

CH206 UNIT PROCESSES

Credits: 4 (L = 4, P = 0)

(Pre-requisite: None)

Course Details:

Detail 1:

Review of unit processes such as nitration, sulfonation, sulfation, oxidation, hydrogenation, esterification and hydroprocesses. Study of unit processes such as alkylation, de-hydrogenation, hydrolysis and Fischer Tropsch synthesis.

Detail 2:

Process equipment for nitration, halogenation, sulfonation, sulfation, vapour phase oxidation and hydrogenation processes.

Catalysis:

Homogeneous and heterogeneous catalysis; phase transfer catalysis. Industrial processes and mechanisms based on catalysis, such as catalytic cracking, thermal cracking and hydro forming.

Polymerisation processes:

Types of polymerisation processes. Process equipment for polycondensation processes; factors controlling the processes. Brief review of polymers manufactured by polycondensation processes

Basic theory of gas-solid, gas-liquid, liquid-solid and liquid-liquid reactions.

Electrochemical processes:

Equipment used and factors controlling the products such as alkali metals, alkalies, hydrogen peroxide, potassium permanganate, aluminium.

Biochemical processes:

Mechanisms, equipment and industrial practices such as manufacture of alcohols and antibiotics

Reference Books:

Chemical Process Industries:

Tata McGraw Hill

George T Austin

Unit Processes in Organic Synthesis:

McGraw Hill

P H Groggins

Organic Chemistry:

Prentice Hall of India

Morrison and Boyd