ASSIGNMENT- BINARY DISTILLATION

1. Assuming CMO, derive following for distillation process using tray column :
    a. Operating line for stripping section
    b. Operating line for rectifying section
    c. Equation for feed line
2. Define q in feed line. Provide value of q and for different state of feed.
3. Graphically represent following along with equilibrium line as per McCabe Thiele method
    a. Operating line for stripping section
    b. Operating line for rectifying section
    c. Feed line for different state of feed
    d. Operating line of rectifying section for the limiting case (i) Total reflux (ii) minimum reflux

4. Derive the following equation related to Raleigh Distillation:

$$\ln \frac{F x_F}{W x_W} = \alpha \ln \frac{F(1 - x_F)}{W(1 - x_W)}$$

5. Derive Fenske equation stating all the applicable conditions
6. Solve following worked out problems of the text
    book: a. 7.10
    b. 7.15
    c. 7.16