Course outline

Due on 2021-02-24, 22:59 IST.

Assessment

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment.

1) Control elements are required to:
   - control the position of the actuator
   - control the pressure level
   - control the process energy into a mechanical energy
   - control the velocity or an actuator

   No, the answer is incorrect.

   Accepted Answer:
   A1. 3
   B2. 4
   C3. 5
   D4. 6
   E5. 7

2) Which is not the part of mechanical actuation in directional control valves?
   - pilot
   - spring
   - limit
   - arm angle
   - lip

   No, the answer is incorrect.

   Accepted Answer:
   A1. pilot
   B2. lip
   C3. limit
   D4. arm angle
   E5. spring

3) Important features of poppet valves are:
   - no leakage in closed position
   - proper element position under low pressure for long periods of time
   - proper leakage specification
   - fast-acting and most repair free

   No, the answer is incorrect.

   Accepted Answer:
   A1. no leakage in closed position
   B2. proper element position under low pressure for long periods of time
   C3. proper leakage specification
   D4. fast-acting and most repair free

4) Shutoff valves are:
   - one seat and one outlet port
   - two seats and two outlet ports
   - flow to a large and open pipe
   - follow an O-ring function
   - follow a K-graph function

   No, the answer is incorrect.

   Accepted Answer:
   A1. one seat and one outlet port
   B2. two seats and two outlet ports
   C3. flow to a large and open pipe
   D4. follow an O-ring function
   E5. follow a K-graph function

5) Identify the valve shown in figure below:
   - 4/3-way valve
   - 2-way valve
   - 3-way valve
   - 5-way valve
   - 6-way valve

   No, the answer is incorrect.

   Accepted Answer:
   A1. 4/3-way valve
   B2. 2-way valve
   C3. 3-way valve
   D4. 5-way valve
   E5. 6-way valve

6) Which of the following equations hold good for regenerative valves, where Qh is the pump flow, A is the piston head side effective area, A, T is the shaft effective area and A, T is the oil return effective area?
   - velocity for an extension, V = Qh / A
   - velocity for an extension, V = Qh / A
   - force available in regenerative mode = F × p × A
   - force available in regenerative mode = F × p × A
   - force available in regenerative mode = F × p × A

   No, the answer is incorrect.

   Accepted Answer:
   A1. velocity for an extension, V = Qh / A
   B2. force available in regenerative mode = F × p × A
   C3. force available in regenerative mode = F × p × A

7) Pressure control valves are commonly used to perform the following tasks:
   - limiting maximum system pressure at a critical level
   - regulate the speed of an actuator
   - regulate the pressure in certain portions of the circuit
   - reduce the power available to the sub circuits

   No, the answer is incorrect.

   Accepted Answer:
   A1. limiting maximum system pressure at a critical level
   B2. regulate the speed of an actuator
   C3. regulate the pressure in certain portions of the circuit
   D4. reduce the power available to the sub circuits

8) The following valve is used to maintain a back pressure on a vertical mounted cylinder to prevent it from falling due to gravity:
   - pressure reducing valve
   - unloading valve
   - accumulator valve
   - gate valve

   No, the answer is incorrect.

   Accepted Answer:
   A1. pressure reducing valve
   B2. unloading valve
   C3. accumulator valve
   D4. gate valve

9) How to control the speed of a single-rod double-acting cylinder in both forward and return direction:

   No, the answer is incorrect.

   Accepted Answer:
   A1. use of FCV on head side
   B2. use of FCV on head side
   C3. use of FCV on both head and tail side
   D4. use of pressure reducing valve on head side

10) Identify the following value:
   - pressure compensated flow control valve
   - pressure compensated flow control valve
   - temperature-compensated flow control valve
   - pressure-compensated flow control valve

   No, the answer is incorrect.

   Accepted Answer:
   A1. pressure-compensated flow control valve
   B2. pressure-compensated flow control valve
   C3. temperature-compensated flow control valve
   D4. pressure-compensated flow control valve
   E5. pressure-compensated flow control valve

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Week 7

Week 8

Week 9

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Week 12

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