

Que.-1 What is crystallization? Describe the method of super saturation. Write a short note on agitated tank crystallizer with neat sketch.(14)

OR

Que.-1 Discuss packed column and spray column absorber with neat sketch.(14)

Que.-2 Introduced mixing as unit operation. Which kinds of impellers are used in mixing operation?(14)

OR

Que.-2 Why size reduction is important in any industry? Sketch gyrotary crusher with its construction and working.(14)

Que.-3 Discuss mechanism of amination. Give industrial production of aniline with flow sheet diagram.(14)

OR

Que.-3 What are sulphonating agents? Describe production of ethanol from ethylene process.(14)

Que.-4 Define hydrogenation. Give mechanism of hydrogenation. Describe hydrogenation of oil with flow sheet diagram.(14)

OR

Que.-4 Give thermodynamic and kinetics of halogenations reaction. Explain industrial production of chlorobenzene.(14)

Que.-5 What is hydrolysis and hydrolyzing agent? Give industrial production of methanol with flow sheet diagram.(14)

OR

Que.-5 Classify alkylation with example. Give industrial production of ethyl benzene with neat sketch.(14)