No. of Pages : 01

IV/IV B. PHARMACY DEGREE EXAMINATIONS, JUNE / JULY -2022

Seventh Semester

**INSTRUMENTAL METHODS OF ANALYSIS - THEORY**

Time : Three Hours

Maximum : 75 Marks

**SECTION - A**

Answer any FIVE Questions.

5x5 = 25 M

1. Explain the terms Chromophore and Auxochrome and add a note on Beer and Lambert's law with derivations and deviations.
2. Discuss fundamental modes of vibration in Polyatomic molecules and factors affecting vibrations.
3. Discuss the principle, methodology and various development techniques in Paper Chromatography.
4. Write a note on detectors and temperature programming used in Gas Chromatography.
5. Classify Ion exchange resins and discuss the mechanism of Ion exchange process and applications of Ion exchange chromatography.
6. Discuss the concepts of singlet, doublet and triplet electronic states and applications of Fluorimetry.
7. Define electrophoresis and discuss capillary electrophoresis with applications.

**SECTION - B**

Answer any FIVE Questions.

5x10 = 50 M

8. Write a note on sources of radiation and sample cells used in UV-Visible Spectroscopy.
9. Give an account on applications of Gas Chromatography.
10. Briefly outline the instrumentation of Atomic absorption spectroscopy.
11. Explain Golay cell and Pyroelectric detector used in IR Spectroscopy.
12. Write a short note on Affinity Chromatography.
13. Describe the applications of thin layer chromatography and column chromatography.
14. Describe various types of pumps and columns used in High Performance Liquid Chromatography (HPLC).