

AMCH7 INTRODUCTION TO PROCESS CALCULATION AND FLOWSHEETING

UNIT-1 MATERIAL BALANCES

- 1.1 The Material Balance,
- 1.2 Program of Analysis of Material Balance Problem,
- 1.3 Solving Material Balance Problem that Do not Involve Chemical reactions,
- 1.4 Solving Material Balance Problem that Involve Chemical reactions,
- 1.5 Solving Material Balance Problems Involving Multiple Subsystems,
- 1.6 Recycle, Bypass, and Purge Calculations

UNIT-2 GASES, VAPORS, LIQUIDS AND SOLIDS

- 2.1 Vapour Pressure and Liquids,
- 2.2 Saturation, Vapour
- 2.3 Liquid Equilibria for Multicomponent Systems,
- 2.4 Partial Saturation and Humidity,
- 2.5 Material Balances Involving Condensation and Vaporization Supplementary References.

UNIT-3 ENERGY BALANCES

- 3.1 Concepts and Units,
- 3.2 Calculation of Enthalpy changes,
- 3.3 Applications of the General Energy Balance Without Reaction occurring,
- 3.4 Energy Balances that Account for Chemical Reaction,
- 3.5 Humidity Charts and Their Use,
- 3.6 Supplementary References, Problems

UNIT-4 SOLVING SIMULTANEOUS MATERIAL AND ENERGY BALANCE

- 4.1 Analyzing the Degree of Freedom in a Steady-State Process,
- 4.2 Solving Material and Energy Balance Using Flow sheeting Codes,
- 4.3 Supplementary References,
- 4.4 Problems

Reference Books:

1. Process Flowsheeting Paperback – Import, 9 June 2011 by A. W. Westerberg (Author), H. P. Hutchison (Author), R. L. Motard (Author)
2. Introduction to Process Calculations Paperback – 1 January 2016 by K A Gavhane (Author)