

17BSC201P					Chemistry II					
Teaching Scheme					Examination Scheme					
L	T	P	C	Hrs/Week	Theory			Practical		Total Marks
					MS	ES	IA	LW	LE/Viva	
0	0	2	1	2	--	--	--	--	100	100

COURSE OBJECTIVES

- To enhance and develop scientific and analytical skills.
- To relate concepts learned in chemistry and engineering to the real-world situations.
- To acquire skills to perform laboratory experiments.
- To demonstrate safe and proper use of standard chemistry glassware and equipment.

LIST OF EXPERIMENTS

1. Purification of organic compounds by crystallization using the following solvents: Water/Alcohol.
2. Determination of the melting points of above compounds and unknown organic compounds electrically heated melting point apparatus).
3. To determine the λ_{\max} and concentration of given unknown potassium permanganate using UV-Visible Spectroscopy technique.
4. To separate, by gas chromatographic techniques, a mixture of the four isomeric alcohols and to determine the percentage of each an unknown mixture.
5. To separate mixture of organic compounds by chromatotron.
6. To prepare aspirin by conventional, microwave and sonochemical method.
7. To determine the strength of given HCl solution using a standard NaOH solution by pH-metric titration.
8. To determine the strength of given HCl solution using a standard NaOH solution by potentiometric titration.
9. Conductometric titration of acid and base.
10. To study the kinetics of decomposition of sodium thiosulphate by a mineral acid.
11. To measure the optical rotation of various dilutions of sucrose by polarimetry, and calculate the specific rotation of sucrose from the data obtained.
12. To prepare pure sample of Iodoform .
13. To prepare a sample of p-Nitroacetanilide from acetanilide.
14. To purify a given sample of phthalic acid by sublimation.
15. Estimation of NH_4Cl and NH_3 in the polluted water sample.

COURSE OUTCOMES

On completion of the course, student will be able to

CO1– Apply the concepts learned in chemistry and engineering to the real-world situations.

CO2– Identify, analyse and interpret the results from the experiments

CO3– Determine the concentration of unknown solutions by Spectrophotometric method.

CO4– Synthesize organic compounds with knowledge of organic reactions.

CO5– Investigate reaction mechanism and predict the order and rate constants.

CO6– Demonstrate safe and proper use of standard chemistry glassware and equipment

TEXT/REFERENCE BOOKS

1. Mendham, J., A. I. Vogel's *Quantitative Chemical Analysis* 6th Ed., Pearson, 2009.
2. Atkins, P. W. & Paula, J. de Atkin's *Physical Chemistry* 10th Ed., Oxford University>

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max. Marks: 100

Part A: Practical Examination

Exam Duration: 3 Hrs

100 Marks

