

GUJARAT TECHNOLOGICAL UNIVERSITY

B.E Semester: 4

Environmental Science & Engineering

Subject Code 141303

Subject Name : Chemical Engineering Processes

Sr No	Course content
1.	Nitrification : Manufacturing process of Nitric Acid, process flow diagram, Sources of pollution, health & safety .
2.	Amination by Reduction Aniline:- Manufacturing process ,process flow diagram ,Sources of pollution, health & safety.
3.	Halogenation Monochloroacetic Acid, Ethylene Chloro hydrin, Vinyl Chloride:- Manufacturing process ,process flow diagram ,Sources of pollution, health & safety.
4.	Sulfonation and sulfation. Ethanol from Ethylene:- Manufacturing process ,process flow diagram ,Sources of pollution, health & safety.
5.	Amination by ammonolysis. Hydrogen cyanide and Urea:- Manufacturing process ,process flow diagram ,Sources of
6.	Oxidation:- Acetic Acid:- Manufacturing process ,process flow diagram ,Sources of pollution, health & safety.
7.	Hydrogenation:- Hydrogenation of cotton seed oil:- Manufacturing process ,process flow diagram ,Sources of pollution, health & safety. Methanol from carbon monoxide and hydrogen.
8.	Esterification:- Ethyl Acetate, Vinyl Acetate and Cellulose Acetate:-Manufacturing process ,process flow diagram ,Sources of pollution, health & safety.
9.	Hydrolysis:- Furfural, Ethanol and Phenol:- Manufacturing process ,process flow diagram ,Sources of pollution, health & safety.

REFERENCE BOOKS:

- 1) Unit Processes and Organic Synthesis by P.H.Groggins
- 2) Chemical Engineering Processes by Dryden
- 3) Chemical Plant Technology by Shreeves