EC-154	CHEMISTRY LAB	L	T	P	C
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COURSE OBJECTIVES:

1. To learn the concepts of equivalent weight, molecular weight, normality, molarity, weight percent, volume percent.
2. To know the methods of determining hardness, alkalinity, chloride ion content of water sample and available chlorine in bleaching powder(iodometry)
3. To learn the redox methods to determine Fe(II) ions present in solution.
4. To know principles and methods involved in using instruments like conductivity bridge and potentiometer.

COURSE OUTCOMES:

After successful completion of the course, the students will be able to

1. demonstrate the normality, molarity, molecular weight, equivalent weight, oxidizing agent, reducing agent.
2. develop solutions with different concentrations.
3. analyze water for its hardness, alkalinity, chloride ion content, available chlorine in bleaching powder.
4. Explain the principles behind the development of instruments suitable for chemical analysis.

List of Experiments:

1. Determination of total alkalinity of water sample
   a. Standardization of HCl solution b. Determination of alkalinity of water
2. Determination of purity of washing soda
   a. Standardization of HCl solution b. Determination of percentage purity of washing soda
3. Estimation of Chlorides in water sample
   a. Standardization of $AgNO_3$ solution b. Estimation of Chlorides in water
4. Determination of Total Hardness of water sample
   a. Standardization of EDTA solution b. Determination of Total Hardness of water
5. Estimation of Mohr's salt - Permanganometry
   a. Standardization of $KMnO_4$ solution b. Estimation of Mohr's salt
6. Estimation of Mohr's salt - Dichrometry
   a. Standardization of $K_2Cr_2O_7$ solution b. Estimation of Mohr's salt
7. Determination of available chlorine in bleaching powder
   a. Standardization of Hypo b. Determination of available chlorine in bleaching powder
8. Estimation of Magnesium
   a. Standardization of EDTA solution b. Estimation of Magnesium
9. Conductometric titration of an acid vs base
10. Potentiometric titrations: Ferrous Salt vs Dichromate

Demonstration Experiments:

11. pH metric titrations of an acid vs base
12. Spectrophotometry: Estimation of Mn/Fe

Note: A minimum of 10(Ten) experiments have to be performed and recorded by the candidate to attain eligibility for Semester End Practical Examination.