

TCSiON CAE

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 :	PC22127CIVILENGINEERINGAEE2212 21st May 2023 Shift 2
Subject Name :	PC22127 CIVIL ENGINEERING AEE2212
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
Help Button :	No
Show Reports :	No
Show Progress Bar :	No
Is this Group for Examiner? :	No
Examiner permission :	Cant View

Show Progress Bar? : No

Enable Mark as Answered Mark for Review and Clear Response : Yes

Maximum Instruction Time : 0

Is Section Default? : null

Question Number : 1 Question Id : 630680225553 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Among the following, _____ shaped aggregate have the best workability.

Options :

1. ✘ Angular

2. ✔ Rounded

3. ✘ Flaky

4. ✘ Elongated

Question Number : 2 Question Id : 630680225554 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

As per IS 456, a concrete of compressive strength 36 MPa will have an estimated strength in flexure approximately equal to _____.

Options :

1. ✘ 3.6 MPa

2. ✘ 3.2 MPa

3. ✔ 4.2 MPa

4. ✘ 4.8 MPa

Question Number : 3 Question Id : 630680225555 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

_____ can be defined as the separation of the constituent materials of concrete.

Options :

1. ✘ Vibration

2. ✔ Segregation

3. ✘ Honey combing

4. ✘ Laitance

Question Number : 4 Question Id : 630680225556 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following is the weakest concrete mix on the basis of their compressive strength (cement: fine aggregate: coarse aggregate)?

Options :

1. ✘ 1 : 2 : 4
2. ✘ 1 : 3 : 6
3. ✘ 1 : 4 : 8
4. ✔ 1 : 5 : 10

Question Number : 5 Question Id : 630680225557 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

_____ is the type of stone masonry in which finely dressed stones are laid in cement or lime mortar.

Options :

1. ✔ Ashlar masonry
2. ✘ Rubble masonry
3. ✘ Random rubble masonry
4. ✘ Squared rubble masonry

Question Number : 6 Question Id : 630680225558 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 2 Wrong Marks : 0

The stone is said to be 'high tough' if the toughness index of the stone in the impact test is _____.

Options :

1. ✘ less than 7
2. ✘ more than 9
3. ✘ less than 19
4. ✔ more than 19

Question Number : 7 Question Id : 630680225559 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 2 Wrong Marks : 0

Flakiness index of the aggregate is defined as the percentage of particles present in it having their least size smaller than _____.

Options :

1. ✘ $\frac{4}{5}$ th of their mean size
2. ✘ $\frac{3}{8}$ th of their mean size
3. ✘ $\frac{3}{4}$ th of their mean size
4. ✔ $\frac{3}{5}$ th of their mean size

Question Number : 8 Question Id : 630680225560 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

_____ is also known as pure lime, rich lime and white washing lime.

Options :

1. ✓ Fat lime
2. ✗ Kankar lime
3. ✗ Quick lime
4. ✗ Hydraulic lime

Question Number : 9 Question Id : 630680225561 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which one of the following statement is correct regarding efflorescence?

- I. Deformation of brick due to exposure to rain.
- II. Formation of white patches on the brick surface due to insoluble salts in the brick clay.

Options :

1. ✗ Only I
2. ✓ Only II

3. ✘ Both I and II

4. ✘ Neither I nor II

Question Number : 10 Question Id : 630680225562 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which one of the following statement is correct regarding blistering?

I. This defect is caused by the water vapour which is trapped behind the painted surface.

II. It may occur from various causes such as imperfect seasoning of timber, excess oil used in the final coat.

Options :

1. ✘ Only I

2. ✘ Only II

3. ✔ Both I and II

4. ✘ Neither I nor II

Question Number : 11 Question Id : 630680225563 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct?

- I. C_2S liberates less heat of hydration.
- II. A higher percentage of C_2S results in slow hardening.
- III. C_2S also decreases the resistance of cement against attack of chemicals.

Options :

- 1. ✘ I, II and III
- 2. ✔ I and II only
- 3. ✘ II and III only
- 4. ✘ I and III only

Question Number : 12 Question Id : 630680225564 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct?

- I. Oil based varnish is most durable finish that can be easily applied by the average woodworker.
- II. Varnish surpasses most other finishes in its resistance to water and heat.
- III. Varnish is nearly heterogeneous solution of resin in oil, alcohol or turpentine.

Options :

- 1. ✘ II and III only
- 2. ✔ I and II only

3. ✘ I and III only

4. ✘ I, II and III

Question Number : 13 Question Id : 630680225565 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Match the following words and their meanings.

	List -1		List -2
I	Curling	1	The reduction in volume of concrete due to loss of water by evaporation from concrete
II	Bleeding	2	It means water in freshly placed concrete rises to its top surface and hence make concrete hollow by creating air voids
III	Shrinkage	3	When a concrete slab is distorted into curved shape by upward or downward movement of edges or corners.

Options :

1. ✔ I-3, II-2, III-1

2. ✘ I-2, II-3, III-1

3. ✘ I-3, II-1, III-2

4. ✘ I-1, II-2, III-3

Question Number : 14 Question Id : 630680225566 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the correct pair from the given pairs as per IS 456 – 2000 Table-2.

I. M15 – Ordinary concrete

II. M75 – Standard concrete

III. M65 – High strength concrete

Options :

1. ✘ I and II only

2. ✘ II and III only

3. ✔ I and III only

4. ✘ I, II and III

Question Number : 15 Question Id : 630680225567 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the increasing order of the grade of OPC on the basis of their characteristic strength?

I. OPC 43 grade

II. OPC 33 grade

III. OPC 53 grade

Options :

1. ✘ I, II, III

2. ✓ II, I, III

3. ✗ II, III, I

4. ✗ III, II, I

Question Number : 16 Question Id : 630680225568 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the correct order for manufacturing of brick earth from first to last?

I. Unsoiling

II. Weathering

III. Digging

IV. Tempering

V. Blending

VI. Moulding

Options :

1. ✓ I, III, II, V, IV, VI

2. ✗ I, II, III, V, IV, VI

3. ✗ I, III, II, V, VI, IV

4. ✗ II, III, I, V, IV, VI

Question Number : 17 Question Id : 630680225569 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

_____ is formed due to weathering of the rocks by physical agencies and in which transportation is by gravitation forces.

Options :

1. ✘ Glacial soil
2. ✘ Aeolian soil
3. ✔ Colluvial soil
4. ✘ Loess

Question Number : 18 Question Id : 630680225570 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Toughness index of soil is defined as the ratio of _____.

Options :

1. ✔ plasticity index and flow index
2. ✘ liquidity index and flow index
3. ✘ liquid limit and flow index

4. ✘ plastic limit and flow index

Question Number : 19 Question Id : 630680225571 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

_____ is the soil that is being transported due to flowing ice.

Options :

1. ✘ Alluvial soil

2. ✔ Glacial soil

3. ✘ Colluvial soil

4. ✘ Loess

Question Number : 20 Question Id : 630680225572 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Approximate ratio of the permeability's of two clay soils, having D_{10} values of 0.5 mm and 0.2 mm respectively, is

_____.

Options :

1. ✘ 5

2. ✘ 4

3. ✓ 6.25

4. ✘ 8.8

Question Number : 21 Question Id : 630680225573 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Determine the value of critical hydraulic gradient for a loose deposit of sand having a void ratio of 0.7 and specific gravity of 2.7.

Options :

1. ✘ 5

2. ✘ 20

3. ✘ 10

4. ✓ 1

Question Number : 22 Question Id : 630680225574 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

If value of Poisson's ratio of soil sample is 0.5 then, using theory of elasticity what is the value of lateral earth pressure at rest in the same soil?

Options :

1. ✘ 0.5

2. ✘ 0.8

3. ✔ 1

4. ✘ 1.2

Question Number : 23 Question Id : 630680225575 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

While making the vertical excavation in soft saturated clay, soil caved in at a depth of 5 m. If the unit weight of soil is 25000 N/m^3 , then what is the cohesion of the soil?

Options :

1. ✔ 31.25 KN/m^2

2. ✘ 32.5 KN/m^2

3. ✘ 42.5 KN/m^2

4. ✘ 40 KN/m^2

Question Number : 24 Question Id : 630680225576 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

In an undrained triaxial test on a saturated clay, the value of poisson's ratio is _____.

Options :

1. ✘ $\left| \frac{\sigma_1 + \sigma_3}{\sigma_2} \right|$

2. ✔ $\left| \frac{\sigma_3}{\sigma_1 + \sigma_3} \right|$

3. ✘ $\left| \frac{\sigma_3}{\sigma_1 - \sigma_3} \right|$

4. ✘ $\left| \frac{\sigma_1 - \sigma_3}{\sigma_3} \right|$

Question Number : 25 Question Id : 630680225577 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct for colluvial soil?

I. It is formed due to weathering of rocks by physical agencies.

II. Transportation of soil from one place to another by gravitational forces.

Options :

1. ✘ Only I

2. ✘ Only II

3. ✔ Both I and II

4. ✘ Neither I nor II

Question Number : 26 Question Id : 630680225578 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct?

- I. Plasticity chart is a graph between plasticity index and plastic limit of soil in percentage.
- II. If more than 50 percent of the soil passes through a 75-micron sieve, then it is classified as fine-graded soil.

Options :

- 1. ✘ Only I
- 2. ✔ Only II
- 3. ✘ Both I and II
- 4. ✘ Neither I nor II

Question Number : 27 Question Id : 630680225579 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct regarding toughness index of soil?

- I. It is the ratio of plasticity index (I_p) of the soil to the flow index (I_f) of the soil.
- II. It gives us an idea of the bearing capacity of soil.
- III. When toughness index is less than 1, the soil is said to be friable.

Options :

- 1. ✘ I and II only

2. ✘ II and III only

3. ✔ I and III only

4. ✘ I, II and III

Question Number : 28 Question Id : 630680225580 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct regarding pore pressure?

I. It is the pressure exerted by the pore water filled in the void of the soil skeleton.

II. It is denoted by u and equal to the depth below the ground water table up to the point where it is measured and multiplied by the unit weight of water.

III. It is also called the effective stress because it acts on one side of particle.

Options :

1. ✔ I and II only

2. ✘ II and III only

3. ✘ I and III only

4. ✘ I, II and III

Question Number : 29 Question Id : 630680225581 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Match the following in context of size of stone/soil.

	List -1		List -2
I	Cobble size	1	4.75 – 80 mm
II	Silt size	2	80 – 300 mm
III	Glacial size	3	0.002 – 0.075 mm

Options :

1. ✓ I-2, II-3, III-1

2. ✗ I-1, II-3, III-2

3. ✗ I-2, II-1, III-3

4. ✗ I-3, II-2, III-1

Question Number : 30 Question Id : 630680225582 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the correct pair from the given pairs.

I. $n(\text{porosity}) = \left(\frac{e}{1+e} \right)$ (where $e = \text{void ratio}$)

II. $n(\text{porosity}) = \frac{V_v}{V_s}$ (where $V_v = \text{volume of void}$, $V_s = \text{volume of solid}$)

III. $e(\text{void ratio}) = \frac{V_v}{V}$ (where $V_v = \text{volume of void}$, $V = \text{Total volume of soil}$)

Options :

1. ✓ Only I

2. ✗ Only II

3. ✗ II and III only

4. ✗ I, II and III

Question Number : 31 Question Id : 630680225583 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the increasing order of the size of the soil particle?

I. Sand

II. Gravel

III. Silt

IV. Clay

Options :

1. ✗ I, III, IV, II

2. ✓ IV, III, I, II

3. ✗ IV, III, II, I

4. ✗ II, IV, I, III

Question Number : 32 Question Id : 630680225584 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the increasing order of the earth pressure at various conditions at an angle of 30° ?

I. At rest

II. Active

III. Passive

Options :

1. ✘ I, II, III

2. ✘ II, III, I

3. ✔ II, I, III

4. ✘ III, II, I

Question Number : 33 Question Id : 630680225585 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

According to IS-codes, plastering-pointing and white washing are measured in _____.

Options :

1. ✘ per cubic metre

2. ✔ per square metre

3. ✘ lump sum

4. ✘ per running metre

Question Number : 34 Question Id : 630680225586 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

_____ is an approximate estimate and prepared by owner itself before the actual award of any civil work to any agency.

Options :

1. ✘ Cube rate estimate

2. ✔ Preliminary estimate

3. ✘ Detailed estimate

4. ✘ Revised estimate

Question Number : 35 Question Id : 630680225587 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

A property is fetching an annual rent of Rs. 258000. The purchaser desired to get 5 percent return on the capital. The capitalized value (in Rs.) of the building is _____.

Options :

1. ✘ 5080000

2. ✓ 5160000

3. ✗ 5200000

4. ✗ 2760000

Question Number : 36 Question Id : 630680225588 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

_____ of a property at a particular year is the original cost minus the amount of depreciation allowed per year.

Options :

1. ✓ Book value

2. ✗ Market value

3. ✗ Salvage value

4. ✗ Scrap value

Question Number : 37 Question Id : 630680225589 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

_____ is the sell value of dismantled materials of an asset at the end of its useful life.

Options :

1. ✘ Book value
2. ✘ Market value
3. ✘ Salvage value
4. ✔ Scrap value

Question Number : 38 Question Id : 630680225590 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

The property fetches a net annual income of Rs. 1200 deducting all outgoings. What is the capitalized value of property if the ROI (rate of interest) is 6 percent per annum?

Options :

1. ✘ 25000
2. ✔ 20000
3. ✘ 18000
4. ✘ 12000

Question Number : 39 Question Id : 630680225591 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

_____ is the covered built up area measured at the floor level of any storey or at the floor level of the basement.

Options :

1. ✘ Floor area
2. ✔ Plinth area
3. ✘ Carpet area
4. ✘ Circulation area

Question Number : 40 Question Id : 630680225592 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct for scrap value?

- I. Scrap value is the estimated value of an asset without dismantling it at the end of its useful life.
- II. Scrap value is the sell value of dismantled materials of an asset at the end of its useful life.

Options :

1. ✘ Only I
2. ✔ Only II
3. ✘ Both I and II
4. ✘ Neither I nor II

Question Number : 41 Question Id : 630680225593 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct regarding the contour line method of estimating a building?

- I. Product of the centerline of the walls and area of cross section of any item, gives total quantity of the item.
- II. The center line length is increased by half the layer of main wall joining the partition wall.

Options :

- 1. ✓ Only I
- 2. ✗ Only II
- 3. ✗ Both I and II
- 4. ✗ Neither I nor II

Question Number : 42 Question Id : 630680225594 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct for carpet area?

- I. It is a useful area or liveable area or lettable area.
- II. It is the total floor area minus the circulation area, verandahs, corridors, passages, staircase, lifts, entrance, hall etc.
- III. It is the covered built-up area measured at the floor level of any storey.

Options :

- 1. ✓ I and II only

2. ✘ II and III only

3. ✘ I and III only

4. ✘ I, II and III

Question Number : 43 Question Id : 630680225595 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Match the following terms with their meanings.

	Term		Meaning
I	Valuation	1	Determining the price of the property
II	Mortgage	2	Mode of detailing of work type and its nature
III	Taxation	3	Security is taken for giving loans
IV	Specification	4	Charges levied on the property

Options :

1. ✔ I-1, II-3, III-4, IV-2

2. ✘ I-2, II-1, III-4, IV-3

3. ✘ I-1, II-2, III-3, IV-4

4. ✘ I-4, II-2, III-1, IV-3

Question Number : 44 Question Id : 630680225596 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the correct pair from the given pairs of finding area and their definitions.

I. Long wall and short wall method – It is also called separate or individual wall method

II. Centerline method – In this method, external length of the wall running in longitudinal direction is measure out to out.

III. Plinth area method – In this method, the plinth area is worked out which is calculated by adding carpet area of the building and thickness of the walls of the building.

Options :

1. ✘ I and II only

2. ✘ II and III only

3. ✔ I and III only

4. ✘ I, II and III

Question Number : 45 Question Id : 630680225597 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the increasing order of area on the basis of their size.

I. Carpet area

II. Super-built up area

III. Plinth area

Options :

1. ✓ I, III, II

2. ✗ I, II, III

3. ✗ II, III, I

4. ✗ III, I, II

Question Number : 46 Question Id : 630680225598 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the correct order of increasing order formwork stripping time in different types of formworks (when ordinary Portland cement is used).

I. Slabs (props left under)

II. Beams soffits (props left under)

III. Side of walls, columns and vertical faces of the beam.

Options :

1. ✗ II, I, III

2. ✗ I, II, III

3. ✗ I, III, II

4. ✓ III, I, II

Question Number : 47 Question Id : 630680225599 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

What is the length of engineer's chain?

Options :

1. ✘ 66 feet long
2. ✘ 33 feet long
3. ✔ 100 feet long
4. ✘ 50 feet long

Question Number : 48 Question Id : 630680225600 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

_____ survey is used to plan, design and laying out of route such as highways, railways, canals, pipelines and other linear projects.

Options :

1. ✔ Route
2. ✘ Engineering
3. ✘ Topographical
4. ✘ Cadastral

Question Number : 49 Question Id : 630680225601 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

At the magnetic equator, the dip needle rests horizontally at an angle of _____.

Options :

1. ✘ 90 degree
2. ✘ 45 degree
3. ✔ 0 degree
4. ✘ 30 degree

Question Number : 50 Question Id : 630680225602 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

The horizontal distance between two points on two consecutive contour lines for a given slope is known as _____.

Options :

1. ✘ contour elevation
2. ✘ contour interval
3. ✔ horizontal equivalent

4. ✘ horizontal equivalent and contour internal both

Question Number : 51 Question Id : 630680225603 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct for contours?

- I. Contours do not pass through permanents structure such as buildings.
- II. Closed contours lines with higher value insider show a hill.

Options :

- 1. ✘ Only I
- 2. ✘ Only II
- 3. ✔ Both I and II
- 4. ✘ Neither I nor II

Question Number : 52 Question Id : 630680225604 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct for cadastral surveying?

- I. They are also made to fix the boundaries of municipalities and of state and federal jurisdictions.
- II. They are made in connection with the construction of streets, water supply and other works.

Options :

1. ✓ Only I

2. ✘ Only II

3. ✘ Both I and II

4. ✘ Neither I nor II

Question Number : 53 Question Id : 630680225605 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct for two theodolite method?

I. Accuracy attained in this method is quite low.

II. In this method, linear measurement are completely eliminated.

III. This method is most convenient when ground is flat.

Options :

1. ✓ Only II

2. ✘ Only I

3. ✘ I and III only

4. ✘ I, II and III

Question Number : 54 Question Id : 630680225606 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Match the following terms with their formulas.

	Term		Formula
I	Slope correction	1	$\pm \propto (T_m - T_o)L$
II	Temperature correction	2	$\frac{-h^2}{2L}$
III	Mean sea level correction	3	$\frac{\pm (P_m - P_o)L}{AE}$
IV	Pull correction	4	$+\frac{Lh}{R}$

Options :

1. ✓ I-2, II-1, III-4, IV-3

2. ✗ I-3, II-4, III-2, IV-1

3. ✗ I-2, II-1, III-3, IV-4

4. ✗ I-1, II-2, III-4, IV-3

Question Number : 55 Question Id : 630680225607 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the correct pair from the given pairs of line – meaning.

I. Agonic line – The line joining the places of zero declination

II. Isoclinic line – The line joining the places of zero dip

III. Aclinic line – The line joining the places of same dip

Options :

1. ✘ I, II and III
2. ✔ Only I
3. ✘ I and II only
4. ✘ Only II

Question Number : 56 Question Id : 630680225608 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the increasing order of the surveyor chain on the basis of their length?

I. Gunter's chain

II. Engineer's chain

III. Revenue chain

Options :

1. ✘ II, I, III
2. ✔ III, I, II
- 3.

✘ I, III, II

4. ✘ III, II, I

Question Number : 57 Question Id : 630680225609 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the correct order of corrections in survey in their increasing order?

I. Curvature correction

II. Refraction correction

III. Combined correction

Options :

1. ✘ I, III, II

2. ✔ I, II, III

3. ✘ II, I, III

4. ✘ III, II, I

Question Number : 58 Question Id : 630680225610 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

The property that represents the internal resistance of a fluid to motion is called _____.

Options :

1. ✘ velocity
2. ✘ acceleration
3. ✔ viscosity
4. ✘ shear stress

Question Number : 59 Question Id : 630680225611 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

A liquid compressed in cylinder has a volume of 0.02 m^3 at 40 kg/cm^2 and volume of 0.019 m^3 at 140 kg/cm^2 . The bulk modulus of elasticity of liquid is _____.

Options :

1. ✘ 3900 kg/cm^2
2. ✔ 2000 kg/cm^2
3. ✘ $20 \times 10^3 \text{ kg/cm}^2$
4. ✘ $20 \times 10^6 \text{ kg/cm}^2$

Question Number : 60 Question Id : 630680225612 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 2 Wrong Marks : 0

_____ represent the mass (or the number of particles) per unit volume of a substance, material or object.

Options :

1. ✘ Specific volume

2. ✔ Mass density

3. ✘ Specific weight

4. ✘ Relative density

Question Number : 61 Question Id : 630680225613 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 2 Wrong Marks : 0

If P is the surface tension on a hollow bubble and Q is the surface tension on a liquid droplet, then which of the following expression shows the relation between P and Q?

Options :

1. ✔ $Q = 2P$

2. ✘ $Q = \frac{P}{2}$

3. ✘ $Q = \frac{P}{4}$

4. ✘ $Q = 4P$

Question Number : 62 Question Id : 630680225614 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Four litre of a liquid weighs 20 N then specific weight of the liquid is _____.

Options :

1. ✘ 3500 N/m³
2. ✘ 10000 N/m³
3. ✔ 5000 N/m³
4. ✘ 8000 N/m³

Question Number : 63 Question Id : 630680225615 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

According to the Newton's law of viscosity, $\tau = m \times \left(\frac{dx}{dy}\right)^n$. What is the flow behavior index 'n' for Newtonian fluid?

Options :

1. ✘ $n = 0$
2. ✘ $n < 1$
3. ✘ $n > 1$

4. ✓ $n = 1$

Question Number : 64 Question Id : 630680225616 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

What are the dimensions of dynamic viscosity?

Options :

1. ✗ $M^1L^0T^{-2}$

2. ✓ $M^1L^{-1}T^{-1}$

3. ✗ $M^1L^{-1}T^0$

4. ✗ MLT^{-2}

Question Number : 65 Question Id : 630680225617 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Pressure at a certain depth below ocean is 1.6 MPa. What is the approximate depth?

Options :

1. ✓ 160 m

2. ✗ 1600 m

3. ✘ 16 m

4. ✘ 80 m

Question Number : 66 Question Id : 630680225618 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct regarding viscosity?

I. The ratio of dynamic viscosity to density appears frequently and this ratio is given by kinematic viscosity.

II. CGS unit of kinematic viscosity is cm^2/sec .

Options :

1. ✘ Only I

2. ✘ Only II

3. ✔ Both I and II

4. ✘ Neither I nor II

Question Number : 67 Question Id : 630680225619 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct for Newtonian fluids?

- I. It is defined as fluids for which the shear stress is linearly proportional to the shear strain rate.
- II. It is a fluid that does not flow newton's law of viscosity.

Options :

- 1. ✓ Only I
- 2. ✗ Only II
- 3. ✗ Both I and II
- 4. ✗ Neither I nor II

Question Number : 68 Question Id : 630680225620 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct regarding fluids?

- I. Pseudoplastic fluids in which the apparent viscosity decreases with increasing deformation rate.
- II. The fluid falling in x-axis represents as ideal fluid.
- III. Dilatant fluids in which the apparent viscosity decreases with decreasing deformation rate.

Options :

- 1. ✓ I and II only
- 2. ✗ II and III only
- 3. ✗ I and III only

4. ✘ I, II and III

Question Number : 69 Question Id : 630680225621 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Match the following fluid conditions with their definitions.

	Fluid Condition		Definitions
I	Ideal	1	Possesses viscosity
II	Real	2	Shear stress is directly proportional to velocity gradient
III	Newtonian	3	Does not possess viscosity

Options :

1. ✔ I-3, II-1, III-2

2. ✘ I-2, II-1, III-3

3. ✘ I-1, II-3, III-2

4. ✘ I-3, II-2, III-1

Question Number : 70 Question Id : 630680225622 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the correct pair from the given pairs of apparatus – use.

I. Pitot tube – Measuring velocity of flow in a pipe

II. Venturimeter – Measuring air and gas velocity

III. Manometer – Measuring pressure in a pipe

Options :

1. ✘ I and II only

2. ✘ II and III only

3. ✔ I and III only

4. ✘ I, II and III

Question Number : 71 Question Id : 630680225623 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the increasing order of sensitivity in these apparatus?

I. Piezometer

II. U-tube manometer

III. Inclined single Column manometer

IV. Single column manometer

Options :

1. ✘ II, I, III, IV

2. ✔ II, I, IV, III

3. ✘ I, II, IV, III

4. ✘ I, II, III, IV

Question Number : 72 Question Id : 630680225624 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the correct order of hydraulic jump on the basis of the increasing order of their Froude number?

I. Steady jump

II. Weak jump

III. Undular jump

IV. Oscillating jump

Options :

1. ✘ II, III, IV, I

2. ✘ I, II, IV, III

3. ✔ III, II, IV, I

4. ✘ III, II, I, IV

Question Number : 73 Question Id : 630680225625 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

The ratio of change in (diameter/breadth) to the (original diameter/breadth) is called the _____.

Options :

1. ✓ lateral strain
2. ✗ longitudinal strain
3. ✗ shear strain
4. ✗ volumetric strain

Question Number : 74 Question Id : 630680225626 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 2 Wrong Marks : 0

When the body is loaded within its elastic limit, then ratio of lateral or traverse strain and linear or longitudinal strain is known as _____.

Options :

1. ✓ Poisson's ratio
2. ✗ Bulk modulus
3. ✗ Modulus of rigidity
4. ✗ Young's modulus

Question Number : 75 Question Id : 630680225627 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

What is the value of poisson's ratio for cork?

Options :

1. ✓ 0

2. ✗ 0.2

3. ✗ 1

4. ✗ 0.5

Question Number : 76 Question Id : 630680225628 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

What will be the shear modulus of the material with elastic modulus of 280 GPa and poisson's ratio is 0.4?

Options :

1. ✗ 80 GPa

2. ✗ 60 GPa

3. ✗ 120 GPa

4. ✓ 100 GPa

Question Number : 77 Question Id : 630680225629 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

If $m < 2j - 3$, then frame is called a _____. (where m = number of members and j = number of joints)

Options :

1. ✘ Perfect frame
2. ✔ Deficient frame
3. ✘ Redundant frame
4. ✘ Stable frame

Question Number : 78 Question Id : 630680225630 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Degree of kinematic indeterminacy of the given beam is _____.



Options :

1. ✘ 1
2. ✘ 2

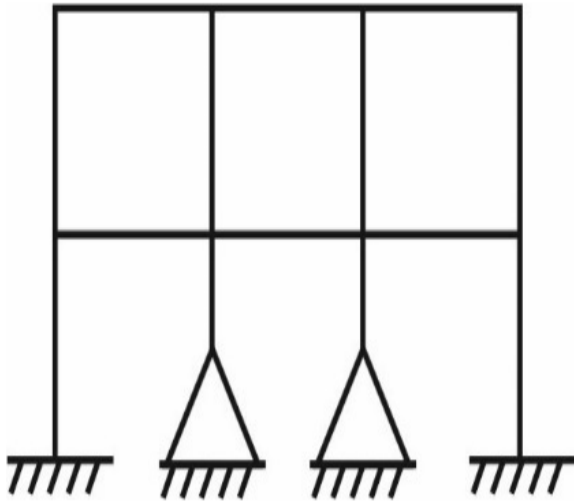
3. ✘ 0

4. ✔ 3

Question Number : 79 Question Id : 630680225631 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

What is the number of kinematic indeterminacy for the building frame as shown in the figure when member are inextensible?



Options :

1. ✘ 8

2. ✘ 10

3. ✔ 12

4. ✘ 16

Question Number : 80 Question Id : 630680225632 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

What is the point of contraflexure point?

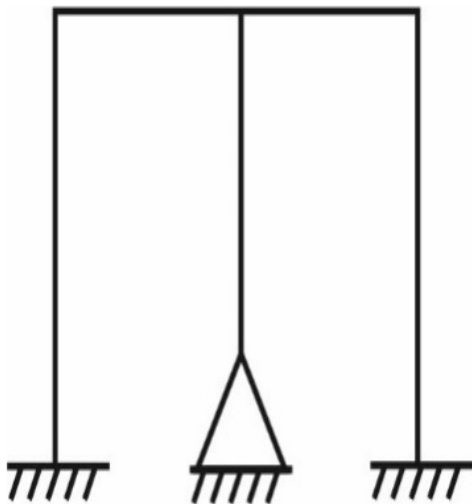
Options :

1. ✘ Where shear force changes sign
2. ✔ Where bending moment changes sign
3. ✘ Where shear force is maximum
4. ✘ Where bending moment is maximum

Question Number : 81 Question Id : 630680225633 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

The degree of static indeterminacy D_S and the degree of kinematic indeterminacy, D_K for the plane frame as shown neglecting axial deformation are given by _____.



Options :

1. ✘ $D_S = 6, D_K = 8$

2. ✔ $D_S = 5, D_K = 5$

3. ✘ $D_S = 4, D_K = 6$

4. ✘ $D_S = 5, D_K = 8$

Question Number : 82 Question Id : 630680225634 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct?

I. Unit of strain is dimensionless.

II. The ratio of change in (diameter/breadth) to the (original diameter/breadth) is called longitudinal strain.

Options :

1. ✔ Only I

2. ✘ Only II

3. ✘ Both I and II

4. ✘ Neither I nor II

Question Number : 83 Question Id : 630680225635 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct?

I. Yield point is the stress at which the material will retain a 0.2% permanent elongation after the stress of force is removed.

II. Ultimate strength is the maximum amount of stress the material can withstand.

Options :

1. ✘ Only I

2. ✘ Only II

3. ✔ Both I and II

4. ✘ Neither I nor II

Question Number : 84 Question Id : 630680225636 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct?

I. Isotropic materials means a material having identical values of a property in all direction.

II. Glass and metals are examples of isotropic material.

III. Common examples of orthotropic material are woods and composites.

Options :

1. ✔ I and II only

2. ✘ II and III only

3. ✘ I and III only

4. ✘ I, II and III

Question Number : 85 Question Id : 630680225637 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct?

I. Unit of strain is dimensionless.

II. Contraflexural point is defined as the point where shear force changes sign.

III. Shear force is defined as the algebraic sum of the moment of all forces.

Options :

1. ✔ Only I

2. ✘ Only II

3. ✘ Only III

4. ✘ I, II and III

Question Number : 86 Question Id : 630680225638 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Match the following items of list 1 with their meanings in list 2.

	List-1		List-2
I	Modulus of rigidity	1	Normal Strain
II	Young's modulus	2	Shear strain
III	Poisson's ratio	3	Transverse strain

Options :

1. ✘ I-1, II-3, III-2

2. ✔ I-2, II-1, III-3

3. ✘ I-1, II-2, III-3

4. ✘ I-2, II-3, III-1

Question Number : 87 Question Id : 630680225639 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the correct pair from the given pairs of material : their Poisson's Ratio.

I. Cork : 0

II. Perfectly plastic material : 1

III. Steel : 0.286

Options :

1. ✘ I and II only

2. ✔ I and III only

3. ✘ II and III only

4. ✘ I, II and III

Question Number : 88 Question Id : 630680225640 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the increasing order of effective length based on the end condition?

I. One end fixed and other hinged

II. Both end fixed

III. Both end hinged

IV. One end fixed other free

Options :

1. ✘ I, II, III, IV

2. ✘ III, II, IV, I

3. ✔ III, I, II, IV

4. ✘ IV, III, II, I

Question Number : 89 Question Id : 630680225641 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the correct order of the exposure condition on the basis of the increasing order of their nominal cover?

I. Severe

II. Moderate

III. Mild

IV. Extreme

Options :

1. ✓ III, II, I, IV

2. ✗ I, II, III, IV

3. ✗ IV, I, II, III

4. ✗ II, III, IV, I

Question Number : 90 Question Id : 630680225642 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 2 Wrong Marks : 0

According to IRC SP 023, grade compensation is not required for grades flatter than _____.

Options :

1. ✗ 6 percent

2. ✗ 8 percent

3. ✓ 4 percent

4. ✗ 5 percent

Question Number : 91 Question Id : 630680225643 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

_____ is used to determine the grade of bitumen and also determines the hardness and softness of bitumen.

Options :

1. ✓ Penetration test
2. ✗ Ductility test
3. ✗ Viscosity test
4. ✗ Float test

Question Number : 92 Question Id : 630680225644 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

As per IRC:SP:84-2014, what is minimum lateral clearance (normal) for National highway or State highway?

Options :

1. ✗ 2 m
2. ✓ 2.5 m
3. ✗ 1.1 m

4. ✘ 1.5 m

Question Number : 93 Question Id : 630680225645 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

What will be the theoretical maximum capacity for a single lane of highway given that the speed of the traffic stream is 42 km/hr?

Options :

1. ✔ 3000 vehicle/hour

2. ✘ 2800 vehicle/hour

3. ✘ 3500 vehicle/hour

4. ✘ 2000 vehicle/hour

Question Number : 94 Question Id : 630680225646 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

What is the length of vertical curve connecting two grades +0.5% and -0.4%, where the rate of change of grades is 0.1% per 40 metres at summit?

Options :

1. ✘ 300 metres

2. ✔ 360 metres

3. ✘ 420 metres

4. ✘ 400 metres

Question Number : 95 Question Id : 630680225647 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

What will be grade compensation (percent) of a 2-degree curve on a broad gauge (BG)?

Options :

1. ✘ 0.06 percent

2. ✘ 0.09 percent

3. ✔ 0.08 percent

4. ✘ 0.12 percent

Question Number : 96 Question Id : 630680225648 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

What is the width of broad gauge in India?

Options :

1. ✔ 1.676 metres

2. ✘ 1 metres

3. ✘ 0.762 metres

4. ✘ 1.435 metres

Question Number : 97 Question Id : 630680225649 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

_____ curve is horizontal curve having varying radius.

Options :

1. ✘ Reverse

2. ✔ Transition

3. ✘ Vertical

4. ✘ Compound

Question Number : 98 Question Id : 630680225650 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct regarding abrasion test for stone?

- I. It is carried out to test the hardness property of aggregates.
- II. It is carried out to evaluate the resistance to impact of aggregate i.e. toughness.

Options :

- 1. ✓ Only I
- 2. ✗ Only II
- 3. ✗ Both I and II
- 4. ✗ Neither I nor II

Question Number : 99 Question Id : 630680225651 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct regarding right of way?

- I. Right of way is the land acquired to accommodate the road along its alignment.
- II. The right of way should be adequate to accommodate all the element that make up the cross-section of the highway.

Options :

- 1. ✗ Only I
- 2. ✗ Only II
- 3. ✓ Both I and II

4. ✘ Neither I nor II

Question Number : 100 Question Id : 630680225652 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct regarding softening point test on bitumen?

- I. It is the temperature at which bitumen attains particular degree of consistency.
- II. It is measured by pensky martin's closed and open cup apparatus.
- III. The temperature rise during the test is at the uniform rate of $5 \pm 0.5^\circ\text{C}$ per minute.

Options :

1. ✘ I and II only

2. ✘ II and III only

3. ✔ I and III only

4. ✘ I, II and III

Question Number : 101 Question Id : 630680225653 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Match the following traffic sign types with their general shapes.

	Traffic sign		General shape
I	Informatory sign	1	Circular
II	Warning sign	2	Rectangular
III	Regulatory sign	3	Triangular

Options :

1. ✓ I-2, II-3, III-1
2. ✗ I-1, II-3, III-2
3. ✗ I-3, II-2, III-1
4. ✗ I-1, II-2, III-3

Question Number : 102 Question Id : 630680225654 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the correct pair from the given pairs.

- I. Grade compensation for BG – 0.04 percent per degree of curve
- II. Grade compensation for MG – 0.03 percent per degree of curve
- III. Grade compensation for NG – 0.02 percent per degree of curve

Options :

1. ✗ I and II only
2. ✗ II and III only

3. ✘ I and III only

4. ✔ I, II and III

Question Number : 103 Question Id : 630680225655 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the ascending order according to their length.

I. Right of way

II. Formation width

III. Carriageway

Options :

1. ✔ III, II, I

2. ✘ I, II, III

3. ✘ II, III, I

4. ✘ III, I, II

Question Number : 104 Question Id : 630680225656 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the correct order according to increasing order of their penetration value?

I. VG10

II. VG30

III. VG40

IV. VG20

Options :

1. ✘ II, IV, I, III

2. ✘ I, III, II, IV

3. ✘ II, I, IV, III

4. ✔ I, IV, II, III

Question Number : 105 Question Id : 630680225657 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 2 Wrong Marks : 0

The maximum permissible limit of total dissolved solid (mg/l) in drinking water in the absence of an alternate source, as per IS 10500-2012 is _____.

Options :

1. ✘ 1500

2. ✔ 2000

3. ✘ 500

4. ✘ 2500

Question Number : 106 Question Id : 630680225658 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

What is the threshold odor number (TON), if 80 ml of odor-free distilled water is required to produce a 100 ml mixture from 20 ml odor?

Options :

1. ✘ 0.5

2. ✔ 5

3. ✘ 4

4. ✘ 1

Question Number : 107 Question Id : 630680225659 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

What is the environment said to be when the ELR (environment lapse rate) is less than ALR(adiabatic lapse rate)?

Options :

1. ✘ Neutral

2. ✘ Unstable

3. ✓ Stable

4. ✘ Hydrostatic equilibrium

Question Number : 108 Question Id : 630680225660 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

_____ valve allows the water to flow in one direction only.

Options :

1. ✘ Air

2. ✘ Sluice

3. ✓ Check

4. ✘ Scour

Question Number : 109 Question Id : 630680225661 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

If initial dissolved oxygen (DO) and final DO after 5 days are 18 and 15 PPM and if the dilution factor is 60, then the 5 day BOD (PPm) will be _____.

Options :

1. ✘ 120

2. ✓ 180

3. ✘ 150

4. ✘ 220

Question Number : 110 Question Id : 630680225662 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

_____ is also known as interlaced system or reticulation system, the mains, sub-mains and branches are all connected with each other.

Options :

1. ✘ Radial system

2. ✓ Grid-iron system

3. ✘ Dead end system

4. ✘ Ring system

Question Number : 111 Question Id : 630680225663 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

As per IS 10500 : 2012, the acceptable limit of Nitrate (in mg/l) in drinking water is _____.

Options :

1. ✘ 30

2. ✔ 45

3. ✘ 40

4. ✘ 50

Question Number : 112 Question Id : 630680225664 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct regarding odour and taste for water sample?

- I. The odour in water measured by a device known as osmoscope.
- II. It is one of the parameters which define the physical property of water.

Options :

1. ✘ Only I

2. ✘ Only II

3. ✔ Both I and II

4. ✘ Neither I nor II

Question Number : 113 Question Id : 630680225665 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct regarding water?

I. Presence of nitrogen in water indicates the present of inorganic matter.

II. Presence of free ammonia in water indicates its recent pollution.

Options :

1. ✘ Only I

2. ✔ Only II

3. ✘ Both I and II

4. ✘ Neither I nor II

Question Number : 114 Question Id : 630680225666 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct for Indore method of composting?

I. Decomposition takes 5-6 months.

II. Mixing is ensured wither mechanically or manually.

III. Decomposition of MSW of composting is done anaerobically.

Options :

1. ✘ I and II only

2. ✔ II and III only

3. ✘ Only II

4. ✘ Only III

Question Number : 115 Question Id : 630680225667 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Match the following impurity in drinking water with the harm caused by it.

	Impurity		Harm caused
I	Excess of nitrates	1	Fragile bones, dental cares
II	Excess of fluorides	2	Goiter
III	Lack of iodides	3	Blue babies (mathemoglobinemi)

Options :

1. ✔ I-3, II-2, III-1

2. ✘ I-2, II-3, III-1

3. ✘ I-1, II-2, III-3

4. ✘ I-3, II-1, III-2

Question Number : 116 Question Id : 630680225668 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the correct pair from the given pairs of standards and their descriptions.

I. IS 456 : 2000 – Used for requirements for a quality management system

II. IS 800 : 2007 – Used for design of steel structure

III. IS 10500 : 2012 – Latest Indian standard code provides specifications for drinking water

Options :

1. ✘ I and II only

2. ✔ II and III only

3. ✘ I and III only

4. ✘ I, II and III

Question Number : 117 Question Id : 630680225669 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the increasing order of greenhouse gases as per their effect on environment.

I. CFC

II. N₂O

III. CO₂

IV. CH₄

Options :

1. ✘ II, IV, III, I

2. ✘ I, IV, II, III

3. ✓ III, IV, II, I

4. ✗ III, I, II, IV

Question Number : 118 Question Id : 630680225670 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the increasing order of acceptable noise level for outdoor and indoor levels in different types of residential areas?

I. Residential carbon

II. Suburban

III. Rural

IV. Urban (residential and business)

Options :

1. ✗ I, II, III, IV

2. ✓ III, II, I, IV

3. ✗ II, III, IV, I

4. ✗ I, II, IV, III

Question Number : 119 Question Id : 630680225671 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 2 Wrong Marks : 0

If the intensity of irrigation for Kharif is 50 percent and that for Rabi is 70 percent, then what is the annual intensity of irrigation?

Options :

1. ✘ 110 percent
2. ✔ 120 percent
3. ✘ 125 percent
4. ✘ 130 percent

Question Number : 120 Question Id : 630680225672 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 2 Wrong Marks : 0

Find the delta for a crop when its duty is $3456 \text{ hectares/m}^3/\text{sec}$ on the field and the base period for the crop is 360 days.

Options :

1. ✘ 80 cm
2. ✘ 50 cm
3. ✔ 90 cm
4. ✘ 105 cm

Question Number : 121 Question Id : 630680225673 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Hydrograph represents the plot of _____ against time.

Options :

1. ✘ Rainfall intensity
2. ✔ Discharge of water
3. ✘ Rainfall depth
4. ✘ Cumulative rainfall

Question Number : 122 Question Id : 630680225674 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

What is kor watering?

Options :

1. ✘ Before sowing, to make the soil easy to work on
2. ✔ After sowing, when the crop is few centimeter high
3. ✘ Starting time of irrigation
4. ✘ When soil is ready for irrigation

Question Number : 123 Question Id : 630680225675 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

What is the function of head sluices?

Options :

1. ✘ Helps in removing silt from the water
2. ✔ Helps in controlling the entry of silts
3. ✘ Helps in removing silts near the head regulator
4. ✘ Helps in providing a less turbulent pocket near head regulator

Question Number : 124 Question Id : 630680225676 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following is a cause of meandering river?

- I. Valley slope
- II. Size and grade of sediments that make up the river bed
- III. Bed slope of the channel

Options :

1. ✘ I and III only
2. ✘ II and III only

3. ✘ I and II only

4. ✔ I, II and III

Question Number : 125 Question Id : 630680225677 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

In lacey's regime theory, the bed slope is proportional to _____. (where f is silt factor)

Options :

1. ✘ $f^{2/3}$

2. ✔ $f^{5/3}$

3. ✘ $f^{5/6}$

4. ✘ $f^{1/3}$

Question Number : 126 Question Id : 630680225678 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct for side slope canal?

I. It is neither on the watershed nor in the valley.

II. It can irrigate areas on two side.

Options :

1. ✓ Only I

2. ✘ Only II

3. ✘ Both I and II

4. ✘ Neither I nor II

Question Number : 127 Question Id : 630680225679 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct for hyetograph?

I. It is the plot of the rainfall intensity shown on ordinate axis against time on the abscissa axis.

II. The area under the hyetograph gives the total rainfall that occurred in that period.

Options :

1. ✘ Only I

2. ✘ Only II

3. ✓ Both I and II

4. ✘ Neither I nor II

Question Number : 128 Question Id : 630680225680 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct for runoff?

I. It is defined as the part of water cycle that flows over land as surface water instead of being absorbed into ground water or evaporated.

II. It is that part of precipitation that appears in uncontrolled surface streams, river drains or sewer.

III. It is the rate at which water unfilterates into ground.

Options :

1. ✘ I and II only

2. ✘ II and III only

3. ✘ I and III only

4. ✔ I, II and III

Question Number : 129 Question Id : 630680225681 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct for scouring sluices?

I. It helps in controlling the silt entry into the canal.

II It preserves a clear and defined river channel approaching the regulator.

III. It passes the low floods without dropping the shutter of the main weir.

Options :

1. ✘ Only I

2. ✘ Only III

3. ✘ I and II only

4. ✔ I, II and III

Question Number : 130 Question Id : 630680225682 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Match the following curves with their definitions.

	Curve		Definitions
I	Mass Curve	1	Cumulative rainfall vs time
II	Hydrograph	2	Rainfall intensity vs time
III	Hyetograph	3	Discharge vs time

Options :

1. ✔ I-1, II-3, III-2

2. ✘ I-1, II-2, III-3

3. ✘ I-3, II-1, III-2

4. ✘ I-2, II-3, III-1

Question Number : 131 Question Id : 630680225683 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the correct pair from the given pairs of equation/formula/method and their uses.

I. Horton equation – Infiltration

II. Chezy's formula – Flow velocity

III. Penman method – Maximum flood discharge

Options :

1. ✘ I and III only

2. ✔ I and II only

3. ✘ II and III only

4. ✘ I, II and III

Question Number : 132 Question Id : 630680225684 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following is correct order from first to last of a hydrological cycle?

I. Evaporation

II. Condensation

III. Precipitation

IV. collection

Options :

1. ✔ I, II, III, IV

2. ✘ II, I, III, IV

3. ✘ I, III, II, IV

4. ✘ II, III, IV, I

Question Number : 133 Question Id : 630680225685 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the correct order from first to last for irrigation.

I. Ploughing

II. Preparation of soil

III. Manuring

IV. Irrigation

V. Harvesting

VI. Manuring

Options :

1. ✘ II, I, IV, III, V, VI

2. ✘ II, I, IV, III, VI, V

3. ✘ I, II, IV, III, VI, V

4. ✔ I, II, III, IV, VI, V

Question Number : 134 Question Id : 630680225686 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

According to IS 456: 2000, a concrete surface member in tidal zone will be considered to be exposed to which of the following conditions?

Options :

1. ✘ Severe
2. ✔ Extreme
3. ✘ Mild
4. ✘ Moderate

Question Number : 135 Question Id : 630680225687 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

According to IS 456: 2000 specify the long term elastic modulus of elasticity (E_L) as _____. (where f_{ck} = characteristic compressive strength, θ = creep coefficient)

Options :

1. ✔ $\frac{5000\sqrt{f_{ck}}}{1+\theta}$
2. ✘ $5000\sqrt{f_{ck}}$
3. ✘

$$\frac{3000\sqrt{f_{ck}}}{1+\theta}$$

4. ✘ $3000\sqrt{f_{ck}}$

Question Number : 136 Question Id : 630680225688 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

According to IS 456: 2000, what is the value of maximum shear stress (t_c max) for M30 concrete?

Options :

1. ✘ 2.8 MPa

2. ✘ 3.1 MPa

3. ✔ 3.5 Mpa

4. ✘ 3.7 Mpa

Question Number : 137 Question Id : 630680225689 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

What is the value of yield stress ratio (ϵ) of Fe 250 grade of steel?

Options :

1. ✘ 0.5

2. ✓ 1

3. ✘ 0.25

4. ✘ 0.75

Question Number : 138 Question Id : 630680225690 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

_____ is the ridge formed by the intersection of two sloping surface where the exterior angle is greater than 180 degree.

Options :

1. ✓ Hip

2. ✘ Verge

3. ✘ Eaves

4. ✘ Cleats

Question Number : 139 Question Id : 630680225691 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

According to IS 456: 2000, a concrete surface sheltered from severe rain or continuously under water will be considered to be exposed to which of the following condition?

Options :

1. ✘ Severe
2. ✘ Extreme
3. ✘ Mild
4. ✔ Moderate

Question Number : 140 Question Id : 630680225692 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

According to IS 456-2000 a beam shall be deemed to be a deep beam when the ratio of effective span to overall depth is less than _____ for simply supported beam.

Options :

1. ✘ 2.5
2. ✔ 2
3. ✘ 3
4. ✘ 4

Question Number : 141 Question Id : 630680225693 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Calculate the anchorage value of 90 degree bend for 30 mm diameter bar.

Options :

1. ✘ 280 mm
2. ✔ 240 mm
3. ✘ 120 mm
4. ✘ 180 mm

Question Number : 142 Question Id : 630680225694 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

What is the effective length of column having length of 6 metres and both ends are fixed as per IS 800-2007?

Options :

1. ✘ 4.8 m
2. ✔ 3.9 m
3. ✘ 6 m
4. ✘ 7.2 m

Question Number : 143 Question Id : 630680225695 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct for working stress design of under reinforced RS section?

- I. The actual neutral axis will shifts upwards.
- II. The percentage of steel provided is less than that provided in the balanced section.

Options :

- 1. ✘ Only I
- 2. ✘ Only II
- 3. ✔ Both I and II
- 4. ✘ Neither I nor II

Question Number : 144 Question Id : 630680225696 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct for modulus of elasticity of concrete?

- I. It is the parameter that measures concrete's resistance to elastic deformation when stress is applied to it.
- II. As per IS 456 : 2000, short term modulus of elasticity of concrete E_C is given by $E_C = 5500 \sqrt{F_{ck}}$

Options :

- 1. ✔ Only I
- 2. ✘ Only II

3. ✘ Both I and II

4. ✘ Neither I nor II

Question Number : 145 Question Id : 630680225697 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct regarding working stress method?

- I. The factor of safety is applied to stress value only.
- II. The actual stress developed due to the actual working load.
- III. The design usually results in relatively small sections of the structural members.

Options :

1. ✘ Only I

2. ✔ I and II only

3. ✘ I and III only

4. ✘ I, II and III

Question Number : 146 Question Id : 630680225698 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is correct regarding ultimate load method?

- I. The safety measure in the design is obtained by the use of the proper load factor.
- II. This method is based on the ultimate strength of reinforced concrete at ultimate load is obtained by enhancing the service load by some factor.
- III. This method ensured adequate safety by suitably restricting the stress in the materials induced by the expected working loads on the structures.

Options :

- 1. ✘ Only II
- 2. ✘ II and III only
- 3. ✔ I and II only
- 4. ✘ I, II and III

Question Number : 147 Question Id : 630680225699 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Match the following grade of concretes with their assured standard deviations.

	Grade		Assured standard deviation
I	M15	1	4.0
II	M40	2	3.5
III	M20	3	5.0

Options :

- 1. ✘ I-1, II-3, III-2
- 2.

✘ I-2, II-1, III-3

3. ✘ I-1, II-2, III-3

4. ✔ I-2, II-3, III-1

Question Number : 148 Question Id : 630680225700 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the correct pair from the given pairs of concrete grade : maximum shear stress in MPa.

I. M20 : 2.8

II. M25 : 3.0

III. M30 : 3.5

Options :

1. ✘ I and II only

2. ✘ II and III only

3. ✔ I and III only

4. ✘ I, II and III

Question Number : 149 Question Id : 630680225701 Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the increasing order of yield strength of the bolt of the following classes.

I. Class 10.9

II. Class 4.6

III. Class 5.8

IV. Class 8.8

Options :

1. ✓ II, III, IV, I

2. ✗ I, II, III, IV

3. ✗ I, II, IV, III

4. ✗ IV, III, II, I

Question Number : 150 Question Id : 630680225702 Option Shuffling : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 2 Wrong Marks : 0

Identify the correct order of increasing value of slenderness ratio for given different conditions.

I. Member normally acting as a tie in a roof truss or a bracing system is not considered effective when subjected to a possible reversal of stress into compression resulting from the action of wind earthquake forces.

II. A member carrying compressive loads resulting from the dead load and the imposed load.

III. A member subjected to compression force resulting only from combination with wind/earthquake action, provided the deformation of such members does not adversely effect the stress in any part of the structure.

Options :

1. ✗ I, II, III

2. ✓ II, III, I

3. ✗ III, II, I

4. ✗ I, III, II