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MPPGCL JE (Civil)

Previous Year Paper
29 Apr, 2023 Shift 1





M. P. Power Generating Company Limited



Recruitment on various posts in State Power Sector Companies of M.P.

Participant ID	
Participant Name	
Test Center Name	
Test Date	29/04/2023
Test Time	8:30 AM - 10:30 AM
Subject	Junior Engineer Assistant Manager (Civil) Trainee

Section : Numerical Ability

Q.1 दो स्थान P और Q एक दूसरे से 960 km की दूरी पर हैं। रवि और रामू 2 घंटे के अंतराल पर P से Q की ओर चलना शुरू करते हैं, जहां रवि, P से Q के लिए रामू से पहले निकलता है। रवि और रामू की चाल क्रमशः 60 kmph और 80 kmph है। रामू बिंदु M पर रवि से आगे निकल जाता है, जो P से Q के रास्ते में कहीं पड़ता है। रामू को रवि से आगे निकलने में कितना समय (घंटों में) लगेगा?

- Ans
- ☒ 1. 5
 - ☒ 2. 8
 - ☒ 3. 4
 - ☒ 4. 6

Question ID : 630680214512

Option 1 ID : 630680832072

Option 2 ID : 630680832074

Option 3 ID : 630680832071

Option 4 ID : 630680832073

Status : Marked For Review

Chosen Option : 2

Q.2 The value of $\frac{4}{7} \times 5\frac{1}{6} \div \frac{31}{42}$ of $1\frac{1}{5} - 2\frac{1}{6} \div 6\frac{1}{2} + 2$ is:

- Ans
- ☒ 1. 3
 - ☒ 2. 5
 - ☒ 3. 9
 - ☒ 4. 7

Question ID : 630680214508

Option 1 ID : 630680832055

Option 2 ID : 630680832056

Option 3 ID : 630680832058

Option 4 ID : 630680832057

Status : Answered

Chosen Option : 3

Q.3 बानू की मासिक आय अशोक की मासिक आय से 25% अधिक है। अशोक की मासिक आय, इमरान की मासिक आय से 16% कम है। यदि बानू और इमरान की मासिक आय का अंतर ₹1,350 है, तो अशोक की मासिक आय (₹ में) ज्ञात कीजिए।

- Ans
- ☒ 1. 27,000
 - ☒ 2. 28,350
 - ☒ 3. 22,680
 - ☒ 4. 18,000

Question ID : 630680214510
Option 1 ID : 630680832065
Option 2 ID : 630680832066
Option 3 ID : 630680832064
Option 4 ID : 630680832063

Status : Answered

Chosen Option : 2

Q.4 एक कक्षा में कुल 72 विद्यार्थी हैं, और वार्षिक परीक्षा में उनके औसत अंक 55 हैं। यदि उत्तीर्ण विद्यार्थियों के औसत अंक 64 हैं और अनुत्तीर्ण विद्यार्थियों के औसत अंक 10 हैं, तो अनुत्तीर्ण विद्यार्थियों की संख्या ज्ञात कीजिए।

- Ans
- ☒ 1. 10
 - ☒ 2. 8
 - ☒ 3. 9
 - ☒ 4. 12

Question ID : 630680214509
Option 1 ID : 630680832061
Option 2 ID : 630680832059
Option 3 ID : 630680832060
Option 4 ID : 630680832062

Status : Answered

Chosen Option : 4

Q.5 यदि ब्याज वार्षिक रूप से संयोजित किया जाता है, तो ₹18,000 की धनराशि पर, 20% की वार्षिक दर से दो वर्ष का चक्रवृद्धि ब्याज (₹ में) कितना होगा?

- Ans
- ☒ 1. 8100
 - ☒ 2. 7960
 - ☒ 3. 8150
 - ☒ 4. 7920

Question ID : 630680214511
Option 1 ID : 630680832069
Option 2 ID : 630680832068
Option 3 ID : 630680832070
Option 4 ID : 630680832067

Status : Answered

Chosen Option : 4

Section : Reasoning and Mental Ability

Q.1 दी गई अक्षर श्रृंखला के आधार पर नीचे दिए गए प्रश्न का उत्तर दें।

(बाएं) ABCDEFGWXYZKLMNOPQRHIJSTUV (दाएं)

कौन-सा अक्षर उन दो अक्षरों के मध्य स्थित है, जिनमें एक दाएं छोर से 23वां है और दूसरा बाएं छोर से 14वां है?

- Ans
- ☐ 1. G
 - ☐ 2. W
 - ☐ 3. Y
 - ☒ 4. X

Question ID : 630680214514

Option 1 ID : 630680832079

Option 2 ID : 630680832080

Option 3 ID : 630680832082

Option 4 ID : 630680832081

Status : Answered

Chosen Option : 4

Q.2 Select the option that is related to the third term in the same way as the second term is related to the first term.

ROOF : TQQH :: LIMIT : ?

- Ans
- ☒ 1. NKOKV
 - ☐ 2. ZCCTR
 - ☐ 3. YKUG
 - ☐ 4. AFFTJ

Question ID : 630680214513

Option 1 ID : 630680832077

Option 2 ID : 630680832076

Option 3 ID : 630680832078

Option 4 ID : 630680832075

Status : Answered

Chosen Option : 1

Q.3 निम्नलिखित समीकरण में, यदि चिन्ह '+' और '-' को आपस में बदल दिया जाए और संख्या '7' और '14' को आपस में बदल दिया जाए और फिर से '5' और '8' को आपस में बदल दिया जाए, तो कौन-सा समीकरण सही होगा?

- Ans
- ☐ 1. $(7 + 14) - (8 \times 5) = 51$
 - ☒ 2. $(7 + 14) \times (8 - 5) = 91$
 - ☐ 3. $(8 + 5) + (14 - 7) = 36$
 - ☐ 4. $(8 - 5) - (14 + 7) = 8$

Question ID : 630680214517

Option 1 ID : 630680832094

Option 2 ID : 630680832091

Option 3 ID : 630680832093

Option 4 ID : 630680832092

Status : Answered

Chosen Option : 2

Q.4 '\$', '&' का पिता है, '&', '%' का भाई है और '%', '!' की पुत्री है। '\$' और '!' के बीच क्या संबंध है?

Ans

✗ 1. ब्रदर-इन-लॉ और सिस्टर-इन-लॉ

✓ 2. पति और पत्नी

✗ 3. पुत्रवधु और ससुर

✗ 4. भाई और बहन

Question ID : 630680214515

Option 1 ID : 630680832086

Option 2 ID : 630680832083

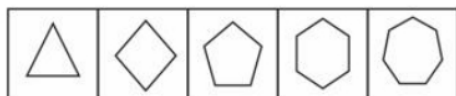
Option 3 ID : 630680832084

Option 4 ID : 630680832085

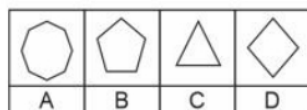
Status : Answered

Chosen Option : 2

Q.5 Select the figure from the answer figure that will come next in the following series.



Answer Figure



Ans

✗ 1. D

✗ 2. B

✗ 3. C

✓ 4. A

Question ID : 630680214516

Option 1 ID : 630680832090

Option 2 ID : 630680832088

Option 3 ID : 630680832089

Option 4 ID : 630680832087

Status : Answered

Chosen Option : 4

Section : General Knowledge Awareness

Q.1 चिल्का झील भारत की सबसे बड़ी खारे पानी की झील है जो _____ राज्य में स्थित है।

- Ans
- ☒ 1. कर्नाटक
 - ☒ 2. आंध्र प्रदेश
 - ☒ 3. ओड़िशा
 - ☒ 4. छत्तीसगढ़

Question ID : 630680214521

Option 1 ID : 630680832110

Option 2 ID : 630680832107

Option 3 ID : 630680832108

Option 4 ID : 630680832109

Status : Answered

Chosen Option : 3

Q.2 विश्व का सबसे बड़ा आबाद नदी द्वीप 'माजुली' भारत की किस नदी प्रणाली में स्थित है?

- Ans
- ☒ 1. सिंधु
 - ☒ 2. गोदावरी
 - ☒ 3. गंगा
 - ☒ 4. ब्रह्मपुत्र

Question ID : 630680214520

Option 1 ID : 630680832104

Option 2 ID : 630680832106

Option 3 ID : 630680832105

Option 4 ID : 630680832103

Status : Answered

Chosen Option : 3

Q.3 भारतीय राष्ट्रीय कांग्रेस पार्टी की स्थापना कब हुई थी और बाद में भारतीय स्वतंत्रता आंदोलन की प्राथमिक आवाज बनी?

- Ans
- ☒ 1. 1884
 - ☒ 2. 1882
 - ☒ 3. 1883
 - ☒ 4. 1885

Question ID : 630680214519

Option 1 ID : 630680832099

Option 2 ID : 630680832102

Option 3 ID : 630680832101

Option 4 ID : 630680832100

Status : Answered

Chosen Option : 1

Q.4 स्वतंत्र भारत के दूसरे राष्ट्रपति के रूप में किसने कार्य किया था?

- Ans ☒ 1. डॉ. सर्वपल्ली राधाकृष्णन
- ☒ 2. वराहगिरि वेंकट गिरि
- ☒ 3. डॉ. फखरुद्दीन अली अहमद
- ☒ 4. डॉ. जाकिर हुसैन

Question ID : 630680214522

Option 1 ID : 630680832113

Option 2 ID : 630680832111

Option 3 ID : 630680832114

Option 4 ID : 630680832112

Status : Answered

Chosen Option : 1

Q.5 किस मुक्केबाज ने मार्च 2023 में नई दिल्ली में महिला मुक्केबाज 50 kg वर्ग में दूसरी विश्व चैंपियनशिप जीती?

- Ans ☒ 1. निकहत ज़रीन
- ☒ 2. नीतू घणघस
- ☒ 3. लवलीना बोगोहेन
- ☒ 4. स्वीटी बूरा

Question ID : 630680214518

Option 1 ID : 630680832095

Option 2 ID : 630680832096

Option 3 ID : 630680832097

Option 4 ID : 630680832098

Status : Answered

Chosen Option : 1

Section : General English

Q.1 Select the option that can be used as a one-word substitute for the given group of words.

Mercy killing

- Ans ☒ 1. Demise
- ☒ 2. Mortality
- ☒ 3. Anaesthesia
- ☒ 4. Euthanasia

Question ID : 630680214526

Option 1 ID : 630680832127

Option 2 ID : 630680832130

Option 3 ID : 630680832128

Option 4 ID : 630680832129

Status : Answered

Chosen Option : 3

Q.2 Select the most appropriate option to fill in the blank.

Out of curiosity, I googled famous people _____ were absent-minded.

- Ans ☒ 1. who
☐ 2. which
☐ 3. whom
☐ 4. that

Question ID : 630680214523
Option 1 ID : 630680832117
Option 2 ID : 630680832115
Option 3 ID : 630680832118
Option 4 ID : 630680832116
Status : Answered
Chosen Option : 1

Q.3 Select the most appropriate option to fill in the blanks.

During my initial days at Kodai, I was fascinated _____ the landscape, and I focused _____ landscape photography.

- Ans ☐ 1. at; in
☐ 2. on; on
☒ 3. by; on
☐ 4. on; in

Question ID : 630680214525
Option 1 ID : 630680832123
Option 2 ID : 630680832125
Option 3 ID : 630680832126
Option 4 ID : 630680832124
Status : Answered
Chosen Option : 2

Q.4 Parts of the following sentence have been given as options. Select the option that contains an error.

Permit me to introduce oneself before I begin my presentation.

- Ans ☐ 1. my presentation
☐ 2. before I begin
☐ 3. Permit me
☒ 4. to introduce oneself

Question ID : 630680214527
Option 1 ID : 630680832134
Option 2 ID : 630680832133
Option 3 ID : 630680832131
Option 4 ID : 630680832132
Status : Answered
Chosen Option : 4

Q.5 Select the most appropriate option to fill in the blanks.

_____ considerable load is supposedly taken off _____ new parents' shoulders.

- Ans ☒ 1. a; the
☒ 2. the; a
☒ 3. an; a
☒ 4. the; the

Question ID : 630680214524

Option 1 ID : 630680832120

Option 2 ID : 630680832122

Option 3 ID : 630680832121

Option 4 ID : 630680832119

Status : Answered

Chosen Option : 3

Section : Power Sector Related

Q.1 मध्य प्रदेश सरकार द्वारा 'ऊर्जा साक्षरता अभियान' की सेवाओं के संबंध में विकसित किए गए मोबाइल ऐप का नाम क्या है?

- Ans ☒ 1. ऊर्जा (URJA) ऐप
☒ 2. ऊषा (USHA) ऐप
☒ 3. ऊषा मित्र (USHA MITRA) ऐप
☒ 4. ऊर्जा मित्र (URJA MITRA) ऐप

Question ID : 630680214528

Option 1 ID : 630680832136

Option 2 ID : 630680832135

Option 3 ID : 630680832138

Option 4 ID : 630680832137

Status : Answered

Chosen Option : 4

Q.2 मार्च 2023 तक प्राप्त जानकारी के अनुसार, मध्य प्रदेश के निम्नलिखित में से किस थर्मल पावर स्टेशन की स्थापित क्षमता अधिकतम है?

- Ans ☒ 1. अमरकंटक थर्मल पावर स्टेशन, चचाई
☒ 2. सतपुड़ा थर्मल पावर स्टेशन, सारणी
☒ 3. संजय गांधी थर्मल पावर स्टेशन, बीरसिंहपुर
☒ 4. श्री सिंगाजी थर्मल पावर प्रोजेक्ट, खांडवा

Question ID : 630680214529

Option 1 ID : 630680832142

Option 2 ID : 630680832139

Option 3 ID : 630680832141

Option 4 ID : 630680832140

Status : Answered

Chosen Option : 2

Q.3 मार्च 2023 तक प्राप्त जानकारी के अनुसार, एमपी पावर मैनेजमेंट कंपनी लिमिटेड, जबलपुर के चेयरमैन कौन हैं?

- Ans ☒ 1. श्री संजय दुबे
☒ 2. श्री अनय द्विवेदी
☒ 3. श्री रघुराज राजेंद्रन
☒ 4. श्री अमित तोमर

Question ID : 630680214531
Option 1 ID : 630680832148
Option 2 ID : 630680832149
Option 3 ID : 630680832147
Option 4 ID : 630680832150
Status : Answered
Chosen Option : 1

Q.4 मार्च 2023 तक प्राप्त जानकारी के अनुसार, मध्यप्रदेश पावर जनरेटिंग कंपनी के अंतर्गत राज्य में कुल कितने जलविद्युत केंद्र संचालित हैं?

- Ans ☒ 1. 10
☒ 2. 15
☒ 3. 5
☒ 4. 20

Question ID : 630680214530
Option 1 ID : 630680832143
Option 2 ID : 630680832146
Option 3 ID : 630680832145
Option 4 ID : 630680832144
Status : Answered
Chosen Option : 2

Q.5 राज्य सरकार के बजट 2022-23 में, मध्य प्रदेश पावर जनरेटिंग कंपनी को कितना बजट (Rs. करोड़ में) आवंटित किया गया?

- Ans ☒ 1. 372.5
☒ 2. 172.5
☒ 3. 472.5
☒ 4. 272.5

Question ID : 630680214532
Option 1 ID : 630680832152
Option 2 ID : 630680832154
Option 3 ID : 630680832151
Option 4 ID : 630680832153
Status : Answered
Chosen Option : 4

Section : Discipline Related

Q.1 Calculate the maximum deflection of a simply supported beam carrying a point load of 50 kN at midspan. Span = 6 m.

(Take $EI = 20000 \text{ kN/m}^2$)

- Ans
- ☒ 1. 12.22 mm
 - ☒ 2. 11.25 mm
 - ☒ 3. 16.41 mm
 - ☒ 4. 14.12 mm

Question ID : 630680214588

Option 1 ID : 630680832376

Option 2 ID : 630680832375

Option 3 ID : 630680832378

Option 4 ID : 630680832377

Status : Answered

Chosen Option : 3

Q.2 In which test the quantities of the various volatile oils added to bitumen fluxing or for cutting-back are determined?

- Ans
- ☒ 1. Flash and fire point test
 - ☒ 2. Distillation test
 - ☒ 3. Solubility test
 - ☒ 4. Water content test

Question ID : 630680214534

Option 1 ID : 630680832162

Option 2 ID : 630680832159

Option 3 ID : 630680832160

Option 4 ID : 630680832161

Status : Answered

Chosen Option : 3

Q.3 The distance between two points measured along a slope is 20 m. If the elevation difference between the points is 16 m, determine the horizontal distance between the points.

- Ans
- ☒ 1. 12 m
 - ☒ 2. 9 m
 - ☒ 3. 15 m
 - ☒ 4. 16 m

Question ID : 630680214549

Option 1 ID : 630680832220

Option 2 ID : 630680832219

Option 3 ID : 630680832221

Option 4 ID : 630680832222

Status : Answered

Chosen Option : 1

Q.4 What is the effective length of the column, if the end restraints are effectively held in position at both ends but not restrained against rotation?

- Ans
- ☐ 1. 0.80 L
 - ☒ 2. 1.00 L
 - ☐ 3. 1.50 L
 - ☐ 4. 0.65 L

Question ID : 630680214603

Option 1 ID : 630680832437

Option 2 ID : 630680832436

Option 3 ID : 630680832435

Option 4 ID : 630680832438

Status : Answered

Chosen Option : 2

Q.5 Which of following method is effective when forces in all members of a truss are to be required?

- Ans
- ☐ 1. Graphical method
 - ☐ 2. Cremona method
 - ☐ 3. Method of joints
 - ☒ 4. Method of sections

Question ID : 630680214595

Option 1 ID : 630680832403

Option 2 ID : 630680832406

Option 3 ID : 630680832404

Option 4 ID : 630680832405

Status : Answered

Chosen Option : 4

Q.6 Which of the following is an artificial aggregate?

- Ans
- ☐ 1. Sandstone
 - ☐ 2. Basalt
 - ☒ 3. Bloated clay
 - ☐ 4. Granite

Question ID : 630680214585

Option 1 ID : 630680832365

Option 2 ID : 630680832363

Option 3 ID : 630680832366

Option 4 ID : 630680832364

Status : Answered

Chosen Option : 3

Q.7 The graph prepared with intensity of rainfall as ordinate and time as abscissa is known as:

- Ans
- ☐ 1. synthetic unit hydrograph
 - ☐ 2. S-hydrograph
 - ☒ 3. hyetograph
 - ☐ 4. unit hydrograph

Question ID : 630680214579

Option 1 ID : 630680832339

Option 2 ID : 630680832340

Option 3 ID : 630680832342

Option 4 ID : 630680832341

Status : Answered

Chosen Option : 3

Q.8 The deflection (y_c) of a cantilever beam carrying point load 'W' at its free end is given by:

(Where, l = length of the beam, W = point load, EI = constant)

- Ans
- ☒ 1. $y_c = \frac{Wl^3}{3EI}$
 - ☐ 2. $y_c = \frac{Wl^3}{2EI}$
 - ☐ 3. $y_c = \frac{Wl^2}{2EI}$
 - ☐ 4. $y_c = \frac{Wl^2}{3EI}$

Question ID : 630680214587

Option 1 ID : 630680832374

Option 2 ID : 630680832372

Option 3 ID : 630680832371

Option 4 ID : 630680832373

Status : Answered

Chosen Option : 1

Q.9 Which of the following statements regarding the requirements of a good ballast is INCORRECT?

- Ans
- ☐ 1. It should be durable and should not get pulverised or disintegrated under adverse weather conditions.
 - ☐ 2. It should be tough and wear resistant.
 - ☒ 3. It should be porous and should absorb water.
 - ☐ 4. It should resist both attrition and abrasion.

Question ID : 630680214570

Option 1 ID : 630680832304

Option 2 ID : 630680832303

Option 3 ID : 630680832305

Option 4 ID : 630680832306

Status : Answered

Chosen Option : 3

Q.10 Which of following method utilises the strain energy at the position of the load acting on the beam to find the deflections?

- Ans
- ☐ 1. Moment-area method
 - ☒ 2. Castigliano's theorem
 - ☐ 3. Superposition method
 - ☐ 4. Double integration method

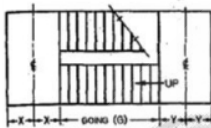
Question ID : 630680214589
Option 1 ID : 630680832381
Option 2 ID : 630680832382
Option 3 ID : 630680832380
Option 4 ID : 630680832379
Status : Answered
Chosen Option : 2

Q.11 A flow net has 7 flow channels and 30 equipotential drops. What is the shape factor?

- Ans
- ☐ 1. 37
 - ☐ 2. 20
 - ☒ 3. 0.23
 - ☐ 4. 23

Question ID : 630680214556
Option 1 ID : 630680832247
Option 2 ID : 630680832249
Option 3 ID : 630680832250
Option 4 ID : 630680832248
Status : Answered
Chosen Option : 3

Q.12



In the given figure of RCC stairs, the stairs are without stringer beams and spanning on to the edge of the landing slab, which spans parallel with the risers. Find out the effective span of the stairs, if $X > 1$ m and $Y > 1$ m.

(Where G = going of stairs)

- Ans
- ☒ 1. $(G + 1 + 1)$ m
 - ☐ 2. $(G + 1 + Y)$ m
 - ☐ 3. $(G + X + 1)$ m
 - ☐ 4. $(G + X + Y)$ m

Question ID : 630680214602
Option 1 ID : 630680832432
Option 2 ID : 630680832434
Option 3 ID : 630680832433
Option 4 ID : 630680832431
Status : Answered
Chosen Option : 4

Q.13 Identify whether the following statements regarding RCC columns are true or false.

Statement 1:

The cross-sectional area of longitudinal reinforcement, should neither be less than 0.6% nor more than 8% of the gross cross-sectional area of the column.

Statement 2:

The minimum number of longitudinal bars in the helically reinforced RCC column must be six.

- Ans**
- ☒ 1. Both Statement 1 and Statement 2 are false
 - ☒ 2. Statement 1 is false and Statement 2 is true
 - ☒ 3. Both Statement 1 and Statement 2 are true
 - ☒ 4. Statement 2 is false and Statement 1 is true

Question ID : 630680214599

Option 1 ID : 630680832422

Option 2 ID : 630680832419

Option 3 ID : 630680832421

Option 4 ID : 630680832420

Status : Answered

Chosen Option : 3

Q.14 If a building is to be dismantled after the period of its utility is over, the amount that can be fetched from the sale of old material is known as:

- Ans**
- ☒ 1. capitalised value
 - ☒ 2. scrap value
 - ☒ 3. book value
 - ☒ 4. salvage value

Question ID : 630680214543

Option 1 ID : 630680832197

Option 2 ID : 630680832196

Option 3 ID : 630680832198

Option 4 ID : 630680832195

Status : Answered

Chosen Option : 2

Q.15 Which classification of timber of commercial grading is based on dimensions and general appearance?

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

Question ID : 630680214536

Option 1 ID : 630680832169

Option 2 ID : 630680832170

Option 3 ID : 630680832167

Option 4 ID : 630680832168

Status : Answered

Chosen Option : 3

Q.16 What is the purpose of rate analysis?

Ans ☐ 1. To ensure that work is executed as per the contract

☐ 2. To ensure timely completion of projects

☒ 3.

To work out the actual cost per unit for particular items of work

☐ 4. To ensure quality control

Question ID : 630680214540

Option 1 ID : 630680832186

Option 2 ID : 630680832185

Option 3 ID : 630680832184

Option 4 ID : 630680832183

Status : Answered

Chosen Option : 3

Q.17 An offset is laid out $1^{\circ}00'$ from its true direction on the field. Find the degree of accuracy with which the offset should be measured so that the maximum displacement of the point on the paper from both the sources may be equal.

(Take $\sin 1^{\circ} = 0.01745$)

Ans ☐ 1. 1 in 100

☒ 2. 1 in 57

☐ 3. 1 in 39

☐ 4. 1 in 17

Question ID : 630680214547

Option 1 ID : 630680832214

Option 2 ID : 630680832212

Option 3 ID : 630680832211

Option 4 ID : 630680832213

Status : Answered

Chosen Option : 4

Q.18 The mass of soil solids per unit of volume of solids is known as:

Ans ☒ 1. density of solids

☐ 2. saturated density

☐ 3. bulk density

☐ 4. dry density

Question ID : 630680214551

Option 1 ID : 630680832227

Option 2 ID : 630680832230

Option 3 ID : 630680832228

Option 4 ID : 630680832229

Status : Answered

Chosen Option : 1

Q.19 The permissible maximum deflection of a purlin of 4 m that is subjected to live load supporting GI metal sheet and supported by elastic cladding is:

- Ans
- ☒ 1. 22.22 mm
 - ☒ 2. 26.66 mm
 - ☒ 3. 16.66 mm
 - ☒ 4. 33.33 mm

Question ID : 630680214605
Option 1 ID : 630680832445
Option 2 ID : 630680832443
Option 3 ID : 630680832446
Option 4 ID : 630680832444
Status : Answered
Chosen Option : 3

Q.20 A Pitot-static tube is used to measure the velocity of water in a pipe. The stagnation pressure head is 10 m and static pressure head is 5 m. Calculate the velocity of flow assuming the co-efficient of tube equal to 0.98.

(Acceleration due to gravity, $g = 10 \text{ m/s}^2$)

- Ans
- ☒ 1. 5.44 m/s
 - ☒ 2. 8.34 m/s
 - ☒ 3. 7.53 m/s
 - ☒ 4. 9.80 m/s

Question ID : 630680214559
Option 1 ID : 630680832259
Option 2 ID : 630680832261
Option 3 ID : 630680832260
Option 4 ID : 630680832262
Status : Answered
Chosen Option : 3

Q.21 Find the delta for a crop if the duty for a base period of 140 days is 3456 hectares/ m^3/s .

- Ans
- ☒ 1. 250 mm
 - ☒ 2. 300 mm
 - ☒ 3. 350 mm
 - ☒ 4. 200 mm

Question ID : 630680214577
Option 1 ID : 630680832332
Option 2 ID : 630680832333
Option 3 ID : 630680832334
Option 4 ID : 630680832331
Status : Answered
Chosen Option : 2

Q.22 A centrifugal pump is required to lift $0.012 \text{ m}^3/\text{s}$ of water from a well with depth 20 m. If the rating of the pump motor is 4 kW, find out efficiency of the pump. (Take density of water = 1000 kg/m^3)

- Ans**
- ✓ 1. 58.86%
 - ✗ 2. 40.80%
 - ✗ 3. 43.52%
 - ✗ 4. 64.68%

Question ID : 630680214558
Option 1 ID : 630680832257
Option 2 ID : 630680832255
Option 3 ID : 630680832256
Option 4 ID : 630680832258
Status : Answered
Chosen Option : 2

Q.23 Identify whether the following statements regarding the characteristics and measurement of sound in noise pollution study are true or false.

Statement 1:

The rate of doing work by a travelling sound wave in the direction of the propagation of the wave is known as sound intensity.

Statement 2:

The amplitude of the sound wave is the height of the peak sound pressure measured above or below the zero-pressure line.

- Ans**
- ✗ 1. Both the statements are true
 - ✗ 2. Statement 2 is false and Statement 1 is true
 - ✗ 3. Both the statements are false
 - ✓ 4. Statement 1 is false and Statement 2 is true

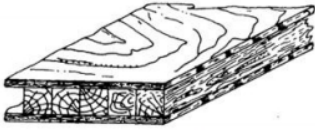
Question ID : 630680214567
Option 1 ID : 630680832294
Option 2 ID : 630680832292
Option 3 ID : 630680832293
Option 4 ID : 630680832291
Status : Answered
Chosen Option : 1

Q.24 If a compound pipe is made up of several pipes of varying diameters and lengths, then which of the following is used to determine the size of an equivalent pipe?

- Ans**
- ✗ 1. Manning's formula
 - ✓ 2. Dupuit's equation
 - ✗ 3. Chezy's formula
 - ✗ 4. Hazen-Williams formula

Question ID : 630680214562
Option 1 ID : 630680832273
Option 2 ID : 630680832272
Option 3 ID : 630680832271
Option 4 ID : 630680832274
Status : Answered
Chosen Option : 4

Q.25 Identify the wood product in the given figure that is extensively used for the construction of railway carriages, bus bodies, marine and river crafts, partitions, furniture, etc.



- Ans
- ☐ 1. Plywood
 - ☐ 2. Particle board
 - ☐ 3. Cross band
 - ☒ 4. Block board

Question ID : 630680214537

Option 1 ID : 630680832173

Option 2 ID : 630680832174

Option 3 ID : 630680832172

Option 4 ID : 630680832171

Status : Answered

Chosen Option : 4

Q.26 Which of the following statements regarding the centrifugal pump is INCORRECT?

- Ans
- ☐ 1. It can handle a large quantity of liquid.
 - ☐ 2. It is used for large discharge through smaller heads.
 - ☐ 3. The cost of centrifugal pump is less as compared to reciprocating pump.
 - ☒ 4. The discharge is fluctuating and pulsating but for a reciprocating pump, the discharge is continuous and smooth.

Question ID : 630680214560

Option 1 ID : 630680832264

Option 2 ID : 630680832265

Option 3 ID : 630680832266

Option 4 ID : 630680832263

Status : Answered

Chosen Option : 4

Q.27 Which of the following formulae of fire demand of water may be represented by the expression given below?

$$Q = 5663 \sqrt{P}$$

where,

P = population in thousands

Q = amount of water required in litres/minute

- Ans
- ☒ 1. Freeman formula
 - ☒ 2. National Board of Fire Under Writers formula
 - ☒ 3. Buston's formula
 - ☒ 4. Kuichling's formula

Question ID : 630680214565

Option 1 ID : 630680832284

Option 2 ID : 630680832285

Option 3 ID : 630680832286

Option 4 ID : 630680832283

Status : Answered

Chosen Option : 3

Q.28 If the actual value of the standard penetration number (N) is greater than 15 for fine sands below the water table, then the corrected value of N is:

- Ans
- ☒ 1. $15 + [(N-10)/2]$
 - ☒ 2. $15 + [(N+10)/2]$
 - ☒ 3. $15 + [(N+15)/2]$
 - ☒ 4. $15 + [(N-15)/2]$

Question ID : 630680214557

Option 1 ID : 630680832254

Option 2 ID : 630680832253

Option 3 ID : 630680832251

Option 4 ID : 630680832252

Status : Answered

Chosen Option : 4

Q.29 If the value of elastic section modulus for an I-section is $66,000 \text{ mm}^3$ and the shape factor = 1.2, then calculate the value of plastic section modulus for the section.

- Ans
- ☒ 1. $55,000 \text{ mm}^3$
 - ☒ 2. $1,24,000 \text{ mm}^3$
 - ☒ 3. $1,32,000 \text{ mm}^3$
 - ☒ 4. $79,200 \text{ mm}^3$

Question ID : 630680214607

Option 1 ID : 630680832452

Option 2 ID : 630680832454

Option 3 ID : 630680832451

Option 4 ID : 630680832453

Status : Answered

Chosen Option : 4

Q.30 Which of the following statements regarding the surveyor's compass, when compared to the prismatic compass, is INCORRECT?

Ans ☒ 1. The magnetic needle is of edge bar type.

☒ 2.

The object vane consists of a metal vane with a vertical hair.

☒ 3. The graduations engraved are inverted.

☒ 4. The magnetic needle acts as an index.

Question ID : 630680214546

Option 1 ID : 630680832207

Option 2 ID : 630680832210

Option 3 ID : 630680832209

Option 4 ID : 630680832208

Status : Answered

Chosen Option : 3

Q.31 Calculate the net bearing capacity of a strip footing of 1.5 m wide and located at a depth of 1 m in clay, if the gross bearing capacity is 520 kN/m^2 .

(Unit weight of foundation = 20 kN/m^2)

Ans ☒ 1. 540 kN/m^2

☒ 2. 490 kN/m^2

☒ 3. 520 kN/m^2

☒ 4. 500 kN/m^2

Question ID : 630680214554

Option 1 ID : 630680832242

Option 2 ID : 630680832240

Option 3 ID : 630680832241

Option 4 ID : 630680832239

Status : Answered

Chosen Option : 3



Q.32 Identify the type of dressed stone in the given figure.



- Ans
- ✓ 1. Reticulated
 - ✗ 2. Combed
 - ✗ 3. Rock faced
 - ✗ 4. Vermiculated

Question ID : 630680214539
Option 1 ID : 630680832180
Option 2 ID : 630680832181
Option 3 ID : 630680832182
Option 4 ID : 630680832179
Status : Answered
Chosen Option : 4

Q.33 Which of the following statements regarding the advantages of fixed beams is INCORRECT?

- Ans
- ✓ 1. The deflection of the beam at its centre is very high.
 - ✗ 2. The beam is stiffer, stronger, and more stable
 - ✗ 3. The slope at the two ends is zero.
 - ✗ 4.

The fixing moments are developed at the two ends, whose effect is to reduce the maximum bending moment at the centre of the beam.

Question ID : 630680214594
Option 1 ID : 630680832400
Option 2 ID : 630680832399
Option 3 ID : 630680832401
Option 4 ID : 630680832402
Status : Answered
Chosen Option : 1

Q.34 What is the minimum design period for the design of flexible pavements for very high-density corridors (more than 300 million standard axle) and expressways, according to IRC:37-2018?

- Ans
- ☐ 1. 10 years
 - ☐ 2. 15 years
 - ☒ 3. 30 years
 - ☐ 4. 20 years

Question ID : 630680214568
Option 1 ID : 630680832298
Option 2 ID : 630680832296
Option 3 ID : 630680832297
Option 4 ID : 630680832295
Status : Answered
Chosen Option : 1

Q.35 What is the maximum slenderness ratio for a member carrying compressive loads resulting from dead loads and imposed loads?

- Ans
- ☐ 1. 250
 - ☒ 2. 180
 - ☐ 3. 300
 - ☐ 4. 350

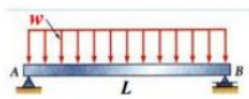
Question ID : 630680214604
Option 1 ID : 630680832440
Option 2 ID : 630680832439
Option 3 ID : 630680832441
Option 4 ID : 630680832442
Status : Answered
Chosen Option : 2

Q.36 What is the permitted limit of deviation of the actual concrete cover from the required nominal cover, as per IS:456:2000, unless specified otherwise?

- Ans
- ☐ 1. +0 mm and -10 mm
 - ☐ 2. +10 mm and -10 mm
 - ☐ 3. +5 mm and -5 mm
 - ☒ 4. +10 mm and 0 mm

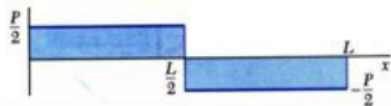
Question ID : 630680214597
Option 1 ID : 630680832411
Option 2 ID : 630680832414
Option 3 ID : 630680832412
Option 4 ID : 630680832413
Status : Answered
Chosen Option : 3

Q.37 Which of the following represents the correct BMD for the beam in the given figure?

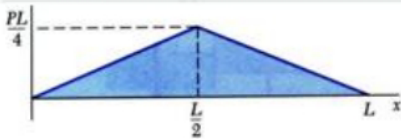


Ans

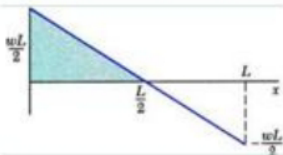
✗ 1.



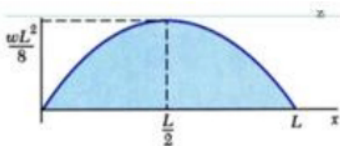
✗ 2.



✗ 3.



✓ 4.



Question ID : 630680214592

Option 1 ID : 630680832393

Option 2 ID : 630680832394

Option 3 ID : 630680832391

Option 4 ID : 630680832392

Status : Answered

Chosen Option : 4

Q.38 Identify the tool in the given figure, which is used for quarrying stones.



- Ans
- ✓ 1. Jumper
 - ✗ 2. Dipper
 - ✗ 3. Tamping bar
 - ✗ 4. Crow bar

Question ID : 630680214538

Option 1 ID : 630680832176

Option 2 ID : 630680832175

Option 3 ID : 630680832178

Option 4 ID : 630680832177

Status : Answered

Chosen Option : 1

Q.39 Which of the following statements regarding the compaction of soil is INCORRECT?

- Ans
- ✗ 1. Expulsion of pore air
 - ✗ 2. Dynamic loading is commonly applied
 - ✗ 3. Relatively quick process
 - ✓ 4. Applies to cohesive soils only

Question ID : 630680214555

Option 1 ID : 630680832243

Option 2 ID : 630680832244

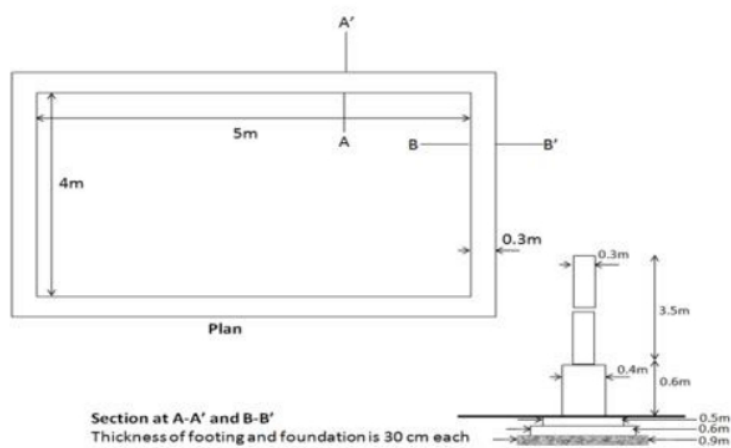
Option 3 ID : 630680832246

Option 4 ID : 630680832245

Status : Answered

Chosen Option : 4

Q.40 Calculate the earthwork excavation in foundation for the plan given below.



- Ans
- ✗ 1. 16.12 m³
 - ✗ 2. 17.54 m³
 - ✗ 3. 14.32 m³
 - ✓ 4. 15.55 m³

Question ID : 630680214541
Option 1 ID : 630680832189
Option 2 ID : 630680832190
Option 3 ID : 630680832187
Option 4 ID : 630680832188
Status : Not Answered
Chosen Option : --

Q.41 Which sewer is mostly frequently used and is preferred for all types of sewage, and the shape of sewer is easy to construct, requires less construction materials and is economical?

- Ans
- ✓ 1. Circular shaped sewer
 - ✗ 2. Horse-shoe sewer
 - ✗ 3. Standard egg-shaped sewer
 - ✗ 4. Parabolic sewer

Question ID : 630680214566
Option 1 ID : 630680832288
Option 2 ID : 630680832290
Option 3 ID : 630680832287
Option 4 ID : 630680832289
Status : Answered
Chosen Option : 3

Q.42 Where should the steel reinforcement be placed in a singly reinforced cantilever RCC beam acted upon by a sagging moment?

Ans ☒ 1. At the neutral axis of the beam cross-section

☒ 2.

In both, the tension and compression zone of the beam cross-section

☒ 3. Only in the upper zone of the beam cross-section

☒ 4. Only in the bottom zone of the beam cross-section

Question ID : 630680214596

Option 1 ID : 630680832407

Option 2 ID : 630680832408

Option 3 ID : 630680832410

Option 4 ID : 630680832409

Status : Answered

Chosen Option : 4

Q.43 What will be the value of the critical velocity for a channel using Kennedy's theory, if the depth of flow is 2 m and the value of the critical velocity ratio is 1.4?

($2^{0.64} = 1.558$)

Ans ☒ 1. 1.199 m/s

☒ 2. 0.563 m/s

☒ 3. 0.895 m/s

☒ 4. 0.745 m/s

Question ID : 630680214576

Option 1 ID : 630680832330

Option 2 ID : 630680832327

Option 3 ID : 630680832329

Option 4 ID : 630680832328

Status : Marked For Review

Chosen Option : 1



Q.44 Identify whether the following statements regarding the necessity of irrigation are true or false.

Statement 1:

Irrigation is necessary in the areas where rainfall is insufficient for the satisfactory growth of the crops and the plants.

Statement 2:

If the distribution of rainfall in the zone of crop area is not evenly distributed as per requirement of the crop growth, irrigation is extremely necessary.

Statement 3:

The dry and desert areas can be converted to a beautiful cropland if irrigation water can be supplied as per need.

- Ans**
- ☒ 1. Statement 1 is true and statements 2 and 3 are false
 - ☒ 2. Statement 3 is true and statements 1 and 2 are false
 - ☒ 3. All the statements are true
 - ☒ 4. All the statements are false

Question ID : 630680214572

Option 1 ID : 630680832311

Option 2 ID : 630680832312

Option 3 ID : 630680832314

Option 4 ID : 630680832313

Status : Answered

Chosen Option : 3

Q.45 Which of the following weirs is classified according to the shape of the opening?

- Ans**
- ☒ 1. Sharp crested weir
 - ☒ 2. Cipolletti weir
 - ☒ 3. Ogee shaped weir
 - ☒ 4. Broad crested weir

Question ID : 630680214561

Option 1 ID : 630680832268

Option 2 ID : 630680832267

Option 3 ID : 630680832269

Option 4 ID : 630680832270

Status : Answered

Chosen Option : 2

Q.46 In the whole circle bearing system, if the angle is between 180° and 270° , the corresponding value of angle in the reduced bearing system is equal to:

- Ans
- ☐ 1. that of the whole circle bearing
 - ☒ 2. that of the whole circle bearing minus 180°
 - ☐ 3. 180° minus that of the whole circle bearing
 - ☐ 4. 360° minus that of the whole circle bearing

Question ID : 630680214544

Option 1 ID : 630680832199

Option 2 ID : 630680832201

Option 3 ID : 630680832200

Option 4 ID : 630680832202

Status : Answered

Chosen Option : 2

Q.47 What is the correct expression to obtain Lacey's silt factor (f)?

(Where d = average particle size in millimetres)

- Ans
- ☐ 1. $2.76 \times d^2$
 - ☐ 2. $1.76 \times d^2$
 - ☐ 3. $2.76 \times \sqrt{d}$
 - ☒ 4. $1.76 \times \sqrt{d}$

Question ID : 630680214575

Option 1 ID : 630680832324

Option 2 ID : 630680832323

Option 3 ID : 630680832326

Option 4 ID : 630680832325

Status : Answered

Chosen Option : 4



Q.48 The distinctive functions of a component part of a theodolite are listed below.

- A) To support the main part of the instrument
- B) To attach the theodolite to the tripod
- C) To provide a mean for levelling the theodolite

Identify the component part.

- Ans
- ☒ 1. Scale plate
 - ☒ 2. Levelling screw
 - ☒ 3. Telescope
 - ☒ 4. Levelling head

Question ID : 630680214548

Option 1 ID : 630680832216

Option 2 ID : 630680832218

Option 3 ID : 630680832217

Option 4 ID : 630680832215

Status : Answered

Chosen Option : 4

Q.49 The hardest grade of bitumen available in India that has a softening point of 50°C–60°C is:

- Ans
- ☒ 1. 30/40
 - ☒ 2. 180/200
 - ☒ 3. 80/100
 - ☒ 4. 60/70

Question ID : 630680214535

Option 1 ID : 630680832163

Option 2 ID : 630680832166

Option 3 ID : 630680832165

Option 4 ID : 630680832164

Status : Answered

Chosen Option : 1

Q.50 A soil has a bulk density of 2 gm/cm^3 and water content of 20%. What will be the water content if the soil partially dries to a density of 1.8 gm/cm^3 and the void ratio remains unchanged?

- Ans
- ☒ 1. 10%
 - ☒ 2. 8%
 - ☒ 3. 18%
 - ☒ 4. 12%

Question ID : 630680214550
Option 1 ID : 630680832225
Option 2 ID : 630680832226
Option 3 ID : 630680832224
Option 4 ID : 630680832223
Status : Not Attempted and Marked For Review
Chosen Option : --

Q.51 What is the maximum free water-cement ratio specified for RCC construction in the severe exposure conditions, as per IS:456:2000?

- Ans
- ☒ 1. 0.55
 - ☒ 2. 0.40
 - ☒ 3. 0.45
 - ☒ 4. 0.60

Question ID : 630680214582
Option 1 ID : 630680832352
Option 2 ID : 630680832354
Option 3 ID : 630680832353
Option 4 ID : 630680832351
Status : Answered
Chosen Option : 3

Q.52 If the quantity of concrete work is 35 m^3 , then how many samples should be tested for the concrete work, according to IS:456:2000?

- Ans
- ☒ 1. 4
 - ☒ 2. 6
 - ☒ 3. 3
 - ☒ 4. 5

Question ID : 630680214581
Option 1 ID : 630680832348
Option 2 ID : 630680832350
Option 3 ID : 630680832347
Option 4 ID : 630680832349
Status : Answered
Chosen Option : 3

Q.53 As per IS:456: 2000, what should be the maximum limit of the diameter of the reinforcement bar for an RCC slab with 176 mm overall depth and 144 mm effective depth of the section?

- Ans
- ☐ 1. 10 mm
 - ☒ 2. 22 mm
 - ☐ 3. 18 mm
 - ☐ 4. 8 mm

Question ID : 630680214598

Option 1 ID : 630680832417

Option 2 ID : 630680832415

Option 3 ID : 630680832416

Option 4 ID : 630680832418

Status : Answered

Chosen Option : 2

Q.54 For which of the following conditions, the connection of the vertical stiffener to the web of plate girder is designed?

(t_w = web thickness, b_s = outstand width of the stiffener)

- Ans
- ☐ 1. Shear force of $(t_w / 5 b_s)$
 - ☐ 2. Moment of $[(t_w)^2 / 5 b_s]$
 - ☐ 3. Moment of $t_w / 5 b_s$
 - ☒ 4. Shear force of $[(t_w)^2 / 5 b_s]$

Question ID : 630680214606

Option 1 ID : 630680832447

Option 2 ID : 630680832450

Option 3 ID : 630680832449

Option 4 ID : 630680832448

Status : Marked For Review

Chosen Option : 1

Q.55 In the Limit state design method, the limiting moment of resistance for the singly reinforced section for $f_y = 250$ N/mm² is:

b = width of the cross-section

d = effective depth of the cross-section

f_y = yield strength of steel

f_{ck} = characteristic compressive strength of concrete

- Ans
- ☐ 1. $0.138 f_{ck} b d^2$
 - ☐ 2. $0.140 f_{ck} b d^2$
 - ☐ 3. $0.133 f_{ck} b d^2$
 - ☒ 4. $0.148 f_{ck} b d^2$

Question ID : 630680214601

Option 1 ID : 630680832429

Option 2 ID : 630680832428

Option 3 ID : 630680832430

Option 4 ID : 630680832427

Status : Answered

Chosen Option : 4

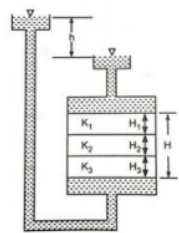
Q.56 Which test is the most commonly used method of measuring the consistency of concrete that can be employed either in the laboratory or at the site of work?

- Ans
- ☒ 1. Flow test
 - ☒ 2. Compacting factor test
 - ☒ 3. Slump test
 - ☒ 4. Vee-bee consistometer test

Question ID : 630680214584
Option 1 ID : 630680832362
Option 2 ID : 630680832360
Option 3 ID : 630680832361
Option 4 ID : 630680832359
Status : Answered
Chosen Option : 3

Q.57 Assuming the individual layers of soil to be isotropic and homogeneous in nature, what is the equivalent coefficient permeability in the direction of flow for the given arrangement?

(Where, K_1 , K_2 and K_3 are the co-efficients of permeability of soil layers of thickness H_1 , H_2 and H_3)



- Ans
- ☒ 1. $\frac{K_1 H_1 + K_2 H_2 + K_3 H_3}{H}$
 - ☒ 2. $\frac{K_1 + K_2 + K_3}{H}$
 - ☒ 3. $\frac{H_1}{K_1} + \frac{H_2}{K_2} + \frac{H_3}{K_3}$
 - ☒ 4. $(K_1 + K_2 + K_3) \times (H_1 + H_2 + H_3)$

Question ID : 630680214552
Option 1 ID : 630680832232
Option 2 ID : 630680832233
Option 3 ID : 630680832231
Option 4 ID : 630680832234
Status : Answered
Chosen Option : 3

Q.58 What is the permissible limit of calcium in the absence of an alternate source, as per IS:10500:2012?

- Ans
- ☐ 1. 50 mg/l
 - ☐ 2. 75 mg/l
 - ☒ 3. 200 mg/l
 - ☐ 4. 100 mg/l

Question ID : 630680214564

Option 1 ID : 630680832282

Option 2 ID : 630680832281

Option 3 ID : 630680832279

Option 4 ID : 630680832280

Status : Marked For Review

Chosen Option : 1

Q.59 Identify whether the following statements regarding the geometric design of highways are true or false.

Statement 1:

On urban road stretches with frequent intersections, it may be necessary to limit the maximum superelevation to 4%.

Statement 2:

On hill roads not bound by snow, a maximum superelevation up to 10% has been recommended.

Statement 3:

Road congress had fixed the maximum limit of superelevation in plain and rolling terrains and in snow bound areas as 7%, taking mixed traffic into consideration.

- Ans
- ☐ 1. All the statements are false
 - ☐ 2. Statement 1 is true and statements 2 and 3 are false
 - ☒ 3. All the statements are true
 - ☐ 4. Statement 3 is true and statements 1 and 2 are false

Question ID : 630680214569

Option 1 ID : 630680832301

Option 2 ID : 630680832299

Option 3 ID : 630680832302

Option 4 ID : 630680832300

Status : Answered

Chosen Option : 3

Q.60 The maximum deflection at mid-span for a simply supported beam with a point load P at its midpoint is:

- Ans
- ✓ 1. $PL^3 / 48EI$
 - ✗ 2. $PL^3 / 16EI$
 - ✗ 3. $PL^3 / 24EI$
 - ✗ 4. $PL^3 / 12EI$

Question ID : 630680214590
Option 1 ID : 630680832383
Option 2 ID : 630680832384
Option 3 ID : 630680832385
Option 4 ID : 630680832386
Status : Answered
Chosen Option : 3

Q.61 Which of the following is an example of irregular or partly rounded aggregates?

- Ans
- ✗ 1. Screens
 - ✗ 2. Seashore gravels
 - ✗ 3. Laminated rocks
 - ✓ 4. Cuboid rocks

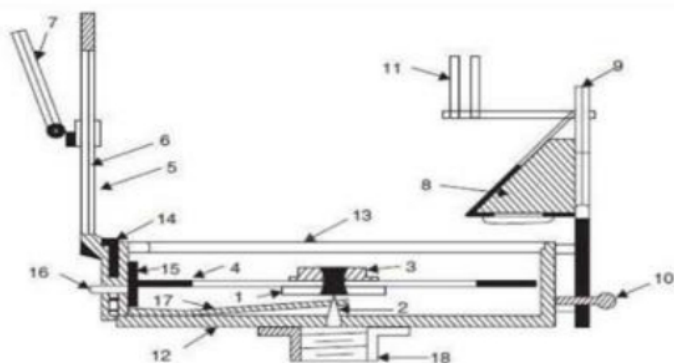
Question ID : 630680214586
Option 1 ID : 630680832367
Option 2 ID : 630680832368
Option 3 ID : 630680832369
Option 4 ID : 630680832370
Status : Answered
Chosen Option : 2

Q.62 _____ denotes the ability of a material to withstand prolonged action of high temperature without melting or losing shape.

- Ans
- ✗ 1. Heat conductivity
 - ✗ 2. Weathering resistance
 - ✓ 3. Refractoriness
 - ✗ 4. Thermal capacity

Question ID : 630680214533
Option 1 ID : 630680832157
Option 2 ID : 630680832155
Option 3 ID : 630680832156
Option 4 ID : 630680832158
Status : Answered
Chosen Option : 3

Q.63 Identify part number 16 in the prismatic compass given below.



- Ans
- ✓ 1. Brake pin
 - ✗ 2. Focussing stud
 - ✗ 3. Light spring
 - ✗ 4. Lifting lever

Question ID : 630680214545
Option 1 ID : 630680832203
Option 2 ID : 630680832204
Option 3 ID : 630680832205
Option 4 ID : 630680832206
Status : Answered
Chosen Option : 4

Q.64 Gradients are compensated to the following extent on curves, on NG (narrow gauge) tracks, _____ per degree of the curve or _____, whichever is minimum

- Ans
- ✗ 1. 0.04%; 70/R
 - ✓ 2. 0.02%; 35/R
 - ✗ 3. 0.03%; 52.5/R
 - ✗ 4. 0.01%; 20/R

Question ID : 630680214571
Option 1 ID : 630680832310
Option 2 ID : 630680832308
Option 3 ID : 630680832309
Option 4 ID : 630680832307
Status : Answered
Chosen Option : 1

Q.65 The deflection at the centre of a fixed beam carrying a point load at the centre is given by:

(w = point load, L = length of the beam)

Ans

✗ 1. $y_C = \frac{Wl^3}{64EI}$

✗ 2. $y_C = \frac{Wl^4}{384EI}$

✗ 3. $y_C = \frac{Wl^3}{3EI}$

✓ 4. $y_C = \frac{Wl^3}{192EI}$

Question ID : 630680214593

Option 1 ID : 630680832398

Option 2 ID : 630680832396

Option 3 ID : 630680832397

Option 4 ID : 630680832395

Status : Answered

Chosen Option : 4

Q.66 The estimated value of a building is ₹6,00,000. The carpet area of the building is 60 m². If the plinth area is 20% more than this, what is the plinth rate of the building?

Ans

✗ 1. ₹7,998.23/ m²

✗ 2. ₹6,783.45/ m²

✓ 3. ₹8,333.33/ m²

✗ 4. ₹6,222.11/ m²

Question ID : 630680214542

Option 1 ID : 630680832192

Option 2 ID : 630680832193

Option 3 ID : 630680832191

Option 4 ID : 630680832194

Status : Answered

Chosen Option : 3

Q.67 Which of the following is defined as 'the total time elapsed between sowing of a crop and its harvesting'?

Ans

✗ 1. Delta

✗ 2. Duty

✓ 3. Crop period

✗ 4. Base period

Question ID : 630680214580

Option 1 ID : 630680832344

Option 2 ID : 630680832343

Option 3 ID : 630680832346

Option 4 ID : 630680832345

Status : Answered

Chosen Option : 4

Q.68 What will be value of the critical hydraulic gradient for a sand deposit of specific gravity = 2.70 and porosity = 40%?

- Ans
- ☒ 1. 1.21
 - ☒ 2. 1.10
 - ☒ 3. 0.51
 - ☒ 4. 1.02

Question ID : 630680214553

Option 1 ID : 630680832235

Option 2 ID : 630680832237

Option 3 ID : 630680832236

Option 4 ID : 630680832238

Status : Answered

Chosen Option : 1

Q.69 Which of the following is NOT an underground source of water?

- Ans
- ☒ 1. Storage reservoir
 - ☒ 2. Infiltration wells
 - ☒ 3. Springs
 - ☒ 4. Wells

Question ID : 630680214563

Option 1 ID : 630680832277

Option 2 ID : 630680832275

Option 3 ID : 630680832276

Option 4 ID : 630680832278

Status : Answered

Chosen Option : 1

Q.70 Who among the following scientists gave the runoff calculation formula $R = 0.85 P - 30.5$ for ghat areas?

(Where R = runoff in cm, P = rainfall in cm)

- Ans
- ☒ 1. Inglis
 - ☒ 2. Rohwer
 - ☒ 3. Lacey
 - ☒ 4. Parker

Question ID : 630680214574

Option 1 ID : 630680832321

Option 2 ID : 630680832320

Option 3 ID : 630680832322

Option 4 ID : 630680832319

Status : Answered

Chosen Option : 2

Q.71 What is the discharge capacity required at the outlet to irrigate 2200 hectares of sugarcane having a kor depth of 17 cm and a kor period of 30 days?

- Ans
- ☐ 1. $1.54 \text{ m}^3/\text{s}$
 - ☒ 2. $1.44 \text{ m}^3/\text{s}$
 - ☐ 3. $1.30 \text{ m}^3/\text{s}$
 - ☐ 4. $1.65 \text{ m}^3/\text{s}$

Question ID : 630680214578

Option 1 ID : 630680832337

Option 2 ID : 630680832336

Option 3 ID : 630680832335

Option 4 ID : 630680832338

Status : Marked For Review

Chosen Option : 2

Q.72 Which of the following is NOT a drawback of the working stress method?

- Ans
- ☐ 1. Factor of safety does not predict the true margin of safety.
 - ☒ 2. This method gives economical sections.
 - ☐ 3. The failure criteria assumed is stress, but strain criteria is the reliable.
 - ☐ 4. Stress strain curve for concrete is assumed as linear, which is not true.

Question ID : 630680214600

Option 1 ID : 630680832425

Option 2 ID : 630680832423

Option 3 ID : 630680832426

Option 4 ID : 630680832424

Status : Answered

Chosen Option : 1

Q.73 Which of the following is an example of space truss?

- Ans
- ☐ 1. Rafters
 - ☐ 2. Bicycle frame
 - ☐ 3. Roofing
 - ☒ 4. Transmission towers

Question ID : 630680214591

Option 1 ID : 630680832389

Option 2 ID : 630680832387

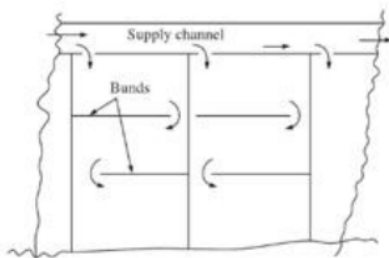
Option 3 ID : 630680832388

Option 4 ID : 630680832390

Status : Answered

Chosen Option : 4

Q.74 Identify the method of irrigation in the given figure.



- Ans
- ✓ 1. Zig-zag method
 - ✗ 2. Contour laterals
 - ✗ 3. Border strip method
 - ✗ 4. Check flooding

Question ID : 630680214573
Option 1 ID : 630680832315
Option 2 ID : 630680832317
Option 3 ID : 630680832316
Option 4 ID : 630680832318
Status : Answered
Chosen Option : 3

Q.75 In concrete mix design, the target mean compressive strength (f'_{ck}) of concrete is given by:

$$f'_{ck} = f_{ck} + 1.65 S$$

According to IS:10262:2019, what is the assumed value of standard deviation (S) for M40 grade of concrete for concrete mix design?

(f_{ck} = required characteristic compressive strength of concrete)

- Ans
- ✗ 1. 3.5
 - ✓ 2. 5
 - ✗ 3. 4
 - ✗ 4. 6

Question ID : 630680214583
Option 1 ID : 630680832355
Option 2 ID : 630680832357
Option 3 ID : 630680832356
Option 4 ID : 630680832358
Status : Answered
Chosen Option : 2