



**PDHonline Course G253 (4 PDH)**

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# **Engineering Symbology, Prints and Drawings**

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# Engineering Symbology, Prints and Drawings

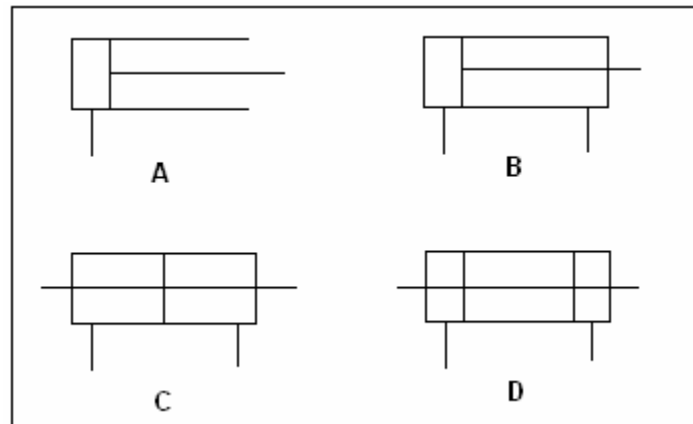
*A. Bhatia, B.E.*

## Quiz Questions

1. Prints are sometimes referred to as \_\_\_\_\_.
  - a. Orthographic projections
  - b. Xerox copies
  - c. Drawings or diagrams
  - d. Cad-cam
  
2. Orthographic projection is a method in which different views of the subject are shown.
  - a. True
  - b. False
  
3. The specific point of a line or a valve in P&ID can be identified using \_\_\_\_\_.
  - a. Revision block
  - b. Grid coordinates
  - c. Title block
  - d. Drawing scale
  
4. On a  $3/8" = 1'$  drawing scale, if a component part measures 3" on the drawing, the actual component measures \_\_\_\_\_.
  - a. 2 feet
  - b. 4 feet
  - c. 6 feet
  - d. 8 feet
  
5. The term P&ID stands for \_\_\_\_\_.
  - a. Plant identification drawing
  - b. Piping and instrumentation drawing
  - c. Plant layout and instrumentation drawing
  - d. Process and instrument drawing

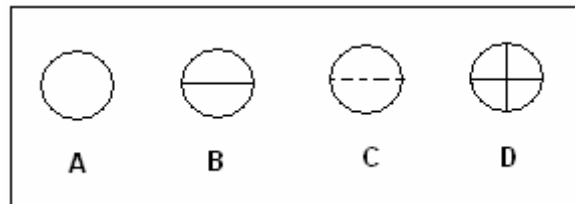
6. Which of the following is an example of scaled drawing?
- a. P& IDs
  - b. Electrical schematics
  - c. Logic diagrams
  - d. Fabrication drawing
7. An instrument on a P&ID shows a symbol FIC. What is the order of sequence to identify this instrument?
- a. 1) Sensed parameter ; 2) The function of the instrument ; 3) the type of instrument
  - b. 1) The type of instrument; 2) The function of the instrument ; 3) Sensed parameter
  - c. 1) The function of the instrument ; 2) The type of instrument ; 3) Sensed parameter
  - d. 1) The type of instrument ; 2) Sensed parameter ; 3) The function of the instrument
8. A positioner is symbolized by a \_\_\_\_\_ on the stem of the control valve actuator.
- a. Square box
  - b. Circle
  - c. Triangle
  - d. Hexagon
9. A gate valve shown with a notation "LC" stands for \_\_\_\_\_.
- a. Level controlled
  - b. Locked closed
  - c. Level circuit
  - d. Line choked
10. The purpose of relief valve in a hydraulic system is \_\_\_\_\_.
- a. To protect system from over pressurization
  - b. To act as an unloader valve to relieve pressure when the cylinder is not in operation
  - c. Both a) and b)
  - d. Neither a) or b)

11. According to course text, which among the following symbol represents double acting differential cylinder linear actuator, that has an equal force on both sides of a piston?



- a. A
- b. B
- c. C
- d. D

12. According to the course text, which among the following symbols represent locally mounted instrument?



- a. A
- b. B
- c. C
- d. D

13. An actuator in a fluid power system is a device that converts the hydraulic or pneumatic pressure into mechanical work.

- a. True
- b. False

14. The list of symbols used to identify features on a drawing is referred to as a \_\_\_\_\_.

- a. Benchmark
- b. Legend
- c. Schedule
- d. Specification

15. Fluid power valves, when electrically operated by a solenoid, are drawn in the de-energized position, unless otherwise noted on the drawing.

- a. True
- b. False

16. The combination of a valve and an actuator is commonly called a \_\_\_\_\_.

- a. Control valve
- b. Process valve
- c. Alternative valve
- d. Piston valve

IN ANSWERING QUESTIONS 17 THROUGH 20, REFER TO FIGURE-1 AND TO THE ASSOCIATED PAGES IN YOUR COURSE MATERIAL

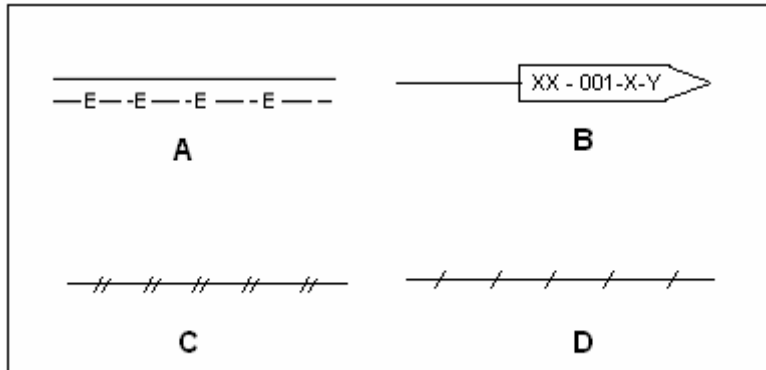


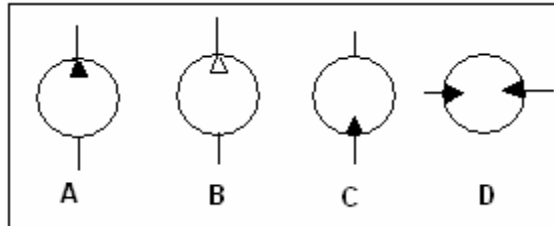
FIGURE -1

17. The line A represents \_\_\_\_\_.

- a. An electric heat traced line
- b. An empty pipe
- c. An elastic pipe
- d. A pipe carrying ethylene

18. The symbol B represents a \_\_\_\_\_
- a. Pipe or wire is continued on drawing XX-001, grid coordinate X-Y, flow is TO that drawing
  - b. Pipe or wire is continued on drawing XX-001, grid coordinate X-Y, flow is FROM that drawing
  - c. Pipe or wire is continued on drawing 001-X-Y, grid coordinate XX, flow is TO that drawing
  - d. Pipe or wire is continued on drawing 001-X-Y, grid coordinate XX, flow is FROM that drawing
19. The line C represents \_\_\_\_\_
- a. A hydraulic line
  - b. A pneumatic (Air) line
  - c. An inert gas line
  - d. An instrument signal
20. The line D represents \_\_\_\_\_
- a. A process flow line
  - b. A steam heat tracing
  - c. An inert gas line
  - d. An instrument capillary
21. \_\_\_\_\_ are used to convert signal from a sensor to a form that can be sent to a remote point for processing, controlling or monitoring.
- a. Recorders
  - b. Transmitters
  - c. Controllers
  - d. Detectors

22. Which symbol among the following represents fixed displacement rotary motor according to the text in the course material?



- a. A
- b. B
- c. C
- d. D

IN ANSWERING QUESTIONS 23 THROUGH 26, REFER TO FIGURE-2 AND TO THE ASSOCIATED PAGES IN YOUR COURSE MATERIAL

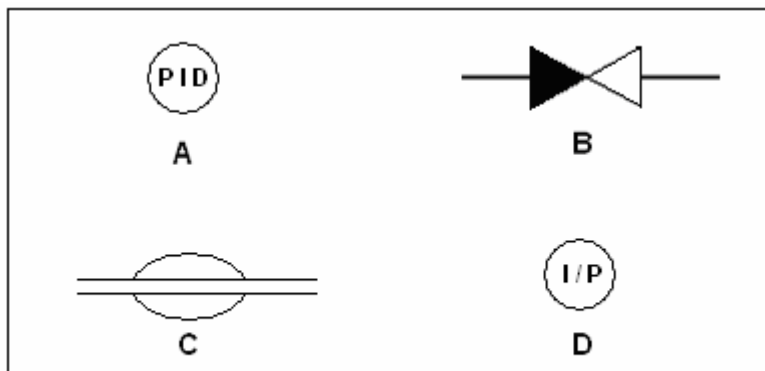


FIGURE - 2

23. What is the name given to symbol A?

- a. Process and instrumentation device
- b. Plant integration device
- c. Proportional Integral Derivative
- d. Piping and instrumentation device

24. What is the name given to symbol B?

- a. Closed gate valve
- b. Open gate valve
- c. Throttled gate valve
- d. Gate valve fails closed

25. What is the name given to symbol C?

- a. Butterfly valve
- b. Stop check valve
- c. Diaphragm valve
- d. Rupture disc

26. What is the name given to symbol D?

- a. Instrument or Process
- b. Internet Protocol
- c. Integral - Proportionate
- d. Current to Pneumatic