

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E.in Rubber Engineering

Semester: I

Subject Name: **Rubber Cultivation & Rubber Lattices**

Subject Code: **714003**

Sr. No	Course Content
1.	Latex Production Methods from Rubber Tree: Reinforced on Quotes on Rubber Tree, Life Span of Latex Rubber Trees, Latex Seed Germination, Grafting the Rubber Tree, Latex Tree Extraction, Tapping the Rubber Tree for it Sap, Collection, history of Yield of latex in different countries, Pests and diseases, Irrigation requirement of rubber trees, Effect of various covers on soil fertility under Hevea brasiliensis muell. Arg. and on growth of the tree.
2.	Natural Lattices: Cultivation, Cultivation of Species Other Than Hevea Brasiliensis, Allergic reactions preservation, concentration, constitution, biogenesis of poly isoprenes and other naturally occurring lattices etc.
3.	Synthetic Lattices: Ggeneral principles of production: introduction, emulsion polymerization reaction, preparation of functionalize lattices by emulsion co-polymersation, agglomeration and concentration
4.	Individual types of synthetic Lattices: Introduction, lattices of styrene-butadiene copolymers, acrylonitrile- butadiene copolymers, polychloroprene rubber lattices, vinylacetate polymer and copolymers, polyacrylates and polymethyl acrylates esters: acrylic lattices, vinylchloride-vinylidene chloride copolymers, functionalized synthetic lattices, etc.
5.	Artificial Lattices: Introduction, effect of latex particle size on rate of creaming or sedimentation, methods of production, types, etc.
6.	Prevulcanized Chemically modified Lattices: Introduction, sulphur prevulcanization, organic and hydrogen peroxide prevulcanization, radiation prevulcanization, prevulcanization of SBR, NBR and butyl rubber lattices.
7.	Other than prevulcanized Chemically modified Lattices: Introduction, epoxidation, graft-copolymerization, cis-trans isomerization, cyclization, halogenation, hydro halogenation, halogen alkylation, depolymerization and oxidation, inter penetrating polymer networks, modifications at surface of latex particles.

Note: Practical's based on above topics

Text Book:

1. Polymer Latices by D C Blackley, volume 2 Chapman and Hall

Reference Book:

1. Rubber & Rubber Planting by R.H.Lock