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Unit 9 - Week 8

Week 8 Assignment 8

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment. **Due on 2018-09-26, 23:59 IST.**

1) Which among the following is a radioactive trace component found in natural gas? ***1 point***

- a) Mercury
- b) Uranium
- c) Helium
- d) Radon

No, the answer is incorrect.
Score: 0

Accepted Answers:
d) Radon

2) The more the HTU, the ***1 point***

- a) Taller the column
- b) Shorter the column
- c) More the NTU
- d) Easier the separation

No, the answer is incorrect.
Score: 0

Accepted Answers:
a) Taller the column

3) The extent of difficulty in separation due to approach to equilibrium in a packed column is given by ***1 point***

- a) NTU
- b) Height of the column

a) NTU

4) Which among the following is NOT a desired property of a solvent in absorption **1 point**

- a) Low viscosity
- b) High volatility
- c) High solubility
- d) Low flammability

No, the answer is incorrect.
Score: 0

Accepted Answers:
b) High volatility

5) Heavy key (HK) components are **1 point**

- a) Less volatile of the key components
- b) More volatile of the key components
- c) Components lighter than the low key components
- d) None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
a) Less volatile of the key components

6) The number of stages (n) required to compress a natural gas from 75.947 to 4569 kPa (gauge) with a compression ratio (CR) of 3:1 for each stage is **1 point**

- a) 4
- b) 2
- c) 5
- d) 3

No, the answer is incorrect.
Score: 0

Accepted Answers:
d) 3

7) The molar mass of a natural gas (M) is 20 g/mol, while the ratio of heat capacities (γ) is 1.15. If the compressor is 100% efficient, reversible work required to compress the natural gas mixture from 61.947 to 448.685 kPa (gauge) isothermally (w_s) with an initial temperature (T_1) of 300 K is **1 point**

- a) −1514.0 kJ/kg
- b) −151.4 kJ/kg
- c) −121.8 kJ/kg
- d) −256.4 kJ/kg

No, the answer is incorrect.
Score: 0

Accepted Answers:
b) −151.4 kJ/kg

8) **1 point**

Claus process for sulfur recovery involves following two steps

a) Vapor phase combustion of H_2S followed by catalytic conversion to elemental sulfur.
b) Catalytic conversion to elemental sulfur followed by vapor phase combustion of H_2S.
c) Liquid phase combustion of H_2S followed by catalytic conversion to elemental sulfur.
d) Catalytic conversion to elemental sulfur followed by liquid phase combustion of H_2S.

- a)
- b)
- c)
- d)

No, the answer is incorrect.
Score: 0

Accepted Answers:
a)

9) Straight-through Claus process is generally used for ***1 point***

a) H_2S content > 55 %.
b) H_2S content < 30 %
c) Any concentration of H_2S
d) None of the above.

- a)
- b)
- c)
- d)

No, the answer is incorrect.
Score: 0

Accepted Answers:
a)

10 Which of the following is NOT true about Direct oxidation Claus process? ***1 point***

a) Is used when the H_2S concentration is above about 50 % in the acid gas.
b) Is followed by one or more standard Claus reactors to recover additional sulfur.
c) Does not use any burner.
d) Is used when the H_2S concentration is below about 15% in the acid gas.

- a)
- b)
- c)
- d)

No, the answer is incorrect.
Score: 0

Accepted Answers:
a)

Previous Page End