

QP Code: 721006

Reg. No.....

**Seventh Semester B. Pharm Degree Regular Examinations
October 2021
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. Explain the different vibrational modes of molecules. With a neat diagram explain the instrumentation of IR spectrophotometer.
2. Discuss the different pumping device, flow control system, sample port and columns employed in HPLC.

Short Notes

(7x5=35)

3. Describe the construction of hollow cathode lamp used in atomic absorption spectroscopy.
4. Describe the construction and working of a photo multiplier tube.
5. What is the chromatography media used in gel filtration. What are the considerations when choosing a gel filtration chromatography media.
6. Explain how affinity chromatography helps in quantification and analysis of proteins.
7. Discuss the underlying principle of capillary electrophoresis.
8. Outline the various steps in the preparation of TLC plates in the laboratory.
9. Explain the mechanism of ion exchange as applied to chromatography.

Answer Briefly

(10x2=20)

10. Retention time and retention volume.
11. Distinguish between isocratic and gradient elution.
12. Distinguish between hypso chromic and hyper chromic shift.
13. Quenching of fluorescence
14. What are the grades of paper used in Paper Chromatography.
15. List out four gases commonly used as carrier gas in Gas Chromatography.
16. Distinguish between group frequency region and finger print region.
17. State Beer-Lambert's Law.
18. List out four sources of radiation useful for UV Spectroscopy.
19. List out the four electronic transitions.
