

Course Code					Analytical Chemistry I					
Teaching Scheme					Examination Scheme					
L	T	P	C	Hrs/Week	Theory			Practical		Total Marks
					MS	ES	IA	LW	LE/Viva	
0	0	3	1.5	3	25	50	25	25	25	100

COURSE OBJECTIVES

- 1 Learning the basic experimental techniques in the laboratory for multifarious analytical techniques
- 2 Gaining experimental knowledge to determine of %age purity of given inorganic sample and organic pharmaceutical samples
- 3 Analysis of the quality of waste water by analytical techniques
- 4 Estimation of inorganic ions by solvent extraction technique and EDTA titrations
- 5 Separation of mixture of organic content by thin layer chromatography

1. Determination of sodium carbonate and sodium bicarbonate in washing soda.
2. Determination of available chlorine in bleaching powder.
3. Determination of %age purity of given sample of Isoniacid.
4. Determination of sulphate in water sample.
5. Determination of %age purity of given sample of Analgin tablet.
6. Determination of %age of Asprin in the given tablet.
7. Determination of saponification value of oil.
8. Determination of iodine value of oil.
9. Determination of iron by chloride extraction by solvent extraction process.
10. Determination of chemical oxygen demand.
11. Simultaneous estimation of chromium (III) and iron (III) by EDTA titration.
12. Separation of aminoacids/ dyes/ drugs by TLC.

COURSE OUTCOMES

On completion of the course, student will be able to

CO1 – Student will get an insight into the laboratory technique for the various analytical techniques

CO2 - Student will learn the experimental analytical technique to determine % purity of desired compound present in the given raw material.

CO3 - Student will acquire the knowledge of determination of chemical oxygen demand in the given sample of waste water.

CO4 – Students will gain experience in determining the inorganic content by solvent extraction technique and EDTA titrations

CO5 - Students will be able separate given organic mixture TLC technique.

TEXT/REFERENCE BOOKS

1. Analytical Chemistry Practice, John H. Kennedy, Saunders College Publishing, Second Edition 1990.
2. Vogels Textbook of Quantitative Chemical Analysis, 6th Edition, 2002.

3. Comprehensive Experimental Chemistry; V. K. Ahluwalia, New Age Publications, 1997
4. Analytical Chemistry: Theory and Practice; R. M. Varma, CBS Publishers, 1994
5. A. K. Nad, B. Mahapatra & A. Ghosal, An Advanced Course in Practical Chemistry, New Central, 2007. Vogel's Text Book of Practical Organic Chemistry (5th Edn).

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max. Marks: 100

Laboratory work including maintaining journal book+ mid-sem viva (LW)

End-sem exam and viva (LE/Viva)

Exam Duration: 3 Hrs

50 Marks

50 Marks