

Process Equipment and Plant Design MCQ Questions

1. Fouling factor must be included in the calculation of overall design heat transfer coefficient, when the liquid
 - a. Containing suspended solids flows at low velocity
 - b. Containing suspended solids flows at high velocity
 - c. Is highly viscous
 - d. Is of high specific gravity

Ans: A

2. When one of the fluids is highly corrosive and has fouling tendency, it should
 - a. Preferably flow inside the tube for its easier internal cleaning
 - b. Preferably flow outside the tube
 - c. Flow at a very slow velocity
 - d. Flow outside the tube, when the flow is counter current and inside the tube when the flow is co-current

Ans: A

3. In a bag filter, the pressure drop increases directly as the
 - a. Density of the gas, but it independent of the viscosity of the gas
 - b. Density of the gas and inversely as viscosity of the gas
 - c. Viscosity of the gas and inversely as density of the gas
 - d. None of these

Ans: B

4. ____ is the determining factor for the number of bubble caps to be used per tray.
 - a. Permissible slot velocity
 - b. Tray diameter
 - c. Liquid load
 - d. Vapor load

Ans: A

5. ____ closure is the weakest enclosure for cylindrical vessels.
 - a. Hemispherical
 - b. Torispherical
 - c. Conical or flat plate
 - d. Elliptical

Ans; C

6. LMTD correction factor is used in heat exchanger design for
 - a. Double pipe heat exchanger
 - b. Multipass shell and tube heat exchanger
 - c. Fouling fluids
 - d. Counter flow of hot and cold fluids

Ans: B

7. ____ shaped roof is most commonly used for cylindrical tanks.
 - a. Cone
 - b. Dome
 - c. Umbrella

d. Flat

Ans: A

8. Removable connection of tubes to tube sheet is called

a. Ferrule

b. Socket

c. Nipple

d. Saddle

Ans: A

9. Log mean temperature difference in case of multipass shell and tube heat exchanger is always

a. Less than arithmetic mean value

b. More than arithmetic mean value

c. More than geometric mean value

d. Both b and c

Ans: A

10. For identical operating conditions, the pressure drop over ____ tray is the highest out of the following.

a. Sieve

b. Valve

c. Counterflow

d. Bubble cap

Ans: D

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