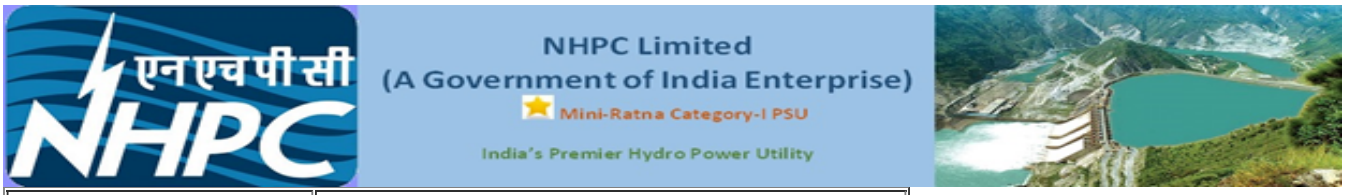


Participant ID	
Participant Name	
Test Center Name	Pawan Ganga Educational Centre 1
Test Date	04/04/2022
Test Time :	9:00 AM - 12:00 PM
Subject	Junior Engineer (Civil)

Section : **General Awareness**

Q.1 **Which of the following dances is performed by members of the Adi tribe of Arunachal Pradesh?**

Ans
✗ A. Santhali
✗ B. Dhanger
✓ C. Tapu
✗ D. Bhagoria

Question ID : **1034358788**
Status : **Marked For Review**
Chosen Option : **D**

Q.2 **What is the minimum support price of gram per quintal in 2021-22?**

Ans
✗ A. ₹5,454
✗ B. ₹4,997
✗ C. ₹5,400
✓ D. ₹5,100

Question ID : **1034358792**
Status : **Not Answered**
Chosen Option : **--**

Q.3 **_____ helps our nails grow strong and resilient.**

Ans
✓ A. Protein
✗ B. Fruits
✗ C. Fat
✗ D. Fibre

Question ID : **1034358797**
Status : **Answered**
Chosen Option : **A**

Q.4 By which of the following Amendment Acts was the word 'Rajpramukh' omitted from Article 283 of the Constitution of India?

Ans
✗ A. Constitution (Fortieth Amendment) Act, 1976
✓ B. Constitution (Seventh Amendment) Act, 1956
✗ C. Constitution (Forty-fourth Amendment) Act, 1978
✗ D. Constitution (Fifteenth Amendment) Act, 1963

Question ID : **1034358811**
Status : **Not Answered**
Chosen Option : **--**

Q.5 भारत के संविधान का कौन सा अनुच्छेद बिजली पर करों से छूट से संबंधित है?

Ans
✗ A. अनुच्छेद 275
✗ B. अनुच्छेद 278
✗ C. अनुच्छेद 257
✓ D. अनुच्छेद 287

Question ID : **1034358810**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.6 According to the economic survey 2021-22 what was the first advance estimates suggestion of GDP 2021-22?

Ans
✗ A. 7.4%
✗ B. 10.98%
✓ C. 9.2%
✗ D. 6.8%

Question ID : **1034358793**
Status : **Not Answered**
Chosen Option : **--**

Q.7 In which of the following oceans are Alaska and Hawaii islands located?

Ans
✗ A. Indian Ocean
✗ B. Arctic Ocean
✗ C. Atlantic Ocean
✓ D. Pacific Ocean

Question ID : **1034358800**
Status : **Answered**
Chosen Option : **B**

Q.8 दीक्षाभूमि किस राज्य में स्थित है, जहां डॉ. अम्बेडकर ने बौद्ध धर्म अपनाया था?

Ans
✔ A. महाराष्ट्र
✘ B. गुजरात
✘ C. कर्नाटक
✘ D. केरल

Question ID : **1034358791**
Status : **Not Answered**
Chosen Option : **--**

Q.9 2011 की जनगणना के अनुसार, निम्नलिखित में से कौन सा भारतीय मेट्रो शहर सबसे कम आबादी वाला शहर है?

Ans
✘ A. दिल्ली
✔ B. चेन्नई
✘ C. मुंबई
✘ D. कोलकाता

Question ID : **1034358798**
Status : **Not Answered**
Chosen Option : **--**

Q.10 RBI publishes figures for four alternative measures of money supply, viz. M1, M2, M3 and M4. Which of the aforementioned has the definition as sum of currency (notes plus coins) held by the public and net demand deposits held by commercial banks?

Ans
✘ A. M3
✘ B. M2
✘ C. M4
✔ D. M1

Question ID : **1034358794**
Status : **Not Answered**
Chosen Option : **--**

Q.11 For which book did Damon Galgut win the Booker Prize for 2021?

Ans
✔ A. The Promise
✘ B. Great Circle
✘ C. A Passage North
✘ D. Bewilderment

Question ID : **1034358807**
Status : **Not Answered**
Chosen Option : **--**

Q.12 For how many years was Sawai Jai Singh, the ruler of Amber, appointed as the governor of Agra?

Ans
✗ A. 5 years
✗ B. 10 years
✓ C. 12 years
✗ D. 8 years

Question ID : **1034358803**
Status : **Not Answered**
Chosen Option : **--**

Q.13 निम्नलिखित में से कौन सा संगीत वाद्ययंत्र 'अवनद्ध वाद्य' वाद्ययंत्र का उदाहरण नहीं है?

Ans
✗ A. मृदंग
✗ B. ताशा
✓ C. चिकारा
✗ D. डागर

Question ID : **1034358789**
Status : **Not Answered**
Chosen Option : **--**

Q.14 Which of the following statements is INCORRECT about the scalar and vector quantities?

Ans
✗ A. Temperature is a scalar quantity.
✓ B. Force is a scalar quantity.
✗ C. Acceleration is a vector quantity.
✗ D. Polarisation is a vector quantity.

Question ID : **1034358795**
Status : **Answered**
Chosen Option : **B**

Q.15 Who has been elected to the International Law Commission for a five-year term starting from 1 January 2023?

Ans
✗ A. Dinesh Sharma
✗ B. Naveen Mahajan
✗ C. Arun Mishra
✓ D. Bimal Patel

Question ID : **1034358806**
Status : **Not Answered**
Chosen Option : **--**

Q.16 In which year did Sirajuddaulah become the nawab of Bengal after Alivardi Khan's death?

Ans
✔ A. 1756
✘ B. 1757
✘ C. 1755
✘ D. 1754

Question ID : **1034358804**
Status : **Answered**
Chosen Option : **A**

Q.17 Which NGO was awarded the Indira Gandhi Peace Prize 2021 for its work on expanding the scope for education in India?

Ans
✔ A. PRATHAM
✘ B. DARPAN
✘ C. SMILE
✘ D. MASRRAT

Question ID : **1034358808**
Status : **Not Answered**
Chosen Option : **--**

Q.18 Which type of soil contains a high percentage of calcium carbonate, potash, lime and magnesium carbonate, mostly found in regions like Gujarat, Madhya Pradesh, Maharashtra and Andhra Pradesh?

Ans
✘ A. Alluvial soils
✘ B. Laterite soils
✔ C. Black soil
✘ D. Arid soils

Question ID : **1034358801**
Status : **Answered**
Chosen Option : **C**

Q.19 Which of the following is the most important festival of Kamakhya temple of Guwahati and is held every year during monsoon (mid-June)?

Ans
✔ A. Ambubachi fair
✘ B. Pushkar fair
✘ C. Hornbill festival
✘ D. Torgya festival

Question ID : **1034358790**
Status : **Answered**
Chosen Option : **C**

Q.20 **Who has authored a new book titled 'India vs UK: The Story of an Unprecedented Diplomatic Win'?**

Ans
✔ A. Syed Akbaruddin
✘ B. Kailash Satyarthi
✘ C. Maroof Raza
✘ D. Abhijit Banerjee

Question ID : **1034358809**
Status : **Not Answered**
Chosen Option : **--**

Q.21 **निम्नलिखित में से कौन सा कथन महात्मा गांधी के बारे में गलत है?**

Ans
✘ A. उनका जन्म 2 अक्टूबर 1869 को पोरबंदर में हुआ था।
✘ B. जनवरी 1915 में वे दक्षिण अफ्रीका से भारत लौटे।
✔ C. 1927 में उन्हें भारतीय राष्ट्रीय कांग्रेस का अध्यक्ष चुना गया।
✘ D. उन्होंने 1917 में खेड़ा जिले के किसानों का समर्थन करने के लिए एक सत्याग्रह का आयोजन किया।

Question ID : **1034358805**
Status : **Answered**
Chosen Option : **C**

Q.22 **In February2022, who defeated the reigning world champion Magnus Carlsen during the online tournament Airthings Masters?**

Ans
✔ A. Rameshbabu Praggnanandhaa
✘ B. Dommaraju Gukesh
✘ C. Abhijeet Gupta
✘ D. Bharath Subramaniyam

Question ID : **1034358817**
Status : **Answered**
Chosen Option : **A**

Q.23 **मौर्य साम्राज्य चार प्रांतों में विभाजित था। निम्नलिखित में से कौन सा प्रांत मौर्य प्रांतों में से एक नहीं था?**

Ans
✘ A. तोसाली
✘ B. उज्जयिनी
✔ C. सारनाथ
✘ D. सुवर्णगिरि

Question ID : **1034358802**
Status : **Marked For Review**
Chosen Option : **D**

Q.24 In India, who appoints the Special Officer for linguistic minorities according to Article 350B of the Constitution of India?

Ans
✔ A. President
✘ B. Prime Minister
✘ C. Vice President
✘ D. Union Minister for Minority Affairs

Question ID : **1034358812**
Status : **Answered**
Chosen Option : **A**

Q.25 Bread mould, also known as aspergillus, is an example of:

Ans
✘ A. protozoa
✘ B. algae
✘ C. bacteria
✔ D. fungi

Question ID : **1034358796**
Status : **Answered**
Chosen Option : **D**

Q.26 भारत के संविधान की किस अनुसूची में असम, मेघालय, त्रिपुरा और मिजोरम राज्यों में जनजातीय क्षेत्रों के प्रशासन के लिए प्रावधान किए गए हैं?

Ans
✘ A. तीसरी अनुसूची
✔ B. छठी अनुसूची
✘ C. चौथी अनुसूची
✘ D. पांचवी अनुसूची

Question ID : **1034358813**
Status : **Answered**
Chosen Option : **B**

Q.27 Which of the following rivers has its origin in Madhya Pradesh, flows in Rajasthan and finally falls into the Arabian Sea?

Ans
✔ A. Mahi
✘ B. Chambal
✘ C. Yamuna
✘ D. Banas

Question ID : **1034358799**
Status : **Answered**
Chosen Option : **A**

Q.28 Who is the winner of the Australian Open 2022 Men's singles event?

Ans
✗ A. Novak Djokovic
✗ B. Daniil Medvedev
✓ C. Rafael Nadal
✗ D. Roger Federer

Question ID : **1034358816**
Status : **Answered**
Chosen Option : **C**

Q.29 ओलंपिक के लिए क्वालीफाई करने वाली पहली भारतीय फ़ेंसर (fencer) कौन बनीं?

Ans
✗ A. दाभाडे खुशी
✗ B. अनुष्का धालीवाल
✓ C. भवानी देवी
✗ D. कबित देवी

Question ID : **1034358815**
Status : **Answered**
Chosen Option : **B**

Q.30 Which of the following teams was the winner of the Maulana Abul Kalam Azad Trophy 2021?

Ans
✗ A. Bombay University
✓ B. Punjab University
✗ C. Delhi University
✗ D. Guru Nanak Dev University

Question ID : **1034358814**
Status : **Not Answered**
Chosen Option : **--**

Section : **Reasoning**

Q.1 Select the word-pair in which the two words share a different relationship from that shared by the two words in the rest of the word-pairs.

Ans
✗ A. Barrier : Assistance
✗ B. Allure : Repulse
✓ C. Consolidate : Strengthen
✗ D. Despair : Hope

Question ID : **1034358823**
Status : **Answered**
Chosen Option : **C**

Q.2 **Four number-triads have been given, out of which three are alike in some manner and one is different. Select the number-triad that is different.**

Ans
- ✔ A. (7, 25, 71)
- ✘ B. (12, 45, 139)
- ✘ C. (13, 49, 151)
- ✘ D. (5, 17, 55)

Question ID : **1034358837**
Status : **Answered**
Chosen Option : **A**

Q.3 **Six persons Prudvi, Viplav, Ravali, Sitara, Taman and Udit have different heights. Taman is shorter than Ravali. Sitara is taller than two persons. Prudvi is shorter than Viplav, but taller than Ravali. Udit is taller than only Viplav.**
Who is the third tallest?

Ans
- ✔ A. Prudvi
- ✘ B. Ravali
- ✘ C. Taman
- ✘ D. Viplav

Question ID : **1034358829**
Status : **Answered**
Chosen Option : **A**

Q.4 **Aditya walked 50 m towards the north, then turned left and walked 68 m to reach the bus stand. He then turned to the south and walked 22 m, and then took a left turn and walked 44 m to reach the medical shop. After that he turned right and walked 18 m, and finally he turned left and walked 48 m to reach the library.**
What is shortest distance between the starting and the ending points, and in which direction is Aditya from the starting point?

Ans
- ✘ A. 30 m, North-east
- ✔ B. 26 m, North-east
- ✘ C. 26 m, South-west
- ✘ D. 25 m, North-west

Question ID : **1034358843**
Status : **Answered**
Chosen Option : **B**

Q.5 **Select the correct option that indicates the arrangement of the given words in the order in which they appear in an English dictionary.**
1. Enlightening
2. Ensure
3. Eighteen
4. Enormous
5. English

Ans
- ✘ A. 3, 4, 5, 1, 2
- ✘ B. 3, 5, 4, 2, 1
- ✘ C. 3, 1, 5, 2, 4
- ✔ D. 3, 5, 1, 4, 2

Question ID : **1034358820**
Status : **Answered**
Chosen Option : **D**

Q.6 **Four words have been given, out of which three are alike in some manner and one is different. Select the word that is different.**

Ans
- ✗ A. Squeak
- ✓ B. Gallop
- ✗ C. Bark
- ✗ D. Quack

Question ID : **1034358821**
Status : **Answered**
Chosen Option : **B**

Q.7 **Select the figure that will come next in the following series.**

Ans
- ✗ A. 
- ✓ B. 
- ✗ C. 
- ✗ D. 

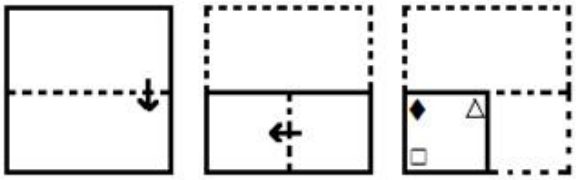
Question ID : **1034358844**
Status : **Answered**
Chosen Option : **C**

Q.8 **Select the option in which the words share the same relationship as that shared by the given pair of words.**
Brazil : Real

Ans
- ✗ A. Russia : Peso
- ✗ B. Mongolia : Euro
- ✗ C. Israel : Yen
- ✓ D. Malaysia : Ringgit

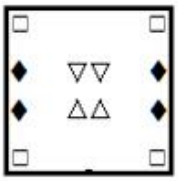
Question ID : **1034358826**
Status : **Answered**
Chosen Option : **D**

Q.9 **The sequence of folding a piece of paper and the manner in which the folded paper has been cut is shown in the following figures. How would this paper look when unfolded?**

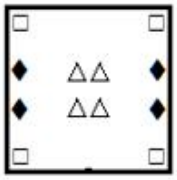


Ans

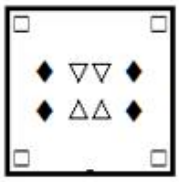
✔ A.



✘ B.



✘ C.



✘ D.

Question ID : **1034358846**
Status : **Answered**
Chosen Option : **A**

Q.10 **In a certain code language, 'SPACE' is coded as '8114248'. How will 'LOGIC' be coded in that language?**

Ans

✘ A. 1212151216

✔ B. 1518201224

✘ C. 1581201224

✘ D. 1215124526

Question ID : **1034358828**
Status : **Answered**
Chosen Option : **B**

Q.11 Eight persons Pavan, Anupama, Ranjani, Sarayu, Tarak, Usha, Vinita and Yadu sit around a square table, in which four persons sit at the four corners, and four persons sit at the middle of the four sides (not necessarily in the same order). Each faces towards the centre. Three persons sit between Pavan and Tarak. Usha sits second to the left of Tarak. Sarayu sits to the immediate right of Anupama. Ranjani sits second to the left of Yadu. Pavan and Sarayu do not sit at the corners. Yadu is not a neighbour of Pavan.

How many persons sit between Vinita and Yadu, from any of the directions?

Ans
✗ A. 0
✗ B. 1
✗ C. 2
✓ D. 3

Question ID : **1034358831**
Status : **Answered**
Chosen Option : **D**

Q.12 Select the correct mirror image of the given combination when the mirror is placed at PQ as shown.

Ans
✗ A.
✗ B.
✗ C.
✓ D.

Question ID : **1034358847**
Status : **Answered**
Chosen Option : **D**

Q.13 G, H, I, J, T, K and L are seven members of a family. G and H are a married couple. H is the daughter-in-law of L. J is the only son of I. T is the sister of J. K is the mother-in-law of H. I is G's brother.
How is K related to L?

Ans
✗ A. Mother
✗ B. Daughter
✗ C. Sister
✓ D. Wife

Question ID : **1034358830**
Status : **Answered**
Chosen Option : **D**

Q.14 **Select the letter-cluster from among the given options that can replace the question mark (?) in the following series.**
SAMU, VWJY, YSGC, BODG, EKAK, ?

Ans
✗ A. HXFN
✓ B. HGXO
✗ C. HXGO
✗ D. HFXN

Question ID : **1034358818**
Status : **Answered**
Chosen Option : **B**

Q.15 **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:
No trainer is a carpenter.
All carpenters are businessmen.
Conclusions:
I. No trainer is a businessman.
II. No businessman is a trainer.
III. Some businessmen are carpenters.
IV. All businessmen are carpenters.

Ans
✗ A. Only conclusions I and IV follow
✓ B. Only conclusion III follows
✗ C. Only conclusion I follows
✗ D. Only conclusions I and II follow

Question ID : **1034358834**
Status : **Answered**
Chosen Option : **B**

Q.16 **If a clock strikes 12:45 and its minute hand points to the north, then at 1:15 where does the minute hand point to?**

Ans
✓ A. South
✗ B. South-east
✗ C. West
✗ D. East

Question ID : **1034358841**
Status : **Answered**
Chosen Option : **A**

Q.17 **Consider the given statement and decide which of the given assumptions is/are implicit in the statement.**
Statement:
"If you are a chemical engineer, we want you as our production manager." — an advertisement by pharmacy company Y.
Assumptions:
I. Chemical engineers are expected to be better performers by pharmacy company Y.
II. Pharmacy company Y needs production managers.

Ans
✗ A. Either assumption I or II is implicit
✓ B. Only assumption II is implicit
✗ C. Both assumptions I and II are implicit
✗ D. Only assumption I is implicit

Question ID : **1034358833**
Status : **Answered**
Chosen Option : **B**

Q.18 **In a certain code language, 'CIRCLE' is written as 'DLWAHY'. How will 'SQUARE' be written in that language?**

Ans
✓ A. TTZYNY
✗ B. TNZYVY
✗ C. TNPYVY
✗ D. TTPNKY

Question ID : **1034358827**
Status : **Answered**
Chosen Option : **A**

Q.19 **Identify the number that does NOT belong to the following series.**
3, 7, 13, 28, 77, 279

Ans
✗ A. 77
✗ B. 28
✓ C. 279
✗ D. 13

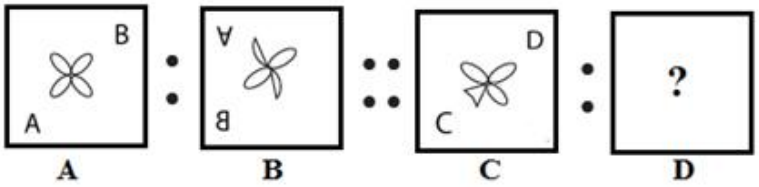
Question ID : **1034358836**
Status : **Not Answered**
Chosen Option : **--**

Q.20 **Select the option that is related to the third letter-cluster in the same way as the second letter-cluster is related to the first letter-cluster.**
MTSQ : OZMS :: LDKR : ?

Ans
✗ A. IEJO
✗ B. IQYO
✗ C. NYQT
✓ D. NJET

Question ID : **1034358824**
Status : **Answered**
Chosen Option : **D**

Q.21 Select the option that is related to figure C in the same way as figure B is related to figure A.



Ans

✗ A. 

✗ B. 

✓ C. 

✗ D. 

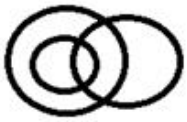
Question ID : **1034358845**
Status : **Answered**
Chosen Option : **C**

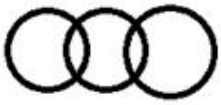
Q.22 Select the Venn diagram that best illustrates the relationship between the following classes.
Girls, Chess players, Table tennis fans

Ans

✓ A. 

✗ B. 

✗ C. 

✗ D. 

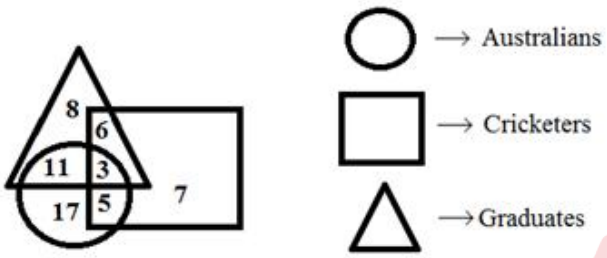
Question ID : **1034358839**
Status : **Answered**
Chosen Option : **A**

Q.23 **Identify the letter-cluster that does NOT belong to the following series.**
STOP, VWKJ, YZGD, BCCY, EFYR, HIUL

Ans
- ✔ A. BCCY
- ✘ B. EFYR
- ✘ C. HIUL
- ✘ D. YZGD

Question ID : **1034358819**
Status : **Answered**
Chosen Option : **A**

Q.24 **Study the given figure and answer the questions that follow.**



How many Australians are neither graduates nor Cricketers?

Ans
- ✘ A. 11
- ✔ B. 17
- ✘ C. 5
- ✘ D. 3

Question ID : **1034358840**
Status : **Answered**
Chosen Option : **B**

Q.25 **Four letter-clusters pairs have been given, out of which three are alike in some manner and one is different. Select the letter-cluster pair that is different.**

Ans
- ✔ A. MOST : PLVR
- ✘ B. ROAD : ULDA
- ✘ C. MAIN : PXLK
- ✘ D. SENT : VBQQ

Question ID : **1034358822**
Status : **Answered**
Chosen Option : **A**

Q.26 Study the given pattern carefully and select the number from among the given options that can replace the question mark (?) in it.

34	38	7
46	38	5
84	?	15

Ans
✔ A. 87
✘ B. 78
✘ C. 83
✘ D. 38

Question ID : **1034358838**
Status : **Answered**
Chosen Option : **A**

Q.27 Select the number from among the given options that can replace the question mark (?) in the following series.
13, 23, 26, 49, 52, ?

Ans
✘ A. 120
✔ B. 101
✘ C. 110
✘ D. 102

Question ID : **1034358835**
Status : **Answered**
Chosen Option : **B**

Q.28 Sathwik left her hostel and walked 18 km southwards to reach the market, turned right and walked 9 km, then again turned right and walked 18 km, and then turned left and walked 18 km to reach the shopping mall. How many kilometres does she have to walk to reach her hostel straight from the final position?

Ans
✘ A. 24 km
✔ B. 27 km
✘ C. 22 km
✘ D. 26 km

Question ID : **1034358842**
Status : **Answered**
Chosen Option : **B**

Q.29 **Select the option that is related to the third word in the same way as the second word is related to the first word.**
Numismatics : Coins :: Orography : ?

Ans
✗ A. Eggs
✓ B. Mountains
✗ C. Fossils
✗ D. Shells

Question ID : **1034358825**
Status : **Answered**
Chosen Option : **B**

Q.30 **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:
All teachers are artists.
Some magicians are artists.
Conclusions:
(I) All teachers are magicians.
(II) Some magicians are teachers.

Ans
✗ A. Only conclusion II follows
✓ B. Neither conclusion I nor II follows
✗ C. Only conclusion I follows
✗ D. Either conclusion I or II follows

Question ID : **1034358832**
Status : **Answered**
Chosen Option : **B**

Section : **General Engineering**

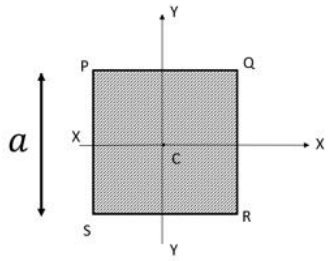
Q.1 **Steel is an alloy of:**

Ans
✗ A. carbon and silicon
✓ B. iron and carbon
✗ C. iron and sulphur
✗ D. carbon and manganese

Question ID : **1034358877**
Status : **Answered**
Chosen Option : **B**

Q.2 What will be the moment of inertia (second moment of area) of a square lamina [PQRS] about its centroidal X-axis?

[X-X = Centroidal X-axis, Y-Y = Centroidal Y-axis, C=centroid of lamina, a = Side of square]



Ans

✗ A. Moment of inertia about centroidal X-axis = $\frac{a^4}{3}$

✗ B. Moment of inertia about centroidal X-axis = $\frac{a^4}{36}$

✓ C. Moment of inertia about centroidal X-axis = $\frac{a^4}{12}$

✗ D. Moment of inertia about centroidal X-axis = $\frac{a^4}{64}$

Question ID : **1034358868**
Status : **Answered**
Chosen Option : **C**

Q.3 **Which of the following tariffs can be expressed by the expression z = a + by?**
z = total tariff
a = tariff based on Maximum demand
by = tariff based on energy consumption.

Ans

✗ A. Doherty rate

✗ B. Flat demand rate

✗ C. Straight meter rate

✓ D. Hopkinson demand rate

Question ID : **1034358865**
Status : **Not Answered**
Chosen Option : **--**

Q.4 **In case of _____, the colour of light is very near to that of natural light.**

Ans

✗ A. a sodium vapour lamp

✗ B. a fluorescent lamp

✓ C. an incandescent lamp

✗ D. a neon-gas lamp

Question ID : **1034358866**
Status : **Answered**
Chosen Option : **C**

Q.5 **What will be the density of a fluid having dynamic viscosity of 0.04 poise and kinematic viscosity of 0.04 stokes?**

Ans
- ✗ A. 10,000 kg/m^3
- ✗ B. 100 kg/m^3
- ✓ C. 1000 kg/m^3
- ✗ D. 500 kg/m^3

Question ID : **1034358875**
Status : **Answered**
Chosen Option : **C**

Q.6 **As per IS 10500 : 2012 (Drinking water specifications), the acceptable limit of turbidity in water is_____**

Ans
- ✗ A. 5 NTU
- ✓ B. 1 NTU
- ✗ C. 10 NTU
- ✗ D. 15 NTU

Question ID : **1034358855**
Status : **Answered**
Chosen Option : **B**

Q.7 **Joules/Coulomb is the unit of _____.**

Ans
- ✓ A. electric potential
- ✗ B. current
- ✗ C. work done
- ✗ D. power

Question ID : **1034358858**
Status : **Answered**
Chosen Option : **D**

Q.8 **Which of the following is NOT a valid advantage of PMMC instruments?**

Ans
- ✗ A. Low power consumption
- ✓ B. Can be used for AC as well as DC measurements
- ✗ C. Uniform scale
- ✗ D. High accuracy

Question ID : **1034358863**
Status : **Not Answered**
Chosen Option : **--**

Q.9 In a chain surveying, the biggest of the main survey line is called _____.

Ans
✔ A. base line
✘ B. boundary line
✘ C. tie line
✘ D. check line

Question ID : **1034358850**
Status : **Answered**
Chosen Option : **A**

Q.10 Which of the following soil components has particles with size in the range of 75 micron to 4.75 mm?

Ans
✘ A. Silt
✘ B. Peat
✘ C. Gravel
✔ D. Sand

Question ID : **1034358851**
Status : **Answered**
Chosen Option : **D**

Q.11 In a DC circuit, a 250 Ω resistor carries 40 mA current. Find the voltage drop across the resistor.

Ans
✘ A. 1000 V
✘ B. 100 V
✔ C. 10 V
✘ D. 1 V

Question ID : **1034358859**
Status : **Answered**
Chosen Option : **C**

Q.12 Which of the following is an example for grade of cement concrete?

Ans
✘ A. CC304
✔ B. M20
✘ C. OPC 53
✘ D. Fe415

Question ID : **1034358856**
Status : **Answered**
Chosen Option : **B**

Q.13 **Which of the following is the correct unit of measurement for the item of work 'earth filling in foundation trenches'?**

Ans
- ✗ A. Loads
- ✗ B. Tonnes
- ✓ C. Cubic meter
- ✗ D. Square meter

Question ID : **1034358849**
Status : **Answered**
Chosen Option : **C**

Q.14 **The imaginary part of the impedance is called _____.**

Ans
- ✗ A. resistance
- ✓ B. reactance
- ✗ C. admittance
- ✗ D. susceptance

Question ID : **1034358862**
Status : **Answered**
Chosen Option : **A**

Q.15 **Which of the following types of rock exhibits less crushing strength when compared to other mentioned type of rocks?**

Ans
- ✗ A. Granite
- ✓ B. Laterite
- ✗ C. Trap
- ✗ D. Gneiss

Question ID : **1034358848**
Status : **Answered**
Chosen Option : **B**

Q.16 **A cyclic heat engine operates on a Carnot cycle between the Source and the Sink temperature of 600 K and 300 K, respectively. If the heat engine receives 400 kJ of heat from the Source, what will be the amount of the heat rejected to the Sink?**

Ans
- ✗ A. 100 kJ
- ✓ B. 200 kJ
- ✗ C. 300 kJ
- ✗ D. 400 kJ

Question ID : **1034358871**
Status : **Marked For Review**
Chosen Option : **B**

Q.17 **In 5 kg of a liquid-vapour mixture, 4 kg is the mass of vapour and the rest is the liquid. What will be the dryness fraction of the liquid-vapour mixture?**

Ans
- ✗ A. 1.0
- ✓ B. 0.8
- ✗ C. 0.2
- ✗ D. 0.4

Question ID : **1034358869**
Status : **Answered**
Chosen Option : **B**

Q.18 **For squirrel cage induction motors, which of the following statements is INCORRECT?**

Ans
- ✓ A. Brushes are required for transferring the power.
- ✗ B. The rotor acts as a short circuited secondary of a transformer.
- ✗ C. It has fixed rotor resistance.
- ✗ D. It has rugged construction.

Question ID : **1034358864**
Status : **Not Answered**
Chosen Option : **--**

Q.19 **Which of the following is correct for the ideal vapour-compression refrigeration cycle?**

Ans
- ✗ A. Constant-pressure heat rejection takes place in the compressor
- ✓ B. Isentropic compression takes place in the compressor
- ✗ C. Throttling takes place in an evaporator
- ✗ D. Constant-pressure heat absorption takes place in the expansion valve

Question ID : **1034358873**
Status : **Answered**
Chosen Option : **A**

Q.20 **In a magnetic circuit, _____ is a measure of the opposition offered by the magnetic circuit to the establishment of magnetic flux.**

Ans
- ✗ A. flux density
- ✓ B. reluctance
- ✗ C. magnetomotive force
- ✗ D. permeance

Question ID : **1034358860**
Status : **Not Answered**
Chosen Option : **--**

Q.21 **Which of the following is true?**

Ans
✗ A. When fluid passes through the nozzle, pressure as well as the velocity of the fluid decreases.

✗ B. When fluid passes through the nozzle, the pressure and velocity of the fluid remain constant.

✓ C. When fluid passes through the nozzle, the pressure of the fluid decreases while the velocity of the fluid increases.

✗ D. When fluid passes through the nozzle, the pressure of the fluid increases while the velocity of the fluid decreases.

Question ID : **1034358874**
Status : **Answered**
Chosen Option : **C**

Q.22 **Which of the following is true?**

Ans
✗ A. Kaplan turbine is a tangential flow turbine.

✗ B. Kaplan turbine is an impulse turbine.

✓ C. Pelton wheel is a tangential flow turbine.

✗ D. Francis turbine is an impulse turbine.

Question ID : **1034358876**
Status : **Answered**
Chosen Option : **C**

Q.23 **A certain amount of an ideal gas occupies a volume of 0.3 m^3 at a pressure of 2 bar and temperature of 450 K. The gas undergoes a thermodynamic constant-volume process until the pressure of the gas raises to 5 bar. What will be the temperature of the gas at the end of the process?**

Ans
✓ A. 1125 K

✗ B. 1175 K

✗ C. 1100 K

✗ D. 1150 K

Question ID : **1034358870**
Status : **Answered**
Chosen Option : **A**

Q.24 **Identify whether the given statements with respect to viscosity of fluids are correct or incorrect.**
Statements:
A) Viscosity of fluids is due to cohesion and interaction between fluid particles.
B) An ideal fluid exhibits a greatest value of viscosity when compared to other real fluids.

Ans
✓ A. Statement A is correct and B is incorrect

✗ B. Statement B is correct and A is incorrect

✗ C. Both statements are incorrect

✗ D. Both statements are correct

Question ID : **1034358852**
Status : **Answered**
Chosen Option : **A**

Q.25 As per IRC recommendations, the width of carriageway per lane in a multilane pavements is_____

Ans
✗ A. 2.5 m
✗ B. 4.0 m
✗ C. 3.0 m
✓ D. 3.5 m

Question ID : **1034358854**
Status : **Answered**
Chosen Option : **D**

Q.26 A sinusoidal voltage is represented by the expression, v(t) = 20 sin ωt. What will be the peak to peak amplitude of the signal?

Ans
✗ A. 37.37 V
✓ B. 40 V
✗ C. 28.28 V
✗ D. 20 V

Question ID : **1034358861**
Status : **Not Answered**
Chosen Option : **--**

Q.27 Identify whether the given statements with respect to sprinkler irrigation are correct or incorrect.
Statements:
A) Sprinkler irrigation is more suitable than surface methods when the land has very pervious soil and undulated surface profile.
B) Sprinkler irrigation is more suitable than surface methods when the land has steep slopes and easily erodible soil

Ans
✗ A. Statement B is correct and A is incorrect
✗ B. Both statements are incorrect
✓ C. Both statements are correct
✗ D. Statement A is correct and B is incorrect

Question ID : **1034358853**
Status : **Answered**
Chosen Option : **C**

Q.28 As per IS 456 : 2000, which of the following is a classified type of reinforced cement concrete (RCC) slab?

Ans
✓ A. Two-way slab
✗ B. Three-way slab
✗ C. Five-way slab
✗ D. Four-way slab

Question ID : **1034358857**
Status : **Answered**
Chosen Option : **A**

Q.29 A refrigerator has a coefficient of performance of 2. The rate of heat removed from refrigerated space is 60 kJ/min. What will be the electrical power consumed by the compressor?

Ans
✔ A. 0.5 kW
✘ B. 1.5 kW
✘ C. 1 kW
✘ D. 2 kW

Question ID : **1034358872**
Status : **Not Answered**
Chosen Option : **--**

Q.30 With reference to BJT, which of the following statements is true or FALSE?
1. The emitter diode is always revere biased, whereas the collector diode is always forward biased.
2. The emitter is heavily doped.

Ans
✘ A. 1. True 2.True
✘ B. 1. False 2.False
✔ C. 1. False 2.True
✘ D. 1. True 2.False

Question ID : **1034358867**
Status : **Not Answered**
Chosen Option : **--**

Section : **Domain Knowledge**

Q.1 Which of the following is NOT a method of land reclamation of salt-affected land in irrigated command area?

Ans
✘ A. Leaching
✘ B. Surface drainage
✘ C. Sub-soiling
✔ D. Under irrigation by sprinklers

Question ID : **1034358944**
Status : **Answered**
Chosen Option : **D**

Q.2 According to the world health organisation, what is the recommended range of the audiometric sound values for moderate hearing impairment?

Ans
✘ A. 26-40 dB
✘ B. 61-80 dB
✘ C. 81 dB and above
✔ D. 41-60 dB

Question ID : **1034358969**
Status : **Marked For Review**
Chosen Option : **B**

Q.3 **Which of the following beams is a statically indeterminate structure?**

Ans
✗ A. One end of the beam is hinged and the other end is supported by a simple support

✗ B. One end of the beam is hinged and the other end is supported by the roller support

✓ C. Propped cantilever beam

✗ D. Cantilever beam

Question ID : **1034358971**
Status : **Answered**
Chosen Option : **C**

Q.4 **A specific gravity test is conducted to find the specific gravity of soil in the laboratory. The following data are obtained. Mass of empty jar = 0.498 kg, mass of jar with full of water = 1.7 kg, mass of oven dry soil sample = 0.2 kg, mass of oven dry soil with water in jar = 1.8 kg. What is the specific gravity of the soil sample?**

Ans
✓ A. 2.00

✗ B. 1.00

✗ C. 2.24

✗ D. 2.73

Question ID : **1034358903**
Status : **Answered**
Chosen Option : **A**

Q.5 **Select the correct option from the following statements between cost and value.**
Statement-1: Cost means the actual cost of construction whereas value means the present market value.
Statement-2: Cost depends on demand and supply whereas value is a constant amount.

Ans
✗ A. Both statements are incorrect

✓ B. Statement-1 is correct and statement-2 is incorrect

✗ C. Both statements are correct

✗ D. Statement-1 is incorrect and statement-2 is correct

Question ID : **1034358889**
Status : **Answered**
Chosen Option : **B**

Q.6 **If B is the base period of a crop in days, and D is the duty of water in hectares, then the relationship between duty, delta (Δ) and the base period is given by:**

Ans
✗ A. $B = \frac{8.64\Delta}{D}$ metres

✗ B. $\Delta = \frac{864B}{D}$ metres

✓ C. $\Delta = \frac{8.64B}{D}$ metres

✗ D. $\Delta = \frac{8.64D}{B}$ metres

Question ID : **1034358932**
Status : **Answered**
Chosen Option : **C**

Q.7 What is the magnetic declination at a place if the magnetic bearing of the sun at noon is 184^{o}?

Ans
✗ A. 4^{o} E
✗ B. 4^{o} N
✗ C. 4^{o} S
✓ D. 4^{o} W

Question ID : **1034358894**
Status : **Answered**
Chosen Option : **D**

Q.8 The standard width of an Indian broad gauge railway track is:

Ans
✗ A. 762 mm
✓ B. 1676 mm
✗ C. 1524 mm
✗ D. 1000 mm

Question ID : **1034358952**
Status : **Answered**
Chosen Option : **B**

Q.9 Which of the following is NOT an electromagnetic distance measurement equipment?

Ans
✗ A. Tellurometer
✓ B. Planimeter
✗ C. Distomats
✗ D. Geodimeter

Question ID : **1034358900**
Status : **Answered**
Chosen Option : **B**

Q.10 Which of the following is NOT an assumption of Bernoulli's theorem applied to fluid flow?

Ans
✗ A. The flow is incompressible.
✓ B. The fluid is real.
✗ C. The flow is steady.
✗ D. The flow is ideal.

Question ID : **1034358921**
Status : **Answered**
Chosen Option : **B**

Q.11 **According to IS: 4954-1968, the acceptable outdoor noise level in urban residential area is:**

Ans
- ✔ A. 35-45 dB
- ✘ B. 25-35 dB
- ✘ C. 50-60 dB
- ✘ D. 45-50 dB

Question ID : **1034358968**
Status : **Answered**
Chosen Option : **C**

Q.12 **Among the following, identify the one, which does NOT belong to the temporary adjustments for a Dumpy level.**

Ans
- ✔ A. Level tube adjustment
- ✘ B. Setting up the level
- ✘ C. Levelling up
- ✘ D. Elimination of parallax

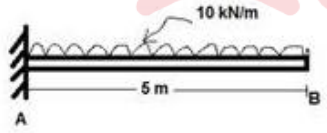
Question ID : **1034358898**
Status : **Answered**
Chosen Option : **C**

Q.13 **In which type of tachometric survey are the stadia hairs kept at a fixed interval and the staff interval or intercept (corresponding to the stadia hairs) on the levelling staff varies?**

Ans
- ✘ A. Tangential method
- ✘ B. Movable-hair method
- ✘ C. Subtense bar method
- ✔ D. Fixed-hair method

Question ID : **1034358899**
Status : **Answered**
Chosen Option : **D**

Q.14 **What is the maximum moment at fixed end of the given cantilever beam?**



Ans
- ✘ A. 150 kN-m
- ✘ B. 175 kN-m
- ✔ C. 125 kN-m
- ✘ D. 100 kN-m

Question ID : **1034358983**
Status : **Answered**
Chosen Option : **C**

Q.15 'Roundabout' is a road safety measure that reduces mainly:

Ans
✔ A. vehicle and pedestrian conflicts
✘ B. vehicle accident conflicts only
✘ C. traffic congestion only
✘ D. pedestrian conflicts only

Question ID : **1034358957**
Status : **Answered**
Chosen Option : **B**

Q.16 When the sanctioned estimate is likely to be exceeded by more than 5% either from the insufficient fund or, price level, or whatever, other than structural alteration, then the estimate which is prepared is called:

Ans
✘ A. unit rate estimate
✘ B. supplementary estimate
✔ C. revised estimate
✘ D. detailed estimate

Question ID : **1034358881**
Status : **Answered**
Chosen Option : **C**

Q.17 Which of the following tests is most commonly used to find the relative density and angle of shearing resistance of cohesionless soils?

Ans
✘ A. Standard proctor test
✔ B. Standard penetration test
✘ C. Standard compact test
✘ D. Standard bearing test

Question ID : **1034358917**
Status : **Answered**
Chosen Option : **B**

Q.18 Softening point of the bitumen is determined using the _____.

Ans
✘ A. float test
✘ B. flash and fire point test
✘ C. viscosity test
✔ D. ring and ball test

Question ID : **1034358948**
Status : **Answered**
Chosen Option : **D**

Q.19 What is the amount of water required per bag of cement (50 kg) for concrete mix proportion 1: 2 : 4, if the water-cement ratio is 0.58?

Ans
✗ A. 35 l
✗ B. 38 l
✗ C. 25 l
✓ D. 29 l

Question ID : **1034358883**
Status : **Answered**
Chosen Option : **D**

Q.20 What is the unit of dynamic viscosity of fluid in SI system?

Ans
✗ A. Square metre/second
✗ B. Kilogram force-second/square metre
✗ C. Dyne-second/square centimetre
✓ D. Newton-second/square metre

Question ID : **1034358918**
Status : **Answered**
Chosen Option : **D**

Q.21 Which of the following is NOT a physical property of a building material?

Ans
✗ A. Specific weight
✗ B. Density
✗ C. Porosity
✓ D. Elasticity

Question ID : **1034358878**
Status : **Answered**
Chosen Option : **D**

Q.22 The harmful effects of municipal solid waste includes all, EXCEPT:

Ans
✗ A. providing breeding sites of insects and infectious organisms
✓ B. improving the physiochemical and biological properties of plants and soil due to the large amount of nutrients
✗ C. contamination of groundwater and soil
✗ D. involving waste collection, transportation, segregation of wastes and disposal techniques

Question ID : **1034358965**
Status : **Answered**
Chosen Option : **B**

Q.23 **According to IS 456-2000, the maximum spacing of shear reinforcement measured along the axis of the member (reinforced concrete beam) shall not be more than _____ for vertical stirrups. Where d is the effective depth of the section.**

Ans
- ✗ A. 0.60 d
- ✗ B. 0.45 d
- ✗ C. 1.45 d
- ✓ D. 0.75 d

Question ID : **1034358981**
Status : **Answered**
Chosen Option : **D**

Q.24 **Select the primary air pollutant from the following.**

Ans
- ✗ A. Aerosols
- ✗ B. Ozone
- ✓ C. Sulphur dioxide
- ✗ D. Photochemical smog

Question ID : **1034358967**
Status : **Answered**
Chosen Option : **C**

Q.25 **Under the classification of irrigation canals based on the alignment criteria, identify the type of canal which is aligned along the natural ridge lines.**

Ans
- ✗ A. Detour canal
- ✓ B. Watershed canal
- ✗ C. Contour canal
- ✗ D. Side slope canal

Question ID : **1034358936**
Status : **Answered**
Chosen Option : **B**

Q.26 **The process of turning the telescope in a vertical plane through 180^{o} about the trunnion axis is called:**

Ans
- ✗ A. centring
- ✗ B. swinging
- ✗ C. levelling
- ✓ D. transiting

Question ID : **1034358896**
Status : **Answered**
Chosen Option : **D**

Q.27 **According to IS code 2470-1963, the capacity of sludge digestion is equal to _____ at 25°C.**

Ans
- ✗ A. 7.76 m^3 per 1000 persons
- ✗ B. 7.76 m^3 per 100 persons
- ✓ C. 3.3 m^3 per 100 persons
- ✗ D. 3.3 m^3 per 1000 persons

Question ID : **1034358885**
Status : **Not Answered**
Chosen Option : **--**

Q.28 **In a staircase, the horizontal projection distance between the first and the last riser of an inclined flight is called:**

Ans
- ✗ A. waist
- ✗ B. tread
- ✓ C. going
- ✗ D. nosing

Question ID : **1034358985**
Status : **Answered**
Chosen Option : **C**

Q.29 **Which of the following tests is used to measure the undrained shear strength of soft saturated clay in the field?**

Ans
- ✗ A. Direct shear test
- ✗ B. Triaxial compression test
- ✗ C. Unconfined compression test
- ✓ D. Vane shear test

Question ID : **1034358913**
Status : **Answered**
Chosen Option : **D**

Q.30 **What is the maximum permissible limit of chloride in the absence of an alternate source of drinking water as per IS 10500-2012?**

Ans
- ✗ A. 250 mg/l
- ✗ B. 2000 mg/l
- ✓ C. 1000 mg/l
- ✗ D. 500 mg/l

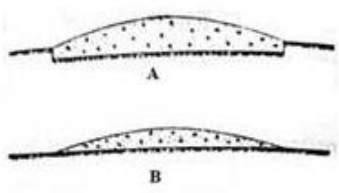
Question ID : **1034358958**
Status : **Answered**
Chosen Option : **C**

Q.31 What is the side slope of Cipolletti weir?

Ans
- ✔ A. 1 horizontal to 4 vertical
- ✘ B. 1 horizontal to 3 vertical
- ✘ C. 1 horizontal to 2 vertical
- ✘ D. 1 horizontal to 1 vertical

Question ID : **1034358920**
Status : **Answered**
Chosen Option : **A**

Q.32 Two gravel road cross-sections are shown in Figures A and B. Identify the type of gravel road cross-sections.



Ans
- ✘ A. A-Feather type and B-Trench type
- ✔ B. A-Trench type and B-Feather type
- ✘ C. Bother are Trench type
- ✘ D. Both are Feather type

Question ID : **1034358950**
Status : **Answered**
Chosen Option : **B**

Q.33 An arrangement of points and crossings with lead rails, by which trains may be diverted from one track to another moving in the facing direction, thereby forming the main function of:

Ans
- ✘ A. switches
- ✔ B. turnout
- ✘ C. crossing
- ✘ D. stations

Question ID : **1034358955**
Status : **Answered**
Chosen Option : **B**

Q.34 If Q is the discharge through a rectangular notch, H is the head over the rectangular notch, then the error in discharge due to the error in measurement of head over a rectangular notch is given by:

Ans

✗ A. $\frac{dQ}{Q} = \frac{5dH}{2H}$

✓ B. $\frac{dQ}{Q} = \frac{3dH}{2H}$

✗ C. $\frac{dH}{Q} = \frac{3dQ}{2H}$

✗ D. $\frac{dQ}{2H} = \frac{3dH}{Q}$

Question ID : **1034358923**
Status : **Answered**
Chosen Option : **B**

Q.35 According to IS 4082-1996, to store cement bags at the working site, a space of _____ minimum shall be left around between the exterior walls and the stacks.

Ans

✗ A. 800 mm

✗ B. 200 mm

✓ C. 600 mm

✗ D. 400 mm

Question ID : **1034358978**
Status : **Answered**
Chosen Option : **C**

Q.36 Which type of fixture and fastenings are used in rail joints to maintain the continuity of the rails?

Ans

✗ A. Bearing plate

✓ B. Fish plate

✗ C. Spikes

✗ D. Keys

Question ID : **1034358953**
Status : **Answered**
Chosen Option : **B**

Q.37 Which of the following statements about the runoff coefficient value is correct?

Ans

✓ A. A larger value for areas with low infiltration and lower for high infiltration

✗ B. A larger value for areas with afforestation and lower for deforestation

✗ C. A larger value for sand and lower for clay

✗ D. A larger value for areas with pervious surface and lower for impervious surface

Question ID : **1034358928**
Status : **Answered**
Chosen Option : **A**

Q.38 **The soil fertility of an irrigation command area can be achieved by:**

Ans
- ✗ A. irrigation
- ✓ B. crop rotation
- ✗ C. groundwater recharge
- ✗ D. drainage

Question ID : **1034358943**
Status : **Answered**
Chosen Option : **B**

Q.39 **Which of the following types of topographical surveys consists of methods of radiation, intersection, traversing and resection?**

Ans
- ✗ A. Aerial survey
- ✓ B. Plane table survey
- ✗ C. Theodolite survey
- ✗ D. Hydrographic survey

Question ID : **1034358895**
Status : **Answered**
Chosen Option : **B**

Q.40 **According to IRC 15-2002 specification, what is the maximum spacing of contraction joints in an unreinforced cement concrete slab of thickness 15 cm in rigid pavements?**

Ans
- ✗ A. 14 m
- ✗ B. 1.5 m
- ✗ C. 8.5 m
- ✓ D. 4.5 m

Question ID : **1034358946**
Status : **Answered**
Chosen Option : **D**

Q.41 **In consolidation of soils, the _____ is defined as the decrease in void ratio per unit increase in effective stress.**

Ans
- ✓ A. coefficient of compressibility
- ✗ B. compression index
- ✗ C. coefficient of volume change
- ✗ D. expansion index

Question ID : **1034358910**
Status : **Answered**
Chosen Option : **A**

Q.42 **Which of the following is a non-recording type of rain gauge?**

Ans
✔ A. Symon's type

✘ B. Float type

✘ C. Tipping bucket type

✘ D. Weighing type

Question ID : **1034358927**
Status : **Answered**
Chosen Option : **A**

Q.43 **Which of the following salient feature is NOT related to Kennedy's theory of alluvial channel design?**

Ans
✘ A. The mean velocity is computed by Kutter's equation

✔ B. Silt factor is introduced

✘ C. Kennedy's theory does not give equation for bed slope

✘ D. Critical velocity ratio is introduced

Question ID : **1034358939**
Status : **Answered**
Chosen Option : **B**

Q.44 **A soil is said to be normally consolidated when:**

Ans
✘ A. the soil undergoes primary consolidation without any initial pressure acting on it

✘ B. the soil changes its volume by the initial pressure applied on it

✔ C. the soils which had not been subjected to the pressure greater than the present existing pressure

✘ D. the soil had been subjected in the past to a pressure in excess of the present pressure

Question ID : **1034358912**
Status : **Answered**
Chosen Option : **C**

Q.45 **The following statements are related to slump test. Select the correct option.**
Statement 1: A slump cone measures 100 mm (top diameter), 200 mm (bottom diameter) and 350 mm height.
Statement 2: Slump test helps in qualitatively understanding the setting time of concrete.

Ans
✔ A. Both statements are false

✘ B. Statement 1 is true and statement 2 is false

✘ C. Statement 1 is false and statement 2 is true

✘ D. Both statements are true

Question ID : **1034358977**
Status : **Answered**
Chosen Option : **A**

Q.46 **Read the following statements and select the correct option.**
Statement 1: Sprinkler irrigation is suited to crops requiring frequent and larger depths of irrigation during high winds and temperature.
Statement 2: Drip irrigation is suited to crops requiring frequent irrigation close to root during high winds and temperature.

Ans
✔ A. Statement 1 is incorrect and statement 2 is correct
✘ B. Statement 1 is correct and statement 2 is incorrect
✘ C. Both statements are incorrect
✘ D. Both statements are correct

Question ID : **1034358926**
Status : **Answered**
Chosen Option : **A**

Q.47 **In a sudden enlargement of a pipe cross-section, if the velocity of flow at the inlet of pipe (V1) = 40 m/s,**
velocity of flow at the outlet of the pipe (V2) = 20 m/s and the acceleration due to gravity is assumed to be 10 m/s^2, then the loss of head due to sudden enlargement of pipe is:

Ans
✔ A. 20 m of water
✘ B. 15 m of water
✘ C. 18 m of water
✘ D. 40 m of water

Question ID : **1034358922**
Status : **Answered**
Chosen Option : **A**

Q.48 **The ratio of the power available at the shaft of the turbine to the power delivered to the runner is defined as:**

Ans
✘ A. hydraulic efficiency of turbine
✘ B. volumetric efficiency of turbine
✔ C. mechanical efficiency of turbine
✘ D. overall efficiency of turbine

Question ID : **1034358924**
Status : **Answered**
Chosen Option : **C**

Q.49 **According to IS code SP-27-1987, no deduction shall be made for opening NOT exceeding _____ in painting work estimate.**

Ans
✘ A. 1.00 sq. m
✔ B. 0.50 sq. m
✘ C. 0.05 sq. m
✘ D. 0.75 sq. m

Question ID : **1034358884**
Status : **Answered**
Chosen Option : **B**

Q.50 **2 cumec of water is pumped to farm distribution system 1.4 cumec is delivered to turn out, 0.9 km from the well. Compute the conveyance efficiency.**

Ans
- ✔ A. 70%
- ✘ B. 60%
- ✘ C. 80%
- ✘ D. 50%

Question ID : **1034358935**
Status : **Answered**
Chosen Option : **A**

Q.51 **Which of the following methods is NOT used for calculating depreciation?**

Ans
- ✘ A. Quantity survey method
- ✔ B. Crossing method
- ✘ C. Straight line method
- ✘ D. Sinking fund method

Question ID : **1034358890**
Status : **Answered**
Chosen Option : **B**

Q.52 **Which type of surveying does NOT make use of the principle of Triangulation?**

Ans
- ✘ A. Plane table surveying
- ✘ B. Chain surveying
- ✔ C. Aerial surveying
- ✘ D. Compass surveying

Question ID : **1034358893**
Status : **Answered**
Chosen Option : **C**

Q.53 **'Blaine air permissibility test' is used to find the _____ property of Portland cement.**

Ans
- ✘ A. strength
- ✘ B. setting time
- ✔ C. fineness
- ✘ D. soundness

Question ID : **1034358879**
Status : **Answered**
Chosen Option : **C**

Q.54 **Which of the following sewage treatment components is used to remove oil and grease from the sewage?**

Ans
- ✗ A. Detritus tank
- ✗ B. Grit chamber
- ✓ C. Skimming tank
- ✗ D. Imhoff tank

Question ID : **1034358964**
Status : **Answered**
Chosen Option : **C**

Q.55 **If Maize requires about 8 cm of water after every 20 days, and the base period for maize is 120 days, then what is the value of delta for maize?**

Ans
- ✗ A. 36 cm
- ✓ B. 48 cm
- ✗ C. 45 cm
- ✗ D. 40 cm

Question ID : **1034358930**
Status : **Answered**
Chosen Option : **B**

Q.56 **Which of the following is NOT a type of flood control structure?**

Ans
- ✗ A. Detention pond
- ✗ B. Groins
- ✓ C. Subsurface barrier
- ✗ D. Levees

Question ID : **1034358941**
Status : **Answered**
Chosen Option : **C**

Q.57 **In soil particle size analysis, if D_{10}, D_{30} and D_{60} represent particle size correspond to 10%, 30% and 60 % finer than these sizes respectively, then the coefficient of curvature is given by:**

Ans
- ✗ A. $\frac{D_{10}^2}{D_{60} \times D_{30}}$
- ✗ B. $\frac{D_{60}}{D_{10}}$
- ✓ C. $\frac{D_{30}^2}{D_{60} \times D_{10}}$
- ✗ D. $\frac{D_{60}^2}{D_{30} \times D_{10}}$

Question ID : **1034358904**
Status : **Answered**
Chosen Option : **C**

Q.58 **Following are the major irrigation projects of India. In which project is the culturable command area (CCA) the highest?**

Ans
- ✗ A. Beas Project
- ✗ B. Nagarjuna Sagar Project
- ✓ C. Bhakra Nangal Project
- ✗ D. Gandak Project

Question ID : **1034358945**
Status : **Not Answered**
Chosen Option : **--**

Q.59 **Which of the following earth pressure theories assumes that there is no wall friction, the ground and failure surfaces are straight planes, and that the resultant force acts parallel to the backfill slope?**

Ans
- ✗ A. Passive earth pressure
- ✗ B. Active earth pressure
- ✓ C. Rankine's earth pressure theory
- ✗ D. Coulomb's wedge theory

Question ID : **1034358915**
Status : **Answered**
Chosen Option : **C**

Q.60 **The quantity of coarse aggregate required for 2 km length for wearing a coat of a 4 m wide road with 12 cm thick is: (Assume no additional material is required for compaction)**

Ans
- ✗ A. 980 cu. m
- ✗ B. 940 cu. m
- ✓ C. 960 cu. m
- ✗ D. 920 cu. m

Question ID : **1034358887**
Status : **Answered**
Chosen Option : **C**

Q.61 **The estimated value of a built-up property at the end of its useful life without being dismantled is called:**

Ans
- ✗ A. market value
- ✗ B. scrap value
- ✓ C. salvage value
- ✗ D. book value

Question ID : **1034358891**
Status : **Answered**
Chosen Option : **C**

Q.62 **Arrange the following layers of flexible pavement in sequential order (from bottom to top).**
Surface course, Subgrade course, Subbase course, Base course

Ans

✔ A. Subgrade course, Subbase course, Base course, Surface course

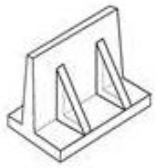
✘ B. Subbase course, Base course, Subgrade course, Surface course

✘ C. Surface course, Subgrade course, Base course, Subbase course

✘ D. Base course, Subgrade course, Subbase course, Surface course

Question ID : **1034358949**
Status : **Answered**
Chosen Option : **A**

Q.63 **Identify the type of retaining wall shown in the figure.**



Ans

✘ A. Gravity wall

✘ B. Cantilever retaining wall

✔ C. Counterfort retaining wall

✘ D. Semi gravity retaining wall

Question ID : **1034358973**
Status : **Answered**
Chosen Option : **C**

Q.64 **As per IS 456 : 2000, the design bond stress in limit state method for plain bars in tension for M20 concrete is:**

Ans

✔ A. 1.2 N/mm^2

✘ B. 1.7 N/mm^2

✘ C. 1.4 N/mm^2

✘ D. 1.9 N/mm^2

Question ID : **1034358982**
Status : **Answered**
Chosen Option : **A**

Q.65 **The number of hectares of land irrigated for full growth of a given crop by a supply of 1 m^3/s of water continuously during the entire base period (B) of that crop, is defined as:**

Ans

✘ A. delta

✘ B. optimum water depth

✔ C. duty

✘ D. kor depth

Question ID : **1034358931**
Status : **Answered**
Chosen Option : **C**

Q.66 **The recommended spacing of manholes for sewers having a diameter over 2.0 m on straight runs as per IS: 4111 (Part 1) – 1986 (Reaffirmed 2001) is:**

Ans

✗ A. 200 m

✓ B. 300 m

✗ C. 50 m

✗ D. 100 m

Question ID : **1034358963**
Status : **Answered**
Chosen Option : **D**

Q.67 **A solid shaft of 100 mm diameter is used to transmit torque, find the maximum torque transmitted by the shaft if the maximum shear stress induced to the shaft is 32 N/mm^2.**

Ans

✗ A. 2800πk N-mm

✗ B. 2500π kN-mm

✗ C. 1500π kN-mm

✓ D. 2000π kN-mm

Question ID : **1034358975**
Status : **Answered**
Chosen Option : **D**

Q.68 **Which type of water distribution system can water be made to circulate continuously through the whole distribution system?**

Ans

✗ A. Combined system

✗ B. Radial system

✓ C. Grid iron system

✗ D. Dead end system

Question ID : **1034358960**
Status : **Answered**
Chosen Option : **C**

Q.69 **Which of the following is the ruling principle of surveying?**

Ans

✗ A. Working from point to point

✓ B. Working from whole to part

✗ C. Working from higher elevation to lower elevation

✗ D. Working from part to whole

Question ID : **1034358892**
Status : **Answered**
Chosen Option : **B**

Q.70 **Select the correct order of following surface water treatment processes chronologically.**

Ans
- ✗ A. Filtration, aeration, screening, disinfection, sedimentation
- ✓ B. Screening, aeration, sedimentation, filtration, disinfection
- ✗ C. Aeration, screening, filtration, sedimentation, disinfection
- ✗ D. Screening, filtration, aeration, sedimentation, disinfection

Question ID : **1034358959**
Status : **Answered**
Chosen Option : **B**

Q.71 **For a soil sample, the ratio of the volume of voids to the volume of solids is called:**

Ans
- ✓ A. the void ratio
- ✗ B. porosity
- ✗ C. the degree of saturation
- ✗ D. percentage air voids

Question ID : **1034358901**
Status : **Answered**
Chosen Option : **A**

Q.72 **What does the groundwater table signify?**

Ans
- ✗ A. Aquifuge
- ✗ B. Aquitard
- ✗ C. Confined aquifer
- ✓ D. Unconfined aquifer

Question ID : **1034358908**
Status : **Answered**
Chosen Option : **D**

Q.73 **Which of the following infiltration indexes represents the average rate of rainfall above which the rainfall volume is equal to the runoff volume?**

Ans
- ✗ A. Drought index
- ✗ B. Aridity index
- ✓ C. Φ-index
- ✗ D. W = index

Question ID : **1034358929**
Status : **Answered**
Chosen Option : **C**

Q.74 **In the effective stress principle, pore water cannot resist _____ and is taken as _____.**

Ans
- ✓ A. shear stress, zero
- ✗ B. tensile stress, unity
- ✗ C. zero, shear stress
- ✗ D. compressive stress, unity

Question ID : **1034358909**
Status : **Answered**
Chosen Option : **A**

Q.75 A soil sample has a water content of 10% and a void ratio of 0.5. If the specific gravity of the soil sample is 2.70, determine the degree of saturation.

Ans
✔ A. 0.54
✘ B. 0.45
✘ C. 0.49
✘ D. 0.59

Question ID : **1034358902**
Status : **Answered**
Chosen Option : **A**

Q.76 The range of Manning's value for cement plastered masonry lined canal is:

Ans
✔ A. 0.012 – 0.015
✘ B. 0.065 – 0.08
✘ C. 0.20 – 0.25
✘ D. 0.0018 – 0.0020

Question ID : **1034358937**
Status : **Answered**
Chosen Option : **A**

Q.77 In the design of steel structure, Purlins are NOT designed as:

Ans
✘ A. simple beam
✔ B. fixed beam
✘ C. continuous beam
✘ D. cantilever beam

Question ID : **1034358987**
Status : **Answered**
Chosen Option : **D**

Q.78 Which of the following repair methods is used for stopping leakages in dams, basements, swimming pools?

Ans
✘ A. Placing
✔ B. Injection
✘ C. Sealant
✘ D. Plastering

Question ID : **1034358980**
Status : **Answered**
Chosen Option : **C**

Q.79 When sodium carbonate is present in the soil, _____is added to reclaim the land through the leaching process.

Ans
✗ A. potassium
✓ B. gypsum
✗ C. sodium sulphate
✗ D. iodine

Question ID : **1034358942**
Status : **Answered**
Chosen Option : **B**

Q.80 In which of the following methods are the length and breadths of the masonry walls at plinth level taken (internal dimensions of room + thickness of walls) for calculating quantities of building materials?

Ans
✗ A. Out to out and in to in method
✓ B. Crossing method
✗ C. Bay method
✗ D. Centre line method

Question ID : **1034358886**
Status : **Answered**
Chosen Option : **D**

Q.81 According to IS 456-2000, the theoretical value of the effective length of RCC column of unsupported length (l) which is effectively held In position and restrained against rotation in both ends is:

Ans
✗ A. 1.0 l
✓ B. 0.5 l
✗ C. 0.7 l
✗ D. 1.2 l

Question ID : **1034358984**
Status : **Answered**
Chosen Option : **B**

Q.82 According to IS: 456:2000, the permissible limit of chlorides present in water used for making concrete with embedded steel is:

Ans
✗ A. 1000 mg/l
✗ B. 5000 mg/l
✗ C. 2000 mg/l
✓ D. 500 mg/l

Question ID : **1034358976**
Status : **Answered**
Chosen Option : **D**

Q.83 **Which of following is NOT an advantage of irrigation?**

Ans
- ✔ A. Increases dampness and water borne diseases
- ✘ B. Elimination of mixed cropping
- ✘ C. Increases food production
- ✘ D. Increases groundwater recharge

Question ID : **1034358925**
Status : **Answered**
Chosen Option : **A**

Q.84 **The ratio of the volume of water obtained by gravity to the total volume of material (aquifer) drained is known as:**

Ans
- ✘ A. specific retention
- ✘ B. transmissibility
- ✔ C. specific yield
- ✘ D. storativity

Question ID : **1034358938**
Status : **Answered**
Chosen Option : **C**

Q.85 **The ratio of the amount of consolidation at a given time within a soil mass to the total amount of consolidation obtainable under a given stress condition is called:**

Ans
- ✘ A. the primary consolidation
- ✔ B. the degree of consolidation
- ✘ C. the secondary consolidation
- ✘ D. an initial consolidation

Question ID : **1034358911**
Status : **Answered**
Chosen Option : **B**

Q.86 **The point of contraflexure exists for which type of beams?**

Ans
- ✘ A. Cantilever beam
- ✔ B. Overhanging beam
- ✘ C. Fixed beam
- ✘ D. Simply supported beam

Question ID : **1034358972**
Status : **Answered**
Chosen Option : **B**

Q.87 In flexible pavements, the _____ is an application of low viscous cutback bitumen to an absorbent surface like granular bases on which the binder layer is placed.

Ans
✗ A. seal coat
✗ B. intermediate coat
✓ C. prime coat
✗ D. track coat

Question ID : **1034358951**
Status : **Answered**
Chosen Option : **C**

Q.88 The hydraulic mean depth of the circular sewer of the diameter D is equal to:

Ans
✗ A. D/3
✗ B. D/2
✓ C. D/4
✗ D. D

Question ID : **1034358962**
Status : **Answered**
Chosen Option : **C**

Q.89 Which of the following distillates is NOT used for the preparation of cutback Bitumen?

Ans
✗ A. Furnace oil
✓ B. Linseed oil
✗ C. Naphtha
✗ D. Diesel oil

Question ID : **1034358947**
Status : **Answered**
Chosen Option : **A**

Q.90 The relationship between the elastic constants such as Young's modulus (E), rigidity modulus (G) and bulk modulus (K), is given by:

Ans
✓ A. $E = \frac{9KG}{3K + G}$
✗ B. $E = \frac{9KG}{3G + K}$
✗ C. $E = \frac{9KG}{3K - G}$
✗ D. $E = \frac{KG}{K + G}$

Question ID : **1034358970**
Status : **Answered**
Chosen Option : **A**

Q.91 **Gross irrigated area is equal to:**

Ans
- ✗ A. net irrigated area in a year − area irrigated more than once in the same year
- ✗ B. net irrigated area in a year − area irrigated more than once in a season
- ✓ C. net irrigated area in a year + area irrigated more than once in the same year
- ✗ D. net irrigated area in a year + area irrigated more than once in a season

Question ID : **1034358933**
Status : **Answered**
Chosen Option : **C**

Q.92 **Which of the following is NOT a type of sewerage system?**

Ans
- ✗ A. Partially combined system
- ✗ B. Separate system
- ✗ C. Combined system
- ✓ D. Reticulated system

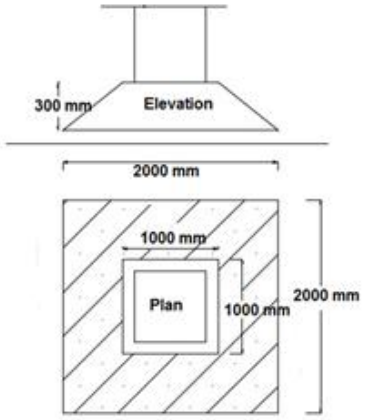
Question ID : **1034358961**
Status : **Answered**
Chosen Option : **D**

Q.93 **The angle of internal friction angle for a cohesionless soil is 45°. The inclination of the failure plane behind a vertical wall in the passive pressure case is inclined to horizontal at:**

Ans
- ✗ A. 90^{o}
- ✗ B. 0^{o}
- ✗ C. 67.5^{o}
- ✓ D. 22.5^{o}

Question ID : **1034358916**
Status : **Answered**
Chosen Option : **D**

Q.94 What is the volume of the trapezoidal footing in the given figure?



Ans

✗ A. 1.75 cu. m

✗ B. 1.15 cu. m

✓ C. 1.40 cu. m

✗ D. 1.25 cu. m

Question ID : **1034358888**
Status : **Answered**
Chosen Option : **C**

Q.95 Select the demerit of the triaxial test from the following.

Ans

✗ A. The pore pressure changes and the volumetric changes can be measured directly.

✗ B. The stress distribution on the failure plane is uniform.

✓ C. The apparatus is elaborate, costly and bulky as compared to other shear test equipment.

✗ D. There is complete control over the drainage conditions, i.e., all three types of drainages.

Question ID : **1034358914**
Status : **Answered**
Chosen Option : **C**

Q.96 What is the cost of brickwork required for a wall 4 m long, 3 m high and 30 cm thick, if the rate of brickwork is ₹200 per cubic metre?

Ans

✓ A. ₹720

✗ B. ₹950

✗ C. ₹840

✗ D. ₹620

Question ID : **1034358882**
Status : **Answered**
Chosen Option : **A**

Q.97 **In a geometric design of a railway track, the maximum gradient to which the track may be laid in a hilly area is called a:**

Ans
- ✔ A. pusher gradient
- ✘ B. ruling gradient
- ✘ C. momentum gradient
- ✘ D. station yard gradient

Question ID : **1034358954**
Status : **Answered**
Chosen Option : **C**

Q.98 **_____are used to overcome the accelerating effect of high temperature on the setting properties of concrete in hot weather concreting.**

Ans
- ✔ A. Retarders
- ✘ B. Accelerators
- ✘ C. Plasticizers
- ✘ D. Catalysers

Question ID : **1034358979**
Status : **Answered**
Chosen Option : **A**

Q.99 **The traffic signal 'STOP' sign as shown comes under the _____.**

Ans
- ✘ A. informative signs
- ✘ B. warning signs
- ✔ C. regulatory signs
- ✘ D. cautionary signs

Question ID : **1034358956**
Status : **Answered**
Chosen Option : **C**

Q.100 **Which of the following is NOT the ill effect of irrigation?**

Ans
- ✘ A. Water logging
- ✘ B. Dampness
- ✘ C. Soil salinisation
- ✔ D. Increased groundwater level

Question ID : **1034358940**
Status : **Answered**
Chosen Option : **D**

Q.101 The numerical difference between the plastic limit and shrinkage limit of a soil is known as the:

Ans
✔ A. shrinkage index
✘ B. plasticity index
✘ C. consistency index
✘ D. shrinkage ratio

Question ID : **1034358905**
Status : **Answered**
Chosen Option : **A**

Q.102 The expression for crippling load (P) when both end of the column are hinged is given by:
Where l = actual length of column, E = Youngs Modulus of elasticity; I = Moment of Inertia

Ans
✘ A. $P = \frac{2EI\pi^2}{l^2}$
✘ B. $P = \frac{4EI\pi^2}{l^2}$
✘ C. $P = \frac{EI\pi^2}{4l^2}$
✔ D. $P = \frac{EI\pi^2}{l^2}$

Question ID : **1034358974**
Status : **Answered**
Chosen Option : **D**

Q.103 In hydrostatics, the centre of pressure is calculated using the:

Ans
✘ A. principle of Bernoulli
✘ B. principle of momentum
✘ C. principle of energy
✔ D. principle of moments

Question ID : **1034358919**
Status : **Answered**
Chosen Option : **D**

Q.104 The open circular RCC water tank of diameter 5 m resting on firm ground with flexible base for 350 kilo litres capacity and height of the wall is 4 m. What is the hoop tension at the base of the wall? Take unit weight of water = 10kN/m^3

Ans
✘ A. 60 kN
✔ B. 100 kN
✘ C. 75 kN
✘ D. 85 kN

Question ID : **1034358986**
Status : **Answered**
Chosen Option : **B**

Q.105 The extra water that has to be supplied for different crop periods overlap in different seasons is known as:

Ans
✗ A. outlet factor
✓ B. overlap allowance
✗ C. kor watering
✗ D. capacity factor

Question ID : **1034358934**
Status : **Answered**
Chosen Option : **B**

Q.106 Read the following statements and select the correct option.
Statement-1: Tar is a dark viscous liquid produced by destructive distillation of organic material such as coal, oil, lignite and wool.
Statement-2: Bitumen is a non-crystalline solid or viscous material derived from petroleum, by natural or refinery processes.

Ans
✗ A. Statement-1 is true and statement-2 is false
✓ B. Both statements are true
✗ C. Both statements are false
✗ D. Statement-1 is false and statement-2 is true

Question ID : **1034358880**
Status : **Answered**
Chosen Option : **B**

Q.107 In the surveyor's telescope used for levelling, the _____ is a line that passes through the optical centre of the objective and the intersections of crosshairs.

Ans
✗ A. height of instrument
✓ B. line of collimation
✗ C. diaphragm
✗ D. parallax

Question ID : **1034358897**
Status : **Answered**
Chosen Option : **B**

Q.108 A soil has a liquid limit of 25% and a flow index of 12.5%. If the plastic limit is 15% and the water content of the soil in its natural condition in the field is 20%, determine the liquidity index:

Ans
✗ A. 10%
✓ B. 50%
✗ C. 80%
✗ D. 65%

Question ID : **1034358906**
Status : **Answered**
Chosen Option : **B**

Q.109 The coefficient of permeability of soil deposit in-situ condition can be determined by the:

Ans
- ✗ A. constant head permeability test
- ✓ B. pump out test
- ✗ C. consolidation test data
- ✗ D. variable head permeability test

Question ID : **1034358907**
Status : **Answered**
Chosen Option : **B**

Q.110 Which of the following equipment does NOT make use of the absorption process to control gaseous pollutants in industries?

Ans
- ✗ A. Packed columns
- ✗ B. Spray towers
- ✗ C. Venture scrubbers
- ✓ D. Incinerators

Question ID : **1034358966**
Status : **Answered**
Chosen Option : **D**