APPSC Assistant Director (Civil Engineering) Official Paper-II (Held On_ 21 Oct, 2022)

APOnline Limited

Notations :

1.Options shown in green color and with ✔ icon are correct.

2.Options shown in red color and with ✖ icon are incorrect.

Question Paper Name :	Paper II Civil Engineering
Subject Name :	Paper II Civil Engineering
Creation Date :	2022-10-21 17:58:48
Duration :	150
Total Marks :	300
Display Marks:	Yes
Share Answer Key With Delivery Engine :	No
Actual Answer Key :	Yes
Calculator :	None
Magnifying Glass Required? :	No
Ruler Required? :	No
Eraser Required? :	No
Scratch Pad Required? :	No
Rough Sketch/Notepad Required? :	No
Protractor Required? :	No
Show Watermark on Console? :	Yes
Highlighter :	No
Auto Save on Console?	Yes
Change Font Color :	No
Change Background Color :	No
Change Theme :	No

Negative Mark Per Question 0.66

Help Button :	No
Show Reports :	No
Show Progress Bar :	No

Paper II Civil Engineering

Group Number :	1
Group Id :	82778814
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No

Civil Engineering

Section Id :	82778815
Section Number :	1
Section type :	Online
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	82778817
Question Shuffling Allowed :	Yes
Is Section Default? :	null

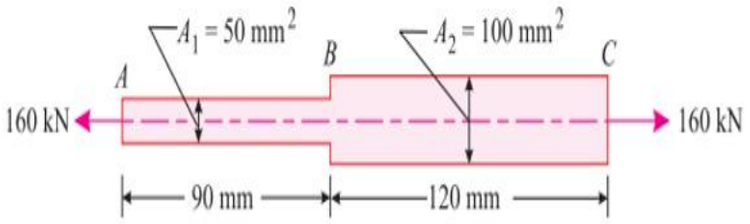
Question Number : 1 Question Id : 8277881903 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Negative Mark Per Question 0.66

Correct Marks : 2

An automobile component made of metal with a modulus of elasticity of 200 *GPa* is subjected to a tensile load of magnitude 160 kN as shown in the figure.

Determine the total elongation of the component.



Options :

1. ✖ 1.2 mm

2. ✖ 0.8 mm

3. ✔ 2.4 mm

4. ✖ 1.8 mm

Question Number : 2 Question Id : 8277881904 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

An alloy wire of 2 mm^2 cross-sectional area and 15 N weight hangs freely under its own weight. Find the maximum length of the wire if its extension is not to exceed 0.6 mm. Take modulus of elasticity (E) for the wire material as 150 GPa.

Options :

1. ✖ 10 m

2. ✔ 24 m

3. ✖ 15 m

4. ✖ 30 m

Question Number : 3 Question Id : 8277881905 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum

Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

A point in a strained material is subjected to two mutually perpendicular tensile stresses of 200 MPa and 100 MPa. Determine the intensities of shear stress on a plane inclined at 30° with the axis of minor tensile stress.

Options :

1. ✖ 25.00 MPa

2. ✔ 43.30 MPa

3. ✖ 32.42 MPa

4. ✖ 50.00 MPa

Question Number : 4 Question Id : 8277881906 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

A plane element in a body is subjected to a tensile stress of 80 MPa accompanied by a shear stress of 25 MPa. Find the normal stress on a plane inclined at an angle of 15° with the tensile stress.

Note: For this question, discrepancy is found in question/answer. So,this question is ignored for all candidates.

Options :

1. 2.56 MPa

2. −1.89 MPa

3. −7.14 MPa

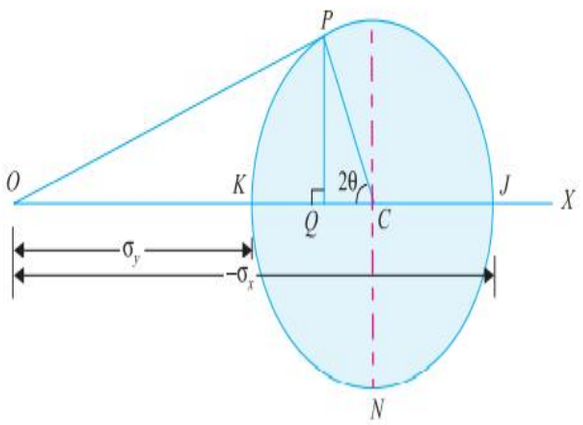
4. 10.82 MPa

Question Number : 5 Question Id : 8277881907 Question Type : MCQ Option Shuffling : Yes Is

Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Mohr's circle for stresses on an oblique section of a body subjected to direct stresses in two mutually perpendicular directions is shown in the figure. The line 'QP' perpendicular to the line 'OX' gives _____ according to the chosen scale.



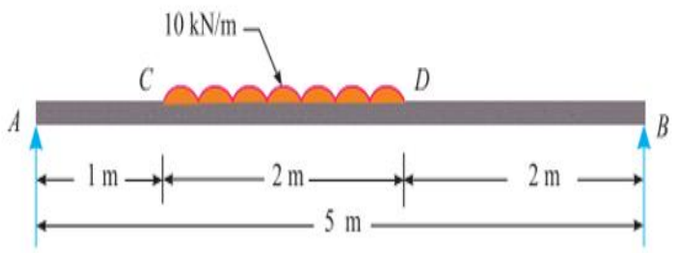
Options :

1. ✖ normal stress
2. ✖ maximum shear stress
3. ✖ resultant stress
4. ✔ shear stress

Question Number : 6 Question Id : 8277881908 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

A simply supported beam of span 5 m is loaded with a uniformly distributed load of intensity 10 kN/m over a length of 2 m shown in the given figure. By considering the shear force at 'C' as +12 kN and that at 'D' as -8kN, determine the position (distance measured from A) at which shear force is zero.



Negative Mark Per Question 0.66

Options :

1. ✖ 2.5 m

2. ✔ 2.2 m

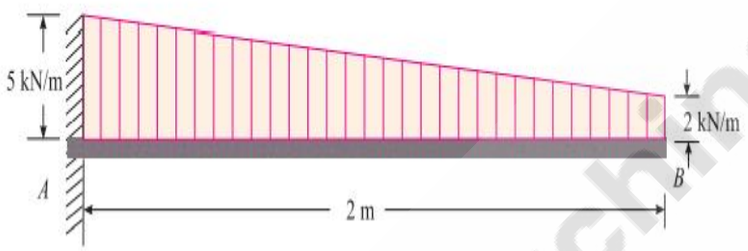
3. ✖ 2.35 m

4. ✖ 2.0 m

Question Number : 7 Question Id : 8277881909 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

A cantilever beam of 2 m span is subjected to a gradually varying load from 2 kN/m to 5 kN/m as shown in the figure. Calculate the magnitude of the moment at 'A'.



Options :

1. ✖ 3.5 kN/m

2. ✔ 6 kN/m

3. ✖ 7 kN/m

4. ✖ 4.5 kN/m

Question Number : 8 Question Id : 8277881910 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Consider the given statements with respect to shear force and bending moment diagrams for beams and identify whether the statements are correct.

Statements:

A) If there is a point load at a section on the beam, then the shear force and bending moment suddenly change (i.e., the variation line is vertical).

B) If there is a uniformly distributed load between two points along the length of a beam, then the shape of bending moment diagram for that segment is parabolic in nature.

Options :

1. ✖ Statement A is correct and B is incorrect
2. ✔ Statement B is correct and A is incorrect
3. ✖ Both statements are correct
4. ✖ Both statements are incorrect

Question Number : 9 Question Id : 8277881911 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The maximum deflection in a simply supported beam of span 'l' subjected to a uniformly distributed load with intensity 'w' kN/m is equal to _____. Where, 'EI' is flexural rigidity of beam and is constant throughout its length.

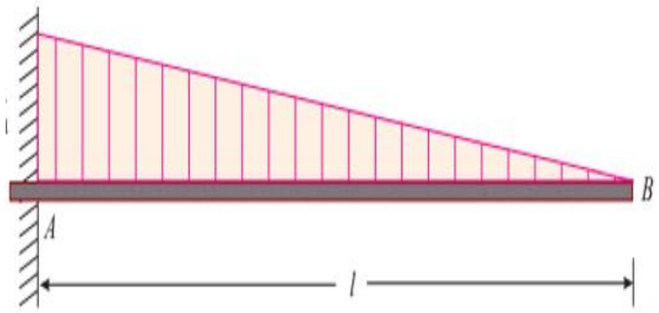
Options :

1. ✔ $\frac{5wl^4}{384EI}$
2. ✖ $\frac{wl^3}{48EI}$
3. ✖ $\frac{wl^4}{24EI}$
4. ✖ $\frac{wl^3}{36EI}$

Question Number : 10 Question Id : 8277881912 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Calculate the slope at the free end of a cantilever beam of length l = 5 m subjected to a uniformly varying load with intensity varying from 0 kN/m (at B) to 20 kN/m (at A) as shown in the figure. Consider that the flexural rigidity(EI) of the beam is constant throughout its length.



Options :

1. ✖ $\frac{43.33}{EI} rad$

2. ✖ $\frac{85.52}{EI} rad$

3. ✔ $\frac{104.16}{EI} rad$

4. ✖ $\frac{154.89}{EI} rad$

Question Number : 11 Question Id : 8277881913 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Consider the given statements with respect to the conjugate beam method and select the correct answer.

Statement A : Deflection at any section of an actual beam is equal to shear force at the corresponding section.

Statement B : Loading system at any section of an actual beam is equal to $\frac{M}{EI}$ diagram at the corresponding section.

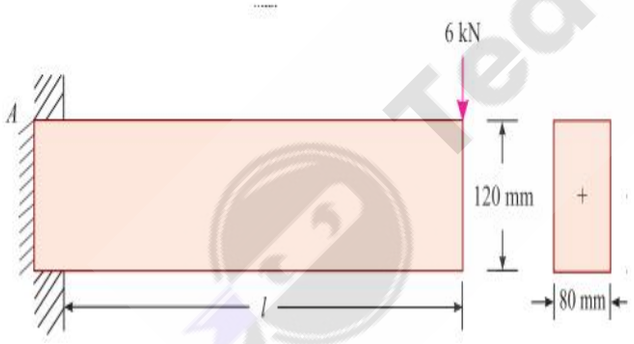
Options :

1. ✖ Statement A is correct, but B is incorrect
2. ✔ Statement B is correct, but A is incorrect
3. ✖ Both statements are correct
4. ✖ Both statements are incorrect

Question Number : 12 Question Id : 8277881914 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

A cantilever beam with a rectangular cross-section having section modulus 192×10^3 mm^3 is shown in the figure. If the cantilever is subjected to a point load of 6 kN at the free end and the bending stress is not to exceed 50 MPa, find the span of the cantilever beam.



Options :

1. ✖ 1.2 m
2. ✔ 1.6 m
3. ✖ 0.8 m
4. ✖ 2.4 m

Question Number : 13 Question Id : 8277881915 Question Type : MCQ Option Shuffling : Yes Is

Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

A circular beam of 100 mm diameter is subjected to a shear force of 25 kN. Calculate the value of maximum shear stress.

Options :

1. ✖ $\frac{10}{\pi}$ MPa

2. ✔ $\frac{13.3}{\pi}$ MPa

3. ✖ $\frac{15}{\pi}$ MPa

4. ✖ $\frac{18.5}{\pi}$ MPa

Question Number : 14 Question Id : 8277881916 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

A circular shaft of 20 mm diameter is required to transmit torque from one shaft to another. Find the safe torque, which the shaft can transmit, if the shear stress is not to exceed 30 MPa.

Options :

1. ✖ 12000π N-mm

2. ✖ 18000π N-mm

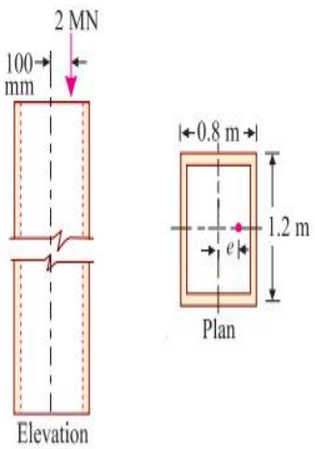
3. ✔ 15000π N-mm

4. ✖ 20000π N-mm

Question Number : 15 Question Id : 8277881917 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

A hollow rectangular masonry pier, 1.2 m × 0.8 m and 150 mm thick, carries a vertical load of 2 MN in the vertical plane bisecting 1.2 m side at an eccentricity of 100 mm from the geometric axis of the section shown in the given figure. Calculate the maximum stress intensity in the section if the section modulus of the given section is 90.5×10^6 mm^3.



Options :

1. ✖ 1.71 MPa

2. ✔ 6.13 MPa

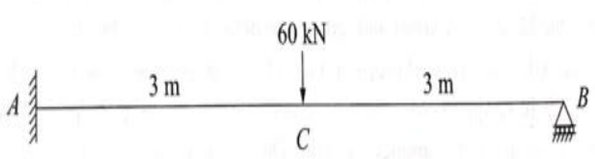
3. ✖ 3.42 MPa

4. ✖ 8.56 MPa

Question Number : 16 Question Id : 8277881918 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

A propped cantilever beam is subjected to a point load of magnitude 60 kN at its midspan shown in the given figure. Calculate the bending moment at C.



Options :

1. ✖ 42.50 kN-m

2. ✔ 56.25 kN-m

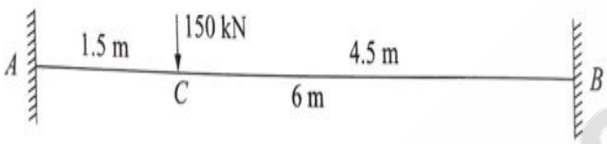
3. ✖ 34.75 kN-m

4. ✖ 67.50 kN-m

Question Number : 17 Question Id : 8277881919 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

A fixed beam of span 6 m is subjected to a point load of magnitude 150 kN as shown in the figure. Identify the correct compatibility condition by considering the change of slope between the end supports is zero (which gives the area of $\frac{M}{EI}$ diagram zero). Where R_B is vertical reaction at B and M_B is the moment at B.



Options :

1. ✖ $72R_B - 18M_B = 928.13$

2. ✖ $26R_B - 12M_B = 244.25$

3. ✔ $18R_B - 6M_B = 168.75$

4. ✖ $36R_B - 12M_B = 244.25$

Question Number : 18 Question Id : 8277881920 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

According to Castigliano's theorem, the displacement at the point of application of the load, in its own line of action, will be obtained by evaluating the _____ of the structure with respect to the applied load.

Options :

1. ✔ first partial derivative of the total internal strain energy

2. ✖ initial lack of fit

3. ✖ second partial derivative of deflection

4. ✖ first partial derivative of deflection

Question Number : 19 Question Id : 8277881921 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Consider the given statements with respect to the slope-deflection method and identify whether the statements are correct.

Statements:
A) All internal reaction components are determined from the force displacement equations, by knowing the independent displacement components.
B) Internal reaction components are expressed as functions of the independent displacement components.

Options :

1. ✖ Statement A is correct and B is incorrect

2. ✖ Statement B is correct and A is incorrect

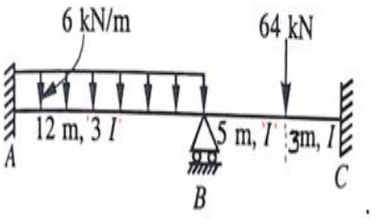
3. ✔ Both statements are correct

4. ✖ Both statements are incorrect

Question Number : 20 Question Id : 8277881922 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

A continuous beam, as shown in the given figure, is to be analysed by using the moment distribution method. What is the distribution factor to be applied at 'B' for the member 'BA'?



Options :

1. ✖ $\frac{1}{3}$

2. ✔ $\frac{2}{3}$

3. ✖ $\frac{4}{3}$

4. ✖ $\frac{5}{3}$

Question Number : 21 Question Id : 8277881923 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Consider the given statements with respect to Kani's method used for the analysis of multi-storied frames and identify whether the statements are correct.

Statements:

A) In Kani's method, the unbalanced joint moments are distributed.

B) Kani's method has been developed on the basis of the slope deflection method with a different form of moment distribution.

Options :

1. ✖ Statement A is correct and B is incorrect

2. ✔ Statement B is correct and A is incorrect

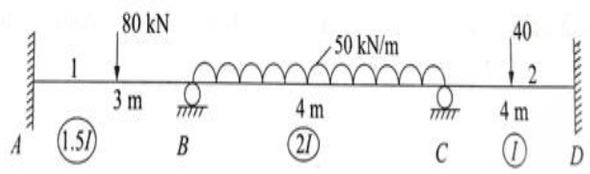
3. ✖ Both statements are correct

4. ✖ Both statements are incorrect

Question Number : 22 Question Id : 8277881924 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Find the rotation factor for member 'BA' which is required to analyse a continuous beam, as shown in the figure, by using Kani's method.



Options :

1. ✔ −0.25

2. ✖ −0.50

3. ✖ 0.50

4. ✖ −0.75

Question Number : 23 Question Id : 8277881925 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Consider the given statements with respect to two and three hinged arches and identify whether the statements are correct.

Statements:

A) The horizontal thrust is very much affected in two-hinged arches due to change in temperature when compared to three-hinged arches.

B) From the deflection point of view, a three-hinged arch for a given span is much stiffer than that for two-hinged arches.

Options :

1. ✔ Statement A is correct and B is incorrect

2. ✖ Statement B is correct and A is incorrect

3. ✖ Both statements are correct

4. ✖ Both statements are incorrect

Question Number : 24 Question Id : 8277881926 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

A two hinged parabolic arch with span 24 m is subjected to a uniformly distributed load of intensity 0.5 kN/m. Calculate the bending moment at its mid span (crown).

Options :

1. ✔ 0 kN/m

2. ✖ 36 kN/m

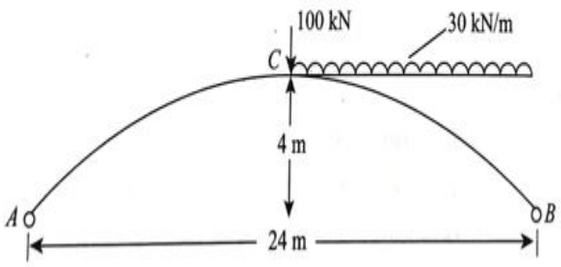
3. ✖ 6 kN/m

4. ✖ 12 kN/m

Question Number : 25 Question Id : 8277881927 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

A two hinged parabolic arch of span 24 m with a central rise of 4 m is subjected to a point load and a uniformly distributed load as shown in the figure. Calculate the ratio of the vertical support reaction at 'B' to that of 'A'.



Options :

1. ✖ 1.825

2. ✔ 2.285

3. ✖ 2.625

4. ✖ 3.420

Question Number : 26 Question Id : 8277881928 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Consider the given statements with respect to the buckling of columns and select the correct answer.

Statement A: Local buckling in steel columns can be prevented by providing suitable width-to-thickness ratios to the compression elements.

Statement B: Flexural torsional buckling failure in steel columns can occur in those sections with one axis of symmetry and also sections with both axis of symmetry.

Options :

1. ✔ Statement A is correct, but B is incorrect

2. ✖ Statement B is correct, but A is incorrect

3. ✖ Both statements are correct

4. ✖ Both statements are incorrect

Question Number : 27 Question Id : 8277881929 Question Type : MCQ Option Shuffling : Yes Is

Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

For bolted gusset base, the thickness of the gusset plate should NOT be less than _____.

Options :

1. ✔ 16 mm

2. ✖ 18 mm

3. ✖ 20 mm

4. ✖ 22 mm

Question Number : 28 Question Id : 8277881930 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

As per IS 456:2000, the minimum area of flexural reinforcement in RCC beam of width 200 mm and effective depth 425 mm shall NOT be less than _____. Use M20 grade concrete and Fe 500 steel.

Options :

1. ✔ 144.5 mm^2

2. ✖ 102.5 mm^2

3. ✖ 202 mm^2

4. ✖ 240 mm^2

Question Number : 29 Question Id : 8277881931 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Find the effective width of flange in a RCC T-beam, if the distance between points of zero moments in the beam is 3.6 m, breadth of web 200 mm and thickness of flange 150 mm.

Options :

1. ✖ 1.3 m

2. ✔ 1.7 m

3. ✖ 2.1 m

4. ✖ 2.5 m

Question Number : 30 Question Id : 8277881932 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The maximum compressive strain in concrete at limit state of collapse in compression to be considered for the design of axially loaded short columns is _____.

Options :

1. ✔ 0.002

2. ✖ 0.0035

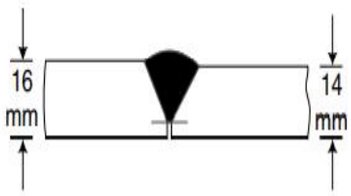
3. ✖ 0.02

4. ✖ 0.035

Question Number : 31 Question Id : 8277881933 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Calculate the strength of the weld if two plates of 16 mm and 14 mm thickness are to be joined by a single-V groove weld as shown in the figure. Due to some reasons the effective length of the weld that could be provided was 175 mm only. Take partial factor of safety 1.25 and grade of steel Fe410.



Options :

1. ✔ 306.25 kN

2. ✖ 224.62 kN

3. ✖ 272.89 kN

4. ✖ 378.98 kN

Question Number : 32 Question Id : 8277881934 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of the following is NOT the factor used to calculate the effective net area of tension members?

Options :

1. ✖ Ductility factor

2. ✖ Geometric factor

3. ✖ Shear lag factor

4. ✔ Imperfection factor

Question Number : 33 Question Id : 8277881935 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Consider the given statements with respect to influence lines and select the correct answer.
Statement A: An influence line represents the variation of deflection at a specific point in a member as a unit concentrated force moves over the member.
Statement B: An influence line represents the variation of either the reaction, shear force and bending moment at a specific point in a member as a unit concentrated force moves over the member.

Options :

1. ✖ Statement A is correct, but B is incorrect

2. ✖ Statement B is correct, but A is incorrect

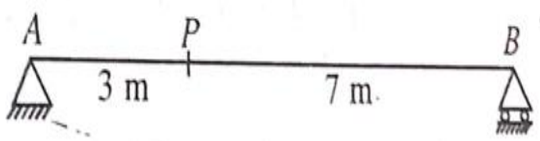
3. ✔ Both statements are correct

4. ✖ Both statements are incorrect

Question Number : 34 Question Id : 8277881936 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

A simply supported beam of span 10 m is shown in the given figure. Calculate the maximum positive and negative shear, respectively, at P, when a uniformly distributed rolling load of intensity 5 kN/m spread over a length of 6 m traverses the span from left to right (A to B).



Options :

1. ✔ 12 kN, –2.25 kN

2. ✖ 10 kN, –4.25 kN

3. ✖ 8 kN, –6.25 kN

4. ✖ 9 kN, –5.25 kN

Question Number : 35 Question Id : 8277881937 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

A post-tensioned concrete beam, 100 mm wide and 300 mm deep, is pre-stressed by three cables, each with a cross-sectional area of 50 mm^2 and with initial stress of 1200 N/mm^2. All three cables are straight and located 100 mm from the soffit of the beam. If the modular ratio is 6, calculate the loss of pre-stress in the three cables due to elastic deformation of concrete under simultaneous tensioning and anchoring of all the three cables.

Options :

1. ✖ 6.8 N/mm^2

2. ✖ 16.2 N/mm^2

3. ✔ 0 N/mm^2

4. ✖ 22.56 N/mm^2

Question Number : 36 Question Id : 8277881938 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Consider the given statements with respect to basic assumptions made in strain compatibility method of estimating flexural strength of pre-tensioned concrete members. Identify whether the statements are correct.

Statements:

A) The distribution of stress in concrete is linear.

B) The resistance of concrete in tension is neglected.

Options :

1. ✖ Statement A is correct and B is incorrect

2. ✔ Statement B is correct and A is incorrect

3. ✖ Both statements are correct

4. ✖ Both statements are incorrect

Question Number : 37 Question Id : 8277881939 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of the following laboratory tests is NOT used to determine the shearing resistance of soil?

Options :

1. ✖ Unconfined compression test

2. ✖ Vane shear test

3. ✖ Direct shear test

4. ✔ Recuperation test

Question Number : 38 Question Id : 8277881940 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

An excavation is made with a vertical face in clay soil, which has mobilised unit cohesion (c_u) = 50 KN/m^2, Unit weight of soil (γ) = 18 kN/m^3. The maximum depth of excavation shall be ____ so that it is stable. (Consider the Taylor's stability number as 0.261.)

Options :

1. ✔ 10.64

2. ✖ 12.62

3. ✖ 15.67

4. ✖ 18.69

Question Number : 39 Question Id : 8277881941 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

A masonry dam has pervious sand as the foundation. Calculate the maximum permissible upward gradient (rounded up to 2 decimals after point), if the factor of safety 4 is required against boiling of sand. (Take porosity (n) = 45% and specific gravity (G) of sand = 2.65.)

Options :

1. ✔ 0.23

2. ✖ 0.35

3. ✖ 0.55

4. ✖ 0.65

Question Number : 40 Question Id : 8277881942 Question Type : MCQ Option Shuffling : Yes Is

Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The shearing strength when compacted and saturated for soil group GW (Well graded gravel) is _____.

Options :

1. ✔ excellent

2. ✖ good

3. ✖ fair

4. ✖ poor

Question Number : 41 Question Id : 8277881943 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The activity value of mineral Na-montmorillonite ranges between _____.

Options :

1. ✖ 0.2 – 0.6

2. ✖ 0.6 – 1.1

3. ✖ 1.5 – 3

4. ✔ 4 – 7

Question Number : 42 Question Id : 8277881944 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Sensitivity values for 'sensitive clays' lies in the range of _____.

Options :

1. ✔ 4-8

2. ✖ 2-3

3. ✖ 9-12

4. ✖ >13

Question Number : 43 Question Id : 8277881945 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The Plasticity Index for low plastic clays is:

Options :

1. ✖ 8 – 11

2. ✖ >15

3. ✔ <7

4. ✖ 11 – 15

Question Number : 44 Question Id : 8277881946 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The general shear failure of soil is characterised by:

Options :

1. ✔ a well-defined failure pattern

2. ✖ a poorly defined shear plane

3. ✖ slip surface not visible

4. ✖ the load-settlement curve is continuous

Question Number : 45 Question Id : 8277881947 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The coefficient of permeability is:

Options :

1. ✖ proportional to the effective particle size

2. ✔ proportional to the square of an effective particle size

3. ✖ proportional to the cube of an effective particle size

4. ✖ proportional to the square root of an effective particle size

Question Number : 46 Question Id : 8277881948 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

What is the standard temperature range and duration to be maintained in an oven drying method for determination of water content of soil sample?

Options :

1. ✔ 24 hours at a temperature of 105-110 °C

2. ✖ 10 hours at a temperature of 75-80 °C

3. ✖ 12 hours at a temperature of 85-90 °C

4. ✖ 5 hours at a temperature of 95-100 °C

Question Number : 47 Question Id : 8277881949 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The method used to determine in situ unit weight of a natural soil deposit is _____.

Options :

1. ✖ oven dry method

2. ✔ core-cutter method

3. ✖ hydrometer analysis

4. ✖ sand-bath method

Question Number : 48 Question Id : 8277881950 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The group symbol 'SM' in Unified Soil Classification chart refers to:

Options :

1. ✖ clayey sand, poorly graded sand-clay mixtures

2. ✔ silty sand, poorly graded sand-silt mixtures

3. ✖ well graded sand

4. ✖ well graded gravel

Question Number : 49 Question Id : 8277881951 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The permeability of soil decreases sharply with:

Options :

1. ✔ increase in water content on dry side of optimum

2. ✖ decrease in water content on dry side of optimum

3. ✖ increase in water content on wet side of optimum

4. ✖ decrease in water content on wet side of optimum

Question Number : 50 Question Id : 8277881952 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The grain size distribution of soil fraction 'Coarse Gravel' ranges between _____.

Options :

1. ✔ 20 mm – 80 mm

2. ✖ 0.425 mm – 2.00 mm

3. ✖ 2.00 mm – 4.75 mm

4. ✖ 3.67 mm – 6.3 mm

Question Number : 51 Question Id : 8277881953 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

As per IS soil classification, which of the following symbols is used for poorly graded sands?

Options :

1. ✖ GP

2. ✔ SP

3. ✖ MH

4. ✖ SC

Question Number : 52 Question Id : 8277881954 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

According to Terzaghi, the shape factor with cohesion used to calculate the safe bearing capacity of soil for square footing is _____.

Options :

1. ✖ 1.1

2. ✖ 0.9

3. ✔ 1.3

4. ✖ 1.2

Question Number : 53 Question Id : 8277881955 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The coefficient of earth pressure at rest for dense sand may lie in the range of _____.

Options :

1. ✔ 0.40 – 0.45

2. ✖ 1.0 – 1.5

3. ✖ 0.8 – 1.2

4. ✖ 1.5 – 1.8

Question Number : 54 Question Id : 8277881956 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

If the void ratio of a soil sample is 0.5, then the porosity is _____.

Options :

1. ✖ 0.25

2. ✔ 0.33

3. ✖ 0.5

4. ✖ 1

Question Number : 55 Question Id : 8277881957 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of the following is NOT an application of Reynold's number?

Options :

1. ✖ Airplanes flying in air

2. ✖ Flow of water in canals

3. ✔ Ground improvement technique

4. ✖ Flow of water on spillway

Question Number : 56 Question Id : 8277881958 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The pressure represented by a column of 9 cm of water is _____. (Consider that specific weight of water = 9790 N/m^3)

Options :

1. ✖ 9790 N/m^2

2. ✔ 881.1 N/m^2

3. ✖ 979.1 N/m^2

4. ✖ 1000 N/m^2

Question Number : 57 Question Id : 8277881959 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

A 2.0 m wide rectangular channel carries water for a depth of 1.0 m. The bed slope of the channel is 0.0036. The average shear stress on the boundary is _____. (Consider that specific weight of water = 9790 N/m^3)

Options :

1. ✖ 22 Pa

2. ✖ 20.53 Pa

3. ✔ 17.62 Pa

4. ✖ 15.26 Pa

Question Number : 58 Question Id : 8277881960 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

A stationary hydraulic jump occurs in a rectangular channel with the initial and sequent depth being equal to 0.10 m and 1.10 m, respectively. The estimated energy loss is _____.

Options :

1. ✔ 2.27 m

2. ✖ 2 m

3. ✖ 1.5 m

4. ✖ 1.1 m

Question Number : 59 Question Id : 8277881961 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The separation of boundary layer takes place when the pressure gradient is _____ and the velocity gradient is _____, respectively.

Options :

1. ✔ positive; negative

2. ✖ maximum; zero

3. ✖ zero; maximum

4. ✖ negative; positive

Question Number : 60 Question Id : 8277881962 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The dimension of specific weight is _____.

Options :

1. ✔ $ML^{-2}T^{-2}$

2. ✖ $ML^{-1}T^{-2}$

3. ✖ $ML^{-1}T^{-1}$

4. ✖ $ML^{-2}T^{-1}$

Question Number : 61 Question Id : 8277881963 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The linear momentum equation is based on:

Options :

1. ✖ Newton’s third law

2. ✔ Newton’s second law

3. ✖ Bernoulli’s equation

4. ✖ continuity equation

Question Number : 62 Question Id : 8277881964 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The difference between the total head line and the hydraulic grade line in an open channel flow represents _____.

Options :

1. ✔ the velocity head

2. ✖ the pressure head

3. ✖ the elevation head

4. ✖ the total energy head

Question Number : 63 Question Id : 8277881965 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Bourdon gauge measures _____.

Options :

1. ✔ gauge pressure

2. ✖ atmospheric pressure

3. ✖ strain in solids

4. ✖ absolute pressure

Question Number : 64 Question Id : 8277881966 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Flow in an open channel is classified as turbulent if the Reynold's number of flow is _____.

Options :

1. ✖ less than 1200

2. ✖ less than 600

3. ✖ more than 1000

4. ✔ more than 2000

Question Number : 65 Question Id : 8277881967 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Consider the given statements with respect to triangular notch. Identify whether the statements are correct.

Statements:

A) A triangular notch gives less accurate results than a rectangular notch for measuring low discharges.

B) In case of a triangular notch with known values of the angle of notch and co-efficient of discharge, the height of water over notch is only data required for the computation of discharge.

Options :

1. ✖ Statement A is correct and B is incorrect

2. ✔ Statement B is correct and A is incorrect

3. ✖ Both statements are correct

4. ✖ Both statements are incorrect

Question Number : 66 Question Id : 8277881968 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of the following minor losses in pipe flow is taken as $\frac{V^2}{2g}$? (where V is velocity of liquid in pipe and g is accepleration due to gravity)

Options :

1. ✔ Loss of head at the exit of the pipe

2. ✖ Loss of head at the entrance of a pipe with a sharp cornered entrance

3. ✖ Loss of head due to friction

4. ✖ Loss of head due to obstruction in a pipe

Question Number : 67 Question Id : 8277881969 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

When is Bernoulli's equation applicable between any two points?

Options :

1. ✖ In any type of rotational flow of a fluid

2. ✖ In any type of irrotational flow of a fluid

3. ✖ In steady rotational flow of an incompressible fluid

4. ✔ In steady irrotational flow of an incompressible fluid

Question Number : 68 Question Id : 8277881970 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

As per IS 1130 : 1969, marble slabs shall be supplied with the thickness ranges between _____.

Options :

1. ✖ 5 to 15 mm

2. ✖ 15 to 90 mm

3. ✔ 20 to 150 mm

4. ✖ 75 to 210 mm

Question Number : 69 Question Id : 8277881971 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The specific gravity of structural granite when tested, according to IS 1121 (part I):1974 shall NOT be less than _____.

Options :

1. ✔ 2.6

2. ✖ 2.9

3. ✖ 3.2

4. ✖ 3.6

Question Number : 70 Question Id : 8277881972 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum

Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Consider the given statements with respect to seasoning of timber and select the correct answer.

Statement A : Seasoning of timber increases the strength, durability, and workability of timber.

Statement B : Seasoning of timber makes it difficult to paint the surface of timber.

Options :

1. ✔ Statement A is correct, but B is incorrect

2. ✖ Statement B is correct, but A is incorrect

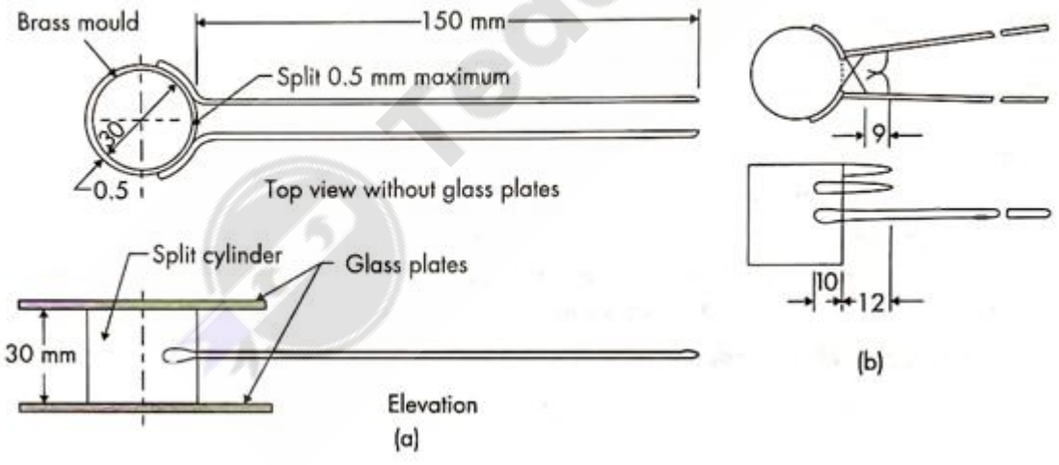
3. ✖ Both statements are correct

4. ✖ Both statements are incorrect

Question Number : 71 Question Id : 8277881973 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Identify the given apparatus used for testing of cement.



Options :

1. ✖ Vicat apparatus used to determine consistency test of cement.

2. ✖ Blaine's air permeability apparatus used to determine the fineness of cement.

3. ✔ Le Chatelier's apparatus used to determine the soundness test of cement.

4. ✖ Vee-Bee test apparatus used to determine the permeability test of cement.

Question Number : 72 Question Id : 8277881974 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of the following properties of bitumen is determined using the 'ring and ball apparatus'?

Options :

1. ✖ Viscosity of bitumen

2. ✔ Softening point of bitumen

3. ✖ Penetration resistance of bitumen

4. ✖ Specific gravity of bitumen

Question Number : 73 Question Id : 8277881975 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of the following components of oil paint makes the paint film opaque, possesses binding properties and reduces shrinkage cracks in the film on drying?

Options :

1. ✖ Adultrant

2. ✔ Base

3. ✖ Vehicle

4. ✖ Pigment

Question Number : 74 Question Id : 8277881976 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

A solution of resin or resinous substance dissolved in alcohol, turpentine or spirit is called _____.

Options :

1. ✖ resin paint

2. ✔ varnish

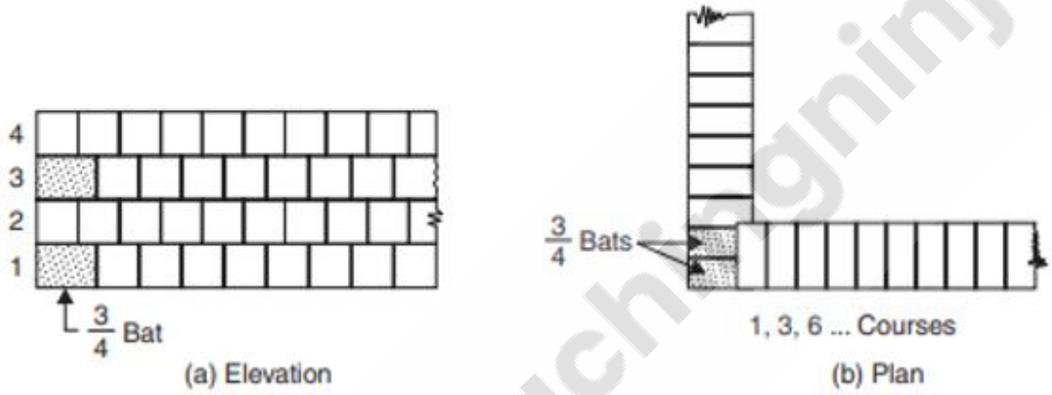
3. ✖ distemper

4. ✖ aluminium paint

Question Number : 75 Question Id : 8277881977 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Identify the type of brick bond used for brick masonry as shown in the figure.



Options :

1. ✖ Stretcher bond

2. ✔ Header bond

3. ✖ English bond

4. ✖ Single Flemish bond

Question Number : 76 Question Id : 8277881978 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

According to SP 20 (S & T) 1991 'Handbook on Masonry Design and Construction', a horizontal force of _____ per cent of vertical loads need not be considered for elements of construction that provide lateral stability to the structure as a whole.

Negative Mark Per Question 0.66

Options :

1. ✔ 2.5

2. ✖ 10

3. ✖ 15

4. ✖ 25

Question Number : 77 Question Id : 8277881979 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of the following type of concretes is manufactured under the trade name 'Wirand Concrete'?

Options :

1. ✔ Fibre reinforced concrete

2. ✖ Ready mix concrete

3. ✖ Geopolymer concrete

4. ✖ Light weight concrete

Question Number : 78 Question Id : 8277881980 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of the following material consists of closely spaced wire meshes that are impregnated with rich cement mortar?

Options :

1. ✔ Ferrocement

2. ✖ Shotcrete

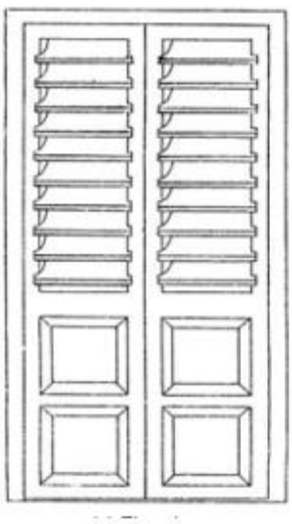
3. ✖ Self compacting concrete

4. ✖ Geopolymer concrete

Question Number : 79 Question Id : 8277881981 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Identify the type of door shown in the figure.



Options :

1. ✖ Flush door

2. ✔ Louvered door

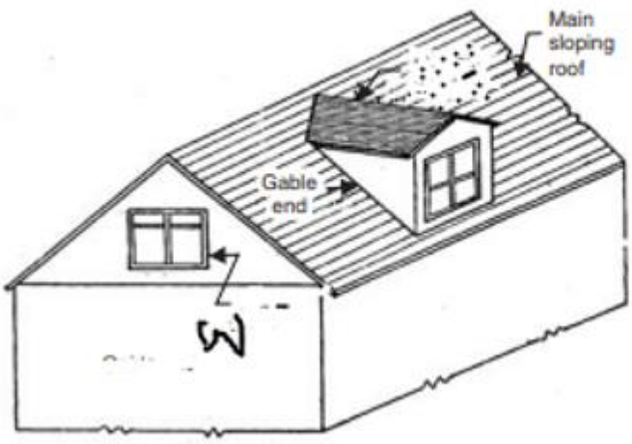
3. ✖ Battened, ledged and braced door

4. ✖ Battened and ledged door

Question Number : 80 Question Id : 8277881982 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Identify the type of window that is labeled 'W', as shown in the figure.



Options :

1. ✖ Dormer window

2. ✔ Gable window

3. ✖ Bay window

4. ✖ Skylight windows

Question Number : 81 Question Id : 8277881983 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Consider the given statements with respect to pointing and select the correct answer.

Statement A : Pointing consists of raking the joints to a depth of 10 mm to 20 mm and filling it with richer mortar mixes.

Statement B : Pointing is ideally suited for stone masonry because stones have attractive colours and good resistance to penetration by water.

Options :

1. ✖ Statement A is correct, but B is incorrect

2. ✖ Statement B is correct, but A is incorrect

3. ✔ Both statements are correct

4. ✖ Both statements are incorrect

Question Number : 82 Question Id : 8277881984 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Consider the given statements with respect to sources of information for writing specifications and select the correct answer.

Statement A : The contract drawings prepared in the initial stage of construction is a main source of information for writing specifications.

Statement B : For specifications of proprietary commodities, a reference can be made to the catalogues supplied by the manufacturer of that item.

Options :

1. ✖ Statement A is correct, but B is incorrect

2. ✖ Statement B is correct, but A is incorrect

3. ✔ Both statements are correct

4. ✖ Both statements are incorrect

Question Number : 83 Question Id : 8277881985 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Consider the given statements with respect to PERT and CPM methods and select the correct answer.

Statement A : CPM was developed for planning, scheduling and control of civil works.

Statement B : The event-oriented networks using three time estimates for activity durations having uncertainties can be termed as a PERT network.

Options :

1. ✖ Statement A is correct, but B is incorrect

2. ✖ Statement B is correct, but A is incorrect

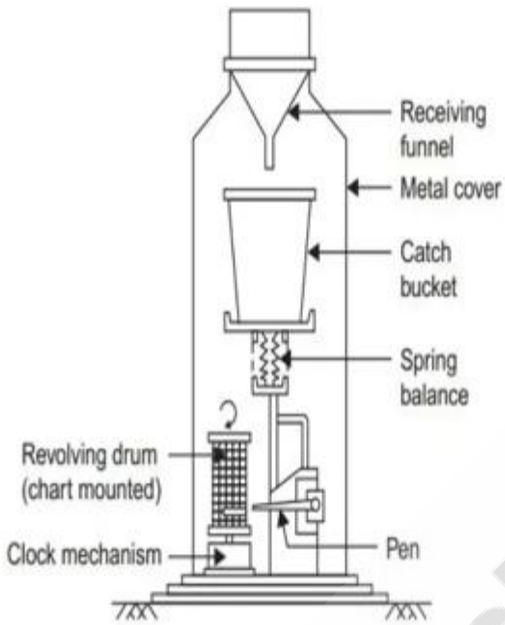
3. ✔ Both statements are correct

4. ✖ Both statements are incorrect

Question Number : 84 Question Id : 8277881986 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Identify the type of rain gauge shown in the given figure.



Options :

1. ✖ Symon’s rain gauge

2. ✔ Weighing bucket rain gauge

3. ✖ Tipping bucket rain gauge

4. ✖ Float type of rain gauge

Question Number : 85 Question Id : 8277881987 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of the following scientists gave the runoff calculation formula ‘R=0.85 P-30.5’ for the Ghat regions of western India?

Where R = runoff in cm, P= Rainfall in cm

Options :

1. ✖ Parker

2. ✖ Rohwer

3. ✔ Inglis and Desouza

4. ✖ Lacey

Question Number : 86 Question Id : 8277881988 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

In surface source of water, 'firm yield' is also known as _____.

Where, yield is the amount of water that can be supplied from a reservoir in a specified interval of time.

Options :

1. ✔ safe yield

2. ✖ secondary yield

3. ✖ tertiary yield

4. ✖ average yield

Question Number : 87 Question Id : 8277881989 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of the following types of sewer are used when sewers are carried over piers while crossing low lying areas?

Options :

1. ✖ Brick sewers

2. ✔ Cast iron sewers

3. ✖ Asbestos cement sewers

4. ✖ Lead sewers

Question Number : 88 Question Id : 8277881990 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Activated sludge process is an:

Options :

1. ✖ anaerobic attached growth process

2. ✖ anaerobic suspended growth process

3. ✖ aerobic attached growth process

4. ✔ aerobic suspended growth process

Question Number : 89 Question Id : 8277881991 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of these chemical characteristics is detected by Winkler's method?

Options :

1. ✖ Chemical oxygen demand in sewage

2. ✔ Dissolved oxygen content of sewage

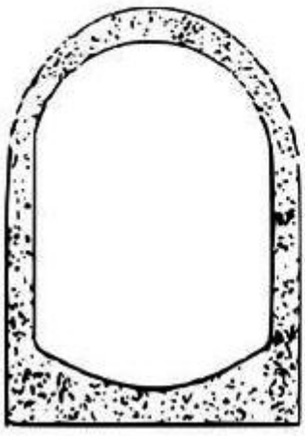
3. ✖ Hydrogen sulphide gas content of sewage

4. ✖ Total organic carbon content of sewage

Question Number : 90 Question Id : 8277881992 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Identify the type of sewer shown in the given figure.



Options :

1. ✖ New egg-shaped sewer

2. ✖ Horseshoe shaped sewer

3. ✖ U-shaped section

4. ✔ Semi-circular shaped sewer

Question Number : 91 Question Id : 8277881993 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

What is the design period for the treatment units of a sewerage scheme?

Options :

1. ✖ 5-10 years

2. ✖ 10-15 years

3. ✔ 15-20 years

4. ✖ 20-25 years

Question Number : 92 Question Id : 8277881994 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

As per BIS code, the acceptable indoor noise level in libraries is:

Options :

1. ✖ 30 dB

2. ✔ 45 dB

3. ✖ 65 dB

4. ✖ 75 dB

Question Number : 93 Question Id : 8277881995 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The stadia readings with horizontal sight at a vertical staff held 50 m away from the tacheometer were 1.385 and 2.380. The focal length of the object glass was 25 cm. The distance between the object glass and the trunnion axis of a tacheometer was 15 cm. Calculate the stadia interval.

Options :

1. ✖ 4 mm

2. ✔ 5 mm

3. ✖ 6 mm

4. ✖ 7 mm

Question Number : 94 Question Id : 8277881996 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Select the suitable option regarding the functions of transition curve.

A: To minimise super elevation and the discomfort of passengers, these types of curves are generally provided on both sides of circular curves.

B: To introduce the designed super elevation gradually at the starting point of the curve.

Options :

1. ✖ Only A is true

2. ✖ Only B is true

3. ✖ Both A and B are false

4. ✔ Both A and B are true

Question Number : 95 Question Id : 8277881997 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

In an old map, a line AB was drawn to a magnetic bearing of 5°30′, the magnetic declination at the time being 1° east. To what magnetic bearing should the line be set now, if the present magnetic declination is 8°30′ east?

Options :

1. ✔ 358°

2. ✖ 298°

3. ✖ 287°

4. ✖ 200°

Question Number : 96 Question Id : 8277881998 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

What is the type of control flooding, where the agricultural land is divided into small strips by a series of field channels, which are connected to the supply channel?

Options :

1. ✔ Free flooding

2. ✖ Basin method

3. ✖ Check flooding

4. ✖ Border flooding

Question Number : 97 Question Id : 8277881999 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Calculate the evaporation (in mm) from a lake, if the pan evaporation is 50 mm and the pan coefficient is 0.60.

Options :

1. ✖ 25 mm

2. ✔ 30 mm

3. ✖ 35 mm

4. ✖ 40 mm

Question Number : 98 Question Id : 8277882000 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

An area in which the crop is NOT sown in a particular season, and the area is kept under no cultivation, is known as _____.

Options :

1. ✖ gross command area

2. ✖ culturable cultivable area

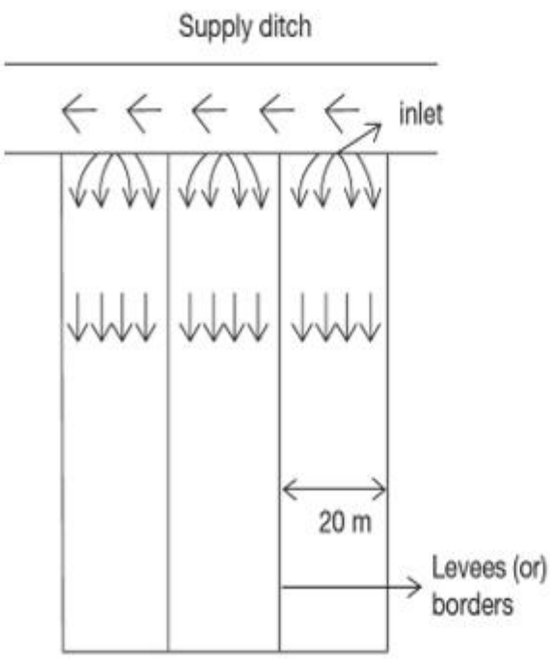
3. ✔ culturable uncultivable area

4. ✖ net command area

Question Number : 99 Question Id : 8277882001 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Identify the method of surface irrigation shown in the given figure.



Options :

1. ✔ Border strip method

2. ✖ Basin flooding

3. ✖ Check flooding

4. ✖ Zigzag method

Question Number : 100 Question Id : 8277882002 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

A canal is designed for a maximum discharge of 60 cumec, but the average discharge is 40 cumec, what is the capacity factor?

Options :

1. ✖ 0.8

2. ✖ 1.5

3. ✔ 0.67

4. ✖ 1.25

Question Number : 101 Question Id : 8277882003 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which method of irrigation is used to irrigate orchards?

Options :

1. ✖ Check method

2. ✔ Basin method

3. ✖ Furrow method

4. ✖ Border strip method

Question Number : 102 Question Id : 8277882004 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The ratio of the amount of water applied to the land, to the amount of water supplied from the reservoir, is known as:

Options :

1. ✔ water conveyance efficiency

2. ✖ water application efficiency

3. ✖ water use efficiency

4. ✖ consumptive use efficiency

Question Number : 103 Question Id : 8277882005 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

What is the discharge capacity required at the outlet to irrigate 2200 hectares of sugarcane having a kor depth of 14 cm and a kor period of 20 days?

Options :

1. ✖ 1.56 m^3/sec

2. ✖ 1.63 m^3/sec

3. ✔ 1.78 m^3/sec

4. ✖ 1.91 m^3/sec

Question Number : 104 Question Id : 8277882006 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of the following types of canal is a classified type of canal, based on the discharge through it?

Options :

1. ✖ Irrigation canal

2. ✖ Navigation canal

3. ✖ Power canal

4. ✔ Main canal

Question Number : 105 Question Id : 8277882007 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of the following statements is true in case of perennial irrigation?

Options :

1. ✖ The irrigation water is available only in the rainy season

2. ✖ No hydraulic structure is required

3. ✔ The canal water contains practically no silt and hence chemical manure is essential

4. ✖ Initial cost and maintenance cost is low for this system

Question Number : 106 Question Id : 8277882008 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The ratio of the quantity of water stored into the root zone of the crops, to the quantity of water delivered to the field, is known as:

Options :

1. ✔ Water application efficiency
2. ✖ Water conveyance efficiency
3. ✖ Water use efficiency
4. ✖ Water surface efficiency

Question Number : 107 Question Id : 8277882009 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The amount of irrigation water that is required to meet the Evapo-transpiration needs of the crop during its full growth is known as:

Options :

1. ✖ effective rainfall
2. ✔ consumptive irrigation requirement
3. ✖ net irrigation requirement
4. ✖ field irrigation requirement

Question Number : 108 Question Id : 8277882010 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of the following is a rigid dam?

Options :

1. ✖ Earthen dam

2. ✖ Rockfill dam

3. ✖ Tailing dam

4. ✔ Masonry dam

Question Number : 109 Question Id : 8277882011 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The volume of water that is stored below the minimum pool level of a reservoir, which cannot be used for normal operating condition, is called _____.

Options :

1. ✔ dead storage

2. ✖ live storage

3. ✖ valley storage

4. ✖ surcharge storage

Question Number : 110 Question Id : 8277882012 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

If the circular main scale of a theodolite is divided into degrees and each degree is divided into $\frac{1}{4}$ parts, then the main scale division is divided into ____ vernier scale divisions to have a least count of 0.005 degrees.

Options :

1. ✔ 50

2. ✖ 500

3. ✖ 5000

4. ✖ 5

Question Number : 111 Question Id : 8277882013 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

A 20 m chain was found to be 10 cm too long after chaining distance of 1500 m, calculate the true distance.

Options :

1. ✔ 1503.75 m

2. ✖ 1500.75 m

3. ✖ 1503.55 m

4. ✖ 1503.25 m

Question Number : 112 Question Id : 8277882014 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

What will be conversion of whole circle bearing 22° 30 minutes into quadrantal bearing?

Options :

1. ✔ North 22° 30 minutes east

2. ✖ South 9° 48 minutes east

3. ✖ South 31° 36 minutes west

4. ✖ North 32° 36 minutes west

Question Number : 113 Question Id : 8277882015 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of the following statements is true in case of prismatic compass when compared to

surveyor’s compass?

Options :

1. ✖ The magnetic needle is of edge bar type.

2. ✖ The magnetic needle acts as an index.

3. ✔ The graduations engraved are inverted.

4. ✖ The readings are taken by direct observation through the top of the glass.

Question Number : 114 Question Id : 8277882016 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of the following is a temporary adjustment of surveyor’ compass?

Options :

1. ✔ Centering

2. ✖ Adjustment of level s

3. ✖ Adjustment of needle

4. ✖ Adjustment of the sight vane

Question Number : 115 Question Id : 8277882017 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The line joining the points having zero magnetic declination is known as _____.

Options :

1. ✖ annual variation

2. ✖ diurnal variation

3. ✖ isogonic line

4. ✔ agonic line

Question Number : 116 Question Id : 8277882018 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The whole circle bearing of a line is found to be 289° 34’, calculate its bearing in quadrantal bearing system.

Options :

1. ✖ N 70° 26’ E

2. ✔ N 70° 26’ W

3. ✖ S 70° 26’ E

4. ✖ S 70° 26’ W

Question Number : 117 Question Id : 8277882019 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

A back sight taken on a benchmark (Point A) is found to be 1.535 m, and the fore sight at the next point (Point B) is 2.650 m. If the reduced level at point A is 936.00 m Calculate the reduced level at point B.

Options :

1. ✖ 933.350 m

2. ✔ 934.885 m

3. ✖ 936.540 m

4. ✖ 940.185 m

Question Number : 118 Question Id : 8277882020 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which is the second most important cereal crop grown in the north and north-western parts of

India?

Options :

1. ✖ Rice

2. ✖ Jawar

3. ✔ Wheat

4. ✖ Maize

Question Number : 119 Question Id : 8277882021 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of following is NOT a chemical characteristic of raw water?

Options :

1. ✔ Turbidity

2. ✖ pH

3. ✖ Alkalinity

4. ✖ Acidity

Question Number : 120 Question Id : 8277882022 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of the following is an example of mobile source of air pollution?

Options :

1. ✔ Channel vessels

2. ✖ Industrial processing

3. ✖ Power plants

4. ✖ Dust storms

Question Number : 121 Question Id : 8277882023 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Electrostatic precipitators are used as pollution control devices for the separation of _____ from gas stream.

Options :

1. ✖ SO_2

2. ✖ NOx

3. ✖ Hydrocarbons

4. ✔ Particulate matter

Question Number : 122 Question Id : 8277882024 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The difference in elevation between the edge of the pavement and the crown point at mid-width of the pavement is 18 cm, by considering width of pavement as 9 m, determine the value of camber provided.

Options :

1. ✖ 1 in 20

2. ✔ 1 in 25

3. ✖ 1 in 30

4. ✖ 1 in 35

Question Number : 123 Question Id : 8277882025 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

An intersection that usually consists of structures that provide for traffic to cross at different levels

without interruption is known as:

Options :

1. ✔ grade separated intersection

2. ✖ at grade intersection

3. ✖ compound intersection

4. ✖ simple intersection

Question Number : 124 Question Id : 8277882026 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of the following is NOT a classified type of urban road?

Options :

1. ✔ Major district road

2. ✖ Arterial road

3. ✖ Collector street

4. ✖ Local street

Question Number : 125 Question Id : 8277882027 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of the following parts of a highway is provided near public conveyances with guide maps to enable drivers to stop clear off the carriageway?

Options :

1. ✔ Lay bay

2. ✖ Bus bay

3. ✖ Cycle track

4. ✖ Frontage road

Question Number : 126 Question Id : 8277882028 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

_____ is a viscous liquid obtained when natural organic materials (wood/coal) are destructively distilled in the absence of air.

Options :

1. ✖ bitumen

2. ✖ asphalt

3. ✔ tar

4. ✖ cutback

Question Number : 127 Question Id : 8277882029 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of the following is NOT an economic study which is done during planning surveys of highway planning?

Options :

1. ✖ Per capita income

2. ✖ Trend in population growth

3. ✔ Standard of living of different population groups and trend in the changes

4. ✖ Industrial and agricultural products and their listing in classified groups, area wise.

Question Number : 128 Question Id : 8277882030 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The extra widening of pavement at horizontal curves on two lane roads, is NOT required if the radius of curve is greater than:

Options :

1. ✖ 200 m

2. ✖ 250 m

3. ✔ 300 m

4. ✖ 150 m

Question Number : 129 Question Id : 8277882031 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

While aligning a hill road with a ruling gradient of 6%, a horizontal curve of radius 68 m is encountered. Find the compensated gradient at the curve.

Options :

1. ✔ 4%

2. ✖ 4.6%

3. ✖ 5%

4. ✖ 5.2%

Question Number : 130 Question Id : 8277882032 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Improved enforcement is considered as a remedy for which of the following situations in order to prevent accidents?

Options :

1. ✖ Roadside obstacles hazard by presence

2. ✔ Excessive speed

3. ✖ Wet road skidding

4. ✖ Splash obscuring visibility poor delineation

Question Number : 131 Question Id : 8277882033 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

As per IRC, what is the minimum carriageway width of a highway of 2 lanes, without raised kerbs?

Options :

1. ✖ 4 m

2. ✖ 5.5 m

3. ✔ 7 m

4. ✖ 9 m

Question Number : 132 Question Id : 8277882034 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of the following traffic survey schemes is more relevant when deciding location of major routes of a city, and is also used for the design of the Mass Rapid Transit System?

Options :

1. ✖ Speed survey

2. ✖ Traffic capacity survey

3. ✔ Origin and destination survey

4. ✖ Traffic volume survey

Question Number : 133 Question Id : 8277882035 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

On a T-intersection with two-way traffic, the total number of conflict points are _____.

Options :

1. ✖ 8

2. ✔ 18

3. ✖ 20

4. ✖ 24

Question Number : 134 Question Id : 8277882036 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The horizontal distance between two points on two consecutive contours is known as:

Options :

1. ✔ horizontal equivalent

2. ✖ contour interval

3. ✖ contour line

4. ✖ contour gradient

Question Number : 135 Question Id : 8277882037 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of the following chains used for linear measurement has length of 66 ft and 100 numbers of links?

Options :

1. ✖ Revenue chain

2. ✖ Engineers chain

3. ✔ Surveyor's chain

4. ✖ Metric chains

Question Number : 136 Question Id : 8277882038 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

What is the action by the assistant if the code of signal for ranging by the surveyor is 'Left arm extended'?

Options :

1. ✖ Continue to move to the right

2. ✔ Continue to move to the left

3. ✖ Move slowly to the left

4. ✖ Move slowly to the right

Question Number : 137 Question Id : 8277882039 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of the following survey instruments is made fully with stout timber?

Options :

1. ✖ Cross staff

2. ✖ Offset rods

3. ✔ Pegs

4. ✖ Plumb bob

Question Number : 138 Question Id : 8277882040 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of the following instruments is used for measuring offsets, which consists of 2 laths each of 1 m in length and riveted together?

Options :

1. ✔ Butt rod

2. ✖ Pegs

3. ✖ Whites

4. ✖ Plumb bob

Question Number : 139 Question Id : 8277882041 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Left arm up and moved to the left sign by the surveyor indicates which of the following?

Options :

1. ✖ Move considerably to the left

2. ✖ Fix the rod

3. ✖ Continue to move to the left

4. ✔ Plumb the rod to the left

Question Number : 140 Question Id : 8277882042 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of the following is NOT an assumption made in unit hydrograph theory?

Options :

1. ✖ Effective rainfall is uniformly distributed within its duration.

2. ✖ Effective rainfall is uniformly distributed throughout the whole area of the drainage basin.

3. ✔ Ordinates of direct runoff of common base time are inversely proportional to the total amount of direct runoff represented by each hydrograph.

4. ✖ Time duration of hydrograph of direct runoff due to an effective rainfall of unit duration is constant.

Question Number : 141 Question Id : 8277882043 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The firm yield of a reservoir is also called _____ yield.

Options :

1. ✖ unsafe

2. ✖ secondary

3. ✖ average

4. ✔ safe

Question Number : 142 Question Id : 8277882044 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which type of sewer is highly resistant to sulphide corrosion?

Options :

1. ✖ Brick sewer

2. ✔ Vitrified clay sewer

3. ✖ Asbestos cement sewer

4. ✖ R.C.C. sewer

Question Number : 143 Question Id : 8277882045 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

What is the other name of a jack well?

Options :

1. ✖ Dry intake structure

2. ✖ Submerged intake structure

3. ✔ Wet intake structure

4. ✖ Canal intake structure

Question Number : 144 Question Id : 8277882046 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The flowing through velocity in an Imhoff tank should NOT exceed _____.

Options :

1. ✔ 0.3 m/min

2. ✖ 1.8 m/min

3. ✖ 2 m/min

4. ✖ 0.9 m/min

Question Number : 145 Question Id : 8277882047 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Earth work details are given in which phase of scopes of highway engineering?

Options :

1. ✖ Development, planning and locations

2. ✖ Highway design, geometrics, and structures

3. ✖ Traffic performance and its control

4. ✔ Materials, construction, and maintenance

Question Number : 146 Question Id : 8277882048 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The Indian Road Congress recommends the use of _____ as ideal transition curve in the horizontal alignment of highways.

Options :

1. ✖ Cubic parabola

2. ✖ Parabola

3. ✖ Lemniscate

4. ✔ Spiral curve

Question Number : 147 Question Id : 8277882049 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The recommended camber for cement concrete roads in areas with light rainfall is _____.

Options :

1. ✔ 1.7%

2. ✖ 2.7%

3. ✖ 3.7%

4. ✖ 4.7%

Question Number : 148 Question Id : 8277882050 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

Which of the following is an example of active remote sensing instrument?

Options :

1. ✖ Hyperspectral radiometer

2. ✖ Spectrometer

3. ✖ Radiometer

4. ✔ RADAR

Question Number : 149 Question Id : 8277882051 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

The imaginary point on the celestial sphere directly beneath a given position or observer, and diametrically opposite the zenith, is known as _____.

Options :

1. ✔ nadir point

2. ✖ zenith

3. ✖ pole

4. ✖ celestial point

Question Number : 150 Question Id : 8277882052 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Option Orientation : Vertical

Correct Marks : 2

If the height of an object above the datum is 30 m, the flying height above the datum is 2000 m, and the radial distance of the image of the object top is 20 m, what will be the relief displacement?

Options :

1. ✔ 0.3 m

2. ✖ 0.5 m

3. ✖ 0.6 m

4. ✖ 0.7 m