

# GUJARAT TECHNOLOGICAL UNIVERSITY

B.E Semester: 3

Bio-Technology

Subject Code 130404

Subject Name ORGANIC CHEMISTRY AND UNIT PROCESSES

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Sr.No	Course content
1.	Organic reactions and their Mechanism. Types of bond, hybridization, Types of reactions, and their mechanism.
2.	Stereochemistry: Stereochemistry of compounds having two asymmetric carbon atoms. Walden inversion etc.
3.	Carboxylic acid & Carbohydrates.
4.	Metallurgical processes and Metals : Principles involved in concern of ores. extraction, refining and physical-chemical properties of Iron, Steel. Ti, Al, Cu, Th, Uranium, Ni, Zn, and Ind. Application.
5.	Various unit processes in detail such as Nitration, Halogenation, Sulfonation.
6.	Various unit processes in detail such as Oxidation, Alkylation, Hydrolysis, Amination, Amination by Aminolysis etc.

## PRACTICAL & TERMWORK

1. Identification of organic compounds.
2. Estimation of organic compounds
3. Determination of saponification, Iodine, acid and ester value.
4. Determination of Equivalent weight of an organic acid.
5. Separation and purification of Binary organic mixtures.
6. Preparations of some organic compounds
  - 1) Acetanilide
  - 2) Dinitro benzene
  - 3) Azo dye etc.
7. Volumetric analysis : Preparation of standard solution. Acid base, Oxi-red.,
8. Determination of Fe, Ni, and Cu, analysis of Iron-alloy.
9. Preparation: a) Chrome-alum b) Potash-alum c) Micro-cosmic salt d) Cuprous chloride etc.

### **Reference Books:**

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|--|---|-------------------------|
| 1. Organic Chemistry Vol. I & II       | : | by I. L. Finar          |
| 2. Organic Chemistry                   | : | Hendra son and Hamannnd |
| 3. Advanced Organic chemistry          | : | by Jerry March          |
| 4. Organic Chemistry                   | : | by P. L. Soni           |
| 5. Advanced Inorganic Chemistry        | : | by Cotton & Wilkinson   |
| 6. Inorganic Chemistry                 | : | by Gilrith              |
| 7. Inorganic Chemistry                 | : | by P. L. Soni           |
| 8. Unit processes in Organic synthesis | : | by P.H.Groggins         |