



**Dedicated Freight Corridor Corporation of India Ltd.**

**(A Government of India Enterprises)**

5<sup>th</sup> Floor, Pragati Maidan, Metro Station Building Complex, New Delhi- 110001  
Corporate Identity Number U60232DL2006GOI155068 Web:

[www.dfccil.gov.in](http://www.dfccil.gov.in)

No. 2019/HQ/Admin/RTI-132

New Delhi: 26.02.019

Shri Naveen Kumar Gupta  
Behind Old LIC Office  
Narshing Colony, Court Road,  
Gangapur City  
Rajasthan-322201  
Mob.-8764337257

Subject: Providing information w.r.t. Original Application received under the RTI Act.2005.

**Reference: Your Application dated 31.01.19 received through DOPT.**

Information i. r. o. your above RTI application as received is attached.

Hope the above information is complete and satisfactory. If not, then you can appeal within 30 days of receipt of the letter to the 1st Appellate Authority whose name and address is as under;

Shri Satish Kothari, GGM/Administration DFCCIL,  
5th Floor, Pragati Maidan Metro Station Building, New Delhi-110001.

**(S.K.PANDA)**

**Dy. G.M/Admn.(PIO)**

**E-mail: [skpanda@dfcc.co.in](mailto:skpanda@dfcc.co.in)**

**9717636811**

DA: 15 Sheets

Note

No. 2019/HQ/HR-1/(ii)/RTI/Pt.(201900084)

Dated: 14.02.2019

Sub: Application of Shri Naveen Kumar Gupta, R/o Rajasthan, under RTI Act-2005.

Reply to RTI No. 132

S.N	Information Sought For:	Proposed Reply/Remarks
1.	I want to know my marks which is obtained in Executive/Civil in CBT under Advt. No. 11/2018 which is held on 10/11/2018.	Your question booklet along with correct answer keys indicated there is enclosed.
2.	Also I want to know corrected answer key of Executive/Civil in CBT under Advt. No. 11/2018 which held on 10/11/2018. Roll No. - 27061020704.	The details are already available on DFCCIL's website <a href="http://www.dfccil.gov.in">www.dfccil.gov.in</a> .

~~DGM/HR~~

*41*  
14/2/19

  
AM/HR

DGM/Admin(PIO)

293/2019  
15/2/19/4150  
OFFICE  
Sign: .....





**Dedicated Freight Corridor Corporation of India Ltd.**  
A Government of India (Ministry of Railways) Enterprise

Participant ID	27061020704
Participant Name	NAVEEN KUMAR GUPTA
Test Center Name	ANAND INTERNATIONAL COLLEGE OF ENGINEERING JAIPUR
Test Date	10/11/2018
Test Time	12:30 PM - 2:30 PM
Subject	Executive Civil

Section : General Knowledge

Q.1 संक्षेप में, नई छप्ता योजना का नाम क्या है जिसका उद्देश्य किसानों को उनके उपज के लिए लाभकारी मूल्य सुनिश्चित करना है?

- Ans
- 1. पीएम-समता (PM-SAMTA)
  - 2. पीएम-सद्भाव (PM-SADBHAV)
  - 3. पीएम-न्याय (PM-NYAAY)
  - 4. पीएम-आशा (PM-AASHA)

Question ID : 1860451872

Status : Answered

Chosen Option : 1

Q.2 घर्षण बल सदैव प्रयुक्त बलों \_\_\_\_\_।

- Ans
- 1. का विरोध करता है
  - 2. में संयोजित होता है
  - 3. को परावर्तित करता है
  - 4. प्रवाहित करता है

Question ID : 1860451875

Status : Answered

Chosen Option : 1

Q.3 निम्नलिखित में से किसे भारत के वर्तमान मुख्य न्यायाधीश के रूप में नियुक्त किया गया है और उन्होंने 3 अक्टूबर, 2018 को अपना पदभार संभाला है?

- Ans
- 1. न्यायमूर्ति रंजन गोगोई
  - 2. जस्टिस जस्ती चेलमेश्वर
  - 3. न्यायमूर्ति मदन लोकर
  - 4. न्यायमूर्ति कुरियन जोसेफ

Question ID : 1860451871



Q.4 निम्नलिखित में से कौन बहमनी संल्तनत की राजधानी थी?

- Ans
- 1. गोलकुंडा
  - 2. बेल्लारी
  - 3. गुलबर्गा
  - 4. बेरार

Question ID : 1860451867  
Status : Answered  
Chosen Option : 1

Q.5 अक्टूबर 2018 तक उपलब्ध जानकारी के अनुसार, लघु उद्योग विकास बैंक ऑफ़ इंडिया (सिडबी) के अध्यक्ष और प्रबंध निदेशक कौन हैं?

- Ans
- 1. मनोज मित्तल
  - 2. बदरुद्दीन अजमल
  - 3. अजय कुमार कपूर
  - 4. मोहम्मद मुस्तफ़ा

Question ID : 1860451874  
Status : Answered  
Chosen Option : 3

Q.6 भारत सरकार ने निम्नलिखित में किस बैंक के साथ देना बैंक और विजया बैंक का विलय करने का प्रस्ताव दिया है?

- Ans
- 1. सेंट्रल बैंक ऑफ़ इंडिया
  - 2. बैंक ऑफ़ बड़ोदा
  - 3. पंजाब नेशनल बैंक
  - 4. बैंक ऑफ़ इंडिया

Question ID : 1860451873  
Status : Answered  
Chosen Option : 2

Q.7 निम्नलिखित में से किस देश ने एशिया कप 2018 क्रिकेट टूर्नामेंट की मेज़बानी की थी?

- Ans
- 1. बांग्लादेश
  - 2. श्रीलंका
  - 3. संयुक्त अरब अमीरात
  - 4. पाकिस्तान

Question ID : 1860451877  
Status : Answered  
Chosen Option : 3

Q.8 एल.ई.डी. को परिपथ (सर्किट) में जोड़ने के लिए इसके लंबे तार को सदैव बैटरी के \_\_\_\_\_ ध्रुव (टर्मिनल) से जोड़ा जाता है और छोटे तार को बैटरी के दूसरे ध्रुव (टर्मिनल) से जोड़ा जाता है।



- Ans
- 1. ऋणात्मक
  - 2. समान
  - 3. धनात्मक
  - 4. उदासीन

Question ID : 1860451876  
Status : Answered  
Chosen Option : 3

Q.9 निम्नलिखित में से कौन सी नदी अरब सागर में मिलती है?

- Ans
- 1. कृष्णा
  - 2. साबरमती
  - 3. लूनी
  - 4. गोदावरी

Question ID : 1860451866  
Status : Answered  
Chosen Option : 2

Q.1 0 किसी राज्य सरकार के शिक्षा मंत्री को \_\_\_\_\_ की सलाह पर \_\_\_\_\_ द्वारा नियुक्त किया जाता है।

- Ans
- 1. मुख्यमंत्री; राज्यपाल
  - 2. राष्ट्रपति; राज्यपाल
  - 3. राज्यपाल; मुख्यमंत्री
  - 4. मुख्यमंत्री; प्रधानमंत्री

Question ID : 1860451870  
Status : Answered  
Chosen Option : 1

Q.1 1 भारत के संविधान का निम्नलिखित में से कौन सा अनुच्छेद संसद के दोनों सदनों की संयुक्त बैठक का प्रावधान प्रदान करता है?

- Ans
- 1. अनुच्छेद 93
  - 2. अनुच्छेद 108
  - 3. अनुच्छेद 126
  - 4. अनुच्छेद 122

Question ID : 1860451869  
Status : Answered  
Chosen Option : 3

Q.1 2 यूनेस्को द्वारा विश्व धरोहर घोषित भीमबेटका शैलाश्रय किस राज्य में स्थित है?

- Ans
- 1. मध्य प्रदेश
  - 2. कर्नाटक
  - 3. गुजरात



Question ID : 1860451868  
Status : Answered  
Chosen Option : 1

Section : General Aptitude Reasoning


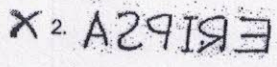
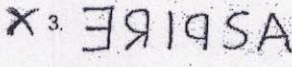
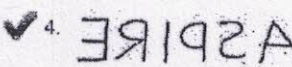
Q.1 यदि संख्या 341285769 के पहले और छठे अंक की स्थिति को परस्पर स्थानापन्न कर दिया जाए, उसी प्रकार दूसरे और सातवें अंक की स्थिति को परस्पर स्थानापन्न कर दिया जाए, तो निम्नलिखित में से कौन सा अंक बाएँ सिरे से सातवें अंक की बायीं ओर तीसरा अंक होगा?

- Ans
- 1. 9
  - 2. 3
  - 3. 2
  - 4. 7

Question ID : 1860451880  
Status : Answered  
Chosen Option : 3

Q.2 Which of the options depicts the correct mirror image of the following figure?

ASPIRE

- Ans
- 1. 
  - 2. 
  - 3. 
  - 4. 

Question ID : 1860451889  
Status : Answered  
Chosen Option : 4

Q.3 Select the number pair which is different from the other three responses?

- Ans
- 1. 157 - 39
  - 2. 92 - 23
  - 3. 77 - 19
  - 4. 125 - 31

Question ID : 1860451887  
Status : Answered  
Chosen Option : 2

Q.4 Some equations are solved on the basis of a certain system. Find the correct answer for the unsolved equation on that basis.

$$4 + 25 = 81; 9 + 49 = 256; 7 + 16 = ?$$

- Ans
- 1. 88
  - 2. 16
  - 3. 121
  - 4. 256



Question ID : 1860451885  
Status : Answered  
Chosen Option : 3

Q.5 Choose the alternative from the given options that will complete the given number series.  
72, 83, 105, 138, 182, \_\_\_\_\_

- Ans ✓ 1. 237  
✗ 2. 278  
✗ 3. 224  
✗ 4. 258

Question ID : 1860451879  
Status : Answered  
Chosen Option : 1

Q.6 दिये गए प्रश्न पर विचार करें और निर्णय लें कि नीचे दिये गए प्रश्न का उत्तर देने के लिए निम्नलिखित में से कौन सा कथन पर्याप्त है।  
सुपायु का जन्म किस वर्ष हुआ था?

- कथन:  
1. सुपायु आज के दिन अपने भाई से 6 वर्ष छोटा है।  
2. सुपायु की माँ जो 1970 में पैदा हुई थी, उसके भाई से 24 वर्ष बड़ी हैं।

- Ans ✗ 1. कथन 2 अकेले ही पर्याप्त है जबकि कथन 1 अपर्याप्त है।  
✗ 2. कथन 1 अकेले ही पर्याप्त है जबकि कथन 2 अपर्याप्त है।  
✓ 3. कथन 1 और कथन 2 दोनों एक साथ पर्याप्त हैं।  
✗ 4. या तो कथन 1 या कथन 2 पर्याप्त है।

Question ID : 1860451884  
Status : Answered  
Chosen Option : 3

Q.7 U, V, W, X, और Y पाँच घरेलू भाई हैं। 'X' की आयु 'V' की आयु की आधी है; 'V' की आयु 'U' की आयु की आधी है; 'Y' की आयु 'X' की आयु की आधी है; यदि 'Y' की आयु 4 वर्ष है तो 'U' की आयु क्या है?

- Ans ✓ 1. 16 साल  
✗ 2. 48 साल  
✗ 3. 8 साल  
✗ 4. 32 साल

Question ID : 1860451886  
Status : Answered  
Chosen Option : 1

Q.8 उस विकल्प का चयन करें जो अन्य तीन विकल्पों से भिन्न है।

- Ans ✗ 1. EHDJ  
✓ 2. SWTX  
✗ 3. CFBG  
✗ 4. QTPU

Question ID : 1860451878  
Status : Answered  
Chosen Option : 2

Q.9



HS, JQ, LO, NM, \_\_\_\_\_

- Ans
- 1. OL
  - 2. MN
  - 3. KP
  - 4. PK

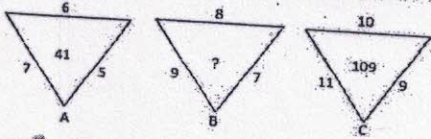
Question ID : 1860451882  
Status : Answered  
Chosen Option : 4

Q.1 इतिक पूर्व की ओर चलना आरंभ करता है। 50 m चलने के पश्चात् वह बायीं ओर मुड़ता है और सीधे 15 m चलता है। वह फिर बायीं ओर मुड़ता है और सीधे 30 m चलता है, फिर वह बायीं ओर मुड़ता है और 15 m चलता है। वह आरंभिक बिंदु से कितनी दूर है?

- Ans
- 1. 80 m
  - 2. 20 m
  - 3. 30 m
  - 4. 45 m

Question ID : 1860451883  
Status : Answered  
Chosen Option : 2

Q.1 Based on figures A and C, select the option that can replace the question mark (?) in figure B.



- Ans
- 1. 71
  - 2. 81
  - 3. 77
  - 4. 67

Question ID : 1860451888  
Status : Answered  
Chosen Option : 1

Q.1 छह भारतीय क्रिकेट प्रशंसक K, L, M, N, O और P एक ही पंक्ति में बैठे भारत बनाम ऑस्ट्रेलिया मैच देख रहे हैं। L, M, O, P लड़कियाँ हैं और शेष लड़के हैं। K, N, L ने अपने चेहरों पर चैंट लगा रखा है, जबकि शेष लोगों के हाथों में भारतीय झंडा है। N, O, P ने भारतीय टीम की जर्सी पहन रखी है और शेष लोगों ने सामान्य टी-शर्ट पहन रखी है। वो कौन से दो लोग लड़कियाँ हैं जिन्होंने भारतीय झंडा ले रखा है और भारतीय टीम जर्सी पहने हुए हैं?

- Ans
- 1. L और P
  - 2. M और O
  - 3. L और M
  - 4. O और P

Question ID : 1860451881  
Status : Answered  
Chosen Option : 4

Section : Surveying



Q.1 What is the main objective of providing tie line in chain survey?

- Ans
- 1. To check the precision of the survey.
  - 2. To find the horizontal angles.
  - 3. To take the details of the nearby objects.
  - 4. To find the length of base line.

Question ID : 1860451892  
Status : Answered  
Chosen Option : 4

Q.2 Which of the following levelling is necessary for carrying levelling across any obstacle requiring a long sight between two points so situated where no place is there for the setup of the level midway between two points?

- Ans
- 1. Reciprocal levelling
  - 2. Precise leveling
  - 3. Fly leveling
  - 4. Differential leveling

Question ID : 1860451894  
Status : Answered  
Chosen Option : 1

Q.3 Which of the following chains was originally used for land measurement with a length of 66 ft?

- Ans
- 1. Metric Chain
  - 2. Engineer's Chain
  - 3. Gunter's Chain
  - 4. Revenue Chain

Question ID : 1860451890  
Status : Answered  
Chosen Option : 3

Q.4 The ruling principle of plane surveying is to work from:

- Ans
- 1. lower level to higher level.
  - 2. whole to part.
  - 3. part to whole.
  - 4. higher level to lower level.

Question ID : 1860451893  
Status : Answered  
Chosen Option : 2

Q.5 A 30 m chain used for a survey was found to be 30.10 m at the beginning and 30.30 m at the end of the work. The area of the plan drawn to a scale of 1 cm = 8 m was measured with the help of planimeter and was found to be 42.50 sq. cm. What is true area of the field?

- Ans
- 1. 2567.0 m<sup>2</sup>
  - 2. 2890.9 m<sup>2</sup>
  - 3. 2756.4 m<sup>2</sup>
  - 4. 3456.4 m<sup>2</sup>



Question ID : 1860451891  
Status : Answered  
Chosen Option : 3

Q.6 In plane table survey, both horizontal and vertical distances will be obtained directly using \_\_\_\_\_.

- Ans
- 1. plumb bob
  - 2. tacheometer
  - 3. plane alidade
  - 4. telescopic alidade

Question ID : 1860451895  
Status : Answered  
Chosen Option : 4

Section : Strength of material Structural Design & Drawing

Q.1 A 6-hour rainfall of 6 cm at a place A was found to have a return period of 40 years. The probability that a 6 hour rainfall of this or larger magnitude will occur at least once in 20 successive years is:

- Ans
- 1. 0.015
  - 2. 0.397
  - 3. 0.605
  - 4. 0.308

Question ID : 1860451908  
Status : Answered  
Chosen Option : 2

Q.2 Which of the following is NOT an objective of seasoning timber?

- Ans
- 1. Reduction in shrinkage and warping.
  - 2. Reduction of weight of the timber.
  - 3. Reduction of natural defects in timber.
  - 4. Increase in strength and durability.

Question ID : 1860451904  
Status : Answered  
Chosen Option : 3

Q.3 The principal chemical constituent present in argillaceous rock is:

- Ans
- 1. Lime
  - 2. Dolomite
  - 3.  $Al_2O_3$
  - 4.  $SiO_2$

Question ID : 1860451901  
Status : Answered  
Chosen Option : 3

Q.4 The spacing between adjacent spurs in river training work is generally kept between \_\_\_\_\_ times the spur length.

- Ans
- 1. 1 to 2
  - 2. 1.5 to 2.5
  - 3. 2 to 2.5



X 4. 2.5 to 3.5

Question ID : 1860451911  
Status : Answered  
Chosen Option : 3

Q.5 The short-term modulus of elasticity of concrete (in  $N/mm^2$ ) as per IS 456-2000 is given by:

- Ans
- 1.  $5000 \sqrt{f_{ck}}$
  - 2.  $5700 \sqrt{f_{ck}}$
  - 3.  $3700 \sqrt{f_{ck}}$
  - 4.  $3000 \sqrt{f_{ck}}$

Question ID : 1860451913  
Status : Answered  
Chosen Option : 1

Q.6 Water absorption of a good brick should NOT exceed \_\_\_\_\_ of its dry weight when kept immersed in water for 24 hours.

- Ans
- 1. 10%
  - 2. 20%
  - 3. 25%
  - 4. 30%

Question ID : 1860451900  
Status : Answered  
Chosen Option : 2

Q.7 In theodolites, the axis of rotation of telescope in the vertical plane indicates:

- Ans
- 1. line of collimation
  - 2. vertical axis
  - 3. axis of telescope
  - 4. horizontal axis

Question ID : 1860451898  
Status : Answered  
Chosen Option : 4

Q.8 The plane table survey works based on the principle of:

- Ans
- 1. triangulation
  - 2. parallelism
  - 3. reconnaissance
  - 4. traversing

Question ID : 1860451896  
Status : Answered  
Chosen Option : 4

Q.9 As per IS 456-2000, the minimum grade of concrete used for severe exposure condition should be:

- Ans
- 1. M25
  - 2. M30



✓ 4. M20

Question ID : 1860451912  
Status : Answered  
Chosen Option : 2

Q.1  
0 Which one of the following is NOT a direct stream flow measurement technique?

- Ans
- 1. Area-velocity method
  - 2. Slope-area method
  - 3. Dilution method
  - 4. Ultrasonic method

Question ID : 1860451909  
Status : Answered  
Chosen Option : 4

Q.1  
1 Which of the following statements is INCORRECT in the case of stiffness of wood?

- Ans
- 1. Wood is not a stiff material.
  - 2. Denser wood is stiffer.
  - 3. Green timber is stiffer than when seasoned.
  - 4. Structural sizes of timber are stiffer than the clear small sticks.

Question ID : 1860451905  
Status : Answered  
Chosen Option : 3

Q.1  
2 A hydraulic structure is constructed when a Full Supply Level (FSL) of a canal is much higher than High Flood Level (HFL) of the stream which in turn, is lower than the bottom of the canal trough. Such a structure is called as:

- Ans
- 1. Level crossing
  - 2. Super passage
  - 3. Inlets
  - 4. Aqueduct

Question ID : 1860451910  
Status : Answered  
Chosen Option : 4

Q.1  
3 Generally, the swelling of wood along the length of fibres ranges from:

- Ans
- 1. 6 to 12%
  - 2. 3 to 5%
  - 3. 13 to 15%
  - 4. 0.1 to 0.8%

Question ID : 1860451903  
Status : Answered  
Chosen Option : 2

Q.1  
4 Mohr's scale is used to determine \_\_\_\_\_ of the stone.

Ans



- 1. durability
- 2. hardness
- 3. flakiness index
- 4. toughness

Question ID : 1860451902  
Status : Answered  
Chosen Option : 2

Q.1  
5 What is the radius of one degree curve?

- Ans
- 1. 1719 m
  - 2. 1769 m
  - 3. 1619 m
  - 4. 1729 m

Question ID : 1860451899  
Status : Answered  
Chosen Option : 4

Q.1  
6 The permissible error (E) for the Precise levelling type with distance (D) in kilometre is given by:

- Ans
- 1.  $E = \pm 0.006\sqrt{D}$
  - 2.  $E = \pm 0.100\sqrt{D}$
  - 3.  $E = \pm 0.012\sqrt{D}$
  - 4.  $E = \pm 0.025\sqrt{D}$

Question ID : 1860451897  
Status : Answered  
Chosen Option : 1

Q.1  
7 In the stability of floating bodies, the stable equilibrium is attained if the meta centre (M) point \_\_\_\_\_ the centre of gravity (G).

- Ans
- 1. is parallel to
  - 2. lies below
  - 3. coincides with
  - 4. lies above

Question ID : 1860451907  
Status : Answered  
Chosen Option : 4

Q.1  
8 A fluid in which shear stress is more than yield value and shear stress is proportional to shear strain is known as \_\_\_\_\_ fluid.

- Ans
- 1. Ideal fluid
  - 2. Newtonian
  - 3. Ideal plastic
  - 4. Non-Newtonian

Question ID : 1860451906  
Status : Answered  
Chosen Option : 2



Q.1 The test which is NOT used to measure the workability of concrete is called \_\_\_\_\_ test.

- Ans
- 1. Vee-Bee
  - 2. Slump
  - 3. Compacting factor
  - 4. Le-chateliers

Question ID : 1860451916  
 Status : Answered  
 Chosen Option : 4

Q.2 Water-cement ratio is the ratio of:

- Ans
- 1. water to cement by weight
  - 2. cement to water by weight
  - 3. water to cement by volume
  - 4. cement to water by volume

Question ID : 1860451915  
 Status : Answered  
 Chosen Option : 1

Q.3 According to IS 456-2000, the exposure condition of concrete surfaces to coastal environment completely is classified as:

- Ans
- 1. Severe
  - 2. Extreme
  - 3. Very severe
  - 4. Moderate

Question ID : 1860451918  
 Status : Answered  
 Chosen Option : 1

Q.4 The relation between the effective modulus  $E_{ce}$ , short term static modulus  $E_{cs}$ , short term static modulus  $E_c$  and creep coefficient  $\theta$  of concrete is given by:

- Ans
- 1.  $E_{ce} = \frac{\theta}{1+2E_c}$
  - 2.  $E_{ce} = \frac{\theta}{1+E_c}$
  - 3.  $E_{ce} = \frac{E_c}{1+\theta}$
  - 4.  $E_{ce} = \frac{E_c}{1+2\theta}$

Question ID : 1860451919  
 Status : Answered  
 Chosen Option : 3

Q.5 Steel Bbeam theory is the method used to analyse and in the design of a design of:

- Ans
- 1. Column structures only
  - 2. Singly reinforced sections



3. Doubly reinforced sections .
4. Both singly & doubly reinforced section

Question ID : 1860451914  
Status : Answered  
Chosen Option : 1

Q.6 According to IS 456-2000, the slump value (in mm) of the concrete used in ordinary RCC work for beams and slabs etc. is in the range of:

- Ans  1. 25 to 50
2. 75 to 150
3. 20 to 30
4. 50 to 100

Question ID : 1860451917  
Status : Answered  
Chosen Option : 1

Section : Soil mechanics & Foundation Engineering

Q.1 The population forecasting method which that is based on the assumption that the percentage increase in population from one decade to the other decade remains constant is called \_\_\_\_\_ method.

- Ans  1. arithmetical increase
2. geometrical increase
3. decrease rate of growth
4. incremental increase

Question ID : 1860451937  
Status : Answered  
Chosen Option : 2

Q.2 The minimum reinforcement used in either direction of the slabs shall NOT be \_\_\_\_\_ of the total cross sectional area for Fe 250 grade steel.

- Ans  1. <math>< 0.2 \%</math>
2. <math>< 0.25 \%</math>
3. <math>< 0.15 \%</math>
4. <math>< 0.1 \%</math>

Question ID : 1860451922  
Status : Answered  
Chosen Option : 3

Q.3 A rectangular concrete beam of 250 mm wide and 600 mm deep is pre-stressed by means of four 10 mm diameter high tensile bars located at 200 mm from the soffit of the beam. If the effective stress in the wires is  $300 \text{ N/mm}^2$ . What is maximum bending moment that can be applied to the section WITHOUT causing tension at soffit of the beam?

- Ans  1. 31.5 kNm
2. 24.5 kNm
3. 26.5 kNm
4. 38.5 kNm

Question ID : 1860451930  
Status : Answered  
Chosen Option : 1

Q.4 Which of the following is a disadvantage in the case of Freyssinet system of post tensioning?



- 2. Rapid attainment of stretching force
- 3. Safeguarding of wires is economical
- 4. Projection of plug left in concrete

Question ID : 1860451928  
Status : Answered  
Chosen Option : 2

Q.5 A concrete beam is pre-stressed by a cable carrying an initial pre-stressing force of 300 kN, area is 300 mm<sup>2</sup>. What is the percentage of loss of stress due to shrinkage in pre-tensioned members?

- Ans
- 1. 2.3%
  - 2. 5.3%
  - 3. 4%
  - 4. 6.3%

Question ID : 1860451931  
Status : Answered  
Chosen Option : 1

Q.6 The analysis of pre-stressed concrete members is based on which of the following concepts?

- Ans
- 1. Overhead stresses
  - 2. Principle stresses
  - 3. Shear stresses
  - 4. Combined stresses due to direct load and bending stresses

Question ID : 1860451925  
Status : Answered  
Chosen Option : 4

Q.7 Which of the following coagulants is most commonly used in sedimentation process in water treatment plant?

- Ans
- 1. Albuminoidal nitrogen
  - 2. Nitric sulphate
  - 3. Potassium sulphate
  - 4. Aluminium sulphate

Question ID : 1860451935  
Status : Answered  
Chosen Option : 4

Q.8 The guidelines for Pre-stressed concrete is given by which of the following Bureau of Indian Standard codes?

- Ans
- 1. IS 1343-1980
  - 2. IS 2116 - 1980
  - 3. IS 269 - 2015
  - 4. IS 456-2000

Question ID : 1860451926  
Status : Answered  
Chosen Option : 2

Q.9 Which of the following systems is used for pre-tensioning?



Ans  1. Magnel-Blaton system

2. Hoyer's long line system

3. Freyssinet system

4. Gifford-Udall system

Question ID : 1860451927  
Status : Answered  
Chosen Option : 2

Q.1 The pipes which that are frequently used in green building projects for water supply are called \_\_\_\_\_ pipes.

Ans  1. Chlorinated polyvinyl chloride

2. Polybutylene

3. Polypropylene

4. Polyethylene

Question ID : 1860451934  
Status : Answered  
Chosen Option : 1

Q.1 The maximum spacing of shear reinforcement along the axis of the member shall NOT exceed \_\_\_\_\_ times the effective depth of the section for vertical strips

Ans  1. 0.65

2. 1.20

3. 0.75

4. 0.50

Question ID : 1860451921  
Status : Answered  
Chosen Option : 3

Q.1 Which of the following post tensioning system adopts metallic sandwich plates, flat wedges and distribution plate for anchoring the wires?

Ans  1. Freyssinet

2. Lee-McCall

3. Magnel-Balton

4. Gifford-Udall

Question ID : 1860451929  
Status : Answered  
Chosen Option : 1

Q.1 As per IS 1343-1980, the minimum 28 day compressive strength for pre-tensioned members is:

Ans  1. 50 N/mm<sup>2</sup>

2. 25 N/mm<sup>2</sup>

3. 30 N/mm<sup>2</sup>

4. 40 N/mm<sup>2</sup>

Question ID : 1860451924  
Status : Answered



Q.1 In limit state design, the values of consideration of factor of safety for concrete and steel, respectively, in limit state design are:

- Ans
- 1. 2.00 and 1.70
  - 2. 1.50 and 1.15
  - 3. 1.50 and 1.17
  - 4. 1.50 and 1.50

Question ID : 1860451920  
Status : Answered  
Chosen Option : 2

Q.1 According IS 456-2000, the nominal cover provided for the concrete surfaces exposed to very severe environmental conditions shall NOT be less than:

- Ans
- 1. 30 mm
  - 2. 75 mm
  - 3. 45 mm
  - 4. 50 mm

Question ID : 1860451923  
Status : Answered  
Chosen Option : 4

Q.1 As per IS 10500: 1991, what is the permissible limit in the absence of alternate sources for the total hardness of drinking water?

- Ans
- 1. 800 mg/l
  - 2. 600 mg/l
  - 3. 300 mg/l
  - 4. 500 mg/l

Question ID : 1860451933  
Status : Answered  
Chosen Option : 2

Q.1 Which of the statements is correct in the case of slow sand filters?

- Ans
- 1. They are labour-intensive.
  - 2. They have a large land requirement.
  - 3. They require low turbidity water.
  - 4. They are relatively simple to operate.

Question ID : 1860451936  
Status : Answered  
Chosen Option : 4

Q.1 The upward deflection of a pre-stressed beam with a straight tendon at a uniform eccentricity below the centroidal axis is given by----, where P-effective pre-stressing force, e-eccentricity, L-length of the beam, E-Modulus of elasticity, I--moment of inertia:

- Ans
- 1.  $-\frac{PeL^2}{8EI}$
  - 2.  $-\frac{PeL^2}{14EI}$
  - 3.  $-\frac{PeL^2}{16EI}$



X 4.  $-PeL^2/4EI$

Question ID : 1860451932  
Status : Answered  
Chosen Option : 1

Section : Concrete Technology Reinforced & Pre-stressed concrete

Q.1 Elongation of a bar due to its self-weight is computed by \_\_\_\_\_, where L - length of the bar, E - Young's modulus of elasticity and W - total weight the bar material.

- Ans
- X 1.  $WL/4E$
  - ✓ 2.  $WL/2E$
  - X 3.  $WL^2/2E$
  - X 4.  $WL/8E$

Question ID : 1860451948  
Status : Answered  
Chosen Option : 3

Q.2 In the case of a triangular section, the shear stress is maximum at the:

- Ans
- X 1. Neutral axis
  - X 2. Height of  $2h/3$
  - X 3. Centre of gravity
  - ✓ 4. Height of  $h/2$

Question ID : 1860451953  
Status : Answered  
Chosen Option : 4

Q.3 The deflection of the centre of the simply supported beam carrying point load at the centre is given by:

- Ans
- ✓ 1.  $-WL^3/48EI$
  - X 2.  $-WL^3/3EI$
  - X 3.  $-WL^2/24EI$
  - X 4.  $-5WL^2/384EI$

Question ID : 1860451954  
Status : Answered  
Chosen Option : 1

Q.4 In a simple stress-strain test, the volumetric strain is equal to \_\_\_\_\_ strain.

- Ans
- X 1. two times the shear
  - X 2. three times the shear
  - X 3. two times the linear
  - ✓ 4. three times the linear

Question ID : 1860451946  
Status : Answered  
Chosen Option : 4

Q.5 What will be the Sludge Volume Index (SVI) if 100 ml of sludge collected in 30 mins on drying weighs 800 mg?

- Ans X 1. 115



3. 78

4. 125

Question ID : 1860451941  
Status : Answered  
Chosen Option : 4

Q.6 A cylinder is considered to be a 'thin cylinder', if the thickness to internal diameter of the cylindrical shell is:

Ans  1. greater than 1/10

2. greater than 1/20

3. less than 1/10

4. less than 1/20

Question ID : 1860451955  
Status : Answered  
Chosen Option : 3

Q.7 The strain energy stored in a body with sudden load application, the maximum stress induced is twice the stress induced when:

Ans  1. the same load is applied gradually.

2. the same load is applied suddenly.

3. the same load is applied by an impact.

4. the torque of same load is applied.

Question ID : 1860451950  
Status : Answered  
Chosen Option : 1

Q.8 Which of the following characterises biochemical treatments of sewage effluents?

Ans  1. Oxidation

2. Chlorination

3. Sulphonification

4. Redox

Question ID : 1860451942  
Status : Answered  
Chosen Option : 1

Q.9 What is the section modulus for a rectangle beam of size 200 mm × 350 mm?

Ans  1.  $4.34 \times 10^6 \text{ mm}^3$

2.  $5.6 \times 10^6 \text{ mm}^3$

3.  $5.21 \times 10^6 \text{ mm}^3$

4.  $4.08 \times 10^6 \text{ mm}^3$

Question ID : 1860451952  
Status : Answered  
Chosen Option : 4

Q.1 Removal of excess chlorine resulting from super chlorination, in part, or completely, is called:



- Ans
- 1. Post-chlorination
  - 2. Pre-chlorination
  - 3. De-chlorination
  - 4. Re-chlorination

Question ID : 1860451939  
Status : Answered  
Chosen Option : 3

Q.1  
1 What does Chemical Oxygen Demand (COD) indicate?

- Ans
- 1. Strength of a sewage
  - 2. Biodegradability of the waste water
  - 3. Potential for recycling of the wastewater
  - 4. Age of the sewage

Question ID : 1860451944  
Status : Answered  
Chosen Option : 2

Q.1  
2 The best method for controlling taste and odor problems in water is through \_\_\_\_\_ process.

- Ans
- 1. oxidation
  - 2. reduction
  - 3. hydration
  - 4. coagulation

Question ID : 1860451940  
Status : Answered  
Chosen Option : 1

Q.1  
3 The effective size of the sand particles used in the top layer of slow sand filter is in the range of:

- Ans
- 1. 0.20 to 0.30 mm
  - 2. 0.35 to 0.55 mm
  - 3. 0.45 to 0.70 mm
  - 4. 0.40 to 0.60 mm

Question ID : 1860451938  
Status : Answered  
Chosen Option : 1

Q.1  
4 The tensile stresses at a point across two mutual perpendicular planes are  $150 \text{ N/mm}^2$  and  $75 \text{ N/mm}^2$ . What is the normal stress on the plane inclined at  $35^\circ$  to axis of the minor stresses?

- Ans
- 1.  $125.33 \text{ N/mm}^2$
  - 2.  $115 \text{ N/mm}^2$
  - 3.  $128.64 \text{ N/mm}^2$
  - 4.  $120.50 \text{ N/mm}^2$

Question ID : 1860451949  
Status : Answered  
Chosen Option : 3



Q.1 5 For the clamped - free column, the effective length is equal to:

- Ans
- 1. the actual length
  - 2. twice the actual length
  - 3. 0.7 times the actual length
  - 4. 0.5 times the actual length

Question ID : 1860451945  
Status : Answered  
Chosen Option : 2

Q.1 6 A rectangular steel bar, which is of 2.8 m long and 15 mm thick, is subjected to an axial tensile load of 40 kN. If width of the bar varies from 75 mm at one end to 30 mm at the other end, then what is the extension of the bar if  $E = 2 \times 10^6$  N/mm<sup>2</sup>?

- Ans
- 1. 0.86 mm
  - 2. 0.36 mm
  - 3. 0.50 mm
  - 4. 0.76 mm

Note: For this question, discrepancy is found in question/answer, Full Marks is being awarded to all candidates.

Question ID : 1860451947  
Status : Not Answered  
Chosen Option : --

Q.1 7 When does contra flexure point occur on a beam?

- Ans
- 1. When bending moment is maximum.
  - 2. When bending moment changes its sign.
  - 3. When shear force is zero after changing its sign.
  - 4. When shear force is constant.

Question ID : 1860451951  
Status : Answered  
Chosen Option : 2

Q.1 8 For the sludge digestion system to work effectively, the pH of the sludge should be between:

- Ans
- 1. 8.5 - 10
  - 2. 10 - 12
  - 3. 3.5 - 5.5
  - 4. 6.5 - 7.4

Question ID : 1860451943  
Status : Answered  
Chosen Option : 2

Section : Hydraulics Hydrology & Hydraulics Structures

Q.1 The first Indian railway train started in the year \_\_\_\_\_ and travelled between \_\_\_\_\_.

- Ans
- 1. 1850; Bombay and Pune
  - 2. 1875; Kachiguda and Secunderabad
  - 3. 1880; Delhi and Agra



✓ 4. 1853; Bombay and Thane

Question ID : 1860451956  
Status : Answered  
Chosen Option : 4

Q.2 The standard formation width of single line broad gauge in embankment in Indian railways is:

- Ans
- 1. 5.40 m
  - 2. 4.88 m
  - 3. 6.10 m
  - 4. 4.27 m

Question ID : 1860451959  
Status : Answered  
Chosen Option : 1

Q.3 Which of the following alignments is normally NOT used in mountain regions.

- Ans
- 1. Switch-back alignment
  - 2. Horizontal plane alignment
  - 3. Spiral alignment
  - 4. Zigzag alignment

Question ID : 1860451958  
Status : Answered  
Chosen Option : 1

Q.4 The load per unit rail length required to produce one unit depression in the rail bottom is called \_\_\_\_\_ modulus.

- Ans
- 1. Shear
  - 2. Elastic
  - 3. Track
  - 4. Ballast

Question ID : 1860451960  
Status : Answered  
Chosen Option : 2

Q.5 The speed factor for the speed above 100 km/h given by German formula, which is adopted in Indian railways after 1966 is:

- Ans
- 1.  $\frac{4.5V^3}{10^7} - \frac{1.5V^3}{10^5}$
  - 2.  $\frac{V^2}{30000}$
  - 3.  $\frac{V}{\sqrt{\mu}}$
  - 4.  $\frac{4.5V^2}{10^5} - \frac{1.5V^3}{10^7}$

Question ID : 1860451961  
Status : Answered  
Chosen Option : 1

Q.6



According to highway standards, the width of the broad gauge is:

- Ans
- 1. 1676 mm
  - 2. 1000 mm
  - 3. 1435 mm
  - 4. 1524 mm

Question ID : 1860451957  
Status : Answered  
Chosen Option : 1

Section : Public Health Engineering & Water Supply,

Q.1 What will be the dry unit weight (in  $\text{kN/m}^3$ ) for a saturated soil, given that moisture content ( $w$ ) = 35% and specific gravity of soil ( $G_s$ ) = 2.5?

- Ans
- 1.  $13.58 \text{ kN/m}^3$
  - 2.  $12.08 \text{ kN/m}^3$
  - 3.  $11.08 \text{ kN/m}^3$
  - 4.  $10.68 \text{ kN/m}^3$

Question ID : 1860451970  
Status : Answered  
Chosen Option : 1

Q.2 The Mohr-Coulomb failure criterion, which is defined by shear strength ( $s$ ) consisting of effective normal stress ( $\sigma'$ ), cohesion ( $c'$ ) and effective stress angle of friction ( $\phi'$ ), is given by:

- Ans
- 1.  $s = c' + \sigma' \tan \phi'$
  - 2.  $s = c' \tan \phi' + \sigma'$
  - 3.  $s = \sigma' + c' \tan \phi'$
  - 4.  $s = c' - \sigma' \tan \phi'$

Question ID : 1860451973  
Status : Answered  
Chosen Option : 1

Q.3 What is the reason for preferring triaxial shear test over direct shear test?

- Ans
- 1. The test provides better correlation for effective stress of angle of friction.
  - 2. Test can be performed under all three drainage conditions with complete control.
  - 3. Stress distribution on the failure plane is non-uniform.
  - 4. Accurate measurement of pore water pressure and change in volume is not possible during the test.

Question ID : 1860451972  
Status : Answered  
Chosen Option : 2

Q.4 According to standard test method ASTM D-4318, the moisture content (the liquid limit of a soil) is determined by Casagrande's liquid device, at which a groove closure of \_\_\_\_\_ occurs at \_\_\_\_\_ blows.

- Ans
- 1. 12.7 mm, 20
  - 2. 12.7 mm, 25



X 3. 11.7 mm, 25

X 4. 11.7 mm, 20

Question ID : 1860451971  
Status : Answered  
Chosen Option : 2

Q.5 As per Indian railway standards, the length of rail used in broad gauge is:

Ans X 1. 10 m

X 2. 11 m

✓ 3. 13 m

X 4. 12 m

Question ID : 1860451962  
Status : Answered  
Chosen Option : 3

Q.6 The distance between the gauge faces of the stock rail and the tongue rail at the heel of the switch is called:

Ans X 1. Switch angle

X 2. Flange way clearance

X 3. Throw of the switch

✓ 4. Heel divergence

Question ID : 1860451967  
Status : Answered  
Chosen Option : 4

Q.7 Which of the following is a requirement from a railway sleeper?

Ans X 1.

It should transfer the load evenly from the rails to a wider area of the ballast.

✓ 2. It should have sabotage and theft features.

X 3. It should hold the rails in their correct gauge and alignment.

X 4. It should give a firm and even support to the rails.

Question ID : 1860451963  
Status : Answered  
Chosen Option : 3

Q.8 The coefficient of curvature from the grain size distribution curve is given by:

Ans X 1.  $\frac{D_{60}}{D_{10}}$

✓ 2.  $\frac{D_{20}^2}{D_{60}D_{10}}$

X 3.  $\frac{D_{60}^2}{D_{10}D_{20}}$

X 4.  $\frac{D_{20}}{D_{10}}$

Question ID : 1860451968  
Status : Answered  
Chosen Option : 2



Q.9 The relative density of granular soils is given by the relation:

Ans

1.  $\frac{e_{min} - e}{e_{max} + e_{min}} \times 100$

2.  $\frac{e_{max} - e}{e_{max} - e_{min}} \times 100$

3.  $\frac{e_{max} + e}{e_{max} - e_{min}} \times 100$

4.  $\frac{e_{max} - e}{e_{max} + e_{min}} \times 100$

Question ID : 1860451969

Status : Answered

Chosen Option : 2

Q.1 The stability of the formation slope railway line is generally determined by the \_\_\_\_\_ method.

Ans

1. Least square

2. Rankine's

3. Slip circle

4. Mohr circle

Question ID : 1860451965

Status : Answered

Chosen Option : 2

Q.1 The function of a fish plate is to hold two rails together in:

Ans

1. Both the horizontal and vertical planes

2. Horizontal plane only

3. Vertical plane only

4. Oblique plane only

Question ID : 1860451966

Status : Answered

Chosen Option : 3

Q.1 If a broad gauge track is laid with wooden sleepers with a sleeper density of  $M + 7$ , spacing of sleeper is 68 cm and the width of the sleeper is 25.4 cm, then the depth of the ballast cushion would be:

Ans

1. 23.0 cm

2. 24.0 cm

3. 21.3 cm

4. 22.5 cm

Question ID : 1860451964

Status : Answered

Chosen Option : 3

Section : Railway Engineering & Railway Track

Q.1 The load per unit area of the foundation at which shear failure in soil occurs is called the:

Ans

1. Ultimate bearing capacity



- 2. Degree of consolidation
- 3. Punching shear failure
- 4. Shear resistance

Question ID : 1860451974  
Status : Answered  
Chosen Option : 3

Q.2 Lime stabilisation is most commonly used for stabilizing:

- Ans
- 1. Sands
  - 2. Clays
  - 3. Cement
  - 4. Bitumen

Question ID : 1860451985  
Status : Answered  
Chosen Option : 2

Q.3 In a modified proctor test for compaction of soils, the mass of the rammer is of \_\_\_\_\_ and dropped at a height of \_\_\_\_\_.

- Ans
- 1. 4.89 kg; 310 mm
  - 2. 4.89 kg; 450 mm
  - 3. 2.6 kg; 310mm
  - 4. 2.6 kg; 450 mm

Question ID : 1860451984  
Status : Answered  
Chosen Option : 2

Q.4 According to Terzaghi's bearing capacity theory for foundations, a foundation is shallow if:

- Ans
- 1. Depth is greater than 2 times the width
  - 2. Depth is greater than or equal to 2 times the width
  - 3. Depth is less than or equal to width
  - 4. Depth is greater than width

Question ID : 1860451975  
Status : Answered  
Chosen Option : 3

Q.5 Which one of the following is a DEMERIT of triaxial test?

- Ans
- 1. The consolidation of the specimen is isotropic in the test but anisotropic in the field.
  - 2. The specimen is free to fail on the weakest plane.
  - 3. The pore pressure and volumetric changes can be measured directly.
  - 4. The stress distribution on the failure plane is uniform.

Question ID : 1860451983  
Status : Answered  
Chosen Option : 1



density of soil ( $\gamma$ ) and angle repose ( $\phi$ ) is:  $\frac{1}{2} \gamma \tan^2(\phi) \left[ \frac{1 + \sin \phi}{1 - \sin \phi} \right] h$  depth of foundation ( $h$ ) computed with gross bearing capacity ( $p$ ).

- Ans
- 1.  $h = (\gamma/p) \left[ \frac{(1 - \sin \phi)}{(1 + \sin \phi)} \right]^2$
  - 2.  $h = (p/\gamma) \left[ \frac{(1 + \sin \phi)}{(1 - \sin \phi)} \right]^2$
  - 3.  $h = (p/\gamma) \left[ \frac{(1 - \sin \phi)}{(1 + \sin \phi)} \right]^2$
  - 4.  $h = (p/\gamma) \left[ \frac{(1 - \sin \phi)}{(1 + \tan \phi)} \right]^2$

Question ID : 1860451981  
Status : Answered  
Chosen Option : 3

Q.7 Unified soil classification system is almost similar to \_\_\_\_\_ classification.

- Ans
- 1. AASHTO
  - 2. MIT
  - 3. Textural
  - 4. IS soil

Question ID : 1860451978  
Status : Answered  
Chosen Option : 4

Q.8 The intensity of vertical stress ( $\sigma_z$ ) of the soil just below the load point is given by \_\_\_\_\_, where Z- vertical distance between point load and the polar stress and Q- point load.

- Ans
- 1.  $0.4775 \frac{Q}{Z^2}$
  - 2.  $0.4775 \frac{Q}{Z}$
  - 3.  $0.4775 \frac{Z}{Q^2}$
  - 4.  $0.4775 \frac{Z}{Q}$

Question ID : 1860451982  
Status : Answered  
Chosen Option : 1

Q.9 For a soil, if the sensitivity value varies from 2.0 to 4.0, then such a soil is these soils are classified as:

- Ans
- 1. Moderately sensitive
  - 2. Sensitive
  - 3. Little sensitive
  - 4. Extra sensitive

Question ID : 1860451977  
Status : Answered  
Chosen Option : 3

Q.1 If the capillary rise in a soil A with an effective size of 0.02 mm was 60 cm, then what would be the capillary rise in the similar soil B with an effective size of 0.04 mm?

- Ans
- 1. 30 cm
  - 2. 35 cm



3. 20 cm 4. 40 cm

Question ID : 1860451979

Status : Answered

Chosen Option : 1

Q.1 The liquid limit is determined from Casagrande apparatus. The apparatus consists of a hemispherical brass cup that is repeatedly dropped onto a hard rubber base from a height of:

Ans  1. 5 mm 2. 15 mm 3. 20 mm 4. 10 mm

Question ID : 1860451976

Status : Answered

Chosen Option : 3

Q.1 For flow-through soils, the flow is laminar when the Reynold number is:

Ans  1. greater than unity 2. less than unity 3. less than 2500 4. greater than 2000

Question ID : 1860451980

Status : Answered

Chosen Option : 2



