

# PGCIL

**Previous Year Paper  
NR I Field Engineer  
Civil 2021**





पावरग्रिड  
POWERGRID

पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड  
(भारत सरकार का उद्यम)  
POWER GRID CORPORATION OF INDIA LIMITED  
(A Government of India Enterprise)

NRTS-I Regional Head Quarters, SCO Bay No.5-10, Sector-16A, Faridabad - 121 002  
recruitment@powergrid.co.in

Participant ID	
Participant Name	
Test Center Name	
Road Test Date	27/07/2021
Test Time	12:00 PM - 1:00 PM
Subject	Field Engineer (Civil)

Section : General English

Q.1 Four words are given, out of which only one word is spelt correctly. Choose the correctly spelt word.

- Ans
- ☒ A. desiccete
  - ☒ B. desicate
  - ☒ C. desicete
  - ☒ D. desiccate

Question ID : 66369576  
Status : Answered  
Chosen Option : B

Q.2 A sentence has been given in Direct/Indirect speech. Out of the four alternatives suggested, select the one which best expresses the same sentence in Indirect/Direct speech.

"I was not at my house that night", he explained.

- Ans
- ☒ A. He explained that, "I was not at my house that night".
  - ☒ B. He explained that, that night I was not at my house.
  - ☒ C. He explained that he had not been to his house that night.
  - ☒ D. He explained that he was not at his house that night.

Question ID : 66369579  
Status : Answered  
Chosen Option : D

Q.3 Select the word that is SYNONYM (similar in meaning) to the word given below.

condone

- Ans
- ☒ A. despise
  - ☒ B. object
  - ☒ C. abhor
  - ☒ D. tolerate

Question ID : 66369578  
Status : Answered  
Chosen Option : A

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Q.4 Select the most appropriate 'one word ' for the expressions given below.

An art of growing ornamental, artificially dwarfed varieties of trees and shrubs in pots

- Ans
- ☒ A. Bouquet
  - ☒ B. Pedagogy
  - ☒ C. Bonsai
  - ☒ D. Aspersion

Question ID : 66369577  
Status : Answered  
Chosen Option : C

Q.5 Select the word segment that substitutes (replaces) the bracketed word segment correctly and completes the sentence meaningfully. Select the option 'no correction required' if the sentence is correct as given.

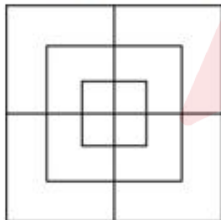
So this may be a chance to hit at (the corrupt collusion over government and business people).

- Ans
- ☒ A. the corrupt collusion in government and business people
  - ☒ B. the corrupt collusion under government and business people
  - ☒ C. No correction required
  - ☒ D. the corrupt collusion between government and business people

Question ID : 66369580  
Status : Answered  
Chosen Option : D

Section : Reasoning

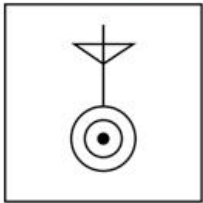
Q.1 Count the number of squares in the given figure.



- Ans
- ☒ A. 17
  - ☒ B. 14
  - ☒ C. 13
  - ☒ D. 15

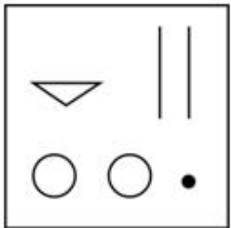
Question ID : 66369590  
Status : Answered  
Chosen Option : D

Q.2 Which of the following answer figures will exactly form the question figure?

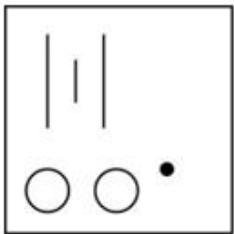


Ans

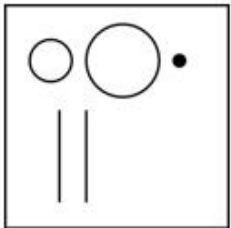
☒ A.



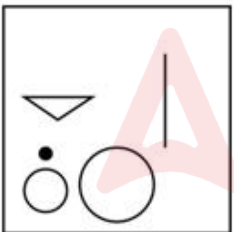
☒ B.



☒ C.

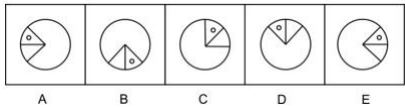


☒ D.



Question ID : 66369583  
Status : Answered  
Chosen Option : D

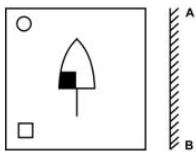
**Q.3** In the given question, out of the five figures given as A, B, C, D and E, four are similar in a certain manner. Choose the figure which is different from the rest.



- Ans**
- ☒ A. A
  - ☒ B. C
  - ☒ C. B
  - ☒ D. E

Question ID : 66369585  
Status : Answered  
Chosen Option : A

**Q.4** If a mirror is placed on the line AB, then which of the answer figures is the right image of the given figure?



- Ans**
- ☒ A.
  - ☒ B.
  - ☒ C.
  - ☒ D.

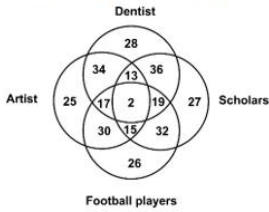
Question ID : 66369589  
Status : Answered  
Chosen Option : A

Q.5 Out of the given options, three are similar in a certain manner. However, one option is NOT like the other three. Select the option which is different from the rest.

- Ans ☒ A. Iron : Gate
- ☒ B. Skirt : Fabric
- ☒ C. Table : Wood
- ☒ D. Belt : Leather

Question ID : 66369586  
Status : Answered  
Chosen Option : A

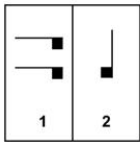
Q.6 Which of the following number represents the artists who are dentist and scholars but do not play football?



- Ans ☒ A. 19
- ☒ B. 17
- ☒ C. 13
- ☒ D. 2

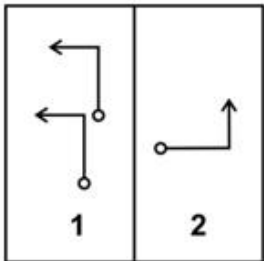
Question ID : 66369584  
Status : Answered  
Chosen Option : C

**Q.7** Out of the given options, find the pair in which the first figure bears the same relationship with the second figure as given in the question figure.

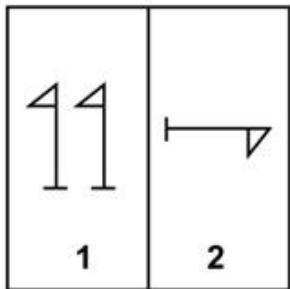


Ans

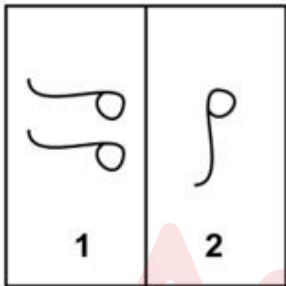
✓ A.



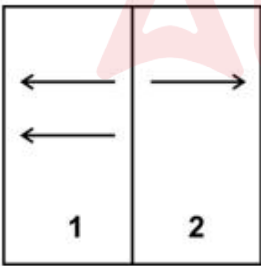
✗ B.



✗ C.



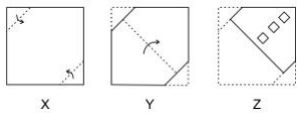
✗ D.



Question ID : 66369581  
Status : Answered  
Chosen Option : A

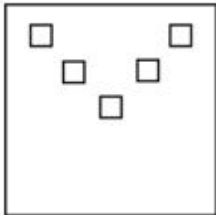


**Q.8** A paper is folded and punched as shown in the figure. Choose the figure which closely resembles the unfolded form of figure Z.

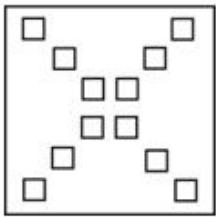


Ans

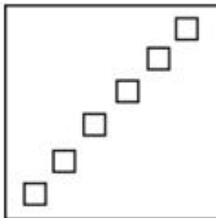
☒ A.



☒ B.



☒ C.

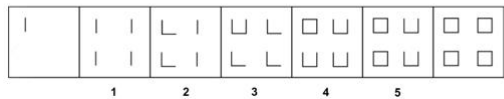


☒ D.



Question ID : 66369588  
Status : Answered  
Chosen Option : C

**Q.9** In the given question, there are seven figures, the first and last of which are unnumbered and the remaining are numbered as 1, 2, 3, 4 and 5. These seven figures form a series. However, one of the five numbered figures does not fit in the series. The number of that figure is the answer.



Ans

☒ A. 4

☒ B. 3

☒ C. 2

☒ D. 1

Question ID : 66369582  
Status : Answered  
Chosen Option : C

Q.10 In a certain code language if ADMISSION is coded as 112, HABITUATE is coded as 96, then what will CELEBRITY be coded as?

- Ans
- ☒ A. 108
  - ☐ B. 111
  - ☐ C. 99
  - ☐ D. 101

Question ID : 66369587  
Status : Answered  
Chosen Option : A

Section : Quantitative Aptitude

Q.1 If a person runs around a circular garden of radius 21 metres, what is the total distance he covers in a complete round of the garden?

- Ans
- ☐ A. 22 metres
  - ☐ B. 6 metres
  - ☒ C. 132 metres
  - ☐ D. 44 metres

Question ID : 66369596  
Status : Answered  
Chosen Option : C

Q.2 The average of five numbers set in ascending order is 10. The average of the 2nd, 3rd and 4th number is 10. What can be the maximum difference between the 5th and the 1st term if it is known that all terms are natural integers?

- Ans
- ☐ A. 19
  - ☐ B. 20
  - ☐ C. 17
  - ☒ D. 18

Question ID : 66369598  
Status : Answered  
Chosen Option : B

Q.3 If 726 and 1589 are two numbers, the LCM of these must be a multiple of which of the following?

- Ans
- ☐ A. 13
  - ☐ B. 17
  - ☐ C. 8
  - ☒ D. 3

Question ID : 66369594  
Status : Answered  
Chosen Option : D

Q.4 24 pens cost Rs. 36. If a person has Rs. 91, how many such pens can he buy?

- Ans ☒ A. 60  
☒ B. 61  
☒ C. 59  
☒ D. 58

Question ID : 66369599  
Status : Answered  
Chosen Option : A

Q.5 A and B play a heads and tails game using an unbiased coin. A earns Rs. 2 every time a head turns up and loses Rs. 1 every time a tail turns up. If A earns Rs. 10, what is the least number of times the coin has to be tossed?

- Ans ☒ A. 7  
☒ B. 4  
☒ C. 5  
☒ D. 6

Question ID : 66369597  
Status : Answered  
Chosen Option : C

Q.6 If  $|3x - 6| = 0$  and  $|4y - 8| = 0$ , which of the following can be a value of  $x + y$ , where  $x$  and  $y$  are variables?

- Ans ☒ A. 3  
☒ B. 6  
☒ C. 2  
☒ D. 4

Question ID : 66369592  
Status : Answered  
Chosen Option : D

Q.7 Alloy 'A' has three metals; metal A, B and C in the ratio 1 : 2 : 3. Alloy B has Metal A, B and C in the ratio 2 : 3 : 4. In what ratio, should the two alloys be mixed to get 20% metal A in the final mix?

- Ans ☒ A. 4 : 5  
☒ B. 2 : 3  
☒ C. 5 : 6  
☒ D. 1 : 1

Question ID : 66369595  
Status : Answered  
Chosen Option : A

Q.8 On a track of 100 m, A is ahead of B by 20 m. The speed of A is 10 m/sec and that of B is 14 m/sec. In how many seconds will B cover the gap of 20 metres?

- Ans ☒ A. 5 seconds
- ☒ B. 6 seconds
- ☒ C. 2 seconds
- ☒ D. 10 seconds

Question ID : 66369593  
Status : Answered  
Chosen Option : A

Q.9 Harish and Ravi work at equal efficiencies and complete a piece of work together in 10 days. If after working for two days, Ravi leaves and Harish is left alone to do the work, in how many days will Harish complete the remaining work?

- Ans ☒ A. 16 days
- ☒ B. 12 days
- ☒ C. 20 days
- ☒ D. 8 days

Question ID : 66369591  
Status : Answered  
Chosen Option : A

Q.10 On a sum of Rs. 30,000, Pratik gets simple interest as follows: 10% in the first year, 20% in the second year and 30% in the third year. What is the sum total of the interest earned by him?

- Ans ☒ A. Rs. 1,800
- ☒ B. Rs. 15,000
- ☒ C. Rs. 18,000
- ☒ D. Rs. 12,000

Question ID : 663695100  
Status : Answered  
Chosen Option : C

Q.1 In a simply supported beam of span L carrying UDL 'w' over the entire span, the maximum moment will be:

- Ans
- ☒ A.  $\frac{wL^2}{16}$
  - ☒ B.  $\frac{wL^2}{4}$
  - ☒ C.  $\frac{wL^2}{2}$
  - ☒ D.  $\frac{wL^2}{8}$

Question ID : 663695119  
Status : Answered  
Chosen Option : D

Q.2 The aggregate comprises about \_\_\_\_ of the volume of mortar and about \_\_\_\_ of the volume of mass concrete.

- Ans
- ☒ A. 55%; 80%
  - ☒ B. 45%; 75%
  - ☒ C. 55%; 85%
  - ☒ D. 45%; 80%

Question ID : 663695106  
Status : Answered  
Chosen Option : A

Q.3 Which of the following statements is INCORRECT with regard to precise levelling when compared to ordinary levelling?

- Ans
- ☒ A. High grade levels and stadia rods are used in precise levelling.
  - ☒ B. The length of sight is limited to 100 m in length.
  - ☒ C. Rod readings are taken against the two horizontal hairs of the diaphragm.
  - ☒ D. Two rodmen are employed and backsight and foresight are taken in quick succession.

Question ID : 663695145  
Status : Answered  
Chosen Option : D

Q.4 Bismuth is a:

- Ans
- ☒ A. ferromagnetic material
  - ☒ B. mono-magnetic material
  - ☒ C. paramagnetic material
  - ☒ D. diamagnetic material

Question ID : 663695130  
Status : Marked For Review  
Chosen Option : D

Q.5 'Particle size smaller than 75-micron sieve identified by behaviour, that is, slightly plastic or non-plastic regardless of moisture and exhibits little or no strength when air dried.'

Which of the following does the given statement describe?

- Ans
- ☒ A. Cobble
  - ☒ B. Silt
  - ☒ C. Organic matter
  - ☒ D. Clay

Question ID : 663695112

Status : Answered

Chosen Option : B

Q.6 Which of the following has specific surface of about 15 m<sup>2</sup>/gm?

- Ans
- ☒ A. Illite mineral
  - ☒ B. Kaolinite mineral
  - ☒ C. Isomorphous mineral
  - ☒ D. Montmorillonite mineral

Question ID : 663695116

Status : Answered

Chosen Option : B

Q.7 According to Routh's rule, if a body is symmetrical about three mutually perpendicular axes, then the moment of inertia, about any one axis passing through its centre of gravity for a circular lamina, is given by:

(Where A = area of plane area, M = mass of the body, S = sum of the squares of the two semi-axes, other than the axis about which the moment of inertia is required to be found out)

- Ans
- ☒ A.  $I = \frac{A \text{ (or M)} \times S}{2}$
  - ☒ B.  $I = \frac{A \text{ (or M)} \times S}{5}$
  - ☒ C.  $I = \frac{A \text{ (or M)} \times S}{3}$
  - ☒ D.  $I = \frac{A \text{ (or M)} \times S}{4}$

Question ID : 663695124

Status : Answered

Chosen Option : D

Q.8 In case of channel members, the lug angles and their connection to the gusset or other supporting member shall be capable of developing a strength of NOT less than \_\_\_\_ in excess of the force not accounted for, by the direct connection of member.

- Ans
- ☒ A. 20%
  - ☒ B. 10%
  - ☒ C. 5%
  - ☒ D. 30%

Question ID : 663695141  
Status : Answered  
Chosen Option : C

Q.9 \_\_\_\_ based membrane forming curing compound has the additional advantage of having better adhesion of subsequent plaster. These membrane does not get crumbled down or it need not be washed with hot water.

- Ans
- ☒ A. Resin
  - ☒ B. Chlorinated rubber
  - ☒ C. Wax
  - ☒ D. Acrylic

Question ID : 663695103  
Status : Answered  
Chosen Option : D

Q.10 Which of the following soils essentially contain clay mineral montmorillonite and high shrinkage and swelling characteristics?

- Ans
- ☒ A. Desert soils
  - ☒ B. Alluvial deposits
  - ☒ C. Black cotton soils
  - ☒ D. Lateritic soils

Question ID : 663695113  
Status : Answered  
Chosen Option : C

- Q.11
1. The line of sight
  2. The axis of the collars
  3. The axis of the level tube
  4. The vertical axis through the spindle of the level

The given principle lines belong to:

- Ans
- ☒ A. adjustment of reversible level
  - ☒ B. adjustment of wye level
  - ☒ C. adjustment of tilting level
  - ☒ D. adjustment of dumpy level

Question ID : 663695148  
Status : Answered  
Chosen Option : D

Q.12 Which of the following is NOT the correct permanent adjustment of a sextant?

- Ans
- ☒ A. To make the index glass perpendicular to the plane of the graduated arc
  - ☒ B. To make the horizon glass perpendicular to the plane of graduated arc
  - ☒ C. To make the line of sight perpendicular to the plane of the graduated arc
  - ☒ D. To make the horizon mirror parallel to the index mirror when the vernier is set at zero

Question ID : 663695146

Status : Answered

Chosen Option : C

Q.13 According to IS 800:1984, outstand of the stiffeners from the web should NOT exceed \_\_\_\_ for sections (where 't' is the thickness of the section and  $f_y$  is the yield strength of steel).

- Ans
- ☒ A.  $\frac{125t^2}{\sqrt{f_y}}$
  - ☒ B.  $12t$
  - ☒ C.  $\frac{256t}{\sqrt{f_y}}$
  - ☒ D.  $10t$

Question ID : 663695137

Status : Answered

Chosen Option : C

Q.14 The vertical joints separating the bricks in either length or cross direction are known as:

- Ans
- ☒ A. laps
  - ☒ B. queen closers
  - ☒ C. perpend
  - ☒ D. arrises

Question ID : 663695149

Status : Answered

Chosen Option : B

Q.15 'Round to angular, bulky, hard, rock particle, average diameter smaller than 300 mm but retained on 80 mm IS sieve.'

Which of the following soil components does the given statement describe?

- Ans
- ☒ A. Gravel
  - ☒ B. Boulder
  - ☒ C. Silt
  - ☒ D. Cobble

Question ID : 663695114

Status : Answered

Chosen Option : B



Q.16 What is the cementitious nature of fly ash?

- Ans
- ☒ A. Hydraulic
  - ☒ B. Non-hydraulic
  - ☒ C. Composite hydraulic
  - ☒ D. Latent hydraulic

Question ID : 663695133  
Status : Answered  
Chosen Option : B

Q.17 Which of the following is NOT an advantage of pin connections in steel structural connections?

- Ans
- ☒ A. To eliminate the secondary stresses due to rigid connections, due to the flexibility of joints
  - ☒ B. Speed with which the structure can be erected
  - ☒ C. Pin connections can eliminate complete rigidity at a joint since a pin can permit rotation at the most in only one plane
  - ☒ D. To make the frames statically determinate

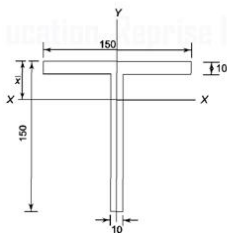
Question ID : 663695140  
Status : Answered  
Chosen Option : B

Q.18 Which of the following rocks as a class are the most chemically active concrete aggregate and show tendency to react with the alkalies in cement?

- Ans
- ☒ A. Metamorphic rocks
  - ☒ B. Cathodic rocks
  - ☒ C. Sedimentary rocks
  - ☒ D. Igneous rocks

Question ID : 663695101  
Status : Answered  
Chosen Option : D

Q.19 Find the value of  $\bar{x}$  for the T-shaped section shown in the figure, where axis X-X is the centroidal axis (all lengths are in mm).



- Ans
- ☒ A. 3.06 mm
  - ☒ B. 41.2 mm
  - ☒ C. 15 mm
  - ☒ D. 39.13 mm

Question ID : 663695122  
Status : Answered  
Chosen Option : B

Q.20 Find the centre of gravity of a segment of height 30 mm of a sphere of radius 60 mm.

- Ans
- ☒ A. 162 mm
  - ☒ B. 54 mm
  - ☒ C. 81 mm
  - ☒ D. 40.5 mm

Question ID : 663695128  
Status : Answered  
Chosen Option : D

Q.21 What is the specific gravity of calcite?

- Ans
- ☒ A. 2.65
  - ☒ B. 5.0
  - ☒ C. 2.30
  - ☒ D. 2.72

Question ID : 663695131  
Status : Answered  
Chosen Option : D

Q.22 Which of the following methods for prevention of corrosion in steel reinforcement in concrete is NOT widely used in India due to high cost and long-term monitoring required?

- Ans
- ☒ A. Galvanised reinforcement
  - ☒ B. Cathodic protection
  - ☒ C. Derusting
  - ☒ D. Phosphating

Question ID : 663695105  
Status : Answered  
Chosen Option : A

Q.23 "The interconnected elements both ways behave like beams but the structure is efficient in distributing the effect of loads on an element both ways. In addition to bending, elements are also subjected to a twisting action."

The given statement is TRUE for:

- Ans
- ☒ A. Plates
  - ☒ B. rigid frames
  - ☒ C. Grids
  - ☒ D. shell structures

Question ID : 663695121  
Status : Answered  
Chosen Option : B

Q.24 Which of the following is NOT a merit of the shear vane test for determination of undrained shear strength?

- Ans
- ☒ A. The test is simple and quick.
  - ☒ B. The test is ideally suited for the determination of the in-situ undrained shear strength of non-fissured, fully saturated clay.
  - ☒ C. The test can be conducted on the clay containing sand or silt laminations.
  - ☒ D. The test can be conveniently used to determine the sensitivity of the soil.

Question ID : 663695115  
Status : Answered  
Chosen Option : D

Q.25 Which of the following is the most commonly used type of valve for a concrete pump?

- Ans
- ☒ A. Sliding gate or rotating valve
  - ☒ B. Flapper valve
  - ☒ C. Squeeze type valve
  - ☒ D. Hollow transfer tube valve

Question ID : 663695104  
Status : Answered  
Chosen Option : B

Q.26 According to IS:456-2000, a beam shall be deemed to be a deep beam when the ratio of effective span to overall depth is less than \_\_\_\_\_ for a continuous beam.

- Ans
- ☒ A. 2.5
  - ☒ B. 2.0
  - ☒ C. 0.5
  - ☒ D. 1.0

Question ID : 663695136  
Status : Answered  
Chosen Option : A

Q.27 The condition for a lifting machine to be \_\_\_\_\_ is that its efficiency should NOT be more than 50%.

- Ans ☒ A. self-locking  
☒ B. ideal  
☒ C. convertible  
☒ D. reversible

Question ID : 663695129  
 Status : Answered  
 Chosen Option : A

Q.28 An oven-dried soil sample having mass of 180 g was put inside a pycnometer, which was then completely filled with distilled water. The mass of the pycnometer with soil and water was found to be 1464 g. The mass of the pycnometer filled with water alone was 1355 g. Calculate the specific gravity of soil solids.

- Ans ☒ A. 2.53  
☒ B. 2.33  
☒ C. 2.59  
☒ D. 2.70

Question ID : 663695109  
 Status : Answered  
 Chosen Option : A

Q.29 What is the positive and negative internal pressure coefficient recommended as per IS:875-1987 in designing buildings where claddings permit the flow of air through openings NOT more than 5% of the wall area?

- Ans ☒ A. 0.2  
☒ B. 0.3  
☒ C. 0.35  
☒ D. 0.1

Question ID : 663695138  
 Status : Answered  
 Chosen Option : A

Q.30 "The effect of force acting on a rigid body does not change if the force is moved along its line of action to another point on the body."

The given statement is TRUE for:

- Ans ☒ A. the parallelogram law  
☒ B. the principle of transmissibility  
☒ C. Newton's law of gravitation  
☒ D. the principle of superposition

Question ID : 663695123  
 Status : Answered  
 Chosen Option : B

Q.31 Which of the following is an indirect method of achieving ultra-high strength in concrete?

- Ans
- ☒ A. Polymerisation in concrete
  - ☒ B. Reactive powder concrete
  - ☒ C. Compaction by pressure
  - ☒ D. Helical binding

Question ID : 663695107  
Status : Answered  
Chosen Option : A

Q.32 Which of the following methods of determining water content of soil sample is NOT convenient for use in case of fine-grained soils as it becomes difficult to find  $M_3$  accurately?

( $M_3$  is the mass of a pycnometer with soil and water)

- Ans
- ☒ A. Over-drying method
  - ☒ B. Pycnometer method
  - ☒ C. Rapid method
  - ☒ D. Glass-jar method

Question ID : 663695110  
Status : Answered  
Chosen Option : D

Q.33 What is the representative height of capillary rise for fine sand?

- Ans
- ☒ A. 0.02 to 0.10 m
  - ☒ B. 0.10 to 0.15 m
  - ☒ C. 0.30 to 1.00 m
  - ☒ D. 1.0 to 10.0 m

Question ID : 663695117  
Status : Answered  
Chosen Option : C

Q.34 Which of the following is NOT an advantage of welded connections?

- Ans
- ☒ A. Noiseless operation, clean neat joints
  - ☒ B. Connections are rigid
  - ☒ C. 100% efficiency can be achieved
  - ☒ D. Negligible warping

Question ID : 663695143  
Status : Answered  
Chosen Option : A

Q.35 Which of the following is NOT a merit of the direct shear test?

- Ans
- ☒ A. It is ideally suited for conducting drained test on cohesionless soils.
  - ☒ B. The apparatus is relatively cheap.
  - ☒ C. The measurement of pore water pressure is convenient to perform.
  - ☒ D. The sample preparation is easy. The test is simple and convenient.

Question ID : 663695118  
Status : Answered  
Chosen Option : C

Q.36 In a certain weight lifting machine, a weight of 1 kN is lifted by an effort of 40 N. While the weight moves up by 100 mm, the point of application of effort moves by 5 m. Find the efficiency of the machine.

- Ans
- ☒ A. 50%
  - ☒ B. 40%
  - ☒ C. 70%
  - ☒ D. 60%

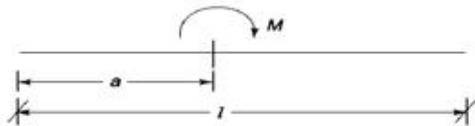
Question ID : 663695127  
Status : Answered  
Chosen Option : A

Q.37 Find the centre of gravity of a 100 mm × 150 mm × 30 mm T-section (consider approximate value).

- Ans
- ☒ A. 94.1 mm
  - ☒ B. 621 mm
  - ☒ C. 3184.6 mm
  - ☒ D. 87.2 mm

Question ID : 663695125  
Status : Answered  
Chosen Option : D

Q.38



What does the given figure represent?

- Ans
- ☒ A. Couple load
  - ☒ B. Point or concentrated load
  - ☒ C. Distributed loads
  - ☒ D. Combination of loads

Question ID : 663695120  
Status : Answered  
Chosen Option : A

Q.39 Sandstone and shale belong to which of the following categories of sedimentary rocks?

- Ans
- ☒ A. Chemical
  - ☒ B. Foliated texture
  - ☒ C. Detrital
  - ☒ D. Non-foliated texture

Question ID : 663695132  
Status : Answered  
Chosen Option : B

Q.40 In which of the following cases are frictional forces NOT desired?

- Ans
- ☒ A. Gears
  - ☒ B. Belt drives
  - ☒ C. Wedges
  - ☒ D. Clutches

Question ID : 663695126  
Status : Answered  
Chosen Option : A

Q.41 Which of the following statements is INCORRECT with regards to plasticity, liquidity and consistency indexes?

- Ans
- ☒ A. When the soil state is in the plasticity range, liquidity index will lie between 0 and 1 (100%).
  - ☒ B. When consistency index is negative, the soil mass will be in liquid state.
  - ☒ C. When consistency index is positive but greater than 1 (>100%), the soil mass will be in semi-solid or solid state.
  - ☒ D. When liquidity index is less than 1, the soil mass will be in liquid state.

Question ID : 663695111  
Status : Answered  
Chosen Option : B

Q.42 Which of the following methods of estimating building works is NOT advantageous for unsymmetrical walls but specially adopted for octagonal, hexagonal etc. shaped buildings?

- Ans
- ☒ A. Short wall or in to in method
  - ☒ B. Long wall or out to out method
  - ☒ C. Crossing method
  - ☒ D. Centre line method

Question ID : 663695150  
Status : Answered  
Chosen Option : D

Q.43 Which of the following aggregate surfaces is granular?

- Ans
- ☒ A. Granite
  - ☒ B. Basalt
  - ☒ C. Sandstone
  - ☒ D. Expanded slag

Question ID : 663695135  
Status : Answered  
Chosen Option : C

Q.44 What is the surface texture of aggregates like scoria, pumice and trass?

- Ans
- ☒ A. Glassy
  - ☒ B. Honeycombed and porous
  - ☒ C. Crystalline
  - ☒ D. Granular

Question ID : 663695102  
Status : Answered  
Chosen Option : C

Q.45 Which of the following type of connections can be used in beam to girder connections only when there is sufficient web depth in the girder to provide for the seat angle?

- Ans
- ☒ A. Direct shear connections
  - ☒ B. Seated connections (beam to beam)
  - ☒ C. Seated connections (column to beam)
  - ☒ D. Moment or eccentric connections

Question ID : 663695142  
Status : Answered  
Chosen Option : B

Q.46 The slenderness ratio of members always under tension and other pretensioned members should NOT be greater than:

- Ans
- ☒ A. 250
  - ☒ B. 180
  - ☒ C. 350
  - ☒ D. 400

Question ID : 663695139  
Status : Answered  
Chosen Option : D



Q.47 The test for determination of the flakiness index of aggregate is NOT applicable to sizes:

- Ans ☒ A. smaller than 6.3 mm  
☒ B. equal to 5.8 mm  
☒ C. greater than 6.3 mm  
☒ D. equal to 7.3 mm

Question ID : 663695108  
 Status : Answered  
 Chosen Option : C

Q.48 The effective length of a fillet weld designed to transmit loading shall NOT be less than:

- Ans ☒ A. two times the size of the weld  
☒ B. four times the size of the weld  
☒ C. three times the size of the weld  
☒ D. five times the size of the weld

Question ID : 663695144  
 Status : Answered  
 Chosen Option : A

Q.49 Which of the following cases is INCORRECT in order to get the difference in elevation between the instrument station and the object under observation?

- Ans ☒ A. Base of the object accessible: Instrument stations in the same horizontal plane as the elevated object  
☒ B. Base of the object inaccessible: Instrument stations not in the same vertical plane as the elevated object  
☒ C. Base of the object inaccessible: Instrument stations in the same vertical plane as the elevated object  
☒ D. Base of the object accessible

Question ID : 663695147  
 Status : Answered  
 Chosen Option : B

Q.50 Iron oxide and alumina account for about \_\_\_\_\_ of the ingredients in raw materials used in the manufacture of Portland cement.

- Ans ☒ A. 10%  
☒ B. 60%  
☒ C. 30%  
☒ D. 20%

Question ID : 663695134  
 Status : Answered  
 Chosen Option : A