

Q 1) If W is total BOD, V is filter volume and F is recirculation factor in a tracking filter, then unit organic loading is obtained by

A : $u = WF/V$

B : $u = VF/W$

C : $u = W/VF$

D : $u = W/VF$

Q 2) In water supply pipes, wrought iron and cast iron pipes have relationship as

A : Life of wrought iron pipes > life of cast iron pipes

B : Life of cast iron pipes > life of wrought iron pipes

C : Both life spans are equal

D : Life of wrought iron pipes = 2 (life of cast iron pipes)

Q 3) When the bed level of canal is higher than the Highest Flood Level (HFL) of discharge, then the cross discharge work is said to be

A : Aqueduct

B : Super-passage

C : Canal syphon

D : Under tunnel

Q 4) When the length of bodywall of a fall is less than the normal width of a canal, it is called

A : Notch fall

B : Sarda fall

C : Flumed fall

D : Ogee fall

Q 5) Septic tank is usually consists of brick wall in cement not less than

A : 20 cm

B : 100 cm

C : 80 cm

D : 200 cm

Q 6) How many types of weirs are there based on the shape of the crest?

A : 6

B : 4

C : 5

D : 3

Q 7) Critical load position in a rigid pavement design is taken as

A : Interior loading

B : Edge loading

C : Corner loading

D : Interior, edge and corner loading

Q 8) Quoins in brick masonry are

A : Bricks cut a corners in a triangular fashion

B : Half-brick with length same but width halved

C : Squint junction of walls

D : Corner junction of walls

Q 9) When large openings are to be made in existing wall, the type of temporary work used is

A : Raking shore

B : Flying shore

C : Dead shore

D : Underpinning

Q 10) Pallet board is used

A : To make frog in the brick

B : To mount the mould

C : For table moulding of brick

D : None of the above

Q 11) Rotary kiln used in manufacturing cement rotates at a speed of

A : 1 r.p.m. - 3 r.p.m.

B : 10 r.p.m. - 12 r.p.m.

C : 18 r.p.m. - 22 r.p.m.

D : More than 25 r.p.m.

Q 12) Which one is not the effect of the presence of iron oxide in water?

A : Causes red colour

B : Increases corrosiveness

C : Increases hardness

D : Causes toxic effect

Q 13) The most commonly used sewer under culvert is

A : Circular sewer

B : Semi-shaped sewer

C : Egg-shaped sewer

D : Horseshoe-type sewer

Q 14) The potable water is prepared from turbid surface water by adopting which of the following treatment sequences?

A : Turbid surface water, coagulation, flocculation, sedimentation, filtration, disinfection, storage and supply

B : Turbid surface water, disinfection, flocculation, sedimentation, filtration, coagulation, storage and supply

C : Turbid surface water, filtration, sedimentation, disinfection, flocculation, coagulation, storage and supply

D : Turbid surface water, sedimentation, flocculation, coagulation, disinfection, filtration, storage and supply

Q 15) For a satisfactory workable concrete with a constant water cement ratio, increase in aggregate cement ratio:

A : Decrease the strength of concrete

B : Does not change the strength of concrete

C : Increase the strength of concrete

D : None of these

Q 16) Sludge treatment is mainly done in order to:

A : Stabilize the organic matter

B : Destroy the pathogenic bacteria

C : Reduce the water content

D : All of the above

Q 17) In which type of bond is cavity existing?

A : Flemish bond

B : English bond

C : Rat-trap bond

D : Stretcher bond

Q 18) Principles of planning for buildings include

A. Aspect and Prospect

B. Roominess

C. Grouping

D. Flexibility and Privacy

A : A and B only

B : B and D only

C : A and C only

D : A, B, C and D

Q 19) The distance from the centre of a pumped well to the point, where the drawdown is zero or is inappreciable, is known as

A : Drawdown

B : Cone of pressure

C : Radius of influence

D : Piezometric surface

Q 20) A land is known as waterlogged when

A : Gravity drainage has ceased

B : Permanent wilting point is reached

C : The soil becomes completely saturated

D : Capillary fringe reaches the root zone of the plants

Q 21) Which of the followings structures is constructed to separate under sluices from the main weir?

A : Marginal bund

B : Divide wall

C : Head regulator

D : None of the above

Q 22) For the purpose of measuring the stopping sight distance, IRC had suggested the height of eye level of driver and the height of the object above the road surface as

A : 1.5 m and 0.15 m

B : 1.2 m and 0.12 m

C : 1.2 m and 0.15 m

D : 1.5 m and 0.12 m

Q 23) An appurtenance used to connect high level branch sewer to low level branch sewer is

A : Mahhole

B : Drop manhole

C : Inverted siphon

D : Catch basin

Q 24) If the lower clamp is tightened and the upper clamp is loosened, the theodolite may be turned

A : With a relative motion between vernier and graduated scales of the lower plate

B : Without a relative motion between vernier and graduated scales of the lower plate

C : Both (A) and (B)

D : About the horizontal axis

Q 25) The magnetic bearing of the sun at noon is 178° . The magnetic declination at the place is

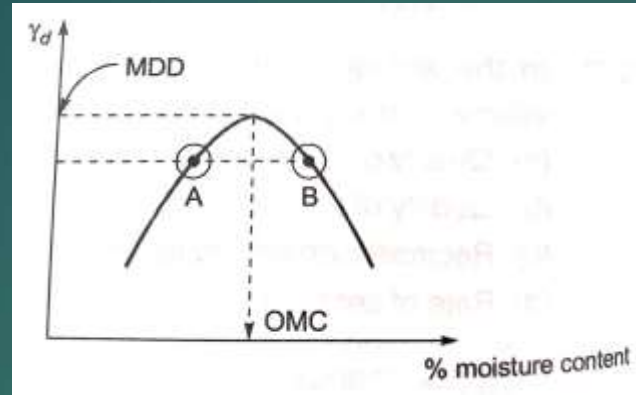
A : 2°W

B : 2°E

C : 2°N

D : 2°S

Q 26) In a typical compaction curve as indicated in the diagram, points 'A' and 'B' have dry densities. Choose the most appropriate statement from the following:



A : Soil at 'A' will have more swelling potential and less shrinking upon moisture-variation, compared to 'B'.

B : Soil at 'A' will have same swelling and shrinking potential as soil at 'B'.

C : Soil at 'A' will have less swelling potential and higher shrinking potential compared with soil at 'B'.

D : The swelling-shrinking potential for soil at 'A' and 'B' cannot be predicted with the given data.

Q 27) Select the appropriate alternative from the following:

Soil deposit is called as 'over-consolidated', if where P_o is the present effective overburden pressure and P_c is preconsolidation pressure.

A : $P_o > P_c$

B : $P_o \leq P_c$

C : $P_o = P_c$

D : $P_o < P_c$

Q 28) Following are the statements about the major differences between Tezaghi's analysis "T" and Meyerhof's analysis ('M') of bearing capacity:

- (i) 'T' is for homogeneous and isotropic soils but ('M') accounts for non-isotropy.**
- (ii) In 'T', the failure surfaces from upto founding level hut in 'M', they are extended upto ground level.**
- (iii) In 'T', the angle of wedge formed beneath the foundation is assumed top be equal to the angle of internal friction of the soil but in "M" it varies.**
- (iv) In 'T' the load acting on the foundation is cocentric and vertical but in 'M', it is assumed as eccentric.**

Ascertain the correctness of the above statements and write the correct code.

- A : Statement (i) is the only correct statement**
- B : Statements (i) and (ii) are correct**
- C : Statements (ii) and (iii) are correct**
- D : Statements (i) and (iv) are correct**

Q 29) How much is the covering capacity of cement paint?

A : About 18 m²/kg per coat

B : About 20 m²/kg per coat

C : About 12 m²/kg per coat

D : About 4 m²/kg per coat

Q 30) What does not fit into the classification of pile based on function?

A : Bearing pile

B : Friction pile

C : Compaction pile

D : Steel pile

Q 31) To what, is Ease related in concrete technology?

A : Geology of fresh concrete

B : Rheology of fresh concrete

C : Mineralogy of fresh concrete

D : Ecology of fresh concrete