

Final Exam
Continuing Education Course #462
Piping and Instrumentation Diagrams

1. What do the lines in P&IDs depict?
 - ☐ a. Edge of pavement
 - ☐ b. Walls
 - ☐ c. Piping and communications
2. P&IDs illustrate the relationship of which items?
 - ☐ a. Piping, instrumentation, equipment, and controllers
 - ☐ b. Piping, instrumentation, vehicles, and controllers
 - ☐ c. Piping, instrumentation, equipment, and power supplies
3. P&IDs convey _____.
 - ☐ a. Power & current
 - ☐ b. Interconnectivity
 - ☐ c. Flows & pressures
4. During which phase are P&IDs helpful?
 - ☐ a. Planning
 - ☐ b. Demolition
 - ☐ c. Design
5. Which of the following is NOT a reason for having P&IDs?
 - ☐ a. Helps coordinate instrumentation, controls, and wiring
 - ☐ b. Provides details needed for programming
 - ☐ c. Ensure proper wire sizing
6. Which diagram is normally made before a P&ID?
 - ☐ a. Process flow diagram
 - ☐ b. Wiring diagram
 - ☐ c. Instrument schematic
7. Which are NOT shown in a block flow diagram?
 - ☐ a. Instrument tags
 - ☐ b. Processes as rectangles or circles
 - ☐ c. Lines for the flow paths
8. What does PFD stand for?
 - ☐ a. Pipe flow diagram
 - ☐ b. Process field diagram
 - ☐ c. Process flow diagram

9. Which can be used as a background for P&ID drawing?
- ☐ a. Block flow diagram
 - ☐ b. Process flow diagram
 - ☐ c. Logic diagram
10. What are instrument schematics?
- ☐ a. Details for particular instruments
 - ☐ b. Control logic details for instruments
 - ☐ c. A type of P&ID
11. Which is NOT shown in a wiring diagram?
- ☐ a. Terminal blocks
 - ☐ b. I/O Cards
 - ☐ c. Piping
12. Which is NOT a type of logic diagram?
- ☐ a. Ladder
 - ☐ b. Relay
 - ☐ c. Formal
13. Which is the most common industry standard for P&IDs?
- ☐ a. ANSI/ISA 5.1
 - ☐ b. IEC 60617
 - ☐ c. PIC001
14. Why are letter designations used in P&IDs?
- ☐ a. Comply with regulations
 - ☐ b. Conserve space
 - ☐ c. Cryptography
15. Which is NOT a common instrument function designation for the letter A?
- ☐ a. Analysis
 - ☐ b. Alarm
 - ☐ c. Air fan
16. What does HOA normally stand for?
- ☐ a. Hand/On/Auto
 - ☐ b. Hand/Off/Auto
 - ☐ c. High/Off/Auto
17. What is an O/O switch?
- ☐ a. On/Off switch
 - ☐ b. Open/Off switch
 - ☐ c. Or/Out switch
18. Which item would NOT be shown with a symbol on a P&ID?
- ☐ a. Instrument
 - ☐ b. Valve
 - ☐ c. Clarifications
19. What does a circle with a solid horizontal line represent?

- ☐ a. Field mounted, normally accessible
 - ☐ b. Primary location, normally accessible
 - ☐ c. Primary location, normally inaccessible
20. How does a control loop maintain a process condition?
- ☐ a. Adjusting devices
 - ☐ b. Recording data
 - ☐ c. Operator makes adjustments
21. What helps depict control loops in a P&ID?
- ☐ a. Flow direction arrows
 - ☐ b. Communications paths
 - ☐ c. Instrument functions
22. What does cascade control mean?
- ☐ a. Controlling multiple parameters
 - ☐ b. Equalizing flow in multiple pipes
 - ☐ c. Two controllers for a single control loop
23. Which is an example of flow pacing?
- ☐ a. Adjusting pump speed to achieve a set dosage
 - ☐ b. Making slow changes to a process
 - ☐ c. Keeping the flow rate the same
24. What is feedforward control?
- ☐ a. Using future projections for control
 - ☐ b. Using upstream readings for control
 - ☐ c. Using downstream readings for control
25. What is feedback control?
- ☐ a. Using historic readings for control
 - ☐ b. Using upstream readings for control
 - ☐ c. Using downstream readings for control