

## PROVISIONAL ANSWER KEY

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Exam:	Training Instructor (Plumber)
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Question1:-Which fire extinguisher is suitable for electrical fires?

A:-CO<sub>2</sub>

B:-Foam

C:-Dry Powder

D:-Water

Correct Answer:- Option-A

Question2:-What type of fire does a Class B extinguisher target?

A:-Wood and Paper

B:-Flammable liquids

C:-Electrical fires

D:-Cooking oils

Correct Answer:- Option-B

Question3:-A yellow triangle with a black border usually indicates:

A:-Safety instruction

B:-Mandatory action

C:-Hazard or warning

D:-Fire Exit

Correct Answer:- Option-C

Question4:-Which PPE is required for welding operations?

A:-Hard hat

B:-Safety glasses only

C:-Latex gloves

D:-Flame-resistant gloves and helmet

Correct Answer:- Option-D

Question5:-Which class of fire involves flammable metals?

A:-Class A

B:-Class B

C:-Class C

D:-Class D

Correct Answer:- Option-D

Question6:-In a neutral flame, what is the temperature in the inner core?

A:-3200°C

B:-2100°C

C:-1250°C

D:-2700°C

Correct Answer:- Option-A

Question7:-In soft soldering the melting point of filler metal is

A:-below 420°C

B:-above 420°C

C:-below 520°C

D:-above 520°C

Correct Answer:- Option-A

Question8:-What is the percentage of carbon present in low alloy steel?

A:-0.4%

B:-0.25%

C:-0.8%

D:-0.6%

Correct Answer:- Option-B

Question9:-Single tank torches are typically suitable for

A:-Soldering

B:-Brazing

C:-Both (1) and (2)

D:-Welding

Correct Answer:- Option-C

Question10:-Which of the following flame is the hottest?

A:-Reducing flame

B:-Neutral flame

C:-Oxidizing flame

D:-All have same temperature

Correct Answer:- Option-C

Question11:-Oxy-acetylene can cut

A:-low carbon steels

B:-medium carbon steels

C:-wrought iron

D:-all of the above

Correct Answer:- Option-D

Question12:-In oxidizing flame, the color of inner cone is

A:-light blue

B:-purplish tinge

C:-dark blue

D:-red

Correct Answer:- Option-B

Question13:-Acetylene gas is kept in cylinders by mixing with

A:-alcohol

B:-acetone

C:-acetic acid

D:-folic acid

Correct Answer:- Option-B

Question14:-The composition of soft solder is

A:-lead-50%, tin-50%

B:-lead-63%, tin-37%

C:-lead-70%, tin-30%

D:-lead-37%, tin-63%

Correct Answer:- Option-D

Question15:-The purpose of using borax in brazing is to \_\_\_\_\_.

A:-Dissolve oxides when heating the work

B:-Replace flux

C:-Accelerate the formation of oxides on the work

D:-Prevent the spelter from melting too quickly

Correct Answer:- Option-A

Question16:-The piece of a brick cut along the centre of width in such a way that its length is equal to that of full brick, is called:

A:-Half brick

B:-King closer

C:-Bevelled closer

D:-Queen closer

Correct Answer:- Option-D

Question17:-The initial setting time for ordinary Portland cement as per IS specification should not less than \_\_\_\_\_,

A:-10 minutes

B:-30 minutes

C:-60 minutes

D:-600 minutes

Correct Answer:- Option-B

Question18:-How much percentage of alumina should contain in a good brick earth?

A:-35-50

B:-20-30

C:-1-2

D:-10-20

Correct Answer:- Option-B

Question19:-The slump test is used for determining

A:-Work ability

B:-Water Cement ratio

C:-Fineness

D:-Soundness

Correct Answer:- Option-A

Question20:-Which water connection is provided before the water enters the water meter in the house?

A:-Ferrule

B:-Service pipe

C:-Stop cock

D:-Goose neck

Correct Answer:- Option-C

Question21:-The recommended spacing of manholes on sewers, having diameter upto 0.3 m, is:

A:-75 m

B:-45 m

C:-90 m

D:-120 m

Correct Answer:- Option-B

Question22:-A concrete composed of cement, coarse aggregate and water only is called

A:-Light weight concrete

B:-Cellular concrete

C:-No lines concrete

D:-Heavy weight concrete

Correct Answer:- Option-C

Question23:-The detention period of septic tank is

A:-1 to 2 hours

B:-24 to 48 hours

C:-30 minutes

D:-2 to 4 weeks

Correct Answer:- Option-B

Question24:-For RCC construction the maximum size of coarse aggregate is limited to

A:-15 mm

B:-20 mm

C:-30 mm

D:-10 mm

Correct Answer:- Option-B

Question25:-Most commonly used retarder in cement manufacture

A:-Calcium chloride

B:-Calcium carbonate

C:-Gypsum

D:-None of these

Correct Answer:- Option-C

Question26:-Which of the following is not considered as a rusticated joint in stone masonry?

A:-Cramped joint

B:-Vee joint

C:-Channelled joint

D:-Vee and Channelled joint

Correct Answer:- Option-A

Question27:-The urinals which are mostly used in ladies laboratories are

A:-Bowl type urinals

B:-Stall type urinals

C:-Drain type urinals

D:-Squatting plate urinals

Correct Answer:- Option-D

Question28:-The binding materials used in surkhi mortar is

A:-Cement

B:-Surkhi

C:-Lime

D:-All of these

Correct Answer:- Option-C

Question29:-Masonry consists of blocks of stones carefully dressed with narrow joints

A:-Ashlar masonry

B:-Rubble masonry

C:-Brick masonry

D:-None of these

Correct Answer:- Option-A

Question30:-The ingredients of gauged mortar other than water are

A:-Cement and sand

B:-Lime and sand

C:-Sand

D:-Cement, Lime and Sand

Correct Answer:- Option-D

Question31:-Which joint is specifically designed to allow for the easy dismantling of a pipeline for repair or cleaning?

A:-Socket joint

B:-Spigot joint

C:-Flange joint

D:-Expansion joint

Correct Answer:- Option-C

Question32:-In a Spigot and Socket joint, what is the primary function of the Spigot end?

A:-To provide a wide opening for the seal

B:-To be inserted into the enlarged end of the next pipe

C:-To host the bolts for a flange connection

D:-To act as a pressure relief point

Correct Answer:- Option-B

Question33:-Which fitting is used to connect four pipes at a single junction in a plumbing circuit?

A:-Elbow

B:-Tee

C:-Cross

D:-Union

Correct Answer:- Option-C

Question34:-Which specific pipe fitting is used to join two pipes of different diameters while keeping the centrelines of the pipes aligned?

A:-Elbow

B:-Concentric Reducer

C:-Eccentric Reducer

D:-Union

Correct Answer:- Option-B

Question35:-A 'Union' fitting is considered essential in a residential GI pipeline circuit primarily because:

A:-It increases the low velocity of the fluid

B:-It allows for the disconnection of a segment without dismantling the entire line

C:-It prevents the backflow of water

D:-It acts as a safety valve during high pressure

Correct Answer:- Option-B

Question36:-Which type of valve is specifically designed to throttle or regulate the flow of water, rather than just acting as a simple on/off switch?

A:-Gate Valve

B:-Globe Valve

C:-Check Valve

D:-Sluice Valve

Correct Answer:- Option-B

Question37:-The 'Lead Caulking' method is a traditional joining technique primarily used for which type of pipe?

A:-GI Pipes with threaded ends

B:-AC Pressure Pipes

C:-CI Socket and Spigot joints

D:-DI Flange Joints

Correct Answer:- Option-C

Question38:-To close the end of a pipe that has internal threads (female threads), which of the following should be used?

A:-Cap

B:-Plug

C:-Coupling

D:-Bushing

Correct Answer:- Option-B

Question39:-What is the main advantage of DI (Ductile Iron) pipes over standard CI (Cast Iron) pipes?

A:-Lower cost

B:-Higher brittleness

C:-Better tensile strength and impact resistance

D:-Lighter weight than plastic

Correct Answer:- Option-C

Question40:-A 'Bib Cock' is a specific type of valve usually installed at:

A:-The junction of two main supply lines

B:-The highest point of a building to release air

C:-The end of a pipe to allow water to be drawn into a basin or bucket

D:-The inlet of a water meter to stop the total supply

Correct Answer:- Option-C

Question41:-The largest usable source of fresh water for human consumption is:

A:-Rivers

B:-Lakes

C:-Ground water

D:-Glaciers

Correct Answer:- Option-C

Question42:-Assertion (A) : Lakes generally have less turbidity than rivers  
Reason (R) : Flow velocity in lakes is lower than in rivers, allowing suspended particles to settle.

A:-Both Assertion and Reason are true and Reason is the correct explanation

B:-Both Assertion and Reason are true but Reason is not the correct explanation

C:-Assertion is true but Reason is false

D:-Assertion is false but Reason is true

Correct Answer:- Option-A

Question43:-Identify the correct statements:

- I. Hardness is caused by multivalent metal ions
- II. Soft water form lather easily with soap
- III. Permanent hardness can be removed by boiling
- IV. Zeolite process exchanges  $\text{Ca}^{2+}$  and  $\text{Mg}^{2+}$  with  $\text{Na}^+$

A:-I, II, III

B:-I, III, IV

C:-II, III, IV

D:-I, II, IV

Correct Answer:- Option-D

Question44:-Temporary hardness of water can be removed by

A:-Filtration

B:-Distillation

C:-Boiling

D:-Reverse osmosis

Correct Answer:- Option-C

Question45:-Which filtration method works mainly through biological action?

A:-Rapid sand filter

B:-Pressure filter

C:-Slow sand filter

D:-Membrane filter

Correct Answer:- Option-C

Question46:-Water at  $-40^{\circ}\text{F}$  is equal to

A:-- 40 K

B:- $0^{\circ}\text{C}$

C:--  $40^{\circ}\text{C}$

D:-313 K

Correct Answer:- Option-C

Question47:-Assertion (A) : A sealed glass container filled with water may crack if frozen

Reason (R) : Water density becomes maximum at  $4^{\circ}\text{C}$

A:-Both (A) and (R) are true and (R) explain (A)

B:-Both (A) and (R) are true but (R) does not explain (A)

C:-(A) is true but (R) is false

D:-(A) is false but (R) is true

Correct Answer:- Option-B

Question48:-The expansion of water on freezing is approximately:

A:-15%

B:-5%

C:-9%

D:-2%

Correct Answer:- Option-C

Question49:-Assertion (A) : Water comes out with greater force when a hole is made near the bottom of a water tank than when a hole is made near the top.  
Reason (R) : Hydrostatic pressure in a liquid at rest increases with the depth below the free surface according to  $P = \rho gh$ .

A:-Both (A) and (R) are true and (R) is the correct explanation of (A)

B:-Both (A) and (R) are true but (R) is not the correct explanation of (A)

C:- (A) is true but (R) is false

D:- (A) is false but (R) is true

Correct Answer:- Option-A

Question50:-In long pipe lines, water hammer effect is reduced by:

A:-Increasing velocity

B:-Using air vessels

C:-Reducing pipe diameter

D:-Increasing pipe roughness

Correct Answer:- Option-B

Question51:-Which pipe material is not suitable for hot water supply?

A:-Copper

B:-Stainless steel

C:-PVC

D:-Galvanised Iron

Correct Answer:- Option-C

Question52:-What is the function of 'Red leaf' in plumbing?

A:-To coat outside for colour codes

B:-To act as a sealant for threaded pipe joints

C:-For PVC pipe joining

D:-Coating inside of pipes to avoid corrosion

Correct Answer:- Option-B

Question53:-The process of joining copper pipes using spelter is known as \_\_\_\_\_.

A:-Welding

B:-Soldering

C:-Riveting

D:-Brazing

Correct Answer:- Option-D

Question54:-The standard design period for a common water treatment plant is

A:-5 Years

B:-15 Years

C:-50 Years

D:-75 Years

Correct Answer:- Option-B

Question55:-In which system of water supply, water is supplied only during fixed hours of the day?

A:-Intermittent system

B:-Direct pumping system

C:-Continuous system

D:-Ring system

Correct Answer:- Option-A

Question56:-Which one of the following pumps is not a positive displacement pump?

A:-Reciprocating pump

B:-Centrifugal pump

C:-Gear pump

D:-Lobe pump

Correct Answer:- Option-B

Question57:-The process of filling liquid to be pumped in the suction pipe and casting of the centrifugal pump is known as

A:-Cavitation

B:-Priming

C:-Slip

D:-Water hammer

Correct Answer:- Option-B

Question58:-What is the minimum recommended distance between a septic tank and water well to prevent contamination?

A:-15 feet

B:-30 feet

C:-40 feet

D:-50 feet

Correct Answer:- Option-D

Question59:-Which heavy metal can contaminate wells through the corrosion of old plumbing fixtures?

A:-Iron

B:-Lead

C:-Magnesium

D:-Potassium

Correct Answer:- Option-B

Question60:-Shock Chlorination is a process used to

A:-Lower the hardness of water

B:-Remove heavy metal

C:-Desalinate the water

D:-Disinfect a well after flooding and repair

Correct Answer:- Option-D

Question61:-Consider the following statements about the functioning of a cesspool:

- i. The lower portion of the cesspool allows settling and partial decomposition of solids.
- ii. The structure works exactly like a fully sealed septic tank.
- iii. The upper portion helps in absorption of liquid effluent into surrounding soil.

Which of the above statements are correct?

A:-i and ii only

B:-i and iii only

C:-ii and iii only

D:-i, ii and iii

Correct Answer:- Option-B

Question62:-Consider the following statements regarding a cesspool :

- i. A cesspool disposes sewage mainly by allowing liquid to soak into surrounding soil.
- ii. It is suitable only when the soil has good permeability.
- iii. It is recommended when the groundwater table is very high.

Which of the above statements are correct?

A:-i and ii only

B:-i and iii only

C:-ii and iii only

D:-i, ii and iii

Correct Answer:- Option-A

Question63:-The main reason for providing two chambers in a septic tank is :

A:-To increase the structural strength of the tank

B:-To separate fresh sewage from partially digested sludge

C:-To allow aerobic treatment of sewage

D:-To increase infiltration into soil

Correct Answer:- Option-B

Question64:-Consider the following statements regarding sludge in septic tanks :

- i. It should never be removed once the tank is constructed.
- ii. It is partially decomposed under anaerobic conditions.
- iii. Sludge accumulates at the bottom of the tank.

Which of the above statements are correct?

A:-i only

B:-i and ii only

C:-ii and iii only

D:-i, ii and iii

Correct Answer:- Option-C

Question65:-Consider the following statements regarding inlet and outlet in septic tanks :

- i. The inlet pipe is usually kept slightly higher than the outlet pipe.
- ii. Baffle walls are provided to prevent direct flow of sewage from inlet to outlet.
- iii. The outlet pipe helps in removing sludge from the tank.

Which of the above statements are correct?

A:-i only

B:-i and ii only

C:-ii and iii only

D:-i, ii and iii

Correct Answer:- Option-B

Question66:-Consider the following statements regarding scum formation in septic tanks :

- i. Scum is formed mainly by grease, fats and floating materials.
- ii. Scum layer helps in reducing oxygen entry into sewage.
- iii. Scum formation completely stops anaerobic digestion.

Which of the above statements are correct?

A:-i and ii only

B:-ii and iii only

C:-i and iii only

D:-i, ii and iii

Correct Answer:- Option-A

Question67:-The benching provided in a manhole mainly helps to :

A:-Store sludge temporarily

B:-Direct sewage into the channel and prevent stagnation

C:-Increase infiltration of groundwater

D:-Reduce pipe diameter

Correct Answer:- Option-B

Question68:-Consider the following statements regarding drop manholes :

- i. A drop manhole is provided when the incoming sewer is much higher than the outgoing sewer.
- ii. It helps reduce excessive velocity in the sewer line.
- iii. It prevents erosion and turbulence inside the manhole.

Which of the above statements are correct?

A:-i only

B:-i and ii only

C:-i, ii and iii

D:-ii and iii only

Correct Answer:- Option-C

Question69:-Consider the following statements regarding inspection chambers in house drainage :

- i. They provide access for inspection and cleaning.
- ii. They are usually provided at changes in direction of pipes.
- iii. They completely replace the need for manholes in all sewer systems.

Which of the above statements are correct?

A:-i only

B:-i and ii only

C:-ii and iii only

D:-i, ii and iii

Correct Answer:- Option-B

Question70:-Consider the following statements regarding soak pits :

- i. A soak pit is used for the disposal of effluent from septic tanks.
- ii. It allows wastewater to infiltrate slowly into the surrounding soil.
- iii. It provides complete biological treatment of sewage.

Which of the above statements are correct?

A:-i only

B:-i and ii only

C:-ii and iii only

D:-i, ii and iii

Correct Answer:- Option-C

Question71:-An automatic device which allows water to flow only in one direction is called

A:-Safety valve

B:-Check valve

C:-Sluice valve

D:-Air valve

Correct Answer:- Option-B

Question72:-A small pipe piece which have external threads at both the ends is called as :

A:-Union

B:-Plug

C:-Chuck nut

D:-Nipple

Correct Answer:- Option-D

Question73:-Which type of seal is used to avoid leakage from flanged joint?

A:-Lead

B:-Jute

C:-Gasket

D:-Cotton thread

Correct Answer:- Option-C

Question74:-Infrared (IR) cameras detect water leaks in pipes by identifying \_\_\_\_\_.

A:-Temperature difference

B:-Sound frequency shifts

C:-Gas concentration

D:-Pipe wall thickness

Correct Answer:- Option-A

Question75:-An air lock in a gravity pipe system is most likely to occur at

A:-The lowest point

B:-The highest point

C:-The reservoir intake

D:-The discharge nozzle

Correct Answer:- Option-B

Question76:-Which valve component is responsible for transmitting motion from the hand wheel to the valve disc during opening and closing operations?

A:-Valve stem

B:-Valve bonnet

C:-Valve seat

D:-Valve body

Correct Answer:- Option-A

Question77:-Which device is installed to protect the penstock from water hammer?

A:-Sluice valve

B:-Check valve

C:-Air valve

D:-Surge tank

Correct Answer:- Option-D

Question78:-An ultrasonic leak detector identifies leaks by :

A:-Detecting high-frequency sound waves

B:-Using X-rays

C:-Measuring magnetic flux

D:-Thermal imaging

Correct Answer:- Option-A

Question79:-The accuracy of a water meter is usually expressed as a percentage of :

A:-Pressure

B:-The pipe diameter

C:-The actual volume passed

D:-The time of day

Correct Answer:- Option-C

Question80:-The pressure for a hydrostatic test is usually \_\_\_\_\_ times the working pressure.

A:-0.5

B:-1.5

C:-5.0

D:-10.0

Correct Answer:- Option-B

Question81:-What is the minimum required water seal depth for traps in plumbing systems?

A:-2.5 cm

B:-5.0 cm

C:-7.5 cm

D:-10.0 cm

Correct Answer:- Option-C

Question82:-A "one-pipe partially ventilated system" is a mix, often using a relief vent to ventilate which specific fixtures?

A:-Kitchen sinks only

B:-Baths and showers only

C:-Roof gutters

D:-Water Closets (WCs) and urinals

Correct Answer:- Option-D

Question83:-In a one-pipe plumbing system, what is combined into a single pipe?

A:-Hot and cold water

B:-Soil (toilet) and wastewater (sullage)

C:-Roof rain water and sewage

D:-Vent pipe and water pipe

Correct Answer:- Option-B

Question84:-Which of the following test is used to detect the leakage of rain water pipe in the testing of house sewers?

A:-Smoke test

B:-Water test

C:-Temperature test

D:-Air test

Correct Answer:- Option-A

Question85:-Which test is best for checking the leakage of a split A/C condenser?

A:-Vacuum decay test

B:-Mass spectrometry

C:-Bubble test

D:-Electronic leak detector

Correct Answer:- Option-D

Question86:-Which of the following installation is used to spray water over a surface to provide protection of fire?

A:-Drencher

B:-Sprinkler

C:-Hydrant

D:-Riser

Correct Answer:- Option-A

Question87:-Water supply for fire fighting can be done by which type of hydrant system?

A:-Wet hydrant system

B:-Hydrant system with pump

C:-Hydrant system without pump

D:-Dry hydrant system

Correct Answer:- Option-A

Question88:-Which trap is commonly used for an Indian-type water closet?

A:-Floor Trap

B:-Bottle Trap

C:-P-Trap

D:-Intercepting Trap

Correct Answer:- Option-C

Question89:-In fire fighting, what is the process of cutting holes in the roof to allow hot air and smoke to escape?

A:-Horizontal ventilation

B:-Natural ventilation

C:-Positive pressure ventilation

D:-Vertical ventilation

Correct Answer:- Option-D

Question90:-Anti-siphonage pipe is fitted

A:-At the beginning of sewer line

B:-With a water closet trap

C:-At the end of septic tank

D:-On manholes

Correct Answer:- Option-B

Question91:-What is the main purpose of a plumbing trap?

A:-Increase water pressure

B:-Prevent sewer gases entering the building

C:-Store water

D:-Increase drainage speed

Correct Answer:- Option-B

Question92:-The building drain ventilating pipeline should not be less than

A:-75 mm

B:-70 mm

C:-65 mm

D:-80 mm

Correct Answer:- Option-A

Question93:-Temperature is a measure of

A:-Internal energy

B:-Degree of hotness or coldness

C:-Heat content

D:-Energy flow

Correct Answer:- Option-B

Question94:-Sewer ventilation is necessary because sewer gases are

A:-Pleasant

B:-Harmless

C:-Toxic and explosive

D:-Odorless

Correct Answer:- Option-C

Question95:-Specific heat of Aluminium

A:-0.22

B:-0.1

C:-1.0

D:-1.1

Correct Answer:- Option-A

Question96:-1 Calorie = \_\_\_\_\_ Joule.

A:-3.18

B:-5.18

C:-4.18

D:-1.18

Correct Answer:- Option-C

Question97:-It is mandatory to fix non return valve in case inlet pressure of water heater is more

A:-25 M head

B:-15 M head

C:-20 M head

D:-18 M head

Correct Answer:- Option-D

Question98:-In \_\_\_\_\_ hot gases in several tubes is used to heat the surrounding water.

A:-Immersion rods

B:-Fire tube boilers

C:-Water tube boilers

D:-Geysers

Correct Answer:- Option-B

Question99:-\_\_\_\_\_ rely on heat driven convection to circulate water or heating fluid in the system.

A:-Non Passive system

B:-Active system

C:-Passive system

D:-Non Active system

Correct Answer:- Option-C

Question100:-The main component that absorbs solar heat is

A:-Collector

B:-Tank

C:-Pump

D:-Valve

Correct Answer:- Option-A