Assignment 10

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

Due on 2020-04-06, 23:59 IST.

1. For obtaining a given separation in distillation column, the minimum number of theoretical stages is obtained with
   - total reflux
   - minimum reflux ratio
   - optimum reflux ratio
   - zero reflux ratio

   No, the answer is incorrect.
   Score: 0
   Accepted Answer:
   total reflux

   2 points

2. Fenske equation determines the
   - optimum reflux ratio
   - maximum number of ideal plates
   - weight of the distillation column
   - minimum number of theoretical plates

   No, the answer is incorrect.
   Score: 0
   Accepted Answer:
   minimum number of theoretical plates

   2 points

3. Ideal distillation columns are designed for reflux ratio between
   - 0.5 to 3.75 times Rm/Rn
   - 2.3 to 3 times Rm/Rn
   - 1.2 to 1.5 times Rm/Rn
   - 3.5 to 5 times Rm/Rn

   No, the answer is incorrect.
   Score: 0
   Accepted Answer:
   7.2 to 1.5 times Rm

   2 points

   - entropy
   - enthalpy
   - flow rate
   - number of theoretical stages

   No, the answer is incorrect.
   Score: 0
   Accepted Answer:
   activity

   2 points

5. In a distillation operation, the heat removed in condenser
   - remains unaffected with change in reflux ratio
   - increases with increase in reflux ratio
   - decreases with increase in reflux ratio
   - none of the above

   No, the answer is incorrect.
   Score: 0
   Accepted Answer:
   increases with increase in reflux ratio

   2 points

6. A binary distillation column is operating with a mixed feed containing 30 mol% vapour. If the feed quality is changed to 50 mol% vapour, the change in the slope of the q-line is
   - 2.0
   - 3.0
   - 4.0
   - 5.0

   No, the answer is incorrect.
   Score: 0
   Accepted Answer:
   5.0

   2 points

7. A binary distillation column is to be designed using McCabe – Thiele method. The distillate contains 96% of the more volatile component. The point of intersection of the equilibrium curve is (0.8, 0.7). The minimum reflux ratio (rounded off to the first decimal place) for this operation is ________

   No, the answer is incorrect.
   Score: 0
   Accepted Answer:
   Type: Range 0.8, 0.9

   2 points

8. A continuous distillation column is to separate a mixture of 70 mole % water and 30 mole % methanol into a top product containing 95 mole % methanol and a bottom product containing 2 mole % methanol. For a reflux ratio of 4 to 1 calculate the number of theoretical plates required.

   No, the answer is incorrect.
   Score: 0
   Accepted Answer:
   Type: Range 4, 6

   2 points