Q : Which of the following has least bearing capacity

A : Hard rocks
B : Loose gravel
C : Compact gravel
D : Soft rocks

Q : Slate in the form of tiles is used-

A : For paving
B : As road metal
C : As an excellent roof covering material
D : For the manufacture of cement.

Q : For stones Mohs scale is used to determine

A : Toughness
B : Hardness
C : Flakiness index
D : Durability

Q : Smith's test is performed to determine
A : Durability
B : Crushing
C : Wear
D : Soluble minerals

Q : An artificial stone made from pieces of marble and cement and used for floors, facing of walls etc. is knowns as

A : Mosaic
B : Terrazo
C : Marble
D : None of the above

Q : Spalling hammer is used for

A : Driving wooden headed chisel
B : Rough dressing of stones
C : Carving of stones
D : Breaking small projection of stone

Q : The classification of Kaolin is

A : Calcareous
B : Argillaceous
C : Silicious
D : Organic

Q : Bauxite bricks are

A : Ordinary fire bricks
B : Basic refractory bricks
C : Acid refractory bricks
D : Neutral refractory bricks

Q : The diameter of needle used in vicat's apparatus for the determination of initial setting time is prescribed as

A : 0.5 mm
B : 1 mm
C : 5 mm
D : 10 mm

Q : Rapid hardening cement, gains rapid high strength due to:

A : Increased quantity of gypsum
B : Decrease burning temperature
C : Increased quantity of cement
D : High degree of tricalcium silicate.

Q : What is the height of the "LE-CHATLIER" split cylinder?

A : 0.01 m
B : 0.10 m
C : 0.05 m
D : 0.03 m

Q : The proper size of cube mould for testing compressive strength of cement is

A : 705 mm
B : 105 mm
C : 100 mm
D : 150 mm

Q : Addition of pozzolana to ordinary Portland cement increase

A : Bleeding
B : Shrinkage
C : Permeability
D : Heat of hydration

Q : Stream curing is not recommended for use with

A : Ordinary Portland cement
B : Rapid hardening cement
C : High alumina cement
D : Pozzolona portland cement

Q : Initial setting time of cement for asbestos cement products should be not less than

A : 30 minutes
B : 50 minutes
C : 75 minutes
D : 90 minutes

Q : Soil formed by the accumulation of decaying and chemically deposited vegetable matter under conditions excessive moisture is:

A : Aeoline soil
B : Alluvial soil
C : Colluvial soil
D : Cumulose soil

Q : The swelling nature of black nature of black cotton soil is primarily due to the presence of

A : Illite
B : Kaolinite
C : Montmorillonite
D : Verniculite

Q : If the soil stays at a place above the parent rock where it is produce, then it is called:

A : Stationary soil
B : Static soil
C : Residual soil
D : Immobile soil

Q : Clay is an example of

A : Aquife
B : Aquiclude
C : Aquitard
D : Aquifuge

Q : Geological cycle for the formation of soil, is

A :
$Upheaval \rightarrow transportation \rightarrow deposition \rightarrow weathering$

B :
$Weathering \rightarrow Upheaval \rightarrow Transportation \rightarrow Deposition$

C :
$Weathering \rightarrow transportation \rightarrow deposition \rightarrow Upheaval$

D :
$Transportation \rightarrow Upheaval \rightarrow Weathering \rightarrow Deposition$

Q : Zone of the soil affected capillary action is:

A : Capillary fringe
B : Capillary zone
C : Capillary fringe or capillary zone
D : Neither capillary fringe not capillary zone

Q : Determination of water content of a soil sample suspected to contain gypsum is made by drying the sample for longer period at a temperature not more than

A : $60^o\ C$
B : $90^o\ C$
C : $80^o\ C$
D : $110^o\ C$

Q : Core-cutter method is used for:

A : Obtaining sample for direct shear test
B : Determining density of soil
C : Determining density of soil
D : Determining bearing capacity of soil

Q : If W_1, W_2, W_3 and W_4 are the sequential weights obtained during observations in pycnometer method for determining water content, the formula to be used is:

A :

$$w = \left[\left(\frac{w_2 + w_1}{w_3 + w_4} \right) \left(\frac{G-1}{G} \right) - 1 \right] \times 100\%$$

B :

$$w = \left[\left(\frac{w_3 + w_1}{w_3 + w_4} \right) \left(\frac{G-1}{G} \right) + 1 \right] \times 100\%$$
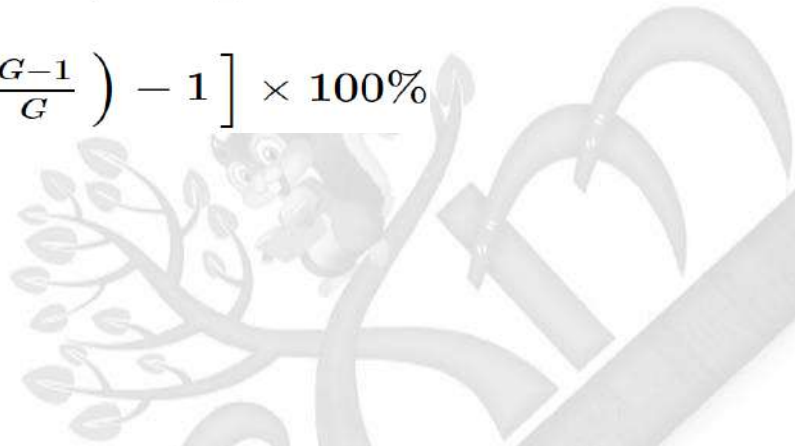
C :

$$w = \left[\left(\frac{w_2 - w_1}{w_3 + w_4} \right) \left(\frac{G-1}{G} \right) - 1 \right] \times 100\%$$

D :

$$w = \left[\left(\frac{w_2 - w_1}{w_3 - w_4} \right) \left(\frac{G-1}{G} \right) - 1 \right] \times 100\%$$

Q : For perfectly dry soil degree of saturation is:

A : Infinite
B : 0-1
C : 1
D : Zero

Q : Sludge digestion is:

A : Disposal of sludge
B : Dilution of sludge
C : Stabilization of sludge
D : Removal of waste product from sludge.

Q : For satisfactory working of a sludge digestion unit, the pH range of digested sludge should be maintained as

A : 4.5 to 6.0
B : 6.5 to 8.0
C : 8.5 to 10.0
D : 10.5 to 12.0

Q : Elutriation is the process of

A : Adding oxygen to the sludge
B : Washing digested sludge
C : Sludge digestion
D : Disposing off the sludge

Q : The process of lagooning is primarily a means of

A : Reducing the excessive flow in sewers
B : Disposing of sludge
C : Increasing the capacity of storage reservoirs
D : Increasing flow of sewage through imhoff tanks

Q : Under Indian conditions, which one of the following is most ecologically acceptable method of management for organic component of municipal solid waste?

A : Incineration
B : Pyrolysis
C : Composting
D : Sanitary land filling

Q : A high rate biological treatment unit has a $\dfrac{F}{M}$

 ratio of:

A : Less than 0.1
B : 0.2 to 0.5
C : 0.1 to 1
D : Greater than

Q : The zone in which of dissolved oxygen may fall down to zero causing anaerobic condition in the river is:

A : Zone of degradation
B : Zone of active decomposition
C : Zone of recovery
D : Zone of clean water.

Q : The two main gases liberated from an anaerobic sludge digestion tank would include

A : Ammonia and carbon dioxide
B : Carbon dioxide and methane
C : Methane and hydrogen sulphide
D : Ammonia and methane

Q : The following three stages are known to occur in the biological action involved in the process of sludge digestion
1. Acid fermentation
2. Alkaline fermentation
3. Acid regression
The correct sequence of these stages is
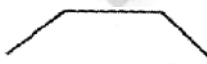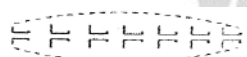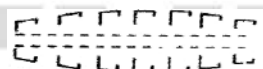
A : 1, 2, 3
B : 2, 3, 1
C : 3, 1, 2
D : 1, 3, 2

Q : Which of the following unit works in anaerobic condition?

A : Sludge digestion tank
B : Sedimentation tank
C : Activated sludge treatment
D : Trickling filters

Q : Minimum allowable limit up to that a measurement may vary from the true value is known as

A : Permissible error
B : Residual error
C : Expected error
D : Safe error

Q : Convention for an embankment is

A :

B :

C :

D :

Q : Line of collimation

A : Is the same as line of sight
B : The line joining point of intersection of cross hairs and optical center of object glass
C : The geometrical axis of the telescope
D : The line parallel to the bubble tube axis

Q : Ramsden eye- piece consists of

A : Two convex lenses short distance apart
B : One concave lenses short distance apart
C : One convex lens and one concave lens short distance apart
D : Two Plano-convex lenses short distance apart with the convex surfaces facing each other

Q : Removal of parallax may be achieved by:

A : Refocussing the objective
B : Refocussing the eyepiece
C : Refocussing the objective and the eyepiece
D : None of these

Q : Correction for curvature is:

A : 0.0785 d^2 m
B : 0.689 d m
C : 0.689 d^2 m
D : 0785 d^2 m

Q :

Station	B.S.	I.S.	F.S.	Rise	Fall	R.L.	Remarks
A	2.1		2.3		1.5	100.00	C.P.
B		1.0		X		101.10	
C			1.3		0.3	100.80	

Above table shows a part of a level field books.
What is value of X?

A : 1.5
B : 1.2
C : 1.1
D : 1.8

Q : The additional lens introduced between the object glass and diaphragm in external focussing telescope is known as:

A : Anallatic lens
B : Convex lens
C : Concave lens
D : None of lens

Q : The linear value of one division of bubble tube is:

A : 3 mm   B : 4 mm
C : 2 mm   D : 1 mm

Q : Two points A and B are 1530 m apart across a river. The reciprocal levels measured are:

Leavel at	Reading on (in m)	
	A	**B**
A	2.165	3.810
B	0.910	2.355

The true difference in level between A and B would be

A : 1.255 m   B : 1.355 m
C : 1.545 m   D : 1.654 m