

HPCL Engineer

**Previous Year Paper
(Civil) 04 Nov 2022**



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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 challenges / 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 challenges
 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

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

There have been many attempts over the centuries to find this 'hidden library,' but archaeologists have come up empty-handed.
The library of the Moscow Tsars supposedly contained a vast collection of ancient manuscripts as well as texts written in a variety of other languages.
It was not until Ivan IV, better known as Ivan the Terrible, who lived from 1530 to 1584, that he is said to have hidden the library's texts.
The Grand Duchy of Moscow supposedly had built the library by 1518.

Question ID : 8401605316
Status : Answered
Chosen Option : 4

Most appropriate ANTONYM of the given word.

Intelligent
Inventive
Bleeding
Constructive

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

Most appropriate option to fill in the blank and complete the given proverb.

places
lives
comes
kittens

Question ID : 8401605312
Status : Answered
Chosen Option : 3

Most appropriate synonym of the given word.

Enthusiasm

most appropriate option to fill in the blank.

you a _____ account of my travels in Eastern Europe.

complete

omplete

complete

lete

Question ID : 8401605323

Status : Answered

Chosen Option : 4

option that is NOT an antonym of another word by way of adding the prefix

ppropriate

have

pprehend

able

Question ID : 8401605308

Status : Answered

Chosen Option : 4

most appropriate option to fill in the blanks.

in the yellow 137-carat Florentine Diamond _____ to Europe is a
brite.

l, material

ed, thing

element

natter

Question ID : 8401605317

Status : Answered

Chosen Option : 2

orrectly spelt word to fill in the blank.

rowd went into _____ around a popular film-star.

ya

ria

ria

ia

Question ID : 8401605314

Status : Answered

Chosen Option : 3

most appropriate option to fill in the blank.

at Aurobindo College for the last seven years.

been teaching

t

es

ught

Question ID : 8401605321
Status : Answered
Chosen Option : 1

most appropriate option to fill in the blank.

ily jumps over the wall that separates their compound _____ ours.

Question ID : 8401605322
Status : Answered
Chosen Option : 1

re Aptitude

ave chocolates in the ratio 7 : 5. If the difference in the number of
s 28, then the number of chocolates in the bigger box is:

Question ID : 8401605348
Status : Answered
Chosen Option : 2

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

Question ID : 8401605324
Status : Answered
Chosen Option : 1

n, winning candidate got 70% of valid votes. If 15% of votes are invalid and 100 voters did not cast their votes, then the number of votes received by the winning candidate is:

2

10

1

3

Question ID : 8401605330
Status : Answered
Chosen Option : 3

How many different ways can the letters of the word ABSENTEE be arranged?

Question ID : 8401605346
Status : Answered
Chosen Option : 4

A shop sells laptops at a price 10% higher than the original price. As there is a 10% increase in the cost again by 20%. The percentage of profit is:

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

Ratio of average marks obtained by Ramesh and Mahesh from the given table.

English	Maths	Science
63	65	55
45	66	58
62	54	67
49	98	73

Question ID : 8401605344
Status : Answered
Chosen Option : 1

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

Question ID : 8401605328
Status : Answered
Chosen Option : 3

A person deposited a certain amount in the bank for 10 years, after which the amount is increased by 20%. The rate of interest is:

Question ID : 8401605336
Status : Answered
Chosen Option : 1

roots of $\frac{6}{x} - \frac{2}{x-1} - \frac{1}{x-2} = 0$.

Question ID : 8401605352
Status : Answered
Chosen Option : 4

ing together and then ring at intervals of 3 seconds, 4 seconds, 6 seconds
s, respectively. After what interval (in seconds) will the bells again ring

Question ID : 8401605325
Status : Answered
Chosen Option : 4

er bought 12 dozen eggs at the rate of ₹4 per egg. During transit, 18 eggs
i. He sold the remaining eggs at the rate of ₹5 per egg. Find his profit (in

Question ID : 8401605331
Status : Answered
Chosen Option : 3

er weighs 900 g instead of 1 kg. By selling 5 kg sugar at the cost of ₹18
ofit earned is:

Question ID : 8401605332
Status : Answered
Chosen Option : 3

A train is running at a speed of 64 km/h. In how much time (in seconds) will a 4 m long train moving at a speed of 80 km/h in the opposite direction?

Question ID : 8401605357
Status : Answered
Chosen Option : 3

If 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:

Question ID : 8401605339
Status : Answered
Chosen Option : 3

Two coins are tossed, then the probability of getting at least two heads is:

Question ID : 8401605350
Status : Answered
Chosen Option : 3

A merchant 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?

Question ID : 8401605333
Status : Marked For Review

sted ₹10,000 and ₹12,000 in a bank that offers 5% compound interest. The
f interest earned by them after two years is:

Question ID : 8401605337
Status : Answered
Chosen Option : 4

he time taken by a boat to cover 63 km upstream to the time taken by it to
n downstream is 7 : 8. If the speed of the stream is 4.5 km/h, then in how
an the boat cover 81 km in still water?

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

ntains milk and water in the ratio of 4:1. By adding 15 litres of water to the
ratio becomes 2:1. Find the amount of milk in the mixture.

es
es
es
es

Question ID : 8401605335
Status : Answered
Chosen Option : 2

two numbers is 4:5 and their LCM is 220, then the second number is:

Question ID : 8401605334
Status : Answered
Chosen Option : 2

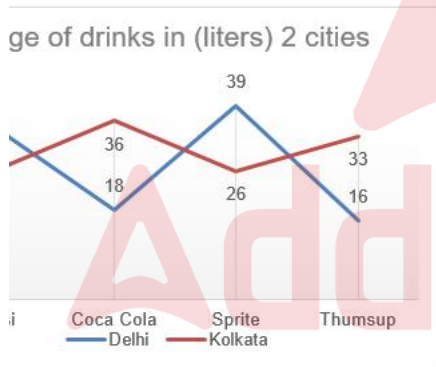
take to do a piece of work for ₹984. A alone can do it in 8 days, while B 6 days. With the help of C, both of them can finish the work in 3 days. How much money for the work should be paid to C?

Question ID : 8401605342
Status : Answered
Chosen Option : 1

different ways can the letters of the word POLICE be arranged so that the vowels come together?

Question ID : 8401605347
Status : Answered
Chosen Option : 4

Given line graph and answer the question that follows.



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

Question ID : 8401605345
Status : Answered
Chosen Option : 4

The area of a right circular cone of slant height 17 cm is $138\pi \text{ cm}^2$. Find the height (in cm).

Question ID : 8401605353
Status : Answered
Chosen Option : 2

Two tables and three chairs is ₹540 while that of two tables and one chair is ₹480. Find the cost of five chairs?

Question ID : 8401605349
Status : Answered
Chosen Option : 3

An 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:

- 72 km/h
- 36 km/h
- 54 km/h
- 48 km/h

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

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

- $x - 9y - 16 = 0$
- $x + 9y - 16 = 0$
- $x + 9y + 16 = 0$
- $x - 9y + 16 = 0$

Question ID : 8401605355
Status : Answered
Chosen Option : 4

A 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:

050

020

,500

200

Question ID : 8401605338
Status : Answered
Chosen Option : 4

A thief is running away from a policeman. The thief started running at 9 km/h and the policeman started chasing him at 11 km/h. If the distance between them is 200 m, how much time will the policeman take to catch the thief?

Question ID : 8401605340
Status : Answered
Chosen Option : 2

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

1 and 2

2 and 3

1.5 and 2

2.5 and 3

Question ID : 8401605356
Status : Answered
Chosen Option : 2

The area between the outside and inside surface of a 15 cm long cylindrical metallic pipe is 330π cm². If the pipe contains 1000 cm³ of metal, find the outer radius of the pipe (in cm).

Question ID : 8401605354
Status : Answered
Chosen Option : 1

24 students, the average weight of 18 boys is 28 and the average weight of girls is 29. The average weight of the girls is:

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

values of z will the following equation have equal roots?

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

Question ID : 8401605351
Status : Answered
Chosen Option : 2

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

Question ID : 8401605343
Status : Answered
Chosen Option : 3

1 Potential Test

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 Abhimanyu. If Vivran lives ninety-five m away from Abhimanyu. What is the approximate distance (to two decimal places) between Mrinal and Abhimanyu?

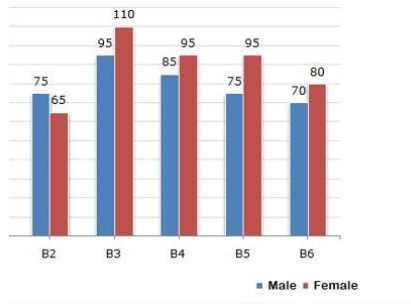
m

m

m

m

Male and female who voted in different booths namely B1, B2, B3, B4, B5 and B6 is shown in the graph. Study the graph and answer the question.



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

19 : 16

13 : 19

19 : 13

13 : 16

Question ID : 8401605390
Status : Answered
Chosen Option : 2

Which of the following is an odd pair out from the following options.

Apathetic

Trivial

Astronomical

Remote

Question ID : 8401605384
Status : Answered
Chosen Option : 1

A man starts walking 17 m towards the West, then turned left and walks 20 m. He again turns right and walks 17 m. He yet again turns left and walks 15 m then turns right and walks 15 m. In which direction is he standing with respect to the starting point?

east

west

south

north

Question ID : 8401605378
Status : Answered
Chosen Option : 1

Given below are arranged in ascending order, then what is the sum of the 5th from the right and third from the left?

1, 55, 29, 13, 68, 74, 56

Question ID : 8401605388
Status : Answered
Chosen Option : 1

15th month falls on Friday, then what will be the day, 2 days after 2nd of the

15th day

16th day

17th day

Question ID : 8401605360
Status : Answered
Chosen Option : 1

Anay, Izaan, Shray, Divit, Ryan and Prisha sat for a test. Ryan scored more than Anay. Anay didn't score less than Izaan. 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.

1. Ryan scored more than Anay.

2. Anay scored more than Izaan.

3. Divit didn't score less than Ryan.

4. Prisha didn't score less than Izaan.

Question ID : 8401605367
Status : Answered
Chosen Option : 3

Which number will come next in the series?

1, 253, 277, ?

Question ID : 8401605382
Status : Answered

option that is related to the third alphanumeric cluster in the same way as alphanumeric cluster is related to the first alphanumeric cluster.

FK13 : ?

Question ID : 8401605383
Status : Answered
Chosen Option : 4

er will come next in the series?

l, 565, 613, ?

Question ID : 8401605385
Status : Answered
Chosen Option : 2

her of Niyati. Lekha is maternal grandmother of Vihaan. Vamika is wife of s son-in-law of Lekha. Niyati is sister of Vihaan. Arnav is father-in-law of ha has only one child how is Vihaan related to Vamika?

nal grandson

w
nal grandson

Question ID : 8401605380
Status : Answered
Chosen Option : 4

amya, Aria, Samidha, Shay, Piya and Yara are standing in a line. Aria is taller o is not taller than Namya. Yara is shorter than Samidha. Piya is shorter ra is of same height as Namya. Study the above information and choose at is definitely incorrect.

lha is taller than Namya.

s not shorter than Shay

is taller than Samidha.

; taller than Piya.

Question ID : 8401605366

code 'WIDEN' is coded as 'BBIXS' then how will 'PAGER' be coded in that

- W
- /X
- :X
- W

Question ID : 8401605376
Status : Answered
Chosen Option : 1

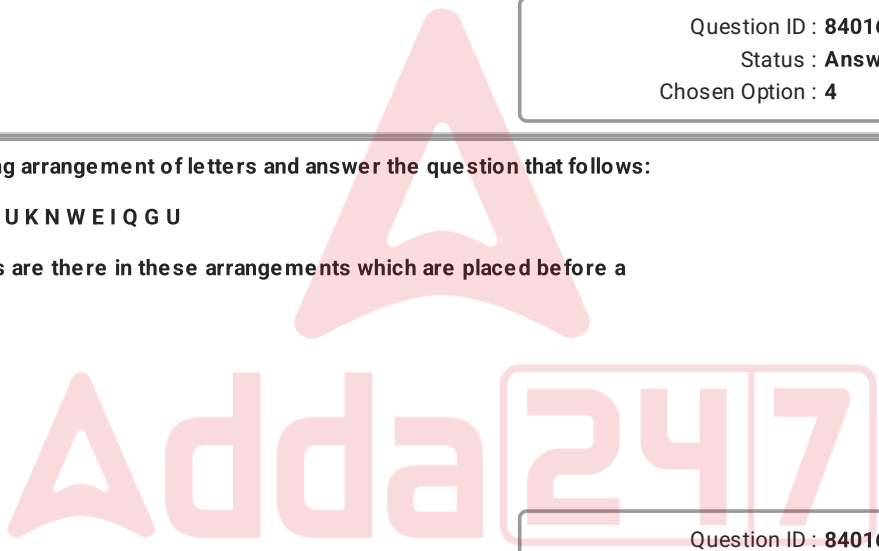
the word 'EXPERIENCE' are rearranged in the alphabetical order, then how many are there which are in the same place as in the original sequence of the

Question ID : 8401605372
Status : Answered
Chosen Option : 4

Following arrangement of letters and answer the question that follows:

Y U K N W E I Q G U

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



Question ID : 8401605373
Status : Answered
Chosen Option : 2

Which option that will come in the place of question mark in the following word 'S.

L, CAH, VID, ?

Question ID : 8401605370

Daniel and Noah started walking from the same point. Noah started walking east and after 25m turns right and walks 10m. He then again turns right 90°. Next he turns left and walks 10 m. Meanwhile Daniel started walking north and after 10m he turns left and walks 6m. He now turns left again, walks 10m and then turns right and walks 4m. Now he turns left and walks 11m. At last he turns left and walks 4m. What is the direction of Daniel and Noah with respect to the starting point respectively?

-east, South-west

North-west, South-east

east, North-west

North-west, North-east

Question ID : 8401605379

Status : Answered

Chosen Option : 4

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

v

Question ID : 8401605359

Status : Answered

Chosen Option : 3

Which number will come next in the series?

1, 1148, 2280, ?

Question ID : 8401605386

Status : Answered

Chosen Option : 4

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 places 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?

|

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

- Prachi
- Daughter
- Maternal aunt
- Paternal aunt

Question ID : 8401605381
Status : Answered
Chosen Option : 1

If the code 'LOVED' is coded as 'FSPIX' then how will 'SHADE' be coded in that

- SHYD
- IASH
- IASH
- IY

Question ID : 8401605375
Status : Answered
Chosen Option : 4

Which option that will come in the place of question mark in the following word series.

X, MAG, JWP, ?

Question ID : 8401605371
Status : Answered
Chosen Option : 4

ing table and answer the questions.

Marks		
Sem I	Sem II	Sem III
88	87	77
70	93	89
86	59	67
85	82	73

age (rounded up to two decimal places) the total marks in the three semesters of Aria are more than the me?

- %
- %
- %
- %

Question ID : 8401605391
 Status : Answered
 Chosen Option : 4

four group of letters are alike in a certain way, except one. Choose the

Question ID : 8401605374
 Status : Answered
 Chosen Option : 3

Ava, Jade, Jacob, Stella, Elias, Sofia, Austin and Luke live on eight floors in a building. The floors are numbered from bottom as first, second, third, fourth, fifth, sixth, seventh, eighth. Only Ava lives on the floor between Luke and Sofia. Austin lives two floors below Elias. No one lives above Jacob who lives five floors above Jade. Sofia lives on the floor immediately below Austin. Who lives two floors above Jade?

1

Question ID : 8401605363
 Status : Answered
 Chosen Option : 1

Tarun, Vibhor, Avneet, Prabha, Rohan and Diya are sitting in a row facing each other. 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 the right end. Which of the following is sitting to the left of Prabha?

Avneet

Rohan

Question ID : 8401605358

Status : Answered

Chosen Option : 2

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

Nimit is not younger than Kaira

Tashi is older than Kaira

Ishir is younger than Ishir

Tashi is not older than Tashi

Question ID : 8401605368

Status : Answered

Chosen Option : 3

Code 1, 5, 3, 7, 8, 4 and 6 are coded as K, W, Z, O, D, X and L respectively.

If the number of digits of the number cluster are odd, then the first and last letter to be

interchanged. If the number of digits of the number cluster are even, then the first and last letter to be

interchanged. How will '137' be coded in that language?

ZG

ZB

NO

ZO

Question ID : 8401605377

Status : Answered

Chosen Option : 3

Arjun is ranked 7th from the top and Saira is ranked 6th from the bottom in an exam. If their positions got exchanged and Saira was ranked 15th from the bottom, how many students in total gave the exams?

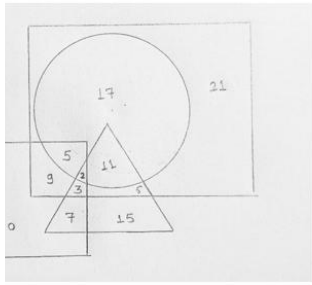
100 students

110 students

120 students

130 students

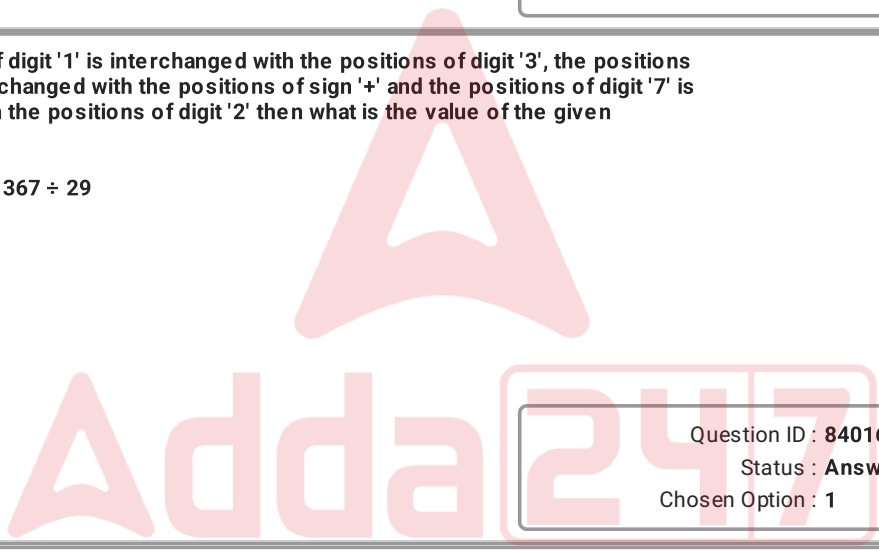
Venn diagram rectangle represents top wear, circle represents items with woollen clothes, triangle design and square represents grey coloured items. Select the option which represents the number of items which wear top wear.



Question ID : 8401605365
Status : Answered
Chosen Option : 4

If the positions of digit '1' is interchanged with the positions of digit '3', the positions of digit '3' is interchanged with the positions of digit '7' and the positions of digit '7' is interchanged with the positions of digit '2' then what is the value of the given expression?

$$9 - 367 \div 29$$



Question ID : 8401605389
Status : Answered
Chosen Option : 1

Find the option that will come in the place of question mark in the following series.

72, N 87, I 107, ?

Question ID : 8401605369
Status : Answered
Chosen Option : 2

Read the statements and conclusions carefully. Assuming that the information 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.

Statement I: All loafers are heels.

Statement II: Some heels are loafers.

Conclusion I follows

Conclusion II follows

Conclusion III follows

None of the conclusions follows

Question ID : 8401605364
Status : Answered
Chosen Option : 2

Knowledge

What is the standard fall height of a hammer in standard penetration test?

Question ID : 8401605442
Status : Answered
Chosen Option : 1

What is the design period for pipe connections to the several treatment units in a sewerage scheme?

1 year

2 years

3 years

5 years

Question ID : 8401605412
Status : Answered
Chosen Option : 3

A hydrometer is used to find the _____ in an experiment.

Specific gravity of fluid

Discharge coefficient of fluid

Specific gravity of fluid

In triangulation, the maximum triangle closure is:

>

>

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

Which of the following statements to setup the theodolite at intermediate points on a curve are correct?

Statement 1: Point of curve is visible from the intermediate point.
Statement 2: Point of curve is not visible from the intermediate point.

Options 1 and 2 are incorrect

Options 1 and 2 are correct

Option 1 is incorrect, but statement 2 is correct

Option 1 is correct, but statement 2 is incorrect

Question ID : 8401605469
Status : Answered
Chosen Option : 3

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

- $2P \sin \theta$

- $P \cos \theta$

- $P \sin \theta$

- $2P \cos \theta$

Question ID : 8401605473
Status : Answered
Chosen Option : 1

The amount of water is determined by using:

Velocity meter

Flowmeter

Velometer

Subator

Question ID : 8401605417
Status : Answered
Chosen Option : 2

Following triangulations, which has the highest order and most precise
is?

Order

1 order

order

2 order

Question ID : 8401605472
Status : Answered
Chosen Option : 1

For the following beam conditions is the degree of redundancy 2?

1. 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

3. One end is fixed the other is free beam with half the beam under vertical point load.

4. Simply supported beam with full the beam under moment.

Question ID : 8401605449
Status : Answered
Chosen Option : 1

For which of fluid flow, the flow is said to be ideal if:

1. Reynolds force > 1

2. Reynolds force $= \infty$

3. Reynolds force $= 0$

4. Reynolds force < 1

Question ID : 8401605396
Status : Answered
Chosen Option : 3

Which of the following statements in the context of capillary pressure in soils is NOT

1. Capillary pressure is more in coarse grained soils

2. Effective stress increases due to capillary zone

3. Soil is under tension in capillary zone

4. Water pressure is negative in capillary zone

Question ID : 8401605431
Status : Answered
Chosen Option : 1

l of a quarter circle is:

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

of solid waste refuse is done by using:

ers
g machines
ators
es

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

ischarge adopted for design of a structure after careful consideration of
id hydrologic factors is known as:

lood
n flood
num probable flood
um probable flood

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

mmonly used landfill sealants for control of gas and leachate movement

ry wells
s with fine silt
ete lining

What deals with the study of surface water streams is called:

- Hydrology
- Limnology
- Fluvial geomorphology
- Fluvial geomorphology

Question ID : 8401605404
Status : Answered
Chosen Option : 3

Which statements are related to a contour canal.

- (i) Contour canal does not follow the same contour line along its length.
- (ii) Contour canal is on both side of the area only on one side of it, the other side being at higher elevation.
- (iii) Contour canal is laid normally to contours.
- (iv) Contour canal is laid normally to contours.

Which is the correct statement(s).

- (iii)
- (i) and (iii)
- iv)
- i)

Question ID : 8401605407
Status : Answered
Chosen Option : 2

For a well sorted particle size distribution curve, if the value of coefficient of uniformity is more than 6 and coefficient of curvature (Cc) is between 1 and 3. then it is

- poorly graded sand
- poorly graded gravel
- well graded sand
- well graded gravel

Question ID : 8401605448
Status : Answered
Chosen Option : 3

Which of the following sedimentation tanks are also called:

- horizontal flow break up tanks
- intermittent settling tank
- horizontal type settling tank
- vertical type settling tank

Question ID : 8401605425
Status : Marked For Review

IS 456-2000, in the method of design mix concrete for an RCC structure, what will be the target mean strength if the mean characteristic strength is 35MPa with a standard deviation of 6 N/mm²?

35 MPa

38 MPa

41 MPa

44 MPa

Question ID : 8401605457
Status : Answered
Chosen Option : 1

In a sieve analysis, a steep grain size distribution curve represents:

wide range of all sizes

uniform grain sizes

uniform grain sizes

wide range of sizes from two representative fractions

Question ID : 8401605434
Status : Answered
Chosen Option : 3

The diameter of a test pit for a plate load test is:

1.5 times the width of the plate

2 times the width of the plate

2.5 times the width of the plate

3 times the width of the plate

Question ID : 8401605443
Status : Answered
Chosen Option : 3

Diagram of forces shown in the figure, the expression for magnitude of resultant (R) is given by:

are forces acting at a point O

between two forces



$\sqrt{P^2 + Q^2 + 2PQ \cos \alpha}$

$\sqrt{P + Q + 2PQ \sin \alpha}$

$\sqrt{P + Q + 2PQ \cos \alpha}$

$\sqrt{P^2 + Q^2 + 2PQ \sin \alpha}$

Question ID : 8401605459
Status : Answered
Chosen Option : 1

Factor of a standard hollow circular pipe section is

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

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

more than one

equal to one

less than one

equal to zero

Question ID : 8401605461
Status : Answered
Chosen Option : 2

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

a) sand

b) shrinkage

c) creep

d) consolidation

Question ID : 8401605433

Status : Answered

Chosen Option : 3

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

a) $Q = \frac{2}{3} C_d \sqrt{2gL} H^{\frac{3}{2}}$

b) $Q = L \times B \sqrt{2gH^{\frac{3}{2}}}$

c) $Q = C_d \sqrt{2gH}$

d) $Q = \frac{2}{3} C_d L \sqrt{2gH^{\frac{3}{2}}}$

Question ID : 8401605397

Status : Answered

Chosen Option : 4

Which of the following is a geological formation that neither contains nor transmits water known as?

a) aquifer

b) aquiclude

c) aquifuge

d) aquard

Question ID : 8401605410

Status : Answered

Chosen Option : 3

In IS 456:2000, which grade of concrete has a tensile stress of 3.2 N/mm² under limit state method?

Question ID : 8401605454

IS 800-2007, the nominal shear capacity of M20 bolt of grade 4.6 with one passing through bolt shank and one shear plane passing through threaded

4 kN

kN

kN

2 kN

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

ne occurs in which environment condition?

rate environment

ed environment

atic environment

adiabatic environment

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

eriod for the electric motor and pumps of a water supply scheme is:

ars

rs

rs

rs

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

following are NOT kinds of errors?

kes

ensations

lations

epancies

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

ss matrix method of structure analysis, the quantity taken as redundant is:

otation and deflection

on

eflection

tion

Question ID : 8401605462

Status : Answered

Chosen Option : 1

sandy soil, the value of N is:

50

)

0

)

Question ID : 8401605445

Status : Answered

Chosen Option : 1

ation is very effective in treating:

c clayey soils

oil

Question ID : 8401605439

Status : Answered

Chosen Option : 3

: in children is observed when the fluoride level in drinking water is:

han 1.0 mg/l

en 1 mg/l to 2 mg/l

an 0.2 mg/l

than 2 mg/l

Question ID : 8401605415

Status : Answered

Chosen Option : 2

ensitivity greater than 16 is known as:

clay

sensitive

ive

Which is the method adopted for removing _____ from water.

Added oxygen

Plastics, debris and wood

Iron salts and sulphates

Added solids

Question ID : 8401605411

Status : Answered

Chosen Option : 3

Calcium sulphate smog is brown in colour so it is called 'brown air smog'. This brown smog is due to the presence of:

SO₂

NO₂

CaSO₄

CO₂

Question ID : 8401605423

Status : Answered

Chosen Option : 1

In an unseeded domestic waste water BOD test, the data used is 6ml of DO in a 200ml bottle, initial DO of 8mg/l and 5 day DO is 4mg/l. Compute 5day BOD of

12 mg/l

16 mg/l

20 mg/l

24 mg/l

Question ID : 8401605420

Status : Answered

Chosen Option : 4

The minimum clear length of the crest for >3m drop is _____.

Question ID : 8401605409

Status : Marked For Review

Chosen Option : 1

o for soft sensitive clay soil is:

- 10%
- 10%
- 30%
- 10%

Question ID : 8401605446
Status : Answered
Chosen Option : 3

unk 1m × 3m lies in a vertical plane in water. Calculate the total pressure on the plane surface.

- 5 kN
- 1 kN
- 1 kN
- 1 kN

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

water is removed from an evaporation pan of diameter 2 m and rainfall measurement is 9 mm, then what is the evaporation?

- nm
- nm
- m
- nm

Question ID : 8401605405
Status : Answered
Chosen Option : 4

ssure (Pab) is calculated by the equation:

- nospheric pressure + Gauge pressure
- ge pressure – Atmospheric pressure
- nospheric pressure –Gauge pressure
- nospheric pressure + Gauge pressure + Datum pressure

Question ID : 8401605394
Status : Answered
Chosen Option : 1

missible compressive stress for concrete in bending is $C \text{ kg/m}^2$, the modular ratio is:

- 10
- 10
- 10
- 0

Question ID : 8401605475
Status : Answered
Chosen Option : 1

acceptable noise level for suburban areas, as per IS code 4954-1968?

- 55 db
- 40 db
- 50 db
- 50 db

Question ID : 8401605428
Status : Answered
Chosen Option : 2

radius 'd', the capillary rise or fall (h) of a liquid, where surface cohesion is σ , angle of contact is ' θ ' is given by:

- $4\sigma \cos\theta / d$
- $4\sigma \cos\theta / d$
- $4\sigma \cos\theta / w\alpha$
- $4\sigma / d$

Question ID : 8401605392
Status : Answered
Chosen Option : 3

For adjustment of levels, two peg test is done to correct:

- refraction
- collimation
- curvature
- hair ring and line of collimation
- refraction

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

Question ID : 8401605432
Status : Answered
Chosen Option : 4

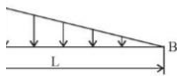
The temperature correction applied to hydrometer reading is:

- a) Always negative
- b) Always positive or negative
- c) Always positive
- d) None of these

Question ID : 8401605447
Status : Answered
Chosen Option : 2

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

where EI is the flexural rigidity.



- a) $\frac{WL^3}{48EI}$
- b) $\frac{WL^4}{30EI}$
- c) $\frac{WL^4}{48EI}$
- d) $\frac{WL^3}{8EI}$

Question ID : 8401605451
Status : Answered
Chosen Option : 2

The model of a spillway, the velocity and discharge are 3 m/s. The corresponding velocity and discharge of the prototype is:

- a) 3 m/s and 3 m³/s
- b) 9 m/s and 9 m³/s
- c) 3 m/s and 27 m³/s
- d) 9 m/s and 27 m³/s

contraflexure is the point where:

- 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

Humidity, the meteorological parameter is measured by which instrument?

- 1) barometer
- 2) hygrometer
- 3) anemometer
- 4) thermometer

Question ID : 8401605403
Status : Answered
Chosen Option : 3

For the purpose of survey the scale of 1cm=5m to 0.5km used?

- 1) topographical maps
- 2) cadastral surveys
- 3) reconnaissance sites
- 4) engineering planning

Question ID : 8401605464
Status : Answered
Chosen Option : 3

Continuity equation for compressible fluid?

$$A_1 Q_1 = \rho_2 A_2 Q_2$$

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

$$A_1 V_1 = \rho_2 A_2 V_2$$

$$\rho_1 V_1 = \rho_2 V_2$$

Question ID : 8401605400
Status : Answered
Chosen Option : 3

Which test is used to determine:

Hardness of water

Total chloride in water

Dissolved solids in water

Iron in water

Question ID : 8401605418

Status : Answered

Chosen Option : 2

Which type of water supply pipe networks, dead end type of distribution network is:

Open system

Loop system

Open system

Open system

Question ID : 8401605416

Status : Answered

Chosen Option : 1

The sum of interior angles in a closed traverse is equal to:

$(2n - 4) \times 90^\circ$

$(2n - 2) \times 90^\circ$

$(2n + 4) \times 90^\circ$

$(2n - 4) \times 90^\circ$

Question ID : 8401605466

Status : Answered

Chosen Option : 4

Which type of failure occurs in:

cohesionless sand

cohesionless sand and stiff clay

cohesionless sand

cohesionless sand

Question ID : 8401605438

Status : Answered

Chosen Option : 4

sand above water table was found to have a natural moisture content of 26.5% and a unit weight of 18.84 kN/m³. Laboratory tests on a dried sample indicated a specific gravity of 2.65 and 0.85 for minimum and maximum void ratios, respectively for densest states. Calculate the degree of saturation and the relative density.

1. 67.74%,

2. 75.14%

3. 60.14%

4. 70.14%

Question ID : 8401605471

Status : Answered

Chosen Option : 2

Wavelength of Thermal-IR in electromagnetic spectrum of sunlight?

1. 0.4 to 1.00 μm

2. 0.4 to 5 μm

3. 0.4 to 30 μm

4. 0.4 to 300 μm

Question ID : 8401605468

Status : Answered

Chosen Option : 2

Which of the following is correct for design of beams.

1. The neutral axis passes through the centroid of the beam section when material obeys Hooke's law.

2. The neutral axis is subjected to longitudinal force.

3. Both statements [A] and [B] are false

4. Both statements [A] and [B] are true

5. Statement [A] is false, but [B] is true

6. Statement [A] is true, but [B] is false

Question ID : 8401605452

Status : Answered

Chosen Option : 4

Crushing strength is measured by which industry?

1. Cement industry

2. Coal crushers

3. Steel industry

4. Heavy machinery industry

Question ID : 8401605421

Status : Answered

IS classification system (plasticity chart), soil that falls above A-line and limit of 40 is:

Question ID : 8401605435
Status : Answered
Chosen Option : 3

stabilisation is:

- addition of cementing material to soils
- addition of limes to soils
- mixing of two or more types of natural soils
- addition of chemicals to soils

Question ID : 8401605440
Status : Answered
Chosen Option : 3

increase of pressure in a vertically downward direction is equal to weight of fluid at that point', is stated by:

- Archimedes' principle
- Pascal's law
- Stevin's law
- Boyle's law

Question ID : 8401605393
Status : Answered
Chosen Option : 1

most economical and hygienic rural privy is:

- pit privy
- pit latrine
- pit toilet
- pit latrine

Question ID : 8401605430
Status : Answered
Chosen Option : 4

soil samples are required for:

Consolidation test

Specific gravity test

Shrinkage limit test

Permeability test

Question ID : 8401605436

Status : Answered

Chosen Option : 1

Number of EDM instruments are there based on wavelength?

Question ID : 8401605476

Status : Answered

Chosen Option : 4

Moment of inertia of a hollow circular section about its centroidal axis is:

Radius of outer circle
 Radius of inner circle

$$\frac{(D^4 + d^4)}{64}$$

$$\frac{(D^4 - d^4)}{64}$$

$$\frac{(D^4 + d^4)}{32}$$

$$\frac{(D^3 - d^3)}{12}$$

Question ID : 8401605460

Status : Answered

Chosen Option : 2

capacity of coarse sand, compact and dry, according to National Building
code (2016) is:

1) 100 kN/m^2

2) 150 kN/m^2

3) 200 kN/m^2

4) 250 kN/m^2

Question ID : 8401605444
Status : Answered
Chosen Option : 2

Under suction, the negative skin friction is developed by:

1) upward action of soil

2) downward movement of soil

3) upward movement of soil

4) downward cement of soil

Question ID : 8401605437
Status : Answered
Chosen Option : 3

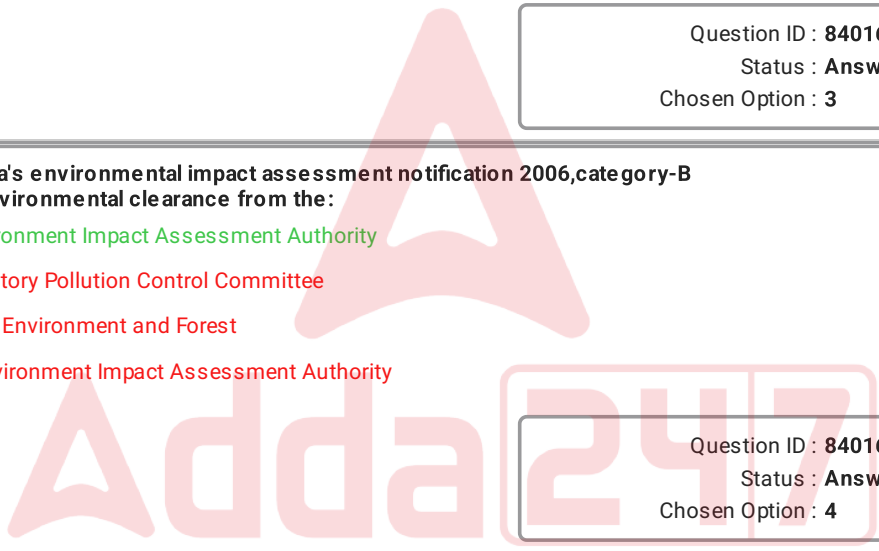
Under India's environmental impact assessment notification 2006, category-B
projects require environmental clearance from the:

1) Environmental Impact Assessment Authority

2) Territory Pollution Control Committee

3) Ministry of Environment and Forest

4) National Environment Impact Assessment Authority



Question ID : 8401605429
Status : Answered
Chosen Option : 4

The relationship between tangential velocity (v) and radius (r) is given by:

1) $v = \text{constant}$ for forced vortex

2) $r = \text{constant}$ for forced vortex

3) $v = \text{constant}$ for free vortex

4) $v^2 = \text{constant}$ for free vortex

Question ID : 8401605401
Status : Answered
Chosen Option : 1

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

- n
- n
- n
- n

Question ID : 8401605408
Status : Answered
Chosen Option : 2

uitable section for a steel column is:

SLB and ISMB

Question ID : 8401605474
Status : Answered
Chosen Option : 2

erforation of fine screen used in the removal of suspended solid from

- 1mm
- 3.5cm
- 5mm
- 3mm

Question ID : 8401605426
Status : Answered
Chosen Option : 3

asured by using a wrong scale, then the true correct length of the line is

$$\text{ect length} = \frac{RF \text{ of wrong scale}}{RF \text{ of correct scale}} \times \text{Measured area}$$

$$\text{ect length} = \frac{RF \text{ of wrong scale}}{RF \text{ of correct scale}}$$

$$\text{ect length} = \left(\frac{RF \text{ of wrong scale}}{RF \text{ of correct scale}} \right)^2 \times \text{Measured length}$$

$$\text{ect length} = \frac{RF \text{ of wrong scale}}{RF \text{ of correct scale}} \times \text{Measured length}$$

Question ID : 8401605463
Status : Answered
Chosen Option : 4

tion of evaporation potential of catchment areas, the duration of
i day is recorded by which instrument?

ine meter

ine duration recorder

meter

ine recorder

Question ID : 8401605402
Status : Answered
Chosen Option : 2

following processes is adopted for the conversion of salt water into

ion

lration

ination

ng

Question ID : 8401605414
Status : Answered
Chosen Option : 3

tion constant of impounding reservoirs varies between:

6

1

5

Question ID : 8401605424
Status : Answered
Chosen Option : 4

ment of friction is _____ for ideal smooth surfaces like glass.

/

Question ID : 8401605450
Status : Answered
Chosen Option : 4