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## 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 :**

Civil 0409S2

**Subject Name :**

PC222002 CIVIL ENGINEERING PL2220

**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

## CIVIL ENGINEERING

**Section type :**

Online

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

Yes

**Maximum Instruction Time :**

0

**Is Section Default? :**

null

**Question Number : 1 Question Id : 630680347241 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 class of bricks with their uses.

	<b>Class</b>		<b>Uses</b>
I	First	1	Building temporary structures
II	Second	2	Exposed face work in masonry
III	Third	3	Centering of reinforced bricks and RCC structures

**Options :**

1. ❌ I-1, II-3, III-2

2. ✓ I-2, II-3, III-1

3. ❌ I-2, II-1, III-3

4. ❌ I-1, II-2, III-3

**Question Number : 2 Question Id : 630680347242 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 1077 : 1992, which of the following pair value of class of bricks – average compressive strengths (N/mm<sup>2</sup>) is correct?

I. Class 35 – Not less than 35

II. Class 5 – Not less than 5

**Options :**

1. ❌ Only I

2. ❌ Only II

3. ✓ Both I and II

4. ❌ Neither I nor II

**Question Number : 3 Question Id : 630680347243 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 following bricks according to the place in the kiln from where they are obtained. (Outer portion to inner portion)

P. Arch bricks

Q. Pale bricks

R. Body bricks

**Options :**

1. ❌ R, P, Q

2. ✓ Q, R, P

3. ❌ Q, P, R

4. ❌ R, Q, P

**Question Number : 4 Question Id : 630680347244 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 classification of rocks on the basis of chemical properties?

I. Principal constituent in argillaceous rocks is clay.

II. Principal constituent in silicious rocks is silica.

III. Principal constituent in calcarious rocks is lime.

**Options :**

1.  Only I and II

2.  Only II and III

3.  Only I and III

4.  I, II and III

**Question Number : 5 Question Id : 630680347245 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 most suitable method for quarrying small, thin and regular blocks of stones from rocks.

**Options :**

1.  Excavating

2.  Wedging

3.  Heating

4.  Blasting

**Question Number : 6 Question Id : 630680347246 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 following steps used in blasting method of quarrying of stones from first to last.

I. Boring

II. Charging

III. Tamping

**Options :**

1.  II, III, I

2.  II, I, III

3.  I, III, II

4.  I, II, III

**Question Number : 7 Question Id : 630680347247 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 dressing of stone?

- I. Dressing of stone is done immediately after quarrying and before seasoning.
- II. Dressing of stone provides pleasing appearance, proper bedding with good mortar joints etc.

**Options :**

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

**Question Number : 8 Question Id : 630680347248 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 IS269:1989, what is the minimum compressive strength required at  $672 \pm 4$  hr for a 33 grade ordinary Portland cement?

**Options :**

1.  33 MPa
2.  22 MPa
3.  16 MPa
4.  43 MPa

**Question Number : 9 Question Id : 630680347249 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 cement is used when concrete is to be laid under water or in running water?

**Options :**

1.  Low heat Portland cement
2.  White Portland cement
3.  Masonry cement
4.  Quick setting Portland cement

**Question Number : 10 Question Id : 630680347250 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 regarding aggregates is correct?

- I. Aggregate retained on 4.75 mm sieve is known as coarse aggregate.
- II. Aggregate passing through 4.75 mm sieve is known as fine aggregate.
- III. Natural sand is a type of coarse aggregate.

Options :

1.  Only I and II
2.  Only II and III
3.  Only I and III
4.  I, II and III

**Question Number : 11 Question Id : 630680347251 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 : 383-1970, what is the size for the very large coarse aggregate used for mass concrete?

Options :

1.  150 to 80 mm
2.  80 to 40 mm
3.  40 to 20 mm
4.  20 to 4.75 mm

**Question Number : 12 Question Id : 630680347252 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Masonry work in arches is calculated in \_\_\_\_\_.

Options :

1.  square metre
2.  cubic metre
3.  kilograms
4.  tonnes

**Question Number : 13 Question Id : 630680347253 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 M15 grade of concrete, what is ratio of cement : fine aggregate : coarse aggregate?

Options :

1. ✘ 2 : 3 : 6

2. ✘ 1 : 3 : 6

3. ✓ 1 : 2 : 4

4. ✘ 1 : 1 : 2

**Question Number : 14 Question Id : 630680347254 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 admixtures?

I. Accelerators normally increase the setting time of concrete.

II. Retarders normally decrease the setting time of concrete.

**Options :**

1. ✘ Only I

2. ✘ Only II

3. ✘ Both I and II

4. ✓ Neither I nor II

**Question Number : 15 Question Id : 630680347255 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 10262 (2009), what is the assumed standard deviation ( $N/mm^2$ ) for M50 grade of cement?

**Options :**

1. ✓ 5

2. ✘ 4

3. ✘ 3.5

4. ✘ 1.5

**Question Number : 16 Question Id : 630680347256 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, what is the mix proportions of M25 grade concrete?

(Cement : fine aggregate : Coarse aggregate)

**Options :**

1. ✘ 1 : 2 : 4

2. ✘ 1 : 3 : 6

3. ✘ 1 : 1 : 8

4. ✓ 1 : 1 : 2

**Question Number : 17 Question Id : 630680347257 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 statements regarding stresses is/are correct?

I. The stress induced in a body, when subjected to two equal and opposite pulls, resulting in an increase in length, is known as tensile stress.

II. The stress induced in a body, when subjected to two equal and opposite pushes, resulting in a decrease in length, is known as compressive stress.

**Options :**

1. ✘ Only I

2. ✘ Only II

3. ✓ Both I and II

4. ✘ Neither I nor II

**Question Number : 18 Question Id : 630680347258 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 expressions of modulus is/are correct?

I. Young's modulus – Shear stress/Shear strain

II. Shear modulus – Tensile stress/Tensile strain

**Options :**

1. ✘ Only I

2. ✘ Only II

3. ✘ Both I and II

4. ✓ Neither I nor II

**Question Number : 19 Question Id : 630680347259 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 an obstacle in chaining?

I. Obstacles to chaining

II. Obstacles to ranging

**Options :**

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

**Question Number : 20 Question Id : 630680347260 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 correct expression of relation between Young's modulus and Bulk modulus?

( $E$  = Young's modulus,  $k$  = Bulk modulus,  $\mu$  = Poisson's ratio)

**Options :**

1.   $E = 2k(1 - \mu)$
2.   $E = 3k(1 - 2\mu)$
3.   $E = 3k(1 - \mu)$
4.   $E = 2k(1 - 2\mu)$

**Question Number : 21 Question Id : 630680347261 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 of the following cases Mohr's circle can be drawn/used?

- I. A body subjected to two mutually perpendicular principal stresses which are unequal and unlike.
- II. A body subjected to two mutually perpendicular principal tensile stresses of unequal intensities.
- III. A body subjected to two mutually perpendicular principal tensile stresses accompanied by a simple shear stress.

**Options :**

1.  Only I and II
2.  Only II and III
3.  Only I and III
4.  I, II and III

**Question Number : 22 Question Id : 630680347262 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 statements is/are correct?

I. A beam which is fixed at one end and free at the other end, is known as a cantilever beam.

II. A beam supported or resting freely on the supports at its both ends, is known as a simply supported beam.

**Options :**

1.  Only I

2.  Only II

3.  Both I and II

4.  Neither I nor II

**Question Number : 23 Question Id : 630680347263 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 rectangular beam 200 mm wide and 400 mm deep is subjected to a maximum shear force of 80 kN. What will be the value of average shear stress?

**Options :**

1.   $1 \text{ N/mm}^2$

2.   $2 \text{ N/mm}^2$

3.   $0.5 \text{ N/mm}^2$

4.   $4 \text{ N/mm}^2$

**Question Number : 24 Question Id : 630680347264 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 the calculation of stopping sight distance, the longitudinal friction coefficient value of \_\_\_\_\_ has been recommended by the IRC, depending upon the speed.

**Options :**

1.  0.05 to 0.1

2.  0.1 to 0.15

3.  0.15 to 0.2

4.  0.35 to 0.4

**Question Number : 25 Question Id : 630680347265 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 correct expression for the deflection at the centre of a simply supported beam carrying a point load at the centre?

(W = Point load in N, L = Length of beam in mm, I = Moment of inertia of beam in mm<sup>4</sup>, E = Young's modulus for material of beam)

Options :

1.   $\frac{WLE}{48I^3}$

2.   $\frac{WL^3}{24EI}$

3.   $\frac{WL^3 E}{48I}$

4.   $\frac{WL^3}{48EI}$

**Question Number : 26 Question Id : 630680347266 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 the \_\_\_\_\_ method of estimation, the length and breadth of the masonry walls at plinth level are taken (internal dimension + thickness of walls) for calculating quantities.

Options :

1.  Crossing

2.  Out to out & in to in

3.  Bay

4.  Service unit

**Question Number : 27 Question Id : 630680347267 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 prismatic beam hinged at A and fixed at B is shown below.



The beam is subjected to a moment  $\mu$  at the hinged end. Due to moment  $\mu$ , the end A rotates through angle  $\theta$  while rotation at end B is zero.  $\mu'$  represents induced moment at end B. Which of the following is correct?

Options :

1.   $\mu = 2\mu'$

2. ✘  $\mu' = 2\mu$ 3. ✘  $\mu = \mu'$ 4. ✘  $\mu = 3\mu'$ 

**Question Number : 28 Question Id : 630680347268 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Consider an unstiffened suspension bridge. Arrange the components given of an unstiffened suspension bridge from top to bottom.

P. Decking

Q. Cable

R. Suspenders

**Options :**

1. ✘ R, P, Q

2. ✘ R, Q, P

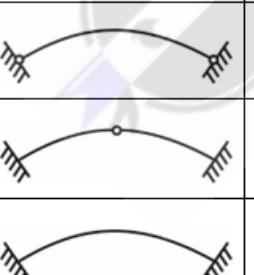
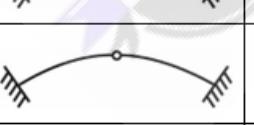
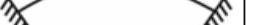
3. ✘ Q, P, R

4. ✓ Q, R, P

**Question Number : 29 Question Id : 630680347269 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 arches with their names.

	Arch		Name
I		1	Fixed arch
II		2	Two hinged arch
III		3	Single hinged arch

**Options :**

1. ✘ I-3, II-2, III-1

2. ✘ I-1, II-2, III-3

3. ✓ I-2, II-3, III-1

4. ❌ I-1, II-3, III-2

**Question Number : 30 Question Id : 630680347270 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 correct expression for circumferential or hoop stress in a thin cylindrical vessel subjected to an internal fluid pressure?

( $p$  = Internal pressure of fluid,  $d$  = internal diameter of the cylinder,  $t$  = thickness of the wall of the cylinder)

**Options :**

1. ✓  $\frac{pd}{2t}$

2. ❌  $\frac{pd}{4t}$

3. ❌  $\frac{p}{2dt}$

4. ❌  $\frac{p}{4dt}$

**Question Number : 31 Question Id : 630680347271 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 correct relation of effective length (E) and actual length (L) of a column whose one end is fixed and other is hinged?

**Options :**

1. ❌  $E = 2L$

2. ❌  $E = \frac{L}{2}$

3. ✓  $E = \frac{L}{\sqrt{2}}$

4. ❌  $E = L$

**Question Number : 32 Question Id : 630680347272 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 pair of 'type – example' is NOT correct?

**Options :**

1. ❌ Column – Vertical pillar between roof and floor

2. ❌ Column – Vertical pillar between roof and floor on second floor of building

3. ❌ Struts – Piston rods

4. ✓ Column – Connecting rods

**Question Number : 33 Question Id : 630680347273 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Shear centre is also known as \_\_\_\_\_.

**Options :**

1. ❌ Shear centre mode

2. ❌ Shear centre moment

3. ❌ Centre of material

4. ✓ Centre of twist

**Question Number : 34 Question Id : 630680347274 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 classification of Land surveys and their definitions.

	<b>Name</b>		<b>Definition</b>
I	Topographical	1	Made in connection with the construction of streets, water supply systems, sewers and other works
II	Cadastral	2	Are made incident to the fixing of property lines, the calculation of land area etc.
III	City	3	Horizontal and vertical location of certain points by linear and angular measurements

**Options :**

1. ❌ I-2, II-1, III-3

2. ❌ I-2, II-3, III-1

3. ✓ I-3, II-2, III-1

4. ❌ I-3, II-1, III-2

**Question Number : 35 Question Id : 630680347275 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 an aspect under the principles of surveying?

- I. Working from whole to part.
- II. Location of a point by measurement from two points of reference.

**Options :**

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

**Question Number : 36 Question Id : 630680347276 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 chain surveying?

- I. Only linear measurements are made in the field in this.
- II. The principle of chain survey is also called as chain triangulation.

**Options :**

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

**Question Number : 37 Question Id : 630680347277 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 pair of W.C.B : R.B. is correct?

- I. W.C.B. =  $25^{\circ}10'$  : R.B. = N $25^{\circ}10'E$
- II. W.C.B. =  $11^{\circ}12'$  : R.B. = N $168^{\circ}48'W$

**Options :**

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

**Question Number : 38 Question Id : 630680347278 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 NOT a type of an instrumental error in compass survey?

**Options :**

1.  Inaccurate centering
2.  Sluggish needle
3.  Plane of sight not being vertical
4.  Blunt pivot point

**Question Number : 39 Question Id : 630680347279 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 levelling?

- I. Horizontal line is a straight line tangential to the level line at a point.
- II. Vertical line is a line normal to the level line at a point.
- III. Datum is any surface to which elevations are referred.

**Options :**

1.  Only I and II
2.  Only II and III
3.  Only I and III
4.  I, II and III

**Question Number : 40 Question Id : 630680347280 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 following parts of a transit theodolite from top to bottom.

P. Plumb bob

Q. Plate levels

R. Telescope

**Options :**

1.  P, R, Q
2.  R, Q, P
3.  R, P, Q

4. ✘ P, Q, R

**Question Number : 41 Question Id : 630680347281 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 NOT a natural error in theodolite surveying?

**Options :**

1. ✓ Errors in manipulation
2. ✘ Wind producing vibrations
3. ✘ Unequal settlement of tripod
4. ✘ Unequal atmospheric refraction due to high temperature

**Question Number : 42 Question Id : 630680347282 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 following rays in terms of increasing order of their wavelengths.

P. X-rays

Q. Infrared

R. Short waves

**Options :**

1. ✘ P, R, Q
2. ✓ P, Q, R
3. ✘ Q, P, R
4. ✘ Q, R, P

**Question Number : 43 Question Id : 630680347283 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 average water depth required (in cm) for mustard?

**Options :**

1. ✘ 160
2. ✘ 110
3. ✓ 45
4. ✘ 90

**Question Number : 44 Question Id : 630680347284 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 biggest of the main survey line is called the \_\_\_\_\_ and the various survey stations are plotted with reference to this.

**Options :**

1.  Base line

2.  Check line

3.  Proof line

4.  Tie line

**Question Number : 45 Question Id : 630680347285 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 detailed estimate?

I. Its preparation consists of working out the quantities of different items of work and then working out the cost.

II. This estimate is prepared in two stages.

**Options :**

1.  Only I

2.  Only II

3.  Both I and II

4.  Neither I nor II

**Question Number : 46 Question Id : 630680347286 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 centre line method of estimating?

I. This method is quick but requires special attention and considerations at the junctions, meeting points of partitions or cross walls etc.

II. In this method, the length will remain same for excavation of foundation, for concrete in foundation and for all footings.

**Options :**

1.  Only I

2.  Only II

3.  Both I and II

4. ❌ Neither I nor II

**Question Number : 47 Question Id : 630680347287 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 long and short wall method of estimating?

- I. Long wall length out-to-out = Centre to Centre length + One breadth
- II. Short wall length in-to-in = Centre to Centre length – One breadth
- III. Quantity of earthwork in excavation trench = Length of out-to-out – one breadth

**Options :**

1. ✓ Only I and II
2. ❌ Only II and III
3. ❌ Only I and III
4. ❌ I, II and III

**Question Number : 48 Question Id : 630680347288 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Lintels over openings are calculated in \_\_\_\_\_.

**Options :**

1. ✓ Cubic metre
2. ❌ Square metre
3. ❌ Tonnes
4. ❌ Kilograms

**Question Number : 49 Question Id : 630680347289 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 wall is free on both sides, the length of a wall in excavation for foundation is equal to the \_\_\_\_\_.

**Options :**

1. ✓ Outer length of wall (above plinth) + (Thickness of wall – Width of foundation)
2. ❌ Outer length of wall (above plinth) + (Thickness of wall + Width of foundation)
3. ❌ Outer length of wall (above plinth) – (Thickness of wall + Width of foundation)
4. ❌ Outer length of wall (above plinth) – (Thickness of wall – Width of foundation)

**Question Number : 50 Question Id : 630680347290 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 pair is correct regarding brick work?

- I. Brick work in foundation and plinth – all brick work upto ground floor level.
- II. Brick work in superstructure – all brick work from ground floor level to roof level.

**Options :**

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

**Question Number : 51 Question Id : 630680347291 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 deduction for brick work in cement mortar for a rectangular portion upto springing line is given by which of the following?

**Options :**

1.  Length of rectangular portion  $\times$  Height of rectangular portion  $\times$  Thickness of wall
2.  Length of rectangular portion  $\times$  2(Height of rectangular portion)  $\times$  Thickness of wall
3.  2(Length of rectangular portion)  $\times$  Height of rectangular portion  $\times$  Thickness of wall
4.  Length of rectangular portion  $\times$  Height of rectangular portion  $\times$  2(Thickness of wall)

**Question Number : 52 Question Id : 630680347292 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 for floor estimation.

	<b>Name</b>		<b>Definition</b>
I	Dados	1	Measured in running metres, stating the grith of face
II	Skirting	2	Measured in running metres, stating the height
III	Lining of channels	3	Measured in square metres

**Options :**

1.  I-2, II-1, III-3

2.  I-2, II-3, III-13.  I-3, II-2, III-14.  I-1, II-2, III-3

**Question Number : 53 Question Id : 630680347293 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 plastering, no deductions shall be made for end of joints, beams, posts etc. and opening not exceeding \_\_\_\_\_ m<sup>2</sup>.

**Options :**

1.  52.  0.53.  304.  300

**Question Number : 54 Question Id : 630680347294 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 will NOT come under the subheading of earth work in estimates?

**Options :**

1.  Puddling work2.  Cement concrete in foundations3.  Sand filling4.  Jungle Clearance

**Question Number : 55 Question Id : 630680347295 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 following in terms of increasing order of plinth area rate. (per sq. m.)

P. Total cost of building = Rs. 350000, Plinth area = 50 sq. m.

Q. Total cost of building = Rs. 550000, Plinth area = 110 sq. m.

R. Total cost of building = Rs. 280000, Plinth area = 70 sq. m.

**Options :**

1.  Q, P, R2.  Q, R, P

3.  R, P, Q4.  R, Q, P

**Question Number : 56 Question Id : 630680347296 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 following in terms of decreasing order to cubic contents of a building.

P. Plinth area = 50 sq. m.

Height of building = 10 m

Q. Plinth area = 60 sq. m.

Height of building = 6 m

R. Plinth area = 80 sq. m.

Height of building = 7 m

**Options :**

1.  RPQ2.  RQP3.  PQR4.  PRQ

**Question Number : 57 Question Id : 630680347297 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 money which the contractor has to deposit with the department when the contract is allotted to him.

**Options :**

1.  Front money2.  Initial money3.  Earnest money4.  Security money

**Question Number : 58 Question Id : 630680347298 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 case of estimation of flooring, no deduction shall be made for voids less than \_\_\_\_\_  $m^2$ .

**Options :**

1. ✘ 2

2. ✓ 0.2

3. ✘ 0.005

4. ✘ 5

**Question Number : 59 Question Id : 630680347299 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 called the moist density of soil and is the total mass of soil per unit of its total volume.

**Options :**

1. ✓ Bulk density

2. ✘ Dry density

3. ✘ Wet density

4. ✘ Submerged density

**Question Number : 60 Question Id : 630680347300 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 pair regarding soil properties is correct?

I. Void ratio – Ratio of volume of voids to the volume of soil solids in the given soil mass

II. Porosity – Ratio of volume of voids to the total volume of the given soil mass

**Options :**

1. ✘ Only I

2. ✘ Only II

3. ✓ Both I and II

4. ✘ Neither I nor II

**Question Number : 61 Question Id : 630680347301 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 sub-division group of soil with their definitions.

	<b>Group</b>		<b>Definition</b>
I	W	1	Poorly graded, fairly clean
II	C	2	Well graded, clean
III	P	3	Well graded with excellent clay binder

**Options :**

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

**Question Number : 62 Question Id : 630680347302 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 permeability of soil?

- I. A material having continuous voids is called permeable.
- II. Gravels are highly permeable.
- III. Stiff clay is the least permeable.

**Options :**

1. ❌ Only I and II
2. ❌ Only II and III
3. ❌ Only I and III
4. ✓ I, II and III

**Question Number : 63 Question Id : 630680347303 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 factor affecting permeability?

- I. Properties of the pore fluid
- II. Voids ratio of the soil

**Options :**

1. ❌ Only I

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

**Question Number : 64 Question Id : 630680347304 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 coefficient of compressibility?

- I. It is defined as the decrease in voids ratio per unit increase of pressure.
- II. For a given difference in pressure, the value of coefficient of compressibility decreases as the pressure increases.

**Options :**

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

**Question Number : 65 Question Id : 630680347305 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 magnetic meridian is to the right side of the true meridian, declination is said to be \_\_\_\_\_.

**Options :**

- 1.  Northern
- 2.  Southern
- 3.  Eastern
- 4.  Western

**Question Number : 66 Question Id : 630680347306 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 following components of shear box test apparatus from bottom to top.

- P. Rollers
- Q. Metal grids
- R. Loading pad

**Options :**

1. ✘ P, R, Q

2. ✓ P, Q, R

3. ✘ R, P, Q

4. ✘ R, Q, P

**Question Number : 67 Question Id : 630680347307 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 following types of soils in increasing order of the values of coefficient of the earth pressure at rest.

P. Loose sand

Q. Dense sand

R. Sand compacted in layers

**Options :**

1. ✓ P, Q, R

2. ✘ P, R, Q

3. ✘ Q, P, R

4. ✘ Q, R, P

**Question Number : 68 Question Id : 630680347308 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 depth factor ( $D_f$ ) for toe failure of a slope?

**Options :**

1. ✓  $D_f = 1$ 2. ✘  $D_f = 0$ 3. ✘  $D_f > 1$ 4. ✘  $0 < D_f < 1$ 

**Question Number : 69 Question Id : 630680347309 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 site exploration, it is generally safe to assume the significant depth upto a level, at which the net increase in vertical pressure becomes less than \_\_\_\_\_ percent of initial overburden pressure.

**Options :**

1. ✘ 30

2. ✘ 75

3. ✓ 10

4. ✘ 50

**Question Number : 70 Question Id : 630680347310 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 local shear failure, what is the value of angle of shear resistance ( $\phi$ )?

**Options :**

1. ✘  $\phi > 36^\circ$ 2. ✓  $\phi < 28^\circ$ 3. ✘  $\phi > 45^\circ$ 4. ✘  $\phi < 4^\circ$ 

**Question Number : 71 Question Id : 630680347311 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 type of shallow foundation is being shown in the diagram given below?



**Options :**

1. ✘ Combined footing

2. ✘ Strap footing

3. ✘ Mat foundation

4. ✓ Spread footing

**Question Number : 72 Question Id : 630680347312 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

\_\_\_\_\_ are used to transfer load through water or soft soil to a suitable bearing stratum.

**Options :**

1. ✓ End bearing piles

2.  Fender piles

3.  Dolphin piles

4.  Anchor piles

**Question Number : 73 Question Id : 630680347313 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 mineral is NOT a solid?

**Options :**

1.  Asphalt

2.  Coal

3.  Rubies

4.  Sapphires

**Question Number : 74 Question Id : 630680347314 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 a reservoir, the dead storage is generally more than \_\_\_\_\_ of the total capacity.

**Options :**

1.  1/80

2.  1/2

3.  1/4

4.  1/30

**Question Number : 75 Question Id : 630680347315 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 the recommendation of ICAO, the basic runway length should be increased at rate of \_\_\_\_\_ percent per 300 metre rise in elevation of airport above the mean sea level.

**Options :**

1.  14

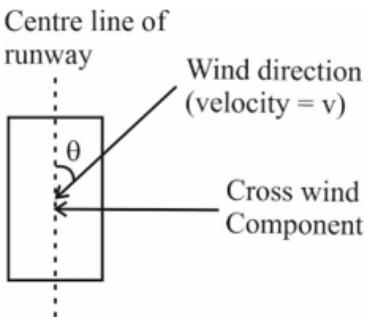
2.  7

3.  28

4.  35

**Question Number : 76 Question Id : 630680347316 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 cross wind velocity component for above runway diagram?

**Options :**

1.   $V \cot\theta$
2.   $V \tan\theta$
3.   $V \cos\theta$
4.   $V \sin\theta$

**Question Number : 77 Question Id : 630680347317 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 statements is/are correct regarding plans made from surveys for the selection of an airport site?

I. Drainage plan shows the positions of the proposed buildings, runways, taxiways, aprons etc., together with all the pipe lines forming the drainage network.

II. Grading plan shows the original and final contours of the proposed runway, apron and taxiways.

**Options :**

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

**Question Number : 78 Question Id : 630680347318 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 a specific weight of aircraft, the minimum take-off distance must be; greater than or equal to \_\_\_\_\_ percent of actual distance the aircraft uses to reach a height of 10.5 metres.

**Options :**

1.  115

2. ✘ 140

3. ✘ 280

4. ✘ 350

**Question Number : 79 Question Id : 630680347319 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 following steps of engineering survey for highway alignment in chronological order.

P. Map study

Q. Preliminary survey

R. Reconnaissance survey

S. Final location

**Options :**

1. ✘ P, Q, R, S

2. ✓ P, R, Q, S

3. ✘ P, R, S, Q

4. ✘ Q, P, R, S

**Question Number : 80 Question Id : 630680347320 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 statements is/are correct regarding highway alignment?

I. The position or layout of the centre line of the highway on the ground is called the alignment.

II. It includes both horizontal and vertical alignments of roadway.

III. Change in gradient is covered under vertical alignment.

**Options :**

1. ✘ Only I and II

2. ✘ Only II and III

3. ✘ Only I and III

4. ✓ I, II and III

**Question Number : 81 Question Id : 630680347321 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 statements is/are correct regarding the geometric design of highways?

- I. It deals with the dimensions and layout of visible features of the highway.
- II. The geometrics of highway should be designed to provide efficiency in traffic operations with maximum safety at reasonable cost.

**Options :**

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

**Question Number : 82 Question Id : 630680347322 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 pairs is/are correct?

I. National highways – Main highways running through the length and breadth of India, connecting major parts, state capitals etc.

II. State highways – Arterial roads of a state, connecting the national highways of states, district head quarters and important cities within the state.

**Options :**

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

**Question Number : 83 Question Id : 630680347323 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 range of camber for heavy rain fall areas with the type of road surfaces.

	<b>Range of camber</b>	<b>Type of road surface</b>
I	1 in 40	1 Cement concrete and high type bituminous
II	1 in 25	2 Thin bituminous
III	1 in 50	3 Earth road

**Options :**

1.  I-1, II-3, III-2
2.  I-2, II-3, III-1

3. ❌ I-2, II-1, III-3

4. ❌ I-1, II-2, III-3

**Question Number : 84 Question Id : 630680347324 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 Indian Roads Congress (IRC), what should be the width of carriageway for two lanes, without raised kerbs?

**Options :**

1. ❌ 3.75 metre

2. ✓ 7 metre

3. ❌ 8 metre

4. ❌ 4 metre

**Question Number : 85 Question Id : 630680347325 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 following terrain in increasing order of their ruling gradient. (As per IRC recommended values in percentage)

P. Plain

Q. Steep terrain upto 3000 metre height above sea level

R. Mountainous terrain

**Options :**

1. ✓ P, R, Q

2. ❌ Q, P, R

3. ❌ R, P, Q

4. ❌ R, Q, P

**Question Number : 86 Question Id : 630680347326 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 longitudinal movement of rails in a track is termed as the \_\_\_\_\_.

**Options :**

1. ❌ gradient

2. ❌ hogg

3. ❌ coning

4.  creep

**Question Number : 87 Question Id : 630680347327 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 minimum dimensions used for standard ballast section in broad gauge tracks in India? (L = Width of ballast, D = Depth of ballast)

**Options :**

1.  L = 500 cm, D = 400 mm

2.  L = 335 cm, D = 200 mm

3.  L = 265 cm, D = 100 mm

4.  L = 215 cm, D = 50 mm

**Question Number : 88 Question Id : 630680347328 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 super elevation for metre gauge in Indian conditions? (V = velocity in km/hr, R = radius of curve in metre)

**Options :**

1.   $1.315 \frac{V^2}{R}$

2.   $0.80 \frac{V^2}{R}$

3.   $0.40 \frac{V^2}{R}$

4.   $0.15 \frac{V^2}{R}$

**Question Number : 89 Question Id : 630680347329 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 closest value of maximum cant deficiency for broad gauge railway tracks permitted in India is \_\_\_\_\_. (speeds below 100 km/hr and without special permissions)

**Options :**

1.  75 mm

2.  110 mm

3.  140 mm

4. ✘ 210 mm

**Question Number : 90 Question Id : 630680347330 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 density of two litres of a liquid which weighs 36 N. (Take  $g = 10$ )

**Options :**

1. ✘ 3600 kg/m<sup>3</sup>

2. ✘ 450 kg/m<sup>3</sup>

3. ✘ 900 kg/m<sup>3</sup>

4. ✓ 1800 kg/m<sup>3</sup>

**Question Number : 91 Question Id : 630680347331 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. Ideal fluid is incompressible and is having no viscosity

II. Real fluid which possesses viscosity

**Options :**

1. ✘ Only I

2. ✘ Only II

3. ✓ Both I and II

4. ✘ Neither I nor II

**Question Number : 92 Question Id : 630680347332 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

This method of quarrying is suitable for costly, soft and stratified rocks such as sandstone, limestone, laterite, marble and slate. Which method is being talked about in the above statement?

**Options :**

1. ✘ Excavating

2. ✓ Wedging

3. ✘ Heating

4. ✘ Blasting

**Question Number : 93 Question Id : 630680347333 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.

	<b>Reynold number</b>		<b>Type of fluid flow</b>
I	Less than 2000	1	Turbulent
II	Between 2000 and 4000	2	Laminar
III	More than 4000	3	May be Laminar or turbulent

**Options :**

1. ❌ I-1, II-2, III-3

2. ❌ I-1, II-3, III-2

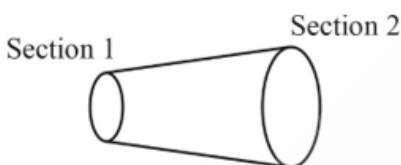
3. ❌ I-3, II-2, III-1

4. ✓ I-2, II-3, III-1

**Question Number : 94 Question Id : 630680347334 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Consider the pipe given below.



$d$  = diameter at section 1 = 14 cm

$D$  = diameter at section 2 = 28 cm

If the velocity of water flowing through the pipe at section 1 is 7.5 m/s, then what is the velocity at section 2?

**Options :**

1. ❌ 9.375 m/s

2. ✓ 1.875 m/s

3. ❌ 5.625 m/s

4. ❌ 0.375 m/s

**Question Number : 95 Question Id : 630680347335 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 properties of stream function?

I. If stream function exists, it is a possible case of fluid flow which may be rotational or irrotational.

II. If stream function satisfies the Laplace equation, it is a possible case of an irrotational flow.

**Options :**

1. Only I

2. Only II

3. Both I and II

4. Neither I nor II

**Question Number : 96 Question Id : 630680347336 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 expression of Bernoulli's equation?

**Options :**

1. Pressure head + Kinetic head + Potential head = Constant

2. Pressure head + Kinetic head - Potential head = Constant

3. Pressure head - Kinetic head + Potential head = Constant

4. Pressure head - Kinetic head - Potential head = Constant

**Question Number : 97 Question Id : 630680347337 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 of the following conditions does a laminar flow changes to turbulent flow?

I. Velocity is increased

II. Diameter of pipe is increased

III. Viscosity of fluid is increased

**Options :**

1. Only I and II

2. Only II and III

3. Only I and III

4. I, II and III

**Question Number : 98 Question Id : 630680347338 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 Reynolds number for the determination of type of flow?

I. It is calculated as  $\frac{\rho V D}{\mu}$ .

II. It has a unit  $m/s^2$ .

**Options :**

1. Only I

2. Only II

3. Both I and II

4. Neither I nor II

**Question Number : 99 Question Id : 630680347339 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 expression of Darcy – Weisbach equation?

**Options :**

1.  $h_f = \frac{4f \times L \times V}{d \times 2g}$

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

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

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

**Question Number : 100 Question Id : 630680347340 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 following types of flows in increasing order according to their Mach number.

P. Sub-sonic flow

Q. Sonic flow

R. Super-sonic flow

**Options :**

1. P, Q, R

2. P, R, Q

3. ✘ R, P, Q

4. ✘ R, Q, P

**Question Number : 101 Question Id : 630680347341 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 the Design of Pelton wheel , the width of buckets is \_\_\_\_\_.

(d = diameter of jet)

**Options :**

1. ✘ 20d

2. ✘ 2d

3. ✘ 10d

4. ✓ 5d

**Question Number : 102 Question Id : 630680347342 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 following turbines in increasing value of their specific speed.

P. Pelton wheel with single jet

Q. Francis turbine

R. Kaplan turbine

**Options :**

1. ✘ P, R, Q

2. ✓ P, Q, R

3. ✘ Q, R, P

4. ✘ Q, P, R

**Question Number : 103 Question Id : 630680347343 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 correct expression of specific speed of a centrifugal pump?

[ $N_s$  = specific speed,  $H_m$  = manometric head,  $Q$  = discharge]

**Options :**

$$1. ✘ N_s = \frac{N^2 Q^2}{(H_m)^{\frac{3}{4}}}$$

2. \* 
$$N_s = \frac{N^2 Q}{(H_m)^{\frac{3}{4}}}$$

3. ✓ 
$$N_s = \frac{N\sqrt{Q}}{(H_m)^{\frac{3}{4}}}$$

4. \* 
$$N_s = \frac{NQ}{(H_m)^{\frac{3}{4}}}$$

**Question Number : 104 Question Id : 630680347344 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 grid obtained by drawing a series of equipotential lines and stream lines is called a \_\_\_\_\_. It is an important tool in analysing two-dimensional irrotational flow problems.

**Options :**

- 1. ✓ Flow net
- 2. \* Flow spread
- 3. \* Flow hook
- 4. \* Flow plank

**Question Number : 105 Question Id : 630680347345 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 loads?

- I. The dead load of a structure is known before it is designed.
- II. Live loads are those which may change in position and magnitude.

**Options :**

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

**Question Number : 106 Question Id : 630680347346 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 type of stress with permissible stress. (As per IS 800 – 1984)

	Types of Stress		Permissible Stress (MPa)
I	Axial tensile stress	1	$0.4 f_y$
II	Average shear stress	2	$0.6 f_y$
III	Bending stress	3	$0.75 f_y$

Options :

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

**Question Number : 107 Question Id : 630680347347 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 types of riveted joints?

- I. The two members to be connected are overlapped and connected together, such a joint is known as lap joint.
- II. The two members to be connected are placed end to end and cover plates are provided, this type of joint is known as butt joint.

Options :

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

**Question Number : 108 Question Id : 630680347348 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 rivet is crushed around the half circumference. The plate may be strong in bearing and the heaviest stressed plate may press the rivet.

Which type of failure of riveted joints is being talked here?

Options :

1.  Bearing failure of rivets
2.  Bearing failure of plates

3.  Splitting of plates

4.  Shear failure of plates

**Question Number : 109 Question Id : 630680347349 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 pair of type of weld and its symbol is correct?

I. Fillet – 

II. Plug – 

**Options :**

1.  Only I

2.  Only II

3.  Both I and II

4.  Neither I nor II

**Question Number : 110 Question Id : 630680347350 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 grillage footing?

I. It is provided when, the loads on the columns are extremely heavy.

II. It is provided when, the bearing capacity of the soil on which concrete block is to be placed may be poor.

III. It is provided in tall buildings.

**Options :**

1.  Only I and II

2.  Only II and III

3.  Only I and III

4.  I, II and III

**Question Number : 111 Question Id : 630680347351 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 following manner of design of laterally supported beams from first to last.

P. The loads that can be expected on the beam are ascertained.

Q. The Maximum moment and maximum shear force are calculated for the beam.

R. Trial section modulus for the beam is worked out.

S. From I.S. Handbook No. 1 a suitable section having modulus of section equal to or more than calculated modulus of section is selected.

**Options :**

1.  P, Q, R, S

2.  Q, R, P, S

3.  Q, P, R, S

4.  R, P, Q, S

**Question Number : 112 Question Id : 630680347352 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Beams provided above opening in walls to support the masonry are called \_\_\_\_\_.

**Options :**

1.  Platings

2.  Castels

3.  Purlins

4.  Lintels

**Question Number : 113 Question Id : 630680347353 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Gantry girders are subjected to which of the following forces?

I. Reaction from the crane girder, acting vertically downwards.

II. Longitudinal thrust due to starting or stopping of crane, acting in the longitudinal direction.

III. The Lateral thrust due to starting/stopping of the crab acting horizontally, normal to the gantry girder.

**Options :**

1.  Only I and II

2.  Only II and III

3.  Only I and III

4.  I, II and III

**Question Number : 114 Question Id : 630680347354 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 W.C.B. is between 270 degrees and 360 degrees, then it signifies which quadrant?

**Options :**

1.  NE

2.  SE

3.  SW

4.  NW

**Question Number : 115 Question Id : 630680347355 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 W.C.B. =  $180^0$  – R.B., then W.C.B is between \_\_\_\_\_.

**Options :**

1.  0 degrees to 90 degrees

2.  90 degrees to 180 degrees

3.  180 degrees to 270 degrees

4.  270 degrees to 360 degrees

**Question Number : 116 Question Id : 630680347356 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 traffic signal is represented by the following symbol?



**Options :**

1.  No parking

2.  Hospital ahead

3.  Give way

4.  No entry

**Question Number : 117 Question Id : 630680347357 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 effective length of cantilever shall be taken as its length to the face of the support plus \_\_\_\_\_ the effective depth except where it forms the end of a continuous beam where the length to the centre of the support shall be taken.

**Options :**

1.  half
2.  double
3.  one-fourth
4.  four times

**Question Number : 118 Question Id : 630680347358 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 two-way slabs of shorter spans (upto 3.5 m) with mild steel reinforcement, the span to overall depth ratios of \_\_\_\_\_ for continuous slabs may generally be assumed to satisfy vertical deflection limits for loading class upto 3 kN/m<sup>3</sup>.

**Options :**

1.  40
2.  4
3.  0.4
4.  0.04

**Question Number : 119 Question Id : 630680347359 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 or continuous beam shall be so proportioned that the clear distance between the lateral restraints does not exceed \_\_\_\_\_.

(d = effective depth of beam, b = breadth of the compression face midway between the lateral restraints)

**Options :**

1.   $(1000 b^2)/d$
2.   $(400 b^2)/d$
3.   $(100 b^2)/d$
4.   $(250 b^2)/d$

**Question Number : 120 Question Id : 630680347360 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, in reinforced and plain concrete footings the thickness at edge shall not be less than \_\_\_\_\_ mm for footing on soils.

**Options :**

1. ✘ 75

2. ✓ 150

3. ✘ 50

4. ✘ 100

**Question Number : 121 Question Id : 630680347361 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 \_\_\_\_\_ retaining wall, is the one in which the earth pressure exerted by the backfill is resisted by the dead weight of the wall, which is either made of masonry or of mass concrete.

**Options :**

1. ✘ Cantilever

2. ✓ Gravity

3. ✘ Counterfort

4. ✘ Buttressed

**Question Number : 122 Question Id : 630680347362 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 hydrologic cycle?

I. Water is lost to atmosphere as vapour from the earth.

II. Water is precipitated back to earth in form of snow and hail.

**Options :**

1. ✘ Only I

2. ✘ Only II

3. ✓ Both I and II

4. ✘ Neither I nor II

**Question Number : 123 Question Id : 630680347363 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 pair of rain gauges is correct?

I. Non recording type – Only collects rains  
 II. Recording type – Permanent automatic rainfall record without any bottle reading.

Options :

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

**Question Number : 124 Question Id : 630680347364 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 values of deficiency of rain with the situation they indicate.

	Rain Deficiency		Situation
I	30 percent to 45 percent	1	Larger deficiency
II	45 percent to 60 percent	2	Serious deficiency
III	More than 60 percent	3	Disastrous deficiency

Options :

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

**Question Number : 125 Question Id : 630680347365 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Heavy rain means a rain of more than \_\_\_\_\_ intensity.

Options :

1.  1.5 mm/h
2.  7.5 mm/h
3.  2.5 mm/h
4.  3.5 mm/h

**Question Number : 126 Question Id : 630680347366 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: 4987 – 1968, which of the following statement is correct for rain gauge stations?

- I. In plains, there should be 1 station per 520 km<sup>2</sup>.
- II. In regions of average elevation of 1000 m, 1 station per 260 – 390 km<sup>2</sup>.
- III. In predominantly hilly areas with heavy rainfall, 1 station per 130 km<sup>2</sup>.

**Options :**

1.  Only I and II
2.  Only II and III
3.  Only I and III
4.  I, II and III

**Question Number : 127 Question Id : 630680347367 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 following soils in terms of increasing capacity of infiltration, (mm/h)

- P. Highly clayey soil
- Q. Sandy loam
- R. Deep sands

**Options :**

1.  P, R, Q
2.  P, Q, R
3.  Q, P, R
4.  Q, R, P

**Question Number : 128 Question Id : 630680347368 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 regarding runoff is correct?

- I. Direct runoff enters the stream immediately after the rainfall.
- II. The delayed flow that reaches a stream essentially as ground water flow is called base flow.

**Options :**

1.  Only I

2.  Only II
3.  Both I and II
4.  Neither I nor II

**Question Number : 129 Question Id : 630680347369 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 represents the Khosla's formula for monthly run off calculation?

( $R_m$  = monthly run off in cm ( $\geq 0$ );  $P_m$  = monthly rainfall in cm,  $L_m$  = monthly losses in cm)

**Options :**

1.   $R_m = P_m - L_m$
2.   $R_m = P_m + L_m$
3.   $R_m = P_m \times L_m$
4.   $R_m = P_m/L_m$

**Question Number : 130 Question Id : 630680347370 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. An aquifer not only stores water but yields it in sufficient quantity.
- II. An aquitard is one, in which only seepage is possible and yield is insignificant compared to an aquifer.
- III. An aquifuge is neither porous nor permeable.

**Options :**

1.  Only I and II
2.  Only II and III
3.  Only I and III
4.  I, II and III

**Question Number : 131 Question Id : 630680347371 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 specific yield of aquifer, arrange the following types of soil in increasing percentage value of their specific yields.

P. Shale

Q. Sand shore Stone

R. Gravel

Options :

1. P, Q, R

2. P, R, Q

3. Q, R, P

4. Q, P, R

**Question Number : 132 Question Id : 630680347372 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Rice requires about 15 cm depth of water at an average interval of 8 days. Crop period for rice is 160 days. What is the delta for rice?

Options :

1. 150 cm

2. 300 cm

3. 450 cm

4. 600 cm

**Question Number : 133 Question Id : 630680347373 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 relation for duty and delta of a crop is correct?

( $\Delta$  = delta in cm, B = base required in days, D = duty in hectares/cumec)

Options :

1.  $\Delta = \frac{864B}{D} \text{ cm}$

2.  $\Delta = \frac{342B}{D} \text{ cm}$

3.  $\Delta = \frac{864B^2}{D} \text{ cm}$

4.  $\Delta = \frac{342B^2}{D} \text{ cm}$

**Question Number : 134 Question Id : 630680347374 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 average water depth required (in cm) for ground nut?

**Options :**

1.  45

2.  90

3.  20

4.  160

**Question Number : 135 Question Id : 630680347375 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 first watering which is given to a crop, when the crop is a few centimeters high is called \_\_\_\_\_.

**Options :**

1.  Paleo-Watering

2.  Duty

3.  pre-watering

4.  kor-watering

**Question Number : 136 Question Id : 630680347376 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 gravity dam, the line of the upstream face of dam, or the line of the crown down of dam if the upstream face is sloping, is taken as the reference line for layout purpose. This line is known as \_\_\_\_\_.

**Options :**

1.  Base line of the dam

2.  Top Flow line of the dam

3.  Range line of the dam

4.  Seepage line of the dam

**Question Number : 137 Question Id : 630680347377 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/are correct in the context of treatment of sewage?

- I. Primary treatment consists of removing large suspended organic solids
- II. After primary treatment secondary treatment involves further treatment of the effluent, coming from the primary sedimentation tank.

Options :

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

**Question Number : 138 Question Id : 630680347378 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 delta of a crop is 160 cm with a base period of 20 days, then what is the duty of the crop?

Options :

1.  54 hectares/cumec
2.  108 hectares/cumec
3.  216 hectares/cumec
4.  162 hectares/cumec

**Question Number : 139 Question Id : 630680347379 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 are is a primary air pollutant?

- I. Oxides of nitrogen like  $\text{NO}_2$
- II. Suspended particulate matter
- III. Ozone ( $\text{O}_3$ )

Options :

1.  Only I and II
2.  Only II and III
3.  Only I and III
4.  I, II and III

**Question Number : 140 Question Id : 630680347380 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 \_\_\_\_\_ tanks are designed to remove a part of the organic matter from the sewage effluent coming out from the grit chamber.

**Options :**

1.  Sedimentation
2.  Clarifier Tanks
3.  Batch Reactor Tanks
4.  Aeration Tanks

**Question Number : 141 Question Id : 630680347381 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 the context of noise pollution, what is the correct relation between sound pressure, Total atmospheric pressure, and Barometric pressure?

**Options :**

1.  Sound Pressure = Barometric Pressure/Total atmospheric pressure
2.  Sound Pressure = Total atmospheric pressure – Barometric Pressure
3.  Sound Pressure = Total atmospheric pressure + Barometric Pressure
4.  Sound Pressure = Total atmospheric pressure/Barometric Pressure

**Question Number : 142 Question Id : 630680347382 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 \_\_\_\_\_ of sound is defined as the rate of doing work by a travelling sound wave in the direction of the propagation of the wave.

**Options :**

1.  Frequency
2.  Power
3.  Intensity
4.  Pressure

**Question Number : 143 Question Id : 630680347383 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 the context of municipal solid waste, dumping of solid wastes at a particular waste dumping site, may lead to the formation of \_\_\_\_\_ during rains, which may seep down and contaminate the ground water.

**Options :**

1.  Leachates
2.  inorganic waste
3.  Organic Waste
4.  Wet Waste

**Question Number : 144 Question Id : 630680347384 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 solid waste generated through domestic and commercial activities is classified as Municipal solid waste and is also called \_\_\_\_\_.

**Options :**

1.  Refuse
2.  Garbage
3.  Ash
4.  Rubbish

**Question Number : 145 Question Id : 630680347385 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 ICAO, after the basic length of runway is corrected for elevation of an airport, it is further increased at the rate of \_\_\_\_\_ for every  $1^{\circ}\text{C}$  rise in temperature above the standard atmospheric temperature at that elevation.

**Options :**

1.  4 percent
2.  3 percent
3.  1 percent
4.  2 percent

**Question Number : 146 Question Id : 630680347386 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 locations with their acceptable outdoor noise levels in residential areas as per BIS Code 4954 – 1968.

	<b>Location</b>		<b>Noise Levels dB(A)</b>
I	Rural areas	1	50 – 60
II	City areas	2	25 – 35
III	Industrial areas	3	45 – 55

**Options :**

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

**Question Number : 147 Question Id : 630680347387 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 following category of area in the increasing order of the day time limits in dB(A) Leq. (As per Ambient air quality standards in respect of noise as specific under the India Environment Protection Act, 1986)

P. Industrial area

Q. Commercial area

R. Residential area

**Options :**

1.  R, P, Q
2.  R, Q, P
3.  Q, P, R
4.  P, R, Q

**Question Number : 148 Question Id : 630680347388 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 following type of vehicles in increasing order of noise levels as per GoI noise standards for different vehicles.

P. Passenger or commercial (upto 4 MT)

Q. Passenger or commercial (more than 12 MT)

R. Two wheelers

**Options :**

1.  R, P, Q

2.  P, Q, R

3.  P, R, Q

4.  Q, R, P

**Question Number : 149 Question Id : 630680347389 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 minimum domestic water consumption for bathing (in litres per head per day)?

(For Indian town and cities with full flushing system as per IS: 1172 – 1993)

**Options :**

1.  200

2.  75

3.  5

4.  10

**Question Number : 150 Question Id : 630680347390 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Duty of a crop is 216 hectare/cumec. and its base period is 30 days. What is the delta of the crop?

**Options :**

1.  120 cm

2.  60 cm

3.  40 cm

4.  240 cm

