Q.1) Advantage of a clamp compared to a kiln for burning bricks is that
a. It takes less time for burning
b. It gives more output of first class bricks
c. It had less initial cost
d. It is suitable when bricks are required in large numbers

Q.2) Hydraulic lime is obtained by
a. Burning of lime stone
c. Adding water to quick lime
b. Burning of kankar
d. Calcination of pure clay
Q.3) Addition of pozzolana to ordinary portland cement increases
a. Bleeding
c. Permeability
b. Shrinkage
d. Heat of hydration

Q.4) The slump recommended for mass concrete is about
a. 25 mm to 50 mm
b. $\mathbf{5 0} \mathbf{~ m m}$ to $\mathbf{1 0 0 ~ m m}$
c. 100 mm to 125 mm
d. 125 mm to 150 mm
Q.5) The vehicle used in case of enamel paints is usually
a. Linseed oil
b. Varnish
c. Water
d. None of the above

Q.6) In brick masonry the bond produced by laying alternate headers and stretchers in each course is known as
a. English bond
b. Zigzag bond
c. Double flemish bond
d. Single flemish bond


Q.7) The stretcher bond in brick masonry can be used only when the thickness of wall is
a. 90 mm
c. 180 mm
d. 280 mm
Q.8) The most important tool in brick laying for lifting and spreading mortar and for forming joints is
a. Trowel
c. Square
b. Bolster
d. Scutch


Q.9) The minimum depth of foundation in clayey soils is
a. 0.5 m
b. 0.9 m
Q.10) Depth or height of the arch is the
a. Perpendicular distance between intrados and extrados
b. Vertical distance between springing line and intrados
c. Perpendicular distance between springing and extrados
d. None of the above


Q.11) The type of arch generally constructed over a wooden lintel or over a flat arch for the purpose of carrying the load of the wall above is
a. Segmental arch
b. Reliving arch
c. Pointed arch
d. Flat arch

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## * relieving arch



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Q.12) Pitched and sloping roofs are suitable for
a. Coastal regions
b. Covering large areas
c. Plain regions
d. All of the above

Q.13) The type of roof which slopes in two directions with a break in the slope on each side is known as
a. Gable roof
b. Gambrel roof
c. Hip roof
d. Mansard roof

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Q.14) In a colar beam roof
a. There is no horizontal tie beam
b. There is a horizontal tie at the feet of rafters only
c. There is a horizontal tie at almost the middle of rafters only
d. There are two horizontal ties, one at the feet and other at the middle of the rafters


Q.15) The number of steps in a flight generally should not be less than
a. 2
b. 5
Q.16) If the forbearing of a line $A B$ is $35^{\circ}$ and that of line $B C 15^{0}$ then the included angle between the lines is
a. $20^{0}$
c. $50^{\circ}$
b. $160^{\circ}$

d. $230^{\circ}$
Q.17) The process of turning the telescope about the vertical axis in horizontal plane is knows as
a. Transiting
b. Plunging
c. Reversing
d. swinging
Q.18) Size of a theodolite is specified by
a. The length of telescope
b. The diameter of vertical circle
c. The diameter of lower plate
d. The diameter of upper plate
Q.19) The cross hairs in the surveying telescope are placed
a. Midway between eye piece and objective lens
b. Much closer to the eye-piece than to the objective lens
c. Much closer to the objective lens than to the eye piece
d. Anywhere between eye-piece and objective lens

Q.20) A 'level line’ is a
a. Horizontal line
b. Line parallel to the mean spheriodal surface of earth
c. Line passing through the centre of cross hairs and the centre of eye piece
d. Line passing through the objective lens and the eyepiece of a dumpy or tilting level

Q.21) The following sights are taken on a "turning point"
a. Foresight only
b. Backsight only
c. Foresight and backsight
d. Foresight and intermediate sight
Q.22) In an internal focusing type of telescope, the lens provide
a. Concave
b. Plano-convex
c. Convex
d. Plano-concave

Q.23) Heigh of instrument method of leveling is
a. More accurate than rise and fall method
b. Less accurate than rise and fall method
c. Quicker and less tedious for large number of intermediate sights
d. None of the above

Q.24) The difference between a level line and a horizontal line is that
a. Level line is a curved line while horizontal line is a straight line
b. Level line is normal to plumb line while horizontal line may not normal to plump line at the tangent point to level line
c. Horizontal line is normal to plumb line while level line may not be normal to the plumb line
d. Both are same

Q.25) Refraction correction
a. Completely eliminates curvature correction
b. Partially eliminates curvature correction
c. Adds to the curvature correction
d. Has no effect on curvature correction

Q.26) The R.L of the point A which is one the floor is 100 m and backsight reading on A is $\mathbf{2 . 4 5 5} \mathbf{~ m}$. if the foresight reading on the point B which is on the ceiling is 2.745 m the R.L of point $B$ will be
a. 94.80 m
b. 99.71 m
c. 100.29 m
d. $\mathbf{1 0 5 . 2 0} \mathbf{~ m}$

Q.27) Which of the following arithmetic checks can be applied in rise and fall method ?
a. $\Sigma$ B.S. $-\Sigma$ F.S. $=\Sigma$ Rise $-\Sigma$ Fall only
b. $\Sigma$ B.S. $-\Sigma$ F.S. $=$ last R.L. - First R.L. only
c. $\Sigma$ Rise $-\Sigma$ Fall $=$ Last R.L. - First R.L only
d. $\Sigma$ B.S $-\Sigma$ F.S. $=\Sigma$ Rise $-\Sigma$ Fall $=$ Last R.L - First R.L

Q.28) The following consecutive reading were taken with a damply level :
0.695. 1.525, 2.395, 0.635, 0.605, 0.805, 0.125
the instrument was shifted after the third and fifth reading
the reading 2.395 and 0.635 respectively represent
a. F.S and B.S
b. F.S and I.S
c. B.S and F.S
d. I.S and B.S


The above table show a part of a level field book. The value of $X$ should be
a. 98.70
b. 102.30
c. 100.00
d. 103.30

Q.30) A level was set up at a point $A$ and distance to the staff station B was 100 m . the net combined correction due to curvature and refraction as applied to the staff reading is
a. 0.00673 m
b. -0.000673 m
c. 0.000673 m
d. $\mathbf{-} 0.00673 \mathrm{~m}$

Q.31) The detention period in coagulation tanks is usually kept as
a. $\mathbf{1}$ to $\mathbf{2}$ minutes
b. 2 to 6 hours
c. $\mathbf{3 0}$ to $\mathbf{4 5}$ minutes
d. 2 to 6 days
Q.32) The alum, when added as a coagulation in water
a. Does not require alkalinity in water for flocculation
b. Does not affect pH value of water
c. Increases pH value of water
d. Decreases pH value of water

Q.33) The rate of filtration in slow sand filters in million liters per day per hectare is about
a. 50 to $\mathbf{6 0}$
c. 100 to 150
b. $\mathbf{5 0 0}$ to $\mathbf{6 0 0}$
d. 1400 to 1500
Q.34) The effective size of sand particles used in slow sand filters is
a. 0.25 to 0.35 mm
b. 0.60 to $\mathbf{1 . 0 0 ~ m m}$
c. 0.35 to 0.60 mm
d. 1.00 to 1.80 mm

Q.35) As compared to rapid sand filters, slow sand filters give
i) Slower filtration rate
ii) Higher filtration rate
iii) Lesser efficiency in removal of bacteria
iv) Higher efficiency in removal of bacteria

The correct answer is
a. (i) and (ii)
b. (i) and (iv)

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d. (ii) and (iv)

Q.36)Air binding phenomena in rapid sand filters occur due to
a. Excessive negative head
b. Mud ball formation
c. Higher turbidity in the effluent
d. Low temperature

Q.37) The percentage of filters water, which is used for backwashing in rapid sand filters, is about
a. 0.2 to 04
b. 2 to 4
c. 0.4 to 1.0
d. 5 to 7
Q.38) Period of cleaning of slow sand filters is about
a. 24-48 hours
b. 2-3 months
c. 10-12 days
d. 1-2 years

Q.39) Double filtration is used
a. To increase the filtration capacity of slow sand filters
b. To increase the filtration capacity of rapid sand filters
c. For isolated building like swimming pools, hotels etc.
d. All of the above
Q.40) Disinfection of water results in
a. Removal of turbidity
c. Removal of hardness
b. Killing of distance bacteria
d. Complete sterilisation

Q.41) The ratio of the quantity of water stored in the root zone of the crops to the quantity of water actually delivered in the field is known as
a. Water conveyance efficiency
b. Water application efficiency
c. Water use efficiency
d. None of the above

Q.42) The water utilizable by plants is available in soils mainly in the from of
a. Gravity water
b. Hydroscopic water

c. Capillary water<br>d. Chemical water

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Q.43) Hydrograph is the graphical representation of
a. Runoff and time
b. Surface runoff and time
c. Ground waterflow and time
d. Rainfall and time

Q.44) The depth of water required to bring the soil moisture content of a given soil upto its field capacity is called
a. Hygroscopic water
b. Soil moisture deficiency
c. Equivalent moisture
d. Pellicular water
Q.45) Cyclonic precipitation is caused by lifting or an air mass due to
a. Pressure difference
c. Temperature difference
b. Natural topographical barriers
d. None of the above


Q.46) If allowable percentage error in the estimate of base rainfall is $E$ and coefficient of variation of rainfall is $C$ then the optimum number of raingauges is given by
a. $\frac{C_{V}}{E}$
c. $\left(\frac{C_{V}}{E}\right)^{2}$
d. $\left(\frac{C_{v}}{E}\right)^{3 / 2}$

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Q.47) Which of the following types of raingauges is used for measuring rain in remote hilly inaccessible areas ?
a. Tipping bucket type
b. Weighing type
c. Floating type
d. Simos's raingauge

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## Q.48). Coefficient of variation is given by



Q.49) Unit of runoff in M.K.S . System is
a. Cubic meter/sec
c. Meter/sec
b. Cubic meter
d. Square meter
Q.50) The area between the isohyets 45 cm and 55 cm is 100 square and between 55 cm and 65 cm is 150 square $\mathbf{k m}$. the average depth of annual precipitation over the above basin of $\mathbf{2 5 0}$ square $\mathbf{k m}$ will be
a. 50 cm
b. 56 cm

c. 55 cm
d. 60 cm

