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# **OLIC JE (Civil)**

**Previous Year Paper  
21 June, 2023 Shift 1**





# ODISHA LIFT IRRIGATION CORPORATION LIMITED

A Government of Odisha Undertaking

Participant ID	
Participant Name	
Test Center Name	
Test Date	21/06/2023
Test Time	9:00 AM - 12:00 PM
Subject	Junior Engineer (Civil)

Section : JUNIOR ENGINEER (CIVIL)

**Q.1** Study the given statements with respect to properties of plastic and identify the correct answer.

Statement A: Thermoplastic can be remoulded, it is formed by the addition of polymerisation and has long chain molecule structures.

Statement B: Thermosetting can be remoulded, it is formed by the addition of polymerisation and has long chain molecule structures.

- Ans**
- ☒ 1. Statement B is correct but A is incorrect
  - ☒ 2. Both the statements are incorrect
  - ☒ 3. Statement A is correct but B is incorrect
  - ☒ 4. Both the statements are correct

Question ID : 630680247020  
Option 1 ID : 630680958360  
Option 2 ID : 630680958362  
Option 3 ID : 630680958359  
Option 4 ID : 630680958361  
Status : Answered  
Chosen Option : 3

**Q.2** As per the analysis of rates by Government of Odisha, the initial lead mentioned for earth work is within \_\_\_\_\_.

- Ans**
- ☒ 1. 30 m
  - ☒ 2. 50 m
  - ☒ 3. 15 m
  - ☒ 4. 75 m

Question ID : 630680246884  
Option 1 ID : 630680957817  
Option 2 ID : 630680957818  
Option 3 ID : 630680957815  
Option 4 ID : 630680957816  
Status : Answered  
Chosen Option : 1

**Q.3** Study the given statements with respect to planning and building standards set by Odisha development authorities and identify the correct answer.

Statement A: The applicant shall deposit a refundable non-earning security deposit if the type of structure is commercial and institutional buildings have 100 square meters built-up area or more.

Statement B: The security deposit mentioned in statement A shall be refunded to the applicants within 30 days from the date of issue of occupancy certificate.

- Ans**
- ☒ 1. Both the statements are incorrect
  - ☒ 2. Statement B is correct but A is incorrect
  - ☒ 3. Both the statements are correct
  - ☒ 4. Statement A is correct but B is incorrect

Question ID : 630680246994  
Option 1 ID : 630680958258  
Option 2 ID : 630680958256  
Option 3 ID : 630680958257  
Option 4 ID : 630680958255  
Status : Answered  
Chosen Option : 4

**Q.4** Which of the following activities must be completed immediately before the beginning of another activity?

- Ans**
- ☒ 1. Predecessor activity
  - ☒ 2. Successor activity
  - ☒ 3. Dummy activity
  - ☒ 4. Concurrent activity

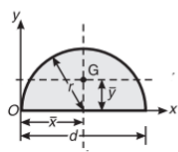
Question ID : 630680247009  
Option 1 ID : 630680958315  
Option 2 ID : 630680958316  
Option 3 ID : 630680958318  
Option 4 ID : 630680958317  
Status : Answered  
Chosen Option : 3

**Q.5** The unit of measurement used for estimating quantity of expansion joint is \_\_\_\_.

- Ans**
- ☒ 1. numbers
  - ☒ 2. running metre
  - ☒ 3. cubic metres
  - ☒ 4. square metres

Question ID : 630680246877  
Option 1 ID : 630680957789  
Option 2 ID : 630680957787  
Option 3 ID : 630680957790  
Option 4 ID : 630680957788  
Status : Answered  
Chosen Option : 2

**Q.6** A semi-circular lamina with X and Y reference axes is shown in the figure. Calculate the value of ' $\bar{Y}$ ', if the radius  $r = 30$  mm.



- Ans
- ☒ 1.  $\frac{60}{\pi}$  mm
  - ☒ 2.  $\frac{40}{\pi}$  mm
  - ☒ 3.  $\frac{30}{\pi}$  mm
  - ☒ 4.  $\frac{120}{\pi}$  mm

Question ID : 630680246848  
Option 1 ID : 630680957674  
Option 2 ID : 630680957671  
Option 3 ID : 630680957673  
Option 4 ID : 630680957672  
Status : Not Answered  
Chosen Option : --

**Q.7** Which of the following IS codes provides guidelines for wind load calculations on structures?

- Ans
- ☒ 1. IS 875(Part 1):2015
  - ☒ 2. IS 875(Part 2):2015
  - ☒ 3. IS 875(Part 4):2015
  - ☒ 4. IS 875(Part 3):2015

Question ID : 630680247015  
Option 1 ID : 630680958339  
Option 2 ID : 630680958340  
Option 3 ID : 630680958342  
Option 4 ID : 630680958341  
Status : Answered  
Chosen Option : 4

**Q.8** Bureau of Indian Standards (BIS) has categorised the regions in India into \_\_\_\_\_ seismic zones.

- Ans
- ☒ 1. 4
  - ☒ 2. 7
  - ☒ 3. 3
  - ☒ 4. 15

Question ID : 630680247016  
Option 1 ID : 630680958344  
Option 2 ID : 630680958346  
Option 3 ID : 630680958343  
Option 4 ID : 630680958345  
Status : Answered  
Chosen Option : 1

Q.9 Which of the following stones is classified as sedimentary rock?

- Ans
- ☐ 1. Laterite stone
  - ☒ 2. Kankar
  - ☐ 3. Marble
  - ☐ 4. Serpentine

Question ID : 630680246867  
Option 1 ID : 630680957750  
Option 2 ID : 630680957748  
Option 3 ID : 630680957749  
Option 4 ID : 630680957747  
Status : Answered  
Chosen Option : 1

Q.10 Identify the correct statement from the given options.

- Ans
- ☐ 1. Sugarcane is an eight-month crop.
  - ☐ 2. Ratio of the area irrigated in Kharif season to the area irrigated in Rabi season is called as crop ratio.
  - ☒ 3. In India, the Kharif season spans mostly from July to October.
  - ☐ 4. Wheat is classified as a Kharif crop.

Question ID : 630680246919  
Option 1 ID : 630680957957  
Option 2 ID : 630680957955  
Option 3 ID : 630680957958  
Option 4 ID : 630680957956  
Status : Answered  
Chosen Option : 2

Q.11 Study the given statements with respect to type of brick bonds and identify the correct answer.

Statement A: Header bond Is considered to be stronger than English bond for the given thickness.

Statement B: In the double Flemish bond, each course presents the same appearance, both in front and back face.

- Ans
- ☒ 1. Statement B is correct but A is incorrect
  - ☐ 2. Both the statements are correct
  - ☐ 3. Statement A is correct but B is incorrect
  - ☐ 4. Both the statements are incorrect

Question ID : 630680246874  
Option 1 ID : 630680957776  
Option 2 ID : 630680957777  
Option 3 ID : 630680957775  
Option 4 ID : 630680957778  
Status : Answered  
Chosen Option : 2

Q.12 As per IS 875(part2): 1987, the imposed floor load on corridors of a dwelling house is \_\_\_\_\_.

- Ans
- ☐ 1.  $1.5 \text{ kN/m}^2$
  - ☐ 2.  $1.8 \text{ kN/m}^2$
  - ☐ 3.  $2 \text{ kN/m}^2$
  - ☒ 4.  $3 \text{ kN/m}^2$

Question ID : 630680246899

Option 1 ID : 630680957876

Option 2 ID : 630680957878

Option 3 ID : 630680957877

Option 4 ID : 630680957875

Status : Answered

Chosen Option : 2

Q.13 Primary treatment of wastewater includes \_\_\_\_\_.

- Ans
- ☐ 1. sludge stabilisation
  - ☒ 2. sedimentation tank
  - ☐ 3. biological decomposition
  - ☐ 4. screens, grit chamber, skimming tank

Question ID : 630680246977

Option 1 ID : 630680958190

Option 2 ID : 630680958188

Option 3 ID : 630680958189

Option 4 ID : 630680958187

Status : Not Answered

Chosen Option : --

Q.14 As per CPHEEO, 2013, the minimum width of manhole should NOT be less than \_\_\_\_\_.

- Ans
- ☐ 1. internal diameter of the sewer pipe plus 250 mm benching on both the sides
  - ☒ 2. internal diameter of the sewer pipe plus 150 mm benching on both the sides
  - ☐ 3. internal diameter of the sewer pipe plus 200 mm benching on both the sides
  - ☐ 4. internal diameter of the sewer pipe plus 300 mm benching on both the sides

Question ID : 630680246978

Option 1 ID : 630680958193

Option 2 ID : 630680958191

Option 3 ID : 630680958192

Option 4 ID : 630680958194

Status : Answered

Chosen Option : 4

**Q.15** In the design of a two-way slab, the flexural reinforcement required in a shorter span is found to be  $400 \text{ mm}^2/\text{m}$ . Calculate the required spacing, if 10 mm diameter steel bars are to be used.

- Ans
- ☒ 1.  $40.5\pi \text{ mm}$
  - ☒ 2.  $68.5\pi \text{ mm}$
  - ☒ 3.  $62.5\pi \text{ mm}$
  - ☒ 4.  $16\pi \text{ mm}$

Question ID : 630680246900

Option 1 ID : 630680957881

Option 2 ID : 630680957882

Option 3 ID : 630680957880

Option 4 ID : 630680957879

Status : Not Answered

Chosen Option : --

**Q.16** Which of the following empirical formulas is suggested by "Dicken" to estimate flood discharge (Q)? Where, 'A' is catchment area and 'C' is flood coefficient.

- Ans
- ☒ 1.  $Q = AC^{1/2}$
  - ☒ 2.  $Q = AC^{1/3}$
  - ☒ 3.  $Q = CA^{3/4}$
  - ☒ 4.  $Q = CA^{2/3}$

Question ID : 630680246917

Option 1 ID : 630680957950

Option 2 ID : 630680957949

Option 3 ID : 630680957948

Option 4 ID : 630680957947

Status : Answered

Chosen Option : 3

**Q.17** \_\_\_\_\_ is an ill effect of deforestation.

- Ans
- ☒ 1. Positive effect on productivity
  - ☒ 2. Decrement in greenhouse gas
  - ☒ 3. Land erosion and landslides
  - ☒ 4. High per capita forestland

Question ID : 630680246889

Option 1 ID : 630680957835

Option 2 ID : 630680957838

Option 3 ID : 630680957836

Option 4 ID : 630680957837

Status : Answered

Chosen Option : 3

Q.18 Which of the following is NOT a threat to biodiversity?

- Ans
- ✓ 1. Afforestation
  - ✗ 2. Habitats loss
  - ✗ 3. Poaching of wild life
  - ✗ 4. Man wild life conflict

Question ID : 630680246893

Option 1 ID : 630680957851

Option 2 ID : 630680957854

Option 3 ID : 630680957852

Option 4 ID : 630680957853

Status : Not Answered

Chosen Option : --

Q.19 Identify the INCORRECT statement with respect to methods of booking and reducing the elevation of points by observed staff readings.

- Ans
- ✓ 1.  
Addition of fore sight staff reading with the elevation of bench marks provides height of the instrument.
  - ✗ 2.  
The difference of level between consecutive points is found by comparing staff readings on the two points for same setting of the instrument is taken in rise and fall method.
  - ✗ 3.  
Height of instrument method is more rapid, less tedious and simple when compared to rise and fall method.
  - ✗ 4.  
Sum of rise minus sum of fall shall be equal to last reduced level minus first reduced level to have no errors.

Question ID : 630680246934

Option 1 ID : 630680958018

Option 2 ID : 630680958016

Option 3 ID : 630680958015

Option 4 ID : 630680958017

Status : Answered

Chosen Option : 1

Q.20 Identify the INCORRECT statement with respect to continuity equation used to understand kinematics of flow.

- Ans
- ✗ 1.  
For a fluid flowing through the pipe at all the cross-sections, the quantity of fluid is constant.
  - ✗ 2.  
The continuity equation is based on the principle of conservation of mass.
  - ✓ 3.  
Continuity equation is not applicable to incompressible fluids.
  - ✗ 4.  
Continuity equation is applicable to compressible fluids.

Question ID : 630680246912

Option 1 ID : 630680957928

Option 2 ID : 630680957927

Option 3 ID : 630680957930

Option 4 ID : 630680957929

Status : Answered

Chosen Option : 4

Q.21 A partially saturated soil is said to be a \_\_\_\_\_.

- Ans
- ☐ 1. one-phase system
  - ☐ 2. two-phase system with soil and water
  - ☒ 3. three-phase system with soil, water and air
  - ☐ 4. two-phase system with soil and air

Question ID : 630680246863

Option 1 ID : 630680957731

Option 2 ID : 630680957732

Option 3 ID : 630680957734

Option 4 ID : 630680957733

Status : Answered

Chosen Option : 3

Q.22 Identify the correct statement with respect to door and its components in a residential building.

- Ans
- ☐ 1. Height of door is normally kept 3.5 m.
  - ☐ 2. The length of horn is normally kept 10 to 15 mm.
  - ☐ 3. The uppermost horizontal part of the door is called as sill.
  - ☒ 4.

The recess made inside the door frame to receive the door shutter is called rebate.

Question ID : 630680246875

Option 1 ID : 630680957779

Option 2 ID : 630680957780

Option 3 ID : 630680957782

Option 4 ID : 630680957781

Status : Answered

Chosen Option : 2

Q.23 Which of the following IS codes deals with "code of practice for use of steel tubes in general building construction"?

- Ans
- ☒ 1. IS :806-1968 (Reaffirmed 2008)
  - ☐ 2. IS :2386-1968 (Reaffirmed 2008)
  - ☐ 3. IS :752-1968 (Reaffirmed 2008)
  - ☐ 4. IS :800-1968 (Reaffirmed 2008)

Question ID : 630680246966

Option 1 ID : 630680958143

Option 2 ID : 630680958146

Option 3 ID : 630680958145

Option 4 ID : 630680958144

Status : Answered

Chosen Option : 4

Q.24 As per Odisha Works Department, what is the technical sanction limit given to a Chief Engineer, to accord administrative approval to projects of original works?

- Ans
- ✗ 1. 25 lakh
  - ✗ 2. 19.5 lakh
  - ✓ 3. 10 lakh
  - ✗ 4. 2.75 lakh

Question ID : 630680246993

Option 1 ID : 630680958254

Option 2 ID : 630680958251

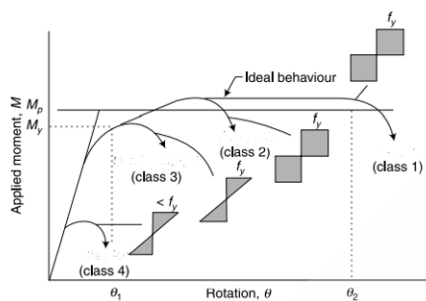
Option 3 ID : 630680958253

Option 4 ID : 630680958252

Status : Answered

Chosen Option : 1

Q.25 Moment rotation behaviour of the four classes of cross-sections which are necessary for limit state design of steel beams is shown in the figure. Class 1 section is also called \_\_\_\_\_.



- Ans
- ✗ 1. Compact section
  - ✗ 2. Semi compact section
  - ✗ 3. Slender section
  - ✓ 4. Plastic section

Question ID : 630680246962

Option 1 ID : 630680958129

Option 2 ID : 630680958128

Option 3 ID : 630680958130

Option 4 ID : 630680958127

Status : Answered

Chosen Option : 4

Q.26 The direction of a line 'CD' is found to be 243°30' in whole circle bearing system. The converted direction of same line in quadrantal bearing system is \_\_\_\_\_.

- Ans
- ✗ 1. S 43°30' W
  - ✗ 2. N 243°30' E
  - ✗ 3. N 116°30' W
  - ✓ 4. S 63°30' W

Question ID : 630680246931

Option 1 ID : 630680958005

Option 2 ID : 630680958006

Option 3 ID : 630680958003

Option 4 ID : 630680958004

Status : Answered

Chosen Option : 4

Q.27 Total station measures \_\_\_\_\_.

- Ans
- ☒ 1. horizontal angle, vertical angle and slope distance only
  - ☐ 2. horizontal angle only
  - ☐ 3. horizontal angle, vertical angle, slope distance and area
  - ☐ 4. vertical angle and slope distance only

Question ID : 630680247006

Option 1 ID : 630680958305

Option 2 ID : 630680958303

Option 3 ID : 630680958306

Option 4 ID : 630680958304

Status : Answered

Chosen Option : 3

Q.28 Study the given statements with respect to diversion head works constructed at the head of the canal and identify the correct answer.

Statement A: If a major part or the entire ponding of water is achieved by a raised crest and a smaller part or nil part of it is achieved by the shutters, then this barrier is called a barrage.

Statement B: If a major part or the entire ponding of water is achieved by a raised crest and a smaller part or nil part of it is achieved by the shutters, then this barrier is called a weir.

- Ans
- ☐ 1. Statement A is correct but B is incorrect
  - ☒ 2. Statement B is correct but A is incorrect
  - ☐ 3. Both the statements are correct
  - ☐ 4. Both the statements are incorrect

Question ID : 630680246925

Option 1 ID : 630680957979

Option 2 ID : 630680957980

Option 3 ID : 630680957981

Option 4 ID : 630680957982

Status : Answered

Chosen Option : 1

Q.29 Study the given statements with respect to type of switches on railways and identify the correct answer.

Statement A: Stud switches are no more in use on Indian railways.

Statement B: Split switches consist of a pair of stock rails and a pair of tongue rails.

- Ans
- ☐ 1. Statement A is correct but B is incorrect
  - ☒ 2. Both the statements are correct
  - ☐ 3. Both the statements are incorrect
  - ☐ 4. Statement B is correct but A is incorrect

Question ID : 630680246972

Option 1 ID : 630680958167

Option 2 ID : 630680958169

Option 3 ID : 630680958170

Option 4 ID : 630680958168

Status : Answered

Chosen Option : 2

**Q.30** What is the maximum acceptable and permissible (in absence of alternate source) limit of chloride (in mg/l) for drinking water, respectively, as per latest revised, updated and amended code IS: 10500?

- Ans**
- ☐ 1. 5000 mg/l and 15000 mg/l
  - ☐ 2. 100 mg/l and 500 mg/l
  - ☒ 3. 250 mg/l and 1000 mg/l
  - ☐ 4. 500 mg/l and 10000 mg/l

Question ID : 630680246991

Option 1 ID : 630680958246

Option 2 ID : 630680958243

Option 3 ID : 630680958244

Option 4 ID : 630680958245

Status : Answered

Chosen Option : 3

**Q.31** The atmospheric pressure head of mercury is \_\_\_\_\_.

- Ans**
- ☒ 1. 760 mm
  - ☐ 2. 1013 mm
  - ☐ 3. 450 mm
  - ☐ 4. 500 mm

Question ID : 630680246910

Option 1 ID : 630680957920

Option 2 ID : 630680957922

Option 3 ID : 630680957921

Option 4 ID : 630680957919

Status : Answered

Chosen Option : 1

**Q.32** The aggregates impact value should NOT exceed \_\_\_\_\_ for aggregates to be used in wearing course of pavement.

- Ans**
- ☐ 1. 15%
  - ☐ 2. 45%
  - ☐ 3. 60%
  - ☒ 4. 30%

Question ID : 630680246946

Option 1 ID : 630680958063

Option 2 ID : 630680958066

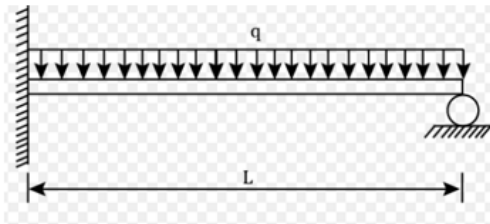
Option 3 ID : 630680958065

Option 4 ID : 630680958064

Status : Answered

Chosen Option : 4

Q.33 Identify the type of beam by referring to the type of supports shown in the figure.



Ans ☒ 1. Propped cantilever beam

☐ 2. Inverted beam

☐ 3. Fixed beam

☐ 4. Cantilever beam

Question ID : 630680246853

Option 1 ID : 630680957693

Option 2 ID : 630680957694

Option 3 ID : 630680957692

Option 4 ID : 630680957691

Status : Answered

Chosen Option : 1

Q.34 Which of the following type of chains is 66 feet long and consist of 100 links, each link being 0.6 foot long?

Ans ☐ 1. Metric chain

☐ 2. Engineer's chain

☒ 3. Gunter's chain

☐ 4. Revenue chain

Question ID : 630680246927

Option 1 ID : 630680957989

Option 2 ID : 630680957990

Option 3 ID : 630680957988

Option 4 ID : 630680957987

Status : Answered

Chosen Option : 3

Q.35 Study the given statements with respect to coefficient of runoff used for flood estimation and identify the correct answer.

Statement A: Coefficient of runoff depends on the nature of catchment surface.

Statement B: Coefficient of runoff depends on surface slope and rainfall intensity.

Ans ☐ 1. Statement B is correct but A is incorrect

☐ 2. Both the statements are incorrect

☐ 3. Statement A is correct but B is incorrect

☒ 4. Both the statements are correct

Question ID : 630680246920

Option 1 ID : 630680957960

Option 2 ID : 630680957962

Option 3 ID : 630680957959

Option 4 ID : 630680957961

Status : Answered

Chosen Option : 4

**Q.36** According to IS-3025 (2006), the indicator used while calculating COD (Chemical Oxygen Demand) experimentally is \_\_\_\_\_.

- Ans**
- ☐ 1. starch
  - ☒ 2. ferroin
  - ☐ 3. silver nitrate
  - ☐ 4. ethylenediaminetetraacetic acid (edta)

Question ID : 630680246979  
Option 1 ID : 630680958195  
Option 2 ID : 630680958196  
Option 3 ID : 630680958198  
Option 4 ID : 630680958197  
Status : Answered  
Chosen Option : 4

**Q.37** Dead end pipe system for water supply is suitable \_\_\_\_\_.

- Ans**
- ☐ 1. for cities with rectangular layout
  - ☐ 2. for cities where pipes to be laid radially
  - ☒ 3. for old towns and cities
  - ☐ 4. where it can be supplied to any point from two directions

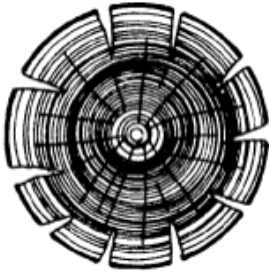
Question ID : 630680246983  
Option 1 ID : 630680958212  
Option 2 ID : 630680958213  
Option 3 ID : 630680958211  
Option 4 ID : 630680958214  
Status : Answered  
Chosen Option : 3

**Q.38** As per Odisha works department, what is the technical sanction limit is given to a Superintendent Engineer (SE), to accord technical sanction to detailed, revised or supplementary estimates for original and repair subject to the condition that fresh administrative approval is sought if the detailed, revised or supplementary estimates exceed the original by 10% or more?

- Ans**
- ☒ 1. 19.5 lakh
  - ☐ 2. 25 lakh
  - ☐ 3. 2.75 lakh
  - ☐ 4. 10 lakh

Question ID : 630680246996  
Option 1 ID : 630680958263  
Option 2 ID : 630680958266  
Option 3 ID : 630680958264  
Option 4 ID : 630680958265  
Status : Answered  
Chosen Option : 4

Q.39 Identify the type of defect in timber shown in the figure.



- Ans
- ☐ 1. Rind galls
  - ☐ 2. Knots
  - ☒ 3. Shakes
  - ☐ 4. Twisted fibres

Question ID : 630680246870

Option 1 ID : 630680957759

Option 2 ID : 630680957761

Option 3 ID : 630680957760

Option 4 ID : 630680957762

Status : Answered

Chosen Option : 1

Q.40 In a reinforced cement concrete structure, a deformed bar of diameter 20 mm conforming to IS-1786 is subjected to tension, calculate its development length to be provided. Take design bond stress in limit state method for 20 mm plain bar subjected to tension as  $1.5 \text{ N/mm}^2$  and grade of steel Fe415.

- Ans
- ☒ 1. 752.18 mm
  - ☐ 2. 1383.33 mm
  - ☐ 3. 864.58 mm
  - ☐ 4. 1203.5 mm

Question ID : 630680246903

Option 1 ID : 630680957892

Option 2 ID : 630680957893

Option 3 ID : 630680957891

Option 4 ID : 630680957894

Status : Not Answered

Chosen Option : --

Q.41 Which of the following is NOT a type of prefabricated construction system?

- Ans
- ☐ 1. Partial prefabricated open system
  - ☐ 2. Large panel prefabricated system
  - ☐ 3. Open prefabricated system
  - ☒ 4. Granular prefabricated system

Question ID : 630680247024

Option 1 ID : 630680958376

Option 2 ID : 630680958377

Option 3 ID : 630680958375

Option 4 ID : 630680958378

Status : Answered

Chosen Option : 4

**Q.42** Identify the INCORRECT statement with respect to effects of waterlogging on agricultural land.

- Ans** ☒ 1. Water logging leads to growth of wild flora.
- ☒ 2. Soil temperature reduces due to water logging.
- ☒ 3.
- Water logging leads to accumulation of alkali salts on the soil surface.
- ☒ 4. Water logging increases the activity of soil bacteria.

Question ID : 630680246923  
Option 1 ID : 630680957973  
Option 2 ID : 630680957972  
Option 3 ID : 630680957974  
Option 4 ID : 630680957971  
Status : Answered  
Chosen Option : 2

**Q.43** Identify the INCORRECT statement with respect to shear strength of bolts.

- Ans** ☒ 1.
- Shear capacity reduction factor for packing plates is applied, when the packing plates are more than 6 mm in thickness.
- ☒ 2.
- Shear capacity reduction factor for long joint is applied when the length of joint exceeds 15 times the nominal diameter of bolt.
- ☒ 3.
- Shear capacity reduction factor for large grip lengths is applied if the total thickness of connected plates exceeds three times the nominal diameter of bolt.
- ☒ 4.
- The shearing strength of a bolt can be maximum in double shear.

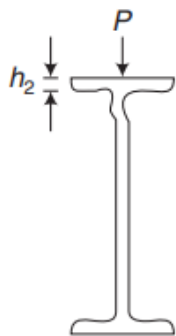
Question ID : 630680246959  
Option 1 ID : 630680958118  
Option 2 ID : 630680958116  
Option 3 ID : 630680958117  
Option 4 ID : 630680958115  
Status : Answered  
Chosen Option : 3

**Q.44** As per IS standards, the percentage of passing through 150 µm IS Sieve shall NOT be greater than \_\_\_\_\_ for crushed stone sands.

- Ans** ☒ 1. 5%
- ☒ 2. 10%
- ☒ 3. 20%
- ☒ 4. 15%

Question ID : 630680247021  
Option 1 ID : 630680958363  
Option 2 ID : 630680958364  
Option 3 ID : 630680958366  
Option 4 ID : 630680958365  
Status : Answered  
Chosen Option : 1

Q.45 Identify the type of beam failure shown in the figure.



- Ans
- ☐ 1. Failure by web kinks
  - ☒ 2. Failure by web crippling
  - ☐ 3. Failure by flexure
  - ☐ 4. Failure by web buckling

Question ID : 630680246964

Option 1 ID : 630680958137

Option 2 ID : 630680958135

Option 3 ID : 630680958138

Option 4 ID : 630680958136

Status : Answered

Chosen Option : 4

Q.46 Which of the following IS standards specifies requirements for a quality management system, when an organisation needs to demonstrate its ability to consistently provide products and services that meet customer and applicable statutory and regulatory requirements?

- Ans
- ☐ 1. ISO 18000:2015
  - ☒ 2. ISO 9001:2015
  - ☐ 3. ISO 14001:2015
  - ☐ 4. ISO 10500:2015

Question ID : 630680246954

Option 1 ID : 630680958097

Option 2 ID : 630680958096

Option 3 ID : 630680958095

Option 4 ID : 630680958098

Status : Not Answered

Chosen Option : --

Q.47 Identify the INCORRECT statement with respect to prefabrication construction.

Ans ☒ 1.

Prefabrication construction requires extra reinforcement to take care of handling and erection stresses.

☒ 2.

Standardisation is one of the design principles of prefabricated systems.

☒ 3. Structures that are used repeatedly, can be standardised.

☒ 4.

Panelised prefabrication is often referred to as modular prefabrication.

Question ID : 630680247023

Option 1 ID : 630680958372

Option 2 ID : 630680958373

Option 3 ID : 630680958374

Option 4 ID : 630680958371

Status : Answered

Chosen Option : 1

Q.48 In a triaxial compression test, the ratio of length to the diameter of the soil specimen is kept as \_\_\_\_\_.

Ans ☒ 1. 2.5 to 3

☒ 2. 1 to 1.5

☒ 3. 2 to 2.5

☒ 4. 2

Question ID : 630680246861

Option 1 ID : 630680957725

Option 2 ID : 630680957723

Option 3 ID : 630680957724

Option 4 ID : 630680957726

Status : Answered

Chosen Option : 3

Q.49 "Malgudi Days", a collection of short stories by RK Narayan is an example of \_\_\_\_\_ type of intellectual property.

Ans ☒ 1. trade mark

☒ 2. geographical indication

☒ 3. copyright

☒ 4. patent

Question ID : 630680246956

Option 1 ID : 630680958104

Option 2 ID : 630680958106

Option 3 ID : 630680958105

Option 4 ID : 630680958103

Status : Answered

Chosen Option : 3

**Q.50** The highest level of the ground water table should be kept well below the level of subgrade, preferably by at least \_\_\_\_\_.

- Ans**
- ✓ 1. 1.2 m
  - ✗ 2. 0.5 m
  - ✗ 3. 2.0 m
  - ✗ 4. 2.4 m

Question ID : 630680246944  
Option 1 ID : 630680958056  
Option 2 ID : 630680958055  
Option 3 ID : 630680958057  
Option 4 ID : 630680958058  
Status : Answered  
Chosen Option : 1

**Q.51** Study the given statements with respect to pressure exerted on an immersed surface and identify the correct answer.

Statement A: Centre of pressure lies below the centre of gravity of the vertical faces.  
Statement B: The distance of centre of pressure from free surface of liquid depends on the density of the liquid.

- Ans**
- ✗ 1. Both the statements are incorrect
  - ✗ 2. Statement B is correct but A is incorrect
  - ✓ 3. Statement A is correct but B is incorrect
  - ✗ 4. Both the statements are correct

Question ID : 630680246911  
Option 1 ID : 630680957926  
Option 2 ID : 630680957924  
Option 3 ID : 630680957923  
Option 4 ID : 630680957925  
Status : Answered  
Chosen Option : 3

**Q.52** Magnetic bearing of a line XY is S 30° 30' E. Calculate its true bearing, if the magnetic declination at that place is 2° 30' E.

- Ans**
- ✓ 1. S 28° 00' E
  - ✗ 2. S 33° 00' E
  - ✗ 3. S 30° 30' E
  - ✗ 4. S 35° 30' E

Question ID : 630680246930  
Option 1 ID : 630680958001  
Option 2 ID : 630680958000  
Option 3 ID : 630680957999  
Option 4 ID : 630680958002  
Status : Answered  
Chosen Option : 1

**Q.53** In traverse surveying, the direction of a survey line 'PQ' of length 90 m measured in whole circle bearing system is found to be  $60^{\circ}00'$ . Calculate the latitude of the survey line.

- Ans**
- ☒ 1. 90 m
  - ☒ 2. 77.94 m
  - ☒ 3. 63.33 m
  - ☒ 4. 45 m

Question ID : 630680246929  
Option 1 ID : 630680957995  
Option 2 ID : 630680957998  
Option 3 ID : 630680957997  
Option 4 ID : 630680957996  
Status : Answered  
Chosen Option : 4

**Q.54** Which of the following is NOT a water borne disease?

- Ans**
- ☒ 1. Asthma
  - ☒ 2. Dysentery
  - ☒ 3. Cholera
  - ☒ 4. Typhoid

Question ID : 630680246896  
Option 1 ID : 630680957866  
Option 2 ID : 630680957865  
Option 3 ID : 630680957863  
Option 4 ID : 630680957864  
Status : Answered  
Chosen Option : 1

**Q.55** The approximate specific gravity value of a soil constituent 'Kaolinite' is \_\_\_\_\_.

- Ans**
- ☒ 1. 1.65
  - ☒ 2. 5.62
  - ☒ 3. 2.64
  - ☒ 4. 3.15

Question ID : 630680246859  
Option 1 ID : 630680957717  
Option 2 ID : 630680957716  
Option 3 ID : 630680957715  
Option 4 ID : 630680957718  
Status : Answered  
Chosen Option : 2

Q.56 Identify the correct statement with respect to different components of a building.

Ans ☒ 1.

Stretcher bond is considered to be stronger than English bond for the given thickness.

☒ 2. Partition walls should be designed to carry the roof loads.

☒ 3.

Thermal insulation efficiency of cavity walls is better than that of solid walls for the given thickness.

☒ 4.

Lintel beams are built between sub structure and super structure of a building, so that load is distributed uniformly.

Question ID : 630680246872

Option 1 ID : 630680957770

Option 2 ID : 630680957767

Option 3 ID : 630680957769

Option 4 ID : 630680957768

Status : Answered

Chosen Option : 1

Q.57 Which of the following expressions is correct to calculate the focal length (f) of a lens, if 'p' is the distance between the object and the lens (object distance), and 'i' is the distance between the image and the lens (image distance).

Ans

☒ 1.  $f = \frac{p * i}{2(p + i)}$

☒ 2.  $f = \frac{p * i}{p + i}$

☒ 3.  $f = \frac{p + i}{p * i}$

☒ 4.  $f = \frac{2p * i}{p + i}$

Question ID : 630680247000

Option 1 ID : 630680958281

Option 2 ID : 630680958280

Option 3 ID : 630680958279

Option 4 ID : 630680958282

Status : Not Answered

Chosen Option : --

Q.58 The nominal muster roll is also called \_\_\_\_\_.

Ans ☒ 1. Form 8

☒ 2. Form 27

☒ 3. Form 21

☒ 4. Form 32

Question ID : 630680246995

Option 1 ID : 630680958260

Option 2 ID : 630680958261

Option 3 ID : 630680958259

Option 4 ID : 630680958262

Status : Answered

Chosen Option : 3

Q.59 Which of the following is a disadvantage of separate sewerage system?

Ans ☒ 1.

This system may be less costly as only sanitary sewage is transported in closed conduit.

☒ 2.

The quantity to be treated at sewage treatment plant is small, resulting in economy of treatment.

☒ 3.

This system will require maintenance of two sets of pipelines and hence maintenance cost is more.

☒ 4.

When pumping is required during disposal, this system is economical due to less flow.

Question ID : 630680246981

Option 1 ID : 630680958204

Option 2 ID : 630680958203

Option 3 ID : 630680958205

Option 4 ID : 630680958206

Status : Answered

Chosen Option : 3

Q.60 The limiting percentage of tension reinforcement for a singly reinforced beam sections shall be \_\_\_\_\_ if Fe 415 steel is used.

Ans ☒ 1.  $0.0320 f_{ck}$

☒ 2.  $0.0820 f_{ck}$

☒ 3.  $0.0150 f_{ck}$

☒ 4.  $0.0480 f_{ck}$

Question ID : 630680246901

Option 1 ID : 630680957885

Option 2 ID : 630680957883

Option 3 ID : 630680957886

Option 4 ID : 630680957884

Status : Answered

Chosen Option : 4

Q.61 As mentioned in schedule of rate by the Government of Odisha Works Department, the stones filled in a box heap of size \_\_\_\_\_ to be measured as  $1 \text{ m}^3$ .

Ans ☒ 1.  $1.6 \text{ m} \times 1.6 \text{ m} \times 0.44 \text{ m}$

☒ 2.  $1.5 \text{ m} \times 1.5 \text{ m} \times 0.44 \text{ m}$

☒ 3.  $1.3 \text{ m} \times 1.3 \text{ m} \times 0.48 \text{ m}$

☒ 4.  $1.2 \text{ m} \times 1.2 \text{ m} \times 0.46 \text{ m}$

Question ID : 630680246882

Option 1 ID : 630680957810

Option 2 ID : 630680957808

Option 3 ID : 630680957809

Option 4 ID : 630680957807

Status : Answered

Chosen Option : 2

Q.62 Which valve is used for manually controlling the flow of water in domestic water supply?

- Ans
- ☐ 1. Non-return valve
  - ☐ 2. Check valve
  - ☒ 3. Globe valve
  - ☐ 4. Pressure relief valve

Question ID : 630680246985

Option 1 ID : 630680958220

Option 2 ID : 630680958221

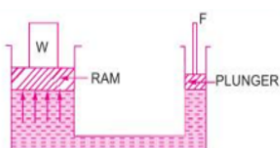
Option 3 ID : 630680958219

Option 4 ID : 630680958222

Status : Answered

Chosen Option : 2

Q.63 A hydraulic press has a ram of cross-section area  $40 \times 40$  cm and a plunger of cross-section area  $4 \times 4$  cm, as shown in the figure. Find the force 'F' required to lift the weight. 'W' = 40 kN.



- Ans
- ☒ 1. 400 N
  - ☐ 2. 40,000 N
  - ☐ 3. 40 N
  - ☐ 4. 4 N

Question ID : 630680246909

Option 1 ID : 630680957917

Option 2 ID : 630680957915

Option 3 ID : 630680957916

Option 4 ID : 630680957918

Status : Answered

Chosen Option : 2

Q.64 Identify the INCORRECT statement with respect to different types of pipe flow.

- Ans
- ☐ 1.  
The type of flow in which the fluid particles move along a well-defined streamline or paths, such that all the streamlines are straight and parallel to each other is known as laminar flow.
  - ☐ 2.  
The fluid characteristics like velocity, density, and pressure at a point do not change with time in case of steady flow.
  - ☒ 3.  
The flow in a circular pipe is categorised as laminar, when the Reynolds number for the flow is more than 4000.
  - ☐ 4.  
The velocity of the flow at any given time does not change with respect to space, in case of uniform flow.

Question ID : 630680246915

Option 1 ID : 630680957939

Option 2 ID : 630680957941

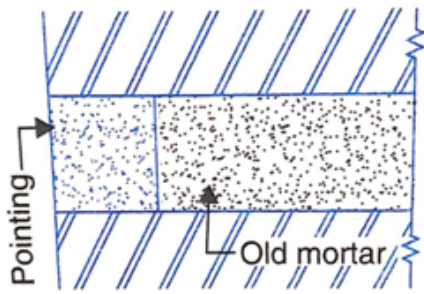
Option 3 ID : 630680957942

Option 4 ID : 630680957940

Status : Answered

Chosen Option : 3

Q.65 Identify the type of pointing shown in the figure.



- Ans
- ☒ 1. Recessed pointing
  - ☒ 2. Tuck pointing
  - ☒ 3. Flush pointing
  - ☒ 4. Beaded pointing

Question ID : 630680246876  
Option 1 ID : 630680957783  
Option 2 ID : 630680957786  
Option 3 ID : 630680957784  
Option 4 ID : 630680957785  
Status : Answered  
Chosen Option : 3

Q.66 As per IS standards, the width of broad gauge railway track shall be \_\_\_\_\_.

- Ans
- ☒ 1. 1.575 m
  - ☒ 2. 1.676 m
  - ☒ 3. 1.767 m
  - ☒ 4. 1.757 m

Question ID : 630680246968  
Option 1 ID : 630680958153  
Option 2 ID : 630680958151  
Option 3 ID : 630680958152  
Option 4 ID : 630680958154  
Status : Answered  
Chosen Option : 2

Q.67 Which of the following is not a classified mode of bearing capacity failure, when a footing fails due to insufficient bearing capacity of soil?

- Ans
- ☒ 1. Local shear failure
  - ☒ 2. General shear failure
  - ☒ 3. Punching shear failure
  - ☒ 4. Uniform shear failure

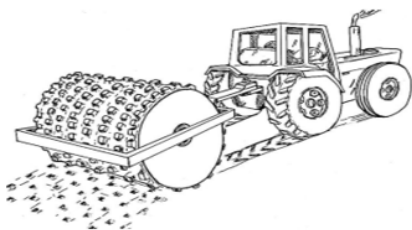
Question ID : 630680246866  
Option 1 ID : 630680957744  
Option 2 ID : 630680957743  
Option 3 ID : 630680957745  
Option 4 ID : 630680957746  
Status : Answered  
Chosen Option : 4

**Q.68** Calculate the crippling load as per Euler's theory for long columns, if one end of a 5 m length column is fixed and other end is free. Take, E = modulus of elasticity of material used and I = Moment of inertia of beam section.

- Ans
- ☒ 1.  $1.50\pi^2 EI$  kN
  - ☒ 2.  $0.01\pi^2 EI$  kN
  - ☒ 3.  $0.25\pi^2 EI$  kN
  - ☒ 4.  $0.025\pi^2 EI$  kN

Question ID : 630680246855  
Option 1 ID : 630680957702  
Option 2 ID : 630680957700  
Option 3 ID : 630680957699  
Option 4 ID : 630680957701  
Status : Answered  
Chosen Option : 2

**Q.69** Identify the type of roller shown in the figure, which is used for compaction of subgrade soil.



- Ans
- ☒ 1. Smooth wheel roller
  - ☒ 2. Frogged roller
  - ☒ 3. Pneumatic tyred roller
  - ☒ 4. Sheep foot roller

Question ID : 630680246942  
Option 1 ID : 630680958050  
Option 2 ID : 630680958049  
Option 3 ID : 630680958047  
Option 4 ID : 630680958048  
Status : Answered  
Chosen Option : 4

**Q.70** Identify the INCORRECT statement with respect to constituents used in the manufacture of plastic.

- Ans
- ☒ 1. Fillers are added up to 50 per cent of the moulding mixture to increase the hardness and tensile strength.
  - ☒ 2. Resin acts as binder for holding different constituents together.
  - ☒ 3. Plasticisers act as binders for holding different constituents together.
  - ☒ 4. Sodium bicarbonate and ammonium carbonates are added to produce porous articles.

Question ID : 630680247019  
Option 1 ID : 630680958356  
Option 2 ID : 630680958355  
Option 3 ID : 630680958358  
Option 4 ID : 630680958357  
Status : Answered  
Chosen Option : 3

**Q.71** Study the given statements with respect to types of sections considered in working stress method (WSM) of design and identify the INCORRECT statement.

- Ans** ☒ 1.  
The area of tension steel in an over reinforced concrete section is greater than that corresponding to balanced section.
- ☒ 2.  
The area of tension steel in an under-reinforced concrete section is less than that corresponding to balanced section.
- ☒ 3.  
The neutral axis depth factor ( $k_b$ ) of a 'balanced (WSM)' section depends only on the permissible tensile stress in steel.
- ☒ 4.  
The allowable moment capacity of a under reinforced concrete section is limited by the stress in concrete.

Question ID : 630680246897  
Option 1 ID : 630680957868  
Option 2 ID : 630680957869  
Option 3 ID : 630680957870  
Option 4 ID : 630680957867  
Status : Answered  
Chosen Option : 1

**Q.72** Study the given statements and identify the correct answer.

Statement A: The elasticity for the demand of durable goods is less than unity.

Statement B: While drawing the demand curve the price of substitutes should not change.

- Ans** ☒ 1. Statement B is correct but A is incorrect
- ☒ 2. Both the statements are correct
- ☒ 3. Statement A is correct but B is incorrect
- ☒ 4. Both the statements are incorrect

Question ID : 630680246950  
Option 1 ID : 630680958080  
Option 2 ID : 630680958081  
Option 3 ID : 630680958079  
Option 4 ID : 630680958082  
Status : Answered  
Chosen Option : 3

**Q.73** Study the given statements with respect to characteristic features used while plotting a contour plan and identify the correct answer.

Statement A: Contour lines can never be equally spaced.

Statement B: Contour lines of different elevations can cross each other in case of overhanging cliff.

- Ans** ☒ 1. Both the statements are correct
- ☒ 2. Both the statements are incorrect
- ☒ 3. Statement B is correct but A is incorrect
- ☒ 4. Statement A is correct but B is incorrect

Question ID : 630680246935  
Option 1 ID : 630680958021  
Option 2 ID : 630680958022  
Option 3 ID : 630680958020  
Option 4 ID : 630680958019  
Status : Answered  
Chosen Option : 3

Q.74 The modulus of elasticity of structural steel is \_\_\_\_\_.

- Ans
- ✓ 1.  $2 \times 10^2 \text{ kN/mm}^2$
  - ✗ 2.  $2 \times 10^3 \text{ kN/mm}^2$
  - ✗ 3.  $2 \times 10^4 \text{ kN/mm}^2$
  - ✗ 4.  $2 \times 10^5 \text{ kN/mm}^2$

Question ID : 630680246957

Option 1 ID : 630680958107

Option 2 ID : 630680958108

Option 3 ID : 630680958109

Option 4 ID : 630680958110

Status : Answered

Chosen Option : 4

Q.75 As per IS:456:2000, the deflection including the effects of temperature, creep and shrinkage occurring after erection of partitions and the application of finishes of RC structures should NOT normally exceed \_\_\_\_\_.

- Ans
- ✗ 1. Span/350 mm or 40 mm whichever is less
  - ✗ 2. Span/250 mm or 20 mm whichever is less
  - ✗ 3. Span/250 mm or 40 mm whichever is less
  - ✓ 4. Span/350 mm or 20 mm whichever is less

Question ID : 630680246905

Option 1 ID : 630680957901

Option 2 ID : 630680957899

Option 3 ID : 630680957902

Option 4 ID : 630680957900

Status : Answered

Chosen Option : 4

Q.76 Two plates are connected by means of a rivet shown in the figure. Identify the nature of stresses acting across the shank of rivet, at which both the plates touch each other tangentially.



- Ans
- ✗ 1. Compressive stresses
  - ✓ 2. Shear stresses
  - ✗ 3. Bending stresses
  - ✗ 4. Tensile stresses

Question ID : 630680246849

Option 1 ID : 630680957676

Option 2 ID : 630680957677

Option 3 ID : 630680957678

Option 4 ID : 630680957675

Status : Answered

Chosen Option : 2

Q.77 The camera box of the photo theodolite can be rotated in the vertical axis of:

- Ans ☒ 1. azimuth  
☐ 2. zenith  
☐ 3. horizon  
☐ 4. nadir

Question ID : 630680247005  
Option 1 ID : 630680958302  
Option 2 ID : 630680958299  
Option 3 ID : 630680958300  
Option 4 ID : 630680958301  
Status : Answered  
Chosen Option : 2

Q.78 According to IS 12269 : 2013, fineness of OPC-53 grade shall NOT be less than \_\_\_\_\_.

- Ans ☒ 1. 225 m<sup>2</sup>/kg  
☐ 2. 350 m<sup>2</sup>/kg  
☐ 3. 280 m<sup>2</sup>/kg  
☐ 4. 200 m<sup>2</sup>/kg

Question ID : 630680246869  
Option 1 ID : 630680957756  
Option 2 ID : 630680957757  
Option 3 ID : 630680957758  
Option 4 ID : 630680957755  
Status : Answered  
Chosen Option : 1

Q.79 \_\_\_\_\_ settling does not change shape, size and specific gravity of particles with time.

- Ans ☐ 1. Type IV  
☐ 2. Type III  
☐ 3. Type II  
☒ 4. Type I

Question ID : 630680246984  
Option 1 ID : 630680958218  
Option 2 ID : 630680958217  
Option 3 ID : 630680958216  
Option 4 ID : 630680958215  
Status : Answered  
Chosen Option : 2

**Q.80** Calculate the minimum length of an overtaking zone along a highway if the calculated safe overtaking distance is 650 m.

- Ans**
- ☒ 1. 1950 m
  - ☐ 2. 2500 m
  - ☐ 3. 650 m
  - ☐ 4. 1300 m

Question ID : 630680246938  
Option 1 ID : 630680958032  
Option 2 ID : 630680958034  
Option 3 ID : 630680958031  
Option 4 ID : 630680958033  
Status : Answered  
Chosen Option : 1

**Q.81** Which of the following statements is correct, according to Maslow's theory of motivation?

- Ans**
- ☐ 1. Job satisfaction and dissatisfaction are not opposites.
  - ☐ 2. Humans have three types of emotional needs such as achievement, power and affiliation.
  - ☒ 3. Five categories of human needs such as physiological, safety, love and belonging, esteem and self-actualisation needs dictate an individual's behaviour.
  - ☐ 4. There are three groups of core needs such as existence (E), relatedness (R), and growth (G) dictate an individual's behaviour.

Question ID : 630680246952  
Option 1 ID : 630680958090  
Option 2 ID : 630680958089  
Option 3 ID : 630680958087  
Option 4 ID : 630680958088  
Status : Not Answered  
Chosen Option : --

**Q.82** The span of a small span bridges is up to \_\_\_\_\_.

- Ans**
- ☐ 1. 30 m
  - ☐ 2. 50 m
  - ☒ 3. 15 m
  - ☐ 4. 10 m

Question ID : 630680246974  
Option 1 ID : 630680958177  
Option 2 ID : 630680958178  
Option 3 ID : 630680958176  
Option 4 ID : 630680958175  
Status : Answered  
Chosen Option : 1

Q.83 Which of the following is NOT a resection method in plane table surveying?

- Ans
- ☐ 1. Resection after orientation by back sighting
  - ☐ 2. Resection after orientation two point problem
  - ☒ 3. Resection after orientation by plumbing fork
  - ☐ 4. Resection after orientation three point problem

Question ID : 630680246933

Option 1 ID : 630680958012

Option 2 ID : 630680958014

Option 3 ID : 630680958011

Option 4 ID : 630680958013

Status : Answered

Chosen Option : 3

Q.84 Extra time by which an activity can be delayed so that succeeding activity can be started on earliest start time is known as \_\_\_\_\_.

- Ans
- ☐ 1. penalty time
  - ☐ 2. total float
  - ☐ 3. independent float
  - ☒ 4. free float

Question ID : 630680247010

Option 1 ID : 630680958322

Option 2 ID : 630680958320

Option 3 ID : 630680958321

Option 4 ID : 630680958319

Status : Answered

Chosen Option : 4

Q.85 Study the given statements and identify the correct answer.

Statement A: Circular sewer sections can be manufactured easily and conveniently as compared to other sections.

Statement B: Circular sewers provide the maximum area for a given perimeter.

- Ans
- ☐ 1. Statement B is correct but A is incorrect
  - ☐ 2. Both the statements are incorrect
  - ☐ 3. Statement A is correct but B is incorrect
  - ☒ 4. Both the statements are correct

Question ID : 630680246980

Option 1 ID : 630680958200

Option 2 ID : 630680958202

Option 3 ID : 630680958199

Option 4 ID : 630680958201

Status : Answered

Chosen Option : 1

Q.86 Deduction for openings in measurement of plastering is NOT done if the area of the opening is \_\_\_\_\_.

- Ans
- ☒ 1. Less than  $0.1 \text{ m}^2$
  - ☒ 2. Less than  $0.5 \text{ m}^2$
  - ☒ 3. Less than  $3 \text{ m}^2$
  - ☒ 4. Less than  $1 \text{ m}^2$

Question ID : 630680246881

Option 1 ID : 630680957805

Option 2 ID : 630680957804

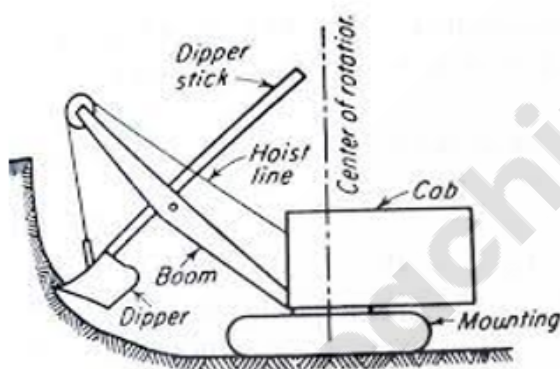
Option 3 ID : 630680957806

Option 4 ID : 630680957803

Status : Answered

Chosen Option : 2

Q.87 Identify the earth moving equipment shown in the figure.



- Ans
- ☒ 1. Dozer
  - ☒ 2. Power shovel
  - ☒ 3. Back hoe
  - ☒ 4. Drag line

Question ID : 630680247026

Option 1 ID : 630680958386

Option 2 ID : 630680958383

Option 3 ID : 630680958384

Option 4 ID : 630680958385

Status : Answered

Chosen Option : 3

**Q.88** Study the given statements with respect to deep and shallow foundations and identify the correct answer.

Statement A: Under reamed piles are bored cast in-situ concrete piles.

Statement B: Grillage foundations are classified as shallow foundations.

- Ans**
- ✓ 1. Both the statements are correct
  - ✗ 2. Statement A is correct but B is incorrect
  - ✗ 3. Both the statements are incorrect
  - ✗ 4. Statement B is correct but A is incorrect

Question ID : 630680246873

Option 1 ID : 630680957773

Option 2 ID : 630680957771

Option 3 ID : 630680957774

Option 4 ID : 630680957772

Status : Answered

Chosen Option : 1

**Q.89** Identify the INCORRECT statement with respect to preparation of detailed project report (DPR).

- Ans**
- ✗ 1. A DPR consists of report, estimate and drawing of a project.
  - ✓ 2. A DPR is an input for planning and design phase of a project.
  - ✗ 3. Client and consultant's interaction plays important role in DPR preparation.
  - ✗ 4. A DPR is a blue print for execution and eventual operation of a project.

Question ID : 630680246951

Option 1 ID : 630680958086

Option 2 ID : 630680958085

Option 3 ID : 630680958083

Option 4 ID : 630680958084

Status : Answered

Chosen Option : 4

**Q.90** Calculate the maximum spacing of vertical stirrups along the axis of the member, if the effective depth of section is 250 mm.

- Ans**
- ✓ 1. 187.5 mm
  - ✗ 2. 202.5 mm
  - ✗ 3. 231.5 mm
  - ✗ 4. 150 mm

Question ID : 630680246904

Option 1 ID : 630680957895

Option 2 ID : 630680957898

Option 3 ID : 630680957897

Option 4 ID : 630680957896

Status : Answered

Chosen Option : 1

Q.91 Which of the following is NOT a part of a centrifugal pump?

- Ans
- ☐ 1. Casing
  - ☐ 2. Impeller
  - ☒ 3. Piston
  - ☐ 4. Foot valve and strainer

Question ID : 630680246916

Option 1 ID : 630680957943

Option 2 ID : 630680957944

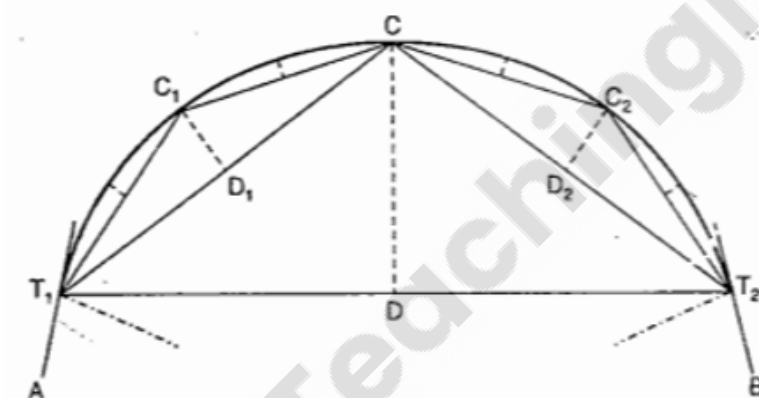
Option 3 ID : 630680957945

Option 4 ID : 630680957946

Status : Answered

Chosen Option : 4

Q.92 Identify the method of curve setting as shown in the figure.



- Ans
- ☐ 1. Curve setting by ordinate from the long chord.
  - ☐ 2. Curve setting by two theodolite method.
  - ☐ 3. Curve setting by offset from tangents.
  - ☒ 4. Curve setting by successive bisection of arcs.

Question ID : 630680246998

Option 1 ID : 630680958273

Option 2 ID : 630680958274

Option 3 ID : 630680958272

Option 4 ID : 630680958271

Status : Answered

Chosen Option : 4

**Q.93** Calculate the horizontal distance on a fairly level ground; if the staff intercept measured from the instrument station to a random point A on ground is found to be 1.850 m. Consider the system of Tacheometric measurement as “Stadia method”. Take, multiplying constant (k) = 100 and additive constant(C) of the instrument = 0.

- Ans
- ☒ 1. 125 m
  - ☒ 2. 185 m
  - ☒ 3. 92.5 m
  - ☒ 4. 18.5 m

Question ID : 630680246999  
Option 1 ID : 630680958278  
Option 2 ID : 630680958276  
Option 3 ID : 630680958277  
Option 4 ID : 630680958275  
Status : Answered  
Chosen Option : 2

**Q.94** Calculate the bulking of sand if the height of sand sample is 24 cm in a graduated measuring jar and when fully saturated the height of sand is 20 cm.

- Ans
- ☒ 1. 25%
  - ☒ 2. 20%
  - ☒ 3. 28%
  - ☒ 4. 22%

Question ID : 630680246864  
Option 1 ID : 630680957737  
Option 2 ID : 630680957735  
Option 3 ID : 630680957738  
Option 4 ID : 630680957736  
Status : Not Answered  
Chosen Option : --

**Q.95** In CPWD department, a Chief Engineer is assisted by the \_\_\_\_\_ for co-coordinating the technical works and progress of various schemes in the zone as also for the administration of staff in the zone.

- Ans
- ☒ 1. Superintending Engineer
  - ☒ 2. Director of Administration
  - ☒ 3. Financial Officer
  - ☒ 4. Assistant Engineer

Question ID : 630680246886  
Option 1 ID : 630680957825  
Option 2 ID : 630680957823  
Option 3 ID : 630680957824  
Option 4 ID : 630680957826  
Status : Answered  
Chosen Option : 1

**Q.96** Study the given statements with respect to digital elevation model (DEM) and identify the correct answer.

Statement A: DEM is a representation of the bare ground (bare earth) topographic surface of the earth excluding trees, buildings, and any other surface objects.

Statement B: DEMs derived from high-resolution lidar and IfSAR (Alaska only) data.

- Ans**
- ☒ 1. Statement A is correct but B is incorrect
  - ☒ 2. Statement B is correct but A is incorrect
  - ☒ 3. Both the statements are correct
  - ☒ 4. Both the statements are incorrect

Question ID : 630680247004  
Option 1 ID : 630680958295  
Option 2 ID : 630680958296  
Option 3 ID : 630680958297  
Option 4 ID : 630680958298  
Status : Not Answered  
Chosen Option : --

**Q.97** Discharge through a rectangular notch is independent of \_\_\_\_\_.

- Ans**
- ☒ 1. coefficient of discharge
  - ☒ 2. length of notch
  - ☒ 3. head over notch
  - ☒ 4. material type used in notch

Question ID : 630680246913  
Option 1 ID : 630680957931  
Option 2 ID : 630680957932  
Option 3 ID : 630680957933  
Option 4 ID : 630680957934  
Status : Answered  
Chosen Option : 4

**Q.98** Study the given statements with respect to glass fibres and identify the correct answer.

Statement A: The glass fibres have low modulus but significantly higher stiffness.

Statement B: Fibres of glass are produced by extruding molten glass, at a temperature around 1200°C through holes in a spinneret with diameter of 1 or 2 mm and then drawing the filaments to produce fibres having diameters usually between 5 to 15.

- Ans**
- ☒ 1. Statement B is correct but A is incorrect
  - ☒ 2. Both the statements are correct
  - ☒ 3. Both the statements are incorrect
  - ☒ 4. Statement A is correct but B is incorrect

Question ID : 630680247018  
Option 1 ID : 630680958352  
Option 2 ID : 630680958353  
Option 3 ID : 630680958354  
Option 4 ID : 630680958351  
Status : Answered  
Chosen Option : 2

Q.99 Select the correct option with respect to range of the density index ( $I_D$ ) that is used to express the relative compactness of soil.

- Ans
- ✓ 1.  $0 < I_D \leq 1$
  - ✗ 2.  $0 < I_D < 2$
  - ✗ 3.  $I_D < 0$
  - ✗ 4.  $I_D > 0$

Question ID : 630680246858

Option 1 ID : 630680957713

Option 2 ID : 630680957714

Option 3 ID : 630680957712

Option 4 ID : 630680957711

Status : Answered

Chosen Option : 1

Q.100 The diameter of a soak pit shall NOT be less than \_\_\_\_\_ in diameter.

- Ans
- ✓ 1. 0.9 m
  - ✗ 2. 2.1 m
  - ✗ 3. 2.5 m
  - ✗ 4. 1.5 m

Question ID : 630680246992

Option 1 ID : 630680958247

Option 2 ID : 630680958249

Option 3 ID : 630680958250

Option 4 ID : 630680958248

Status : Answered

Chosen Option : 2

Q.101 Which of the following is the correct full form of 'PPE' related to construction site safety measures?

- Ans
- ✗ 1. Personal Preventive Equipment
  - ✗ 2. Public Protective Equipment
  - ✗ 3. Public Preventive Equipment
  - ✓ 4. Personal Protective Equipment

Question ID : 630680247012

Option 1 ID : 630680958329

Option 2 ID : 630680958327

Option 3 ID : 630680958330

Option 4 ID : 630680958328

Status : Answered

Chosen Option : 4

**Q.102** The topo sheets that represent a symbolic or conventional picture of the physical and cultural landscape of small area are available on scale of \_\_\_\_\_.

- Ans**
- ✓ 1. 1:250000, 1:50000 and 1:25000
  - ✗ 2. 1:250000000, 1:50000000 and 1:2500000
  - ✗ 3. 1:500000, 1:250000 and 1:10000
  - ✗ 4. 1:1000000, 1:500000 and 1:25000

Question ID : 630680247003  
Option 1 ID : 630680958291  
Option 2 ID : 630680958294  
Option 3 ID : 630680958292  
Option 4 ID : 630680958293  
Status : Not Answered  
Chosen Option : --

**Q.103** Study the given statements with respect to prefabrication construction and identify the correct answer.

Statement A: Prefabrication construction is more consistent in quality compared to on-site construction.

Statement B: Prefabrication construction increases debris quantity at construction site.

- Ans**
- ✗ 1. Both the statements are incorrect
  - ✗ 2. Both the statements are correct
  - ✗ 3. Statement B is correct but A is incorrect
  - ✓ 4. Statement A is correct but B is incorrect

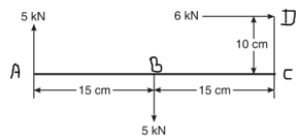
Question ID : 630680247022  
Option 1 ID : 630680958370  
Option 2 ID : 630680958369  
Option 3 ID : 630680958368  
Option 4 ID : 630680958367  
Status : Answered  
Chosen Option : 2

**Q.104** An RCC column with dimension 200 mm × 450 mm provided in a building. Calculate the least cross-sectional area of steel reinforcement can be provided, according to IS 456-2000.

- Ans**
- ✓ 1. 720 mm<sup>2</sup>
  - ✗ 2. 800 mm<sup>2</sup>
  - ✗ 3. 1080 mm<sup>2</sup>
  - ✗ 4. 520 mm<sup>2</sup>

Question ID : 630680246906  
Option 1 ID : 630680957904  
Option 2 ID : 630680957905  
Option 3 ID : 630680957906  
Option 4 ID : 630680957903  
Status : Answered  
Chosen Option : 2

Q.105 Calculate the moment induced by the force system acting on a bracket ABCD about point C shown in the figure.



- Ans
- ✓ 1. 135 kN-cm clockwise
  - ✗ 2. 210 kN-cm clockwise
  - ✗ 3. 180 kN-cm counter clockwise
  - ✗ 4. 75 kN-cm counter clockwise

Question ID : 630680246847  
Option 1 ID : 630680957668  
Option 2 ID : 630680957669  
Option 3 ID : 630680957670  
Option 4 ID : 630680957667  
Status : Answered  
Chosen Option : 1

Q.106 \_\_\_\_\_ fuses are used in power systems to protect the power transformer, distribution transformers and instrument transformer.

- Ans
- ✗ 1. Cartridge
  - ✓ 2. High voltage
  - ✗ 3. Blade type and bolted type
  - ✗ 4. D-Type cartridge

Question ID : 630680247025  
Option 1 ID : 630680958379  
Option 2 ID : 630680958380  
Option 3 ID : 630680958381  
Option 4 ID : 630680958382  
Status : Answered  
Chosen Option : 3

Q.107 Study the given statements with respect to functions of Central Board for the Prevention and Control of Air Pollution as per Air (Prevention and Control of pollution) Act, 1981, and identify the correct answer.

Statement A: Central Pollution Control Board will lay down standards for the quality of air.

Statement B: To collect, compile and publish technical and statistical data relating to air pollution and the measures devised for its effective prevention, control or abatement and prepare manuals.

- Ans
- ✗ 1. Statement A is true but B is false
  - ✗ 2. Statement A is false but B is true
  - ✗ 3. Both the statements are false
  - ✓ 4. Both the statements are true

Question ID : 630680246895  
Option 1 ID : 630680957859  
Option 2 ID : 630680957860  
Option 3 ID : 630680957862  
Option 4 ID : 630680957861  
Status : Answered  
Chosen Option : 4

Q.108

Study the given statements with respect to methods of quantity estimation and identify the correct answer.

Statement A: Number of joints are calculated first in long-wall-short-wall method.

Statement B: Centre line method involves multiplying centre line length with breadth and depth of respective items to obtain quantity.

Ans

✖

1.

Both the statements are incorrect

✖

2.

Statement A is correct but B is incorrect

✖

3.

Both the statements are correct

✔

4.

Statement B is correct but A is incorrect

Question ID : 630680246880

Option 1 ID : 630680957802

Option 2 ID : 630680957799

Option 3 ID : 630680957801

Option 4 ID : 630680957800

Status : Answered

Chosen Option : 4

Q.109

Study the given statements with respect to line-ranger used in surveying and identify the correct answer.

Statement A: A line-ranger consists of either two plane mirrors or two right-angled isosceles prisms placed one above the other.

Statement B: A line-ranger is used for direct ranging.

Ans

✖

1.

Statement B is correct but A is incorrect

✖

2.

Statement A is correct but B is incorrect

✔

3.

Both the statements are correct

✖

4.

Both the statements are incorrect

Question ID : 630680246928

Option 1 ID : 630680957992

Option 2 ID : 630680957991

Option 3 ID : 630680957993

Option 4 ID : 630680957994

Status : Answered

Chosen Option : 1

Q.110

Which of the following functions of management sets objectives and develops appropriate courses of action to achieve them?

Ans

✖

1.

Organising

✖

2.

Staffing

✔

3.

Planning

✖

4.

Leading

Question ID : 630680246949

Option 1 ID : 630680958078

Option 2 ID : 630680958077

Option 3 ID : 630680958076

Option 4 ID : 630680958075

Status : Answered

Chosen Option : 3

Q.111 Which of the following statements is INCORRECT with respect to characteristics of labour?

Ans ☒ 1. Labour is perishable

☒ 2.

As compared to capital and other goods, labour is highly mobile

☒ 3. Labour has weak bargaining power

☒ 4. Labour cannot be separated from the labourer

Question ID : 630680247014

Option 1 ID : 630680958335

Option 2 ID : 630680958337

Option 3 ID : 630680958338

Option 4 ID : 630680958336

Status : Answered

Chosen Option : 2

Q.112 Which of the following statements with respect to Poisson's ratio of a material is INCORRECT?

Ans ☒ 1.

The value of Poisson's ratio for a material is different in tension and compression.

☒ 2.

Poisson's ratio is named after a French mathematician Poisson who predicted its existence.

☒ 3.

The ratio of lateral strain to linear strain of an object stressed within its elastic limit is known as Poisson's ratio.

☒ 4. The value of Poisson's ratio ranges between 0 to 0.5.

Question ID : 630680246850

Option 1 ID : 630680957681

Option 2 ID : 630680957680

Option 3 ID : 630680957679

Option 4 ID : 630680957682

Status : Answered

Chosen Option : 1

Q.113 Study the given statements with respect to fillet weld in comparison with groove weld and identify the correct answer.

Statement A: Fillet welds normally require less material preparation and are easier to fit than groove welds.

Statement B: For a given amount of weld material, fillet welds are stronger than groove welds.

Ans ☒ 1. Statement A is correct but B is incorrect

☒ 2. Statement B is correct but A is incorrect

☒ 3. Both the statements are correct

☒ 4. Both the statements are incorrect

Question ID : 630680246960

Option 1 ID : 630680958119

Option 2 ID : 630680958120

Option 3 ID : 630680958121

Option 4 ID : 630680958122

Status : Answered

Chosen Option : 3

Q.114 \_\_\_\_\_ is a problem caused by dam construction.

- Ans
- ☒ 1. Irrigation
  - ☒ 2. Flood control
  - ☒ 3. Changes on riverine ecosystem
  - ☒ 4. Hydro power generation

Question ID : 630680246892  
Option 1 ID : 630680957848  
Option 2 ID : 630680957847  
Option 3 ID : 630680957849  
Option 4 ID : 630680957850  
Status : Answered  
Chosen Option : 3

Q.115 As per the Indian Partnership Act, 1932, Notice of Change in the Constitution of the firm or of the dissolution of the firm is done through \_\_\_\_\_.

- Ans
- ☒ 1. Form I
  - ☒ 2. Form II
  - ☒ 3. Form V
  - ☒ 4. Form IV

Question ID : 630680246948  
Option 1 ID : 630680958071  
Option 2 ID : 630680958072  
Option 3 ID : 630680958074  
Option 4 ID : 630680958073  
Status : Not Answered  
Chosen Option : --

Q.116 A rectangular open channel of width 4 m and depth 2 m is having a bed slope of 1 in 1600. What is the maximum discharge through the channel, if the Chezy's constant  $C = 50$ ?

- Ans
- ☒ 1. 40 m<sup>3</sup>/sec
  - ☒ 2. 16 m<sup>3</sup>/sec
  - ☒ 3. 10 m<sup>3</sup>/sec
  - ☒ 4. 8 m<sup>3</sup>/sec

Question ID : 630680246914  
Option 1 ID : 630680957937  
Option 2 ID : 630680957938  
Option 3 ID : 630680957936  
Option 4 ID : 630680957935  
Status : Answered  
Chosen Option : 3

Q.117 Which of the following is the correct Inglis' formula to compute flood discharge(Q) for small catchment areas?

- Ans ☒ 1.  $Q = 123 \sqrt{A}$ , where A is area of catchment in sq.km.
- ☐ 2.
- $Q = AC^{3/2}$ , where, 'A' is catchment area in sq.km. and 'C' is flood coefficient.
- ☐ 3.
- $Q = AC^{2/3}$ , where, 'A' is catchment area in sq.km. and 'C' is flood coefficient.
- ☐ 4.  $Q = 1.25 \sqrt{A}$ , where A is area of catchment in sq.km.

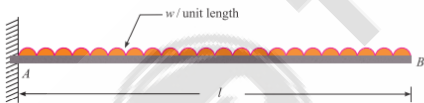
Question ID : 630680246975  
Option 1 ID : 630680958180  
Option 2 ID : 630680958181  
Option 3 ID : 630680958182  
Option 4 ID : 630680958179  
Status : Answered  
Chosen Option : 3

Q.118 As per IS-456-2000, for ultimate limit states, the partial factor of safety assigned for concrete is \_\_\_\_\_.

- Ans ☒ 1. 1.5
- ☐ 2. 1.15
- ☐ 3. 1.0
- ☐ 4. 1.87

Question ID : 630680246898  
Option 1 ID : 630680957873  
Option 2 ID : 630680957872  
Option 3 ID : 630680957871  
Option 4 ID : 630680957874  
Status : Answered  
Chosen Option : 1

Q.119 A cantilever beam of length 'l' is subjected to a uniformly distributed load of intensity w/unit length, as shown in the figure. Calculate deflection at free end 'B' if E = modulus of elasticity of material used and I = Moment of inertia of beam section.



- Ans ☒ 1.  $\frac{wl^4}{8EI}$
- ☐ 2.  $\frac{wl^3}{24EI}$
- ☐ 3.  $\frac{wl^4}{24EI}$
- ☐ 4.  $\frac{wl^3}{8EI}$

Question ID : 630680246856  
Option 1 ID : 630680957704  
Option 2 ID : 630680957706  
Option 3 ID : 630680957705  
Option 4 ID : 630680957703  
Status : Answered  
Chosen Option : 4

**Q.120** Which of the following classified types of broad-gauge railway track lines are meant for a sanctioned speed up to 160 km/h?

- Ans**
- ☒ 1. Group B
  - ☒ 2. Group D
  - ☒ 3. Group C
  - ☒ 4. Group A

Question ID : 630680246971  
Option 1 ID : 630680958164  
Option 2 ID : 630680958166  
Option 3 ID : 630680958165  
Option 4 ID : 630680958163  
Status : Answered  
Chosen Option : 4

**Q.121** Which of the following is NOT a measure of particle size range in coarse grained soil?

- Ans**
- ☒ 1. Effective size
  - ☒ 2. Fineness modulus
  - ☒ 3. Coefficient of curvature
  - ☒ 4. Uniformity coefficient

Question ID : 630680246860  
Option 1 ID : 630680957719  
Option 2 ID : 630680957722  
Option 3 ID : 630680957721  
Option 4 ID : 630680957720  
Status : Answered  
Chosen Option : 4

**Q.122** As per IS 800:2007, the minimum edge and end distances from the centre of any hole to the nearest edge of a plate shall NOT be less than \_\_\_\_\_ the hole diameter in case of rolled, machine-flame cut, sawn and planed edges.

- Ans**
- ☒ 1. 2.1 times
  - ☒ 2. 1.5 times
  - ☒ 3. 1.8 times
  - ☒ 4. 1.2 times

Question ID : 630680246958  
Option 1 ID : 630680958114  
Option 2 ID : 630680958112  
Option 3 ID : 630680958113  
Option 4 ID : 630680958111  
Status : Answered  
Chosen Option : 2

**Q.123** A commercial building constructed on plot of land  $1000\text{ m}^2$ . The plinth area is  $800\text{ m}^2$ . The building fetches a gross rent of ₹50,000 per month. The total outgoings per year is \_\_\_\_, if the cost of repair is at the rate of 10% of income and yearly property tax is ₹5 per  $\text{m}^2$  of land and ₹40 per  $\text{m}^2$  of plinth area.

- Ans**
- ☒ 1. ₹3,00,000
  - ☒ 2. ₹1,24,000
  - ☒ 3. ₹45,500
  - ☒ 4. ₹97,000

Question ID : 630680246883  
Option 1 ID : 630680957812  
Option 2 ID : 630680957814  
Option 3 ID : 630680957811  
Option 4 ID : 630680957813  
Status : Answered  
Chosen Option : 4

**Q.124** Calculate the length of long chord of a simple circular curve whose radius is 500 m. Take deflection angle ( $\Delta$ ) as  $60^\circ$ .

- Ans**
- ☒ 1. 430 m
  - ☒ 2. 250 m
  - ☒ 3. 325 m
  - ☒ 4. 500 m

Question ID : 630680246997  
Option 1 ID : 630680958270  
Option 2 ID : 630680958267  
Option 3 ID : 630680958269  
Option 4 ID : 630680958268  
Status : Answered  
Chosen Option : 4

**Q.125** Study the given statements regarding land degradation and identify the correct answer.

Statement A: Land is degraded due to unplanned destruction of forests.

Statement B: The washing off of fine soil particles from deforested areas has caused great soil erosion.

- Ans**
- ☒ 1. Both the statements are incorrect
  - ☒ 2. Both the statements are correct
  - ☒ 3. Statement B is correct but A is incorrect
  - ☒ 4. Statement A is correct but B is incorrect

Question ID : 630680246891  
Option 1 ID : 630680957846  
Option 2 ID : 630680957845  
Option 3 ID : 630680957844  
Option 4 ID : 630680957843  
Status : Answered  
Chosen Option : 4

Q.126 The pressure intensity (P) inside the spherical droplet of a liquid (in excess of outside pressure intensity) with diameter 'd' is given by \_\_\_\_\_. Where,  $\sigma$  = surface tension of liquid.

- Ans
- ✗ 1.  $P = \frac{2\sigma}{d}$
  - ✗ 2.  $P = \frac{6\sigma}{d}$
  - ✓ 3.  $P = \frac{4\sigma}{d}$
  - ✗ 4.  $P = \frac{8\sigma}{d}$

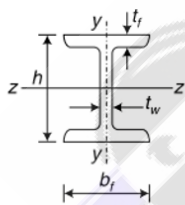
Question ID : 630680246907  
Option 1 ID : 630680957909  
Option 2 ID : 630680957910  
Option 3 ID : 630680957907  
Option 4 ID : 630680957908  
Status : Answered  
Chosen Option : 3

Q.127 In \_\_\_\_\_ style of leadership, decisions are made based on the team's opinion and feedback.

- Ans
- ✗ 1. autocratic
  - ✓ 2. democratic
  - ✗ 3. coach-style
  - ✗ 4. laissez-faire

Question ID : 630680247007  
Option 1 ID : 630680958307  
Option 2 ID : 630680958308  
Option 3 ID : 630680958310  
Option 4 ID : 630680958309  
Status : Answered  
Chosen Option : 2

Q.128 Which of the following buckling curve is applicable about z-z axis for a rolled steel I-section used as a axially loaded compression member shown in the figure, if  $(h/b_f) > 1.2$  and  $t_f \leq 40$  mm?



- Ans
- ✗ 1. Class – b
  - ✗ 2. Class – d
  - ✓ 3. Class – a
  - ✗ 4. Class – c

Question ID : 630680246963  
Option 1 ID : 630680958132  
Option 2 ID : 630680958131  
Option 3 ID : 630680958134  
Option 4 ID : 630680958133  
Status : Not Answered  
Chosen Option : --

Q.129 Identify the INCORRECT statement with respect to burnt bricks.

- Ans ☒ 1. Moulded clay should not be heated beyond 1300°C to ensure good quality of bricks.
- ☒ 2. Calcium is the major compound present in burnt bricks and it reacts with alumina to form stable and strong bricks.
- ☒ 3. Moulded clay should be heated up to 700 to 1000°C to achieve strong and stable bricks.
- ☒ 4. Burning of bricks removes the water present in the clay.

Question ID : 630680246868  
Option 1 ID : 630680957754  
Option 2 ID : 630680957753  
Option 3 ID : 630680957752  
Option 4 ID : 630680957751  
Status : Answered  
Chosen Option : 4

Q.130 Which of the following ISO standards defines minimum quality system requirements for design/development, production, installation and servicing?

- Ans ☒ 1. ISO 9003
- ☒ 2. ISO 9000
- ☒ 3. ISO 9002
- ☒ 4. ISO 9001

Question ID : 630680247011  
Option 1 ID : 630680958326  
Option 2 ID : 630680958323  
Option 3 ID : 630680958325  
Option 4 ID : 630680958324  
Status : Not Answered  
Chosen Option : --

Q.131 Which of the following is NOT a type of varnish?

- Ans ☒ 1. Water varnish
- ☒ 2. Oil varnish
- ☒ 3. Bagasse varnish
- ☒ 4. Spirit varnish

Question ID : 630680246871  
Option 1 ID : 630680957764  
Option 2 ID : 630680957763  
Option 3 ID : 630680957765  
Option 4 ID : 630680957766  
Status : Answered  
Chosen Option : 1

Q.132 The process of determining how much time the total project will take, tracking labour hours and how long each stage will take is known as \_\_\_\_\_.

- Ans
- ☒ 1. staffing
  - ☒ 2. controlling
  - ☒ 3. scheduling
  - ☒ 4. directing

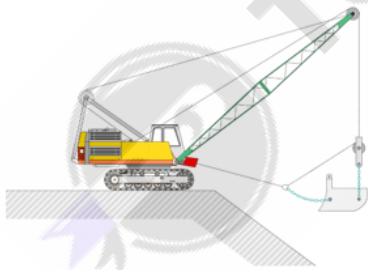
Question ID : 630680247008  
Option 1 ID : 630680958313  
Option 2 ID : 630680958311  
Option 3 ID : 630680958312  
Option 4 ID : 630680958314  
Status : Answered  
Chosen Option : 3

Q.133 Calculate the additional length to be added for two bent-ups (45° crank) given along the length of a 16 mm diameter bar, used in a RCC slab culvert. Take the vertical distance between the centre of upper and lower arms of bent-up bar as 184 mm.

- Ans
- ☒ 1. 154.56 mm
  - ☒ 2. 184 mm
  - ☒ 3. 92 mm
  - ☒ 4. 77.28 mm

Question ID : 630680246987  
Option 1 ID : 630680958229  
Option 2 ID : 630680958230  
Option 3 ID : 630680958228  
Option 4 ID : 630680958227  
Status : Answered  
Chosen Option : 2

Q.134 Identify the equipment shown in the figure, which is used for road subgrade preparation.



- Ans
- ☒ 1. Dozer
  - ☒ 2. Back hoe
  - ☒ 3. Drag line
  - ☒ 4. Power shovel

Question ID : 630680246941  
Option 1 ID : 630680958046  
Option 2 ID : 630680958044  
Option 3 ID : 630680958045  
Option 4 ID : 630680958043  
Status : Answered  
Chosen Option : 3

Q.135 The energy drink 'Red Bull' is an example of \_\_\_\_\_ type of intellectual property.

- Ans
- ☐ 1. patent
  - ☐ 2. geographical indication
  - ☒ 3. trade mark
  - ☐ 4. copyright

Question ID : 630680246955  
Option 1 ID : 630680958099  
Option 2 ID : 630680958102  
Option 3 ID : 630680958100  
Option 4 ID : 630680958101  
Status : Answered  
Chosen Option : 3

Q.136 The Indian Road Congress (IRC) was established by the Central Government in 1934, as per the recommendations of the \_\_\_\_\_.

- Ans
- ☐ 1. Highway Research Board
  - ☐ 2. Central Road Research Institute
  - ☒ 3. Jayakar Committee
  - ☐ 4. Lord William Bentinck

Question ID : 630680246937  
Option 1 ID : 630680958029  
Option 2 ID : 630680958028  
Option 3 ID : 630680958027  
Option 4 ID : 630680958030  
Status : Answered  
Chosen Option : 3

Q.137 Which of the following type of canals is aligned roughly at right angles to the contours of the country?

- Ans
- ☐ 1. Offset canal
  - ☐ 2. Ridge canal
  - ☐ 3. Contour canal
  - ☒ 4. Side slope canal

Question ID : 630680246921  
Option 1 ID : 630680957966  
Option 2 ID : 630680957965  
Option 3 ID : 630680957963  
Option 4 ID : 630680957964  
Status : Answered  
Chosen Option : 2

Q.138 Which of the following maps shows the physical features of a place or country, like rivers, mountains, forests and lakes?

- Ans
- ☐ 1. Physical map
  - ☐ 2. Road map
  - ☒ 3. Topographic map
  - ☐ 4. Political map

Question ID : 630680247002  
Option 1 ID : 630680958290  
Option 2 ID : 630680958287  
Option 3 ID : 630680958288  
Option 4 ID : 630680958289  
Status : Answered  
Chosen Option : 3

Q.139 Calculate the delta for a crop if its duty is 2000 hectares/cumec on the field. Consider the base period of crop as 100 days.

- Ans
- ☐ 1. 172.8 cm
  - ☒ 2. 43.2 cm
  - ☐ 3. 202.42 cm
  - ☐ 4. 84.4 cm

Question ID : 630680246918  
Option 1 ID : 630680957952  
Option 2 ID : 630680957953  
Option 3 ID : 630680957954  
Option 4 ID : 630680957951  
Status : Answered  
Chosen Option : 2

Q.140 The carbon content in carbon fibres is about \_\_\_\_\_.

- Ans
- ☐ 1. 70-80%
  - ☒ 2. 80-90%
  - ☐ 3. 60-40%
  - ☐ 4. 97-99%

Question ID : 630680247017  
Option 1 ID : 630680958349  
Option 2 ID : 630680958348  
Option 3 ID : 630680958350  
Option 4 ID : 630680958347  
Status : Answered  
Chosen Option : 4

Q.141 It is found that the weight of a liquid that measures 6 litres is 30 N. Calculate its specific weight.

- Ans
- ✓ 1. 5000 N/m<sup>3</sup>
  - ✗ 2. 1800 N/m<sup>3</sup>
  - ✗ 3. 6000 N/m<sup>3</sup>
  - ✗ 4. 3000 N/m<sup>3</sup>

Question ID : 630680246908

Option 1 ID : 630680957912

Option 2 ID : 630680957911

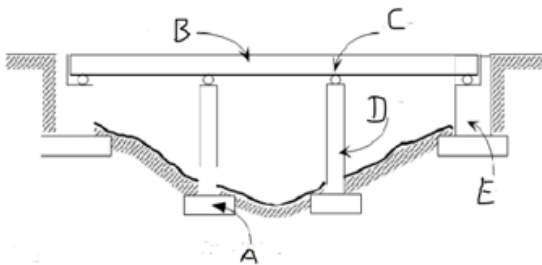
Option 3 ID : 630680957914

Option 4 ID : 630680957913

Status : Answered

Chosen Option : 1

Q.142 Identify the component of a bridge labelled 'B', as shown in the figure.



- Ans
- ✗ 1. Bearing
  - ✗ 2. Abutment
  - ✓ 3. Deck
  - ✗ 4. Pier

Question ID : 630680246973

Option 1 ID : 630680958173

Option 2 ID : 630680958174

Option 3 ID : 630680958172

Option 4 ID : 630680958171

Status : Answered

Chosen Option : 3

Q.143 As per the analysis of rates by Government of Odisha, the initial lift mentioned for earth work is within \_\_\_\_\_.

- Ans
- ✗ 1. 1 m
  - ✗ 2. 3.0 m
  - ✓ 3. 1.5 m
  - ✗ 4. 4.5 m

Question ID : 630680246885

Option 1 ID : 630680957819

Option 2 ID : 630680957821

Option 3 ID : 630680957820

Option 4 ID : 630680957822

Status : Answered

Chosen Option : 3

Q.144 In general, within a normal range of pH, water with hardness \_\_\_\_\_ and above is considered as hard.

- Ans
- ☒ 1. 200 mg/l
  - ☐ 2. 275 mg/l
  - ☐ 3. 75 mg/l
  - ☐ 4. 125 mg/l

Question ID : 630680246982  
Option 1 ID : 630680958209  
Option 2 ID : 630680958210  
Option 3 ID : 630680958207  
Option 4 ID : 630680958208  
Status : Answered  
Chosen Option : 1

Q.145 As per IS 2000(part 15):1987, the paint coefficient (multiplying factor) for fully glazed steel doors is \_\_\_\_\_.

- Ans
- ☐ 1. 1.0 for each side
  - ☐ 2. 2 for each side
  - ☒ 3. 0.5 for each side
  - ☐ 4. 1.5 for each side

Question ID : 630680246879  
Option 1 ID : 630680957797  
Option 2 ID : 630680957795  
Option 3 ID : 630680957796  
Option 4 ID : 630680957798  
Status : Answered  
Chosen Option : 4

Q.146 While determining the permeability of a soil stratum at field by pumping test, minimum \_\_\_\_\_ observation well(s) is/are required.

- Ans
- ☐ 1. zero
  - ☐ 2. three
  - ☐ 3. one
  - ☒ 4. two

Question ID : 630680246862  
Option 1 ID : 630680957727  
Option 2 ID : 630680957730  
Option 3 ID : 630680957728  
Option 4 ID : 630680957729  
Status : Answered  
Chosen Option : 3

Q.147 \_\_\_\_\_ style of leadership expects employees to adhere to leader's decisions that are not sustainable in the long run.

- Ans
- ☒ 1. Autocratic
  - ☐ 2. Laissez-faire
  - ☐ 3. Coach
  - ☐ 4. Democratic

Question ID : 630680247013  
Option 1 ID : 630680958331  
Option 2 ID : 630680958333  
Option 3 ID : 630680958334  
Option 4 ID : 630680958332  
Status : Answered  
Chosen Option : 1

Q.148 Which of the following is NOT a type of ballast?

- Ans
- ☐ 1. Cinder ballast
  - ☐ 2. Sand ballast
  - ☒ 3. Silica fume ballast
  - ☐ 4. Brick bat ballast

Question ID : 630680246969  
Option 1 ID : 630680958157  
Option 2 ID : 630680958156  
Option 3 ID : 630680958158  
Option 4 ID : 630680958155  
Status : Answered  
Chosen Option : 2

Q.149 Study the given statements with respect to functions and duties of NABARD and identify the correct answer.

Statement A: NABARD does not provide and regulate credit and other facilities for the promotion and development of small-scale industries.

Statement B: NABARD provides and regulates credit and other facilities for the promotion and development of agriculture, handicrafts and other rural crafts.

- Ans
- ☐ 1. Statement A is correct but B is incorrect
  - ☒ 2. Statement B is correct but A is incorrect
  - ☐ 3. Both the statements are correct
  - ☐ 4. Both the statements are incorrect

Question ID : 630680246947  
Option 1 ID : 630680958067  
Option 2 ID : 630680958068  
Option 3 ID : 630680958069  
Option 4 ID : 630680958070  
Status : Answered  
Chosen Option : 2

Q.150 Identify the INCORRECT statement with respect to plinth area estimate.

- Ans
- ☒ 1. Plinth area estimate includes courtyard.
  - ☐ 2. Plinth area estimate does not consider open areas.
  - ☐ 3. Plinth area estimate is a preliminary estimate.
  - ☐ 4. Plinth area estimate is approximate in nature.

Question ID : 630680246878

Option 1 ID : 630680957793

Option 2 ID : 630680957794

Option 3 ID : 630680957792

Option 4 ID : 630680957791

Status : Answered

Chosen Option : 1

Q.151 Study the given statements with respect to beam subjected to bending and identify the correct answer.

Statement A: Bending stress is inversely proportional to the radius of curvature of the beam.

Statement B: Bending stress is directly proportional to the moment of inertia of the beam section.

- Ans
- ☐ 1. Both the statements are incorrect
  - ☒ 2. Statement A is correct but B is incorrect
  - ☐ 3. Both the statements are correct
  - ☐ 4. Statement B is correct but A is incorrect

Question ID : 630680246851

Option 1 ID : 630680957686

Option 2 ID : 630680957683

Option 3 ID : 630680957685

Option 4 ID : 630680957684

Status : Answered

Chosen Option : 2

Q.152 What is the range of relative density of very loose soil?

- Ans
- ☐ 1. 75-90%
  - ☐ 2. 25-40%
  - ☒ 3. 0-15%
  - ☐ 4. 45-60%

Question ID : 630680246857

Option 1 ID : 630680957710

Option 2 ID : 630680957708

Option 3 ID : 630680957707

Option 4 ID : 630680957709

Status : Answered

Chosen Option : 3

Q.153 Identify the INCORRECT statement with respect to different methods used to balance a traverse.

Ans ☒ 1.

The Bowditch's method assumes that the errors in linear measurements are directly proportional to square root of length of surveyed line.

☒ 2.

The Bowditch's method assumes that the errors in angular measurements are inversely proportional to square root of length of surveyed line.

☒ 3.

The angles are less affected by corrections applied by transit method than by Bowditch's method.

☒ 4.

The transit rule may be employed where angular measurements are less precise than the linear measurements.

Question ID : 630680246936

Option 1 ID : 630680958023

Option 2 ID : 630680958024

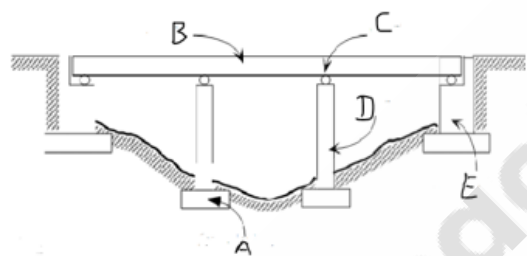
Option 3 ID : 630680958026

Option 4 ID : 630680958025

Status : Answered

Chosen Option : 2

Q.154 Which of the following represents 'part D' of the given figure of a bridge?



Ans ☒ 1. Abutment

☒ 2. Deck

☒ 3. Pier

☒ 4. Bearing

Question ID : 630680246986

Option 1 ID : 630680958226

Option 2 ID : 630680958224

Option 3 ID : 630680958223

Option 4 ID : 630680958225

Status : Answered

Chosen Option : 3

**Q.155** It is found that the earthwork in excavation required to construct a simple vertical fall for a distributary of 360 cm bed width is 70 m<sup>3</sup>. Calculate the total cost required after adding 3% contingencies and 2% work charged establishment if the rate is ₹40 per m<sup>3</sup> of earth work excavation.

- Ans**
- ☒ 1. ₹2,800
  - ☒ 2. ₹2,996
  - ☒ 3. ₹2,940
  - ☒ 4. ₹3,012

Question ID : 630680246990  
Option 1 ID : 630680958239  
Option 2 ID : 630680958240  
Option 3 ID : 630680958241  
Option 4 ID : 630680958242  
Status : Answered  
Chosen Option : 3

**Q.156** Study the given statements and identify the correct answer.

Statement A: The hydrosphere covers three-quarters of the earth's surface.

Statement B: Human activities such as deforestation create serious changes in the hydrosphere.

- Ans**
- ☒ 1. Statement A is correct but B is incorrect
  - ☒ 2. Statement B is correct but A is incorrect
  - ☒ 3. Both statements are correct
  - ☒ 4. Both statements are incorrect

Question ID : 630680246888  
Option 1 ID : 630680957831  
Option 2 ID : 630680957832  
Option 3 ID : 630680957833  
Option 4 ID : 630680957834  
Status : Answered  
Chosen Option : 3

**Q.157** Study the given statements with respect to Doubly Reinforced Sections and identify the correct answer.

Statement A: When compression reinforcement is provided in addition to tension reinforcement in beams, such beams are termed doubly reinforced beams.

Statement B: If the cross-sectional area of hanger bars used for the purpose of holding stirrups is greater than 0.2 per cent of the RC section, then they can be considered as compression reinforcement.

- Ans**
- ☒ 1. Statement B is correct but A is incorrect
  - ☒ 2. Statement A is correct but B is incorrect
  - ☒ 3. Both the statements are incorrect
  - ☒ 4. Both the statements are correct

Question ID : 630680246902  
Option 1 ID : 630680957888  
Option 2 ID : 630680957887  
Option 3 ID : 630680957890  
Option 4 ID : 630680957889  
Status : Answered  
Chosen Option : 4

Q.158 Study the given statements and identify the correct answer.

Statement A: Leaders are willing to learn and grow personally, whereas, managers perfect existing, proven skills.

Statement B: Results of management are intangible, whereas, results of leadership is measurable.

- Ans
- ✓ 1. Statement A is correct but B is incorrect
  - ✗ 2. Both the statements are incorrect
  - ✗ 3. Both the statements are correct
  - ✗ 4. Statement B is correct but A is incorrect

Question ID : 630680246953

Option 1 ID : 630680958091

Option 2 ID : 630680958094

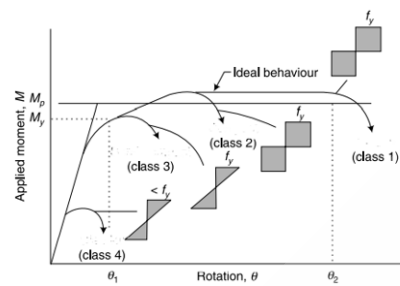
Option 3 ID : 630680958093

Option 4 ID : 630680958092

Status : Answered

Chosen Option : 3

Q.159 Moment rotation behaviour of the four classes of cross-sections that are necessary for limit state design of steel beams is shown in the figure. Class 2 section is also called \_\_\_\_\_.



- Ans
- ✗ 1. Slender section
  - ✗ 2. Semi-compact section
  - ✓ 3. Compact section
  - ✗ 4. Plastic section

Question ID : 630680246965

Option 1 ID : 630680958142

Option 2 ID : 630680958140

Option 3 ID : 630680958141

Option 4 ID : 630680958139

Status : Answered

Chosen Option : 3

Q.160 Identify the type of weld made between two plate as shown in the figure.



- Ans
- ✓ 1. Groove weld
  - ✗ 2. Flat fillet weld
  - ✗ 3. Lap weld
  - ✗ 4. Continuous fillet weld

Question ID : 630680246961

Option 1 ID : 630680958123

Option 2 ID : 630680958125

Option 3 ID : 630680958126

Option 4 ID : 630680958124

Status : Answered

Chosen Option : 1

Q.161 Which of the following type of dams transfers a major part of the water load to its abutments horizontally?

- Ans
- ✗ 1. Concrete gravity dam
  - ✗ 2. Concrete buttress dam
  - ✗ 3. Earth dam
  - ✓ 4. Arch dam

Question ID : 630680246926

Option 1 ID : 630680957984

Option 2 ID : 630680957986

Option 3 ID : 630680957985

Option 4 ID : 630680957983

Status : Answered

Chosen Option : 4

Q.162 \_\_\_\_\_ shows the spatial distribution of one or more specific data themes for selected geographic areas.

- Ans
- ✗ 1. Topographic map
  - ✗ 2. Physical map
  - ✓ 3. Thematic map
  - ✗ 4. Road map

Question ID : 630680247001

Option 1 ID : 630680958284

Option 2 ID : 630680958286

Option 3 ID : 630680958285

Option 4 ID : 630680958283

Status : Answered

Chosen Option : 1

**Q.163** Calculate the quantity of earthwork using Mid Sectional Area Method, for portion of a road. Height of banks at the two ends of the road being 1.00 m and 1.50 m, formation width = 10 m, length 120 m, side slopes = 2 : 1 (H : V).

- Ans
- ☐ 1. 2000 m<sup>3</sup>
  - ☒ 2. 1875 m<sup>3</sup>
  - ☐ 3. 1725 m
  - ☐ 4. 1500 m<sup>3</sup>

Question ID : 630680246989  
Option 1 ID : 630680958236  
Option 2 ID : 630680958235  
Option 3 ID : 630680958238  
Option 4 ID : 630680958237  
Status : Answered  
Chosen Option : 3

**Q.164** Which of the following type of sleepers offer greater service life?

- Ans
- ☐ 1. Cast iron sleepers
  - ☐ 2. Wooden sleepers
  - ☒ 3. Concrete sleepers
  - ☐ 4. Steel sleepers

Question ID : 630680246970  
Option 1 ID : 630680958161  
Option 2 ID : 630680958159  
Option 3 ID : 630680958162  
Option 4 ID : 630680958160  
Status : Answered  
Chosen Option : 2

**Q.165** Study the given statements with respect to coffer dams and identify the correct answer.

Statement A: A coffer dam is temporary structure that is built to keep the water away from the permanent dam execution site, so that the structure can be built on the dry surface.

Statement B: A coffer dam should be of earth and not of rock fill.

- Ans
- ☐ 1. Both the statements are incorrect
  - ☒ 2. Statement A is correct but B is incorrect
  - ☐ 3. Statement B is correct but A is incorrect
  - ☐ 4. Both the statements are correct

Question ID : 630680246976  
Option 1 ID : 630680958186  
Option 2 ID : 630680958183  
Option 3 ID : 630680958184  
Option 4 ID : 630680958185  
Status : Answered  
Chosen Option : 2

Q.166 Which of the following classified type of broad gauge railway track lines is meant for a sanctioned speed of 130 km/h?

- Ans
- ☐ 1. Group D
  - ☐ 2. Group C
  - ☒ 3. Group B
  - ☐ 4. Group A

Question ID : 630680246967  
Option 1 ID : 630680958150  
Option 2 ID : 630680958149  
Option 3 ID : 630680958148  
Option 4 ID : 630680958147  
Status : Answered  
Chosen Option : 3

Q.167 It is found that the bending stress at the base of a circular chimney as  $20 \text{ N/mm}^2$  and direct compressive stress  $42 \text{ N/mm}^2$ . Identify the correct statement with respect to resultant stress of the mentioned combined stresses.

- Ans
- ☐ 1. Resultant stress is equal to  $62 \text{ N/mm}^2$  throughout the base section of chimney.
  - ☒ 2. Resultant stress varies between  $22 \text{ N/mm}^2$  to  $62 \text{ N/mm}^2$  at the base section of chimney.
  - ☐ 3. Resultant stress will always be less than  $20 \text{ N/mm}^2$ .
  - ☐ 4. Resultant stress will always be greater than  $62 \text{ N/mm}^2$  at the base section of chimney.

Question ID : 630680246852  
Option 1 ID : 630680957689  
Option 2 ID : 630680957690  
Option 3 ID : 630680957688  
Option 4 ID : 630680957687  
Status : Not Answered  
Chosen Option : --

Q.168 \_\_\_\_\_ is a long-term cause of food shortage.

- Ans
- ☐ 1. Transportation
  - ☐ 2. Fall in purchasing capacity of people
  - ☒ 3. Population growth
  - ☐ 4. Increase in consumption level

Question ID : 630680246890  
Option 1 ID : 630680957842  
Option 2 ID : 630680957840  
Option 3 ID : 630680957839  
Option 4 ID : 630680957841  
Status : Answered  
Chosen Option : 3

Q.169 Calculate the volume of loose metal required for a 3.7 m wide Macadam road with compacted thickness 8 cm. Consider length of road as 2 km and the volume of loose metal gets reduced by 1/3 on compaction.

- Ans
- ☒ 1. 592 m<sup>3</sup>
  - ☒ 2. 999 m<sup>3</sup>
  - ☒ 3. 650 m<sup>3</sup>
  - ☒ 4. 888 m<sup>3</sup>

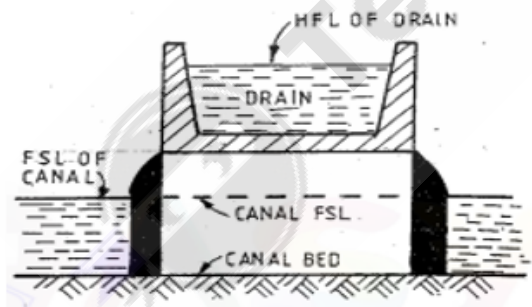
Question ID : 630680246988  
Option 1 ID : 630680958231  
Option 2 ID : 630680958234  
Option 3 ID : 630680958233  
Option 4 ID : 630680958232  
Status : Answered  
Chosen Option : 1

Q.170 Which of the following type of canal linings can be placed on irregular subgrade and hence fine dressing of subgrade is not required?

- Ans
- ☒ 1. Shotcrete lining
  - ☒ 2. Concrete lining
  - ☒ 3. Brick lining
  - ☒ 4. Precast concrete lining

Question ID : 630680246922  
Option 1 ID : 630680957969  
Option 2 ID : 630680957967  
Option 3 ID : 630680957970  
Option 4 ID : 630680957968  
Status : Answered  
Chosen Option : 1

Q.171 Identify the type of cross drainage work shown in the given figure.



- Ans
- ☒ 1. Siphon aqueduct
  - ☒ 2. Aqueduct
  - ☒ 3. Level crossing
  - ☒ 4. Super passage

Question ID : 630680246924  
Option 1 ID : 630680957977  
Option 2 ID : 630680957975  
Option 3 ID : 630680957978  
Option 4 ID : 630680957976  
Status : Answered  
Chosen Option : 4

**Q.172** In case of soundness test on coarse aggregates, the aggregates are immersed in a saturated solution of \_\_\_\_\_.

- Ans**
- ☐ 1. calcium silicate
  - ☐ 2. HCl
  - ☐ 3. zinc aluminate
  - ☒ 4. sodium sulphate

Question ID : 630680246940

Option 1 ID : 630680958040

Option 2 ID : 630680958042

Option 3 ID : 630680958041

Option 4 ID : 630680958039

Status : **Answered**

Chosen Option : 4

**Q.173** A steel bar 2 m long, with cross-sectional area  $800 \text{ mm}^2$  throughout its length is subjected to an axial pull of 100 kN in the direction of its length. Calculate the change in the length of the bar. Take modulus of elasticity(E) = 200 GPa and Poisson's ratio = 0.3.

- Ans**
- ☐ 1. 2 mm
  - ☒ 2. 1.25 mm
  - ☐ 3. 0.50 mm
  - ☐ 4. 2.5 mm

Question ID : 630680246854

Option 1 ID : 630680957695

Option 2 ID : 630680957697

Option 3 ID : 630680957696

Option 4 ID : 630680957698

Status : **Answered**

Chosen Option : 2

**Q.174** Which of the following types of chains is 100 feet long and consists of 100 links with each link being 1 foot long?

- Ans**
- ☐ 1. Metric chain
  - ☐ 2. Revenue chain
  - ☐ 3. Gunter's chain
  - ☒ 4. Engineer's chain

Question ID : 630680246932

Option 1 ID : 630680958009

Option 2 ID : 630680958007

Option 3 ID : 630680958008

Option 4 ID : 630680958010

Status : **Answered**

Chosen Option : 4