



**OFFICE OF THE ENGINEER-IN-CHIEF
PUBLIC HEALTH ENGINEERING DEPARTMENT
AIZAWL : MIZORAM**

**WRITTEN EXAMINATION : 2025
FOR THE POST OF**

**PLUMBER
(Regular)**

PAPER-III

Code No: _____
(For Official Use)

Signature of Invigilator

SUBJECT (Part)	MARKS OBTAINED
Technical/Specialised Subject (100x2=200 marks)	
Total Marks obtained (Full Marks-200)	

Signature of Examiner



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Roll No: _____
(To be filled in by Candidate)

Signature of Candidate

Signature of Invigilator

Instructions:

1. The question paper will also serve as the answer sheet. Candidates are required to answer directly on the question/answer sheet using Tick (✓) Marks.
 2. Time : 3 Hours
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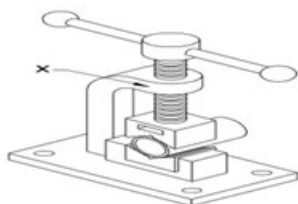
PLUMBER THEORY PAPER-III

(Each question carry 2(two) marks, the total is 200 marks and all question carry equal mark)

1. How to stop bleeding of injured person?
(a) Tie bandage ☐ (b) Apply ointment ☐
(c) Apply tincture over the wound ☐ (d) Apply pressure over the wound ☐
2. What is the colour code of bins for waste paper segregation?
(a) Red ☐ (b) Blue ☐
(c) Black ☐ (d) Green ☐
3. What is the first step of avoiding accident in work place?
(a) By wearing safety equipment ☐
(b) Doing things in one's own way ☐
(c) By observing safety precautions ☐
(d) Doing things with a highly skilled working practice ☐
4. Which fire extinguisher is used to extinguish class 'B' fire?
(a) Halon extinguisher ☐ (b) Foam extinguisher ☐
(c) Dry powder extinguisher ☐ (d) Carbon-dioxide extinguisher ☐
5. What is the material for body of bench vice?
(a) High speed steel ☐ (b) High carbon steel ☐
(c) Medium carbon steel ☐ (d) Cast iron ☐
6. Which vice has movable jaw that works vertically?
(a) Pin vice ☐ (b) Pipe vice ☐
(c) Hand vice ☐ (d) Quick releasing vice ☐
7. What is the accuracy of steel rule?
(a) 0.025mm ☐ (b) 0.5mm ☐
(c) 0.1mm ☐ (d) 0.2mm ☐
8. What is the reason for damaged spindle in bench vice?
(a) Bent on spindle lever ☐ (b) Over tightening the vice ☐
(c) Without using the clamps ☐ (d) Wrong handling of spindle ☐
9. Which nuts are used to protect thread at the bolt end from damages?
(a) Wing nut ☐ (b) Round nut ☐
(c) Slotted nut ☐ (d) Domed cap nut ☐
10. What is the use of odd leg caliper?
(a) For scribing arcs and circles ☐
(b) For marking lines parallel to inside and outside edges ☐
(c) For measuring the internal dimensions ☐
(d) For measuring the external dimensions ☐
11. What is the inclination angle of chisel to cut mild steel?
(a) 22° ☐ (b) 32° ☐
(c) 34.5° ☐ (d) 39.5° ☐
12. What is the formation deposited on pipes due to hardness of water?
(a) Scaling ☐ (b) Rusting ☐
(c) Pitting ☐ (d) Erosion ☐

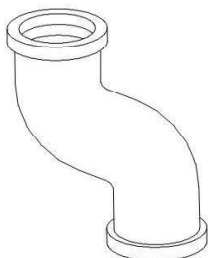
13. What is the formula used to calculate blank size of round rod before cutting external thread ?
 (a) Blank size= Thread size - 0.1% pitch of the thread ☐
 (b) Blank size= Thread size + 0.1% pitch of the thread ☐
 (c) Blank size= Thread size - 0.01% pitch of the thread ☐
 (d) Blank size= Thread size + 0.01% pitch of the thread ☐
14. What is used to close the pipe line that has an external thread?
 (a) Plug ☐ (b) Cap ☐
 (c) Coupling ☐ (d) Reducer ☐
15. Which type of fitting is used for easy to dismantle and repair ?
 (a) Nipple ☐ (b) Coupling ☐
 (c) Union ☐ (d) Reduce ☐
16. What is the length of pipe projection required from the vice while threading GI pipes?
 (a) (100-125)mm ☐ (b) (125-150)mm ☐
 (c) (150-200)mm ☐ (d) (150-250)mm ☐
17. Which wood is a non - porous structure?
 (a) Bamboo ☐ (b) Deodar ☐
 (c) Sal ☐ (d) Mango ☐
18. What is the name of tapered pieces of wood used for timber joints?
 (a) Wedges ☐ (b) Spikes ☐
 (c) Straps ☐ (d) Sockets ☐
19. Which hard wood nail used in place of iron nails?
 (a) Wire nail ☐ (b) Tre nail ☐
 (c) Lath nail ☐ (d) Cut clasp nail ☐
20. Which clamp is used to hold small parts of a job for gluing?
 (a) 'G' clamp ☐ (b) 'C' clamp ☐
 (c) 'U' clamp ☐ (d) Vice clamp ☐
21. What is the pressure range between the oxygen cylinder?
 (a) 90 to 120 kg/cm² ☐ (b) 120 to 150 kg/cm² ☐
 (c) 15 to 16 kg/cm² ☐ (d) 14 to 15 kg/cm² ☐
22. Which is the important part in soldering iron?
 (a) Handle ☐ (b) Shank ☐
 (c) Head (Copper bit) ☐ (d) Edge ☐
23. Which material is used to manufacture soldering iron tip?
 (a) Cast iron ☐ (b) Steel ☐
 (c) Bronze ☐ (d) Copper ☐
24. Which type of flux removes oxides on base metal surface?
 (a) Inorganic fluxes ☐ (b) Organic fluxes ☐
 (c) Resin ☐ (d) Tallow ☐
25. Which acid is used as a flux for stainless steel in soldering?
 (a) Hydrochloric acid ☐ (b) Nitric acid ☐
 (c) Phosphoric acid ☐ (d) Sulphuric acid ☐
26. What is the angle of blow pipe held in right ward welding?
 (a) Blow pipe held at an angle of 40⁰-50⁰ ☐
 (B) Blow pipe held at an angle of 30⁰-40⁰ ☐
 (c) Blow pipe held at an angle of 20⁰-30⁰ ☐
 (d) Blow pipe held at an angle of 10⁰-20⁰ ☐

27. What size of nozzle number is used to weld 5mm thick plate?
 (a) Nozzle size no. 7 ☐ (b) Nozzle size no. 10 ☐
 (c) Nozzle size no. 13 ☐ (d) Nozzle size no. 18 ☐
28. What is the maximum permitted gap between the two joining surface in brazing?
 (a) 0.06mm ☐ (b) 0.07mm ☐
 (c) 0.08mm ☐ (d) 1.00mm ☐
29. What is the melting temperature of brazing filler rods used to braze in iron and its alloys?
 (a) 840°C to 920°C ☐ (b) 850°C to 940°C ☐
 (c) 860°C to 950°C ☐ (d) 880°C to 960°C ☐
30. Why the cylinder key is not removed from the cylinder during welding?
 (a) It is meant for either work also ☐
 (b) In case of emergency it helps to close the cylinders quickly ☐
 (c) It can be used as a small hammer ☐
 (d) It is used to balance the regulator ☐
31. What is the minimum compressive strength of first class bricks ?
 (a) 120 kg/cm² ☐ (b) 115 kg/cm² ☐
 (c) 110 kg/cm² ☐ (d) 105 kg/cm² ☐
32. What is the maximum compressive strength of third class bricks?
 (a) 35 kg/cm² ☐ (b) 40 kg/cm² ☐
 (c) 45 kg/cm² ☐ (d) 50 kg/cm² ☐
33. What is the recommended maximum size of aggregate in mm for RCC works to all precast items such as wash basin?
 (a) 12-20 mm ☐ (b) 12-35 mm ☐
 (c) 25-50 mm ☐ (d) 40-80 mm ☐
34. What is the approximate period required in days for concrete should be kept in curing?
 (a) 1 to 7 days ☐ (b) 7 to 28 days ☐
 (c) 28 to 35 days ☐ (d) 35 to 45 days ☐
35. Which type of bricks is used in construction such as bridges, storage buildings etc?
 (a) Solid bricks ☐ (b) Perforated bricks ☐
 (c) Heavy duty bricks ☐ (d) Fire bricks ☐
36. What is the recommended specification (1:1:6) for mixtures?
 (a) 1 cement, 1 sand, 6 lime ☐ (b) 1 cement, 1 lime, 6 sand ☐
 (c) 1 lime, 1 sand, 6 cement ☐ (d) 1 lime, 1 cement, 6 clay ☐
37. What is the recommended proportion of mix by volume for RCC works to machine foundation subject to vibration?
 (a) 1 cement, 2 fine aggregate, 4 coarse aggregate ☐
 (b) 1 cement, 3 fine aggregate, 6 coarse aggregate ☐
 (c) 1 cement, 4 fine aggregate, 8 coarse aggregate ☐
 (d) 1 cement, 2 fine aggregate, 2 coarse aggregate ☐
38. What is the percentage of strength for the cement in storage after 3 months?
 (a) 48% strength ☐ (b) 60% strength ☐
 (c) 75% strength ☐ (d) 85% strength ☐
39. What is the name of part marked as 'X'?

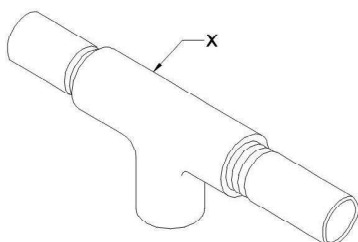


- (a) Yoke ☐ (b) Fixed jaw ☐
(c) Holding part ☐ (d) Movable jaw ☐
40. What is the largest diameter of pipe that can be held in chain pipe vice?
(a) 125 mm ☐ (b) 150 mm ☐
(c) 175 mm ☐ (d) 200 mm ☐
41. Which tool is used to clean and sharpen the jaw of pipe wrench?
(a) Flat file ☐ (b) Rasp file ☐
(c) Triangular file ☐ (d) Half round file ☐
42. Which one is used to wash out the small particles of dirt in chain pipe cutter?
(a) Light oil ☐ (b) Petrol ☐
(c) Kerosene ☐ (d) Turpentine ☐
43. What is swaging?
(a) Same diameter pipe joined with fittings ☐
(b) Same diameter pipe joined without fittings ☐
(c) Different diameter pipe joined with fittings ☐
(d) Different diameter pipe joined without fittings ☐
44. What is the percentage of silver content in copper to copper brazing rod?
(a) 15 to 25 % ☐ (b) 25 to 35 % ☐
(c) 35 to 45 % ☐ (d) 40 to 50 % ☐
45. What is the working pressure usually made on joints for pressure test?
(a) 5 kg/cm² ☐ (b) 6 kg/cm² ☐
(c) 8 kg/cm² ☐ (d) 10 kg/cm² ☐
46. What is the minimum radius required for tubing bend?
(a) 2 times the diameter ☐ (b) 3 times the diameter ☐
(c) 4 times the diameter ☐ (d) 5 times the diameter ☐
47. What is the recommended cutting angle of chisel to chip in cast iron?
(a) 37.5° ☐ (b) 55° ☐
(c) 60° ☐ (d) 90° ☐
48. What is the reason for drop in gauge pressure during pressure testing of flare joint?
(a) Leak ☐ (b) Buckle ☐
(c) Dent ☐ (d) Bent ☐
49. What is the effect on pipe while bending a 6mm copper tube with the radius less than 5 times its diameter?
(a) Break ☐ (b) Buckle ☐
(c) Crack ☐ (d) Cut ☐
50. What is the maximum temperature of PVC pipes to withstand heat?
(a) 140°F ☐ (b) 150°F ☐
(c) 160°F ☐ (d) 170°F ☐
51. Which pipe is used for carrying cold and hot water?
(a) Poly propylene ☐ (b) Low density poly ethylene ☐
(c) High density poly ethylene ☐ (d) Poly propylene random co-polymer ☐
52. What is the maximum temperature CPVC pipe can withstand heat?
(a) 140°F ☐ (b) 160°F ☐
(c) 170°F ☐ (d) 190°F ☐
53. Which gas is used to heat the torches in gas heated operated type welding?
(a) Butane ☐ (b) Acetylene ☐
(c) Methylene ☐ (d) Ethylene ☐

54. Which fitting is used to connect one length to another for continuation of the PVC pipe?
 (a) Tee ☐ (b) Reducer ☐
 (c) Socket ☐ (d) Elbow ☐
55. What is the name of joint that has threads on both sides of the central piece?
 (a) Barrel nipple ☐ (b) Double nipple ☐
 (c) Reducer ☐ (d) Socket ☐
56. Which has an exterior pipe thread end and used for fitting in the socket?
 (a) Bend ☐ (b) Elbow ☐
 (c) Tee ☐ (d) Plug ☐
57. What is the name of joint?

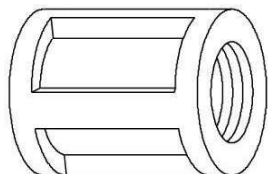


- (a) Bend ☐ (b) Offset ☐
 (c) Double bend ☐ (d) Reducer elbow ☐
58. State the two advantages of PVC pipes.
 (a) Durable and corrosion free ☐ (b) Light weight and economical ☐
 (c) Light weight and corrosion free ☐ (d) Durable and economical ☐
59. Which process is used for PVC welding in the absence of electrical power supply?
 (a) Heated tool welding ☐ (b) Hot gas welding ☐
 (c) Arc welding ☐ (d) Spot welding ☐
60. What is the desirable temperature of potable water?
 (a) 5°C ☐ (b) 6°C ☐
 (c) 8°C ☐ (d) 10°C ☐
61. What is the minimum depth for deposit of sand and porous material above the river bed to get filtered water?
 (a) 3 metres ☐ (b) 4 metres ☐
 (c) 5 metres ☐ (d) 6 metres ☐
62. What is the purpose of osmoscope test?
 (a) To test turbidity ☐ (b) To test temperature ☐
 (c) To test odour ☐ (d) To test colour ☐
63. Which test is used to find the hardness of water?
 (a) Physical test ☐ (b) Chemical test ☐
 (c) Bacteriological test ☐ (d) Zeolite test ☐
64. What is the test pressure of P1 class hummed pipes?
 (a) 10 m head ☐ (b) 20 m head ☐
 (c) 30 m head ☐ (d) 40 m head ☐
65. What is the name of part marked as 'X'?



- | | | | |
|-----------|--------------------------|--------------|--------------------------|
| (a) Tee | ☐ | (b) Cross | ☐ |
| (c) Elbow | ☐ | (d) Coupling | ☐ |
66. Which type of joint is used for joining big diameter concrete and asbestos cement pipes?
- | | | | |
|-------------------|--------------------------|--------------------------|--------------------------|
| a) Flanged joints | ☐ | (b) Screwed joints | ☐ |
| (c) Collar joints | ☐ | (d) Lead caulking joints | ☐ |
67. What are the metallic elements of solder?
- | | | | |
|-------------------|--------------------------|---------------------|--------------------------|
| (a) Lead and Tin | ☐ | (b) Lead and Copper | ☐ |
| (c) Lead and Zinc | ☐ | (d) Copper and Tin | ☐ |
68. What is the ratio of cement and sand for making mortar in a concrete pipe collar joint?
- | | | | |
|---------|--------------------------|---------|--------------------------|
| (a) 1:0 | ☐ | (b) 1:1 | ☐ |
| (c) 1:2 | ☐ | (d) 1:3 | ☐ |
69. Which type of joint is to be avoided to bear vibration or deflection of pipes?
- | | | | |
|---------------------|--------------------------|-----------------------|--------------------------|
| (a) Collar joint | ☐ | (b) Rubber ring joint | ☐ |
| (c) Expansion joint | ☐ | (d) Flanged joint | ☐ |
70. What is the vertical distance between a pump and water source level?
- | | | | |
|------------------|--------------------------|-------------------|--------------------------|
| (a) Suction head | ☐ | (b) Delivery head | ☐ |
| (c) Prime head | ☐ | (d) Friction head | ☐ |
71. Which pumps are called as vacuum pumps?
- | | | | |
|------------------------|--------------------------|-----------------------|--------------------------|
| (a) Displacement pumps | ☐ | (b) Centrifugal pumps | ☐ |
| (c) Air lift pumps | ☐ | (d) Booster pumps | ☐ |
72. How the sizes of bib taps are designated?
- | | |
|---|--------------------------|
| (a) Nominal bore of the pipe to fix the tap | ☐ |
| (b) Outer diameter of the pipe to fix the tap | ☐ |
| (c) Outer diameter of the inlet of the tap | ☐ |
| (d) Weight of the tap | ☐ |
73. Which type of centrifugal pump does not require priming?
- | | | | |
|--------------------|--------------------------|----------------------|--------------------------|
| (a) Monoblock pump | ☐ | (b) Jet pump | ☐ |
| (c) Cradle pump | ☐ | (d) Submersible pump | ☐ |
74. Which pump consists of more than one impeller?
- | | | | |
|-----------------------|--------------------------|----------------|--------------------------|
| a) Reciprocating pump | ☐ | b) Stage pump | ☐ |
| c) Impulse pump | ☐ | d) Rotary pump | ☐ |
75. What is the maximum suction limit for a hand pump?
- | | | | |
|---------|--------------------------|----------|--------------------------|
| (a) 8 m | ☐ | (b) 10 m | ☐ |
| (c) 6 m | ☐ | (d) 4 m | ☐ |
76. What pump is used for small discharge and high pressure head?
- | | | | |
|----------------------|--------------------------|----------------------|--------------------------|
| (a) Centrifugal pump | ☐ | (b) Air lift pump | ☐ |
| (c) Rotary pump | ☐ | (d) Submersible pump | ☐ |
77. What is the advantage of monoblock pump?
- | | |
|------------------------------------|--------------------------|
| (a) Decreased dimension and weight | ☐ |
| (b) Increased dimension and weight | ☐ |
| (c) No need of primary | ☐ |
| (d) No suction limit | ☐ |
78. What is the suction limit of a centrifugal pump?
- | | | | |
|-----------|--------------------------|-----------|--------------------------|
| (a) 8.5 m | ☐ | (b) 7.9 m | ☐ |
| (c) 9.7 m | ☐ | (d) 5.8 m | ☐ |

79. Where is stop cock fitted in the pipe line?
 (a) In between ☐ (b) At the end ☐
 (c) Near gate valve ☐ (d) Near air valve ☐
80. Which valve is fixed in the dead ends of distribution system for washing out?
 (a) Scour valve ☐ (b) Check valve ☐
 (c) Non-return valve ☐ (d) Ball valve ☐
81. Which valve allows only one direction flow?
 (a) Check valve ☐ (b) Globe valve ☐
 (c) Float valve ☐ (d) Air valve ☐
82. Which valve is used for removing mud and sludge from the reservoir?
 (a) Scour valve ☐ (b) Mud valve ☐
 (c) Sluice valve ☐ (d) Gate valve ☐
83. Why is it necessary to fix a non-return valve in the vertical delivery line of a pump?
 (a) To avoid back pressure ☐
 (b) To control delivery pressure ☐
 (c) To release excessive pressure ☐
 (d) To release air ☐
84. What is the size of ventilation pipe provided in a septic tank?
 (a) 100 m ☐ (b) 125 m ☐
 (c) 150 m ☐ (d) 175 m ☐
85. What is the instrument to find out the quantity of flow through pipe line?
 (a) Odometer ☐ (b) Anemometer ☐
 (c) Clinometer ☐ (d) Watermeter ☐
86. What is the test to check the straightness of sewer pipe by placing a lamp at its one end and other end by reflection of the light?
 (a) Smoke test ☐ (b) Air test ☐
 (c) Water test ☐ (d) Mirror test ☐
87. What is the purpose of an inspection chamber in a house drainage system?
 (a) Maintenance ☐ (b) Fire fighting ☐
 (c) Pumping ☐ (d) Clogging ☐
88. How are effluents from a septic tank disposed of?
 (a) Waste pipe ☐ (b) Jack well ☐
 (c) Soak pit ☐ (d) Soil pipe ☐
89. What is the advantage of air testing?
 (a) Low expense ☐ (b) Needs more water ☐
 (c) Easy repairing ☐ (d) Same pressure in all parts ☐
90. What is the cause for leakage in pipe line?
 (a) Metering supply system ☐ (b) Less water pressure ☐
 (c) Intermittent supply system ☐ (d) Bad joints and connection ☐
91. What is the name of the pipe fitting?



- | | | | |
|--------------|--------------------------|-----------|--------------------------|
| (a) Coupling | ☐ | (b) Elbow | ☐ |
| (c) Tee | ☐ | (d) Union | ☐ |
92. Which trap prevents the entry of the foul gases from the municipal sewer into the house drainage system?
- | | | | |
|-----------------|--------------------------|-----------------------|--------------------------|
| (a) Gully trap | ☐ | (b) Floor trap | ☐ |
| (c) Bottle trap | ☐ | (d) Intercepting trap | ☐ |
93. What is the size of PVC pipe for roof top rainwater harvesting in domestic purpose?
- | | | | |
|----------------|--------------------------|----------------|--------------------------|
| (a) 60-90 mm | ☐ | (b) 90-120 mm | ☐ |
| (c) 120-150 mm | ☐ | (d) 150-180 mm | ☐ |
94. Which pipe fitting is used to connect two pipes with different diameters in a straight line?
- | | | | |
|----------------------|--------------------------|-----------------|--------------------------|
| (a) Reducer cross | ☐ | (b) Reducer tee | ☐ |
| (c) Reducer coupling | ☐ | (d) Bend | ☐ |
95. Which is provided to reduce the effect of water hammer?
- | | | | |
|--------------------------------|--------------------------|--------------------------------------|--------------------------|
| (a) Air relief of smaller size | ☐ | (b) Stop valve in mid pipeline | ☐ |
| (c) Surge relief at outer end | ☐ | (d) Valves not installed in pipeline | ☐ |
96. What is filling in pipe bending?
- | | | | |
|----------------------------------|--------------------------|---------------------------------------|--------------------------|
| (a) Cool the pipes after bending | ☐ | (b) Pack the inside of pipes | ☐ |
| (c) Hold the pipes in template | ☐ | (d) Hold the pipes in bending machine | ☐ |
97. Why dry sand is filled before bending the pipe by hot bending method?
- | | |
|--|--------------------------|
| (a) Preventing the tube from cracking | ☐ |
| (b) Preventing the tube from lengthening | ☐ |
| (c) To avoid colour change | ☐ |
| (d) To avoid formation | ☐ |
98. What should be used for making leak proof in screwed joints?
- | | | | |
|--------------|--------------------------|--------------------|--------------------------|
| (a) Hemp yam | ☐ | (b) Solvent cement | ☐ |
| (c) Petrol | ☐ | (d) Diesel | ☐ |
99. Where the water tap is fitted in a pipe line?
- | | | | |
|-------------------|--------------------------|----------------|--------------------------|
| (a) In the middle | ☐ | (b) In between | ☐ |
| (c) At the end | ☐ | (d) At the top | ☐ |
100. Which sanitary fitting prevents the passage of foul gases from the pipes to the outside?
- | | | | |
|----------------|--------------------------|---------------|--------------------------|
| (a) Door bends | ☐ | (b) Vent cowl | ☐ |
| (c) Foot rest | ☐ | (d) Traps | ☐ |

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