

GUJARAT TECHNOLOGICAL UNIVERSITY

ENVIRONMENTAL ENGINEERING

B.E Semester: 4

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.

REFERENCEBOOKS:

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