CHHATTISGARH STATE POWER HOLDING COMPANY LIMITED
(A Government of Chhattisgarh Undertaking)
CIN No. : U65992CT2008SGC020995
O/o GM (HR), C.S. Power Holding Co.Ltd., Raipur

Participant ID	
Participant Name	
Test Center Name	
Test Date	14/01/2022
Test Time	4:30 PM - 6:30 PM
Subject	Junior Engineer Trainee - Civil

Section : **General Awareness & Reasoning**

Q.1 **नवंबर 2021 तक** प्राप्त जानकारी के अनुसार, भारत में _____ राज्य **और** _____ केंद्र शासित प्रदेश **हैं।**

Ans
✔ 1. 28 और 8
✘ 2. 29 और 9
✘ 3. 28 और 9
✘ 4. 29 और 8

Question ID : **7532298394**
Status : **Answered**
Chosen Option : **3**

Q.2 **महिला क्रिकेट में**, इनमें से **किसे ऑस्ट्रेलियाई जमीन पर टेस्ट शतक बनाने वाली पहली भारतीय महिला होने का गौरव प्राप्त है?**

Ans
✘ 1. हरमनप्रीत कौर
✘ 2. मिताली राज
✘ 3. शैफाली वर्मा
✔ 4. स्मृति मंधाना

Question ID : **7532298386**
Status : **Answered**
Chosen Option : **2**

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Q.3 सही कथन का चयन करें

a) अपसौर (Aphelion) तब होता है, जब पृथ्वी सूर्य के निकटतम होती है
b) पृथ्वी की कक्षा अंडाकार है
c) जब पृथ्वी सूर्य के सबसे निकट होती है, तो दूरी लगभग 147 मिलियन किमी होती है
d) उपसौर (Perihelion) तब होता है, जब पृथ्वी सूर्य से दूरतम होती है

Ans
✗ 1. केवल d और a
✓ 2. केवल b और c
✗ 3. केवल c और d
✗ 4. केवल a और b

Question ID : **7532298391**
Status : **Not Answered**
Chosen Option : **--**

Q.4 निम्नलिखित में से कौन-सा कथन, 'प्रधानमंत्री जीवन ज्योति बीमा योजना' के बारे में गलत है?

Ans
✗ 1. इसका प्रीमियम 330 रुपए प्रति वर्ष है, जिसे ऑटो-डेबिट किया जाना है
✗ 2. 2 लाख रुपए का जीवन बीमा एक वर्ष की अवधि के लिए होगा
✗ 3. यह 18 से 50 वर्ष के आयु वर्ग के लोगों के लिए उपलब्ध है
✓ 4. योजना के तहत वार्षिक कवरेज अवधि 1 अप्रैल से 31 मार्च है

Question ID : **7532298385**
Status : **Answered**
Chosen Option : **4**

Q.5 कोणार्क का सूर्य मंदिर किस स्थापत्य शैली के लिए प्रसिद्ध है?

Ans
✗ 1. द्रविड़
✗ 2. गोपुरम
✓ 3. कलिंग
✗ 4. वेसर

Question ID : **7532298388**
Status : **Answered**
Chosen Option : **1**

Q.6 2019-20 के संदर्भ में, भारत का इनमें से कौन सा राज्य देश का दूसरा सबसे बड़ा नारियल उत्पादक राज्य है?

Ans
✗ 1. कर्नाटक
✗ 2. केरल
✓ 3. तमिलनाडु
✗ 4. आंध्र प्रदेश

Question ID : **7532298389**
Status : **Not Answered**
Chosen Option : **--**

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Q.7 VIBGYOR में किस रंग की आवृत्ति सबसे अधिक होती है?

Ans
✗ 1. हरा
✗ 2. लाल
✗ 3. नीला
✓ 4. बैंगनी

Question ID : **7532298392**
Status : **Answered**
Chosen Option : **2**

Q.8 राज्य पुनर्गठन अधिनियम 1956 पारित होने के बाद भारत में राज्यों की संख्या कितनी थी?

Ans
✗ 1. 21
✗ 2. 18
✓ 3. 14
✗ 4. 27

Question ID : **7532298387**
Status : **Not Answered**
Chosen Option : **--**

Q.9 भारतीय संविधान का _____ व्यापार और वाणिज्य से संबंधित है।

Ans
✗ 1. भाग XIV
✗ 2. भाग XV
✗ 3. भाग XII
✓ 4. भाग XIII

Question ID : **7532298393**
Status : **Not Answered**
Chosen Option : **--**

Q.10 भारत का कौन सा राज्य देश में टिन अयस्क का एकमात्र उत्पादक है?

Ans
✓ 1. छत्तीसगढ़
✗ 2. मध्य प्रदेश
✗ 3. बिहार
✗ 4. ओडिशा

Question ID : **7532298390**
Status : **Answered**
Chosen Option : **1**

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Q.11 रोहन बाजार से पूर्व की ओर सीधे 450 मीटर गया और बाएं मुड़ा। इसके बाद उसने 600 मीटर की दूरी तय की और बाएं मुड़ा, फिर 150 मीटर की दूरी तय करने के बाद वह पुनः बाएं मुड़ गया। उसने और 300 मीटर की दूरी तय की और रुक गया। वह आरंभिक बिंदु से किस दिशा में है?

Ans

✗ 1. उत्तर

✗ 2. उत्तर-पश्चिम

✓ 3. उत्तर-पूर्व

✗ 4. दक्षिण-पूर्व

Question ID : **7532298399**
Status : **Answered**
Chosen Option : **3**

Q.12 रमन, पम्मी, कादिर, सीता, उमा और तन्मय एक वृत्ताकार मेज के इर्द-गिर्द मेज के केंद्र की ओर मुख करके बैठे हैं और एक दूसरे से समान दूरी पर हैं। सीता रमन के ठीक सामने बैठी है, जो कादिर के बाईं ओर ठीक बगल में है। तन्मय, कादिर के दाईं ओर ठीक बगल में बैठा है। यदि उमा कादिर के ठीक सामने बैठी है, तो पम्मी के बैठने की स्थिति क्या है?

Ans

✗ 1. तन्मय के दाईं ओर ठीक बगल में

✓ 2. उमा के दाईं ओर ठीक बगल में

✗ 3. तन्मय और उमा के ठीक मध्य में

✗ 4. उमा के बाईं ओर ठीक बगल में

Question ID : **7532298395**
Status : **Answered**
Chosen Option : **2**

Q.13 Select the number from among the given options that can replace the question mark (?) in the following series.

197, 191, ?, 167, 157

Ans

✓ 1. 179

✗ 2. 181

✗ 3. 177

✗ 4. 173

Question ID : **7532298403**
Status : **Not Answered**
Chosen Option : **--**

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Q.14 Select the figure from among the given options that can replace the question mark (?) in the following series.

Ans

✗ 1. 

✗ 2. 

✓ 3. 

✗ 4. 

Question ID : **7532298402**
Status : **Answered**
Chosen Option : **3**

Q.15 What will be the approximate value of the following expression?

$(5.95 \times 12.04) \div 17.98 - 11.036 = ?$

Ans

✗ 1. −8

✗ 2. −6.5

✗ 3. −6

✓ 4. −7

Question ID : **7532298404**
Status : **Answered**
Chosen Option : **4**

Q.16 'मधुमक्खी' का 'छत्ते' से वही संबंध है, जो 'राजा' का _____ से संबंध है।

Ans

✓ 1. महल

✗ 2. बंगला

✗ 3. राजधानी

✗ 4. साम्राज्य

Question ID : **7532298401**
Status : **Answered**
Chosen Option : **1**

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Q.17 दिए गए कथनों और निष्कर्षों को ध्यानपूर्वक पढ़िए। यह मानते हुए कि कथनों में दी गई जानकारी सत्य है, भले ही वह सामान्य रूप से ज्ञात तथ्यों से भिन्न प्रतीत होती हो, तय करें कि दिए गए निष्कर्षों में से कौन सा कथनों का तार्किक रूप से अनुसरण करता है।

कथन:
1) कुछ बैग बॉक्स हैं।
2) सभी बॉक्स टेलीविजन हैं।

निष्कर्ष:
I. सभी टेलीविजन बैग हैं।
II. कुछ बैग टेलीविजन हैं।

Ans
✗ 1. न तो निष्कर्ष I और न ही II अनुसरण करता है।
✗ 2. निष्कर्ष I और II दोनों अनुसरण करते हैं।
✗ 3. केवल निष्कर्ष I अनुसरण करता है।
✓ 4. केवल निष्कर्ष II अनुसरण करता है।

Question ID : **7532298396**
Status : **Answered**
Chosen Option : **4**

Q.18 Select the letter from among the given options that can replace the question mark (?) in the following series.

V, T, Q, ?, H

Ans
✗ 1. L
✓ 2. M
✗ 3. N
✗ 4. O

Question ID : **7532298397**
Status : **Answered**
Chosen Option : **2**

Q.19 एक निश्चित कूट भाषा में, यदि MOSQUITO को IMOOQSTU लिखा जाता है, तो उसी कूट भाषा में FORECAST को किस प्रकार लिखा जाएगा?

Ans
✗ 1. STFOCARE
✗ 2. ASTRECFO
✓ 3. ACEFORST
✗ 4. ACEROFER

Question ID : **7532298398**
Status : **Answered**
Chosen Option : **3**

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Q.20 यदि "A ≠ B" का अर्थ है A, B की पत्नी है; "A $ B" का अर्थ है A, B का भाई है; "A & B" का अर्थ है A, B का पुत्र है; "A % B" का अर्थ है A, B का पिता है; तो V & W ≠ X $ Y % Z में V का Z से क्या संबंध है?

Ans

✗ 1. भतीजा

✗ 2. भाई

✓ 3. चचेरा भाई

✗ 4. चाचा

Question ID : **7532298400**
Status : **Answered**
Chosen Option : **3**

Section : **Subject Content**

Q.1 **The type of cement, when used in concrete with restrained expansion, induces compressive stresses which approximately offsets the tensile stress induced by shrinkage is _____ .**

Ans

✗ 1. ordinary portland cement

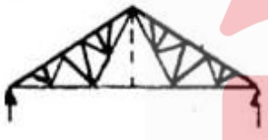
✓ 2. shrinkage compensating cement

✗ 3. low heat cement

✗ 4. masonry cement

Question ID : **7532298440**
Status : **Answered**
Chosen Option : **2**

Q.2 Identify the type of roof truss in the given figure.



Ans

✗ 1. Howe triangular

✗ 2. Compound fink

✗ 3. Howe flat

✓ 4. Compound fan

Question ID : **7532298448**
Status : **Not Answered**
Chosen Option : **--**

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Q.3 **While levelling, the hand signal 'Extension of arm horizontally and moving hand downwards' implies _____ .**

Ans
✗ 1. establish the position
✓ 2. lower height peg or staff
✗ 3. return to me
✗ 4. raise height peg or staff

Question ID : **7532298421**
Status : **Answered**
Chosen Option : **1**

Q.4 **A method of direct levelling the object of which is solely to determine the difference in elevation of two points regardless of the horizontal positions of the points with respect of each other is known as _____ .**

Ans
✗ 1. cross-sectioning
✓ 2. differential levelling
✗ 3. profile levelling
✗ 4. reciprocal levelling

Question ID : **7532298420**
Status : **Answered**
Chosen Option : **4**

Q.5 **While aligning a hill road with a ruling gradient of 6%, a horizontal curve of radius 60 m is encountered. Determine the compensated gradient at the curve.**

Ans
✓ 1. 4.75%
✗ 2. 1.25%
✗ 3. 6%
✗ 4. 1.5%

Question ID : **7532298429**
Status : **Answered**
Chosen Option : **1**

Q.6 **Consider the following statements regarding the advantages of recording rain-gauges.**

S1: Rainfall is recorded automatically and therefore there is no necessity of any attendant.
S2: Possibility of human error is obviated.
Select the appropriate option.

Ans
✗ 1. S1 is false but S2 is true
✗ 2. S1 is true but S2 is false
✓ 3. Both S1 and S2 are true
✗ 4. Both S1 and S2 are false

Question ID : **7532298471**
Status : **Answered**
Chosen Option : **3**

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Q.7 **A non-destructive method of testing concrete, which is used to study the initiation and growth of cracks in concrete is _____ .**

Ans
✗ 1. surface hardness tests
✗ 2. magnetic and electrical methods
✗ 3. combined methods
✓ 4. acoustic emission techniques

Question ID : **7532298441**
Status : **Answered**
Chosen Option : **4**

Q.8 **The ratio of loss of head in the orifice to the head of water available at the exit of the orifice is known as _____ .**

Ans
✗ 1. coefficient of velocity
✓ 2. coefficient of resistance
✗ 3. coefficient of contraction
✗ 4. coefficient of discharge

Question ID : **7532298410**
Status : **Answered**
Chosen Option : **3**

Q.9 **Which of the following tests is an indirect method to determine the co-efficient of permeability?**

Ans
✗ 1. Pumping-out test
✓ 2. Consolidation test data
✗ 3. Falling head permeability test
✗ 4. Constant head permeability test

Question ID : **7532298469**
Status : **Answered**
Chosen Option : **2**

Q.10 **A small rectangular orifice 200 mm deep and 500 mm wide is discharging water under a constant head of 400 mm. What will be the discharge through the orifice (in litres), if the coefficient of discharge for the orifice is 0.6?**

Ans
✗ 1. 152
✓ 2. 168
✗ 3. 139
✗ 4. 145

Question ID : **7532298411**
Status : **Not Answered**
Chosen Option : **--**

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Q.11 Identify the type of levelling staff (in surveying) in the given figure.

Ans
1. Target staff
2. Telescopic staff
3. Solid staff
4. Folding staff

Question ID : **7532298419**
Status : **Answered**
Chosen Option : **4**

Q.12 Traffic volume is defined as the _____.

Ans
1. ratio of traffic density to traffic speed
2. $\frac{1}{traffic\ density}$
3. product of traffic density and traffic speed
4. ratio of traffic speed to traffic density

Question ID : **7532298431**
Status : **Answered**
Chosen Option : **3**

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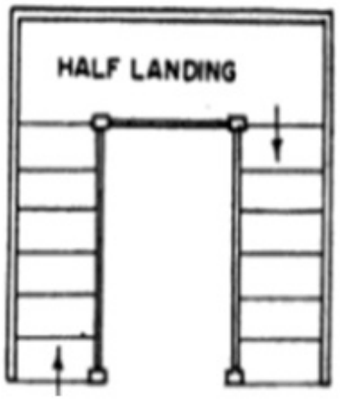
Q.13 Identify the type of stairs in the given figure.



Ans
1. Open newel stairs with quarter space landing
2. Open well stairs
3. Dog legged stairs
4. Straight stairs

Question ID : **7532298455**
Status : **Answered**
Chosen Option : **3**

Q.14 Convert the whole circle bearing of 170° 12' to quadrantal bearing.

Ans
1. S 9° 48' E
2. S 9° 48' W
3. S 350° 12' E
4. S 350° 12' W

Question ID : **7532298416**
Status : **Answered**
Chosen Option : **1**

Q.15 **An oven-dried soil having a mass of 200 g is placed in a pycnometer, which is then completely filled with water. The total mass of the pycnometer with water and soil inside is 1605 g. The pycnometer filled with water alone has a mass of 1480 g. Calculate the specific gravity of the soil.**

Ans
1. 2.67
2. 2.42
3. 2.80
4. 2.23

Question ID : **7532298463**
Status : **Answered**
Chosen Option : **1**

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Q.16 **If the activity value of clay is greater than 1.40, then the clay is said to be _____ .**

Ans

✔ 1. active

✘ 2. inactive

✘ 3. normal

✘ 4. inert

Question ID : **7532298466**
Status : **Answered**
Chosen Option : **1**

Q.17 **The correct French formula to determine the diameter of rivet is given by _____ , where t = thickness of plate in mm and d = diameter of rivet.**

Ans

✘ 1. d = 1.2t – 4

✔ 2. d = 1.5t + 4

✘ 3. d = 1.2t + 4

✘ 4. d = 1.5t – 4

Question ID : **7532298451**
Status : **Not Answered**
Chosen Option : **--**

Q.18 **What is the effective length, if the degree of end restraint of compression member is effectively held in position at both ends and restrained against rotation at one end?**

Ans

✘ 1. 1.2 × clear span

✘ 2. 1.0 × clear span

✔ 3. 0.8 × clear span

✘ 4. 0.65 × clear span

Question ID : **7532298446**
Status : **Answered**
Chosen Option : **3**

Q.19 A clay specimen has an unconfined compressive strength of 240 kN/m^2 in an undisturbed state. Later, on remoulding, the unconfined compressive strength is found to be 54 kN/m^2. Calculate the sensitivity of clay.

Ans

✘ 1. 5.22

✘ 2. 7.23

✘ 3. 3.23

✔ 4. 4.44

Question ID : **7532298468**
Status : **Answered**
Chosen Option : **4**

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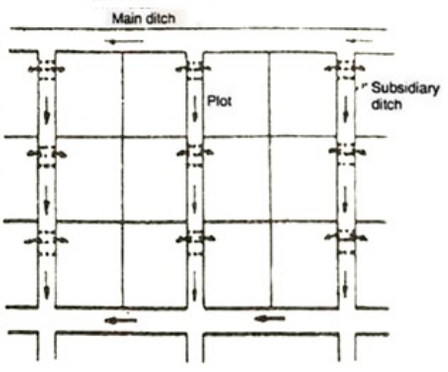
Q.20 Identify the type of controlled flooding in methods of irrigation in the given figure.



Ans

✗ 1. Border strip method

✗ 2. Check flooding

✓ 3. Free flooding method

✗ 4. Contour laterals

Question ID : **7532298439**
Status : **Answered**
Chosen Option : **1**

Q.21 **A liquid product in which a substantial amount of bitumen is suspended in a finely divided condition in an aqueous medium and stabilised by means of one or more suitable materials is known as _____ .**

Ans

✓ 1. bituminous emulsion

✗ 2. bituminous primer

✗ 3. cutback bitumen

✗ 4. tar

Question ID : **7532298433**
Status : **Answered**
Chosen Option : **1**

Q.22 **A vehicle has a wheelbase of 6.5 m. What is the off tracking while negotiating a curved path with a mean radius of 32 m?**

Ans

✓ 1. 0.66 m

✗ 2. 0.55 m

✗ 3. 0.35 m

✗ 4. 0.29 m

Question ID : **7532298430**
Status : **Answered**
Chosen Option : **1**

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Q.23 **As per Indian standards for drinking water 10500-2012, the permissible limit of manganese in the absence of an alternate source is _____.**

Ans

✗ 1. 0.1 mg/l

✗ 2. 0.2 mg/l

✓ 3. 0.3 mg/l

✗ 4. 0.5 mg/l

Question ID : **7532298464**
Status : **Answered**
Chosen Option : **1**

Q.24 Find the magnetic declination at a place, if the magnetic bearing of the sun at noon is 350° 20'.

Ans

✗ 1. 9° 40' W

✗ 2. 8° 40' E

✓ 3. 9° 40' E

✗ 4. 8° 40' W

Question ID : **7532298418**
Status : **Answered**
Chosen Option : **3**

Q.25 **A type of manhole which is about 0.7 to 0.9 m in depth and is constructed at the start of branch sewer or at places which are NOT subjected to heavy traffic is known as _____.**

Ans

✓ 1. shallow manhole

✗ 2. deep manhole

✗ 3. medium manhole

✗ 4. normal manhole

Question ID : **7532298481**
Status : **Answered**
Chosen Option : **3**

Q.26 **Which of the following orifices is classified according to the shape of its edge?**

Ans

✗ 1. Large orifice

✗ 2. Circular orifice

✓ 3. Bell-mouthed orifice

✗ 4. Partially submerged orifice

Question ID : **7532298412**
Status : **Answered**
Chosen Option : **3**

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Q.27 **Which of the following statements regarding the prismatic compass is INCORRECT?**

Ans
✔ 1. The graduations are engraved erect.

✘ 2. Sighting and reading taking can be done simultaneously from one position of the observer.

✘ 3. The needle is of broad needle type and it doesn't act as index.

✘ 4. The eye vane consists of a small metal vane with a slit.

Question ID : **7532298417**
Status : **Answered**
Chosen Option : **1**

Q.28 **Piles driven at an inclination to the vertical to resist the inclined forces are called _____ .**

Ans
✘ 1. sheet piles

✔ 2. battered piles

✘ 3. bearing piles

✘ 4. friction piles

Question ID : **7532298423**
Status : **Answered**
Chosen Option : **2**

Q.29 Identify the type of pressed brick (or specially shaped brick) in the given figure.

Ans
✘ 1. Coping brick

✔ 2. Cow noise

✘ 3. Curved

✘ 4. Cant

Question ID : **7532298424**
Status : **Answered**
Chosen Option : **4**

Q.30 **In estimation, which method is adopted when the external wall has one thickness and the internal walls have different thicknesses?**

Ans
✘ 1. Long wall and short wall method

✘ 2. Bay method

✘ 3. Centre line method

✔ 4. Partly centre line and partly cross wall method

Question ID : **7532298427**
Status : **Answered**
Chosen Option : **4**

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Q.31 As per IS 456-2000, the permissible bond stress given shall be increased by _____ for bars in compression.

Ans

✗ 1. 33.33%

✗ 2. 20%

✗ 3. 40%

✓ 4. 25%

Question ID : **7532298452**
Status : **Answered**
Chosen Option : **4**

Q.32 A rod is 3 m long at 10° C. Find the expansion of the rod, when the temperature is raised to 60° C. Take $E = 1 \times 10^6$ kg/cm^2 and $\alpha = 0.000012$ per degree Celsius.

Ans

✗ 1. 0.21 cm

✗ 2. 0.32 cm

✓ 3. 0.18 cm

✗ 4. 0.25 cm

Question ID : **7532298457**
Status : **Answered**
Chosen Option : **1**

Q.33 The width of the broad gauge on Indian railways is _____ .

Ans

✗ 1. 2 feet

✗ 2. 2 feet 6 inches

✓ 3. 5 feet 6 inches

✗ 4. 3 feet 3.37 inches

Question ID : **7532298472**
Status : **Answered**
Chosen Option : **3**

Q.34 The broad gauge centre-to-centre (in mm), for spacing of sleepers for a fish-plated track between joint wooden sleepers and the first shoulder wooden sleeper is _____ .

Ans

✗ 1. 300

✓ 2. 610

✗ 3. 840

✗ 4. 700

Question ID : **7532298474**
Status : **Not Answered**
Chosen Option : **--**

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Q.35 The minimum recommended rise of trusses with asbestos cement sheet is _____ of span.

Ans

✔ 1. $\frac{1}{12}$

✘ 2. $\frac{1}{6}$

✘ 3. $\frac{1}{8}$

✘ 4. $\frac{1}{4}$

Question ID : **7532298449**
Status : **Not Answered**
Chosen Option : **--**

Q.36 **Which of the following statements regarding the assumptions in the theory of pure bending is INCORRECT?**

Ans

✘ 1. The elastic limit is not exceeded.

✘ 2. The value of the young's modulus is the same for the beam material in tension as well as compression.

✔ 3. The transverse section of the beam is unsymmetrical about an axis passing through the centroid of the section.

✘ 4. The material of the beam is homogeneous and isotropic.

Question ID : **7532298459**
Status : **Answered**
Chosen Option : **3**

Q.37 **Which of the following tests is used to determine the toughness of stone or resistance of the aggregates?**

Ans

✘ 1. Crushing test

✔ 2. Impact test

✘ 3. Soundness test

✘ 4. Abrasion test

Question ID : **7532298432**
Status : **Answered**
Chosen Option : **2**

Q.38 The average sewage flow from a city is 80×10^6 litres per day. If the average 5-day BOD is 285 mg/l, compute the total daily 5-day oxygen demand (in kg).

Ans

✘ 1. 16,580

✘ 2. 26,876

✘ 3. 11,450

✔ 4. 22,800

Question ID : **7532298483**
Status : **Answered**
Chosen Option : **4**

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Q.39 **Consider the following statements regarding the advantages of vitrified clay or stoneware sewers.**

S1: Interiors are very smooth, and they are hydraulically very efficient.
S2: They are highly impervious and do not allow any sewage to seep out of them.
Select an appropriate option.

Ans
✗ 1. S1 is true but S2 is false
✗ 2. S1 is false but S2 is true
✓ 3. Both S1 and S2 are true
✗ 4. Both S1 and S2 are false

Question ID : **7532298480**
Status : **Answered**
Chosen Option : **3**

Q.40 **Which colour is used to show the anticipated progress in bar charts?**

Ans
✓ 1. Black
✗ 2. Blue
✗ 3. Green
✗ 4. Red

Question ID : **7532298478**
Status : **Answered**
Chosen Option : **3**

Q.41 **A solid circular shaft transmits 100 hp at 200 rpm. Calculate the torsion of the shaft.**

Ans
✗ 1. 421.22 kg m
✗ 2. 543.42 kg m
✗ 3. 586.45 kg m
✓ 4. 358.10 kg m

Question ID : **7532298450**
Status : **Answered**
Chosen Option : **1**

Q.42 **The steepest gradient that exists in a section and determines the maximum load that can be hauled by a locomotive on that section is known as _____ .**

Ans
✗ 1. gradient in station yards
✗ 2. pusher gradient
✓ 3. ruling gradient
✗ 4. momentum gradient

Question ID : **7532298476**
Status : **Answered**
Chosen Option : **3**

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Q.43 **In welding, the local decrease of the thickness of the parent metal at the weld toe, which is caused by the use of excessive current or a very long arc is known as _____ .**

Ans

✔ 1. undercutting

✘ 2. incomplete fusion

✘ 3. incomplete penetration

✘ 4. cracks

Question ID : **7532298444**
Status : **Not Answered**
Chosen Option : **--**

Q.44 Find the pressure at a point 4 m below the free surface of water. Take density of water as 9.81 kN/m^3.

Ans

✘ 1. 27.65 kPa

✔ 2. 39.24 kPa

✘ 3. 42.22 kPa

✘ 4. 50.21 kPa

Question ID : **7532298405**
Status : **Answered**
Chosen Option : **2**

Q.45 As per IS 456-2000, the formula to estimate short term modulus of elasticity of concrete is _____.

Ans

✘ 1. $0.7 \times (\text{Characteristic cube compressive strength of concrete in } \frac{N}{mm^2})$

✔ 2. $5000 \times \sqrt[2]{\text{Characteristic cube compressive strength of concrete in } \frac{N}{mm^2}}$

✘ 3. $5000 \times (\text{Characteristic cube compressive strength of concrete in } \frac{N}{mm^2})$

✘ 4. $0.7 \times \sqrt[2]{\text{Characteristic cube compressive strength of concrete in } \frac{N}{mm^2}}$

Question ID : **7532298436**
Status : **Answered**
Chosen Option : **2**

Q.46 **Which of the following statements regarding the assumptions and limitations of Dupuit's theory is INCORRECT?**

Ans

✔ 1. The velocity is inversely proportional to the tangent of the hydraulic gradient instead of its sine.

✘ 2. The flow is horizontal and uniform everywhere in the vertical section.

✘ 3. The co-efficient of transmissibility is constant at all places and at all times.

✘ 4. Flow is laminar.

Question ID : **7532298470**
Status : **Answered**
Chosen Option : **1**

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Q.47 As per IS 456-2000, the maximum diameter of the reinforcing bars shall NOT exceed _____ of the total thickness of the slab.

Ans

✔ 1. $\frac{1}{8}$

✘ 2. $\frac{1}{4}$

✘ 3. $\frac{1}{2}$

✘ 4. $\frac{1}{6}$

Question ID : **7532298454**
Status : **Answered**
Chosen Option : **1**

Q.48 **A simply supported beam, ABC, with supports at A and B 6 m apart and with an overhang BC 2 m long carries a UDL of 1.5 tonnes per metre over the whole length. Calculate the reaction at support A by taking moments about A.**

Ans

✘ 1. 6 tonne

✔ 2. 4 tonne

✘ 3. 8 tonne

✘ 4. 12 tonne

Question ID : **7532298458**
Status : **Answered**
Chosen Option : **2**

Q.49 **The corner or external angle on the face side of a brick wall is known as _____ .**

Ans

✘ 1. frogs

✘ 2. bond

✔ 3. quoin

✘ 4. facing

Question ID : **7532298425**
Status : **Answered**
Chosen Option : **3**

Q.50 **Pressure that is measured with the help of a pressure measuring instrument in which the atmospheric pressure is taken as datum is known as _____ .**

Ans

✘ 1. absolute pressure

✘ 2. pore pressure

✘ 3. Vacuum pressure

✔ 4. gauge pressure

Question ID : **7532298407**
Status : **Answered**
Chosen Option : **4**

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Q.51 **Consider the following statements regarding the functions of Ballast.**

S1: Provides a level and hard bed for the sleepers to rest on.
S2: Holds the sleepers in position during the passage of trains.
Select the appropriate option.

Ans
✗ 1. S1 is true but S2 is false
✓ 2. Both S1 and S2 are true
✗ 3. Both S1 and S2 are false
✗ 4. S1 is false but S2 is true

Question ID : **7532298475**
Status : **Answered**
Chosen Option : **3**

Q.52 **Compressive strain is defined as the ratio of _____ .**

Ans
✗ 1. increase in length to original length
✗ 2. original length to increase in length
✗ 3. original length to decrease in length
✓ 4. decrease in length to original length

Question ID : **7532298456**
Status : **Answered**
Chosen Option : **4**

Q.53 **In sewerage scheme, the design period of the pumping plant is _____ .**

Ans
✗ 1. 40 to 50 years
✗ 2. 15 to 20 years
✗ 3. 10 to 15 years
✓ 4. 5 to 10 years

Question ID : **7532298479**
Status : **Answered**
Chosen Option : **3**

Q.54 **In rails, the progressive horizontal separation of metal that occurs on the gauge side, generally, at the upper gauge corner, is known as _____ .**

Ans
✓ 1. shelling
✗ 2. hogging of rails
✗ 3. scabbing of rails
✗ 4. wheel burns

Question ID : **7532298473**
Status : **Answered**
Chosen Option : **3**

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Q.55 _____ is defined as the variation in its volume with the variation of pressure.

Ans
✗ 1. Specific gravity of water
✓ 2. Compressibility of liquid
✗ 3. Surface tension of water
✗ 4. Specific weight of liquid

Question ID : **7532298406**
Status : **Answered**
Chosen Option : **2**

Q.56 In Soil Engineering, the toughness index is defined as _____ .

Ans
✗ 1. product of flow index and plasticity index
✗ 2. ratio of flow index to plasticity index
✓ 3. ratio of plasticity index to flow index
✗ 4. sum of flow index and plasticity index

Question ID : **7532298465**
Status : **Answered**
Chosen Option : **3**

Q.57 Darjeeling Himalayan Railway section is an example of _____ .

Ans
✗ 1. ruling gradient
✓ 2. pusher gradient
✗ 3. momentum gradient
✗ 4. gradient in station yards

Question ID : **7532298477**
Status : **Answered**
Chosen Option : **2**

Q.58 An example of irregular shaped aggregate is _____ .

Ans
✗ 1. laminated rock
✗ 2. crushed slag
✗ 3. wind-blown sand
✓ 4. land or dug flint

Question ID : **7532298435**
Status : **Not Answered**
Chosen Option : **--**

Q.59 In Soil Engineering, the mass of soil solids per unit of volume of solids is known as _____ .

Ans
✗ 1. submerged density
✗ 2. saturated density
✓ 3. density of solids
✗ 4. dry density

Question ID : **7532298462**
Status : **Answered**
Chosen Option : **3**

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Q.60 Clays having sensitivity greater than _____ are known as quick clays.

Ans
✗ 1. 8
✗ 2. 6
✗ 3. 12
✓ 4. 16

Question ID : **7532298467**
Status : **Answered**
Chosen Option : **4**

Q.61 Which of the following statements regarding the assumptions in the theory of riveted connections is INCORRECT?

Ans
✗ 1. Friction between the plates is neglected.
✗ 2. Shear stress is uniform on the cross-section of the rivet.
✗ 3. Rivets in a group subjected to direct loads share the load equally.
✓ 4. Bending stress in the rivet is considered.

Question ID : **7532298445**
Status : **Answered**
Chosen Option : **4**

Q.62 _____ is the result of capillary movement in the pores in concrete, which are open to the ambient medium.

Ans
✗ 1. Diffusion
✗ 2. Permeability
✗ 3. Flow
✓ 4. Sorption

Question ID : **7532298437**
Status : **Answered**
Chosen Option : **2**

Q.63 Identify the type of rivet in the given figure.

Ans
✓ 1. Brazier head rivet
✗ 2. Cone head rivet
✗ 3. Flat top counter sunk head
✗ 4. Tinners rivet

Question ID : **7532298443**
Status : **Answered**
Chosen Option : **1**

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Q.64 The instantaneous pictures of the position of all fluid particles that have passed through a given point at some previous time are called _____ .

Ans
✗ 1. stream lines
✗ 2. potential lines
✓ 3. steak lines
✗ 4. path lines

Question ID : **7532298408**
Status : **Answered**
Chosen Option : **3**

Q.65 The unit of measurement is square metres in case of _____ .

Ans
✗ 1. rubble masonry
✗ 2. stone masonry
✓ 3. brickwork in the partition wall
✗ 4. brickwork in the foundation

Question ID : **7532298428**
Status : **Answered**
Chosen Option : **3**

Q.66 What is the maximum slenderness ratio for members carrying compressive load due to wind or seismic force only?

Ans
✗ 1. 400
✗ 2. 350
✗ 3. 180
✓ 4. 250

Question ID : **7532298447**
Status : **Answered**
Chosen Option : **4**

Q.67 A flow in which the quantity of liquid flowing per second is NOT constant is called _____ .

Ans
✗ 1. incompressible flow
✗ 2. non-uniform flow
✓ 3. unsteady flow
✗ 4. turbulent flow

Question ID : **7532298409**
Status : **Answered**
Chosen Option : **3**

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Q.68 **Which of the following statements regarding the high rate trickling filter is INCORRECT?**

Ans

✔ 1. The cost of operation is more for treating an equal quantity of sewage.

✘ 2. The depth of filter media varies between 1.2 m and 1.8 m.

✘ 3. The size of filter media varies from 25 mm to 60 mm.

✘ 4. Less land area is required as the filter loading is more.

Question ID : **7532298414**
Status : **Not Answered**
Chosen Option : **--**

Q.69 **An Engineer's Chain is _____ .**

Ans

✘ 1. 33 ft long and consists of 16 links

✘ 2. 66 ft long and consists of 100 links

✘ 3. 66 ft long and consists of 66 links

✔ 4. 100 ft long and consists of 100 links

Question ID : **7532298413**
Status : **Answered**
Chosen Option : **2**

Q.70 **The upward movement of the water, when concrete settles downwards is known as _____ .**

Ans

✘ 1. shrinkage

✘ 2. cracking

✔ 3. bleeding

✘ 4. segregation

Question ID : **7532298442**
Status : **Answered**
Chosen Option : **3**

Q.71 **The unit of measurement for fabric reinforcement and wire netting is _____ .**

Ans

✘ 1. cubic metre

✘ 2. quintal

✘ 3. metre

✔ 4. square metre

Question ID : **7532298426**
Status : **Answered**
Chosen Option : **4**

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Q.72 **Which of the following statements regarding the advantages of plane tabling is INCORRECT?**

Ans
✗ 1. Direct measurements may be almost entirely dispensed with, as the linear and angular are both to be obtained by graphical means.

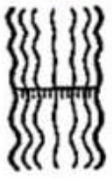
✗ 2. The surveyor can compare plotted work with the actual features of the area.

✓ 3. Plane tabling is most suitable for large scale maps.

✗ 4. Plane tabling is particularly useful in magnetic areas where a compass may not be used.

Question ID : **7532298422**
Status : **Answered**
Chosen Option : **4**

Q.73 Identify the conventional symbol (in surveying) in the given figure.



Ans
✗ 1. Ford

✗ 2. Level crossing

✗ 3. Stream

✓ 4. Dam

Question ID : **7532298415**
Status : **Not Answered**
Chosen Option : **--**

Q.74 **Which of the following statement regarding the lap splices is INCORRECT as per IS 456-2000?**

Ans
✓ 1. When bars of two different diameters are to be spliced, the lap length should be calculated on the basis of the diameter of the larger bar.

✗ 2. Lap splices shall not be used for bars larger than 36 mm.

✗ 3. Lap splices shall be considered as staggered, if the centre to centre distance of the splices is not less than 1.3 times the lap length.

✗ 4. Where splices are provided in the reinforcing bars, they shall as far as possible be away from the sections of maximum stress and be staggered.

Question ID : **7532298453**
Status : **Answered**
Chosen Option : **3**

Q.75 **The duty is 1420 ha/cumec and the base period is 60 days for a crop. Calculate the delta for the given crop.**

Ans
✗ 1. 0.611 m

✗ 2. 0.423 m

✗ 3. 0.542 m

✓ 4. 0.365 m

Question ID : **7532298438**
Status : **Answered**
Chosen Option : **4**

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Q.76 **A rotating biological contactor is an _____ .**

Ans

✗ 1. aerobic suspended culture

✗ 2. anaerobic suspended culture

✗ 3. anaerobic attached culture

✓ 4. aerobic attached culture

Question ID : **7532298484**
Status : **Answered**
Chosen Option : **4**

Q.77 **Section modulus is defined as the _____ .**

Ans

✗ 1. ratio of distance of the most distant point from the neutral axis to moment of inertia about the neutral axis

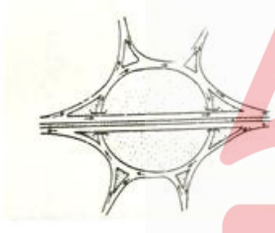
✓ 2. ratio of moment of inertia about the neutral axis to distance of the most distant point from the neutral axis

✗ 3. sum of moment of inertia about the neutral axis and distance of the most distant point from the neutral axis

✗ 4. product of moment of inertia about the neutral axis and distance of the most distant point from the neutral axis

Question ID : **753229846****1**
Status : **Answered**
Chosen Option : **2**

Q.78 Identify the type of interchange in traffic engineering in the given figure.



Ans

✗ 1. Diamond

✓ 2. Rotary

✗ 3. Partial clover leaf

✗ 4. Full clover leaf

Question ID : **7532298434**
Status : **Answered**
Chosen Option : **4**

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Q.79 A steel plate is bent into a circular arc of radius 10 m. If the plate section is 12 cms wide and 2 cms thick, find the maximum stress induced. Take $E = 2 \times 10^6$ kg/cm^2.

Ans

✗ 1. $\frac{3200kg}{cm^2}$

✗ 2. $\frac{1000kg}{cm^2}$

✓ 3. $\frac{2000kg}{cm^2}$

✗ 4. $\frac{4100kg}{cm^2}$

Question ID : **7532298460**
Status : **Not Answered**
Chosen Option : **--**

Q.80 **The relative stability of treated sewage effluent is defined as the _____ .**

Ans

✗ 1. product of oxygen available in the effluent and the total oxygen required to satisfy its first stage BOD demand

✗ 2. difference between oxygen available in the effluent and the total oxygen required to satisfy its first stage BOD demand

✓ 3. ratio of oxygen available in the effluent to the total oxygen required to satisfy its first stage BOD demand

✗ 4. sum of oxygen available in the effluent and the total oxygen required to satisfy its first stage BOD demand

Question ID : **7532298482**
Status : **Answered**
Chosen Option : **3**

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