Question : 1 Sewage treatment units are normally designed for

A : For 5 - 10 years
B : For 15 - 20 years
C : For 30 - 40 years
D : For 40 - 50 years

Question : 2 The detention period for oxidation ponds is usually kept as

A : 4-8hrs
B : 24hrs
C : 10 to 15 days
D : 3 months

Question:3 A fundamental difference between sedimentaion tank for water and sewage is

A : Sewage sedimentaion tanks are bigger
B : Sewage sedimentaion tanks have more depth
C : Sludge from sewage sedimentation is to be removed more frequently
D : It can be the final treatment of operation in water treatment

Question : 4 The most suitable solid waste disposal method for rural areas is:

A : Land filling
B : Deep well injection
C : Composting
D : Incineration

Question : 5 Deposit gauges are provided with copper sulphate solution

A : To prevent the growth of bacteria
B : To prevent the growth of algae
C : To scare birds
D : TO prevent the decomposition of SPM

Question : 6 The device used for easy separation of dry of 10 to 100 μ m size is

A : Cyclone
B : Gravity setting chamber
C : Bag filter
D : Scrubber

Question : 7 Which of the following are primary pollutants?

A : Sulphur dioxide and Nitrogen oxides
B : Ozone and carbon monoxide
C : Sulphur dioxide and ozone
D : Nitrogen oxide and ozone

Question : 8 The path taken by the continuous discharge of gaseous effluent emitted from chimney is commonly known as

A : Lapse rate
B : Inversion
C : Plume
D : None of these

Question : 9 The plume behavior which occurs in the super adiabatic condition with light to moderate wind speed in the presence of large scale thermal eddies are.

A : Carrying plume
B : Neutral plume
C : Looping plume
D : Fanning plume

Question : 10 A soil has percentage air voids of the order of 30%. It has a porosity of 0.4. The air content of the soil shall be:

A : 0.75
B : 0.12
C : 1.33
D : 0.7

Question : 11 Which of the following soil has the uniformity coefficient more than 10?

A : Well graded soil
B : Coarse soil
C : Uniform soil
D : Poor soil

Question : 12 Water content of a soil sample is the difference of the weight of the given sample at the given temperature and the weight determined after drying it for 24 hours at temperature ranging from.....

A : 80^0 to 90^0 c
B : 90^0 to 95^0 c
C : 95^0 to 100^0 c
D : 105^0 to 110^0 c

Question : 13 Which of the following is responsible for the formation of residual soil?

A : Glaciers
B : Water
C : Wind
D : None of these

Question : 14 Which of the following expression represent the relative compaction of soil, where variables have their standard meanings?

A : $R = \frac{\gamma d(field)}{\gamma d(max-lab)} \times 100$
B : $R = \frac{\gamma d(max-lab)}{\gamma d(field)} \times 100$
C : $R = \frac{1-\gamma d(field)}{\gamma d(max-lab)}$
D : None of these

Question : 15 The_____soil transport by the gravitational forces.

A : Alluvial soil
B : Colluvial soil
C : Loess
D : Till

Question : 16 If the voids of a soil are completely filled with air, then it is called.....

A : Dry soil
B : Partially saturated soil
C : Submerged soil
D : Saturated soil

Question : 17 What is the terminal velocity (m/s) for a 4g particle which is falling in the water with projected area of 5 sq.cm? The coefficient drag is given as 0.47.

A : 0.58
B : 5.2
C : 7.5
D : 10

Question : 18 Which of the following represents the sand?

A : 5% to 15%
B : 15% to 30%
C : 30% to 40%
D : 40% to 50%

Question : 19 The grain sizer (mm) of medium grained sand lies between.....

A : 0.425 to0.075
B : 2.0 to 0.425
C : 4.75 to 2.0
D : 20 to 4.75

Question : 20 Which of the following represents the range of plasticity index for silt?

A : 10 to 15
B : 15 to 25
C : 25 to 35
D : 35 to 45

Question : 21 If a grading curve is horizontal between the portion of 20 mm I.S. sieve and 4.75 mmI.S.sieve, the graded aggregate do not contain.

A : 20 mm particles
B : 10 mm particles
C : 4.75 mm particles
D : All option are correct

Question : 22 A negative value of the group index of a soil is reported as:

A : A positive value of the same magnitude droping the negative sign.
B : Zero
C : Negative value, as GI may be negative
D : GI is reported as no-existent.

Question : 23 The coefficient of gradation and the coefficient of uniformity of a given soil sample is 1.0 and 4.0 respectively. The ratio of effective size to the diameter through which 30% of the total mass is passed is.....

A : 1.25
B : 1.5
C : 1.75
D : 2

Question : 24 On a grading curve, the grading is represented by

A : Horizontal line
B : A vertical line
C : North west inclined line
D : None of these

Question : 25 Sand particles are made of:

A : Kaolinite
B : Lllite
C : Montmorillonite
D : Quartz

Question : 26 Which of the following bonding is responsible to combine the silica - gibbsite sheet in kaolinite clay mineral?

A : Covalent bond
B : Hydrogen bond
C : Lonic bond
D : Polar covalent bond

Question : 27 Pick up the incorrect statement from the following

A : Lead is the average horizontal straight distance between the borrow pit and the place of spreading soil
B : The lead is calculated for each block of the excavated area
C : The unit of lead is 50 m for a distance upto 500 m
D : The unit of lead is 1 km where the lead exceeds 2 km

Question : 28 Pick up the incorrect statement from the following

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Question : 29 An overall value of the coefficient of permeability of a soil deposit for a large area may be determined by:

A : Constant head permeability test
B : Variable head permeability test
C : Pumping out tests.
D : Pumping in tests.

Question : 30 A loose uniform sand with rounded grains has effective grain size of 0.05 cm. Coefficient of permeability of the sand is?

A : 0.25 cm/sec
B : 0.5 cm/sec
C : 1 cm/sec
D : 1.25 cm/sec

Question : 31 >Falling head permeability test is carried out on a soil specimen having cross-sectional area of 60 sq.cm and height of 15 cm. The water level in the stand pipe of diameter of 0.5 cm drops from 100 cm to 40 cm in half an hour. What is the coefficient of permeability (cm/s)?

A : 2.49×10^{-5}
B : 2.50×10^{-3}
C : 3.38×10^{-4}
D : 5.09×10^{-5}

Question : 32 If the void ratio and discharge vischarge velocity for soil is 0.5 and 6×10^{-7} m/s respectively, what is the value of seepage velocity (m/s)?

A : 3×10^{-7}
B : 6×10^{-7}
C : 12×10^{-7}
D : 18×10^{-7}

Question : 33 The pore water pressure in the soil sample of consolidometer test is.....

A : Maximum at bottom
B : Maximum at centre
C : Maximum at top
D : Minimum at center

Question : 34 The clay deposit of thickness 10 cm and void ratio 0.5 undergoes settlement and now its final void ratio is 0.2. The thickness (cm) of the settlement layer.

A : 1
B : 1.5
C : 2
D : 2.5

Question : 35 Which of the following statements is faise?

A : Clay deposits are more porous than sand beds
B : Presence of organic matter in soil decreases the bearing capacity of the soil
C : The change of moisture content changes the value of angle of repose
D : None of the above

Question : 36 A footing is resting on fully saturated clayey strate for checking the initial stability, shear parameter are used from:

A : Consolidated undrained test
B : Unconsolidated drained test
C : Unconsolidated undrained test
D : Unconsolidated undrained test with pore pressure measurement

Question : 37 The cell pressure and pore water pressur is increased from 0.1 N/sq.m to 0.26 N/sq.m and 0.07 N/sq.m to 0.15 N/sq.m respectively in the triaxial test. The skempton's pore pressure is given by.....

A : -3
B : -0.5
C : 0.5
D : 2

Question : 38 The angle of repose of a soil is the maximum angle which the outer face of the soil mass makes.

A : With the horizontal
B : With the vertical
C : With the perpendicular to the inclined plane of the soil
D : None of these

Question : 39 Coefficient of earth pressure at rest is given by

A : $\frac{\mu^2}{1-\mu^2}$
B : $\frac{\mu}{1-\mu}$
C : $\frac{1-\mu}{\mu}$
D : $\frac{1-\mu^2}{\mu^2}$

Question : 40 In a cantilever retaining wall, the stem design moment is:

A : $\frac{1}{2}K_a\gamma h^2$
B : $K_a\gamma h$
C : $\frac{1}{6}K_a\gamma h^3$
D : $\frac{1}{12}K_a\gamma h^3$

Question : 41 For bulk heads, which of the following earth pressure theory is applied directly?

A : Coulomb's theory
B : Rankine's theory
C : Coulomb's theory and Rankine's theory
D : None of these

Question : 42 Standard penetration resistance in very stiff clays lies between:

A : 2 and 4
B : 4 and 8
C : 8 and 15
D : 15 and 30

Question : 43 A 300 mm square bearing plate settles by 15 mm in a plate load test on a cohesive soil when the intensity of loading is 0.2 N/mm^2. The settlement of a prototype shallow footing '1 m' square under the same intensity of loading is:

A : 15 mm
B : 30 mm
C : 50 mm
D : 167 mm

Question : 44 Which of the following statement is true?

A : On an absolutely rigid foundation base the pressure will at the edges of the foundation
B : On an absolutely rigid foundation base the pressure will be uniform
C : On an absolutely rigid foundation the pressure will not be uniform
D : On an absolutely rigid foundation base the pressure will be zero at the centre of the foundation

Question : 45 For a number of cloumns constructed in a row, the type of foundation provided is

A : Footing
B : Raft
C : Strap
D : Strip

Question : 46 A raft foundation is provided if its area exceeds the plan area of the building by.

A : 0.1
B : 0.2
C : 0.3
D : 0.5

Question : 47 A friction pile of diameter 50 cm is embedded 15 m into the homogeneous consolidated clay deposit. If the adhesion factor is 0.7 and adhesion develops between the clay and pile shaft is 4t/m^2. What is the safe load (t) for factor of safety 3.0?

A : 15
B : 22
C : 26
D : 30

Question : 48 Which of the following statement is true?

A : A pile is a slender member which transfers the load through its lower end on a strong strata.
B : A pile is a slender member which transfers its load to the surrounding soil.
C : A pile is a slender member which transfers its load by friction
D : A pile cylindrical body of concrete which transfers the load at a depth greater than its width

Question : 49 On piles, the drop must be at least

A : 80 cm
B : 100 cm
C : 120 cm
D : 140 cm

Question : 50 Undisturbed samples are obtained by:

A : Direct excavations
B : Thin walled samplers
C : Thick walled samplers
D : None of the above

Question : 51 The lime stabilization is very effective in treating:

A : Sandy soils
B : Silty soils
C : Non-plastic soils
D : Plastic clayey soils

Question : 1 - Answer : 1
Question : 2 - Answer : 3
Question : 3 - Answer : 3
Question : 4 - Answer : 3
Question : 5 - Answer : 2
Question : 6 - Answer : 1
Question : 7 - Answer : 1
Question : 8 - Answer : 3
Question : 9 - Answer : 3
Question : 10 - Answer : 1
Question : 11 - Answer : 1
Question : 12 - Answer : 4
Question : 13 - Answer : 4
Question : 14 - Answer : 1
Question : 15 - Answer : 2
Question : 16 - Answer : 1
Question : 17 - Answer :
Question : 18 - Answer : 3
Question : 19 - Answer : 2
Question : 20 - Answer : 1
Question : 21 - Answer : 4
Question : 22 - Answer : 2
Question : 23 - Answer : 4
Question : 24 - Answer : 1
Question : 25 - Answer : 4
Question : 26 - Answer : 2
Question : 27 - Answer : 4
Question : 28 - Answer : 4
Question : 29 - Answer : 3
Question : 30 - Answer : 1
Question : 31 - Answer : 1
Question : 32 - Answer : 4
Question : 33 - Answer : 2
Question : 34 - Answer : 3
Question : 35 - Answer : 4
Question : 36 - Answer : 3
Question : 37 - Answer : 3
Question : 38 - Answer : *
Question : 39 - Answer : 2
Question : 40 - Answer : 3
Question : 41 - Answer : 4
Question : 42 - Answer : 4
Question : 43 - Answer : 3
Question : 44 - Answer : 3
Question : 45 - Answer : 4
Question : 46 - Answer : 4
Question : 47 - Answer : 2
Question : 48 - Answer :
Question : 49 - Answer : 3
Question : 50 - Answer : 2
Question : 51 - Answer : 4