

B PHARM
(SEM VII) THEORY EXAMINATION 2022-23
INSTRUMENTAL METHODS OF ANALYSIS

Time: 3 Hours**Total Marks: 75****Note:** Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt all questions in brief. 10 x 2 = 20

- (a) Define chromophores with examples.
- (b) Differentiate between normal phase and reverse phase chromatography.
- (c) Name the different types of vibrational modes observed in IR Spectrum.
- (d) Define gradient elution.
- (e) Define the principle of Affinity Chromatography.
- (f) Name the different types of ion exchangers.
- (g) Define Eddy diffusion.
- (h) Enlist the types of chemical shift.
- (i) Enlist application of Thin Layer Chromatography.
- (j) Define the applications of derivatization in Gas Chromatography.

SECTION B

2. Attempt any twoparts of the following: 2 x 10 = 20

- (a) Explain the instrumentation of UV-Visible Spectrophotometer along with a well labelled diagram. Write its applications in pharmaceutical industry.
- (b) Explain the sampling techniques and types of detectors used in IR Spectroscopy.
- (c) Discuss the principle and instrumentation of Gas Chromatography.

SECTION C

3. Attempt any fiveparts of the following: 5 x 7 = 35

- (a) Explain Lambert-Beer's law and its applications.
- (b) Explain the instrumentation of flame photometry with a well labeled diagram.
- (c) Explain the principle of Nepheloturbidimetry and its applications.
- (d) Explain the instrumentation of Atomic Absorption Spectrometry.
- (e) Discuss the principle and applications of Partition Column Chromatography.
- (f) Explain principle and instrumentation of Fluorimetry.
- (g) Explain the types of Paper Chromatography techniques.