QP Code: 721006 **Reg. No……**

Seventh Semester B. Pharm Degree Supplementary Examinations
January 2025
Instrumental Methods of Analysis
(2017 Scheme)

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

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space***
- ***Answer all parts of a single question together • Leave sufficient space between answers***
- ***Draw diagrams wherever necessary***

Essays **(2x10=20)**

1. a) What are the types of electronic transitions observed when an organic molecule absorbs UV light.
   b) Explain the effect of solvent in Absorption Spectroscopy. (5+5)
2. a) Explain the modes of vibrations when a molecule interacts with IR radiations.
   b) Write a note on factors affecting vibrations. (5+5)

Short Notes **(7x5=35)**

3. Limitations and deviations of Beer-Lamberts Law.
4. Explain the theory of Fluorescence with energy level diagram.
5. Write a note on flame temperatures and Nebulisation in Flame photometry.
6. Write the Principle and applications involved in Nepheloturbidimetry.
7. Explain the principle and working of solute property detectors used in HPLC.
8. Write about the derivatization methods in Gas Chromatography.
9. Explain about wet packing and dry packing of the Column chromatography.

Answer Briefly **(10x2=20)**

10. What is Hollow cathode lamp and explain its importance in Atomic absorption spectroscopy.
11. Name the detecting methods used in Paper Chromatography.
12. List the types of silica gel used in TLC with their applications.
13. Applications of Column chromatography.
14. Principle involved in ion exchange chromatography.
15. Explain the principle of Paper electrophoresis.
16. Define Bathochromic and Hypsochromic shift.
17. Why two filters are used in Fluorimetry.
18. Write a note on functional group and finger print region in an IR spectrum.
19. Enumerate the applications of Affinity chromatography.

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