

NIRMA UNIVERSITY
Institute of Pharmacy

(B. Pharm)
(Semester - VII)

L	T	P	C
-	-	4	2

Course Code	BP705P
Course Title	Instrumental Methods of Analysis – Practical

Course Learning Outcomes (CLO):

After successful completion of the course student will be able to-

1. Perform quantitative & qualitative analysis of drugs using spectroscopic techniques.
2. Perform quantitative & qualitative analysis of drugs using chromatographic techniques.
3. Detect the compounds like amino acids, sugars and plant pigments by chromatographic techniques

4 Hours/Week

1. Determination of absorption maxima and effect of solvents on absorption maxima of organic compounds
2. Estimation of dextrose by colorimetry
3. Estimation of sulfanilamide by colorimetry
4. Simultaneous estimation of ibuprofen and paracetamol by UV spectroscopy
5. Assay of paracetamol by UV- Spectrophotometry
6. Estimation of quinine sulfate by fluorimetry
7. Study of quenching of fluorescence
8. Determination of sodium by flame photometry
9. Determination of potassium by flame photometry
10. Determination of chlorides and sulphates by nepheloturbidometry
11. Separation of amino acids by paper chromatography
12. Separation of sugars by thin layer chromatography
13. Separation of plant pigments by column chromatography
14. Demonstration experiment on HPLC
15. Demonstration experiment on Gas Chromatography

Suggested Readings[^]: (Latest edition)

1. Sharma, B. K. Instrumental methods of chemical analysis. Krishna Prakashan Media.
2. Sharma, Y. R. Elementary organic spectroscopy. S. Chand Publishing.
3. Connors, K. A. A textbook of pharmaceutical analysis. John Wiley & Sons.
4. Vogel, A. I., & Jeffery, G. H. Vogel's textbook of quantitative chemical analysis. Wiley.

5. Beckett, A. H., & Stenlake, J. B. (Eds.). Practical Pharmaceutical Chemistry: Part I & II. A&C Black.
6. Finar, I. L. Organic Chemistry. Wiley.
7. Kemp, W. Qualitative organic analysis: spectrochemical techniques. McGraw-Hill Book Co Ltd.
8. Garratt, D. C. The quantitative analysis of drugs. Springer Science & Business Media.
9. Sethi, P. D. Quantitative analysis of drugs in pharmaceutical formulations. Unique Publishers.
10. Silverstein, R. M., Bassler, G. C., & Morrill, T. C. Spectrometric Identification of Organic Compounds, John Wiley & Sons. Inc., New York.

L= Lecture, T= Tutorial, P= Practical, C= Credit

^ this is not an exhaustive list
