

1. A building has a water supply with PH 5.5 has a pressure at the base of the building is 50 psi. Pressure of 15 psi is required to flush a toilet. Copper pipe has additional pressure drop of 15 psi/100 ft and a Steel pipe of 8 psi/100 ft. the best choice is
 - a. copper pipe
 - b. steel pipe
 - c. copper or steel pipe
 - d. Not enough data provided to determine this

2. For a public rest area in a remote highway, which is the least sustainable design solution for a location with severe winters
 - a. Closed loop active system
 - b. Drain Down System
 - c. Electric powered Instantaneous water heater
 - d. Thermo-siphon system

3. To control flow amount for household appliances, which of the following valve is recommended
 - a. Globe Valve
 - b. Gate Valve
 - c. Check Valve
 - d. Angle Valve

4. Septic tanks can be constructed of
 - a. Precast concrete
 - b. steel
 - c. fiberglass
 - d. polyethylene
 - e. a & b only
 - f. a, b, c & d

5. The following allows built-up sewage gas to escape to the outside
 - a. Air gap
 - b. Vent
 - c. Trap
 - d. Cleanout

6. To design a supply plumbing system you need all of the following except
 - a. Total length of piping
 - b. Water main pressure
 - c. Allowance for expansion
 - d. Largest pipe diameter

7. Slope for sewage that drains by gravity
 - a. ¼"
 - b. ½"
 - c. 45°
 - d. ½"

8. Which of the following is not true about Aeration
 - a. Improve taste and color of water
 - b. Help remove iron and manganese
 - c. Improves the flat taste of distilled water & cistern water
 - d. Removes odor caused by hydrogen sulfide and algae
 - e. Used as treatment when corrosion is a threat

9. Which of the following is not true for Sovent system
 - a. Is essentially vent less system
 - b. Aeration is the key
 - c. Pressure variation in a single stack is maximized
 - d. Some jurisdiction in US allow Sovent system

10. septic tank size is determined by code requirement that considers
- number of bedrooms in residences
 - number of waste fixture units served
 - soil conditions
 - sewage flow rate
 - all of the above
 - 1 & 2 only
 - 2, 3, & 4
11. What is the primary purpose of a leach field?
- To store storm runoff until it can seep into the ground
 - To store sanitary drainage until it can be pumped out and removed
 - To remove grey water before it enters the public sewage system
 - To allow sewage cleared of solid matter to seep into the ground
12. Which sewage system has been outlawed by many code
- Septic Tanks & Leach Fields
 - Cesspools
 - Mounds
 - Sump pits
13. The best Stand pipe system for a 40 story building is
- Dry Stand pipe system
 - Wet Stand pipe System
 - Dry & Wet Stand pipe System
 - None of the above

14. It is not safe to use Type A extinguishers in which locations
- Ordinary combustion of paper, wood, & cloth
 - Flammable liquids
 - Electrical Equipment

- II
- I & II
- III
- II & III
- I

15. A library in Maine does not have a large stack room, the best fire sprinkler system would be

- Deluge System
- Dry Pipe System
- Pre-action System
- Wet Pipe System

16. Which of the following is not a passive smoke control system

- Partitions
- Door with smoke seals
- Curtain boards
- Stairway pressurization

17. To calculate roof drain size you need all of the following except

- Area of roof
- Annual rainfall
- Slope of roof
- No
- Size of retention pond

18. In designing a hotel, which of the following must be provided in at least some of the bathrooms to make them accessible to the handicapped?

- I. Grab bars
- II. Shower Stall Seat
- III. Shower stall large enough to accommodate a five foot turning circle

- a. I & II
- b. II & III
- c. I & III
- d. I, II, III

19. Which of the following is not one of the purpose of a vent stack

- a. To provide a vent for sewer gases
- b. To keep the water in the trap from getting siphoned out
- c. To vent several different drains
- d. To provide a vent for the bathroom and its odors

20. The following storm water drainage system is used where ground is not sufficiently porous

- a. Splash blocks
- b. Drywell
- c. Drain field
- d. Retention pond

21. You have been retained by a client to design a house in a suburban location. The nearest water main is one block away (about 300ft), and the city has no plans to extend the line in the near future. City and country regulations does permit the drilling of wells. What should you recommend to your client regarding water supply?

- a. Estimate the cost of extending the municipal line, since the water quality is known and it would ensure a long term supply. Consult with nearby property owners who plan to build in the

area to see if they would be willing to share the cost of extending the line

- b. Drill a test bore to determine the depth, potential yield, and water quality of a well and compare this information with the cost of extending the municipal line
- c. Assist the owner in petitioning the city to extend the water line to serve new development sooner than they had planned to
- d. Consult with nearby property owners who use wells and with well drillers to estimate the depth and yield of wells in the area. Compare the estimated cost and feasibility of drilling v feasibility of extending the municipal line at the owner's cost

22. Which of the following is one of the component of a plumbing system that every building has

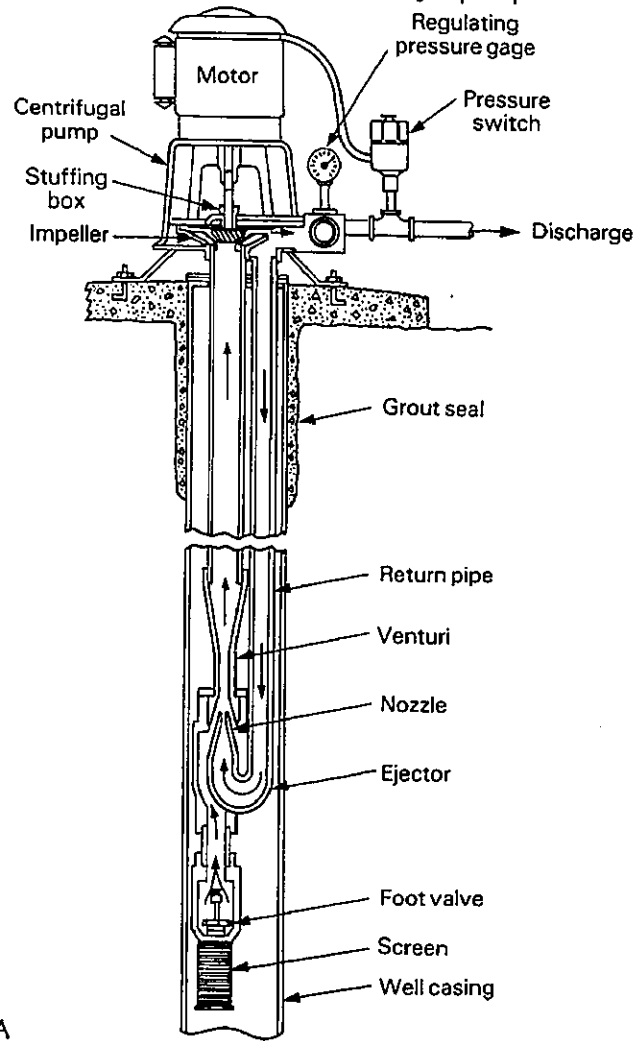
- a. Stack vent
- b. Vent stack
- c. Backflow preventer
- d. House trap

23. Identify the image below

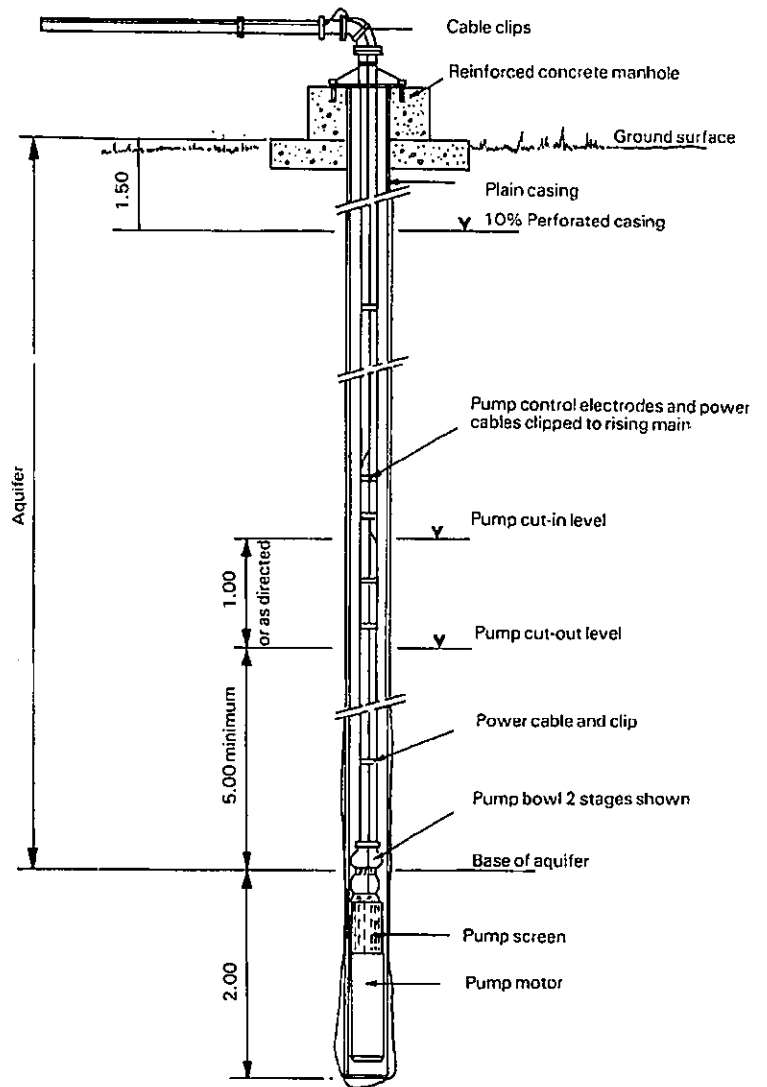


- a. Cap
- b. Plug
- c. Coupling
- d. Union

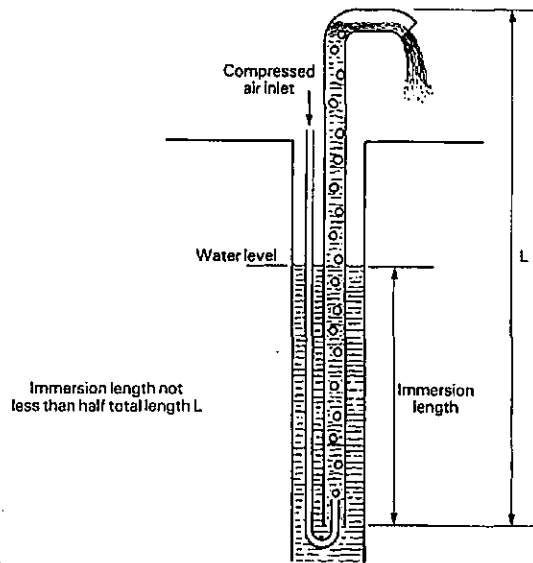
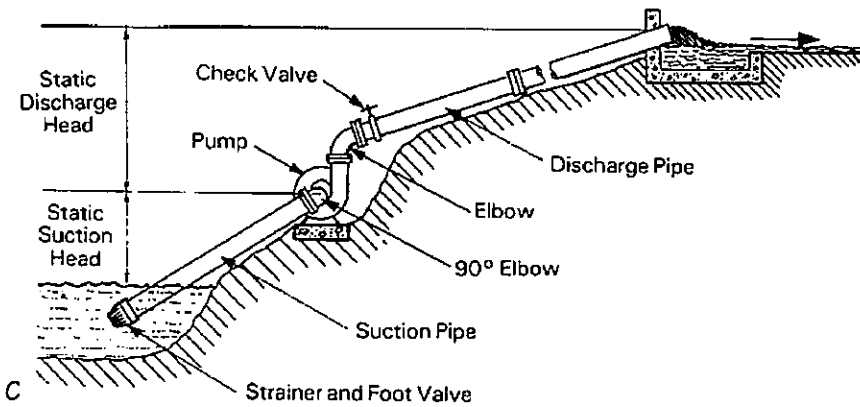
24. Which of the following is a jet pump



A



B



25. Which of the following piping materials is heated when two pieces are joined?

- a. Steel
- b. Iron
- c. Copper
- d. plastic

