Water Supply Engineering

Question No. 01

When the reduced level of the water source is higher than the reduced level of the consumer's place, water is generally supplied

(A) By pumping system
(B) By gravitational system
(C) Both (a) and (b)
(D) All the above
Answer: Option B

Question No. 02

Surcharge storage zone of a reservoir, is

(A) Below dead storage
(B) Between dead storage and useful storage
(C) Above useful storage
(D) Also known as valley storage
Answer: Option C

Question No. 03

In pressure supply mains, water hammer pressure is reduced by providing

(A) Sluice valves
(B) Air valves
(C) Pressure relief valves
(D) None of these
Answer: Option C

Question No. 04

Specific capacity or yield of wells, is generally expressed, as

(A) m^3 per sec
(B) m^3/hour
(C) m^3/hour/m^2
(D) m^3/hour/m^2/m
Answer: Option D

Question No. 05

To pump water from a water reservoir 3 m deep and maximum water level at 135 m, a pump is installed to lift water up to R.L. 175 m at a constant rate of 36,00,000 litres per hour. If the length of the pipe is 1506 m and f = 0.01, ignoring other minor losses and assuming the economical diameter from Lea's formula $D = 1.2 \sqrt{Q}$, the water horse power of the pump is

(A) 400
(B) 450
(C) 500

(D) 600

Answer: Option D

Question No. 06

Turbidity of raw water is a measure of

(A) Suspended solids

(B) Acidity of water

(C) B.O.D.

(D) None of these

Answer: Option A

Question No. 07

If the chosen diameter of a pipe, is less than the economical diameter

(A) Cost of pipe will be less

(B) Head loss will be high

(C) Cost of pumping will be more than saving

(D) All the above

Answer: Option D

Question No. 08

Pick up the correct statement from the following:

(A) The water level in a still well, represents the ground water table level

(B) The difference between water table level and the water level in a well after pumping, is called depression head

(C) The surface of water table surrounding a well during pumping, forms a cone of depression

(D) All the above

Answer: Option D

Question No. 09

The expected discharge to be obtained from an open well sunk in coarse sand is 0.0059 cumec. If the working depression head of the well is 3 m, the minimum diameter of the well, is

(A) 2 m

(B) 2.25 m

(C) 2.50 m

(D) 3.00 m

Answer: Option D

Question No. 10

Pick up the correct statement from the following:

(A) Water with hardness upto 75 ppm is considered soft

(B) Water with hardness more than 200 ppm is considered hard

(C) Water needed for laundries should contain hardness less than 75 ppm

(D) All the above

Answer: Option D

Question No. 11

In centrifugal pump installation,

(A) Pump is properly primed before starting
(B) The diameter of the pipe at inlet as well as at outlet, is kept smaller than the delivery pipe
(C) The motor may burn out if it is started with empty delivery pipe and with open gate valve
(D) All the above

Answer: Option D

Question No. 12

While determining the yield of open wells by the pumping test

(A) Velocity of recharging water, increases with depression head
(B) Depression head resulting at critical velocity, is called critical depression head
(C) Working head is generally limited to ⅓rd of the critical depression head
(D) Maximum safe yield of an open well, is expected at critical depression head

Answer: Option D

Question No. 13

The process of passing water through beds of granular materials, is called

(A) Screening
(B) Sedimentation
(C) Filtration
(D) None of these

Answer: Option C

Question No. 14

For the prediction of future population of a city, the factor to be considered, is

(A) Births
(B) Deaths
(C) Migrants
(D) All the above

Answer: Option D

Question No. 15

Mathamoglobinemia or blue baby disease is caused due to

(A) Chlorides
(B) Nitrites
(C) Nitrates
(D) Sulphides

Answer: Option C

Question No. 16

To control the growth of algae in reservoirs, the compound which is used, is

(A) Bleaching powder
(B) Copper sulphate
(C) Lime solution

(D) Alum solution

Answer: Option B

Question No. 17

The population of a city in 2000 is 50,000. The average increase in population over last 8 decades is 7500 and average incremental increase during 8 decades is 750. The population of the city based on incremental method, in the year 2020 will be

(A) 55,000

(B) 60,500

(C) 66,500

(D) 72,500

Answer: Option C

Question No. 18

A pressure conduit laid underground, may not be subjected to

(A) Internal pressure of water

(B) Pressure due to external load

(C) Longitudinal temperature stress

(D) Longitudinal stresses due to unbalanced pressure to bends

Answer: Option C

Question No. 19

The bacterias which require free oxygen for their survival, are called

(A) Aerobic bacterias

(B) Anaerobic bacterias

(C) Facultative bacteria

(D) None of these

Answer: Option A

Question No. 20

Gravity conduits are generally in the form of

(A) Canals

(B) Flumes

(C) Aqueduct

(D) All the above

Answer: Option D

Question No. 21

The main disadvantage of hard water, is

(A) Greater soap consumption

(B) Scaling of boilers

(C) Corrosion and incrustation of pipes

(D) All the above

Answer: Option D

Question No. 22

The formula $Q = P - K [1.8T + 32]$ in which Q is runoff, P is annual rain fall in cm, T is mean annual temperature in centigrade and K is a constant, is known

(A) Justin's formula
(B) Khosla's formula
(C) English formula
(D) Vermule's formula

Answer: Option B

Question No. 23

The bed slope in slow sand filters, is generally kept

(A) 1 in 50
(B) 1 in 75
(C) 1 in 100
(D) 1 : 200

Answer: Option C

Question No. 24

The water level in an open well was depressed by pumping 2.5 m and recuperated 2.87 m in 3 hours and 50 minutes. The yield of the well per minute is

(A) 0.0033
(B) 0.0044
(C) 0.0055
(D) 0.0066

Answer: Option C

Question No. 25

Perched aquifers are generally found

(A) On the surface of the ground
(B) Below the surface of the ground but above water table
(C) Below the water table
(D) All the above

Answer: Option B

Question No. 26

Pick up the incorrect statement from the following:

(A) The pH value of water indicates the logarithm of reciprocal of hydrogen ion concentration in water
(B) Higher value of pH means lower hydrogen ion concentration
(C) Lower value of pH means higher hydrogen ion contraction
(D) Lower value of pH gives alkaline solution

Answer: Option D

Question No. 27

Mostly used coagulant, is

(A) Chlorine
(B) Alum
(C) Lime
(D) Bleaching powder

Answer: Option B

Question No. 28

A centrifugal pump is required to be primed before starting if it is located

(A) At higher level than water level of reservoir
(B) At lower level than water level of reservoir
(C) Both (a) and (b)
(D) Neither (a) nor (b)

Answer: Option A

Question No. 29

Suction lift of a pump depends upon

(A) Atmospheric pressure
(B) Water temperature
(C) Velocity of water in suction pipe
(D) All the above

Answer: Option D

Question No. 30

Normal values of overflow rate for plain sedimentation tank, is

(A) 250 to 500 litres/hr/m^2
(B) 500 to 750 litres/hr/m^2
(C) 750 to 1000 litres/hr/m^2
(D) 1000 to 1250 litres/hr/m^2

Answer: Option B

Question No. 31

'Shrouding' is essentially provided in

(A) Strainer type wells
(B) Cavity type wells
(C) Slotted type well
(D) All the above

Answer: Option C

Question No. 32

The maximum permissible hardness for public supplies is

(A) 95 mg/litre
(B) 105 mg/litre
(C) 115 mg/litre

(D) 125 mg/litre

Answer: Option C

Question No. 33

Time of concentration

(A) Is the time taken, for precipitation

(B) Duration of rainfall

(C) Time taken for all the ran off to reach the drain

(D) Time taken for the storm water to travel from the most remote point to the drain

Answer: Option D

Question No. 34

The chlorine supply cylinders are generally kept at 38°C to 40°C to prevent

(A) Conversion into crystals

(B) It from burning

(C) It from explosion

(D) None of these

Answer: Option A

Question No. 35

For calculation of economical diameter *D* of a pipe in metres for a discharge *Q* to be pumped in cumecs, Lea suggested the empirical formula

(A) $D = 0.22 \sqrt{Q}$

(B) $D = 1.22 \sqrt{Q}$

(C) $D = 2.22 \sqrt{Q}$

(D) $D = 3.22 \sqrt{Q}$

Answer: Option B

Question No. 36

An earth formation which, although porous and capable of absorbing water does not provide an appreciable supply to wells, is known as

(A) Aquifer

(B) Aquiclude

(C) Aquifuge

(D) None of these

Answer: Option B

Question No. 37

Property of earth to allow water to pass through it, is known as

(A) Perviousness

(B) Porosity

(C) Permeability

(D) Transmissibility

Answer: Option A

Question No. 38

Plain chlorination is used for water

(A) Obtained from clear lakes
(B) Consumed during emergencies
(C) Supplies to armies during war
(D) All the above
Answer: Option D

Question No. 39

A city supply includes

(A) Domestic water demand
(B) Industrial and commercial water demands
(C) Demand for public uses and fire
(D) All the above
Answer: Option D

Question No. 40

The pH value of water is kept slightly less than 7 so that hydrochloride ions may combine with ammonia ions to form

(A) Mono-chloramine (NHCl)
(B) Di-chloramine (NH_2Cl)
(C) Nitrogen tri-chloramine (NCl_3)
(D) All the above
Answer: Option D

Question No. 41

Pick up the correct statement from the following:

(A) Copper pipes are highly resistant to acidic and alkaline water
(B) Wrought iron pipes are lighter than cast iron pipes
(C) Wrought iron pipes corrode quickly and are less durable
(D) All the above
Answer: Option D

Question No. 42

Pick up the correct statement from the following:

(A) A hydrograph is a plot of discharge versus time
(B) A mass curve is a plot of accumulated flow versus time
(C) The mass curve continuously rises
(D) All the above
Answer: Option D

Question No. 43

If *L*, *B* and *D* length, breadth and depth of water in a rectangular sedimentation tank of total discharge *Q*, the settling velocity, is

(A) Q/H

(B) Q/D

(C) $Q/(D \times B)$

(D) $Q/(L \times B)$

Answer: Option D

Question No. 44

The difference in the reservoir level and the lowest point of the water mains is 180 m. The expected pressure due to water hammer is 7.5 kg/cm^2 in a pressure conduit of diameter 1 m. Assuming the efficiency of the riveted joints of the pipe as 0.6 and minimum cover 3 mm for corrosion, the thickness of the pipe materials, is

(A) 10 mm

(B) 15 mm

(C) 20 mm

(D) 25 mm

Answer: Option C

Question No. 45

If G is the specific gravity of particles of diameter d, the velocity of settlement V in still water at T°C, according to Stoke's law, is

(A) $V = 418\ (G - 1)\ d^2\ [(3T + 70)/100]$

(B) $V = 418\ (G - 1)\ d\ [(3T - 70)/100]$

(C) $V = 418\ (G - 1)\ d^2\ [(2T + 70)/100]$

(D) $V = 418\ (G - 1)\ d^4\ [(3T + 70)/100]$

Answer: Option A

Question No. 46

Rapid gravity filters

(A) Were developed by G.W. Fuller

(B) Make use of coarser sand with effective size as 0.5 mm

(C) Yield as high as 30 times the yield of slow sand filters

(D) All the above

Answer: Option D

Question No. 47

For 3.25×10^{-2} cumecs discharging from a well, a pump is installed to lift water against a total head of 30 m. The minimum required horse power, is

(A) 10 H.P.

(B) 15 H.P.

(C) 18 H.P.

(D) 20 H.P.

Answer: Option D

Question No. 48

Distribution mains of any water supply, is normally designed for its average daily requirement

(A) 100 %

(B) 150 %
(C) 200 %
(D) 225 %
Answer: Option D

Question No. 49

Maximum threshold number permitted for indicating the odour of public water supplies, is

(A) 1
(B) 2
(C) 3
(D) 4
Answer: Option C

Question No. 50

The rate of silting in a reservoir

(A) Is less in the beginning
(B) Remains constant throughout
(C) Is more in the beginning
(D) is more in the beginning and reduces in the end
Answer: Option D

Question No. 51

Corrosion of well pipes may not be reduced by

(A) Reducing the draw down and the pumping rate
(B) Reducing the flow velocity
(C) Using thicker pipes
(D) Using screens having larger area of openings
Answer: Option D

Question No. 52

Recuperation test is carried out to determine

(A) Turbidity of water
(B) pH value of water
(C) Yield of well
(D) Discharge from a well
Answer: Option A

Question No. 53

Pick up the correct statement from the following:

(A) Large solids carried along the river bed, is known as bed load
(B) The fine sediment deposits are generally near the face of the dam
(C) Deposition of sediment in the reservoir, reduces the capacity of the reservoir
(D) All the above
Answer: Option D

Question No. 54

Pick up the incorrect statement from the following. The underground sources of water, is from

(A) Wells
(B) Springs
(C) Infiltration wells
(D) Storage reservoirs

Answer: Option D

Question No. 55

Pick up the correct statement from the following:

(A) Domestic use of water is 50% of total consumption
(B) Average consumption of commercial use of water is 25% of total consumption
(C) Waste water and leakage is 15% of total consumption
(D) All the above

Answer: Option D

Question No. 56

Most important method for calculating discharge for planning a water supply project, is

(A) Velocity area method
(B) Weir or spillway method
(C) Use of venturi-meter
(D) Using power plant consumption

Answer: Option A

Question No. 57

Pick up the correct statement from the following:

(A) The internal pressure within a pipe, is caused due to water head and hammer pressure
(B) In pressure pipes with water at rest, the pressure is equal to water head
(C) Sudden closure of a valve, causes the water hammer pressure
(D) All the above

Answer: Option D

Question No. 58

Pickup the incorrect statement from the following:

(A) The invert of pressure conduit is independent of the grade of the hydraulic gradient line
(B) The pressure conduits may be taken uphill upto a maximum height of 8.3 m
(C) Aqueducts and tunnels sections are generally kept circular
(D) None of these

Answer: Option D

Question No. 59

Pick up the correct statement from the following:

(A) The ratio of the total sediment deposited in the reservoir to the total sediment flowing in the river, is called trap efficiency
(B) Small capacity reservoirs on large rivers generally, silt less

(C) Large capacity reservoirs on small rivers generally silt more
(D) All the above
Answer: Option D

Question No. 60

Gravity conduits for carrying water from the source are

(A) Canals
(B) Flumes
(C) Aqueducts
(D) All the above
Answer: Option D

Question No. 61

In a rapid sand filter, air binding is caused due to excessive

(A) Negative pressure
(B) Pressure
(C) Turbidity
(D) Water pressure
Answer: Option A

Question No. 62

According to Godrich the ratio of peak demand rate to mean demand is

(A) Max. weekly demand/Average weekly demand = 148%
(B) Max. monthly demand/Average monthly demand = 128%
(C) Max. half yearly demand/Average half yearly demand = 107%
(D) All the above
Answer: Option D

Question No. 63

The best quality of filter material is obtained from quartzite if it does not loose weight when placed in hydrochloric acid for 24 hours, more than

(A) 5 %
(B) 8 %
(C) 10 %
(D) 12 %
Answer: Option A

Question No. 64

Pick up the incorrect statement from the following:

(A) The net amount of water which joins the surface streams in a catchment, is known as surface run-off
(B) The amount of water which joins the stream from the underground water, is called base flow
(C) The yearly run off in cm depth over the catchment, is termed as the yield of the drainage basin

(D) None of these

Answer: Option D

Question No. 65

The factor for the selection of pumping station site, is

(A) Distance of the source of contamination or pollution

(B) Height above the H.F.L. of the river

(C) Future expansion

(D) All the above

Answer: Option D

Question No. 66

One degree of hardness of water means a content of salts of

(A) 10.25 mg/litre

(B) 12.25 mg/litre

(C) 14.25 mg/litre

(D) 16.25 mg/litre

Answer: Option C

Question No. 67

The U.C. (uniformity coefficient) D_{60}/D_{10} for the best filter media sand should be

(A) 2

(B) 3

(C) 4

(D) 5

Answer: Option A

Question No. 68

Manholes are less common in

(A) Cast iron pipes

(B) Steel pipes

(C) Hume steel pipes

(D) R.C.C. pipes

Answer: Option A

Question No. 69

For determining the velocity of flow of underground water, the most commonly used non-empirical formula is

(A) Darcy's formula

(B) Slichter's formula

(C) Hazen's formula

(D) Lacy's formula

Answer: Option A

Question No. 70

The most commonly used chemical for de-chlorination of water, is

(A) Sodium thiosulphate
(B) Sodium bisulphate
(C) Sodium sulphite
(D) Sulphur-dioxide

Answer: Option C

Question No. 71

To remove very fine suspended particles from water, the method adopted is

(A) Screening
(B) Sedimentation
(C) Boiling
(D) Filtration

Answer: Option D

Question No. 72

Sunlight

(A) Helps growth of bacterias
(B) Impedes growth of algae
(C) Increases dissolved oxygen content
(D) Reduces turbidity

Answer: Option B

Question No. 73

The detention period for plain sedimentation water tanks, is usually

(A) 4 to 8 hours
(B) 8 to 16 hours
(C) 16 to 24 hours
(D) 24 to 36 hours

Answer: Option D

Question No. 74

Air valves are generally provided in pressure pipes of water supply

(A) At pipe junctions
(B) At summits
(C) At low points
(D) Near service pipes

Answer: Option B

Question No. 75

Pick up the correct statement from the following regarding the pressure conduits:

(A) Pressure conduits are permitted to run ¾th full
(B) Pressure conduits are always laid along down grades
(C) The hydraulic gradient line always coincides the invert of the conduit

(D) None of these

Answer: Option D

Question No. 76

Pick up the correct statement from the following:

(A) Lime may be used to soften the hard water

(B) Excessive use of lime may kill the bacterias

(C) Excessive lime when added to water, raises its pH value

(D) All the above

Answer: Option D

Question No. 77

The gaseous form of chlorine gets converted into liquid form when subjected to a pressure of

(A) 5 kg/cm^2

(B) 6 kg/cm^2

(C) 7 kg/cm^2

(D) 10 kg/cm^2

Answer: Option C

Question No. 78

Flow through period, in sedimentation tanks, is

(A) Equal to detention period

(B) More than detention period

(C) Less than detention period

(D) Detention period divided by displacement efficiency

Answer: Option C

Question No. 79

Turbidity of water may be caused due to

(A) Suspended clay

(B) Suspended silt

(C) Finely divided organic material

(D) All the above

Answer: Option D

Question No. 80

Pick up the incorrect statement from the following:

(A) The water entering the slow sand filters should be treated by 9.386 coagulants

(B) The depth of water on the filter should be twice the depth of the filter sand

(C) When the filter head is 0.75 times the depth of filter sand, the water obtained is purest

(D) All the above

Answer: Option D

Question No. 81

The maximum hourly consumption, is generally taken as

(A) 110 %

(B) 120 %

(C) 140 %

(D) 150 %

Answer: Option D

Question No. 82

Hardness of water can be removed by boiling if it is due to

(A) Calcium bicarbonates

(B) Calcium sulphates

(C) Calcium chloride

(D) Calcium nitrates

Answer: Option A

Question No. 83

S_1 and S_2 are the draw downs in an observation well at times t_1 and t_2 after pumping. For discharge Q and coefficient of transmissibility T, the relationship, is

(A) $S_2 - S_1 = (2.3Q/\pi T) \log_{10} (t_2/t_1)$

(B) $S_2 - S_1 = (2.3Q/4\pi T) \log_{10} (t_2/t_1)$

(C) $S_2 - S_1 = (2.3Q/4\pi T) \log_{e} (t_2/t_1)$

(D) $S_2 - S_1 = (2.3Q/4\pi T) \log_{e} (t_1/t_2)$

Answer: Option B

Question No. 84

If discharge of a pump is 0.16 cumecs, the economic diameter of pipe, is

(A) 0.488 m

(B) 4.88 cm

(C) 48.8 cm

(D) 4.88 m

Answer: Option A

Question No. 85

Hardness of water is caused by

(A) Presence of soap lather

(B) Presence of chlorides and sulphates of sodium and potassium

(C) Presence of bicarbonates, sulphates or chlorides of calcium and magnesium

(D) Turbidity

Answer: Option C

Question No. 86

Pick up the correct statement from the following:

(A) The pH value of neutral water is 7

(B) The maximum acidity is obtained when pH value is zero

(C) The maximum alkalinity is obtained when pH value is 14

(D) All the above

Answer: Option D

Question No. 87

Pick up the correct statement from the following:

(A) The amount of rainfall in 24 hours, is known as daily rainfall

(B) The amount of rainfall in one year, is known as annual rainfall

(C) The rain cycle period in India is taken as 35 years

(D) All the above

Answer: Option D

Question No. 88

Detention period of a settling tank is

(A) Average theoretical time required for water to flow through the tank

(B) Time required for flow of water to fill the tank fully

(C) Average time for which water is retained in tank

(D) All the above

Answer: Option D

Question No. 89

The average domestic consumption under normal conditions in an Indian city per day per person, is

(A) 105 litres

(B) 115 litres

(C) 125 litres

(D) 135 litres

Answer: Option D

Question No. 90

If *d* is the diameter of the pipe, *p* is the total internal pressure, *f* is the permissible tensile stress and *n* is the effective of the joint, the thickness *t* of metal pipe, is

(A) $n\,(pd/2f)$

(B) $(1/n)\,(pd/2f)$

(C) $(1/n)\,(pd/3f)$

(D) $(1/n)\,(pf/d)$

Answer: Option B

Question No. 91

Generally, first portion of a logistic curve for the population growth of a developing city, represents the growth of

(A) Increasing

(B) Decreasing

(C) Constant

(D) All the above

Answer: Option A

Question No. 92

A pressure conduit carrying water beneath a stream or a canal, is known as

(A) Sag
(B) Depressed pipe
(C) Inverted syphon
(D) All the above

Answer: Option D

Question No. 93

Most satisfactory formula for an estimate of fire demand *Q* for a city of population *P* in thousands for Indian conditions, is

(A) $Q = 1115 (p/5 + 20)$
(B) $Q = 1640 \sqrt{P} (1 - 0.01 \sqrt{P})$
(C) $Q = 3180 \sqrt{P}$
(D) None of these

Answer: Option C

Question No. 94

Permanent hardness of water can be removed by

(A) Adding alum
(B) Adding lime
(C) Adding chlorine
(D) Zeolite process

Answer: Option D

Question No. 95

Pick up the correct statement from the following:

(A) If ports are closed, the dry intake towers will not have any water
(B) Even if ports are closed, the wet intake tower will have water filled up to reservoir level
(C) No buoyant force acts on wet intake towers
(D) All the above

Answer: Option D

Question No. 96

The maximum depth of sedimentation tanks is limited to

(A) 2 m
(B) 3 m
(C) 5 m
(D) 6 m

Answer: Option D

Question No. 97

Pick up the incorrect statement from the following. Intake of water supply should

(A) Be nearer to the treatment plant
(B) Receive water from purer zone of the source
(C) Be located downstream of waste water disposal point
(D) Remain easily accessible during floods

Answer: Option C

Question No. 98

Pick up the correct statement from the following:

(A) The precipitation during its travel in atmosphere dissolves certain gases
(B) Rain water which percolates through the ground, is free from suspended materials
(C) Underground water may dissolve minerals and salts present in the earth's layers
(D) All the above

Answer: Option D

Question No. 99

The fire demand of a city may be worked out by

(A) Kuichling's formula
(B) Freeman formula
(C) Under Writers formula
(D) All the above

Answer: Option D

Question No. 100

The formula $H_L = n^2V^2L/R^{4/3}$ for the head loss in conduits is generally known as

(A) Hazen-William's formula
(B) Manning's formula
(C) Darcy-Weisbach formula
(D) Nikuradse formula

Answer: Option B

Question No. 101

The joint used for joining the plain ends of cast iron pipes, is

(A) Flanged joint
(B) Socket and spigot joint
(C) Dresser coupling joint
(D) Flexible joint

Answer: Option C

Question No. 102

Disinfection of water with ozone is not good because

(A) It vanishes before water reaches the consumers
(B) It removes the colour, taste and odour from water as bacterias
(C) It adds taste to the water

(D) It is more efficient than chlorine in killing bacterias

Answer: Option D

Question No. 103

The prescribed hardness limit of potable water ranges between

(A) 50 to 75 P.P.M.

(B) 75 to 115 P.P.M.

(C) 100 to 150 P.P.M.

(D) 150 to 200 P.P.M.

Answer: Option B

Question No. 104

While designing a water supply of an industrial township, industrial and commercial water demand of total supply, is assumed

(A) 10 %

(B) 10 to 15 %

(C) 15 to 20 %

(D) 20 to 25 %

Answer: Option D

Question No. 105

After cleaning a slow sand filter, the filtered water is not used for

(A) 6 hours to 12 hours

(B) 12 hours to 18 hours

(C) 18 hours to 24 hours

(D) 24 hours to 36 hours

Answer: Option D

Question No. 106

The efficiency of sedimentation tank does not depend upon

(A) Depth of tank

(B) Length of tank

(C) Detention period

(D) Velocity of water

Answer: Option D

Question No. 107

Velocity of flow of water in plain sedimentation water tank, is normally kept

(A) 3 cm/minute

(B) 10 cm/minute

(C) 20 cm/minute

(D) 30 cm/minute

Answer: Option D

Question No. 108

Hard water contains

(A) Calcium
(B) Magnesium bicarbonates
(C) Magnesium sulphate
(D) All the above
Answer: Option D

Question No. 109

The depth of the water table at a place is 45 m below the general ground level. To lift water from a deep tube well in such a locality, the type of pump to be installed is

(A) Centrifugal pump
(B) Reciprocating pump
(C) Deep well turbine pump
(D) None of these
Answer: Option C

Question No. 110

In a well planned city, the layout of distribution pipes generally adopted, is

(A) Grid-iron system
(B) Interlaced system
(C) Reticulation system
(D) All the above
Answer: Option D

Question No. 111

A water channel supported above the ground over trestles, is generally called

(A) Flume
(B) Canal
(C) Aqueduct
(D) Tunnel
Answer: Option A

Question No. 112

Pick up the incorrect statement from the following:

(A) Free surface ground water is subjected to atmospheric pressure
(B) Water table surface rises and falls with seasons
(C) Depth of water table is directly proportional to the rate of drawl of water
(D) Level of water table remains stationary
Answer: Option D

Question No. 113

Pick up the incorrect statement from the following:

(A) The flow in strainer type wells is radial
(B) The flow in cavity type wells in spherical

(C) In strainer type wells, area of flow depends upon the length of the strainer pipe

(D) In cavity type wells, area of flow depends upon the size of the cavity

Answer: Option C

Question No. 114

As per IS : 1172-1963, water required per head per day for average domestic purposes, is

(A) 50 litres

(B) 65 litres

(C) 85 litres

(D) 135 litres

Answer: Option D

Question No. 115

Water to the consumers may be supplied from

(A) Infiltration galleries connected to sump well

(B) Infiltration well dug out on the banks of rivers

(C) Ranney wells sunk to the water level

(D) All the above

Answer: Option D

Question No. 116

The duration of contact of chlorine with water before it is served to the first consumer, should be at least

(A) 10 to 15 minutes

(B) 15 to 20 minutes

(C) 20 to 30 minutes

(D) 30 to 40 minutes

Answer: Option C

Question No. 117

Water supply system includes

(A) Digging a well for water

(B) Construction of dams

(C) Construction of canals

(D) Entire arrangement from source to distribution

Answer: Option D

Question No. 118

The maximum pressure to which a pipe is subjected to during its operation, is known

(A) Working pressure

(B) Design pressure

(C) Test pressure

(D) Pipe pressure

Answer: Option A

Question No. 119

For the same draw down in two observations wells at distances r_1 and r_2, the times after start of pumping are t_1 and t_2 hours respectively. The relation which holds good is

(A) $t_2 = r_2/r_1 \times t_1$

(B) $t_2 = (r_2/r_1)^2 \times t_1$

(C) $t_2 = (r_2/r_1)^3 \times t_1$

(D) $t_2 = (r_2/r_1) \times t_1^2$

Answer: Option B

Question No. 120

Q is the discharge from an unconfined tube well with depression head s through its pipe of radius rw. If the radius of influence is R, the length of the required strainer, is

(A) $2.3Q \log_{10} (R/rw)^2$

(B) $2.3Q \log_e (R/rw)^2$

(C) $2.3Q \log_e (R/rw)/2\pi Ks$

(D) $2.3Q \log_{10} (R/rw)/2\pi Ks$

Answer: Option C

Question No. 121

A slow sand filter is cleaned if its filter head is higher than

(A) 10 cm to 20 cm

(B) 20 cm to 40 cm

(C) 40 cm to 70 cm

(D) 70 cm to 120 cm

Answer: Option D

Question No. 122

The intake opening is generally covered by a screen to prevent entry of debris etc. and its level is kept

(A) At the level of water of the source

(B) At the bottom of water of the source

(C) At about 2.5 m above the bottom

(D) None of these

Answer: Option C

Question No. 123

If four fires break out in a city of population 40 lakhs and if each hydrant has three streams and duration of each fire is four hours, the total quantity of water required, is

(A) 1880 kilo litres

(B) 2880 kilo litres

(C) 3880 kilo litres

(D) 4880 kilo litres

Answer: Option B

Question No. 124

Steel pipe are

(A) Suitable for withstanding high internal pressure
(B) Connected by riveted or welded joints
(C) Generally laid underground and no expansion joint is required
(D) Likely to last 100 years under ordinary conditions

Answer: Option D

Question No. 125

When gravity and pumping systems of water distribution are adopted, the type of distribution reservoir, is

(A) Elevated tank
(B) Ground source reservoir
(C) Intz tank
(D) Stand pipe

Answer: Option A

Question No. 126

The force which develops in a pressure conduit supported on trestles, is

(A) Tension
(B) Compression
(C) Temperature stress
(D) Flexural stress

Answer: Option D

Question No. 127

Standard unit of turbidity of water is in one litre of distilled water, one milligram of finely divided

(A) Silica
(B) Mud
(C) Clay
(D) Organic matter

Answer: Option A

Question No. 128

For complete stabilisation of organic matter in polluted water, it takes

(A) 5 days
(B) 10 days
(C) 20 days
(D) 30 days

Answer: Option D

Question No. 129

If intensity of rainfall in cm per hour is *I*, percentage coefficient of run-off is *P*, area of catchment in square kilometres is *A*, the total run-off *Q*, is given by

(A) $Q = 1.758 \times 10^2 \times API$

(B) $Q = 2.758 \times 10^2 \times API$

(C) $Q = 2.758 \times 10^3 \times API$

(D) $Q = 2.758 \times 10^3 \times A/PI$

Answer: Option C

Question No. 130

The external load per unit length of

(A) A pipe laid on, or projecting above the undisturbed ground and covered with fills, is proportional to the square of the external diameter of the pipe

(B) A flexible pipe buried in narrow trenches and thoroughly compacted side fills, is proportional to the product of the width of the trench and diameter of the pipe

(C) A rigid pipe buried in a narrow trenches and thoroughly compacted side fills, is proportional to the square of the width of the trench

(D) All the above

Answer: Option D

Question No. 131

Shales are

(A) Porous

(B) Permeable

(C) Porous and permeable

(D) Porous but not permeable

Answer: Option D

Question No. 132

The best process of disinfection of public water supply, is by

(A) Boiling

(B) Chlorination

(C) Adding lime

(D) Adding ozone

Answer: Option B

Question No. 133

Pick up the correct statement from the following:

(A) Head loss in smaller size pipes at equal velocities, is less

(B) Cost of pumping is less in smaller size pipes

(C) Cost of smaller pipes is comparatively more

(D) None of these

Answer: Option D

Question No. 134

The dilution ratio at which the odour is hardly detectable is generally called threshold odour number and for public supplies it should not exceed

(A) 3

(B) 5

(C) 7
(D) 9
Answer: Option A

Question No. 135

Surge tanks are used

(A) For storage water
(B) To increase the velocity in a pipeline
(C) As overflow valves
(D) To guard against water hammer
Answer: Option D

Question No. 136

Normal values of overflow rate for plain sedimentation tanks in litres/hr/m^2, generally range between

(A) 100 to 250
(B) 250 to 500
(C) 500 to 750
(D) 750 to 1000
Answer: Option C

Question No. 137

P.V.C. pipes can withstand pressure bead of water upto

(A) 25 m
(B) 50 m
(C) 75 m
(D) 100 m
Answer: Option D

Question No. 138

Most commonly used pump for lifting water in water supply mains, is

(A) Axial flow pump
(B) Reciprocating pump
(C) Rotary type pump
(D) Centrifugal pumps
Answer: Option A

Question No. 139

The fire demand for a city of 50,000 populations, according to Godrich formula, is

(A) 40 mld
(B) 42 mld
(C) 44 mld
(D) 48 mld
Answer: Option C

Question No. 140

Pick up the correct statement from the following:

(A) Due to boiling, the bacterias present in water can be destroyed
(B) Lime may be used for softening hard water
(C) Excess lime when added to water, raises the pH value of water
(D) All the above
Answer: Option D

Question No. 141

If *V* is total consumption of water in litres for a population of *N* individuals, per capita consumption or water allowance for the water supply *Q*, is given by

(A) $Q = V/12N$
(B) $Q = V/24N$
(C) $Q = V/265N$
(D) None of these
Answer: Option C

Question No. 142

According to Buston's formula, fire demand in litres per minute for a population of *P* thousands, is

(A) $3182 \sqrt{P}$
(B) $1136.5 [(P/10) + 10]$
(C) $4637 \sqrt{P} (1 - 0.01 \sqrt{P})$
(D) $5663 \sqrt{P}$
Answer: Option D

Question No. 143

For controlling algae, the most commonly used chemical, is

(A) Copper sulphate
(B) Alum
(C) Lime
(D) Bleaching powder
Answer: Option A

Question No. 144

For centrifugal pumps

(A) Initial cost is low
(B) Limited space is required
(C) The discharge obtained is steady and non-pulsating
(D) All the above
Answer: Option D

Question No. 145

The storage capacity of a reservoir may be divided into three zones. The lowest zone is

(A) Dead storage
(B) Useful storage

(C) Surcharge storage
(D) None of these
Answer: Option A

Question No. 146

Economic height of a dam is the height corresponding to which

(A) Cost of the dam per unit of storage is minimum
(B) Amount of silting is less
(C) Cost of dam per unit storage is maximum
(D) Free board provided is least
Answer: Option A

Question No. 147

For maximum alkalinity of water, pH value should be

(A) Zero
(B) Less than 7
(C) More than 7
(D) 14
Answer: Option D

Question No. 148

The efficiency of a pumping set, is generally assumed

(A) 50 %
(B) 55 %
(C) 60 %
(D) 65 %
Answer: Option D

Question No. 149

The population growth curve is

(A) *S*-shaped curve
(B) Parabolic curve
(C) Circular curve
(D) Straight line
Answer: Option A

Question No. 150

The fire demand for ascertaining the empirical formula 1136.5 [(*P*/10) + 10] known as

(A) Kuichling's formula
(B) Buston's formula
(C) Freeman formula
(D) Under Writers formula
Answer: Option C

Question No. 151

The bacterias which may survive with or without free oxygen, are called

(A) Aerobic bacterias
(B) Anaerobic bacterias
(C) Facultative bacteria's
(D) None of these
Answer: Option C

Question No. 152

Aeration of water is done to remove

(A) Odour
(B) Colour
(C) Bacterias
(D) Turbidity
Answer: Option A

Question No. 153

The maximum pressure to which cast iron pipes may be subjected to, is

(A) 3 kg/cm^2
(B) 5 kg/cm^2
(C) 7 kg/cm^2
(D) 10 kg/cm^2
Answer: Option C

Question No. 154

Water may not contain much impurity if its source is

(A) Reservoirs
(B) Stream flowing in plains
(C) Lakes in lower regions
(D) Spring along hill slopes
Answer: Option D

Question No. 155

If *p* is total internal pressure, *d* is diameter of pressure conduit and *t* is thickness of conduit, the Hoop's stress is

(A) $\pi dp/t$
(B) $\pi dp/2t$
(C) $dp/2t$
(D) $dt/2p$
Answer: Option C

Question No. 156

Turbidity of water is expressed

(A) In ppm
(B) In numbers in an arbitrary scale

(C) By pH value
(D) By colour code
Answer: Option A

Question No. 157

In plain sedimentation tanks under normal conditions, impurities are removed upto

(A) 60 %
(B) 70 %
(C) 80 %
(D) 90 %
Answer: Option B

Question No. 158

The equation $0.368\ [p/(1.87 + 32)] \times (H/\sqrt{A})^{0.155}$ in which *Q* is yearly run off in cm, *P* is yearly total rainfall in cm, *H* is difference of R.L.s. of lowest and highest points and *A* is area of catchment in square metres, is known as

(A) English formula
(B) Khosla's formula
(C) Justin's formula
(D) Vermule's formula
Answer: Option C

Question No. 159

In slow sand filters, the turbidity of raw water can be removed only up to

(A) 60 mg/litre
(B) 75 mg/litre
(C) 100 gm/litre
(D) 150 mg/litre
Answer: Option A

Question No. 160

Pressure relief valves are provided in water mains

(A) To reduce the pressure
(B) At low points
(C) Upstream of sluice
(D) All the above
Answer: Option D

Question No. 161

Quality of water is said to be good if it is

(A) Free from suspended matter
(B) Colourless
(C) Free from pathogenic organism
(D) All the above
Answer: Option D

Question No. 162

Sluice valves in main water supplies

(A) Are used to regulate the flow of water in pipes
(B) Are spaced about 5 km apart
(C) Are usually placed at the summits
(D) All the above

Answer: Option D

Question No. 163

The head against which the motor works for lifting water, is

(A) Maximum depth of water table below ground level
(B) Maximum depression head
(C) Velocity head
(D) All the above

Answer: Option D

Question No. 164

Biochemical Oxygen Demand (B.O.D.) of safe drinking water must be

(A) Nil
(B) 5
(C) 10
(D) 15

Answer: Option A

Question No. 165

Gravity conduits

(A) Carry water under gravity
(B) Follow the hydraulic gradient line
(C) Are carried through tunnels in deep cuttings
(D) All the above

Answer: Option D

Question No. 166

At break point of chlorination,

(A) Chlorine is used to oxidise
(B) Residual chloride is zero
(C) Residual chloride is maximum
(D) Residual chlorine reappears

Answer: Option D

Question No. 167

Pick up the correct statement from the following:

(A) Detention period for plain sedimentation tanks ranges between 4 to 8 hours
(B) Detention period for sedimentation tanks, using coagulants usually ranges between 2 to 4 hours

(C) The horizontally flow velocity in sedimentation tanks, is generally limited to 0.3 m/minute
(D) All the above
Answer: Option D

Question No. 168

The capability of a soil mass of full width and depth to transmit water, is known

(A) Porosity
(B) Permeability
(C) Transmissibility
(D) None of these
Answer: Option B

Question No. 169

The head against which the motor works for lifting water, is

(A) Maximum depth of water table below ground level
(B) Maximum depression head
(C) Velocity head
(D) All the above
Answer: Option D

Question No. 170

By boiling water, hardness can be removed if it is due to

(A) Calcium sulphate
(B) Magnesium sulphate
(C) Calcium nitrate
(D) Calcium bicarbonate
Answer: Option D

Question No. 171

Derivation of Thiem's formula $Q = 2\pi T (s_1 - s_2)/2.3 \log_{10} (r_2/r_1)$ is based on the assumption

(A) The aquifer is homogeneous, isotropic and of infinite depth and area
(B) The well is sunk through the full depth of the aquifer
(C) The flow lines are radial and horizontal, and the flow is laminar
(D) All the above
Answer: Option D

Question No. 172

Pick up the correct statement from the following:

(A) The volume of underground water extracted by gravity drainage from a saturated soil, is known as yield
(B) The ratio of volume drained to the total volume of material drained, is known as specific yield
(C) The sum of specific yield and specific retention, is equal to porosity
(D) All the above
Answer: Option D

Question No. 173

Percussion drilling is unsuitable in

(A) Unconsolidated sand
(B) Unconsolidated gravel
(C) Quick sand
(D) Consolidated rocks

Answer: Option D

Question No. 174

In an artesian aquifer, the draw downs in two observation wells at distances 100 m, and 200 m were found same after one hour and *x* hours respectively. The value of *x*, is

(A) 2 hours
(B) 4 hours
(C) 9 hours
(D) 16 hours

Answer: Option B

Question No. 175

Rapid gravity filters can remove bacterial impurities up to a maximum of

(A) 50 %
(B) 60 %
(C) 70 %
(D) 80 %

Answer: Option D

Question No. 176

Continuous flow of water can be expected from

(A) Gravity springs
(B) Surface springs
(C) Artesian springs
(D) None of these

Answer: Option C

Question No. 177

Reciprocating pumps

(A) Are not suitable for variable heads
(B) Are four times costlier than centrifugal pumps
(C) Are not suitable for pumping water containing sediments
(D) Single stroke produce pulsating flow

Answer: Option A

Question No. 178

Low turbidity of water is detected by

(A) Turbidity tube
(B) Jackson turbidity meter

(C) Baylis turbidimeter
(D) Hellige turbidimeter
Answer: Option C

Question No. 179

Pick up the correct statement from the following regarding radial flow centrifugal pumps:

(A) These are provided with volute type or turbine type casings
(B) In involute type of radial flow centrifugal pump, the impeller discharges into a gradually expanding spiral casing
(C) The efficiency of turbine type of radial flow centrifugal pump, is always higher than that of volute type
(D) All the above
Answer: Option D

Question No. 180

Pick up the correct statement from the following:

(A) Deposition of calcium carbonate on the inside of the well pipe, causes incrustation of the pipe
(B) Incrustation of the pipe reduces the discharge
(C) Acidic waters cause corrosion of the pipes
(D) All the above
Answer: Option D

Question No. 181

Silt storage is the same as

(A) Dead storage
(B) Live storage
(C) Effective storage
(D) None of these
Answer: Option A

Question No. 182

According to Kuichling's formula, fire demand in litres per minute for a population of *P* thousands, is

(A) $3182 \sqrt{P}$
(B) $1136.5 (P/10 + 10)$
(C) $4637 \sqrt{P} [1 - 0.01 \sqrt{P}]$
(D) $5663 \sqrt{P}$
Answer: Option A

Question No. 183

The type of pipe commonly used in water supply distribution schemes, is

(A) R.C.C. pipes
(B) Hume pipes
(C) Cast iron pipes

(D) G.I. pipes

Answer: Option C

Question No. 184

Pick up the incorrect statement from the following. The source of surface water is from

(A) Streams and rivers

(B) Storage reservoirs

(C) Springs

(D) Ponds and lakes

Answer: Option C

Question No. 185

Water supply includes

(A) Collection, transportation and treatment of water

(B) Distribution of water to consumers

(C) Provision of hydrants for fire fighting

(D) All the above

Answer: Option D

Question No. 186

The discharge $Q = 2\pi KHS/2.3 \log_{10} (R/rw)$ for the confined tube well is obtained from

(A) Thiem's formula

(B) Darcy's formula

(C) Tolman's formula

(D) Dupuits formula

Answer: Option D

Question No. 187

***m* and *n* are monsoon duration factor and catchment factor respectively. If *P* is yearly rainfall in cm, runoff can be calculated by**

(A) Velocity area method

(B) Weir or spillway method

(C) Use of venturi-meter

(D) Using power plant consumption

Answer: Option A

Question No. 188

Acidity in water is caused due to

(A) Mineral acids

(B) Free CO_2

(C) Iron sulphate

(D) All the above

Answer: Option D

Question No. 189

The cast iron pipes for water supply system are used for

(A) Durability
(B) Strength
(C) Easy connection
(D) All the above

Answer: Option D

Question No. 190

In a rapid gravity filter

(A) Raw water from the source is supplied
(B) Disinfected raw water is supplied
(C) Raw water passed through coagulation tank is supplied
(D) None of these

Answer: Option C

Question No. 191

The maximum permissible nitrites in public water supplies, is

(A) Nil
(B) 0.5 P.P.M.
(C) 1.0. P.P.M.
(D) 1.5 P.P.M.

Answer: Option A

Question No. 192

Most commonly used section in grade aqueducts, is

(A) Circular
(B) Rectangular
(C) Parabolic
(D) Horse shoe section

Answer: Option B

Question No. 193

The most important and widely used tube well in India, is

(A) Strainer well
(B) Cavity well
(C) Slotted well
(D) Perforated pipe well

Answer: Option A

Question No. 194

The R.L. of ground water table on the sides of a valley is 1505 m whereas R.L. of the stream water is 1475 m. If 60° slope consists of pervious soil between R.L. 1485 m to 1500 m, the gravity spring may be expected at the point of reduced level

(A) 1500 m

(B) 1505 m
(C) 1475 m
(D) 1485 m
Answer: Option D

Question No. 195

Critical time for developing a water hammer, is the time required for

(A) Closing the valve
(B) The wave to travel from valve to the reservoir
(C) The wave to travel from the valve to the reservoir and back
(D) None of these
Answer: Option C

Question No. 196

Bacterias which can survive with or without free oxygen, are known

(A) Aerobic bacterias
(B) Anaerobic bacterias
(C) Facultative bacterias
(D) None of these
Answer: Option C

Question No. 197

The standard B.O.D. at 20°C, is taken for the consumption in

(A) 2 days
(B) 3 days
(C) 4 days
(D) 5 days
Answer: Option D

Question No. 198

Distribution of wash water is provided in

(A) Sedimentation tank
(B) Slow sand filter
(C) Rapid gravity filter
(D) All the above
Answer: Option C

Question No. 199

If P is population of a city in thousands and Q is fire demand in litres per minute, for proper estimate of water, the Empirical formula $Q = 1135 [(P/5) + 10]$ is suggested by

(A) National Board of fire under-writers
(B) Freeman
(C) Kuichling
(D) None of these
Answer: Option B

Question No. 200

During treatment of water, sedimentation is done

(A) Before filtration
(B) After filtration
(C) Simultaneously with filtration
(D) Along with chlorination

Answer: Option A

Question No. 201

The ratio of the maximum daily consumption to the average daily demand, is

(A) 1.0
(B) 1.2
(C) 1.4
(D) 1.8

Answer: Option D

Question No. 202

Alkalinity in water may be caused due to

(A) Calcium and magnesium bicarbonates
(B) Sodium carbonate
(C) Potassium carbonate
(D) All the above

Answer: Option D

Question No. 203

The main draw-back of centrifugal pump, is

(A) Necessity of priming
(B) Discharge from pump varies with the load of water
(C) For high heads, efficiency is low up to 50%
(D) All the above

Answer: Option D

Question No. 204

The factor to be considered for the source of city water supply, is

(A) Quantity and quality of the available water
(B) Elevation of the source of water
(C) General terrain intervening the area
(D) All the above

Answer: Option D

Question No. 205

From the surface of reservoir, evaporation may be minimised by sprinkling

(A) Spirit
(B) Hydrochloric acid
(C) Acetyl alcohol

(D) Methane

Answer: Option C

Question No. 206

The transitional middle portion of a logistic curve follows

(A) A geometric growth

(B) A logarithmic growth

(C) A first over curve

(D) A constant rate

Answer: Option D

Question No. 207

For plain chlorination of water, the quantity of chlorine used, is

(A) 0.1 mg/litre

(B) 0.2 mg/litre

(C) 0.3 mg/litre

(D) 0.5 mg/litre

Answer: Option D

Question No. 208

In distribution pipes, air valves are provided at

(A) Lower points

(B) Junction points

(C) Higher points

(D) Anywhere

Answer: Option C

Question No. 209

Manholes along the mains from the source to a city are provided at 500 m intervals in

(A) Steel pipes

(B) R.C.C. pipes

(C) Hume steel pipes

(D) All the above

Answer: Option D

Question No. 210

The valves provided at low points of pipes to drain off water quickly under gravity, are called

(A) Blow off valves

(B) Drain valves

(C) Sewer valves

(D) All the above

Answer: Option D

Question No. 211

The maximum permissible colour for domestic supplies based on cobalt scale, is

(A) 5 ppm
(B) 10 ppm
(C) 15 ppm
(D) 20 ppm

Answer: Option D

Question No. 212

Increase in population of a rapidly growing city, may be estimated by

(A) Arithmetical mean method
(B) Geometrical method
(C) Incremental increase method
(D) Graphical comparison method

Answer: Option B

Question No. 213

Pick up the correct statement from the following:

(A) Air lift pumps are generally used for pumping water from deep wells
(B) Jet pumps are generally used for pumping water from small wells
(C) The hydraulic ram works on the principle of water hammer
(D) All the above

Answer: Option D

Question No. 214

Per capita demand of water is calculated in litres

(A) Per person per day
(B) Per person per month
(C) Per person per year
(D) None of these

Answer: Option A

Question No. 215

Hard water for public water supply is discarded because

(A) It consumes more soap
(B) It contains lot of turbidity
(C) It contains pathogenic bacterias
(D) It possesses bad taste and odour

Answer: Option A

Question No. 216

If the specific capacity of a well is 0.3183×10^{-3} per sec, the discharge from a well of 4 m diameter under a depression head of 4 m, is

(A) 8 litres/sec
(B) 10 litres/sec

(C) 12 litres/sec
(D) 16 litres/sec
Answer: Option D

Question No. 217

Pick up the incorrect statement from the following:

(A) Iron salts produce heavy flocks and hence remove more suspended matter
(B) Iron salts remove hydrogen sulphides
(C) Iron salts can be used over a limited range of pH values
(D) Iron salts impart corrosiveness to water
Answer: Option C

Question No. 218

Asbestos pipes are

(A) Light in weight and easy to transport
(B) Highly resistant to corrosion
(C) High flexible to accommodate deflection upto 12°
(D) All the above
Answer: Option D

Question No. 219

A strainer type well sunk through three previous layers intervened by three impervious aquicludes, draws water from

(A) Top most pervious layer
(B) Central pervious layer
(C) Lowest pervious layer
(D) All the pervious layers
Answer: Option D

Question No. 220

Runoff is the quantity of water which flows

(A) In sewer pipes
(B) Due to leakage in pipes
(C) In rivers
(D) None of these
Answer: Option C

Question No. 221

The yield of a rapid gravity filter as compared to that of slow sand filter, is

(A) 10 times
(B) 15 times
(C) 20 times
(D) 30 times
Answer: Option D

Question No. 222

The most ideal disinfectant used for drinking water throughout the world, is

(A) Alum
(B) Lime
(C) Chlorine
(D) Nitrogen

Answer: Option C

Question No. 223

Perched aquifers generally occur

(A) Below water table
(B) Above water table
(C) In aquicludes
(D) In artesian aquifers

Answer: Option B

Question No. 224

Check valves are installed

(A) On the delivery side of the pumping set
(B) At the interconnections between polluted water system and a potable water system
(C) Both (a) and (b)
(D) Neither (a) nor (b)

Answer: Option C

Question No. 225

If average volume of sediment deposits is one-tenth million cubic metres per year in a reservoir of total capacity 10 million cubic metres, the dead storage will be filled up, in

(A) 10 years
(B) 15 years
(C) 20 years
(D) 25 years

Answer: Option D

Question No. 226

At break point of chlorination,

(A) Chlorine is used to oxidise
(B) Residual chloride is zero
(C) Residual chloride is maximum
(D) Residual chlorine reappears

Answer: Option D

Question No. 227

If pH value of water is

(A) 7 water it is said to be neutral
(B) Less than 7 it is said to be acidic

(C) More than 7 it is said to be alkaline
(D) All the above
Answer: Option D

Question No. 228

Dissolved carbon dioxide, can be removed from the supply main by

(A) Sedimentation
(B) Aeration
(C) Chlorination
(D) Coagulation
Answer: Option B

Question No. 229

Grade aqueducts are not allowed to run

(A) Full
(B) ¾th full
(C) ½full
(D) ¼th full
Answer: Option A

Question No. 230

According to IS : 1172-1963, a minimum of 135 litres of water capita per day, is required for

(A) Boarding schools
(B) Nurses home and medical quarters
(C) Hostels
(D) All the above
Answer: Option D

Question No. 231

The temporary hardness of water can be removed by

(A) Boiling
(B) Adding lime
(C) Adding alum
(D) Filtration
Answer: Option A

Question No. 232

The level of underground water is called

(A) Water level
(B) Water table
(C) Negative level
(D) Invert level
Answer: Option B

Question No. 233

The period of cleaning of a slow sand filter, is usually

(A) 5 to 10 days
(B) Two weeks to three weeks
(C) One month to three months
(D) Three months to six months

Answer: Option C

Question No. 234

Specific yield of a well is

(A) Quantity of water than can be drawn from the well
(B) Flow of water per unit time
(C) Total quantity of water available in the well
(D) Quantity of water per unit time per unit draw-down

Answer: Option C

Question No. 235

By adding 1 ml of Orthotolidine solution to 100 ml chlorinated water taken after contact period, the residual chlorine makes the colour of solution

(A) Yellowish
(B) Greenish
(C) Bluish
(D) Reddish

Answer: Option A

Question No. 236

Rapid gravity filter can only remove turbidity of water upto

(A) 15 to 25 gm/litre
(B) 25 to 30 gm/litre
(C) 30 to 35 cm/litre
(D) 35 to 40 gm/litre

Answer: Option D

Question No. 237

In pumping stations, the type of joint generally used, is

(A) Socket and spigot joint
(B) Flanged joint
(C) Expansion joint
(D) Dresser coupling joint

Answer: Option B

Question No. 238

Rapid sand filter

(A) Should be preceded by coagulation and sedimentation
(B) Uses rapid sand as filter media

(C) Is used after slow sand filtering has been done
(D) Can combine disinfection also
Answer: Option A

Question No. 239

Pick up the incorrect statement from the following regarding fire hydrants

(A) Fire hydrants are fitted in water mains at 100 m to 150 m apart at fire
(B) The minimum water pressure hydrants, is kept 1.5 kg/cm^2
(C) The water at pressure 1 to 1.5 kg/cm^2 is made available for 4 to 5 hours for constant use
(D) None of these
Answer: Option D

Question No. 240

Pick up the correct statement from the following:

(A) At a particular speed of operation, the head produced decreases with the increase of discharge
(B) At zero discharge, discharge valve remaining closed, the head developed is maximum which is known as shut-off head
(C) At a particular speed the discharge at which efficiency of a pump is maximum, is known as normal discharge
(D) All the above
Answer: Option D

Question No. 241

De-chlorination is followed by

(A) Post-chlorination
(B) Pre-chlorination
(C) Double-chlorination
(D) Super-chlorination
Answer: Option D

Question No. 242

The least thickness of class B cast iron (spun) pipe, is

(A) 7.2 mm
(B) 7.9 mm
(C) 8.6 mm
(D) 10 mm
Answer: Option C

Question No. 243

Water having pH value as 6, is

(A) Alkaline
(B) Acidic
(C) Neutral
(D) None of these

Answer: Option B

Question No. 244

Maximum permissible colour for domestic water supplies, based on Cobalt scale, is

(A) 5 P.P.M.
(B) 10 P.P.M.
(C) 15 P.P.M.
(D) 20 P.P.M.

Answer: Option D

Question No. 245

The main process to purify water by filtration, is

(A) Mechanical straining
(B) Flocculation and sedimentation
(C) Biological metabolism
(D) All the above

Answer: Option D

Question No. 246

The approximate diameter of a water mains for supplying 7.2 mld with a velocity 1.2 m/sec, is

(A) 24 cm
(B) 26 cm
(C) 28 cm
(D) 30 cm

Answer: Option D

Question No. 247

For least effect on the water table, the tube wells must be dug one in every

(A) 0.5 sq km
(B) 0.75 sq km
(C) 1.0 sq km
(D) 1.5 sq km

Answer: Option D

Question No. 248

An area is declared drought affected if its mean rainfall is less than

(A) 50 %
(B) 60 %
(C) 75 %
(D) 85 %

Answer: Option D

Question No. 249

A circular gravity aqueduct is not generally preferred to because of

(A) Its maximum hydraulic mean depth

(B) Maximum area per unit of wetted perimeter
(C) Minimum cost of construction
(D) Its proper support on the ground
Answer: Option D

Question No. 250

Efficiency of removing bacterias from raw water by a slow sand filter, is

(A) 80% to 81%
(B) 85% to 86%
(C) 90% to 97%
(D) 98% to 99%
Answer: Option D

Question No. 251

A high velocity of wash water is required for

(A) Rapid gravity filter with strainers
(B) Rapid gravity filter without strainers
(C) Slow sand filter with strainers
(D) Slow sand filter without strainers
Answer: Option B

Question No. 252

In a reservoir the average volume of sediment deposition is 0.15 million cubic per year. If the dead storage and total capacity of the reservoir are 8 million cubic metres and 36 million cubic metres respectively,

(A) The reservoir will theoretically be silted in 240 years
(B) The reservoir will start reducing after 60 years
(C) Both (a) and (b)
(D) Neither (a) nor (b)
Answer: Option C

Question No. 253

135 litres of water per person per day, is provided in

(A) Nurses homes
(B) Hostels
(C) Residential schools
(D) All the above
Answer: Option D

Question No. 254

Pick up the correct statement from the following:

(A) Excess quantities of iron and manganese in water, cause discolouration of clothes
(B) Lead and barium salts have toxic effect
(C) Higher copper content affects the lungs
(D) All the above

Answer: Option D

Question No. 255

Disinfection of drinking water is done to remove

(A) Turbidity
(B) Odour
(C) Colour
(D) Bacterias

Answer: Option D

Question No. 256

Capacity of soil to absorb moisture, is generally known as

(A) Permeability
(B) Porosity
(C) Infiltration capacity
(D) Perviousness

Answer: Option C

Question No. 257

Average annual rainfall at any station is the average of annual rainfall over a period of

(A) 7 years
(B) 14 years
(C) 28 years
(D) 35 years

Answer: Option D

Question No. 258

If *Q* is discharge is cubic metres per sec and *D* is the economical diameter of the pipe. According to Lea

(A) $D = 0.67$ to $0.87 \sqrt{Q}$
(B) $D = 0.77$ to $0.97 \sqrt{Q}$
(C) $D = 0.97$ to $1.22 \sqrt{Q}$
(D) $D = 1.22$ to $1.33 \sqrt{Q}$

Answer: Option C

Question No. 259

The flow of water gets retarded, in

(A) Settling tank
(B) Sedimentation tank
(C) Clarifier
(D) All the above

Answer: Option D

Question No. 260

At the socket and spigot joint,

(A) Enlarged end of the pipe is called socket
(B) Normal end of the pipe is called spigot
(C) Spigot is fitted into the socket
(D) All the above

Answer: Option D

Question No. 261

Yield of a drainage basin is:

(A) Run off of the area expressed as instantaneous rate
(B) Average run off over a short period
(C) Total volume of water flowing annually
(D) All the above

Answer: Option C

Question No. 262

Disappearance of pink colour of water of a well due of $KMnO_4$ indicates that water contains

(A) Acidity
(B) Alkalinity
(C) Turbidity
(D) Organic matter

Answer: Option D

Question No. 263

The specific retention is least in case of

(A) Clay
(B) Sand
(C) Silt
(D) Coarse gravel

Answer: Option D

Question No. 264

If *w* is the weight of water per cubic metre, *Q* is the discharge in cubic metres per sec and *H* is the total head, the required water horse power of the pump, is

(A) *wQH*/15
(B) *wQH*/360
(C) *wQH*/220
(D) *wQH*/550

Answer: Option A

Question No. 265

Pipes are laid parallel

(A) To increase the capacity of the water supply
(B) To provide a means of repairing without closing water supply

(C) To meet the requirement of excessive supply
(D) All the above
Answer: Option D

Question No. 266

The factor affecting per capita demand, is

(A) Size of the city
(B) Climatic conditions
(C) Pressure in water mains
(D) All the above
Answer: Option D

Question No. 267

Filtration of water is done to remove

(A) Colour
(B) Odour
(C) Turbidity
(D) Pathogenic bacteria
Answer: Option C

Question No. 268

An ideal sand for filters should be

(A) Free from dirt and other impurities
(B) Uniform in nature and size
(C) Hard and resistant
(D) All the above
Answer: Option D

Question No. 269

Hardness of water is caused due to

(A) Calcium sulphate
(B) Magnesium sulphate
(C) Calcium nitrates
(D) All the above
Answer: Option D

Question No. 270

Normal values of overflow rate for sedimentation tanks using coagulants in litres/hr/m^2, generally range between

(A) 250 to 500
(B) 500 to 750
(C) 750 to 1000
(D) 1000 to 1250
Answer: Option D

Question No. 271

Cast iron pipes

(A) Are widely used in city water supplies
(B) Resist corrosion satisfactorily
(C) May last for 100 years
(D) All the above
Answer: Option D

Question No. 272

B.O.D. of treated water should be

(A) 10 ppm
(B) 25 ppm
(C) 20 ppm
(D) Nil
Answer: Option D

Question No. 273

The chloride content of treated water for public supplies should not exceed

(A) 100 ppm
(B) 150 ppm
(C) 200 ppm
(D) 250 ppm
Answer: Option D

Question No. 274

Water is distributed to consumers by gravitational system, in

(A) Dehradun
(B) Mumbai
(C) Delhi
(D) Both (a) and (b)
Answer: Option D

Question No. 275

The superimposed load transmitted to the pipe, is generally evaluated by Business formula

(A) $pt = 3H^3P/2\pi Z$
(B) $pt = 3H^3P/2\pi Z^5$
(C) $pt = 3H^3P/2\pi Z^2$
(D) $pt = 3H^3P^2/2\pi Z^3$
Answer: Option B

Question No. 276

If *n* is porosity, *y* is specific yield and *r* is specific retention of any soil, the relationship which holds good, is

(A) $n + y + r = 1$
(B) $n + y = r$

(C) $n + r = y$

(D) $y + r = n$

Answer: Option D

Question No. 277

Estimates of a water supply project depends upon the rate of water supply per capita consumption and probable population estimated at the end of the design period of

(A) 5 to 10 years

(B) 10 to 15 years

(C) 15 to 20 years

(D) 20 to 30 years

Answer: Option D

Question No. 278

In distribution pipes, drain valves are provided at

(A) Lower point

(B) Higher point

(C) Junction points

(D) Anywhere

Answer: Option A

Question No. 279

Water gets evaporated from water surfaces and land surfaces, get converted into water drops at lower temperatures, flows over ground surface and finally meets its source, i.e. lake, sea, etc. This entire process is generally known as

(A) Hydrological cycle

(B) Water cycle

(C) Evaporation and precipitation cycle

(D) All the above

Answer: Option D

Question No. 280

Open channels supported over trestles, are generally known as

(A) Raised canals

(B) Aqueducts

(C) Siphons

(D) Flumes

Answer: Option D

Question No. 281

Corrosion of a pipe

(A) Reduces its life span

(B) Reduces its carrying capacity

(C) Adds colour to water

(D) All the above

Answer: Option D

Question No. 282

The population of a city in 2000 is 50,000. The average per decade of the previous records of population is 5000 and average percentage per decade is 20%. The population of the city based on geometrical increase method, in the year 2020 will be

(A) 56,000
(B) 60,000
(C) 64,000
(D) 72,000
Answer: Option D

Question No. 283

In rapid sand filters the ratio of length and diameter of the lateral, should not be greater than

(A) 10
(B) 15
(C) 20
(D) 25
Answer: Option C

Question No. 284

Disinfection of drinking water, is done to remove

(A) Odour
(B) Bacterias
(C) Turbidity
(D) Colour
Answer: Option B

Question No. 285

A well is considered to be good if it is sunk into

(A) Clay
(B) Sand
(C) Coarse gravel
(D) Silt
Answer: Option C

Question No. 286

Abyssinian tube well is a special type of

(A) Slotted type wells
(B) Cavity type wells
(C) Strainer type well
(D) None of these
Answer: Option C

Question No. 287

Surface water is obtained from

(A) Well
(B) Springs
(C) Artesian well
(D) Rain

Answer: Option D

Question No. 288

The permissible amount of nitrites present in potable water, is

(A) 10 ppm
(B) 15 ppm
(C) 45 ppm
(D) Nil

Answer: Option D

Question No. 289

Detention time for plain sedimentation tank usually ranges from

(A) 2 to 4 hours
(B) 4 to 8 hours
(C) 6 to 10 hours
(D) 8 to 12 hours

Answer: Option B

Question No. 290

The order of existence of three portions of water in a reservoir from the bottom to top is

(A) Useful storage + surcharge storage + dead storage
(B) Useful storage + dead storage + surcharge storage
(C) Dead storage + useful storage + surcharge storage
(D) Surcharge storage + useful storage + dead storage

Answer: Option C

Question No. 291

The maximum non-verticality of the bore of a well 200 m deep, may be permitted up to

(A) 25 cm
(B) 50 cm
(C) 75 cm
(D) 100 cm

Answer: Option D

Question No. 292

Pick up the incorrect statement from the following:

(A) Porosity of clay sand soil is 45%
(B) Porosity of pure sand is 35%
(C) Porosity of sand stone is up to 15%

(D) None of these

Answer: Option D

Question No. 293

Water may contain

(A) Bicarbonate alkalinity

(B) Carbonate alkalinity

(C) Hydroxide alkalinity

(D) All the above

Answer: Option D

Question No. 294

The total domestic consumption in a city water supply, is assumed

(A) 20 %

(B) 30 %

(C) 40 %

(D) 60 %

Answer: Option D

Question No. 295

Surface water may

(A) Contain large amount of impurities

(B) Be contaminated by impurities

(C) Contain disease producing bacterias

(D) All the above

Answer: Option D

Question No. 296

The ratio of total capacity and dead storage is kept

(A) 8

(B) 6

(C) 4

(D) 3

Answer: Option C

Question No. 297

The maximum permissible chloride content in treated water of public water supplies should not exceed

(A) 50 P.P.M.

(B) 100 P.P.M.

(C) 150 P.P.M.

(D) 250 P.P.M.

Answer: Option D

Question No. 298

Most important source of water for public water supply, is from

(A) Lakes
(B) Ponds
(C) Streams
(D) Rivers

Answer: Option D

Question No. 299

Air inlet valve in water mains, is generally provided at

(A) Summit of the pipe
(B) Upstream of sluice valve
(C) Downstream of sluice valve
(D) Both (a) and (c) of above

Answer: Option D

Question No. 300

To detect the turbidity of the order of 0 to 1000 P.P.M. the instrument used is

(A) Turbidimeter
(B) Jackson turbidimeter
(C) Baylis turbidimeter
(D) Hellige turbidimeter

Answer: Option C

Question No. 301

Higher yield may be expected from

(A) Gravity springs
(B) Surface springs
(C) Artesian springs
(D) All the above

Answer: Option C

Question No. 302

Before constructing a dam, the factor to be considered for controlling sedimentation, is

(A) Selection of dam site
(B) Construction of check dams
(C) Providing vegetation screens
(D) All the above

Answer: Option D

Question No. 303

Chlorination of water does not remove

(A) Ammonia content
(B) B.O.D.
(C) Organic matter content

(D) Dissolved oxygen

Answer: Option D

Question No. 304

While selecting the location of an intake for collecting surface water, the factor considered, is

(A) The intake point should be near as far as possible to the treatment plant

(B) The intake point should be in purer zone of the water source

(C) The intake point in meandering rivers should be on concave banks

(D) All the above

Answer: Option D

Question No. 305

The diameter of pipes in bath rooms and lavatories in domestic water supply, is

(A) 6 mm

(B) 12 mm

(C) 18 mm

(D) 24 mm

Answer: Option B

Question No. 306

Non-pathogenic bacterias cause the following water borne disease,

(A) Cholera

(B) Typhoid

(C) Infections hepatitis

(D) None of these

Answer: Option D

Question No. 307

Underground water is obtained from

(A) Rains

(B) Rivers

(C) Lakes

(D) Springs

Answer: Option D

Question No. 308

The ensure proper growth of children's teeth, the quantity of fluoride used in water mains, is

(A) 1 mg/litre

(B) 2 mg/litre

(C) 3 mg/litre

(D) 5 mg/litre

Answer: Option A

Question No. 309

For a city developed haphazardly, the layout of distribution pipes preferred to, is

(A) Ring system
(B) Radial system
(C) Grid iron system
(D) Dead end system
Answer: Option D

Question No. 310

Slow sand filter is used if maximum turbidity of raw water is less than

(A) 10 gm/litre
(B) 20 gm/litre
(C) 30 gm/litre
(D) 50 gm/litre
Answer: Option D

Question No. 311

Raw water treated with only chlorine, is known as

(A) Plain chlorination
(B) Pre-chlorination
(C) First-chlorination
(D) De-chlorination
Answer: Option A

Question No. 312

Total flow in stream is known

(A) Run off
(B) Stream flow
(C) Discharge
(D) All the above
Answer: Option D

Question No. 313

Asbestos pipes are joined by means of

(A) Flanged joint
(B) Flexible joint
(C) Dresser coupling joint
(D) Simplex joint
Answer: Option D

Question No. 314

For estimating the run off of catchments, the mean value of the constant *'K'* in the Khosla's formula $Q_y = P_y - K\,(1.8\,T_y + 32)$ is

(A) 1.21
(B) 1.23
(C) 1.25
(D) 1.27

Answer: Option D

Question No. 315

The valve fitted closely in a recess against an opening in a pipe, is generally

(A) Wedge shaped circular disc
(B) Spherical disc
(C) Parallelepiped disc
(D) Conical shaped circular disc

Answer: Option A

Question No. 316

The four major water supply distribution systems, are

(A) Dead end, tree, grid iron and reticulation
(B) Dead end, tree, grid iron and circular
(C) Tree, grid iron, ring and radial
(D) Tree, reticulation, circular and ring

Answer: Option C

Question No. 317

Pick up the correct statement from the following:

(A) For determination of small colour intensities, tintometer is generally used
(B) The odour of water sample is generally measured by a term called odour intensity
(C) The colour of water sample may be detected by Nessler tube
(D) All the above

Answer: Option D

Question No. 318

The type of joint generally used in cast iron pipes, is

(A) Socket and spigot joint
(B) Flanged joint
(C) Dresser coupling joint
(D) All the above

Answer: Option D

Question No. 319

The percentage of chlorine in fresh bleaching powder is roughly

(A) 50 to 60
(B) 30 to 35
(C) 40 to 50
(D) 20 to 25

Answer: Option B

Question No. 320

Normal values of overflow rate for plain sedimentation tank using coagulants, is

(A) 750 to 1000 litres/hr/m^2

(B) 1000 to 1250 litres/hr/m^2
(C) 1250 to 1500 litres/hr/m^2
(D) 1500 litres/hr/m^2
Answer: Option B

Question No. 321

The maximum pressure which the pipe can withstand without any leakage during hydrostatic pressure test, is called

(A) Working pressure
(B) Design pressure
(C) Test pressure
(D) Hydrostatic pressure
Answer: Option C

Question No. 322

Growth of population can be conveniently represented by

(A) An arithmetical curve
(B) A semi-logarithmic curve
(C) A logistic curve
(D) A straight line curve
Answer: Option C

Question No. 323

An aquiclude is

(A) A non artesian aquifer
(B) An artesian aquifer
(C) A confined bed of impervious material between aquifers
(D) A large water body underground
Answer: Option C

Question No. 324

The pH value of water fit for drinking, is

(A) 13
(B) 11
(C) 9
(D) 7
Answer: Option D

Question No. 325

The coefficient of permeability of soils, is generally expressed in

(A) cm/sec
(B) cm/minute
(C) cm^2/sec
(D) cm^2/minute
Answer: Option A

Question No. 326

Standard process of chlorination of water, is done by

(A) Plain chlorination
(B) Pre-chlorination
(C) Post-chlorination
(D) Double chlorination

Answer: Option C

Question No. 327

Pressure exerted at 90° bend in a pipe of cross-sectional area *A* and carrying water with a velocity *V* under a pressure *p*, is

(A) $[pA + (w/g)\, AV]$
(B) $2\,[pA + (w/g)\, AV^2]$
(C) $\sqrt{2}\,[pA + (w/g)\, AV^2]$
(D) $\sqrt{3}\,[pA + (w/g)\, A^2V]$

Answer: Option C

Question No. 328

Service connections to consumers houses, are generally provided with

(A) Copper pipes
(B) Hume pipes
(C) Galvanised iron pipes
(D) P.V.C. pipes

Answer: Option C

Question No. 329

The permissible pH value for public water supplies may range between

(A) 4.5 to 5.5
(B) 5.5 to 6.5
(C) 6.5 to 8.5
(D) 8.5 to 10.5

Answer: Option C

Question No. 330

In the equation $P = P_S/[1 + \log_e^{-1}(nt)]$ of a logistic curve of population growth, the constant *m* is

(A) $P_s \times P$
(B) P_S/P
(C) $(P_S - P_o)/P_o$
(D) KP_s

Answer: Option C

Question No. 331

The nitrate concentration in domestic water supplies, is generally limited to

(A) 10 ppm
(B) 15 ppm

(C) 30 ppm
(D) 45 ppm
Answer: Option D

Question No. 332

Carbonates in water produce

(A) Temporary hardness
(B) Permanent hardness
(C) Acidity
(D) Alkanity
Answer: Option A

Question No. 333

Ground water from artesian wells

(A) Contains no suspended materials
(B) Contains dissolved salts
(C) May be saltish and hard
(D) All the above
Answer: Option D

Question No. 334

Alum is a

(A) Coagulant
(B) Flocculent
(C) Catalyst
(D) Disinfectant
Answer: Option A

Question No. 335

Sluice valves are fitted in a distribution system

(A) Along straight length of pipes at suitable intervals
(B) At the junctions of the pipes
(C) At the branching off points of sub-mains
(D) All the above
Answer: Option D

Question No. 336

The ratio of maximum hourly consumption and average hourly consumption of the maximum day, is

(A) 1.2
(B) 1.5
(C) 1.8
(D) 2.7
Answer: Option D

Question No. 337

If the average daily demand of a city of 50,000 population, is 20 m.l.d., the maximum daily demand is

(A) 24 mld
(B) 30 mld
(C) 36 mld
(D) 54 mld

Answer: Option C

Question No. 338

Aqueducts are generally designed

(A) Circular
(B) Rectangular
(C) Horse shoe section
(D) All the above

Answer: Option D

Question No. 339

Water losses in water supply, is assumed as

(A) 5 %
(B) 7.5 %
(C) 10 %
(D) 15 %

Answer: Option D

Question No. 340

The requirement of water per capita per day, is

(A) 90 litres
(B) 150 litres
(C) 250 litres
(D) 400 litres

Answer: Option A

Question No. 341

The maximum permitted loss of head in a rapid sand filter, is

(A) 1 m
(B) 2 m
(C) 3 m
(D) 4 m

Answer: Option C

Question No. 342

Mud balls may be removed by

(A) Breaking and washing
(B) Washing the filter with a solution of caustic soda

(C) Removing, cleaning and replacing the damaged sand
(D) All the above
Answer: Option D

Question No. 343

The lowest outlet sluice in a dam is provided

(A) Below the dead storage
(B) On the top level of dead storage
(C) On the top level of useful storage
(D) At the centre of the dam
Answer: Option B

Question No. 344

The strainer type tube well, is unsuitable for

(A) Coarse gravels
(B) Fine sandy strata
(C) Clean gravels
(D) None of these
Answer: Option B

Question No. 345

Cast iron pipes are generally preferred to, because

(A) Of moderate cost
(B) Of ease to join
(C) Of longer life
(D) All the above
Answer: Option D

Question No. 346

High pH value of water does not produce

(A) Incrustation
(B) Sediment deposits
(C) Tuberculation
(D) None of these
Answer: Option C

Question No. 347

45 litres of water per person per day, is provided in

(A) Office buildings
(B) Hotels
(C) Hostels
(D) Nurse's homes
Answer: Option A

Question No. 348

The ratio of discharge and plan area of a continuous flow type settling tank, is known

(A) Surface loading
(B) Overflow
(C) Overflow rate
(D) All the above

Answer: Option D

Question No. 349

Pick up the wrong nominal internal diameter of cast iron (spun) pipes in mm from the following:

(A) 300
(B) 400
(C) 550
(D) 650

Answer: Option C

Question No. 350

Dead storage of a reservoir of *Q* capacity generally provided for silt deposition during its life time, is generally kept

(A) 1/8th *Q*
(B) 1/6th *Q*
(C) 1/5th *Q*
(D) 1/4th *Q*

Answer: Option D

Question No. 351

Alum is chemically

(A) Copper sulphate
(B) Aluminium sulphate
(C) Ferrous sulphate
(D) Ferric sulphate

Answer: Option B

Question No. 352

Pick up the incorrect statement from the following:

(A) Water disinfected with ozone is free from any odour
(B) Ozone removes bacterias as well as colour and odour
(C) Ozonized water becomes tasteless
(D) None of these

Answer: Option C

Question No. 353

Well treated water is generally supplied for

(A) Domestic use
(B) Commercial use

(C) Public use

(D) All the above

Answer: Option D

Question No. 354

Chemical coagulation of drinking water, is done

(A) To settle suspended materials

(B) To increase rate of settlement of suspended materials

(C) To remove the bacterias

(D) None of these

Answer: Option B

Question No. 355

Demand for public uses in a city, does not include water required for

(A) Watering of public parks

(B) Watering of public gardens

(C) Sprinkling on roads

(D) Drinking purposes

Answer: Option D