

GUJARAT TECHNOLOGICAL UNIVERSITY

B.E Semester: III Plastic Technology

Subject Code **132302**
Subject Name **Manufacturing of Plastic Materials-1**

Sr.No	Course Contents
1	Industrial Methods of Polymerization like Bulk, solution, suspension and Emulsion.
2	Layout and arrangement of Polymer plant.
3	Stereochemistry of Polymers
4	Feedstock of Polymers: Naphtha-liquefied petroleum gas-ethylene-propylene-cracking of naphtha-urea-ammonia etc.
5	Monomer production for polymers: Manufacturing processes for Acrylonitrile-ethylene-propylene-styrene-butadiene-vinyl chloride-cellulose-acetate used to produce thermoplasts & Thermosets.
6	Thermosets • Methods of manufacturing- properties, curing characteristic and applications of unsaturated polyesters. Phenol formaldehyde resin-urea formaldehyde resin-melamine formaldehyde resin. • Methods of manufacturing-properties curing characteristic and applications of epoxies-diglycidylether of bisphenol-A resins, epoxy-novalacs, cycloaliphatic epoxies • Methods of Manufacturing, properties, curing characteristic and applications of thermoset polyurathenes.

Reference Books:

1. Plastic Materials; J.A.Brydson
2. Polymer Science; Gowarikar
3. Unit process in organic synthesis; P.H.Groggins
4. Polymer material science; J.M.Schultz
5. An introduction to polymer physics: I.I.Perepects.