

X

NPTEL

reviewer3@nptel.iitm.ac.in ▼

Courses » Upstream LNG Technology

Announcements **Course** Ask a Question Progress Mentor FAQ

Unit 6 - Week 5

Course outline

How to access the portal

Week 1

Week 2

Week 3

Week 4

Week 5

- Lecture 29 : Equilibrium vapour-liquid separation
- Lecture 30 : Equilibrium in multicomponent systems
- Lecture 31 : Separation by distillation
- Lecture 32 : Design of distillation column
- Lecture 33 : Equilibrium fluid solid separation
- Lecture 34 : Membrane separation in

Week 5 Assignment 5

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment. **Due on 2018-09-12, 23:59 IST.**

1) Which of the following condition is satisfied for a saturated vapor **1 point**

- a) $\sum K_i x_i < 1$ and $\sum (y_i/K_i) > 1$
- b) $\sum K_i x_i > 1$ and $\sum (y_i/K_i) = 1$
- c) $\sum K_i x_i > 1$ and $\sum (y_i/K_i) < 1$
- d) $\sum K_i x_i = 1$ and $\sum (y_i/K_i) > 1$

No, the answer is incorrect.

Score: 0

Accepted Answers:

- b) $\sum K_i x_i > 1$ and $\sum (y_i/K_i) = 1$

2) For systems obeying Raoult's law, relative volatility depends only on **1 point**

- a) Temperature
- b) Pressure
- c) Liquid composition
- d) Vapor composition

No, the answer is incorrect.

Score: 0

Accepted Answers:

- a) *Temperature*

3) Which of the following statements does not hold for flash vaporization? **1 point**

- a) It is rapid vaporization of a saturated liquid mixture by lowering its pressure and/or heating

© 2014 NPTEL - Privacy & Terms - Honor Code - FAQs -



A project of



NPTEL

National Programme on
Technology Enhanced Learning

In association with

NASSCOM

Funded by

<input type="radio"/> Feedback for Week 5
Week 6
Week 7
Week 8
Week 9
Week 10
Week 11
Week 12
Download Videos
Assignment Solution
Interactive Session with Students

No, the answer is incorrect.
Score: 0

Accepted Answers:
c) It enriches the liquid with more volatile components, leaving the vapor with less volatile components, thereby causing separation.

4) Which of the following components of distillation column does not add to number of stages? **1 point**

- a) Total condenser
- b) Partial condenser
- c) Partial reboiler
- d) None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
a) Total condenser

5) Which of the following is not part of a typical distillation operation? **1 point**

- a) Reboiler
- b) Compressor
- c) Condenser
- d) Reflux drum

No, the answer is incorrect.
Score: 0

Accepted Answers:
b) Compressor

6) Adsorption separation is favored at **1 point**

- a) High pressure and high temperature
- b) Low pressure and high temperature
- c) Low pressure and low temperature
- d) High pressure and low temperature

No, the answer is incorrect.
Score: 0

Accepted Answers:
d) High pressure and low temperature

7) Which of the following polymeric membranes is not used for carbon dioxide removal **1 point**

- a) Polyimide
- b) Cellulose acetate
- c) Polysulfone
- d) Silicone rubber

No, the answer is incorrect.
Score: 0

Accepted Answers:
d) Silicone rubber

8) A mixture would separate into liquid and vapor phases at a given temperature and pressure **1 point**
if

- a) $\sum_{i=1}^C K_i z_{F_i} > 1$ and $\sum_{i=1}^C \frac{z_{F_i}}{K_i} > 1$
- b) $\sum_{i=1}^C K_i z_{F_i} < 1$ and $\sum_{i=1}^C \frac{z_{F_i}}{K_i} > 1$
- c) $\sum_{i=1}^C K_i z_{F_i} > 1$ and $\sum_{i=1}^C \frac{z_{F_i}}{K_i} < 1$
- d) $\sum_{i=1}^C K_i z_{F_i} < 1$ and $\sum_{i=1}^C \frac{z_{F_i}}{K_i} < 1$

No, the answer is incorrect.

Score: 0

Accepted Answers:

a) $\sum_{i=1}^C K_i z_{F_i} > 1$ and $\sum_{i=1}^C \frac{z_{F_i}}{K_i} > 1$

9) The basis of distillation separation is

1 point

- a) Difference in the solubility of the components
- b) Difference in the diffusivity of the components
- c) Difference in the volatility of the components
- d) Difference in the viscosity of the components

No, the answer is incorrect.

Score: 0

Accepted Answers:

c) Difference in the volatility of the components

10) Which among the following is NOT true regarding a stage?

1 point

- a) Vapor and liquid are separated mechanically
- b) Vapor and liquid are brought into intimate contact with each other
- c) It need not be a single device
- d) Number of stages must be a whole number.

No, the answer is incorrect.

Score: 0

Accepted Answers:

d) Number of stages must be a whole number.

Previous Page

End

