

Chemical Engineering Fluid Mechanics MCQ Questions

Question: 1

For a Newtonian fluid

- (A) rate of shear strain is proportional to rate of shear strain
- (B) shear stress is proportional to rate of shear strain
- (C) shear stress is proportional to shear strain
- (D) rate of shear is proportional to shear strain

Ans: B

shear stress is proportional to rate of shear strain

Question: 2

The buoyant force acting on a floating body is dependent on the

- (A) weight of the liquid displaced
- (B) depth of immersion of the body
- (C) surface tension of the liquid
- (D) viscosity of the liquid

Ans: A

weight of the liquid displaced

Question: 3

A hydraulic jump occurs in a channel

- (A) if the bed slope changes from steep to mild
- (B) if the bed slope changes from mild to steep

(C) if the flow is controlled by a sluice gate

(D) whenever the flow is supercritical

Ans: C

if the flow is controlled by a sluice gate

Question: 4

A differential pressure cell is used for

(A) measuring the difference of the impact and the static pressure

(B) measuring small pressure difference in gases

(C) measuring small pressure difference in liquids

(D) remote recording of pressure difference

Ans: D

remote recording of pressure difference/p>

Question: 5

Hot wire anemometer is used to measure the

(A) pressure of liquids

(B) velocity of gases

(C) temperature of liquids

(D) velocity of liquids

Ans: B

velocity of gases

Question: 6

With increasing radius, the velocity in free vortex and forced vortex respectively

- (A) remains constant and decreases
- (B) increases and decreases
- (C) decreases and increases
- (D) decreases and remains constant

Ans: C

decreases and increases

Question: 7

Most of the centrifugal pumps used in chemical plants are usually ____ driven.

- (A) gas turbine
- (B) electric motor
- (C) diesel engine
- (D) steam

Ans: B

electric motor

Question: 8

The loading and unloading of a reciprocating compressor is carried out based on

- (A) moisture content
- (B) temperature
- (C) volume
- (D) pressure

Ans: D

Pressure

Question: 9

With increasing flow rate, the hydraulic efficiency of a centrifugal pump

(A) increases and then decreases

(B) remains constant

(C) decreases and then increases

(D) monotonically decreases

Ans: D

monotonically decreases

Question: 10

Fluidised beds are formed, when the

(A) sum of the fluid friction and pressure forces is equal and opposite to gravity forces

(B) pressure forces equal gravity forces

(C) gravity force is less than the fluid friction

(D) fluid friction is zero

Ans: C

gravity force is less than the fluid friction

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