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 22nd 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 : 630680225703 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 weak, milky or powdery layer of cement dust, lime and sand fines that appear on the surface of concrete.

Options :

1. ✖ Vibration

2. ✖ Segregation

3. ✖ Rust

4. ✔ Laitance

Question Number : 2 Question Id : 630680225704 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 : 2000, the tensile strength of concrete is given by the formula _____.

Options :

1. ✖ $0.5\sqrt{f_{ck}}$

2. ✔ $0.7\sqrt{f_{ck}}$

3. ✖ $\sqrt{f_{ck}}$

4. ✖ $0.9\sqrt{f_{ck}}$

Question Number : 3 Question Id : 630680225705 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 process of extraction of suitable stones from their natural rock beds or layers is commonly called _____.

Options :

1. ✖ dressing of stones

2. ✔ quarrying of stones

3. ✖ tamping of stones

4. ✖ seasoning of stones

Question Number : 4 Question Id : 630680225706 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 rubble masonry on which stones are laid without using any mortar is called _____.

Options :

1. ✔ dry rubble masonry

2. ✖ coursed square rubble masonry

3. ✖ uncoursed square rubble masonry

4. ✖ square rubble masonry

Question Number : 5 Question Id : 630680225707 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 any combination of materials such as glass, ceramic, porcelain or stone, usually set in a small format and set on a mesh sheet for easy installation.

Options :

1. ✖ Slate tile

2. ✔ Mosaic tile

3. ✖ Concrete tile

4. ✖ Manglore tile

Question Number : 6 Question Id : 630680225708 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

Elongated index of aggregate is defined as the percentage of the particles present in it having their largest size greater than _____.

Options :

1. ✔ $\frac{9}{5}$th of their mean size

2. ✖ $\frac{9}{8}$th of their mean size

3. ✖ $\frac{11}{5}$th of their mean size

4. ✖ $\frac{9}{7}$th of their mean size

Question Number : 7 Question Id : 630680225709 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 a deposit of water soluble salts formed on the surface of concrete.

Options :

1. ✖ Scaling

2. ✖ Spalling

3. ✖ Laitance

4. ✔ Efflorescence

Question Number : 8 Question Id : 630680225710 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

_____ detects unsoundness in cement due to free lime only.

Options :

1. ✖ Autoclave test

2. ✔ Le-chatelier test

3. ✖ Fineness test

4. ✖ Air permeability test

Question Number : 9 Question Id : 630680225711 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. Angular aggregate results in maximum percentage of voids hence giving less workability and high strength due to interlocking.

II. Vee-Bee test is based on the percentage flow from which the workability of the concrete is determined and its value could range from 0 to 150 percent.

Options :

1. ✔ Only I

2. ✖ Only II

3. ✖ Both I and II

4. ✖ Neither I nor II

Question Number : 10 Question Id : 630680225712 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. Flow table test is based on the percentage flow from which the workability of the concrete is determined and its value could range from 0 to 150 percent.

II. Segregation means the separation of constituents from concrete like coarse aggregate, cement paste or even water.

Options :

1. ✖ Only I

2. ✖ Only II

3. ✔ Both I and II

4. ✖ Neither I nor II

Question Number : 11 Question Id : 630680225713 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. Rapid hardening cement should have surface area not less than (in cm^2/gm) 3250.

II. Ordinary Portland cement should have surface area not less than (in cm^2/gm) 2250.

III. Quantity of gypsum required for ordinary Portland cement 6 – 8 percent.

Options :

1. ✔ I and II only

2. ✖ II and III only

3. ✖ Only III

4. ✖ I, II and III

Question Number : 12 Question Id : 630680225714 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. If angularity number of aggregate is 11 then the value of solid volume is 56 percent.

II. Immersion vibrators shall not be used where the thickness of the concrete is less than 200 mm.

III. Litharge, cobalt and zinc in paints are bases.

Options :

1. ✔ Only I

2. ✖ Only II

3. ✖ Only III

4. ✖ I, II and III

Question Number : 13 Question Id : 630680225715 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 between strength and nominal mix design (cement : sand : crushed stone) of concrete?

	Strength		Nominal Mix
I	M15	1	1 : 3 : 6
II	M10	2	1 : 2 : 4
III	M25	3	1 : 1.5 : 3
IV	M20	4	1 : 1 : 2

Options :

1. ✔ I-2, II-1, III-4, IV-3

2. ✖ I-1, II-2, III-4, IV-3

3. ✖ I-2, II-4, III-1, IV-3

4. ✖ I-2, II-1, III-3, IV-4

Question Number : 14 Question Id : 630680225716 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 of type of sand : fineness modulus range.

I. Coarse sand : 2.9 – 3.5

II. Medium sand : 2.4 – 2.9

III. Fine sand : 1.8 – 2.4

Options :

1. ✖ I and II only

2. ✖ II and III only

3. ✖ I and III only

4. ✔ I, II, III

Question Number : 15 Question Id : 630680225717 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

Arrange the bogue compounds in ordinary portland cement (OPC) in increasing order (least to maximum) of their heat of hydration.

I. Tricalcium aluminate (C_3A)

II. Tricalcium silicate (C_3S)

III. Dicalcium silicate (C_2S)

IV. Tetra calcium alumino ferrite (C_4AF)

Options :

1. ✔ III, IV, II, I

2. ✖ II, IV, III, I

3. ✖ I, IV, II, III

4. ✖ IV, III, II, I

Question Number : 16 Question Id : 630680225718 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

Arrange the bogue compounds in ordinary portland cement (OPC) in increasing order (least to maximum) of their occurrence in bogue compounds.

I. Tricalcium aluminate (C_3A)

II. Tricalcium silicate (C_3S)

III. Dicalcium silicate (C_2S)

IV. Tetra calcium alumino ferrite (C_4AF)

Options :

1. ✖ I, IV, III, II

2. ✖ II, I, III, IV

3. ✔ IV, I, III, II

4. ✖ IV, II, III, I

Question Number : 17 Question Id : 630680225719 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 carried and deposited by running water.

Options :

1. ✔ Alluvial soil

2. ✖ Loess Soil

3. ✖ Aeolian soil

4. ✖ Colluvial soil

Question Number : 18 Question Id : 630680225720 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

Uniformity coefficient of well graded sand soil is _____.

Options :

1. ✖ less than 2

2. ✖ greater than 4

3. ✔ greater than 6

4. ✖ less than 6

Question Number : 19 Question Id : 630680225721 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 flow net (per metre length) gives $N_f = 2$ and $N_d = 20$ for a net head of 20 m. Calculate the discharge if $K = 1 \times 10^{-6}$ m/sec.

Options :

1. ✖ 0.001 litre/sec

2. ✔ 0.002 litre/sec

3. ✖ 0.004 litre/sec

4. ✖ 0.003 litre/sec

Question Number : 20 Question Id : 630680225722 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 0.8 then, using theory of elasticity what is the value of lateral earth pressure at rest in the same soil?

Options :

1. ✖ 5

2. ✔ 4

3. ✖ 2

4. ✖ 3

Question Number : 21 Question Id : 630680225723 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 4 m. If the unit weight of soil is 16000 N/m^3, then what is the cohesion of the soil?

Options :

1. ✖ 20 KN/m^2

2. ✖ 25 KN/m^2

3. ✔ 16 KN/m^2

4. ✖ 12 KN/m^2

Question Number : 22 Question Id : 630680225724 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 state of shear failure accompanying a maximum earth pressure is called _____.

Options :

1. ✖ rest state

2. ✖ active state

3. ✔ passive state

4. ✖ equilibrium state

Question Number : 23 Question Id : 630680225725 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 minimum depth of foundation required as per rankine's analysis for a building. The intensity of loading at base is 162 KN/m^2, unit weight of soil = 18 KN/m^2 and angle of shearing resistance = 30 degree.

Options :

1. ✖ 2.5 m

2. ✖ 1.75 m

3. ✖ 1.5 m

4. ✔ 1 m

Question Number : 24 Question Id : 630680225726 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 net pressure at the base of foundation in excess of initial overburden pressure which a soil can withstand without shear failure called _____.

Options :

1. ✔ net ultimate bearing capacity

2. ✖ net allowable bearing capacity

3. ✖ gross safe bearing capacity

4. ✖ net safe bearing capacity

Question Number : 25 Question Id : 630680225727 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. Porosity is defined as the ratio of the volume of voids to the total volume of the soil considered.

II. Void ratio is defined as the ratio of the volume of voids to the total volume of solid of the soil considered.

Options :

1. ✖ Only I

2. ✖ Only II

3. ✔ Both I and II

4. ✖ Neither I nor II

Question Number : 26 Question Id : 630680225728 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. Aeolian sandy soils are those soils which are typically developed from sandy parent material through the action of wind.

II. Soil deposits on ocean beds are known as marine deposits or marines soils.

Options :

1. ✖ Only I

2. ✖ Only II

3. ✔ Both I and II

4. ✖ Neither I nor II

Question Number : 27 Question Id : 630680225729 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. Compaction is the compression of soil by the expulsion of air from the voids of the soil which increases the density of soil.

II. In Indian Standard Soil Classification System the symbol used for silt type of soil is O.

III. If disintegrated materials does not remain over the parent rock, then the soil is called residual soils.

Options :

1. ✔ Only I

2. ✖ Only II

3. ✖ Only III

4. ✖ I, II and III

Question Number : 28 Question Id : 630680225730 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. Coefficient of permeability in soil is usually expressed in m/sec.

II The expulsion of pore water by applying steady load or long time from fully saturated soil sample is called primary consolidation.

III. Collapsible soils are defined as any unsaturated soil that goes through a radical rearrangement of particles and great decrease in volume upon wetting, additional loading, or both.

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 : 630680225731 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 types of soil with their mode of transport.

	Types of soils		Mode of transport
I	Alluvial soil	1	Sea water
II	Lacustrine soil	2	Gravity
III	Marine soil	3	Fresh and still water
IV	Colluvial soil	4	Running water

Options :

1. ✔ I-4, II-3, III-1, IV-2

2. ✖ I-3, II-4, III-1, IV-2

3. ✖ I-4, II-1, III-3, IV-2

4. ✖ I-4, II-3, III-2, IV-1

Question Number : 30 Question Id : 630680225732 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 form the given pairs?

I. e (void ratio) $= \frac{n}{1-n}$ (where n = porosity)

II. a_c (air content) = 1 – s (where s = degree of saturation)

III. s (degree of saturation) $= \frac{V_w}{V}$ (where V_w = volume of water, V = Total volume)

Options :

1. ✔ I and II only

2. ✖ II and III only

3. ✖ I and III only

4. ✖ I, II and III

Question Number : 31 Question Id : 630680225733 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 particles.

I. Pebble

II. Cobble

III. Boulder

Options :

1. ✖ III, I, II

2. ✖ II, I, III

3. ✔ I, II, III

4. ✖ II, III, I

Question Number : 32 Question Id : 630680225734 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 on given states at an angle of 60 degree.

I. Active earth pressure

II. Passive earth pressure

III. At rest earth pressure

Options :

1. ✖ II, III, I

2. ✔ I, III, II

3. ✖ II, I, III

4. ✖ III, I, II

Question Number : 33 Question Id : 630680225735 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 codes, surface dressing and leveling of stones are measured in _____.

Options :

1. ✖ per cubic metre

2. ✔ per square metre

3. ✖ lump sum

4. ✖ per running metre

Question Number : 34 Question Id : 630680225736 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 amount paid by a bidder in required form as a security for not backing out from his tender before its acceptance or refusing to execute the work after it has been awarded to him.

Options :

1. ✖ Fixed deposit

2. ✖ Caution deposit

3. ✔ Earnest money deposit

4. ✖ Security deposit

Question Number : 35 Question Id : 630680225737 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. 126000. The purchaser desired to get 6 percent return on the capital. The capitalized value (in Rs.) of the building is _____.

Options :

1. ✖ 2800000

2. ✔ 2100000

3. ✖ 2500000

4. ✖ 2600000

Question Number : 36 Question Id : 630680225738 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 estimated value of an asset without dismantling it at the end of its useful life.

Options :

1. ✖ Book value

2. ✖ Market value

3. ✔ Salvage value

4. ✖ Scrap value

Question Number : 37 Question Id : 630680225739 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 1200: the unit of earthwork in excavation is _____.

Options :

1. ✖ m

2. ✔ Cu. m.

3. ✖ Sq. m.

4. ✖ gm

Question Number : 38 Question Id : 630680225740 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 total floor area minus the circulation area, verandahs, corridors, passages, staircase etc. and other non-useable area as sanitary accommodations, air conditioning room etc.

Options :

1. ✖ Plinth area

2. ✔ Carpet area

3. ✖ Circulation area

4. ✖ Floor area

Question Number : 39 Question Id : 630680225741 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 annual periodic payments for repayments of the capital amount invested by a party.

Options :

1. ✖ Rateable value

2. ✔ Annuity

3. ✖ Capitalised value

4. ✖ Scrap value

Question Number : 40 Question Id : 630680225742 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. As per IS codes, m^2 Unit is used in estimating centering and shuttering work on site.

II. Sometime due to fear of war or riot the value of property cannot fetch the full market value, then the value that property can fetch is called distress value.

Options :

1. ✖ Only I

2. ✖ Only II

3. ✔ Both I and II

4. ✖ Neither I nor II

Question Number : 41 Question Id : 630680225743 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. Scrap value is the book value of an asset after all depreciation has been fully expensed.

II. The quantity of earthwork in the excavation in ordinary soil per day per mason should be 3 m^3.

Options :

1. ✖ Only I

2. ✔ Only II

3. ✖ Both I and II

4. ✖ Neither I nor II

Question Number : 42 Question Id : 630680225744 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. As per IS codes, m^2unit is used in estimating damp proof course work on site.

II. Outgoing or the expenses which are required to be incurred to maintain the revenue of the building. The various types of outgoings are taxes, repairs and sinking fund.

III. The thickness of slab which shall be measured to the nearest 0.02 metre.

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 : 630680225745 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 contract types with their definitions.

I	Item rate contract	1	Measurement of extra items only shall have to be taken. The original work is however be checked and compared
II	Percentage rate contract	2	It is one in which the contractor agrees to carry out the work as per the drawings, bills of quantities, and specifications in consideration of a payment to be made entirely on measurements taken as the work proceeds, and at the unit-prices tendered by the contractor in the bill
III	Schedule rate contract	3	In which, a department prepares a plan according to the description of items with the quantity, rate, amount, and the total amount and the contractor performs the work as per or some percentage above or below the rate specified by the department

Options :

1. ✖ I-3, II-2, III-1

2. ✖ I-2, II-1, III-3

3. ✖ I-1, II-3, III-2

4. ✔ I-2, II-3, III-1

Question Number : 44 Question Id : 630680225746 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 item : unit of payment (As per IS codes).

I. Earthwork in excavation : Per m^3

II. Damp proof course (DPC) thickness mentioned : Per m^3

III. Brickwork in foundation : Per m^2

Options :

1. ✔ Only I

2. ✖ Only II

3. ✖ Only III

4. ✖ I, II and III

Question Number : 45 Question Id : 630680225747 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 estimate of walls by centerline method with 20 cm walls all around for different rooms.

I. 5 × 3

II. 4 × 3

III. 7 × 2

Options :

1. ✖ I, II, III

2. ✔ II, I, III

3. ✖ III, I, II

4. ✖ II, III, I

Question Number : 46 Question Id : 630680225748 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 particulars of items on the basis of quantity/day?

I. Brick work in lime or cement mortar in foundation and plinth.

II. Brick in cement or lime mortar in arches.

III. Brick work in lime or cement mortar in super structure.

Options :

1. ✖ II, I, III

2. ✖ III, I, II

3. ✔ II, III, I

4. ✖ I, II, III

Question Number : 47 Question Id : 630680225749 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 revenue chain?

Options :

1. ✖ 66 feet long

2. ✔ 33 feet long

3. ✖ 100 feet long

4. ✖ 50 feet long

Question Number : 48 Question Id : 630680225750 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 are made incident to fixing of property lines, the calculation of land area, or the transfer of land property from one owner to another.

Options :

1. ✖ Route

2. ✖ Engineering

3. ✖ Topographical

4. ✔ Cadastral

Question Number : 49 Question Id : 630680225751 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 ∠PQR if the fore bearing of line PQ is 40 degree and the back bearing of line QR is 280 degree?

Options :

1. ✖ 120 degree

2. ✔ 240 degree

3. ✖ 300 degree

4. ✖ 80 degree

Question Number : 50 Question Id : 630680225752 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 line joining points of equal elevation on the surface of the earth.

Options :

1. ✔ contour

2. ✖ contour interval

3. ✖ horizontal equivalent

4. ✖ horizontal equivalent and contour internal both

Question Number : 51 Question Id : 630680225753 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. Clinometer is an instrument for measuring angles of slope, elevation or depression of an object with respect to the ground.

II. Pantograph is an EDM that uses high frequency radio waves (microwaves) for measuring distance.

Options :

1. ✔ Only I

2. ✖ Only II

3. ✖ Both I and II

4. ✖ Neither I nor II

Question Number : 52 Question Id : 630680225754 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. Route survey is a survey for determining the route, grades, etc., of a railroad, highway, or power line.

II. Temporary benchmark is a fixed point with a known elevation used for level control during drainage construction works and surveys.

Options :

1. ✖ Only I

2. ✖ Only II

3. ✔ Both I and II

4. ✖ Neither I nor II

Question Number : 53 Question Id : 630680225755 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. Topographical survey is used to map of a region which includes natural as well as and man made features including elevation.

II. Least count of surveyor compass is 15 minutes.

III. Whole circle bearing is 257°24', then value of reduced bearing is S87°24'W.

Options :

1. ✔ I and II only

2. ✖ II and III only

3. ✖ I and III only

4. ✖ I, II and III

Question Number : 54 Question Id : 630680225756 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 types of chains with their dimensions.

	Chain		Dimensions
I	Revenue chain	1	Widely used and available in lengths of 5, 10, 20 and 30 m
II	Engineer's chain	2	Length of chain is 33 feet has 16 links
III	Metric chain	3	Length is 100 feet and has 100 links

Options :

1. ✖ I-1, II-3, III-2

2. ✖ I-3, II-2, III-1

3. ✔ I-2, II-3, III-1

4. ✖ I-1, II-2, III-3

Question Number : 55 Question Id : 630680225757 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. Correction for pull = $\frac{(P-P_o)L}{AE}$

L= measured length, P= pull applied during measurement , p_o = standard pull, A = area of cross section, E= young's modulus of elasticity

II. Correction for slope = $\frac{2h}{L}$

L = inclined length measured, h = difference in elevation between the ends

III. Tape correction = $\alpha\left(\frac{T_m}{T_o}\right)l$

α= coefficient of thermal expansion, T_m = mean field temperature, T_0 = standard temperature, l = tape length

Options :

1. ✔ Only I

2. ✖ Only II

3. ✖ Only III

4. ✖ I, II and III

Question Number : 56 Question Id : 630680225758 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 their least count for given instruments?

I. Prismatic compass

II. Surveyor compass

III. Vernier Theodolite

Options :

1. ✖ I, II, III

2. ✔ III, II, I

3. ✖ II, III, I

4. ✖ I, III, II

Question Number : 57 Question Id : 630680225759 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 decreasing order of different chains on the basis of their link length?

I. Gunter's chain

II. Engineer's chain

III. Metric chain (20 m)

Options :

1. ✔ II, I, III

2. ✖ III, II, I

3. ✖ I, II, III

4. ✖ II, III, I

Question Number : 58 Question Id : 630680225760 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 incompressible and no resistance to flow (zero viscosity)

Options :

1. ✖ Real fluid

2. ✖ Newtonian fluid

3. ✔ Ideal fluid

4. ✖ Non-newtonian fluid

Question Number : 59 Question Id : 630680225761 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 substance is the ratio of the substance's volume to its mass and it is reciprocal of mass density.

Options :

1. ✔ Specific volume

2. ✖ Mass density

3. ✖ Specific weight

4. ✖ Relative ability

Question Number : 60 Question Id : 630680225762 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

Six litre of a liquid weighs 60 N then specific weight of the liquid is _____.

Options :

1. ✖ $3500\ N/m^3$

2. ✔ $10000\ N/m^3$

3. ✖ $5000\ N/m^3$

4. ✖ $8000\ N/m^3$

Question Number : 61 Question Id : 630680225763 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 a device used for measuring the velocity of flow at any point in a pipe or a channel.

Options :

1. ✖ Venturimeter

2. ✔ Pitot tube

3. ✖ Mass flow meter

4. ✖ Manometer

Question Number : 62 Question Id : 630680225764 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 pipe which rises above its hydraulic grade line has negative pressure and is known as _____.

Options :

1. ✖ summit

2. ✔ syphon

3. ✖ weir

4. ✖ notches

Question Number : 63 Question Id : 630680225765 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

Darcy weisbach equation for friction losses in circular pipe is _____.

Options :

1. ✖ $h_f = \frac{f \times L \times V}{2 \times g \times D}$

2. ✖ $h_f = \frac{f \times L^2 \times V}{2 \times g \times d}$

3. ✔ $h_f = \frac{f \times L \times V^2}{2 \times g \times D}$

4. ✖ $h_f = \frac{f^2 \times L \times V}{2 \times g \times D}$

Question Number : 64 Question Id : 630680225766 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

_____ occurs when a valve is closed quickly or pump shuts down and causes the water pressure to rise and fall rapidly.

Options :

1. ✖ Jet hammer

2. ✔ Water hammer

3. ✖ Flow hammer

4. ✖ Pressure wave

Question Number : 65 Question Id : 630680225767 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 spherical particle of diameter 0.8 mm is falling in water with a velocity of 0.8 m/sec, the Reynold's number for the particle flow will be _____. (Dynamic viscosity of water (μ) = 8×10^{-4} NS/m^2)

Options :

1. ✖ 200

2. ✖ 400

3. ✔ 800

4. ✖ 1600

Question Number : 66 Question Id : 630680225768 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. Specific volume is inverse of density.

II. Printer ink can be classified as thixotropic.

Options :

1. ✖ Only I

2. ✖ Only II

3. ✔ Both I and II

4. ✖ Neither I nor II

Question Number : 67 Question Id : 630680225769 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. If the flow rate of water in pipeline is half, then the pressure drop will be 2 times the original value.

II. Specific gravity is the ratio of volume of the object and volume of water.

Options :

1. ✔ Only I

2. ✖ Only II

3. ✖ Both I and II

4. ✖ Neither I nor II

Question Number : 68 Question Id : 630680225770 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. If the flow parameter such as velocity, acceleration, discharge do not change with time is called steady flow.

II. Buoyancy point is the point of intersection of the vertical line passing through new center of buoyancy with vertical axis of the body.

III. If the flow velocity in a pipe is increased by 20 percent then loss of head due to friction is increased by 44 percent.

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 : 630680225771 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 number with their significance.

	Number		Significance
I	Reynolds number	1	Where a free surface is present and gravity force is predominant
II	Froude number	2	Flow in closed conduct i.e., flow through pipes
III	Euler number	3	It covitation studies, where pressure force is predominance

Options :

1. ✔ I-2, II-1, III-3

2. ✖ I-3, II-1, III-2

3. ✖ I-2, II-3, III-1

4. ✖ I-1, II-2, III-3

Question Number : 70 Question Id : 630680225772 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 flows : Reynold numbers.

I. Streamline flow: Reynold number <1000

II. Unsteady flow : Reynold number - 1000 to 2000

III. Turbulent flow: Reynold number > 2000

Options :

1. ✖ Only I

2. ✖ Only II

3. ✖ Only III

4. ✔ I, II and III

Question Number : 71 Question Id : 630680225773 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 flow for their value of Reynold's number?

I. Laminar

II. Transition

III. Turbulent

Options :

1. ✔ I, II, III

2. ✖ II, III, I

3. ✖ II, I, III

4. ✖ III, II, I

Question Number : 72 Question Id : 630680225774 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 value of specific weight for different values of their volume and weight of the substances?

I. Weight = 300 KN volume = 4 m^3

II. Weight = 400 KN volume = 4 m^3

III. Weight = 500 KN volume = 6 m^3

Options :

1. ✖ II, III, I

2. ✔ I, III, II

3. ✖ II, I, III

4. ✖ III, II, I

Question Number : 73 Question Id : 630680225775 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 length to the original length is called the _____.

Options :

1. ✖ lateral strain

2. ✔ longitudinal strain

3. ✖ shear strain

4. ✖ volumetric strain

Question Number : 74 Question Id : 630680225776 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 mechanical property of a material due to which it resists the change in volume due to external pressure or equal stress in all direction.

Options :

1. ✖ Poisson's ratio

2. ✔ Bulk modulus

3. ✖ Modulus of rigidity

4. ✖ Young's modulus

Question Number : 75 Question Id : 630680225777 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

_____ means a material having identical values of a property in all directions.

Options :

1. ✔ Isotropic material

2. ✖ Anisotropic material

3. ✖ Homogenous material

4. ✖ Orthotropic material

Question Number : 76 Question Id : 630680225778 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 independent elastic constant for an 3D orthotropic material?

Options :

1. ✖ 2

2. ✖ 4

3. ✔ 9

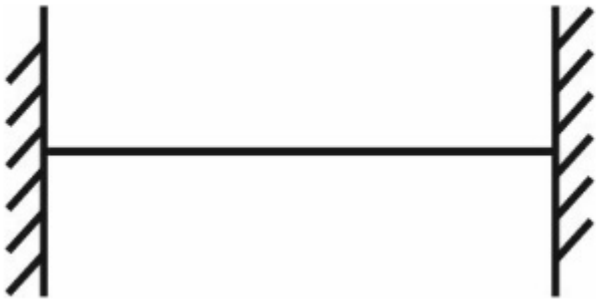
4. ✖ 21

Question Number : 77 Question Id : 630680225779 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

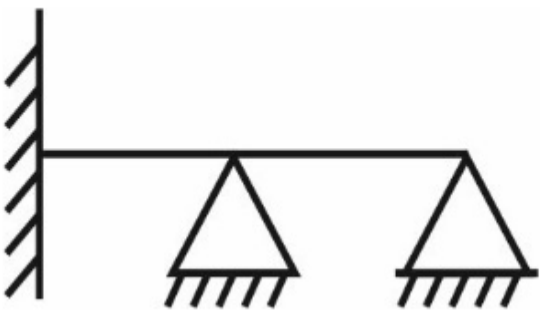
3. ✔ 0

4. ✖ 3

Question Number : 78 Question Id : 630680225780 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 degree of kinematic indeterminacy of the beam shown in given figure?



Options :

1. ✔ 2

2. ✖ 3

3. ✖ 5

4. ✖ 9

Question Number : 79 Question Id : 630680225781 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 measure of the tendency of a force to cause a body to rotate about a specific point or axis.

Options :

1. ✔ Moment

2. ✖ Momentum

3. ✖ Angular momentum

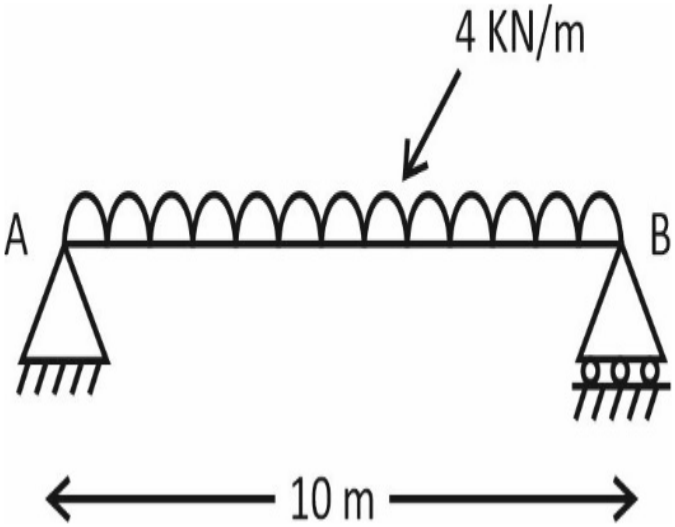
4. ✖ Shear force

Question Number : 80 Question Id : 630680225782 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 simply supported beam of span 10 m is carrying a uniformly distributed load of 4 KN/m as shown in the given figure.

What is the value of support reactions?



Options :

1. ✔ $R_A = 20$ KN, $R_B = 20$ KN

2. ✖ $R_A = 10$ KN, $R_B = 30$ KN

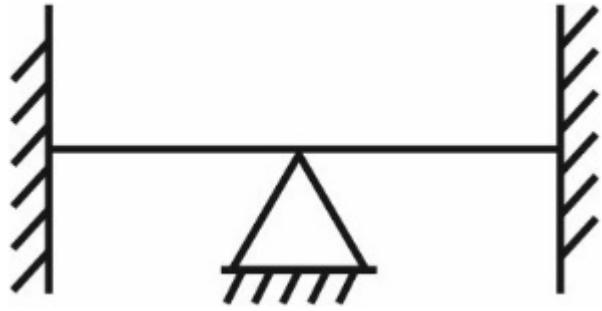
3. ✖ $R_A = 30$ KN, $R_B = 10$ KN

4. ✖ $R_A = 25$ KN, $R_B = 15$ KN

Question Number : 81 Question Id : 630680225783 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 degree of static indeterminacy for the beam shown in figure?



Options :

1. ✖ 7

2. ✖ 6

3. ✖ 3

4. ✔ 5

Question Number : 82 Question Id : 630680225784 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. A single-rolling load of 10 KN rolls along a girder of 20 m span. The absolute maximum bending moment will be 50 KN-m.

II. If section modulus of beam is decreased, then radius of curvature will be increase.

Options :

1. ✖ Only I

2. ✖ Only II

3. ✔ Both I and II

4. ✖ Neither I nor II

Question Number : 83 Question Id : 630680225785 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. If bending moment of a beam is decreased, then bending stresses in the beam will decrease.

II. In a beam, the shear force is changes sign at the point where the bending moment positive.

Options :

1. ✔ Only I

2. ✖ Only II

3. ✖ Both I and II

4. ✖ Neither I nor II

Question Number : 84 Question Id : 630680225786 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. A plane on which normal stress is zero is called a principal plane.

II. If a shaft diameter is double then for torque transmission stress will become one-fourth of earlier.

III. The average shear stress in a rectangular section of a beam is equal to 0.33 times the maximum shear stress.

Options :

1. ✔ Only II

2.

✖ Only I

3. ✖ Only III

4. ✖ I, II and III

Question Number : 85 Question Id : 630680225787 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 assumptions made in the theory of simple bending?

I. The radius of curvature is small as compared to the dimensions of the beam.

II. The beam is subjected to pure bending and the effect of shear is neglected.

III. Member have symmetric cross-section.

Options :

1. ✖ I and II only

2. ✔ II and III only

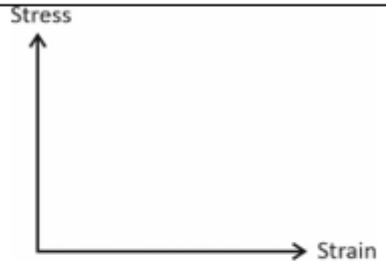
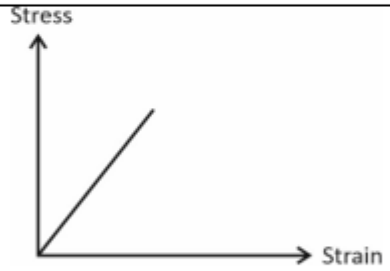
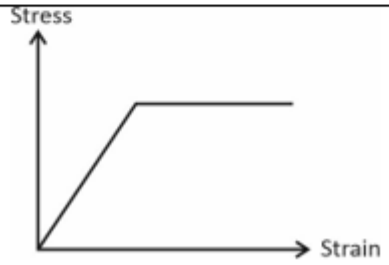
3. ✖ I and III only

4. ✖ I, II and III

Question Number : 86 Question Id : 630680225788 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 of stress-strain curve and type of material or body.

	Curve		Body
I		1	Nearly rigid body
II		2	Ideally plastic material
III		3	Incompressible material

Options :

1. ✔ I-3, II-1, III-2

2. ✖ I-1, II-3, III-2

3. ✖ I-3, II-2, III-1

4. ✖ I-2, II-1, III-3

Question Number : 87 Question Id : 630680225789 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 of real beam support and conjugate beam support.

I. Free end : Fixed end

II. Internal hinge : Remains same

III. internal support : internal hinge

Options :

1. ✖ I and II only

2. ✖ II and III only

3. ✔ I and III only

4. ✖ I, II and III

Question Number : 88 Question Id : 630680225790 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 decreasing order of number of members in trusses for the following values of joints?

I. 3

II. 4

III. 5

Options :

1. ✖ I, II, III

2. ✖ II, III, I

3. ✔ III, II, I

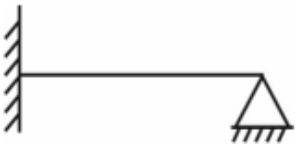
4. ✖ I, III, II

Question Number : 89 Question Id : 630680225791 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

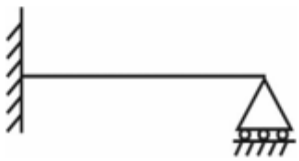
Identify the increasing order of kinematic indeterminacy for the following beams?

I.



II.

III.



Options :

1. ✔ II, I, III

2. ✖ II, III, I

3. ✖ III, I, II

4. ✖ III, II, I

Question Number : 90 Question Id : 630680225792 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

From the below given, identify the hardest grade of bitumen.

Options :

1. ✔ VG40

2. ✖ VG30

3. ✖ VG20

4. ✖ VG10

Question Number : 91 Question Id : 630680225793 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 which year 'Jayakar Committee' was formed in India?

Options :

1. ✖ 1947

2. ✔ 1927

3. ✖ 1939

4. ✖ 1952

Question Number : 92 Question Id : 630680225794 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

_____ signs are used to inform the road users of certain laws and regulations to provide safety and free flow to traffic.

Options :

1. ✖ Warning

2. ✖ Informatory

3. ✔ Mandatory

4. ✖ Prohibitory

Question Number : 93 Question Id : 630680225795 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 +0.6% and –0.3%, where the rate of change of grades is 0.1% per 30 m at summit.

Options :

1. ✖ 300 m

2. ✔ 270 m

3. ✖ 240 m

4. ✖ 350 m

Question Number : 94 Question Id : 630680225796 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 curve used to connect two different grade line of railway or highway is called a _____.

Options :

1. ✔ vertical curve

2. ✖ reverse curve

3. ✖ transition curve

4. ✖ compound curve

Question Number : 95 Question Id : 630680225797 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 4-degree curve on a meter gauge (MG)?

Options :

1. ✖ 0.06 percent

2. ✖ 0.09 percent

3. ✖ 0.08 percent

4. ✔ 0.12 percent

Question Number : 96 Question Id : 630680225798 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 maximum gradient allowed on the railway tracks.

Options :

1. ✖ Ascending gradient

2. ✖ Control gradient

3. ✔ Ruling gradient

4. ✖ Momentum gradient

Question Number : 97 Question Id : 630680225799 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

Los angeles test is used to measure the _____.

Options :

1. ✖ crushing value of stones

2. ✖ toughness of stones

3. ✔ wear of stones

4. ✖ strength of stones

Question Number : 98 Question Id : 630680225800 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. Lag distance is the length of the road visible ahead to the driver at any distance.

II. According to IRC, width of carriage way for single lane road is 3.75m.

Options :

1. ✖ Only I

2. ✔ Only II

3. ✖ Both I and II

4. ✖ Neither I nor II

Question Number : 99 Question Id : 630680225801 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. Traffic density is the number of vehicles occupying a unit length of the lane of the road way at a given instant.

II. Sight distance is the length of the road visible ahead to the driver at any distance.

Options :

1. ✖ Only I

2. ✖ Only II

3. ✔ Both I and II

4. ✖ Neither I nor II

Question Number : 100 Question Id : 630680225802 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. According to IRC, for plain and rolled terrain value of maximum super elevation is 7 percent.

II. Design speed for checking design element of highway is 98^{th} percentile speed.

III. According to IRC, width of carriage way for two lanes, without raised kerb is 8 m.

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 : 630680225803 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 definitions.

	Term		Definition
I	Rutting	1	It refers the breaking off of particles (erosion) which occurs as a result of objects hitting against each other.
II	Abrasion	2	It is a permanent, longitudinal surface depression that occurs in the wheel paths of a flexible pavement due to the passage of traffic
III	Attrition	3	It is a wear mechanism that is caused by the inclusion of hard particles between two sliding or rolling surfaces

Options :

1. ✖ I-3, II-2, III-1

2. ✖ I-2, II-1, III-3

3. ✖ I-1, II-3, III-2

4. ✔ I-2, II-3, III-1

Question Number : 102 Question Id : 630680225804 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 type of roads : maximum super elevation.

I. Plain and rolled terrain : 8 percent

II. Hilly terrain : 10 percent

III. Urban roads : 4 percent

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 : 630680225805 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 roadway width for the following type of road (two lanes) as per IRC?

I. MDR

II. NH

III. VR

Options :

1. ✔ III, I, II

2. ✖ II, I, III

3. ✖ III, II, I

4. ✖ I, III, II

Question Number : 104 Question Id : 630680225806 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 the given plans and construction of the road network (first to last)?

I. Bombay plan

II. Nagpur plan

III. Lucknow plan

Options :

1. ✖ I, II, III

2. ✔ II, I, III

3. ✖ III, I, II

4. ✖ III, II, I

Question Number : 105 Question Id : 630680225807 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 15 and 9 PPm and if the dilution factor is 50, then 5 day BOD (PPm) will be _____.

Options :

1. ✖ 200

2. ✖ 600

3. ✖ 800

4. ✔ 300

Question Number : 106 Question Id : 630680225808 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 diameter of equivalent circular section is 1.5 m, then what will be the height of an egg shaped section?

Options :

1. ✖ 1.62 m

2. ✔ 1.89 m

3. ✖ 1.96 m

4. ✖ 1.78 m

Question Number : 107 Question Id : 630680225809 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

Permissible limit in absence of alternate sources (i.e. cause for rejection) for chlorides (mg/l) is _____.

Options :

1. ✖ 750

2. ✔ 1000

3. ✖ 250

4. ✖ 500

Question Number : 108 Question Id : 630680225810 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

_____ valves are necessary at low level points for completely emptying the pipe for inspection, repair, etc.

Options :

1. ✖ Air

2. ✖ Sluice

3. ✖ Check

4. ✔ Scour

Question Number : 109 Question Id : 630680225811 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 equal to turbidity produced by 1 mg S_iO_2 in 1 litre of distilled water.

Options :

1. ✔ JTU (Jackson Turbidity Unit)

2. ✖ NTU (Nephelometric Unit)

3. ✖ FTU (Formazine Turbidity Unit)

4. ✖ BTU (Baylis Turbidity Unit)

Question Number : 110 Question Id : 630680225812 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 water samples contains 10^{-8} mol/litre of H^+ ions at 25°C. The POH of this sample is _____.

Options :

1. ✖ 5

2. ✖ 2

3. ✖ 8

4. ✔ 6

Question Number : 111 Question Id : 630680225813 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

_____ trap is provided outside the building before connecting it to the external sewerage line.

Options :

1. ✔ Gully

2. ✖ Intercepting

3. ✖ Anti-siphon

4. ✖ P

Question Number : 112 Question Id : 630680225814 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. As per IS 10500-2012, the value of maximum permissible limit (as per $CaCO_3$ (mg/l)) of total hardness in drinking water is 600.

II. Geometric increase method is suitable for young and rapidly developing cities as they record logarithmic or exponential increases in population.

Options :

1. ✖ Only I

2. ✖ Only II

3. ✔ Both I and II

4. ✖ Neither I nor II

Question Number : 113 Question Id : 630680225815 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. Filtration is a process used to separate solids from liquids or gases by using filter medium that allows fluid to pass through but not solid.

II. Hardy cross method is a method of reducing a combination of pipes into a single pipe system for easier analysis of a pipe network, such as water distribution system.

Options :

1. ✔ Only I

2. ✖ Only II

3. ✖ Both I and II

4. ✖ Neither I nor II

Question Number : 114 Question Id : 630680225816 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. If population of the town is 20 lakh, then rate of the demand using Freeman's formula will be 465760 litre/min.

II. Function of sluice valve is Provided to regulate the flow of water.

III. Cause of rejection value of fluoride is 2 mg/litre.

Options :

1. ✔ Only II

2. ✖ Only III

3. ✖ Only I

4. ✖ I, II and III

Question Number : 115 Question Id : 630680225817 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 water processes with their effects.

	Processes		Effects
I	Boiling	1	It kills a large variation of microbial waterbox pathogens
II	Chlorination	2	It is used to kill pathogenic bacteria, viruses and protozoa
III	Coagulation	3	The process of adding to disinfect water

Options :

1. ✔ I-2, II-1, III-3

2. ✖ I-1, II-2, III-3

3. ✖ I-3, II-1, III-2

4. ✖ I-2, II-3, III-1

Question Number : 116 Question Id : 630680225818 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 methods : contact mechanism.

I. Trickling filter : Attached growth

II. Oxidation pond : Attached growth

III. Imhoff tank : Suspended growth

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 : 630680225819 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 values of permissible limit of given materials in water.

I. Hardness

II. Chloride content

III. Nitrate

Options :

1. ✔ III, I, II

2. ✖ II, I, III

3. ✖ II, III, I

4. ✖ III, II, I

Question Number : 118 Question Id : 630680225820 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, Identify the increasing order on basis of the value of permissible limit for the given materials present in water.

I. Flouride content

II. Sulphate

III. NItrates

Options :

1. ✖ II, III, I

2. ✔ I, III, II

3. ✖ II, I, III

4. ✖ III, II, I

Question Number : 119 Question Id : 630680225821 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 25.92 hectares/m^3/sec on the field, the base period for the crop is 400 days.

Options :

1. ✖ 150 cm

2. ✔ 133.33 cm

3. ✖ 145.45 cm

4. ✖ 180.5 cm

Question Number : 120 Question Id : 630680225822 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 generally used for rolling land where borders, checks, basins and furrows are not feasible.

Options :

1. ✖ Check flooding

2. ✔ Free flooding

3. ✖ Basin flooding

4. ✖ Border flooding

Question Number : 121 Question Id : 630680225823 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

_____ occurs when the warm and moist air mass meets a cool and dry air mass.

Options :

1. ✖ Frontal precipitation

2. ✖ Orographic precipitation

3. ✔ Cyclonic precipitation

4. ✖ Convective precipitation

Question Number : 122 Question Id : 630680225824 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 equation correct regarding Kennedy's theory?

I. Critical velocity (V_0) in a channel is the mean velocity which is sufficient to prevent the channel from scouring and silting.

II. Modified critical velocity according to Kennedy's theorem $V_0 = 0.55md^{0.64}$.

III. According to him, critical velocity (v_0) is less than 1 and actual velocity (V_0) less than critical velocity, then silting will occur.

Options :

1. ✖ I and III only

2. ✖ II and III only

3. ✖ I and II only

4. ✔ I, II and III

Question Number : 123 Question Id : 630680225825 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 critical velocity ratio is less than 1 and actual velocity (V_a) less then critical velocity, then what will happen:

Options :

1. ✖ Both scouring and silting will occur simultaneously

2. ✖ Scouring will occur

3. ✖ Neither silting nor scouring will occur

4. ✔ Silting will occur

Question Number : 124 Question Id : 630680225826 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 time period that elapsed for the instant of the sawing of the crop to the instant of its harvesting is called _____.

Options :

1. ✖ Watering period

2. ✔ Crop period

3. ✖ Base period

4. ✖ Harvesting period

Question Number : 125 Question Id : 630680225827 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 role of head sluices in canal?

Options :

1. ✔ It regulates the supply of water entering the canal

2. ✖ Helps in remaining silt from the water after it enters the canal

3. ✖ Helps in providing a less turbulent packet near head regulator

4. ✖ Helps in removing silt near the head regulator

Question Number : 126 Question Id : 630680225828 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. Free flooding is most suitable for close growing crops, pastures etc. particularly where land is steep.

II. In Kennedy's theory Kutter's equation is used for finding velocity.

Options :

1. ✖ Only I

2. ✖ Only II

3. ✔ Both I and II

4. ✖ Neither I nor II

Question Number : 127 Question Id : 630680225829 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. Double mass curve is used for to check the consistency of rainfall.

II. Delta of crop is the area that can be irrigated by the discharge of 1 cumec of water.

Options :

1. ✔ Only I

2. ✖ Only II

3. ✖ Both I and II

4. ✖ Neither I nor II

Question Number : 128 Question Id : 630680225830 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. The time period that elapsed for the instant of the sowing of the crop to the instant of its harvesting is called base period.

II. In lacey's regime theory, the bed slop is proportional to $F^{2/3}$.

III. Kor watering is done after sowing when the crop is few centimetre high.

Options :

1. ✔ Only III

2. ✖ Only I

3. ✖ Only II

4. ✖ I, II and III

Question Number : 129 Question Id : 630680225831 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) The instrument used for measuring evaporation is atmometer.

II) The instrument used for measuring rainfall depth is pluviometer.

III) The instrument used for measuring humidity is psychrometer.

Options :

1. ✔ I and II

2. ✖ II and III

3. ✖ I and III

4. ✖ I, II and III

Question Number : 130 Question Id : 630680225832 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 instruments with their use.

	Instrument		Use
I	Pluviometer	1	Evapotranspiration
II	Lysimeter	2	Evaporation
III	Atmometer	3	Rainfall depth

Options :

1. ✖ I-1, II-3, III-2

2. ✖ I-3, II-2, III-1

3. ✖ I-2, II-1, III-3

4. ✔ I-3, II-1, III-2

Question Number : 131 Question Id : 630680225833 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 terms – description.

I. Hydrography – It is the science that measures and describes the physical features of bodies of water and the land area adjacent to those bodies of water.

II. Hydrology – It is the monitoring of the components of the hydrological cycle including rainfall, groundwater characteristics, as well as water quality and flow characteristics of surface waters.

III. Hydrometry – It is the study of the distribution and movement of water both on and below the Earth's surface, as well as the impact of human activity on water availability and conditions.

Options :

1. ✔ Only I

2. ✖ Only II

3. ✖ Only III

4. ✖ I, II and III

Question Number : 132 Question Id : 630680225834 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 their value delta of crop for different value of base period and duty of crop?

I. Base period = 10 days, Duty = 1728 ha/cumac

II. Base period = 30 days, Duty = 864 ha/cumac

III. Base period = 40 days, Duty = 432 ha/cumac

Options :

1. ✖ I, III, II

2. ✔ I, II, III

3. ✖ II, III, I

4. ✖ III, I, II

Question Number : 133 Question Id : 630680225835 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 annual intensity of irrigation for different values of intensity of irrigation for Rabi and Kharif crop.

I. Intensity of irrigation for Kharif crop = 60 percent, Intensity of irrigation for Rabi crop = 70 percent.

II. Intensity of irrigation for Kharif crop = 70 percent, Intensity of irrigation for Rabi crop = 50 percent.

III. Intensity of irrigation for Kharif crop = 80 percent, Intensity of irrigation for Rabi crop = 70 percent.

Options :

1. ✔ II, I, III

2. ✖ III, I, II

3. ✖ III, II, I

4. ✖ I, II, III

Question Number : 134 Question Id : 630680225836 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 roof shall be protected against lifting by wind by provision of other bargeboard and filleting arrangement or a bending wall over the gable wall.

Options :

1. ✖ Hips

2. ✔ Verges

3. ✖ Eaves

4. ✖ Cleats

Question Number : 135 Question Id : 630680225837 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

For limit state of collapse, as per IS 456: 2000, the partial safety factor for concrete is _____.

Options :

1. ✖ 0.87

2. ✔ 1.5

3. ✖ 1.15

4. ✖ 1.33

Question Number : 136 Question Id : 630680225838 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 distance between resultant compression force in concrete and resultant tension force in steel as reinforcement.

Options :

1. ✖ Effective depth

2. ✖ Depth of neutral axis

3. ✖ Overall depth

4. ✔ Lever arm

Question Number : 137 Question Id : 630680225839 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 cantilever beam main reinforcement is provided at which part of beam?

Options :

1. ✖ Bottom

2. ✖ Middle

3. ✔ Top

4. ✖ Both middle and bottom

Question Number : 138 Question Id : 630680225840 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 minimum clear cover (in mm) for the main reinforcement (8mm diameter bars) in the column, according IS 456-2000 is :

Options :

1. ✖ 20

2.

✔ 25

3. ✖ 50

4. ✖ 40

Question Number : 139 Question Id : 630680225841 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 area of longitudinal reinforcement in column should not exceed _____.

Options :

1. ✖ 3 percent

2. ✖ 5 percent

3. ✔ 6 percent

4. ✖ 8 percent

Question Number : 140 Question Id : 630680225842 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 limit state design, the limiting depth of neutral axis for Fe-250 for beam having effective depth 'd' is _____.

Options :

1. ✔ 0.53d

2. ✖ 0.48d

3. ✖ 0.46d

4. ✖ 0.58d

Question Number : 141 Question Id : 630680225843 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 lower modular ratio shows:

Options :

1. ✔ Higher compressive strength of concrete

2. ✖ Lower compressive strength of concrete

3. ✖ Higher tensile strength of steel

4. ✖ Lower tensile strength of steel

Question Number : 142 Question Id : 630680225844 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

For M30 grade of concrete, modular ratio would be:

Options :

1. ✖ 10.98

2. ✔ 9.33

3. ✖ 13.33

4. ✖ 18.66

Question Number : 143 Question Id : 630680225845 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. According to IS 456: 2000, what is the value of maximum shear stress (τ_c max) for M30 concrete is 3.5 Mpa.

II. Value of yield stress ratio ($\in$) of Fe 250 grade of steel 0.5.

Options :

1. ✖ Only I

2. ✖ Only II

3. ✔ Both I and II

4. ✖ Neither I nor II

Question Number : 144 Question Id : 630680225846 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. The permissible value of bearing stress is 0.75 f_y.

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

Options :

1. ✔ Only I

2. ✖ Only II

3. ✖ Both I and II

4. ✖ Neither I nor II

Question Number : 145 Question Id : 630680225847 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. Hip is the ridge formed by the intersection of two sloping surface where the exterior angle is greater than 180 degree.

II. For post tensioning minimum grade of concrete used is M30.

III. Development length is the amount of bar length that is needed to be embedded or projected into concrete to create desired bond strength.

Options :

1. ✔ I and II only

2.

✖ II and III only

3. ✖ I and III only

4. ✖ I, II and III

Question Number : 146 Question Id : 630680225848 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. The design strength of steel can be obtained by dividing the yield stress by1.15.

II. Purlin are horizontal beam members that run parallel to the ridge and connect the trusses along the length of the ridge.

III. For post tensioning minimum grade of concrete used is M50.

Options :

1. ✔ Only I

2. ✖ Only II

3. ✖ Both I and II

4. ✖ Neither I nor II

Question Number : 147 Question Id : 630680225849 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 list I with list II.

	List I		List II
I	Maximum pitch of bolts or rivets in the tension zone	1	2.5 × nominal diameter of the bolt
II	Minimum end and edge distance (for machine cut element)	2	1.5 × diameter of the bolt hole
III	Minimum pitch and minimum guage length	3	Minimum (16t or 200 mm)

Options :

1. ✖ I-1, II-2, III-3

2. ✖ I-2, II-3, III-1

3. ✔ I-3, II-2, III-1

4. ✖ I-1, II-3, III-2

Question Number : 148 Question Id : 630680225850 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 grade of steel : limiting value of depth of neutral axis (X_u lim).

I. F_e 250 : 0.46 α

II. F_e 415 : 0.48 α

III. F_e 500 : 0.53 α

Options :

1. ✖ Only I

2. ✔ Only II

3. ✖ Only III

4. ✖ I, II and III

Question Number : 149 Question Id : 630680225851 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 number of nominal codes for the following members.

I. Footing

II. Beam

III. Coloumns

Options :

1. ✔ II, III, I

2. ✖ I, III, II

3. ✖ II, I, III

4. ✖ I, II, III

Question Number : 150 Question Id : 630680225852 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 depth ratio (l/D) for the following span (upto 10 m).

I. Continuous

II. Simply supported

III. Cantilever

Options :

1. ✔ III, II, I

2. ✖ I, II, III

3. ✖ III, I, II

4. ✖ II, I, III