X

Unit 10 - Week 9

Week 9 : Assignment 9

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment. **Due on 2018-10-03, 23:59 IST.**

1) Cavitation damages the impeller and casing walls of a turbomachinery. Cavitation occurs due to ***1 point***

- a) Formation of vapor bubbles (cavities) due to reduction of liquid pressure below the vapor pressure of the liquid
- b) Formation of vapor bubbles (cavities) due to increase in liquid pressure above the vapor pressure of the liquid
- c) Presence of contaminants in the fluid
- d) Presence of dissolved salts in the fluid

No, the answer is incorrect.
Score: 0

Accepted Answers:
a) Formation of vapor bubbles (cavities) due to reduction of liquid pressure below the vapor pressure of liquid

2) The requirement for avoiding cavitation is ***1 point***

- a) NPSHA > NPSHR
- b) NPSHA = NPSHR
- c) NPSHA < NPSHR
- d) NPSHA <= 1.5 NPSHR

No, the answer is incorrect.
Score: 0

Accepted Answers:
a) NPSHA > NPSHR

3) Which among the following is NOT true for positive displacement pumps ***1 point***

No, the answer is incorrect.
Score: 0

Accepted Answers:
d) Provides higher discharge than centrifugal pumps

4) Which of the following does not belong to the same group of pumps? ***1 point***

- a) Radial pump
- b) Gear pump
- c) Axial flow pump
- d) Mixed flow pump

No, the answer is incorrect.
Score: 0

Accepted Answers:
b) Gear pump

5) With increase in the pumping capacity for a radial centrifugal pump, ***1 point***

- a) Head first increases and then decreases
- b) Efficiency first increases and then decreases
- c) Brake horse power first decreases and then increases
- d) Head tends to decrease continuously.

No, the answer is incorrect.
Score: 0

Accepted Answers:
b) Efficiency first increases and then decreases
d) Head tends to decrease continuously.

6) ***1 point***

Use the following statements for the solution of questions 6, 7 and 8.

100 kmol/hr of a saturated liquid feed containing 30 mole % benzene (1) [B.P. 80°C], 30 mole % toluene (2) [B.P. 110.6°C] and 40 mole % ethylbenzene (3) [B.P. 136°C] is to be fractionated in a distillation column to recover 98 % of the benzene at the top ($f_{1,D}$)and 94 % of the toluene in the bottom product ($f_{2,W}$).

The column pressure is essentially atmospheric, and the reflux returned to the tower is at its bubble point.

The average relative volatilities are:
$\alpha_{12} = 2.4 \quad \alpha_{32} = 0.48$
The minimum number of trays(N_{min})found using the Fenske equation is about

- a) 15.24
- b) 7.588
- c) 2.35
- d) 4.25

No, the answer is incorrect.
Score: 0

Accepted Answers:
b) 7.588

7) The fraction of ethylbenzene removed at the bottoms ($f_{3,W}$) is about ***1 point***

- a) 0.99975
- b) 0.54625
- c) 0.21458

d) 1.25468

No, the answer is incorrect.
Score: 0

Accepted Answers:
a) 0.99975

8) The minimum reflux ratio (R_{min}) found using the Underwood equation is about **1 point**

a) 10.20
b) 1.56
c) 2.75
d) 0.25

No, the answer is incorrect.
Score: 0

Accepted Answers:
b) 1.56

9) Out of the following natural gas liquid separation methods, which is based on the difference in densities of impurities? **1 point**

a) Filtration
b) Centrifugal separation
c) Electrostatic precipitation
d) Supersonic separation

No, the answer is incorrect.
Score: 0

Accepted Answers:
b) Centrifugal separation

10) Separation efficiency of gas-liquid separator depends on **1 point**

a) Gas velocity
b) Liquid velocity
c) Foaming characteristics of the liquid
d) All of the above.

No, the answer is incorrect.
Score: 0

Accepted Answers:
d) All of the above.

Previous Page End