

AMCH10 MASS TRANSFER OPERATIONS-I

UNIT-1 PRINCIPLES OF DIFFUSION AND MASS TRANSFER BETWEEN PHASES

- 1.1 Theory of Diffusion,
- 1.2 Prediction of Diffusivities,
- 1.3 Mass-Transfer theories Mass-
- 1.4 Transfer theories,
- 1.5 Mass-Transfer Coefficients

UNIT-2 GAS ABSORPTION

- 2.1 Packings and Packed Tower Design, Principles of Absorption,
- 2.2 Absorption Rich Gases, Mass Transfer Correlation,
- 2.3 Absorption with Chemical Reaction.

UNIT-3 HUMIDIFICATION OPERATIONS

- 3.1 Definitions, Humidity Charts,
- 3.2 Wet-bulb Temperature, Cooling Towers.

UNIT-4 EQUILIBRIUM STAGE OPERATIONS

- 4.1 Equipment for Stage Contacts,
- 4.2 Principles of Stage Processes Equilibrium Stage Calculations for Multicomponent Systems.

UNIT-5 DISTILLATION

- 5.1 Flash distillation,
- 5.2 Continuous distillation with reflux,
- 5.3 McCabe - Thiele Method,
- 5.4 Distillation in Packed Columns, Batch distillation.

Reference Books:

1. Diffusion: Mass Transfer in Fluid Systems” by E L Cussler
2. Separation Process Engineering” by P C Wankat