

PCE51102 PROCESS EQUIPMENT DESIGN

Following books are allowed in the examination:

1. *Joshi's Process Equipment Design, 5th ed. by VVMahajani and S B Umarji, Trinity Press.*
2. *Coulson and Richardson's Chemical Engineering: Chemical Engineering Design, Vol. 6, 2nd ed. by J M Coulson and J F Richardson, Editor – R K Sinnott, Butterworth-Heinemann.*

Module I:

Design of pressure vessels and storage tanks, rotary dryers, isothermal reactors.

Module II:

Detailed process design of Heat Exchangers: Concentric tube, Shell and tube types, Condensers: Condenser coolers and desuperheater condensers for single vapour only. Evaporators: Single and multieffects.

Module III:

Packed towers: For binary systems without reactions.

Distillation columns: For binary mixtures along with tray hydraulics.

Text Books:

1. *Process Heat Transfer by D Q Kern, McGraw-Hill.*
2. *Mass Transfer Operations by R E Treybal, McGraw Hill.*

Reference Books:

1. *Perry's Chemical Engineers' Handbook, 8th ed. by D W Green and R H Perry, McGraw-Hill.*
2. *Unit Operations of Chemical Engineering, 7th ed. by W L McCabe, J C Smith, and P Harriott, McGraw-Hill.*