

QP Code: 721006

Reg. No.....

**Seventh Semester B. Pharm Degree Supplementary Examinations
December 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. Write a note on rate theory of chromatography
2. What is multicomponent UV-Visible spectrometric analysis. Explain the principle of any two methods

Short Notes

(7x5=35)

3. Explain the solvent effect on UV-Visible spectrum with suitable examples
4. Explain the principle and working of Golay cell
5. Explain the principle and instrumentation of flame photometry
6. What are R_f , R_x and H_{Rf} values in Thin Layer Chromatography
7. List and explain the factors affecting electrophoretic mobility of a macro molecule
8. Explain the working of any one bulk property detector in High Performance Liquid Chromatography
9. What is affinity chromatography. How does it work

Answer Briefly

(10x2=20)

10. Define λ_{max}
11. Classify fluorescence quenching phenomenon
12. List the factors affecting Infra-Red vibrations
13. Differentiate between isocratic elution and gradient elution
14. Name any two differences between nephelometer and turbidimeter
15. Name any two stationary phases used in adsorption chromatography
16. Name one developmental technique which can be used in paper chromatography, but not in thin layer chromatography
17. Name any two support phases used in Gas Chromatography columns
18. List any two pharmaceutical applications of Ion Exchange Chromatography
19. What is gel chromatography. Explain its applications
