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HPCL Engineer (Civil) 04 Nov 2022

HPCL-01st & 04th Nov 22

Participant ID	
Participant Name	
Test Center Name	
Test Date	04/11/2022
Test Time	9:00 AM - 11:30 AM
Subject	CIVIL ENGINEER

Section : **English Language**

Q.1 **Select the most appropriate option to fill in the blank.**

You _____ a new bicycle very soon.

Ans
- ✔ 1. will have
- ✘ 2. are having
- ✘ 3. have
- ✘ 4. were having

Question ID : **8401605319**
Status : **Answered**
Chosen Option : **1**

Q.2 **Select the most appropriate synonym of the given word.**

Profligate

Ans
- ✘ 1. Prudent
- ✘ 2. Judicious
- ✘ 3. Stingy
- ✔ 4. Extravagant

Question ID : **8401605311**
Status : **Answered**
Chosen Option : **4**

Q.3 **Select the most appropriate synonym of the given word.**

Sultry

Ans
- ✔ 1. Humid
- ✘ 2. Dry
- ✘ 3. Cold
- ✘ 4. Freezing

Question ID : **8401605309**
Status : **Marked For Review**
Chosen Option : **2**

Q.4 Select the most appropriate option to fill in the blanks.

After the Somnath temple was _____ by Mahmud Gazni in 1025, it was _____ by the Parmara King Bhoja of Malwa between 1026 and 1042.

Ans
✔ 1. destroyed, rebuilt
✘ 2. destroyed, rebuilding
✘ 3. destroy, rebuilt
✘ 4. destroying, rebuild

Question ID : **8401605318**
Status : **Answered**
Chosen Option : **1**

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

The children _____ cricket in the park when their mother came to pick them up.

Ans
✘ 1. play
✘ 2. played
✔ 3. had been playing
✘ 4. had played

Question ID : **8401605320**
Status : **Answered**
Chosen Option : **3**

Q.6 The following sentence has been divided into parts. One of them may contain an error. Select the part that contains the error from the given options. If you don't find any error, mark 'No error' as your answer.

The Education Minister called for collaborative efforts / by different countries to address common chellanges / at the G-20 education ministers' meeting.

Ans
✘ 1. No error
✘ 2. at the G-20 education ministers' meeting.
✔ 3. by different countries to address common chellanges
✘ 4. The Education Minister called for collaborative efforts

Question ID : **8401605315**
Status : **Answered**
Chosen Option : **3**

Q.7 Select the most appropriate meaning of the given idiom.

Nutty as a fruitcake

Ans
✘ 1. Careful
✘ 2. Composed
✔ 3. Crazy
✘ 4. Contented

Question ID : **8401605313**
Status : **Answered**
Chosen Option : **4**

Q.8 Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.

A. There have been many attempts over the centuries to find this 'hidden library,' but so far the searchers have come up empty-handed.
B. The Library of the Moscow Tsars supposedly contained a vast collection of ancient Greek texts, as well as texts written in a variety of other languages.
C. It is said that Ivan IV, better known as Ivan the Terrible, who lived from 1530 to 1584, somehow hid the library's texts.
D. The rulers of the Grand Duchy of Moscow supposedly had built the library by 1518.

Ans
✗ 1. CDAB
✗ 2. ADBC
✗ 3. BACD
✓ 4. BDCA

Question ID : **8401605316**
Status : **Answered**
Chosen Option : **4**

Q.9 Select the most appropriate ANTONYM of the given word.

Dubious

Ans
✗ 1. Hesitant
✓ 2. Certain
✗ 3. Arguable
✗ 4. Suspect

Question ID : **8401605307**
Status : **Marked For Review**
Chosen Option : **1**

Q.10 Select the most appropriate option to fill in the blank and complete the given proverb correctly.

A cat has _____.

Ans
✗ 1. seven places
✓ 2. nine lives
✗ 3. nine homes
✗ 4. seven kittens

Question ID : **8401605312**
Status : **Answered**
Chosen Option : **3**

Q.11 Select the most appropriate synonym of the given word.

Periphery

Ans
✓ 1. Margin
✗ 2. Core
✗ 3. Centre
✗ 4. Heart

Question ID : **8401605310**
Status : **Answered**
Chosen Option : **1**

Q.12 Select the most appropriate option to fill in the blank.

I have given you a _____ account of my travels in Eastern Europe.

Ans
1. most complete
2. very complete
3. more complete
4. complete

Question ID : **8401605323**
Status : **Answered**
Chosen Option : **4**

Q.13 Select the option that is NOT an antonym of another word by way of adding the prefix 'mis-'.

Ans
1. Misappropriate
2. Misbehave
3. Misapprehend
4. Miserable

Question ID : **8401605308**
Status : **Answered**
Chosen Option : **4**

Q.14 Select the most appropriate option to fill in the blanks.

How and when the yellow 137-carat Florentine Diamond _____ to Europe is a _____ of debate.

Ans
1. arrived, material
2. reached, thing
3. land, element
4. got, matter

Question ID : **8401605317**
Status : **Answered**
Chosen Option : **2**

Q.15 Select the correctly spelt word to fill in the blank.

The young crowd went into _____ around a popular film-star.

Ans
1. histerya
2. hystitria
3. hysteria
4. histyria

Question ID : **8401605314**
Status : **Answered**
Chosen Option : **3**

Q.16 Select the most appropriate option to fill in the blank.

She _____ at Aurobindo College for the last seven years.

Ans
✔ 1. has been teaching
✘ 2. taught
✘ 3. teaches
✘ 4. had taught

Question ID : **8401605321**
Status : **Answered**
Chosen Option : **1**

Q.17 Select the most appropriate option to fill in the blank.

The dog easily jumps over the wall that separates their compound _____ ours.

Ans
✔ 1. from
✘ 2. by
✘ 3. with
✘ 4. at

Question ID : **8401605322**
Status : **Answered**
Chosen Option : **1**

Section : **Quantitative Aptitude**

Q.1 Two boxes have chocolates in the ratio 7 : 5. If the difference in the number of chocolates is 28, then the number of chocolates in the bigger box is:

Ans
✘ 1. 68
✔ 2. 98
✘ 3. 56
✘ 4. 78

Question ID : **8401605348**
Status : **Answered**
Chosen Option : **2**

Q.2 One-third of the first number is equal to two-fifth of the second number. If 32 is added to the first number, it becomes six times the second number. Find the first number.

Ans
✔ 1. 8
✘ 2. 5
✘ 3. 6
✘ 4. 7

Question ID : **8401605324**
Status : **Answered**
Chosen Option : **1**

Q.3 In an election, winning candidate got 70% of valid votes. If 15% of votes are invalid and 20% of 3,12,000 voters did not cast their votes, then the number of votes received by the losing candidate is:

Ans
✗ 1. 148512
✗ 2. 212160
✗ 3. 26520
✓ 4. 63648

Question ID : **8401605330**
Status : **Answered**
Chosen Option : **3**

Q.4 In how many different ways can the letters of the word ABSENTEE be arranged?

Ans
✗ 1. 7260
✗ 2. 6270
✗ 3. 7620
✓ 4. 6720

Question ID : **8401605346**
Status : **Answered**
Chosen Option : **4**

Q.5 A company sells laptops at a price 10% higher than the original price. As there is demand, it raises the cost again by 20%. The percentage of profit is:

Ans
✗ 1. 35%
✗ 2. 25%
✗ 3. 30%
✓ 4. 32%

Question ID : **8401605329**
Status : **Marked For Review**
Chosen Option : **3**

Q.6 Find the ratio of average marks obtained by Ramesh and Mahesh from the given table.

Student Name	English	Maths	Science
Ramesh	63	65	55
Suresh	45	66	58
Mahesh	62	54	67
Ganesh	49	98	73

Ans
✔ 1. 1 : 1
✘ 2. 2 : 1
✘ 3. 3 : 2
✘ 4. 1 : 2

Question ID : **8401605344**
Status : **Answered**
Chosen Option : **1**

Q.7 If the numerator of a fraction is increased by 15% and the denominator is decreased by 7%, then the value of the original fraction becomes $\frac{5}{3}$. The original fraction is:

Ans
✘ 1. $\frac{23}{31}$
✘ 2. $\frac{30}{23}$
✔ 3. $\frac{31}{23}$
✘ 4. $\frac{27}{23}$

Question ID : **8401605328**
Status : **Answered**
Chosen Option : **3**

Q.8 **A man deposited a certain amount in the bank for 10 years, after which the amount is doubled. The rate of interest is:**

Ans
✔ 1. 10%
✘ 2. 15%
✘ 3. 5%
✘ 4. 20%

Question ID : **8401605336**
Status : **Answered**
Chosen Option : **1**

Q.9 Find the roots of $\frac{6}{x}-\frac{2}{x-1}-\frac{1}{x-2}=0$.

Ans
✗ 1. 4, 4/3
✗ 2. 4, 3/4
✗ 3. 3, 3/4
✓ 4. 3, 4/3

Question ID : **8401605352**
Status : **Answered**
Chosen Option : **4**

Q.10 Four bells ring together and then ring at intervals of 3 seconds, 4 seconds, 6 seconds and 7 seconds, respectively. After what interval (in seconds) will the bells again ring together?

Ans
✗ 1. 126
✗ 2. 63
✗ 3. 42
✓ 4. 84

Question ID : **8401605325**
Status : **Answered**
Chosen Option : **4**

Q.11 A shopkeeper bought 12 dozen eggs at the rate of ₹4 per egg. During transit, 18 eggs were broken. He sold the remaining eggs at the rate of ₹5 per egg. Find his profit (in ₹).

Ans
✗ 1. 135
✗ 2. 130
✓ 3. 126
✗ 4. 127

Question ID : **8401605331**
Status : **Answered**
Chosen Option : **3**

Q.12 A shopkeeper weighs 900 g instead of 1 kg. By selling 5 kg sugar at the cost of ₹18 per kg, his profit earned is:

Ans
✗ 1. 7
✗ 2. 6
✓ 3. 9
✗ 4. 5

Question ID : **8401605332**
Status : **Answered**
Chosen Option : **3**

Q.13 A 326 m long train is running at a speed of 64 km/h. In how much time (in seconds) will it cross a 274 m long train moving at a speed of 80 km/h in the opposite direction?

Ans
✗ 1. 10
✗ 2. 12
✓ 3. 15
✗ 4. 18

Question ID : **8401605357**
Status : **Answered**
Chosen Option : **3**

Q.14 The average of $2, 5, 7, 9$ and x is 9 and the average of $3, 6, 8, 9$ and y is 8. Then the value of $x + y$ is:

Ans
✗ 1. 14
✗ 2. 22
✓ 3. 36
✗ 4. 28

Question ID : **8401605339**
Status : **Answered**
Chosen Option : **3**

Q.15 If three coins are tossed, then the probability of getting at least two heads is:

Ans
✗ 1. $\frac{1}{8}$
✗ 2. $\frac{1}{3}$
✓ 3. $\frac{1}{2}$
✗ 4. $\frac{1}{4}$

Question ID : **8401605350**
Status : **Answered**
Chosen Option : **3**

Q.16 A manufacturer marked the selling price of certain products at 20% above the cost price. At the time of selling, he allows a certain discount and incurs 1% loss. What is the percentage of discount allowed?

Ans
✗ 1. 16%
✗ 2. 16.5%
✗ 3. 17%
✓ 4. 17.5%

Question ID : **8401605333**
Status : **Marked For Review**
Chosen Option : **2**

Q.17 A and B invested ₹10,000 and ₹12,000 in a bank that offers 5% compound interest. The difference of interest earned by them after two years is:

Ans
✗ 1. 125
✗ 2. 230
✗ 3. 215
✓ 4. 205

Question ID : **8401605337**
Status : **Answered**
Chosen Option : **4**

Q.18 The ratio of the time taken by a boat to cover 63 km upstream to the time taken by it to cover 144 km downstream is 7 : 8. If the speed of the stream is 4.5 km/h, then in how much time can the boat cover 81 km in still water?

Ans
✗ 1. 8 hrs
✗ 2. 7 hrs
✓ 3. 6 hrs
✗ 4. 4 hrs

Question ID : **8401605341**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.19 A mixture contains milk and water in the ratio of 4:1. By adding 15 litres of water to the mixture, the ratio becomes 2:1. Find the amount of milk in the mixture.

Ans
✗ 1. 30 litres
✓ 2. 60 litres
✗ 3. 15 litres
✗ 4. 45 litres

Question ID : **8401605335**
Status : **Answered**
Chosen Option : **2**

Q.20 If the ratio of two numbers is 4:5 and their LCM is 220, then the second number is:

Ans
✗ 1. 60
✓ 2. 55
✗ 3. 50
✗ 4. 40

Question ID : **8401605334**
Status : **Answered**
Chosen Option : **2**

Q.21 A and B undertake to do a piece of work for ₹984. A alone can do it in 8 days, while B can do it in 6 days. With the help of C, both of them can finish the work in 3 days. How much of the money for the work should be paid to C?

Ans
✔ 1. 123
✘ 2. 492
✘ 3. 369
✘ 4. 234

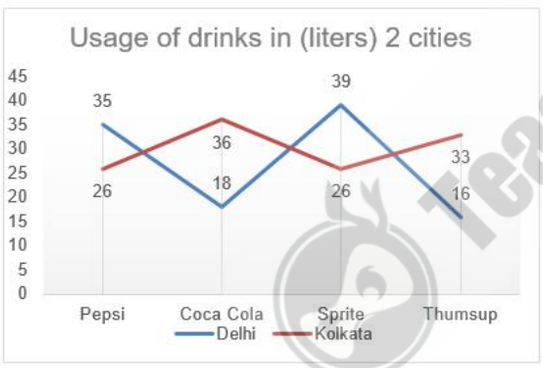
Question ID : **8401605342**
Status : **Answered**
Chosen Option : **1**

Q.22 In how many different ways can the letters of the word POLICE be arranged so that the vowels always come together?

Ans
✘ 1. 88
✔ 2. 144
✘ 3. 184
✘ 4. 96

Question ID : **8401605347**
Status : **Answered**
Chosen Option : **4**

Q.23 Study the given line graph and answer the question that follows.



Compared to Kolkata, what is the percentage increase of consumption of Sprite in Delhi?

Ans
✘ 1. 35%
✘ 2. 25%
✘ 3. 30%
✔ 4. 50%

Question ID : **8401605345**
Status : **Answered**
Chosen Option : **4**

Q.24 The total surface area of a right circular cone of slant height 17 cm is 138 π cm^2. Find the height (in cm).

Ans

✗ 1. 16.4

✗ 2. 16.8

✗ 3. 17.5

✓ 4. 15.9

Question ID : **8401605353**
Status : **Answered**
Chosen Option : **2**

Q.25 **The cost of two tables and three chairs is ₹540 while that of two tables and one chair is ₹470. What is the cost of five chairs?**

Ans

✗ 1. ₹185

✗ 2. ₹165

✓ 3. ₹175

✗ 4. ₹195

Question ID : **8401605349**
Status : **Answered**
Chosen Option : **3**

Q.26 **A software engineer travels to his office at a speed of 72 km/h and returns at a speed of 36 km/h. The average speed of his whole journey is:**

Ans

✗ 1. 46 km/h

✗ 2. 54 km/h

✗ 3. 59 km/h

✓ 4. 48 km/h

Question ID : **8401605327**
Status : **Marked For Review**
Chosen Option : **3**

Q.27 The common tangent of the two touching circles $x^2 + y^2 + 6x - 2y + 7 = 0$ and $x^2 + y^2 - 4x + 7y - 9 = 0$ is:

Ans

✗ 1. $10x - 9y - 16 = 0$

✗ 2. $10x + 9y - 16 = 0$

✗ 3. $10x + 9y + 16 = 0$

✓ 4. $10x - 9y + 16 = 0$

Question ID : **8401605355**
Status : **Answered**
Chosen Option : **4**

Q.28 A business man deposited an amount of ₹10,00,000 at 10% interest compounded half-yearly. After one year, he wishes to withdraw the amount. The interest earned is:

Ans
✗ 1. ₹1,02,050
✗ 2. ₹1,05,020
✓ 3. ₹1,02,500
✗ 4. ₹1,05,200

Question ID : **8401605338**
Status : **Answered**
Chosen Option : **4**

Q.29 A thief was noticed by a policeman. The thief started running at 9 km/h and the policeman chases him at 11 km/h. If the distance between them is 200 m, how much time will the policeman take to catch the thief?

Ans
✗ 1. 4 min
✓ 2. 6 min
✗ 3. 5 min
✗ 4. 7 min

Question ID : **8401605340**
Status : **Answered**
Chosen Option : **2**

Q.30 If $\sqrt{4+3\sqrt{2}} \times 4\sqrt{34-24\sqrt{2}}4 = k$, then the value of k lies between:

Ans
✗ 1. 1.5 and 2
✗ 2. 2.5 and 3
✓ 3. 1 and 1.5
✗ 4. 2 and 2.5

Question ID : **8401605356**
Status : **Answered**
Chosen Option : **2**

Q.31 The difference between the outside and inside surface of a 15 cm long cylindrical metallic pipe is 330 π cm^2. If the pipe is made of 7260 cm^3 of metal, find the outer radius of the pipe (in cm).

Ans
✗ 1. 13
✓ 2. 12.5
✗ 3. 13.5
✗ 4. 12

Question ID : **8401605354**
Status : **Answered**
Chosen Option : **1**

Q.32 In a class of 24 students, the average weight of 18 boys is 28 and the average weight of boys and girls is 29. The average weight of the girls is:

Ans
✔ 1. 32
✘ 2. 34
✘ 3. 36
✘ 4. 28

Question ID : **8401605326**
Status : **Marked For Review**
Chosen Option : **2**

Q.33 For what values of z will the following equation have equal roots?

$$(z+4)x^2 + (z+1)x + 1 = 0$$

Ans
✘ 1. −2, 5
✔ 2. −3, 5
✘ 3. 2, 5
✘ 4. 3, 5

Question ID : **8401605351**
Status : **Answered**
Chosen Option : **2**

Q.34 A, B and C can do a piece of work in 20, 30 and 60 days, respectively. In how many days can A do the work if he is assisted by B and C on every third day?

Ans
✔ 1. 15
✘ 2. 12
✘ 3. 13
✘ 4. 14

Question ID : **8401605343**
Status : **Answered**
Chosen Option : **3**

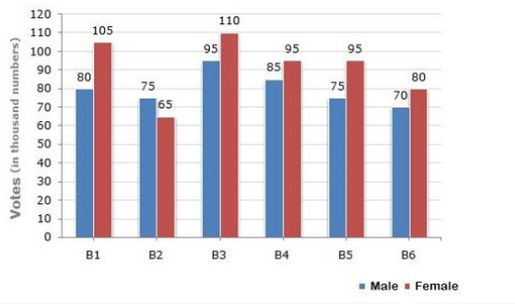
Section : **Intellectual Potential Test**

Q.1 Three people Abhimanyu, Mrinal and Vivran are standing at three different points. The distance between Mrinal and Abhimanyu is two-third of distance between Vivran and Mrinal. Mrinal lives ninety-five m away from Vivran. What is the approximate distance (rounded up to two decimal places) between Mrinal and Abhimanyu?

Ans
✔ 1. 63.33 m
✘ 2. 35.57 m
✘ 3. 31.66 m
✘ 4. 65.14 m

Question ID : **8401605387**
Status : **Answered**
Chosen Option : **3**

Q.2 The number of male and female who voted in different booths namely B1, B2, B3, B4, B5 and B6 is shown in the following graph. Study the graph and answer the question.



What percent of total male voters voted in booth 4 (rounded up to two decimal places) and what is the ratio of number of female voters who voted in booth 2 and booth 5 respectively?

Ans

✗ 1. 15.62 %, 19 : 16

✓ 2. 17.71 %, 13 : 19

✗ 3. 17.71 %, 19 : 13

✗ 4. 15.62 %, 13 : 16

Question ID : **8401605390**
Status : **Answered**
Chosen Option : **2**

Q.3 Choose the pair which is odd from the following options.

Ans

✓ 1. Clever : Apathetic

✗ 2. Crucial : Trivial

✗ 3. Minuscule : Astronomical

✗ 4. Imminent : Remote

Question ID : **8401605384**
Status : **Answered**
Chosen Option : **1**

Q.4 Adhir started walking 17 m towards the West, then turned left and walks 20 m. He again turned left to walk 17 m. He yet again turns left and walks 15 m then turns right and walks 5 m. In which direction is he standing with respect to the starting point?

Ans

✓ 1. South- east

✗ 2. North-west

✗ 3. South-west

✗ 4. North- east

Question ID : **8401605378**
Status : **Answered**
Chosen Option : **1**

Q.5 If the digits given below are arranged in ascending order, then what is the sum of the number fourth from the right and third from the left?

45, 92, 37, 81, 55, 29, 13, 68, 74, 56

Ans
✗ 1. 111
✓ 2. 105
✗ 3. 101
✗ 4. 103

Question ID : **8401605388**
Status : **Answered**
Chosen Option : **1**

Q.6 If 17th of a month falls on Friday, then what will be the day, 2 days after 2nd of the month?

Ans
✓ 1. Saturday
✗ 2. Thursday
✗ 3. Friday
✗ 4. Tuesday

Question ID : **8401605360**
Status : **Answered**
Chosen Option : **1**

Q.7 Six friends Anay, Izaan, Shray, Divit, Ryan and Prisha sat for a test. Ryan scored more than Izaan who didn't scored less than Anay. Divit scored less than Prisha. Shray scored more than Anay. Prisha didn't score more than Ryan. Study the above information and choose the option that is definitely incorrect.

Ans
✗ 1. Ryan scored more than Anay.
✗ 2. Shray scored more than Izaan.
✓ 3. Divit didn't score less than Ryan.
✗ 4. Ryan didn't score less than Prisha.

Question ID : **8401605367**
Status : **Answered**
Chosen Option : **3**

Q.8 Which number will come next in the series?

217, 223, 235, 253, 277, ?

Ans
✗ 1. 294
✓ 2. 307
✗ 3. 298
✗ 4. 303

Question ID : **8401605382**
Status : **Answered**
Chosen Option : **2**

Q.9 Select the option that is related to the third alphanumeric cluster in the same way as the second alphanumeric cluster is related to the first alphanumeric cluster.

RV7 : VO28 :: FK13 : ?

Ans
1. ID65
2. JD52
3. IC65
4. JC52

Question ID : **8401605383**
Status : **Answered**
Chosen Option : **4**

Q.10 Which number will come next in the series?

523, 532, 544, 565, 613, ?

Ans
1. 717
2. 695
3. 742
4. 673

Question ID : **8401605385**
Status : **Answered**
Chosen Option : **2**

Q.11 Tarani is mother of Niyati. Lekha is maternal grandmother of Vihaan. Vamika is wife of Arnav. Ishir is son-in-law of Lekha. Niyati is sister of Vihaan. Arnav is father-in-law of Tarani. If Lekha has only one child how is Vihaan related to Vamika?

Ans
1. Paternal grandson
2. Son
3. Nephew
4. Maternal grandson

Question ID : **8401605380**
Status : **Answered**
Chosen Option : **4**

Q.12 Six people Namya, Aria, Samidha, Shay, Piya and Yara are standing in a line. Aria is taller than Shay who is not taller than Namya. Yara is shorter than Samidha. Piya is shorter than Aria. Yara is of same height as Namya. Study the above information and choose the option that is definitely incorrect.

Ans
1. Samidha is taller than Namya.
2. Yara is not shorter than Shay
3. Shay is taller than Samidha.
4. Aria is taller than Piya.

Question ID : **8401605366**
Status : **Answered**
Chosen Option : **3**

Q.13 In a certain code 'WIDEN' is coded as 'BBIXS' then how will 'PAGER' be coded in that language?

Ans
✔ 1. UTLXW
✘ 2. VSMWX
✘ 3. VTMXX
✘ 4. USLWW

Question ID : **8401605376**
Status : **Answered**
Chosen Option : **1**

Q.14 If letters in the word 'EXPERIENCE' are rearranged in the alphabetical order, then how many letters are there which are in the same place as in the original sequence of the word?

Ans
✘ 1. 1
✘ 2. 4
✔ 3. 2
✘ 4. 3

Question ID : **8401605372**
Status : **Answered**
Chosen Option : **4**

Q.15 Study the following arrangement of letters and answer the question that follows:

M L A E X Z A O Y U K N W E I Q G U

How many vowels are there in these arrangements which are placed before a consonant?

Ans
✔ 1. 4
✘ 2. 6
✘ 3. 5
✘ 4. 3

Question ID : **8401605373**
Status : **Answered**
Chosen Option : **2**

Q.16 Select the option that will come in the place of question mark in the following word cluster series.

XCT, QKP, JSL, CAH, VID, ?

Ans
✘ 1. NQZ
✔ 2. OQZ
✘ 3. NPY
✘ 4. OPY

Question ID : **8401605370**
Status : **Answered**
Chosen Option : **2**

Q.17 Two friends Daniel and Noah started walking from the same point. Noah started walking towards east and after 25m turns right and walks 10m. He then again turns right and walks 5m. Next he turns left and walks 10 m. Meanwhile Daniel started walking towards north and after 10m he turns left and walks 6m. He now turns left again, walks another 5m and then turns right and walks 4m. Now he turns left and walks 11m. At last he again turns left and walks 4m. What is the direction of Daniel and Noah with respect to the starting point respectively?

Ans
✗ 1. South-east, South-west
✓ 2. South-west, South-east
✗ 3. North-east, North-west
✗ 4. North-west, North-east

Question ID : **8401605379**
Status : **Answered**
Chosen Option : **4**

Q.18 Eight friends Zoya, Jivin, Liya, Shyla, Manav, Parv, Shaanu and Navi are sitting around a circular table facing the centre, not necessarily in the same order. Liya is not immediate neighbour of Shaanu. Jivin is third to the left of Manav. Shaanu is second to the left of Parv. Zoya is not an immediate neighbour of either Manav or Jivin. Shaanu is to the immediate left of Zoya. Navi is third to the right of Zoya. Who is sitting second to the left of Navi?

Ans
✗ 1. Jivin
✗ 2. Shyl
✗ 3. Manav
✓ 4. Parv

Question ID : **8401605359**
Status : **Answered**
Chosen Option : **3**

Q.19 Which number will come next in the series?

149, 294, 580, 1148, 2280, ?

Ans
✗ 1. 4437
✗ 2. 4295
✗ 3. 4683
✓ 4. 4540

Question ID : **8401605386**
Status : **Answered**
Chosen Option : **4**

Q.20 Six boxes Box C, Box Q, Box P, Box M, Box T and Box L are kept one over the other not necessarily in the same order. Box P is two places above of Box T. There are two boxes between Box Q and Box C. No Box is above Box L. Box Q is third from the top. Which box is two places above Box M?

Ans
✗ 1. Box M
✗ 2. Box T
✗ 3. Box C
✓ 4. Box Q

Question ID : **8401605362**
Status : **Answered**
Chosen Option : **2**

Q.21 Khyati is Prachi's daughter. Rudra is Saksham's son-in-law. Akshara is Mukta's mother and Prachi is married to Saksham. Rudra is Namit's father and Khyati is Abir's sister. Saksham is Mukta's paternal grandfather. If Prachi has only 2 children, then how is Mukta related to Namit?

Ans
✗ 1. Mother
✓ 2. Cousin
✗ 3. Maternal aunt
✗ 4. Paternal aunt

Question ID : **8401605381**
Status : **Answered**
Chosen Option : **1**

Q.22 In a certain code 'LOVED' is coded as 'FSPIX' then how will 'SHADE' be coded in that language?

Ans
✗ 1. MNUJY
✗ 2. ONWJA
✗ 3. OLWHA
✓ 4. MLUHY

Question ID : **8401605375**
Status : **Answered**
Chosen Option : **4**

Q.23 Select the option that will come in the place of question mark in the following word cluster series.

VMF, SIO, PEX, MAG, JWP, ?

Ans
✗ 1. FTY
✗ 2. GTX
✗ 3. FSX
✓ 4. GSY

Question ID : **8401605371**
Status : **Answered**
Chosen Option : **4**

Q.24 Study the following table and answer the questions.

Students Name	Marks		
	Sem I	Sem II	Sem III
Aria	88	87	77
Lyla	70	93	89
Esme	86	59	67
Ohana	85	82	73

By what percentage (rounded up to two decimal places) the total marks in the three semesters of Aria are more than the total marks of Esme?

Ans

✗ 1. 15.60%

✗ 2. 10.62%

✓ 3. 18.87%

✗ 4. 11.50%

Question ID : **8401605391**
Status : **Answered**
Chosen Option : **4**

Q.25 **Three of the four group of letters are alike in a certain way, except one. Choose the odd one out.**

Ans

✗ 1. ZVEP

✗ 2. SOXI

✗ 3. UQZK

✓ 4. TPXJ

Question ID : **8401605374**
Status : **Answered**
Chosen Option : **3**

Q.26 **Eight person Ava, Jade, Jacob, Stella, Elias, Sofia, Austin and Luke live on eight different floors in a building. The floors are numbered from bottom as first, second and so on till eighth. Only Ava lives onthe floor between Luke and Sofia. Austin lives exactly two floors below Elias. No one lives above Jacob who lives five floors above Jade. Stella lives on the floor immediately below Austin. Sofia lives on some floor above Luke. Who lives two floors above Jade?**

Ans

✗ 1. Elias

✗ 2. Stella

✗ 3. Austin

✓ 4. Luke

Question ID : **8401605363**
Status : **Answered**
Chosen Option : **1**

Q.27 Six friends Tarun, Vibhor, Avneet, Prabha, Rohan and Diya are sitting in a row facing towards North. Tarun is towards left of Vibhor. Prabha is second to the left of Diya. Diya is sitting between Tarun and Vibhor. Avneet is not at the right end. Rohan is sitting at immediate right of Vibhor. Which of the following is sitting to the left of Prabha?

Ans
✗ 1. Tarun
✓ 2. Avneet
✗ 3. Vibhor
✗ 4. Diya

Question ID : **8401605358**
Status : **Answered**
Chosen Option : **2**

Q.28 Six friends Nimit, Kaira, Ishir, Adya, Tashi and Ramona are sitting in a park. Adya is not younger than Kaira. Ishir is not older than Tashi. Ramona is older than Adya. Kaira and Tashi are of same age. Nimit is not younger than Ishir. Study the above information and choose the option that is definitely incorrect.

Ans
✗ 1. Adya is not younger than Kaira
✗ 2. Ramona is older than Kaira
✓ 3. Kaira is younger than Ishir
✗ 4. Nimit is not older than Tashi

Question ID : **8401605368**
Status : **Answered**
Chosen Option : **3**

Q.29 In a certain code 1, 5, 3, 7, 8, 4 and 6 are coded as K, W, Z, O, D, X and L respectively.

If the last two digits of the number cluster are odd, then the first and last letter to be coded as G.

If the first two digits of the number cluster are even, then the first and last letter to be coded as B.

How will '654137' be coded in that language?

Ans
✓ 1. GWXKZG
✗ 2. BWDKZB
✗ 3. LZDKWO
✗ 4. LWXKZO

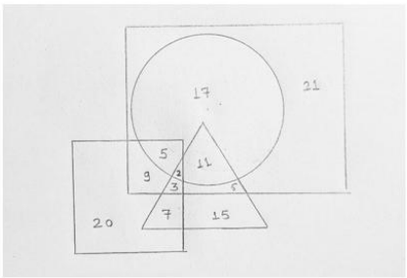
Question ID : **8401605377**
Status : **Answered**
Chosen Option : **3**

Q.30 Bhavin is ranked 7th from the top and Saira is ranked 6th from the bottom in an exam. In the next exam their position got exchanged and Saira was ranked 15th from the bottom. How many students in total gave the exams?

Ans
✗ 1. 23 students
✗ 2. 22 students
✗ 3. 20 students
✓ 4. 21 students

Question ID : **8401605361**
Status : **Answered**
Chosen Option : **2**

Q.31 In the following Venn diagram rectangle represents top wear, circle represents items with woollen clothes, triangle represents plaid design and square represents grey coloured items. Select the option which represents the number of grey woollen top wears.



Ans
✗ 1. 3
✗ 2. 2
✗ 3. 9
✓ 4. 5

Question ID : **8401605365**
Status : **Answered**
Chosen Option : **4**

Q.32 **If the positions of digit '1' is interchanged with the positions of digit '3', the positions of sign '÷' is interchanged with the positions of sign '+' and the positions of digit '7' is interchanged with the positions of digit '2' then what is the value of the given expression?**

75 x 1 ÷ 625 + 9 – 367 ÷ 29

Ans
✓ 1. 67
✗ 2. 127
✗ 3. 73
✗ 4. 91

Question ID : **8401605389**
Status : **Answered**
Chosen Option : **1**

Q.33 **Select the option that will come in the place of question mark in the following series.**

W 57, U 62, R 72, N 87, I 107 ,?

Ans
✓ 1. C 132
✗ 2. B 127
✗ 3. C 127
✗ 4. B 132

Question ID : **8401605369**
Status : **Answered**
Chosen Option : **2**

Q.34 Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statements:
1. All boots are loafers.
2. Some boots are heels.

Conclusions:
I- Some loafers are heels.
II- All heels are loafers.

Ans
✗ 1. Only conclusion II follows
✗ 2. Both conclusions I and II follows
✓ 3. Only conclusion I follows
✗ 4. Neither of the conclusions follows

Question ID : **8401605364**
Status : **Answered**
Chosen Option : **2**

Section : **Domain Knowledge**

Q.1 What is the free-fallheight of a hammer in standard penetration test?

Ans
✓ 1. 75cm
✗ 2. 70cm
✗ 3. 55cm
✗ 4. 65cm

Question ID : **8401605442**
Status : **Answered**
Chosen Option : **1**

Q.2 What is the design period for pipe connections to the several treatment units in a water supply scheme?

Ans
✗ 1. 32 years
✗ 2. 50 years
✓ 3. 30 years
✗ 4. 15 years

Question ID : **8401605412**
Status : **Answered**
Chosen Option : **3**

Q.3 Orifice type viscometer is used to find the _____ in an experiment.

Ans
✗ 1. density of fluid
✗ 2. coefficient of discharge of fluid
✗ 3. viscosity of fluid
✓ 4. coefficient of viscosity of fluid

Question ID : **8401605399**
Status : **Answered**
Chosen Option : **3**

Q.4 **In secondary triangulation, the maximum triangle closure is:**

Ans

✗ 1. 10 sec

✗ 2. 3 sec

✓ 3. 8 sec

✗ 4. 12 sec

Question ID : **8401605470**
Status : **Marked For Review**
Chosen Option : **1**

Q.5 **Which of the following statements to setup the theodolite at intermediate points on the curve is/are correct?**

1)When the point of curve is visible from the intermediate point.
2)When the point of curve is not visible from the intermediate point.

Ans

✗ 1. Statements 1 and 2 are incorrect

✗ 2. Statements 1 and 2 are correct

✓ 3. Statement 1 is incorrect, but statement 2 is correct

✗ 4. Statement 1 is correct,but statement 2 is incorrect

Question ID : **8401605469**
Status : **Answered**
Chosen Option : **3**

Q.6 A prestressed beam carrying an external load W with a bent tendon has angle of inclination 'θ' and prestressed load 'P'.
The net downward load at the centre is:

Ans

✓ 1. $W - 2P \sin \theta$

✗ 2. $W - P \cos \theta$

✗ 3. $W - P \sin \theta$

✗ 4. $W - 2P \cos \theta$

Question ID : **8401605473**
Status : **Answered**
Chosen Option : **1**

Q.7 **The colour of water is determined by using:**

Ans

✗ 1. a turbidity meter

✓ 2. a tintometer

✗ 3. a nephelometer

✗ 4. an incubator

Question ID : **8401605417**
Status : **Answered**
Chosen Option : **2**

Q.8 **Among the following triangulations, which has the highest order and most precise control points?**

Ans
✔ 1. First order
✘ 2. Fourth order
✘ 3. Third order
✘ 4. Second order

Question ID : **8401605472**
Status : **Answered**
Chosen Option : **1**

Q.9 **For which of the following beam conditions is the degree of redundancy 2?**

Ans
✔ 1. Fixed beam with half the beam under vertical uniform distributed load.
✘ 2. One end is fixed the other is free beam with half the beam under vertical uniform varying load.
✘ 3. Cantilever beam with half the beam under verticalpoint load.
✘ 4. Simply supported beam with full the beam under moment.

Question ID : **8401605449**
Status : **Answered**
Chosen Option : **1**

Q.10 **In the dynamics of fluid flow,the flow is said to be ideal if:**

Ans
✘ 1. $\text{viscous force} > 1$
✘ 2. $\text{viscous force} = \infty$
✔ 3. $\text{viscous force} = 0$
✘ 4. $\text{viscous force} < 1$

Question ID : **8401605396**
Status : **Answered**
Chosen Option : **3**

Q.11 **Which of the following statements in the context of capillary pressure in soils is NOT true?**

Ans
✔ 1. Capillary pressure is more in coarse grained soils
✘ 2. Effective stress increases due to capillary zone
✘ 3. Water is under tension in capillary zone
✘ 4. Pore water pressure is negative in capillary zone

Question ID : **8401605431**
Status : **Answered**
Chosen Option : **1**

Q.12 The centroid of a quarter circle is:

Ans

✔ 1. $\frac{4R}{3\pi}$

✘ 2. $\frac{R}{3\pi}$

✘ 3. $\frac{3R}{4\pi}$

✘ 4. $\frac{2R}{3\pi}$

Question ID : **8401605458**
Status : **Marked For Review**
Chosen Option : **4**

Q.13 Pulverising of solid waste refuse is done by using:

Ans

✘ 1. digesters

✔ 2. rasping machines

✘ 3. separators

✘ 4. trenches

Question ID : **8401605427**
Status : **Marked For Review**
Chosen Option : **2**

Q.14 The flood discharge adopted for design of a structure after careful consideration of economic and hydrologic factors is known as:

Ans

✘ 1. peak flood

✔ 2. design flood

✘ 3. maximum probable flood

✘ 4. minimum probable flood

Question ID : **8401605406**
Status : **Marked For Review**
Chosen Option : **3**

Q.15 The most commonly used landfill sealants for control of gas and leachate movement is:

Ans

✘ 1. recovery wells

✘ 2. barriers with fine silt

✘ 3. concrete lining

✔ 4. bentonites and illites

Question ID : **8401605419**
Status : **Answered**
Chosen Option : **2**

Q.16 The branch that deals with the study of surface water streams is called:

Ans
✔ 1. potamology
✘ 2. streamology
✘ 3. hydrology
✘ 4. limnology

Question ID : **8401605404**
Status : **Answered**
Chosen Option : **3**

Q.17 The following statements are related to a contour canal.

i) A contour canal does not follow the same contour line along.
ii) It irrigates on both side
iii) It irrigates the area only on one side of it, the other side being at higher elevation.
iv) It is aligned normally to contours.

Select the correct statement(s).

Ans
✘ 1. (i),(ii),(iii)
✔ 2. Both (i)and (iii)
✘ 3. Only (iv)
✘ 4. Only (i)

Question ID : **8401605407**
Status : **Answered**
Chosen Option : **2**

Q.18 According to particle size distribution curve, if the value of coefficient of uniformity (Cu) is greater than 6 and coefficient of curvature (Cc) is between 1 and 3. then it is classified as:

Ans
✘ 1. poorly graded sand
✘ 2. poorly graded gravel
✔ 3. well graded sand
✘ 4. well graded gravel

Question ID : **8401605448**
Status : **Answered**
Chosen Option : **3**

Q.19 Intermittent sedimentation tanks are also called:

Ans
✘ 1. horizontal flow break up tanks
✘ 2. intermittent settling tank
✔ 3. quiescent type settling tank
✘ 4. continuous settling tank

Question ID : **8401605425**
Status : **Marked For Review**
Chosen Option : **4**

Q.20 According to IS 456-2000, in the method of design mix concrete for an RCC structure, what will be the target mean strength of concrete if the mean characteristic strength is 35MPa with a standard deviation of 6 N/mm^2?

Ans

✔ 1. 44.9 MPa

✘ 2. 35 MPa

✘ 3. 35.77 MPa

✘ 4. 25 MPa

Question ID : **8401605457**
Status : **Answered**
Chosen Option : **1**

Q.21 In a particle size analysis, a steep grain size distribution curve represents:

Ans

✘ 1. grains of all sizes

✘ 2. non uniform grain sizes

✔ 3. more uniform grain sizes

✘ 4. grain sizes from two representative fractions

Question ID : **8401605434**
Status : **Answered**
Chosen Option : **3**

Q.22 The width of a test pit for a plate load test is:

Ans

✘ 1. 3 times the width of the plate

✘ 2. 2 times the width of the plate

✔ 3. 5 times the width of the plate

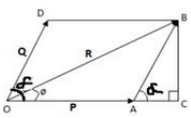
✘ 4. 2.5 times the width of the plate

Question ID : **8401605443**
Status : **Answered**
Chosen Option : **3**

Q.23 In law of parallelogram of forces shown in the figure, the expression for magnitude of resultant (R) is given by:

Where, P and Q are forces acting at a point O

$\propto$ = angle between two forces



Ans

✔ 1. $R=\sqrt{P^2+Q^2+2PQcos\propto}$

✘ 2. $R=\sqrt{P+Q+2PQsin\propto}$

✘ 3. $R=\sqrt{P+Q+2PQcos\propto}$

✘ 4. $R=\sqrt{P^2+Q^2+2PQsin\propto}$

Question ID : **8401605459**
Status : **Answered**
Chosen Option : **1**

Q.24 The shape factor of a standard hollow circular pipe section is

Ans

✘ 1. 1.32

✔ 2. 1.27

✘ 3. 1.2

✘ 4. 1.1

Question ID : **8401605456**
Status : **Marked For Review**
Chosen Option : **4**

Q.25 In the moment distribution method, the sum of distribution factors for all the members meeting at a joint is always:

Ans

✘ 1. greater than one

✔ 2. equal to one

✘ 3. lesser than one

✘ 4. equal to zero

Question ID : **8401605461**
Status : **Answered**
Chosen Option : **2**

Q.26 The phenomenon of strength loss – strength gain with no change in volume or water content is called:

Ans
✗ 1. quick sand
✗ 2. sensitivity
✓ 3. thixotropy
✗ 4. liquefaction

Question ID : **8401605433**
Status : **Answered**
Chosen Option : **3**

Q.27 Which of the following is a Bazin's formula for discharge 'Q' over a rectangular weir length 'L' and height of water 'h'?

Ans
✗ 1. $Q = \frac{2}{3} C_d \sqrt{2gL}\, H^{\frac{3}{2}}$
✗ 2. $Q = L \times B \sqrt{2g} H^{\frac{3}{2}}$
✗ 3. $Q = C_d \sqrt{2gH}$
✓ 4. $Q = \frac{2}{3} C_d L \sqrt{2g} H^{\frac{3}{2}}$

Question ID : **8401605397**
Status : **Answered**
Chosen Option : **4**

Q.28 What is a geological formation that neither contains nor transmits water known as?

Ans
✗ 1. Aquifer
✗ 2. Aquiclude
✓ 3. Aquifuge
✗ 4. Aquitard

Question ID : **8401605410**
Status : **Answered**
Chosen Option : **3**

Q.29 As per IS 456:2000, which grade of concrete has a tensile stress of 3.2 N/mm^2 under limit state method?

Ans
✗ 1. M30
✗ 2. M20
✓ 3. M25
✗ 4. M15

Question ID : **8401605454**
Status : **Answered**
Chosen Option : **3**

Q.30 According to IS 800-2007,the nominal shear capacity of M20 bolt of grade 4.6 with one shear plane passing through bolt shank and one shear plane passing through threaded portion is:

Ans
✔ 1. 129.14 kN
✘ 2. 56.21 kN
✘ 3. 45.27 kN
✘ 4. 117.52 kN

Question ID : **8401605453**
Status : **Marked For Review**
Chosen Option : **4**

Q.31 Looping plume occurs in which environment condition?

Ans
✘ 1. Lapse rate environment
✘ 2. Diffused environment
✘ 3. Adiabatic environment
✔ 4. Super adiabatic environment

Question ID : **8401605422**
Status : **Answered**
Chosen Option : **4**

Q.32 The design period for the electric motor and pumps of a water supply scheme is:

Ans
✔ 1. 15 years
✘ 2. 25 years
✘ 3. 50years
✘ 4. 30 years

Question ID : **8401605413**
Status : **Answered**
Chosen Option : **1**

Q.33 Which of the following are NOT kinds of errors?

Ans
✘ 1. Mistakes
✘ 2. Compensations
✘ 3. Cumulations
✔ 4. Discrepancies

Question ID : **8401605465**
Status : **Marked For Review**
Chosen Option : **4**

Q.34 In the stiffness matrix method of structure analysis,the quantity taken as redundant is:

Ans
✔ 1. both rotation and deflection
✘ 2. rotation
✘ 3. only deflection
✘ 4. deflection

Question ID : **8401605462**
Status : **Answered**
Chosen Option : **1**

Q.35 For a dense sandy soil, the value of N is:

Ans
✔ 1. 31 – 50
✘ 2. 5 – 10
✘ 3. 11 – 30
✘ 4. >50

Question ID : **8401605445**
Status : **Answered**
Chosen Option : **1**

Q.36 Lime stabilisation is very effective in treating:

Ans
✘ 1. sand
✘ 2. gravel
✔ 3. plastic clayey soils
✘ 4. silty soil

Question ID : **8401605439**
Status : **Answered**
Chosen Option : **3**

Q.37 Dental caries in children is observed when the fluoride level in drinking water is:

Ans
✔ 1. less than 1.0 mg/l
✘ 2. Between 1 mg/l to 2 mg/l
✘ 3. less than 0.2 mg/l
✘ 4. more than 2 mg/l

Question ID : **8401605415**
Status : **Answered**
Chosen Option : **2**

Q.38 Clay having sensitivity greater than 16 is known as:

Ans
✘ 1. quick clay
✘ 2. extra sensitive
✘ 3. sensitive
✔ 4. insensitive

Question ID : **8401605441**
Status : **Answered**
Chosen Option : **1**

Q.39 **Sedimentation is the method adopted for removing _____ from water.**

Ans
✗ 1. dissolved oxygen

✓ 2. bushes, debris and wood

✗ 3. nitrates and sulphates

✗ 4. dissolved solids

Question ID : **8401605411**
Status : **Answered**
Chosen Option : **3**

Q.40 **Photochemical smog is brown in colour so it is called 'brown air smog'.This brown colour is due to the presence of:**

Ans
✗ 1. So_x

✗ 2. Co_2

✗ 3. $So_2.H_2SO_4$

✓ 4. No_x

Question ID : **8401605423**
Status : **Answered**
Chosen Option : **1**

Q.41 **In the analysis of unseeded domestic waste water BOD test, the data used is 6ml of waste in a 300ml bottle, initial DO of 8mg/l and 5 day DO is 4mg/l. Compute 5day BOD of waste water.**

Ans
✗ 1. 220 mg/l

✗ 2. 150 mg/l

✗ 3. 145 mg/l

✓ 4. 200 mg/l

Question ID : **8401605420**
Status : **Answered**
Chosen Option : **4**

Q.42 In the design of a straight glacier fall, the minimum clear length of the crest for >3m drop is _____.

Ans
✗ 1. 65%

✓ 2. 85%

✗ 3. 30%

✗ 4. 50%

Question ID : **8401605409**
Status : **Marked For Review**
Chosen Option : **1**

Q.43 The area ratio for soft sensitive clay soil is:

Ans
✗ 1. <20%
✗ 2. >20%
✓ 3. <10%
✗ 4. >10%

Question ID : **8401605446**
Status : **Answered**
Chosen Option : **3**

Q.44 A rectangular tank 1m × 3m lies in a vertical plane in water. Calculate the total pressure on the plane surface.

Ans
✓ 1. 44145 kN
✗ 2. 84950 kN
✗ 3. 45150 kN
✗ 4. 88290 kN

Question ID : **8401605395**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.45 If 5 litres of water is removed from an evaporation pan of diameter 2 m and simultaneous rainfall measurement is 9 mm, then what is the evaporation?

Ans
✗ 1. 6.91 mm
✗ 2. 6.41 mm
✗ 3. 8.1 mm
✓ 4. 7.41 mm

Question ID : **8401605405**
Status : **Answered**
Chosen Option : **4**

Q.46 Absolute pressure (Pab) is calculated by the equation:

Ans
✓ 1. Atmospheric pressure + Gauge pressure
✗ 2. Gauge pressure – Atmospheric pressure
✗ 3. Atmospheric pressure –Gauge pressure
✗ 4. Atmospheric pressure + Gauge pressure + Datum pressure

Question ID : **8401605394**
Status : **Answered**
Chosen Option : **1**

Q.47 If the permissible compressive stress for concrete in bending is C kg/m^2, the modular ratio is:

Ans

✔ 1. $\frac{2800}{3C}$

✘ 2. $\frac{2800}{2C}$

✘ 3. $\frac{2800}{C^2}$

✘ 4. $\frac{2800}{C}$

Question ID : **8401605475**
Status : **Answered**
Chosen Option : **1**

Q.48 **What is the acceptable noise level for suburban areas, as per IS code 4954-1968?**

Ans

✘ 1. 45 – 55 db

✔ 2. 30 – 40 db

✘ 3. 20 – 30 db

✘ 4. 25 – 30 db

Question ID : **8401605428**
Status : **Answered**
Chosen Option : **2**

Q.49 In a glass tube of dia 'd', the capillary rise or fall (h) of a liquid, where surface cohesion is σ, angle of contact is 'θ' is given by the equation:

Ans

✘ 1. $h=w\cos\theta/d$

✘ 2. $h=4\cos\theta/d$

✔ 3. $h=4\sigma\cos\theta/w\alpha$

✘ 4. $h=flv/d$

Question ID : **8401605392**
Status : **Answered**
Chosen Option : **3**

Q.50 **In permanent adjustment of levels, two peg test is done to correct:**

Ans

✔ 1. line of collimation

✘ 2. level tube

✘ 3. cross hair ring and line of collimation

✘ 4. cross hair ring

Question ID : **8401605467**
Status : **Answered**
Chosen Option : **2**

Q.51 **Cohesive soil yields a maximum dry density of 1.8g/cc during a standard proctor test. If the specific gravity is 2.65, then what would be its void ratio? Take density of water as 1g/cc.**

Ans

✗ 1. 0.572

✗ 2. 0.583

✗ 3. 0.624

✓ 4. 0.472

Question ID : **8401605432**
Status : **Answered**
Chosen Option : **4**

Q.52 **The temperature correction applied to hydrometer reading is:**

Ans

✗ 1. always negative

✓ 2. either positive or negative

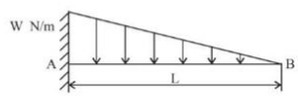
✗ 3. always positive

✗ 4. neutral

Question ID : **8401605447**
Status : **Answered**
Chosen Option : **2**

Q.53 The maximum deflection at the free end of the cantilever beam of length (L) subjected to uniformly varying load (W per unit length) as shown in the figure is:

Where, EI is flexural rigidity.



Ans

✗ 1. $WL^3/48EI$

✓ 2. $WL^4/30EI$

✗ 3. $WL^4/48EI$

✗ 4. $WL^3/8EI$

Question ID : **8401605451**
Status : **Answered**
Chosen Option : **2**

Q.54 **In 1 in 30 model of a spillway, the velocity and discharge are 3 m/s. The corresponding velocity in the prototype is:**

Ans

✓ 1. 16.43 m/s

✗ 2. 12.65 m/s

✗ 3. 15.5 m/s

✗ 4. 9 m/s

Question ID : **8401605398**
Status : **Marked For Review**
Chosen Option : **4**

Q.55 The point of contraflexure is the point where:

Ans

✗ 1. bending moment is maximum

✗ 2. bending moment is minimum

✗ 3. shear force is zero

✓ 4. bending moment changes sign

Question ID : **8401605455**
Status : **Answered**
Chosen Option : **4**

Q.56 In wind velocity, the meteorological parameter is measured by which instrument?

Ans

✗ 1. Barometer

✗ 2. Hydrograph

✓ 3. Anemometer

✗ 4. Lysimeter

Question ID : **8401605403**
Status : **Answered**
Chosen Option : **3**

Q.57 For which purpose of survey is the scale of 1cm=5m to 0.5km used?

Ans

✓ 1. Cadastral maps

✗ 2. Location surveys

✗ 3. Building sites

✗ 4. Town planning

Question ID : **8401605464**
Status : **Answered**
Chosen Option : **3**

Q.58 What is the continuity equation for compressible fluid?

Ans

✓ 1. $\rho_1 A_1 Q_1 = \rho_2 A_2 Q_2$

✗ 2. $[\rho_1 A_1 V_1]^2 = [\rho_2 A_2 V_2]^2$

✗ 3. $\rho_1 A_1 V_1 = \rho_2 A_2 V_2$

✗ 4. $\rho_1 V_1 = \rho_2 V_2$

Question ID : **8401605400**
Status : **Answered**
Chosen Option : **3**

Q.59 Orthotolidine test is used to determine:

Ans

✗ 1. hardness of water

✗ 2. residual chloride in water

✓ 3. sulphades in water

✗ 4. nitrogen in water

Question ID : **8401605418**
Status : **Answered**
Chosen Option : **2**

Q.60 In the design of water supply pipe networks, dead end type of distribution network is also known as:

Ans

✓ 1. tree system

✗ 2. radial system

✗ 3. ring system

✗ 4. grid iron system

Question ID : **8401605416**
Status : **Answered**
Chosen Option : **1**

Q.61 The sum of the interior angles in a closed traverse is equal to:

Ans

✗ 1. $(2N+5)$

✗ 2. $(2N-1)$

✗ 3. $(2N+4)$

✓ 4. $(2N-4)$

Question ID : **8401605466**
Status : **Answered**
Chosen Option : **4**

Q.62 General shear failure occurs in:

Ans

✗ 1. dense sand

✓ 2. both dense sand and stiff clay

✗ 3. stiff clay

✗ 4. loose sand

Question ID : **8401605438**
Status : **Answered**
Chosen Option : **4**

Q.63 A sample of sand above water table was found to have a natural moisture content of 15% and a unit weight of 18.84kN/m3. Laboratory tests on a dried sample indicated values of 0.5 and 0.85for minimum and maximum void ratios, respectively for densest and loosest states. Calculate the degree of saturation and the relative density. Assume G = 2.65

Ans
✗ 1. 75.14%, 67.74% ,
✓ 2. 67.74% , 75.14%
✗ 3. 50.74% , 60.14%
✗ 4. 60.74% , 70.14%

Question ID : **8401605471**
Status : **Answered**
Chosen Option : **2**

Q.64 What is the wavelength of Thermal-IR in electromagnetic spectrum of sunlight?

Ans
✗ 1. 0.7 to $1.00\ \mu m$
✗ 2. 0.3 to $0.4\ \mu m$
✓ 3. 3 to $5\ \mu m$
✗ 4. 0.1 to $30\ \mu m$

Question ID : **8401605468**
Status : **Answered**
Chosen Option : **2**

Q.65 Which statement is correct for design of beams.

[A] The neutral axis passes through the centroid of the beam section when material follows Hooke's law.
[B] The beam section is subjected tolongitudinal force.

Ans
✗ 1. Statements [A] and [B] both are false
✗ 2. Statements [A] and [B] both are true
✗ 3. Statement [A] is false,but [B] is true
✓ 4. Statement [A] is true,but [B] is false

Question ID : **8401605452**
Status : **Answered**
Chosen Option : **4**

Q.66 Silicosis is caused by which industry?

Ans
✗ 1. Textile industry
✓ 2. Stone crushers
✗ 3. Sugar industry
✗ 4. Distillery industry

Question ID : **8401605421**
Status : **Answered**
Chosen Option : **2**

Q.67 According to IS classification system (plasticity chart), soil that falls above A-line and having liquid limit of 40 is:

Ans
✗ 1. CH
✗ 2. MI
✓ 3. CI
✗ 4. CL

Question ID : **8401605435**
Status : **Answered**
Chosen Option : **3**

Q.68 Mechanical stabilisation is:

Ans
✗ 1. addition of cementing material to soils
✗ 2. addition of limes to soils
✓ 3. mixing of two or more types of natural soils
✗ 4. addition of chemicals to soils

Question ID : **8401605440**
Status : **Answered**
Chosen Option : **3**

Q.69 'The rate of increase of pressure in a vertically downward direction is equal to weight density of the fluid at that point', is stated by:

Ans
✓ 1. hydrostatic law
✗ 2. Pascal's law
✗ 3. Archimedes' Principle
✗ 4. isothermal law

Question ID : **8401605393**
Status : **Answered**
Chosen Option : **1**

Q.70 The most economical and hygienic rural privy is:

Ans
✓ 1. aquo privy
✗ 2. soak pit
✗ 3. cess pool
✗ 4. privy pet

Question ID : **8401605430**
Status : **Answered**
Chosen Option : **4**

Q.71 **Undisturbed soil samples are required for:**

Ans
✔ 1. consolidation test
✘ 2. specific gravity test
✘ 3. shrinkage limit test
✘ 4. hydrometer test

Question ID : **8401605436**
Status : **Answered**
Chosen Option : **1**

Q.72 **How many types of EDM instruments are there based on wavelength?**

Ans
✔ 1. 3
✘ 2. 5
✘ 3. 1
✘ 4. 4

Question ID : **8401605476**
Status : **Answered**
Chosen Option : **4**

Q.73 **The moment of inertia of a hollow circular section about its centroidal axis is:**

Where, D = diameter of outer circle
d = diameter of inner circle

Ans
✘ 1. $\frac{\pi(d^4 + \mathrm{D}^4)}{64}$

✔ 2. $\frac{\pi(D^4 - d^4)}{64}$

✘ 3. $\frac{\pi(d^4 + \mathrm{D}^4)}{32}$

✘ 4. $\frac{\pi(D^3 - \mathrm{d}^3)}{12}$

Question ID : **8401605460**
Status : **Answered**
Chosen Option : **2**

Q.74 Safe bearing capacity of coarse sand, compact and dry, according to National Building Code of India (2016) is:

Ans
✔ 1. $440kN/m^2$
✘ 2. $640kN/m^2$
✘ 3. $880\ kN/m^2$
✘ 4. $540kN/m^2$

Question ID : **8401605444**
Status : **Answered**
Chosen Option : **2**

Q.75 In a pile foundation, the negative skin friction is developed by:

Ans
✘ 1. compaction of soil
✘ 2. upward movement of soil
✔ 3. downward movement of soil
✘ 4. displacement of soil

Question ID : **8401605437**
Status : **Answered**
Chosen Option : **3**

Q.76 According to India's environmental impact assessment notification 2006,category-B projects need environmental clearance from the:

Ans
✔ 1. State Environment Impact Assessment Authority
✘ 2. Union Territory Pollution Control Committee
✘ 3. Ministry of Environment and Forest
✘ 4. Central Environment Impact Assessment Authority

Question ID : **8401605429**
Status : **Answered**
Chosen Option : **4**

Q.77 The relation between tangential velocity (v) and radius (r) is given by:

Ans
✔ 1. $\frac{v}{r}$ = constant for forced vortex
✘ 2. v × r = constant for forced vortex
✘ 3. $\frac{v}{r}$ = constant for free vortex
✘ 4. v×r^2 = constant for free vortex

Question ID : **8401605401**
Status : **Answered**
Chosen Option : **1**

Q.78 Compute the total depth of water for wheat crop if the duty at field is 700 ha/cumec and the base period is 360days.

Ans
✗ 1. 3.88 m
✓ 2. 4.44 m
✗ 3. 4.85 m
✗ 4. 4.04 m

Question ID : **8401605408**
Status : **Answered**
Chosen Option : **2**

Q.79 The most suitable section for a steel column is:

Ans
✗ 1. both ISLB and ISMB
✓ 2. ISHB
✗ 3. ISMB
✗ 4. ISLB

Question ID : **8401605474**
Status : **Answered**
Chosen Option : **2**

Q.80 What is the perforation of fine screen used in the removal of suspended solid from sewage?

Ans
✗ 1. 0.8 – 1mm
✓ 2. 1.5 – 3.5cm
✗ 3. 1 – 1.5mm
✗ 4. 1.5 – 3mm

Question ID : **8401605426**
Status : **Answered**
Chosen Option : **3**

Q.81 If length is measured by using a wrong scale, then the true correct length of the line is given by:

Ans
✗ 1. Correct length = $\frac{RF\ of\ wrong\ scale}{RF\ of\ correct\ scale} \times$ Measured area
✗ 2. Correct length = $\frac{RF\ of\ wrong\ scale}{RF\ of\ correct\ scale}$
✗ 3. Correct length = $\left(\frac{RF\ of\ wrong\ scale}{RF\ of\ correct\ scale}\right)^2 \times$ Measured length
✓ 4. Correct length = $\frac{RF\ of\ wrong\ scale}{RF\ of\ correct\ scale} \times$ Measured length

Question ID : **8401605463**
Status : **Answered**
Chosen Option : **4**

Q.82 In the estimation of evaporation potential of catchment areas, the duration of sunshine in a day is recorded by which instrument?

Ans
✗ 1. Sunshine meter
✗ 2. Sunshine duration recorder
✗ 3. Radiometer
✓ 4. Sunshine recorder

Question ID : **8401605402**
Status : **Answered**
Chosen Option : **2**

Q.83 Which of the following processes is adopted for the conversion of salt water into freshwater?

Ans
✗ 1. Filtration
✗ 2. Coagulation
✓ 3. Desalination
✗ 4. Freezing

Question ID : **8401605414**
Status : **Answered**
Chosen Option : **3**

Q.84 Self-purification constant of impounding reservoirs varies between:

Ans
✗ 1. 2 – 3
✗ 2. 1 – 1.6
✗ 3. 0.5 – 1
✓ 4. 1 – 1.5

Question ID : **8401605424**
Status : **Answered**
Chosen Option : **4**

Q.85 The coefficient of friction is _____ for ideal smooth surfaces like glass.

Ans
✗ 1. 1.0
✗ 2. infinity
✗ 3. 1.5
✓ 4. zero

Question ID : **8401605450**
Status : **Answered**
Chosen Option : **4**