

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)

ACCREDITED BY NAAC WITH A++ GRADE

DEPARTMENT OF CHEMISTRY**SYLLABUS FOR B E I / II SEMESTERS****CHEMISTRY LAB**

Instruction : 2 Hrs / week	Semester End Exam Marks : 50	Subject Reference Code : U26BS011CH
Credits : 1	Continuous Internal Exam Marks : 30	Duration of semester End Exam : 3 Hours

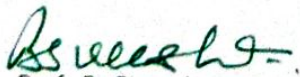
COURSE OBJECTIVES:	COURSE OUTCOMES:
The course will enable the students to:	At the end of the course, students should be able to:
1. Promote adherence to laboratory safety precautions and ethical scientific practices 2. Describe the quantitative analytical techniques 3. Learn the skills to handle the instruments 4. Apply the theoretical principles in experiments	1. Estimate the amount of metal ions in the given solutions. 2. Analyze the hardness, alkalinity and chloride content of a given water sample. 3. Determine the concentration of a given solution by conductometry, potentiometry and pH metry. 4. Use the principle of colorimetry in the estimation of Permanganate / Copper (II) in a given solution.

CO-PO MAPPING FOR CHEMISTRY LAB												
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1	3	2	-	-	-	-	-	-	2	-	-	1
2	3	2	-	-	-	-	-	-	2	-	-	1
3	3	2	-	-	-	-	-	-	2	-	-	1
4	3	2	-	-	-	-	-	-	2	-	-	1

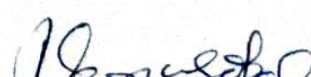
1. Preparation of standard FAS or oxalic acid solution and standardization of KMnO_4 or NaOH solution.
2. Estimation of Iron(II) in the given solution by permanganometry.
3. Estimation of chromium(VI) in the given solution by standardized FAS.
4. Estimation of copper(II) in given solution by Iodometry.
5. Estimation of total hardness of given water sample.
6. Estimation of alkalinity of a given sample.
7. Conductometric acid-base titrations -Determination of strength of given acids (HCl Vs NaOH and CH_3COOH Vs NaOH).
8. Conductometric acid-base titrations- Determination of strength of acids in a given mixture of acids (HCl and CH_3COOH Vs NaOH)
9. Determination of strength of a given acid by Potentiometry.
10. Determination of concentration of a given FeSO_4 using redox titration by Potentiometry.
11. Determination of strength of a given acid by pH metry.
12. Determination of strength of permanganate or copper by Colorimetry.

Text Books:

1. G H Jeffery, J Bassett, J Mendham, R C Denney, Vogel's text book of quantitative chemical analysis, Fifth Edition.
2. M S Kaurav, Engineering chemistry with laboratory experiments, PHI learning (P) ltd, New Delhi.
3. Sunita rattan, Experiments in applied chemistry, S K Kataria & Sons (2010)
4. A text book on experiments and calculation Engg. S.S. Dara.


Prof. B. Sireesha


Prof. B. Mahipal Reddy


Dr. P. Venugopal