

PRACTICAL PROBLEM

1. A variation of pipe wrench with a swiveling serrated jaw and knurled control knob located between the frame forming the head and the handled of the wrench?
 - a. Pipe Wrench
 - b. Stillson wrench**
 - c. Rap Wrench
 - d. End Pipe Wrench
2. A unique type of pipe wrench in which turning force applied is multiplied. The principle of lever action in a simple machine had been applied in this type of patented plumbing tools
 - a. End Pipe Wrench
 - b. Pipe wrench
 - c. Compound leverage Wrench**
 - d. Stillson Wrench
3. It is individual or company responsible for the performance of the construction work
 - a. Superintendent
 - b. Contractor**
 - c. Apprentice
 - d. Journeymen
4. CISP stand for
 - a. Cast Iron and Steel Institute
 - b. I don't Know
 - c. None of the Choices
 - d. Cast Iron Soil Pipe Institute**
5. It is a scaled view that shows the shape and size of the exterior walls and the roof of the building
 - a. Section Drawing
 - b. Detail Drawing
 - c. Plot Plan
 - d. Exterior Elevation Drawing**
6. What is the minimum size of water supply inlet for shower stall
 - a. $\frac{3}{4}$
 - b. $\frac{1}{2}$**
 - c. 1
 - d. $\frac{1}{4}$
7. The effective thread length of a 3" diameter screwed steel pipe is
 - a. 1 3/8"
 - b. 1 1/2"**
 - c. 1 3/4"
 - d. 1 5/8"
8. The recommended hot water supply to a hotel lavatory (private)
 - a. 4
 - b. 2
 - c. 6
 - d. 5**
9. A type of wrench having a heavy sprocket chain that is slipped around a pipe and then attached to the wrench handled. It is used on piping work especially large size pipe metal pipes and in areas that is not easily accessible.
 - a. Chain wrench**
 - b. Compound Leverage wrench
 - c. Offset pipe Wrench
 - d. Adjustable Spud Wrench
10. A wrench with hexagonal jaw which is multisided, used to provide secure grip on all hexagonal nuts, square nuts, unions and valve packing nuts. The extra-wide opening offset is ideal for securing drain nut on sticks and tubs.
 - a. Internal wrench
 - b. Compound leverage wrench
 - c. Offset pipe wrench
 - d. Hex wrench**
11. A tool used to tighten the nut that secure the basket to the sink
 - a. Basket Strainer wrench**
 - b. Closet Wrench
 - c. Valve seat tool
 - d. Closet Wrench
12. Yoke and base are made of strong, dependable iron. It has hardened ally steel jaws and convenient pipe rest and bender
 - a. Bench Strainer Wrench
 - b. Portable trisland Chain Vise
 - c. Bench Yoke Vise**
 - d. Bench Chain Vise
13. Is a three dimensional drawing in the plumbing system
 - a. Exterior Elevation drawing
 - b. Schematic Piping Lay-out
 - c. Isometric Drawing**
 - d. Plot Plan
14. Is an adjustable cast iron box that is flash with finished grade and its capped with removable iron cover
 - a. Stop cock
 - b. Stop box**
 - c. Corporation cock
 - d. None of the above
15. Is a fitting or device that, when properly vented, provides a liquid seal to prevent the emission of sewer gasses.
 - a. Fixture traps**
 - b. Cleanout
 - c. Stack
 - d. Chase
16. Is the drainage pipe that extends from the trap of a fixture to the junction to the junction of the next drainage pipe.
 - a. Fixture drain**
 - b. Horizontal branch
 - c. Building drain branch
 - d. Sanitary sewer
17. To boost the water pressure of hot water, use
 - a. Elevated water tank
 - b. Hydroelectric water tank**
 - c. Gravity tank
 - d. Circulating tank
18. Stainless steel plumbing fixture are manufactured based on standard set by the organization
 - a. F.S.
 - b. U.L.
 - c. PDI
 - d. CS and PS**
19. Polyvinyl Chloride (PVC) pipes used for drain waste vent (DWV) are manufactured based on standard set by this organization
 - a. AWWA
 - b. ANSI**
 - c. ASTM
20. What is the minimum size of water supply inlet for urinal stall
 - a. $\frac{3}{4}$ "**
 - b. $\frac{1}{2}$ "
 - c. 1"
 - d. $\frac{1}{4}$ "
21. Is a pipe that conveys rainwater from the roof to the storm drain
 - a. Combination
 - b. Rainwater leader**
 - c. Sanitary pipe
 - d. Waste pipe
22. It is a type of ladder that stands independently of support
 - a. Extension ladder**
 - b. Stepladder
 - c. Scaffolds
 - d. Fixed ladder
23. Class ____ fire extinguishers are identified by the color green inside a triangle
 - a. Class K
 - b. Class A**
 - c. Class B
 - d. Class C
24. It is a plastic resin that can be heated and reformed repeatedly with little or no degradation in physical characteristics.
 - a. PB
 - b. Thermoplastic**
 - c. PE
 - d. Thermosetting
25. CPVC Pipe and fitting are ____ colored thermoplastic materials specially formulated to withstand higher temperatures than other plastic.
 - a. White
 - b. Black
 - c. Blue
 - d. Cream
26. Is a person who has completed apprenticeship training in a trade and skilled in a particular field.
 - a. Apprentice
 - b. Journeymen**
 - c. Superintendent
 - d. Estimator
27. ANSI stands for
 - a. American National Standard Institute
 - b. American National Standard Institute
 - c. Association for national Standard Institute
 - d. None of the Above**
28. NAMPAP stands for
 - a. National Master Plumbing Association of the Philippines
 - b. National Master Plumbers Association of the Philippines**
 - c. New Master Plumbing Association of the Philippines
 - d. None of the Above
29. Is a civil drawing that shaped and size of the building lot and the location on the building lot
 - a. Plot plan**
 - b. Exterior Elevation Drawing
 - c. Schematic Piping Layout
 - d. Isometric Drawing
30. Is a valve installed on water service to turn on or off the flow of potable water in the building
 - a. Stop box
 - b. Curb Cock**
 - c. Corporation Cock
 - d. Stop Cock
31. Is a pipe that conveys the discharge of water closet other similar fixtures containing local matter with or without the discharge of other fixtures.
 - a. Waste Pipe
 - b. Soil Pipe**
 - c. Sanitary Pipe
 - d. Water Pipe
32. Is a pipe that ventilates the drainage system of the building
 - a. Soil Pipes
 - b. Vent Pipes**
 - c. Waste Pipe
 - d. All of the Above
33. Is an eye and face protection device that covers the entire face with a plastic shield
 - a. Face Shield**
 - b. Goggles
 - c. Shield
 - d. Mask
34. Is a temporary wiring used to supply power to portable electric tools and equipment
 - a. AC/DC regulator
 - b. Extension Cord**
 - c. Wiring Line
 - d. All of the Above
35. Is securing equipment or materials preparation for lifting by means of rope, chain or web sling
 - a. Rigging**
 - b. Locking
 - c. Securing
 - d. All of the Above

36. Class ____ fire extinguishers are identified by the color blue inside a circle
 - a. Class B
 - b. Class A
 - c. Class K
 - d. **Class C**
37. It is a plastic resin that cannot be melted after it is formed and cured in its final shape.
 - a. Thermoplastic
 - b. **Thermosetting**
 - c. PE
 - d. PB
38. Is a plumbing design in which centrally located manifolds distribute water to each fixture with dedicated hot and cold water lines
 - a. **Home Run**
 - b. Distribution Run
 - c. Goal
 - d. Base
39. The color used to identify the drawn copper tube for Type L is
 - a. White
 - b. Red
 - c. Orange
 - d. **Blue**
40. Is a steel pipe manufactured by drawing flat steel strips through a die to form a cylindrical shape
 - a. Seamless Pipe
 - b. Brazed Pipe
 - c. **Welded Pipe**
 - d. All of the Above
41. Is a nipple that is threaded on the ends and has short unthreaded pipe in the middle
 - a. Close Nipple
 - b. **Shoulder Nipple**
 - c. All nipple
 - d. Twin Nipple
42. Is a gate valve in which one piece solid bronze wedge fits against the seat to restrict the flow
 - a. Full Gate Valve
 - b. **Solid wedge disk gate valve**
 - c. Split wedge disk gate valve
 - d. Single Disk gate valve
43. Is a person who enters into an agreement with an employer
 - a. **Apprentice**
 - b. Journeymen
 - c. Superintendent
 - d. Estimator
44. OSHA stands for
 - a. Occupational Standard for Health and Administration
 - b. **Occupational Safety and Health Administration**
 - c. Occupational Sanitation and Health Administration
 - d. None of the Above
45. Is a drawing of piping system without regard to scale and exact location of the fixture shown in drawing.
 - a. Isometric drawing
 - b. **Schematic piping layout**
 - c. Exterior elevation drawing
 - d. Plot plan
46. Is a pipe extending from the corporation cock to the water supply distribution system of the building
 - a. Curb cock
 - b. Corporation cock
 - c. **Water service**
 - d. Curb cock
47. Any vertical line of soil, waste or vent pipe extending through one or more stories
 - a. **Stack**
 - b. Chase
 - c. Soil
 - d. Vent
48. PPE usually seen on entrance before entering the construction site stands for;
 - a. Personal protection equipment
 - b. Parental protective equipment
 - c. Promote protective equipment
 - d. **Personal protective equipment**
49. Is a ladder that is permanently attached to a structure, tank or vault.
 - a. Extension ladder
 - b. Stepladder
 - c. Scaffolds
 - d. **Fixed Ladder**
50. Is a temporary or movable platform and structures for plumbers to stand on when working above floor level.
 - a. Booms
 - b. **Ladder**
 - c. Ridge
 - d. Fixed ladder
51. Class ____ fire extinguishers are identified by the color red inside a square
 - a. Class A
 - b. **Class B**
 - c. Class K
 - d. Class C
52. It has a deeper and broader hook jaw housing which provided a smooth, flat surface that may be used occasionally as a hammer
 - a. End pipe wrench
 - b. Pipe wrench
 - c. Stillson wrench
 - d. **Rapwrench**
53. Screwed steel pipe 2 1/2" diameter should have this number of threads for effective jointing
 - a. **8**
 - b. 13
 - c. 10
 - d. 12
54. The effective thread length of a 3/4" diameter steel pipe is
 - a. 1 1/4" long
 - b. 1 1/2" long
 - c. 1" long
 - d. 3/4" long
55. What do you call this valve installed at the suction line of the pump to prevent the loss of prime of pump?
 - a. Check valve
 - b. **Suction valve**
 - c. Underground valve
 - d. Foot valve
56. A male thread fitting with square head used for closing another female fitting is called
 - a. Nipple
 - b. Cop
 - c. **Plug**
 - d. Bushing
57. Electric water heaters are manufactured based on the standard set by this organization.
 - a. P.S.
 - b. F.S.
 - c. I.S.
 - d. **U.L.**
58. The best solder for brazing/soldering joints is
 - a. Alloy
 - b. **95-5 tin antimony**
 - c. 50-50 tin alloy
 - d. None of the Above
59. How does a safety mechanism of a hot water system work?
 - a. Manually
 - b. Mechanically
 - c. **Automatically**
 - d. Electrically
60. Gases found in the sewer air septic tank except
 - a. Methane gas
 - b. Carbon dioxide
 - c. **Chloride**
 - d. Ammonia
61. Waste in the plumbing drainage are prohibited waste when you discharge
 - a. Alkaline waste
 - b. Inflammable waste
 - c. Acid waste
 - d. **Toxic waste**
62. What causes the bad taste and odor of water
 - a. Lack of oxygen
 - b. **The presence of algae**
 - c. The lack of nitrogen
 - d. The presence of minerals
63. What type of wrench is used to assemble hubless joint
 - a. Pipe wrench
 - b. Strap wrench
 - c. **Torque Wrench**
 - d. Chain wrench
64. Copper pipe are sized
 - a. 1/8 bigger than their inside diameter
 - b. 1/4 bigger than their inside diameter
 - c. 3/16 bigger than their inside diameter
 - d. 1/16 bigger than their inside diameter
65. It has internal legs and tray hat folds in for easy carrying and set up. Large vise base overhangs front legs for clear tool swing
 - a. Portable trisand chain vise
 - b. Bench yoke vise
 - c. Bench chain vise
 - d. **Stand chain vise**
66. A wrench for screws with hexagonally shaped recess in its head
 - a. Offset pipe wrench
 - b. **Allen wrench**
 - c. Internal wrench
 - d. Compound leverage wrench
67. Another variation of pipe wrench featuring a jaw opening parallel to the handle and a narrower hook jaw which provided easy entry into tight space
 - a. **Offset pipe wrench**
 - b. Compound leverage wrench
 - c. Adjustable leverage wrench
 - d. End-pipe wrench
68. A tool fast and easy grip used on constricted spaces or close to a wall. It has a solid housing which keeps it from breaking or wrapping under normal use.
 - a. Rap wrench
 - b. Stillson wrench
 - c. Compound leverage wrench
 - d. **End-pipe wrench**
69. This is used to remove square and octagonally-shaped threaded faucets. It has a right angle bar with one end for square nuts and other octagonal.
 - a. **Valve seat tool**
 - b. Closet wrench
 - c. Basket strainer wrench
 - d. Basin wrench
70. It is a pipe that conveys potable water for public and community use from the municipal water supply source.
 - a. Water service
 - b. Water supply
 - c. Distribution system
 - d. **Water main**
71. Is a device used to measure the volume of water that passes through the water service
 - a. Water service
 - b. Compound distribution
 - c. Water distribution
 - d. **Water meter**
72. Is a pipe that conveys only liquid waste that is free from fecal matter.
 - a. Soil

- b. Vent
c. **Waste**
d. None of the Above
73. An eye protection device with flexible frame, they are secured on the face with an elastic headband.
a. Face shield
b. **Goggles**
c. Shield
d. Mask
74. Is an adjustable height ladder with a fixed bed section and sliding, lockable fly section
a. **Extension ladder**
b. Stepladder
c. Scaffolds
d. Fixed ladder
75. NFPA classified fires as Class ____ by electrical fires.
a. Class B
b. Class A
c. **Class C**
d. Class K
76. PVC pipe and fittings are ____ colored
a. White
b. Black
c. **Blue**
d. Cream
77. Is a steel pipe made by piercing a solid cylindrical steel billet with a series of mandrels while passing the billet through rollers
a. Brazed pipe
b. Welded pipe
c. **Seamless pipe**
d. None of the above
78. Is a full-way valve used to regulate fluid flow in which a threaded stem raises and lowers a wedges shaped disk
a. **Globe valve**
b. Gate valve
c. Gate valve
d. Disk valve
79. The colors used to identify the drawn copper tube for Type M is
a. Orange
b. **Red**
c. Green
d. White
80. Is a person who estimate the cost of construction projects the contractor wants to bid
a. Apprentice
b. Journeymen
c. Superintendent
d. **Estimator**
81. Is a scaled view created by passing an imaginary cutting plane through a portion of a building
a. Detail drawing
b. Plot plan
c. Exterior elevation drawing
d. **Section drawing**
82. Is a valve placed on water main to which the water service of the building is connected
a. **Corporation cock**
b. Curb cock
c. Water meter
d. Stop cock
83. Is a soil or waste stack that extends horizontally from fixture on the same floor as the branch.
a. **Horizontal Branch**
b. Sanitary Sewer
c. Fixture Drain
d. Building Drain Branch
84. Is a pivoting hook mechanism attached to the fly section of an extension ladder to hold the fly section at the desired height
a. Rigged lock
b. Auto lock
c. **Pawl lock**
d. All of the above
85. Class ____ fire extinguishers are identified by the color yellow inside a star
a. **Class D**
b. Class A
c. Class B
d. None of the above
86. Is a nipple that is threaded its entire length
a. Close nipple
b. Shoulder nipple
c. All nipple
d. **All of the above**
87. Is a gate valve in which two pieces bronze wedge fits against the seat to restrict the flow
a. **Split wedge disk gate valve**
b. Single disk gate valve
c. Full gate valve
d. None of the above
88. PEX denotes as
a. Polyethylene extra
b. **Cross linked polyethylene**
c. X-linked polyethylene
d. All of the above
89. NFPA classified fires as Class ____ by flammable liquids, gasses or grease
a. Class K
b. Class A
c. Class C
d. **Class B**
90. Is a drawing showing a small part of a floor plan, elevation or section drawing at enlarge scale
a. **Detail drawing**
b. Plot plan
c. Exterior elevation drawing
d. Schematic piping layout
91. The effective thread length of a $\frac{3}{4}$ " screwed pipe is
a. $1\frac{1}{4}$ " long
b. $\frac{1}{2}$ " long
c. 1" long
d. $\frac{3}{4}$ " long
92. Screwed steel pipe $2\frac{1}{2}$ " should have this number of threads for effective jointing
a. **8**
b. 13
c. 10
d. 12
93. What is the minimum size of water supply inlet for urinal stall
a. **$\frac{3}{4}$ "**
b. $\frac{1}{2}$ "
c. 1"
d. $\frac{1}{4}$ "
94. The most common and widely used gate valve
a. Single disk
b. Split wedge
c. **Solid wedge**
d. Double disk
95. In figure is a graphical symbol for what kind of tee
a. Welded tee turned up
b. Welded tee turned down
c. B & S turned down
d. B & S turned up
96. If the sewer and vent layout of the plumbing plans specified PVC S-1000, estimate the quantity of bend $\frac{1}{4}$ x 50 mm
a. 72
b. 86
c. 48
d. 64
97. A common heat source for indirect water heater
a. Steam
b. Gas
c. Electricity
d. **Oil**
98. In figure, is a graphical symbol for what type of pipe joint
a. Welded joint
b. Screwed joint
c. Soldered joint
d. B & S joint
99. Based on the storm drainage layout of plumbing plans, estimate the quantity of cast iron hubless pipe size 50 mm x 3.0 m to be used for canopy drain pipe.
a. 4
b. 5
c. 6
d. 3
100. What do you call this caulking tool drawn
a. Finishing iron
b. Regular iron
c. **Spring yarning iron**
d. Long iron
101. In figure, is a graphical symbol for what kind of valve
a. Welded globe valve
b. Screwed globe valve
c. Bell & Spigot gate valve
d. Flanged gate valve
102. What do you call this hammering tool shown
a. Sledge hammer
b. Drilling hammer
c. Engineer's hammer
d. Ball pien hammer
103. The simplest and cheapest bonnet design of valve is
a. Bolted
b. Plugged
c. **Screwed**
d. Welded
104. What causes the bad taste and odor of water
a. The lack of oxygen
b. **The presence of algae**
c. The lack of nitrogen
d. The pressure of mineral
105. A welded tee turn down fitting drawn in graphical symbol is shown
a. .
b. .
c. .
d. .
106. A flanged joint drawn in graphical symbol
a. .
b. .
c. .
d. .
107. A screwed cock valve drawn in graphical symbol
a. .
b. .
c. .
d. .
108. What is the minimum size of water supply inlet for kitchen sink?
a. $\frac{1}{4}$ "

- b. $\frac{3}{4}$ "
c. $\frac{1}{2}$ "
d. $\frac{3}{8}$ "
109. In figure, is a graphical symbol for what kind of valve?
a. Socket ball valve
b. Screwed check valve
c. Flanged gate valve
d. Soldered angle valve
110. What is the minimum size of water supply inlet of a shower stall?
a. $\frac{3}{4}$ "
b. $\frac{1}{4}$ "
c. $\frac{1}{2}$ "
d. 1"
111. A flanged globe valve drawn in graphical symbol is shown
a. .
b. .
c. .
d. .
112. What do you call this valve installed at the suction line of pump to prevent the loss of prime of the pump
a. Check valve
b. Flopper calve
c. Float valve
d. Foot valve
113. Polyvinyl Chloride (PVC) pipes used for drain waste vent (DWV) are manufactures based on the standard set by this organization
a. AWWA
b. ANSI
c. ASTM
d. PAWWA
114. Water for domestic use comes from these sources except
a. Ground water
b. Rain water
c. Surface water
d. Sea water
115. What is the setting height from the floor for wall hung lavatory
a. 24"
b. 22"
c. 28"
d. 26"
116. A welded elbow fitting drawn in graphical symbol is shown
a. .
b. .
c. .
d. .
117. How much is the plumbing permit fee for one lavatory in excess of one unit minimum required?
a. P 6.00
b. P 1. 00
c. P 4.00
d. P 2.00
118. What do you call this caulking tool drawn
a. Offset iron
b. Piping iron
c. Ceiling iron
d. S-iron
119. In figure, is a graphical symbol for what kind of elbow reducer
a. Flanged elbow reducer
b. Screwed elbow reducer
c. Socket elbow reducer
d. Soldered elbow reducer
120. A bell & spigot globe valve drawn in graphical symbol is shown
a. .
b. .
c. .
d. .
121. The recommended hot water supply to an hotel washing machine is?
a. 25 GPH
b. 15 GPH
c. 20 GPH
d. 10 GPH
122. In figure, is a graphical symbol for what kind of tee
a. Socket tee turned up
b. Soldered tee turned down
c. Soldered tee turned up
d. Soldered tee turned down
123. A bell and spigot safety valve drawn in graphical symbol is shown
a. .
b. .
c. .
d. .
124. Gasses not found in sewer air of septic tank are
a. Methane gas
b. Carbon monoxide
c. Ammonia
d. Chloride
125. What is the setting height from the floor for a water supply inlet of flush tank water closet
a. 16"
b. 14"
c. 8"
d. 12"
126. In figure, is a graphical symbol for what kind of bend
a. Flanged bend turned-up
b. Screwed bend turned-up
c. Screwed bend turned-down
d. Flanged bend turned-down
127. A flanged bend turned down fitting drawn in graphical symbol
a. .
b. .
c. .
d. .
128. A male thread fitting with square head used for closing another female fitting is called
a. Nipple
b. Cap
c. Bushing
d. Plug
129. In figure, is graphical symbol for what kind of pipe line
a. Cold water line
b. Air line
c. Hot water line
d. Gas line
130. In figure, is a graphical symbol for what kind of cross tee
a. Soldered cross tee
b. Flanged cross tee
c. Welded cross tee
d. Screwed cross tee
131. The recommended hot water supply to a hotel lavatory
a. 4 GPH
b. 3 GPH
c. 6 GPH
d. 5 GPH
132. Copper pipes are sized
a. $\frac{1}{8}$ bigger than their inside diameter
b. $\frac{1}{4}$ bigger than their inside diameter
c. $\frac{3}{16}$ bigger than their inside diameter
d. $\frac{1}{16}$ bigger than their inside diameter
133. To boost the water pressure of hot water, use
a. Elevated water tank
b. Hydroelectric tank
c. Gravity tank
d. Circulating pump
134. Which type of wrench is used to assemble hubless joint
a. Pipe wrench
b. Strap wrench
c. Torque wrench
d. Chain wrench
135. When silt and dirt is removed from water, the process is called
a. Filtration
b. Sedimentation
c. Straight pipe wrench
d. Rap wrench
136. The recommended hot water supply is a therapeutic bath?
a. 150 GPH
b. 75 GPH
c. 50 GPH
d. 100 GPH
137. What is the setting distance from the floor for a bidet waste drain outlet?
a. 20"
b. 12"
c. 18"
d. 16"
138. Electric water heaters are manufactured based on the standard set by this organization.
a. P.S.
b. F.S.
c. I.S.
d. U.L.
139. Plumbing pipe color coded in Aqua-blue stripe or bar is identified as
a. Gas pipe
b. Row water pipe
c. Potable water pipe
d. Air pipe
140. Stainless steel plumbing fixture are manufactured based on the standard set by this organization
a. F.S
b. U.I.
c. PDI
d. CS and PS
141. In figure, is a graphical symbol for what kind of tee
a. Screwed tee turned down
b. Soldered tee turned down
c. Screwed tee turned up
d. Soldered tee turned up
142. When a lift check valve is not working properly, what should be done?
a. Check the lift disk
b. Adjust the sliding piston
c. Check hinges
d. Lubricate the plug
143. What is the material applied to a thread of pipe to compensate for workmanship in a screwed joint
a. Oil

- b. **Teflon tape**
c. Paint
d. Masking tape
144. Which of the following type of valve usually operated without manual control?
a. **Check valve**
b. Globe valve
c. Gate valve
d. Angle valve
145. When soldering copper gutters, what is that flux that is generally used
a. Ammonia
b. **Muriatic acid**
c. Resin
d. Calcium chloride
146. What is that plumbing devices that prevent the passage of bad odor and gasses from the sewer system to a building?
a. Corporation stop
b. Stop cock
c. **Trap**
d. Union patent
147. What is that device suitable for pumping sewage from the deep basement floor into the sewer line?
a. Pressurized relief valve
b. **Pneumatic ejector**
c. Vacuum breaker
d. Turbine
148. Minor stoppage from water closet traps can be cleared with plunger, but for more stubborn clogs, use
a. **Closet auger**
b. Insertable tools
c. Sewer snake
d. Pick out iron
149. To repair a leaking DWV copper joint, you should
a. **Cut and unscrew at the joint**
b. Tighten the bolts on the steel clamp
c. Correct the misalignment of the joint
d. Disassemble and clean the components
150. A storage heater is used when the demand
a. Is level
b. Has small volume changes
c. Is constant
d. Has large volume changes
151. Water like gases solid is composed of small individual parts scientifically referred to as:
a. Drop
b. **Particle**
c. Molecule
d. Vapor
152. The most practical circulating pump for use in the hot water system is the type:
a. **Centrifugal pump**
b. Rotary pump
c. Piston pump
d. All of these
153. In sizing a downspout the deciding factor for its proper size:
a. **Roof area of building**
b. Rainfall inventory in the locality
c. Pitch of roofing
d. All of these
154. A system of pipes and equipment used exclusively to supply water for extinguishing fire:
a. Sprinkler system
b. Stand pipe
c. **Fire hydrant**
d. Siamese connection
155. A device or structure, above or below the ground used for removing soil or colloidal materials of a type that cannot be remove by sedimentation
a. Catch basin
b. Screen
c. Trap
d. **Filter**
156. Installation of water service must be direct and in short manner a possible turns, or offset elbows should be avoided because the element will incur
a. **Friction losses**
b. Plastic pipe
c. Asbestos pipe
d. All of these
157. Friction in plumbing system will causes losses in pressure in pipe due to
a. **Resistance produce by contact of flowing water and the interior surface of pipe**
b. Resistance between molecule of water
c. Resistance between elevation of higher level
d. All of these
158. What is the pipe fitting used in the interconnection of service pipe and insertion to the water main?
a. Corporation cock
b. **Clamp saddle**
c. Nipple
d. Straight elbow
159. What is the knockdown coupling like fitting that is specially use and interconnect two water service pipes in place?
a. Bushing
b. **Union patent**
c. Sleeves
d. Nipple
160. A pipe fitting with outside thread and projecting square head used for closing the edge of another fitting
a. Knot
b. Bushing
c. **Plug**
d. Cap
161. A short pipe with outside thread used for connecting pipe or fitting
a. **Nipple**
b. Coupling
c. Sleeves
d. All of these
162. A nut that is screwed up tightly against another nut to prevent it from becoming loose
a. **Lock nut**
b. Obstinate nut
c. Bushing
d. Bolt nut
163. The difference between a tube and a pipe is that, tube has relatively thin wall and
a. The listed sized correspond to the inside diameter
b. **The listed size correspond to outside diameter**
c. Relatively square edge
d. Straight edge
164. What do you call the phenomenon causing rumbling sound and severe shock when water flow is halted abruptly by rapid closure of valve or faucet?
a. Pressure energy
b. Water surge
c. **Water hammer**
d. Shock wave
165. What is the level to which water must use in a fixture to overflow without restriction?
a. **Flood level**
b. Flushing surface
c. Overflow level
d. Drain board
166. What is the type of water closet for public use?
a. Egg shape bowl type
b. **Elongated bowl type**
c. Circular bowl type
d. All of these
167. Floor drain is always provided with removable strainer, the open are of which is equivalent to a fraction of the cross sectional area of the drain pipe
a. $\frac{1}{4}$ of the area
b. $\frac{1}{3}$ of the area
c. **$\frac{2}{3}$ of the area**
d. $\frac{3}{8}$ of the area
168. A flexible auger is use to remove obstruction that take place in these fittings
a. P-trap
b. **Trap way of toilet bowl**
c. Flush tank
d. Floor drain
169. In starting an obstinate, rusty nut or bolt, a sharp blow with hammer often start rotation where a straight pull will not. In this case a steady pull with blow will do the work
a. The blow deliver to the wrench near the nut
b. Blow at other end of the wrench
c. Blow at the middle of the wrench
d. On top
170. The use of compound in screw joint, a dope may applied by plumber for what purpose
a. To compensate for a poor workmanship
b. To lubricate and reduce friction in the screw joint
c. **To make permanent**
d. All of these
171. In a screwed connection, always begin to screw by hand and make sure the fitting turn readily after the length of approximately
a. 2 threads
b. **3 threads**
c. 4 threads
d. 5 threads
172. The kind of valve installation characterized as to check or prevent reversal of flow in the pipe
a. Globe valve
b. Gate valve
c. Check valve
d. Angle valve
173. The type of wrench use for screwing bolt and insert for valve with hexagonal end
a. Pipe wrench
b. Strap wrench
c. Monkey wrench
d. Chain wrench
174. The type of wrench used in working with plated or high-finish materials and in place with two small to admit pipe wrench
a. Monkey wrench
b. **Strap wrench**
c. Open wrench
d. Closed wrench
175. The explosion of molten lead when pouring into the hub of G.I. pipe when preparing a caulk joint is caused by:
a. **Wet and watery hub end**
b. Overheating of lead
c. Sudden cooling of pig lead
d. Dirty hub end
176. When making screwed joints in a potable water system, apply sealing compound on
a. Fitting threads only
b. Temperature above 60° F
c. Brass piping only
d. Male thread only
177. Which flushing action in water closet requires a flushometer?
a. Siphon jet
b. Washdown
c. **Blowout**
d. Reverse trap
178. Which type of urinals uses less water than any of the other type?
a. Washout
b. Washdown
c. Blowout

- d. Reverse trap
179. In a solvent-cemented plastic piping system, most leaking joints are caused by a worker's failure to:
- Mark all fitting and pipe for positioning
 - Deburr the inside of the pipe**
 - Apply solvent primer to the joint surfaces
 - Cut the pipe in meter box
180. Which of the following should be used for lubricating during the threading process?
- Water soluble
 - Machine lubricating oil**
 - Crankcase oil
 - Sulfur-lard oil
181. What is the other name for rain water downspout?
- Riser
 - Leader**
 - Run out
 - Stack
182. Which of the following is not a type of water fountain?
- Wall mounted
 - Column standing
 - Free standing
 - Semi-recessed**
183. What is the valve which is an adoption of ball valve?
- Butterfly valve
 - Plug valve**
 - Glove valve
 - Gate valve
184. All of the following are used in a site drainage system EXCEPT:
- Drain inlets
 - Catch basins
 - Roof drains**
 - Manholes
185. Subsoil water is collected and carried to a
- Sanitary sewer
 - Storm sewer
 - Sump**
 - River
186. Which of the following is not a plumbing fixture?
- Gravity tank
 - Roof drain
 - Booster pump**
 - Floor drain
187. Which type of lavatories is designed for group use?
- Splash-back lavatory
 - Wash fountain**
 - Shelf-back lavatory
 - Slab lavatory
188. What must be the slope of building drain installation?
- 1/8-1/4 in/ft
 - 5/8-3/4 in/ft
 - 7/8-1/2 in/ft
 - 3/8-1/2 in/ft
189. Minor stoppage from water closet traps can be cleared with plunger, but for more stubborn clogs, use
- Closet auger**
 - Insertable tools
 - Sewer snake
 - Pick out iron
190. What are references in measuring the depth of a trap seal of the trap?
- Crown weir to top dip**
 - Bottom dip to top dip
 - Crown weir to bottom dip
 - Inlet to outlet
191. Subsoil drains are installed at what level?
- In level with the ground floor
 - In level with the basement floor
 - Under the ground floor
 - Under the basement floor**
192. The prescribe color coding of piping under steam division of a high pressure pipe is
- Black
 - Red
 - White**
 - Blue
193. What are the most common joints used for brass and steel piping installation?
- Clamp and gasket
 - Oakum and lead
 - Cement and oakum
 - Screwed and flanged**
194. What is the prescribed color coding of piping under water division of fresh water pipe?
- Green
 - Blue
 - White**
 - Orange
195. In large restaurant, the fixture for washing vegetable pan cauldron is the:
- Scullery sink**
 - Kitchen sink
 - Slop sink
 - Wash basin
196. What is that pressure that comes from the amount of air that was drag along with friction by flowing down the wall of the waste stack?
- Atmospheric pressure**
 - Pneumatic pressure
 - Back pressure
 - Water pressure
197. At the base of a vertical drain, flow enters the horizontal drain at a relatively high velocity, what do you call that flow?
- Shooting flow
 - Hydraulic jump
 - Surging flow**
 - Jumping flow
198. The handicapped fixtures are usually designed for people with less physical ability than the general public, for the handicapped toilet requirement, the height is higher than standard toilet. What is the height of the handicapped fixtures?
- 18 inches**
 - 16 inches
 - 20 inches
 - 34 inches
199. Water taken from background sources usually contain compound of Calcium and Magnesium which render its inconvenient for domestic used particularly?
- It react with chemical element contain in soap
 - It useless cleansing agent
 - It precipitate salt form within pipe that reduces the diameter**
 - All of these
200. The device installed above the flood level rim of plumbing fixtures to primarily permit air from atmosphere to prevent back siphonage of liquid from the fixture is known as:
- Pressure valve
 - Vacuum breaker**
 - Air valve
 - Relief valve
201. Whenever water flow in the water supply system of a building, there is a continues loss of pressure generating between the moving water and inner surface of pipe, this is known as:
- Friction loss
 - Energy loss
 - Head loss
 - Pressure loss**
202. As the water line for the building strike against the higher spots inside pipe surface, energy is transferred into the pipe causing it to move or
- vibrate, also produces line noise, these phenomenon is known as:
- Energy loss
 - Water hammer**
 - Pressure loss
 - Water shocks
203. When backfilling over laid drainage pipe, a plumber must take measure to prevent damage to the pipe. Back fill materials should be added gradually at typical layer and must be compacted before nest layer is dump.
- 0.15 & 0.30 m per layer
 - 0.30 & 0.60 m per layer**
 - 0.20 & 0.40 m per layer
 - 0.50 m per layer
204. When pipe penetrate an exterior wall it must pass thru a sleeve. What is the size of the sleeve thru which to be installed for the pipe to rest?
- Two pipe size larger
 - One pipe size larger**
 - Three pipe size larger
 - One and one half pipe size larger
205. Factory waste or domestic waste is not allowed to be discharge into the drain pipe such as what?
- Sanitary drain pipe
 - Storm drain pipe**
 - Industrial drain pipe
 - Drain tile
206. Manholes are NOT required for the laid drain pipe of this diameter
- 150 mm**
 - 250 mm
 - 300 mm
 - 200 mm
207. Which of the following trap is a prohibited trap inside residences?
- Crown trap
 - Deep seal trap
 - Anti-siphon trap
 - Bell trap
208. Aside from the proper sizing of house drain, the other factor in the installation is the grade, what is the pipe pitch necessary to have adequate flow throughout the length and assure through discharge of waste water.
- ¼ in/ft**
 - 1/8 in/ft
 - ½ in/ft
 - 1/16 in/ft
209. The phenomenon called water hammer, brought about by sudden closing or opening of valves can be controlled by installing devices above each faucet such as these:
- Air chamber
 - Check chamber
 - Vacuum breaker
 - Shock absorber
210. In plumbing installation, what portion of pipeline do you need to provide air break?
- Faucet connection
 - Indirect water connection**
 - Water closet
 - Trap convection
211. The new technique of installing floor mounted water closet with the end in view of assuring cleanliness, leak proof and convenience is with the used of this materials:
- White cement
 - Floor flange and gasket**
 - Portland cement
 - Epoxy
212. The ventilation method whose primary purpose is NOT to protect trap against back pressure and siphonage is what?
- Back vent
 - Circuit vent
 - Loop vent

- d. **Main vent**
213. The wastes in plumbing system contain many chemical elements which are detrimental to the piping materials yet can be eliminated through proper ventilation. What elements are found to be in large quantities that cause deterioration of piping materials?
- Hydrogen
 - Oxygen
 - Carbon
 - Ozone
214. Which of the fixture need to be provided with individual vent to avoid the transmittal or surge effect to other fixture trap connected to a branch drain:
- bathtub**
 - laundry tray
 - kitchen tray
 - water closet
215. During the initial phase of waste water to discharge into drain pipe, which of the fixtures produces the very sudden and heavy surge with appreciable shock effect in other fixture:
- Urinals**
 - Kitchen sink
 - Lavatory
 - Bathtub
216. In inserting a wye fitting into laid house sewer, the practical produce is these
- Remove three length of pipe and insert wye fitting into the line
 - Cut the sewer to the length and insert the wye and cement joint end
 - Cut the sewer to the length, insert wye and joint ends with sleeves
 - None of these
217. After threading of a G.I. pipe thru a stack and dies the next step for plumber should do is to ream the inside of pipe for these purpose
- Remove deformation which will cause reduction of pipe diameter
 - Remove burr to facilitate application of lubricant
 - Smoothing the surface end of the pipe
 - Making the pipe and straight
218. When a caulking iron had stricken hard a cast iron hub while doing caulk joint and had the pipe cracked, what would you do?
- Proceed in caulking, anyway the oakum and pouring lead will cover the crack
 - Replace the pipe and fitting**
 - Weld the crack portion
 - Sealed the crack with moisture resistant pigment
219. An inside roof leader is extended vertically through the floor of the building to a point below the roof. What is the common practice to reduce the danger of breakage which may result from expansion and contraction of roof?
- Extended horizontally below the roof with an elbow to form swing joint
 - Install sleeves below the roof
 - Install packing materials to cushion possible impact**
 - Provide the end of roof leader with flexible material
220. What of the following device is NOT a plumbing fixture?
- Floor drain
 - Water heater
 - Shower head
 - Pneumatic pump**
221. In preparing of a mortar or form a sticky mass to be squeezed into the bell of clay pipe for a cement joint, the mixture will be
- One percent cement, one percent fine sand and water
 - Pure cement and water**
 - Two part cement, one part sand and water
 - Two part sand, one part cement and water
222. It is a loss of trap seal due to unequal atmospheric pressure condition and due to rapid flows of water thru the trap.
- Wind effect
 - Capillary effect
 - Siphonage
 - Back pressure
223. It is portion of the vent pipe through which liquid waste flow:
- Local vent
 - Individual vent
 - Utility vent
 - Relief vent
224. It is arrangement of venting so installed that one vent will serve two trap
- Local vent
 - Wet vent
 - Unit vent**
 - Relief vent
225. It is the pipe extension of a solid waste or waste stack above the highest horizontal drain connected to the stack:
- Vent stack thru roof
 - Local vent
 - Stack vent thru roof**
 - Loop vent
226. A pit or receptacle at low point to which waste water are drained:
- Catch basin
 - Holding tank
 - Sump pit
 - Septic tank
227. The spoon like tools use for pouring molten pig lead into hub as making caulk joint in cast iron pipe is called:
- Spatula
 - Scoop
 - Dippers
 - None of these**
228. The trap provision required to restaurant and other establishment were sewage covers large amount of grease prior to discharge to sewer
- Drum trap
 - Grease trap**
 - Catch basin
 - S-trap
229. Under the term and condition of PD 856, Sanitation Code of the Philippines, the effective depth of a septic tank is measured from the bottom of septic tank to the level:
- Liquid level line
 - Bottom of inside cover of tank
 - Invert if inlet pipeline
 - Invert of discharge pipe line
230. The receptacle in which waste water are retained for sufficient period to deposit suitable materials:
- Catch basin**
 - Cesspool
 - Interceptor
 - Septic tank
231. In term of discharge one fixture unit represent the flow rate approximately:
- 7.0 gallons
 - 5 gallons
 - 7.48 gallons**
 - 6.5 gallons
232. The water service is a pipe that extends from the
- Water riser run out to the water tank
 - Water main to the water tank
 - Water main to the water meter**
 - Water main to the building
233. The basic elements of a cold water supply include the
- Riser run out
 - Subsoil drain lines
 - Downspout**
 - Water closets
234. Flushometer is another name for:
- Flush tank
 - Relief valve
 - Vacuum breaker
 - Flush valve**
235. The minimum size of a Fire Hose outlet of an interior wet standpipe is:
- 20 mm Ø
 - 41 mm Ø
 - 25 mm Ø
 - 38 mm Ø**
236. All Dry standpipe shall extend from the ground floor and over the roof and shall be equipped with 0.63 millimeters outlet in every floor level with a minimum height from the floor of:
- 1.00 m
 - 1.50 m
 - 0.90 m
 - 1.20 m**
237. Dry standpipes shall have sufficient strength to withstand a water pressure of how much when ready for service?
- 25 kg/ sqcm
 - 20 kg/sqcm**
 - 10 kg/sqcm
 - 5 kg/ sqcm
238. PD 1096 prescribes that Dry stand pipe is required for every building of how many floors?
- 4 or more**
 - 2 or more
 - 5 or more
 - 3 or more
239. Which type of lavatories is designed for group use?
- Splash back lavatory
 - Shelf-back lavatory
 - Countertop**
 - Wall hung
240. Which of the following is not a plumbing fixture?
- Gravity tank
 - Roof drain
 - Booster pump**
 - Floor drain
241. The code that prescribed regulation on sanitary and industrial plumbing installation inside buildings and premises is the:
- National Building Code
 - National Plumbing Code**
 - Water Code of the Philippines
 - National Standards of Drinking Water
242. Subsoil water is collected and carried to a
- Sanitary sewer
 - Storm sewer
 - Sump**
 - River
243. Which of the following carries waste discharge to the building sewer?
- Soil stack
 - Indirect connection**
 - Building drain
 - Waste stack
244. All of the following are used in site drainage system EXCEPT;
- Drain inlets**
 - Catch basins
 - Roof drains
 - manholes
245. The Code that prescribes criteria on the quality of drinking water from meteoric, surface or underground sources is:
- National Standards for Drinking Water**
 - Water Code of the Philippines
 - National Building Code

- d. National Plumbing Code
246. Ball valves are an adaptation of
- Butterfly valve
 - Plug valves**
 - Globe valves**
 - Gate valve
247. For public health reasons, a sanitary drainage system must discharge into
- The ground
 - A public storm system
 - A public sewer system**
 - A water way
248. What type of end connection are used for valves smaller than 2 in. in diameter?
- Flanged
 - Compressive
 - Union
 - Threaded**
249. Which if these materials is best for vent pipes in an acid waste system?
- Plastic**
 - Galvanized steel
 - DWV copper
 - Malleable iron
250. Soil and waste stacks carry the discharge from all of the following EXCEPT
- Sinks
 - Water closet
 - Roof drains**
 - Floor drains
251. In a water distribution system, what connects the water main to the water risers?
- Water service**
 - Riser runout
 - Water pump
 - Water tank
252. What is the device suitable for pumping sewage from the deep basement floor into sewer line?
- Pressure relief valve
 - Pneumatic ejector**
 - Vacuum breaker
 - None of these
253. The length of pipe along the waterline of the pipe one fitting
- Standard length
 - Commercial length
 - Developed length**
 - Length
254. A device which discharges of pre-determined quantity of water to pipeline for flushing purpose actuated by direct water pressure.
- Flushometer valve**
 - Pressure valve
 - Water meter
 - Gate valve
255. What is that greatest stress which a material can stand without a permanent deformation after release of the stress?
- Fatigue
 - Tensile stress**
 - Working stress
 - Ultimate stress
256. In a water supply system the unobstructed vertical distance thru the free atmosphere between a faucet supplying water and the flood level rim of the fixtures is called?
- Airplane
 - Air gap
 - Fixture drain
 - None of these
257. What do you call that point which is unobstructed open edge of the fixture?
- Flushing surface
 - Rim**
 - Blister
 - Drain board
258. How does subsoil water is collected and being translated?
- Storm sewer
 - Sump**
 - River
 - Sanitary sewer
259. Which of the following is NOT a type of lavatory?
- Splash-back
 - Ledge-back
 - Reverse trap**
 - Countertop
260. What is the depth of the building sewer when installed?
- 1.00 m
 - 0.30 m**
 - 0.65 m
 - 1.20 m
261. What is that branch vent that serves two or more trap and from in front of the last fixtures connection of the horizontal branch to the vent stock?
- Local vent
 - Individual vent
 - Yoke vent
 - Utility vent
262. Caulk joint shall be firmly packed with oakum or hemp and powered received with pure lead what that depth of lead over oakum?
- 25 mm (1")**
 - 32 mm (1 ¼")
 - 38 mm (1 ½")
 - 13 mm (½")
263. What is that term with reference to the load producing effect on the plumbing system for different kind of plumbing fixtures?
- Flush tank volume
 - Demand load
 - Fixtures value
 - Fixture unit**
264. What is the minimum size of a fire hose outlet of an interior wet standpipe?
- 50 mm
 - 41 mm
 - 20 mm
 - 38 mm**
265. How does evaporation of the trap seal of a fixture be eliminated?
- Inside a room
 - Proper ventilation**
 - Frequently used
 - Install vacuum breaker
266. What is the corresponding name of the following abbreviation pertaining to local trade and government regulating body?
- DTI**
 - PCA
 - NAMPAP
 - PRC
267. What is the standard size of water service from the water main to the dwelling unit?
- 19.00 mm (3/4")**
 - 28.00 mm (1 ¼")
 - 12.5 mm (1/2")
- 268.