

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT
ENGG. CHEMISTRY – IV

SEMESTER –IV

TEACHING SCHEME	L=3; P/D=2; TA=0
EXAMINATION SCHEME	Theory = 3hours; Marks= 100
PRACTICAL / DRAWING	Internal evaluation Marks: 20 External evaluation Marks: 30 Total Marks: 50

THEORY:

1. General metallurgy
2. Chemistry of Beryllium, Lithium, Thorium, Tungsten, Uranium, Platinum and Molybdenum
3. Study of the Lanthanides La (37) to Lu (71)
4. Theory of Electrolytic Dissociation, strong and weak electrolytes, Ostwald's dilution law, Buffer capacity, ionic activity and activity coefficient, theory of strong electrolyte (Debye Onsager theory).
5. Electrical conductance, conductance of electrolyte, specific, equivalent, and molecular conductance, cell constant, transport numbers, Kohlrausch's law and its applications, Electro analysis and Coulometry.
6. Equilibrium electrode potentials, classification of electrodes, types of electrochemical systems (Electrochemical cells).
7. Classification of polarization, voltametry and polarography, decomposition potential and over voltage, all types of electro-metric methods.
8. Introduction, classification, preparations, properties and chemical constitutions of Glucose and Fructose, Extraction of Sucrose from Cane Juice, Starch and cellulose.
9. Introduction to alkaloids: Extraction of alkaloids, study of conine, piperine and nicotine.
10. Types of polymerizations, elastomers, natural and synthetic rubber, vulcanization and compounding, Mechanism of Addition & Condensation polymerization.
11. Introduction, composition, classification and isolation of proteins, qualitative tests of proteins. Classification of amino acids and their synthesis.
12. Synthesis of drugs antiseptics, halogens, halogenated compounds, antimalarials, quinoline derivatives, antibacterials, sulpha drugs.

REFERENCES:

- I P. L. Soni, Text book of Inorganic Chemistry.
- II P. L. Soni, Text book of Organic Chemistry.
- III L. Antropov, Theoretical Electrochemistry.
- IV Bhal and Tull, Text Book of physical chemistry.
- V Cotton & Wilkinson, Advanced in organic chemistry, inter science.