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Question 1

The derivative control action is typically used when controlling, but rarely used when controlling.

- (A) Temperature, Flow
- (B) Flow, Level
- (C) pH, Temperature
- (D) Level, Temperature
- (E) Level, Flow

Answer : A

Question 2

processes always require some degree of control action to achieve setpoint.

- (A) Integrating, Derivative
- (B) Integrating, Feedforward
- (C) Self-regulating, Proportional
- (D) Runaway, Linear
- (E) Self-regulating, Integral

Answer : E

Question 3

The reciprocal of proportional band is called:

- (A) Reset
- (B) Percent
- (C) Minutes per repeat
- (D) Gain
- (E) Rate

Answer : D

Question 4

"Quarter-wave damping" may be described as:

- (A) a condition of good control where PV approaches SP without overshoot
- (B) a condition of poor control where oscillations continue at constant amplitude
- (C) a condition of poor control where the transmitter is damped by 25%

- (D) a condition of good control where oscillations quickly subside
- (E) a condition of excellent control where there are no oscillations

Answer : D

Question 5

Reset control action is often expressed in units of:

- (A) percent
- (B) seconds per rate
- (C) minutes
- (D) time constant ratio (unitless)
- (E) repeats per minute

Answer : E

Question 6

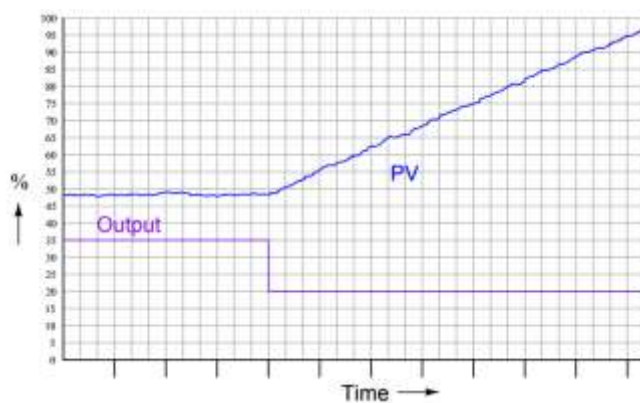
A proportional band setting of 175% is equivalent to a gain setting of .

- (A) 175
- (B) 0.756
- (C) 0.571
- (D) 1.32
- (E) 1.75

Answer : C

Question 7

The open-loop response of a process is shown in the following trend. What sort of process is indicated by this behavior?



- (A) Integrating
- (B) Proportional
- (C) Linear
- (D) Direct-acting
- (E) Self-regulating

Answer : A

Question 8

A condition where integral control action drives the output of a controller into saturation is called:

- (A) self-bias
- (B) wind-up
- (C) repeat
- (D) noise
- (E) offset

Answer : B

Question 9

Fast, self-regulating processes typically respond well to aggressive control action.

- (A) Nonlinear
- (B) Derivative
- (C) Proportional
- (D) Reset
- (E) Gain

Answer : D

Question 10

Process variable filtering should be used:

- (A) to dampen noise
- (B) only on integrating processes
- (C) to improve response time
- (D) only on self-regulating processes
- (E) never

Answer : A