Engineering Chemistry (R15)

COURSE OUTCOMES SEMESTER I

At the end of the course students are able to

1. Apply the various processes of treatment of water for both industrial and domestic purpose.
2. Understand the operating principles and the reaction mechanisms of batteries and fuel cells.
3. Apply their knowledge for the protection of different metals from corrosion.
4. Identify and formulate polymers and have knowledge of their engineering applications.
5. Understand the various applications of advanced engineering materials.

List of experiments

(Any six experiments out of the following ten experiments should be performed)

1. Fundamentals of volumetric analysis: Determination of Strength of an Acid (HCl)
2. Estimation of Ferrous ion (ii) by Dichrometry
3. Estimation of HCl by conductometry using standard NaOH solution.
4. . Estimation of HCl by Potentiometry using standard NaOH solution
5. Determination of Viscosity of sample oil by redwood/ Oswald's viscometer
6. Determination of Surface Tension of lubricants.
7. Estimation of copper by colorimetric method.
8. Determination Of Strength Of Acid By pH metry
9. Determination sOf carbon residue / flash-point and fire point of lubricants
10. Determination Of cloud point and pour point of lubricants

COURSE OUTCOMES SEMESTER II

At the end of the course students are able to

1. Understand the operating principles and the reaction mechanisms of batteries and fuel cells.
2. Apply their knowledge for the protection of different metals from corrosion.
3. Apply the concept of adsorption in various industries
4. Apply the knowledge of fuels and lubricants in industry.
5. Understand the various applications of advanced engineering materials.

List of experiments

(Any six experiments out of the following ten experiments should be performed)

1. Determination of Strength of Acid by Volumetric Analysis
2. Estimation of Ferrous ion (ii) by Dichrometry
3. Estimation of Hardness of Water by EDTA Method
4. Estimation of Alkalinity of water
5. Estimation of Chlorides in Water
6. Estimation of copper by colorimetric method
7. Conductometric Titration of strong acid V/s strong base
8. Titration of strong acid V/s strong base by Potentiometry
9. Determination of Viscosity of sample oil by redwood/ Oswald's viscometer
10. Determination of Surface Tension of lubricants.