

2.7 40128 UNIT OPERATIONS

UNIT-1 UNIT OPERATIONS IN CHEMICAL ENGINEERING

- 1.1 Introduction,
- 1.2 Unit systems Dimensional analysis

UNIT-2 MECHANICAL OPERATION

- 2.1 Sedimentation,
- 2.2 Settling, Filtration,
- 2.3 Membrane filtration, mixing

UNIT-3 HEAT TRANSFER OPERATIONS:

- 3.1 Conduction,
- 3.2 Convection Radiation,
- 3.3 Evaporation

UNIT-4 MASS TRANSFER OPERATIONS:

- 4.1 Diffusion,
- 4.2 Distillation,
- 4.3 Extraction, Crystallization,
- 4.4 Absorption, Adsorption & Desorption, Drying

UNIT-5 MOMENTUM TRANSFER OPERATION:

- 5.1 Introduction,
- 5.2 Fluid flow,
- 5.3 Fluid pumping and metering

UNIT-6 INDUSTRIAL AND PRODUCTION MANAGEMENT

- 6.1 Concepts of management and organization, Key functional areas of organization,
- 6.2 Process, Process control, yields, Mass balance, productivity, Quality,
- 6.3 Importance of quality management system, Material management-inventory control,
- 6.4 Manufacturing costs and control, Basics of lean manufacturing

Reference Books:

1. Unit Operations I by K A Gavahne
2. Unit Operations II by K A Gavahne
3. Fluid Mechanics By R. K. Bansal
4. Fluid Mechanics by Kurmi
5. Chemical Engg by Coulson & Richardson.
6. Principles of Unit Operations by Alan S Foust, L A Wenzel, Cus.Clump, L Maus and L B Anderson (John Wiley & Sons)