

NHPC JE

Previous Year Paper

Civil 4 April 2022 (Shift 1)



NHPC Limited
(A Government of India Enterprise)
★ Mini-Ratna Category-I PSU
India's Premier Hydro Power Utility



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

Section : General Awareness

Q.1 In which year did Sirajuddaulah become the nawab of Bengal after Alivardi Khan's death?

- Ans ☒ A. 1755
☒ B. 1757
☒ C. 1754
☒ D. 1756

Question ID : 1034358804
Status : Answered

Q.2 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 : Answered

Q.3 Which of the following statements is INCORRECT about Mahatma Gandhi?

- Ans
- ☒ A. He returned to India in January 1915 from South Africa.
 - ☒ B. He was born in Porbandar on 2 October 1869.
 - ☒ C. He organised a satyagraha to support the peasants of the Kheda district in 1917.
 - ☒ D. He was elected as the president of Indian National Congress in 1927.

Question ID : 1034358805

Status : Answered

Q.4 Who is the winner of the Australian Open 2022 Men's singles event?

- Ans
- ☒ A. Daniil Medvedev
 - ☒ B. Novak Djokovic
 - ☒ C. Rafael Nadal
 - ☒ D. Roger Federer

Question ID : 1034358816

Status : Answered

Q.5 Bread mould, also known as aspergillus, is an example of:

- Ans ☐ A. protozoa
☐ B. bacteria
☐ C. algae
☒ D. fungi

Question ID : 1034358796

Status : Answered

Q.6 Mauryan Empire was divided into four provinces. Which of the following was NOT one of the Mauryan provinces?

- Ans ☐ A. Suvarnagiri
☒ B. Sarnath
☐ C. Ujjayini
☐ D. Tosali

Question ID : 1034358802

Status : Answered

Q.7 Which article of the Constitution of India is related to exemption from taxes on electricity?

- Ans ☒ A. Article 287
☐ B. Article 278
☐ C. Article 257
☐ D. Article 275

Question ID : 1034358810

Status : Answered

Q.8 In India, who appoints the Special Officer for linguistic minorities according to Article 350B of the Constitution of India?

- Ans ☒ A. Prime Minister
- ☒ B. Union Minister for Minority Affairs
- ☒ C. President
- ☒ D. Vice President

Question ID : 1034358812

Status : Answered

Q.9 In which of the following oceans are Alaska and Hawaii islands located?

- Ans ☒ A. Atlantic Ocean
- ☒ B. Pacific Ocean
- ☒ C. Indian Ocean
- ☒ D. Arctic Ocean

Question ID : 1034358800

Status : Answered

Q.10 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 : Answered

Q.11 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. Hornbill festival

☒ C. Pushkar fair

☒ D. Torgya festival

Question ID : 1034358790

Status : Answered

Q.12 In February 2022, who defeated the reigning world champion Magnus Carlsen during the online tournament Airthings Masters?

Ans ☒ A. Abhijeet Gupta

☒ B. Dommaraju Gukesh

☒ C. Bharath Subramaniam

☒ D. Rameshbabu Praggnanandhaa

Question ID : 1034358817

Status : Answered

Q.13 Which of the following teams was the winner of the Maulana Abul Kalam Azad Trophy 2021?

Ans ☒ A. Delhi University

☒ B. Bombay University

☒ C. Punjab University

☒ D. Guru Nanak Dev University

Question ID : 1034358814

Status : Answered

Q.14 Who became the first Indian fencer to qualify for the Olympics?

- Ans ☒ A. Kabir Devi
- ☒ B. Anoushka Dhaliwal
- ☒ C. Bhavani Devi
- ☒ D. Dabhade Khushi

Question ID : 1034358815

Status : Answered

Q.15 According to the economic survey 2021-22 what was the first advance estimates suggestion of GDP 2021-22?

- Ans ☒ A. 9.2%
- ☒ B. 6.8%
- ☒ C. 10.98%
- ☒ D. 7.4%

Question ID : 1034358793

Status : Answered

Q.16 For how many years was Sawai Jai Singh, the ruler of Amber, appointed as the governor of Agra?

- Ans ☒ A. 12 years
- ☒ B. 10 years
- ☒ C. 8 years
- ☒ D. 5 years

Question ID : 1034358803

Status : Answered

Q.17 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. Yamuna
- ☐ C. Chambal
- ☐ D. Banas

Question ID : 1034358799

Status : Answered

Q.18 Which of the following musical instruments is NOT an example of the 'Avanaddha Vadya' instruments?

- Ans ☐ A. Mridang
- ☒ B. Chikara
- ☐ C. Tasa
- ☐ D. Dagar

Question ID : 1034358789

Status : Answered

Q.19 Who has been elected to the International Law Commission for a five-year term starting from 1 January 2023?

- Ans ☐ A. Arun Mishra
- ☐ B. Dinesh Sharma
- ☐ C. Naveen Mahajan
- ☒ D. Bimal Patel

Question ID : 1034358806

Status : Answered

Q.20 Which schedule of the Constitution of India has provisions made for the administration of tribal areas in the States of Assam, Meghalaya, Tripura and Mizoram?

Ans ☒ A. Sixth schedule

☒ B. Forth schedule

☒ C. Fifth schedule

☒ D. Third schedule

Question ID : 1034358813

Status : Answered

Q.21 In which state is Deekshabhoomi, where Dr. Ambedkar converted to Buddhism, situated?

Ans ☒ A. Gujarat

☒ B. Kamataka

☒ C. Maharashtra

☒ D. Kerala

Question ID : 1034358791

Status : Answered

Q.22 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. Abhijit Banerjee

☒ D. Maroof Raza

Question ID : 1034358809

Status : Answered

Q.23 By which of the following Amendment Acts was the word 'Rajpramukh' omitted from Article 283 of the Constitution of India?

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

Question ID : 1034358811

Status : Answered

Q.24 According to Census 2011, which of the following Indian metro cities is the least populated?

- Ans
- ☐ A. Delhi
 - ☐ B. Mumbai
 - ☐ C. Kolkata
 - ☒ D. Chennai

Question ID : 1034358798

Status : Answered

Q.25 _____ helps our nails grow strong and resilient.

- Ans
- ☒ A. Protein
 - ☐ B. Fruits
 - ☐ C. Fibre
 - ☐ D. Fat

Question ID : 1034358797

Status : Answered

Q.26 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 : Answered

Q.27 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. Black soil

☐ B. Laterite soils

☐ C. Alluvial soils

☐ D. Arid soils

Question ID : 1034358801

Status : Answered

Q.28 Which of the following statements is INCORRECT about the scalar and vector quantities?

Ans ☐ A. Temperature is a scalar quantity.

☐ B. Acceleration is a vector quantity.

☐ C. Polarisation is a vector quantity.

☒ D. Force is a scalar quantity.

Question ID : 1034358795

Status : Answered

Q.29 Which of the following dances is performed by members of the Adi tribe of Arunachal Pradesh?

Ans ☒ A. Dhanger

☒ B. Tapu

☒ C. Bhagoria

☒ D. Santhali

Question ID : 1034358788

Status : Answered

Q.30 For which book did Damon Galgut win the Booker Prize for 2021?

Ans ☒ A. A Passage North

☒ B. Bewilderment

☒ C. The Promise

☒ D. Great Circle

Question ID : 1034358807

Status : Answered

Section : Reasoning

Q.1 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. East

☒ C. South-east

☒ D. West

Question ID : 1034358841

Status : Answered

Q.2 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. Both assumptions I and II are implicit

☒ B. Only assumption I is implicit

☒ C. Only assumption II is implicit

☒ D. Either assumption I or II is implicit

Question ID : 1034358833

Status : Answered

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. Ravali

☒ B. Prudvi

☒ C. Viplav

☒ D. Taman

Question ID : 1034358829

Status : Answered

Q.4 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, 5, 4, 2, 1

 B. 3, 5, 1, 4, 2

 C. 3, 1, 5, 2, 4

 D. 3, 4, 5, 1, 2

Question ID : 1034358820

Status : Answered

Q.5 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. 38

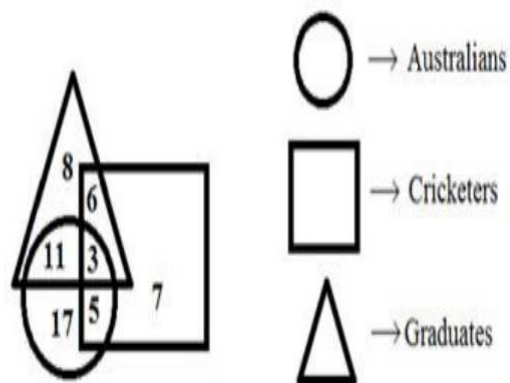
 C. 83

 D. 78

Question ID : 1034358838

Status : Answered

Q.6 Study the given figure and answer the questions that follow.



How many Australians are neither graduates nor Cricketers?

- Ans ☒ A. 5
☒ B. 3
☒ C. 11
☒ D. 17

Question ID : 1034358840
Status : Answered

Q.7 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. HFXN
☒ D. HXGO

Question ID : 1034358818
Status : Answered

Q.8 Select the figure that will come next in the following series.

T	□	O	A	O	△	3	A	O	★	3	B	3	□	K
A		△	S		□	K		T	□		O	★		B
S	L	★	K	★	T	△	□	★	K	△	T	△	T	6

Ans

☒ A.

★	B	K
△		□
C	6	3

☒ B.

★	K	B
△		□
C	6	3

☒ C.

★	K	B
△		□
T	6	3

☒ D.

★	8	□
△		K
P	6	3

Question ID : 1034358844
Status : Answered

Q.9 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. Only conclusion I follows
 - ☒ C. Either conclusion I or II follows
 - ☒ D. Neither conclusion I nor II follows

Question ID : 1034358832

Status : Answered

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

- Ans**
- ☒ A. 1212151216
 - ☒ B. 1581201224
 - ☒ C. 1215124526
 - ☒ D. 1518201224

Question ID : 1034358828

Status : Answered

Q.11 Identify the letter-cluster that does NOT belong to the following series.
STOP, VWKJ, YZGD, BCCY, EFYR, HIUL

- Ans ☒ A. HIUL
☒ B. BCCY
☒ C. YZGD
☒ D. EFYR

Question ID : 1034358819
Status : Answered

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



- Ans ☒ A. TECHNICAL
☒ B. TECHNICAL
☒ C. TECHNICAL
☒ D. TECHNICAL

Question ID : 1034358847
Status : Answered

Q.13 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. NJET

 B. IQYO

 C. NYQT

 D. IEJO

Question ID : 1034358824

Status : Answered

Q.14 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. SENT : VBQQ

 C. ROAD : ULDA

 D. MAIN : PXLK

Question ID : 1034358822

Status : Answered

Q.15 Identify the number that does NOT belong to the following series.

3, 7, 13, 28, 77, 279

Ans  A. 28

 B. 77

 C. 13

 D. 279

Question ID : 1034358836

Status : Answered

Q.16 Select the option in which the words share the same relationship as that shared by the given pair of words.

Brazil : Real

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

Question ID : 1034358826

Status : Answered

Q.17 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 conclusion III follows
- ☒ B. Only conclusion I follows
- ☒ C. Only conclusions I and II follow
- ☒ D. Only conclusions I and IV follow

Question ID : 1034358834

Status : Answered

Q.18 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. 22 km
 - ☒ B. 26 km
 - ☒ C. 27 km
 - ☒ D. 24 km

Question ID : 1034358842

Status : Answered

Q.19 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. (13, 49, 151)
 - ☒ B. (5, 17, 55)
 - ☒ C. (7, 25, 71)
 - ☒ D. (12, 45, 139)

Question ID : 1034358837

Status : Answered

Q.20 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. Despair : Hope
 - ☒ B. Allure : Repulse
 - ☒ C. Barrier : Assistance
 - ☒ D. Consolidate : Strengthen

Question ID : 1034358823

Status : Answered

Q.21 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. Wife**

 **B. Sister**

 **C. Daughter**

 **D. Mother**

Question ID : 1034358830

Q.22 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. 1**

 **B. 2**

 **C. 0**

 **D. 3**

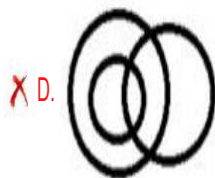
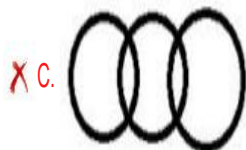
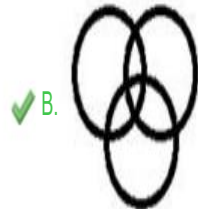
Question ID : 1034358831

Status : Answered

Q.23 Select the Venn diagram that best illustrates the relationship between the following classes.

Girls, Chess players, Table tennis fans

Ans



Question ID : 1034358839

Status : Answered

Q.24 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. 101

✗ B. 110

✗ C. 102

✗ D. 120

Question ID : 1034358835

Status : Answered

Q.25 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

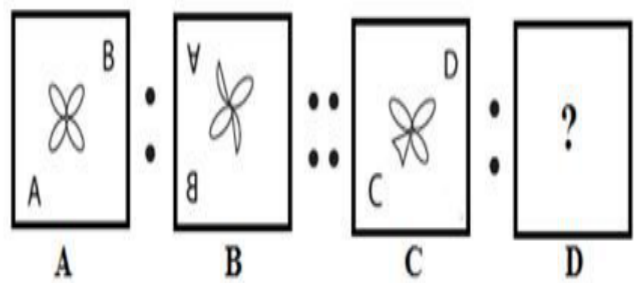
 C. Fossils

 D. Shells

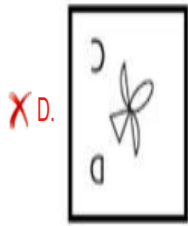
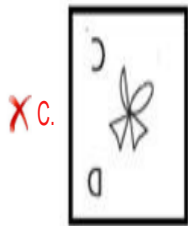
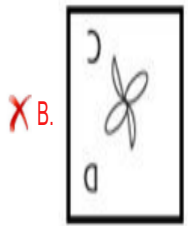
Question ID : 1034358825

Status : Answered

Q.26 Select the option that is related to figure C in the same way as figure B is related to figure A.

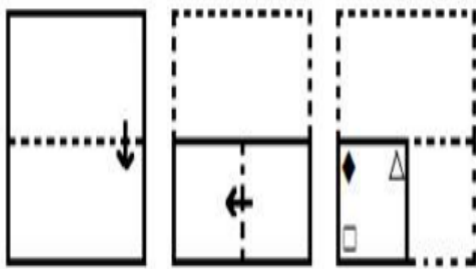


Ans

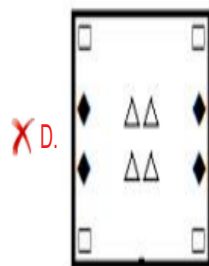
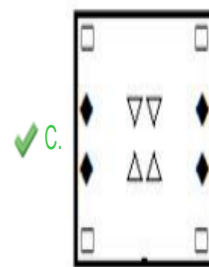
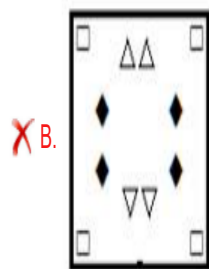
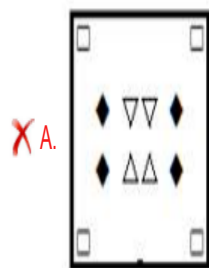


Question ID : 1034358845
Status : Answered

Q.27 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



Question ID : 1034358846

Status : Answered

Q.28 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. 26 m, North-east

☐ B. 26 m, South-west

☐ C. 30 m, North-east

☐ D. 25 m, North-west

Question ID : 1034358843

Status : Answered

Q.29 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. Bark

☒ C. Gallop

☐ D. Quack

Question ID : 1034358821

Status : Answered

Q.30 In a certain code language, 'CIRCLE' is written as 'DLWAHY'. How will 'SQUARE' be written in that language?

Ans ☐ A. TNPYVY

☒ B. TTZYNV

☐ C. TNZYVY

☐ D. TTPNKY

Question ID : 1034358827

Status : Answered

Q.1 Steel is an alloy of:

- Ans ☒ A. carbon and manganese
- ☒ B. carbon and silicon
- ☒ C. iron and sulphur
- ☒ D. iron and carbon

Question ID : 1034358877

Status : Answered

Q.2 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. 1 kW
- ☒ B. 0.5 kW
- ☒ C. 2 kW
- ☒ D. 1.5 kW

Question ID : 1034358872

Status : Answered

Q.3 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. 1150 K

☐ C. 1100 K

☐ D. 1175 K

Question ID : 1034358870

Status : Answered

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

Ans ☐ A. a neon-gas lamp

☐ B. a sodium vapour lamp

☐ C. a fluorescent lamp

☒ D. an incandescent lamp

Question ID : 1034358866

Status : Answered

Q.5 In a DC circuit, a 250Ω resistor carries 40 mA current. Find the voltage drop across the resistor.

Ans ☐ A. 1000 V

☒ B. 10 V

☐ C. 100 V

☐ D. 1 V

Question ID : 1034358859

Status : Answered

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

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

Question ID : 1034358855

Status : Answered

Q.7 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. 0.2
- ☒ B. 1.0
- ☒ C. 0.8
- ☒ D. 0.4

Question ID : 1034358869

Status : Answered

Q.8 As per IRC recommendations, the width of carriageway per lane in a multilane pavements is _____

- Ans ☒ A. 2.5 m
- ☒ B. 3.5 m
- ☒ C. 4.0 m
- ☒ D. 3.0 m

Question ID : 1034358854

Status : Answered

Q.9 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. Both statements are correct

☐ B. Statement B is correct and A is incorrect

☐ C. Both statements are incorrect

☐ D. Statement A is correct and B is incorrect

Question ID : 1034358853

Status : Answered

Q.10 With reference to BJT, which of the following statements is true or FALSE?

1. The emitter diode is always reverse biased, whereas the collector diode is always forward biased.

2. The emitter is heavily doped.

Ans ☐ A. 1. True 2.False

☐ B. 1. False 2.False

☐ C. 1. True 2.True

☒ D. 1. False 2.True

Question ID : 1034358867

Status : Answered

Q.11 In a chain surveying, the biggest of the main survey line is called _____.

Ans ☒ A. base line

☒ B. tie line

☒ C. boundary line

☒ D. check line

Question ID : 1034358850

Status : Answered

Q.12 As per IS 456 : 2000, which of the following is a classified type of reinforced cement concrete (RCC) slab?

Ans ☒ A. Three-way slab

☒ B. Five-way slab

☒ C. Two-way slab

☒ D. Four-way slab

Question ID : 1034358857

Status : Answered

Q.13 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 : Answered

Q.14 Which of the following is true?

- Ans ☐ A. When fluid passes through the nozzle, the pressure of the fluid increases while 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, pressure as well as the velocity of the fluid decreases.
- ☒ D. When fluid passes through the nozzle, the pressure of the fluid decreases while the velocity of the fluid increases.

Question ID : 1034358874

Status : Answered

Q.15 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. Hopkinson demand rate
- ☐ B. Flat demand rate
- ☐ C. Straight meter rate
- ☐ D. Doherty rate

Question ID : 1034358865

Status : Answered

Q.16 Which of the following soil components has particles with size in the range of 75 micron to 4.75 mm?

- Ans ☐ A. Peat
- ☐ B. Gravel
- ☒ C. Sand
- ☐ D. Silt

Question ID : 1034358851

Status : Answered

Q.17 What will be the density of a fluid having dynamic viscosity of 0.04 poise and kinematic viscosity of 0.04 stokes?

Ans ☒ A. 1000 kg/m³

☐ B. 100 kg/m³

☐ C. 10,000 kg/m³

☐ D. 500 kg/m³

Question ID : 1034358875

Status : Answered

Q.18 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. Both statements are incorrect

☐ B. Both statements are correct

☐ C. Statement B is correct and A is incorrect

☒ D. Statement A is correct and B is incorrect

Question ID : 1034358852

Status : Answered

Q.19 Joules/Coulomb is the unit of _____.

Ans ☐ A. power

☐ B. current

☒ C. electric potential

☐ D. work done

Question ID : 1034358858

Status : Answered

Q.20 Which of the following is true?

- Ans ☐ A. Kaplan turbine is a tangential flow turbine.
- ☐ B. Kaplan turbine is an impulse turbine.
- ☐ C. Francis turbine is an impulse turbine.
- ☒ D. Pelton wheel is a tangential flow turbine.

Question ID : 1034358876

Status : Answered

Q.21 A sinusoidal voltage is represented by the expression, $v(t) = 20 \sin \omega t$. What will be the peak to peak amplitude of the signal?

- Ans ☐ A. 20 V
- ☐ B. 37.37 V
- ☒ C. 40 V
- ☐ D. 28.28 V

Question ID : 1034358861

Status : Answered

Q.22 Which of the following is NOT a valid advantage of PMMC instruments?

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

Question ID : 1034358863

Status : Answered

Q.23 Which of the following types of rock exhibits less crushing strength when compared to other mentioned type of rocks?

Ans ☒ A. Laterite

☐ B. Trap

☐ C. Granite

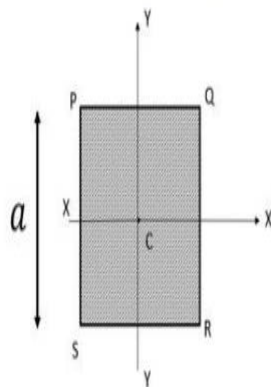
☐ D. Gneiss

Question ID : 1034358848

Status : Answered

Q.24 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 = $\frac{a^4}{36}$

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

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

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

Question ID : 1034358868

Status : Answered

Q.25 In a magnetic circuit, _____ is a measure of the opposition offered by the magnetic circuit to the establishment of magnetic flux.

Ans ☒ A. reluctance

☒ B. magnetomotive force

☒ C. flux density

☒ D. permeance

Question ID : 1034358860

Status : Answered

Q.26 For squirrel cage induction motors, which of the following statements is INCORRECT?

Ans ☒ A. It has fixed rotor resistance.

☒ B. It has rugged construction.

☒ C. The rotor acts as a short circuited secondary of a transformer.

☒ D. Brushes are required for transferring the power.

Question ID : 1034358864

Status : Answered

Q.27 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

Q.28 The imaginary part of the impedance is called _____.

- Ans ☐ A. susceptance
- ☐ B. admittance
- ☒ C. reactance
- ☐ D. resistance

Question ID : 1034358862

Status : Answered

Q.29 Which of the following is an example for grade of cement concrete?

- Ans ☐ A. CC304
- ☐ B. OPC 53
- ☒ C. M20
- ☐ D. Fe415

Question ID : 1034358856

Status : Answered

Q.30 Which of the following is the correct unit of measurement for the item of work 'earth filling in foundation trenches'?

- Ans ☐ A. Tonnes
- ☒ B. Cubic meter
- ☐ C. Square meter
- ☐ D. Loads

Question ID : 1034358849

Status : Answered

Section : Domain Knowledge

Q.1 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. Subtense bar method
- ☒ C. Movable-hair method
- ☒ D. Fixed-hair method

Question ID : 1034358899

Status : Answered

Q.2 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.

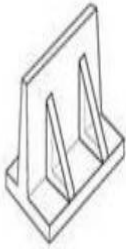
Statement-2: Bitumen is a non-crystalline solid or viscous material derived from petroleum, by natural or refinery processes.

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

Question ID : 1034358880

Status : Answered

Q.3 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

Q.4 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. supplementary estimate
 - ☐ B. unit rate estimate
 - ☐ C. detailed estimate
 - ☒ D. revised estimate

Question ID : 1034358881

Status : Answered

Q.5 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. $P = \frac{EI\pi^2}{4l^2}$

☐ B. $P = \frac{4EI\pi^2}{l^2}$

☐ C. $P = \frac{2EI\pi^2}{l^2}$

☒ D. $P = \frac{EI\pi^2}{l^2}$

Question ID : 1034358974

Status : Answered

Q.6 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. 100 m

☒ B. 300 m

☐ C. 200 m

☐ D. 50 m

Question ID : 1034358963

Status : Answered

Q.7 Which of the following salient feature is NOT related to Kennedy's theory of alluvial channel design?

Ans ☒ A. Silt factor is introduced

☒ B. Kennedy's theory does not give equation for bed slope

☒ C. The mean velocity is computed by Kutter's equation

☒ D. Critical velocity ratio is introduced

Question ID : 1034358939

Status : Answered

Q.8 Gross irrigated area is equal to:

Ans ☒ A. net irrigated area in a year – area irrigated more than once in a season

☒ B. net irrigated area in a year + area irrigated more than once in a season

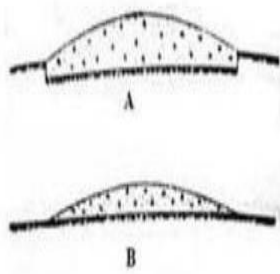
☒ C. net irrigated area in a year – area irrigated more than once in the same year

☒ D. net irrigated area in a year + area irrigated more than once in the same year

Question ID : 1034358933

Status : Answered

Q.9 Two gravel road cross-sections are shown in Figures A and B. Identify the type of gravel road cross-sections.



Ans ☒ A. A-Trench type and B-Feather type

☒ B. Both are Trench type

☒ C. Both are Feather type

☒ D. A-Feather type and B-Trench type

Question ID : 1034358950

Status : Answered

Q.10 When sodium carbonate is present in the soil, _____ is added to reclaim the land through the leaching process.

Ans ☒ A. sodium sulphate

☒ B. iodine

☒ C. potassium

☒ D. gypsum

Question ID : 1034358942

Status : Answered

Q.11 What does the groundwater table signify?

- Ans ☐ A. Aquitard
- ☐ B. Aquifuge
- ☒ C. Unconfined aquifer
- ☐ D. Confined aquifer

Question ID : 1034358908

Status : Answered

Q.12 Arrange the following layers of flexible pavement in sequential order (from bottom to top).

Surface course, Subgrade course, Subbase course, Base course

- Ans ☐ A. Surface course, Subgrade course, Base course, Subbase course
- ☐ B. Subbase course, Base course, Subgrade course, Surface course
- ☒ C. Subgrade course, Subbase course, Base course, Surface course
- ☐ D. Base course, Subgrade course, Subbase course, Surface course

Question ID : 1034358949

Status : Answered

Q.13 The process of turning the telescope in a vertical plane through 180° about the trunnion axis is called:

- Ans ☐ A. centring
- ☒ B. transiting
- ☐ C. swinging
- ☐ D. levelling

Question ID : 1034358896

Status : Answered

Q.14 Select the demerit of the triaxial test from the following.

- Ans ☒ A. There is complete control over the drainage conditions, i.e., all three types of drainages.
- ☒ B. The stress distribution on the failure plane is uniform.
- ☒ C. The pore pressure changes and the volumetric changes can be measured directly.
- ☒ D. The apparatus is elaborate, costly and bulky as compared to other shear test equipment.

Question ID : 1034358914

Status : Answered

Q.15 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. 500 mg/l
- ☒ B. 250 mg/l
- ☒ C. 2000 mg/l
- ☒ D. 1000 mg/l

Question ID : 1034358958

Status : Answered

Q.16 Which of the following is the ruling principle of surveying?

- Ans ☒ A. Working from higher elevation to lower elevation
- ☒ B. Working from point to point
- ☒ C. Working from part to whole
- ☒ D. Working from whole to part

Question ID : 1034358892

Status : Answered

Q.17 The number of hectares of land irrigated for full growth of a given crop by a supply of $1 \text{ m}^3/\text{s}$ of water continuously during the entire base period (B) of that crop, is defined as:

- Ans
- ☐ A. optimum water depth
 - ☐ B. kor depth
 - ☐ C. delta
 - ☒ D. duty

Question ID : 1034358931

Status : Answered

Q.18 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 = 10 kN/m^3

- Ans
- ☐ A. 85 kN
 - ☒ B. 100 kN
 - ☐ C. 75 kN
 - ☐ D. 60 kN

Question ID : 1034358986

Status : Answered

Q.19 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. Both statements are true

☐ D. Statement 1 is false and statement 2 is true

Question ID : 1034358977

Status : Answered

Q.20 What is the magnetic declination at a place if the magnetic bearing of the sun at noon is 184° ?

Ans ☐ A. 4° N

☐ B. 4° E

☒ C. 4° W

☐ D. 4° S

Question ID : 1034358894

Status : Answered

Q.21 In a sudden enlargement of a pipe cross-section, if the velocity of flow at the inlet of pipe (V_1) = 40 m/s, velocity of flow at the outlet of the pipe (V_2) = 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. 15 m of water
☒ B. 20 m of water
☒ C. 18 m of water
☒ D. 40 m of water

Question ID : 1034358922

Status : Answered

Q.22 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. 29 l
☒ B. 38 l
☒ C. 25 l
☒ D. 35 l

Question ID : 1034358883

Status : Answered

Q.23 As per IS 456 : 2000, the design bond stress in limit state method for plain bars in tension for M20 concrete is:

- Ans ☒ A. 1.4 N/mm^2
☒ B. 1.2 N/mm^2
☒ C. 1.7 N/mm^2
☒ D. 1.9 N/mm^2

Question ID : 1034358982

Status : Answered

Q.24 The hydraulic mean depth of the circular sewer of the diameter D is equal to:

Ans ☒ A. $D/4$

☐ B. $D/2$

☐ C. $D/3$

☐ D. D

Question ID : 1034358962

Status : Answered

Q.25 Which of the following repair methods is used for stopping leakages in dams, basements, swimming pools?

Ans ☐ A. Plastering

☒ B. Injection

☐ C. Placing

☐ D. Sealant

Question ID : 1034358980

Status : Answered

Q.26 According to IS code 2470-1963, the capacity of sludge digestion is equal to _____ at 25°C.

Ans ☐ A. 7.76 m³ per 1000 persons

☐ B. 7.76 m³ per 100 persons

☒ C. 3.3 m³ per 100 persons

☐ D. 3.3 m³ per 1000 persons

Question ID : 1034358885

Status : Answered

Q.27 Which of the following statements about the runoff coefficient value is correct?

- Ans ☒ A. A larger value for sand and lower for clay
- ☒ B. A larger value for areas with low infiltration and lower for high infiltration
- ☒ C. A larger value for areas with pervious surface and lower for impervious surface
- ☒ D. A larger value for areas with afforestation and lower for deforestation

Question ID : 1034358928

Status : Answered

Q.28 Which of the following is NOT a type of flood control structure?

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

Question ID : 1034358941

Status : Answered

Q.29 'Blaine air permissibility test' is used to find the _____ property of Portland cement.

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

Question ID : 1034358879

Status : Answered

Q.30 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. $\frac{dH}{Q} = \frac{3dQ}{2H}$

☒ B. $\frac{dQ}{Q} = \frac{5dH}{2H}$

☒ C. $\frac{dQ}{2H} = \frac{3dH}{Q}$

☒ D. $\frac{dQ}{Q} = \frac{3dH}{2H}$

Question ID : 1034358923

Status : Answered

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

Ans ☒ A. 1 horizontal to 1 vertical

☒ B. 1 horizontal to 2 vertical

☒ C. 1 horizontal to 4 vertical

☒ D. 1 horizontal to 3 vertical

Question ID : 1034358920

Status : Answered

Q.32 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. intermediate coat
- ☒ B. seal coat
- ☒ C. track coat
- ☒ D. prime coat

Question ID : 1034358951

Status : Answered

Q.33 The range of Manning's value for cement plastered masonry lined canal is:

- Ans ☒ A. 0.0018 – 0.0020
- ☒ B. 0.065 – 0.08
- ☒ C. 0.20 – 0.25
- ☒ D. 0.012 – 0.015

Question ID : 1034358937

Status : Answered

Q.34 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. station yard gradient
- ☒ B. momentum gradient
- ☒ C. ruling gradient
- ☒ D. pusher gradient

Question ID : 1034358954

Status : Answered

Q.35 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. 50%

☒ B. 60%

☒ C. 70%

☒ D. 80%

Question ID : 1034358935

Status : Answered

Q.36 In the design of steel structure, Purlins are NOT designed as:

Ans ☒ A. cantilever beam

☒ B. continuous beam

☒ C. simple beam

☒ D. fixed beam

Question ID : 1034358987

Status : Answered

Q.37 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. $\Delta = \frac{8.64B}{D}$ metres

☐ C. $\Delta = \frac{864B}{D}$ metres

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

Question ID : 1034358932

Status : Answered

Q.38 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. 2.73

☐ D. 2.24

Question ID : 1034358903

Status : Answered

Q.39 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. Φ -index
- ☒ C. Aridity index
- ☒ D. W = index

Question ID : 1034358929

Status : Answered

Q.40 'Roundabout' is a road safety measure that reduces mainly:

- Ans ☒ A. traffic congestion only
- ☒ B. vehicle accident conflicts only
- ☒ C. pedestrian conflicts only
- ☒ D. vehicle and pedestrian conflicts

Question ID : 1034358957

Status : Answered

Q.41 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. crossing
- ☒ B. stations
- ☒ C. turnout
- ☒ D. switches

Question ID : 1034358955

Status : Answered

Q.42 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. Both statements are incorrect

☐ C. Statement 1 is correct and statement 2 is incorrect

☐ D. Both statements are correct

Question ID : 1034358926

Status : Answered

Q.43 Which of following is NOT an advantage of irrigation?

Ans ☐ A. Increases food production

☐ B. Elimination of mixed cropping

☒ C. Increases dampness and water borne diseases

☐ D. Increases groundwater recharge

Question ID : 1034358925

Status : Answered

Q.44 Which of the following equipment does NOT make use of the absorption process to control gaseous pollutants in industries?

Ans ☐ A. Venture scrubbers

☐ B. Packed columns

☒ C. Incinerators

☐ D. Spray towers

Question ID : 1034358966

Status : Answered

Q.45 According to IS: 456:2000, the permissible limit of chlorides present in water used for making concrete with embedded steel is:

- Ans ☒ A. 2000 mg/l
- ☒ B. 1000 mg/l
- ☒ C. 500 mg/l
- ☒ D. 5000 mg/l

Question ID : 1034358976
Status : Answered

Q.46 Which of the following is NOT a physical property of a building material?

- Ans ☒ A. Density
- ☒ B. Specific weight
- ☒ C. Elasticity
- ☒ D. Porosity

Question ID : 1034358878
Status : Answered

Q.47 The soil fertility of an irrigation command area can be achieved by:

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

Question ID : 1034358943
Status : Answered CO

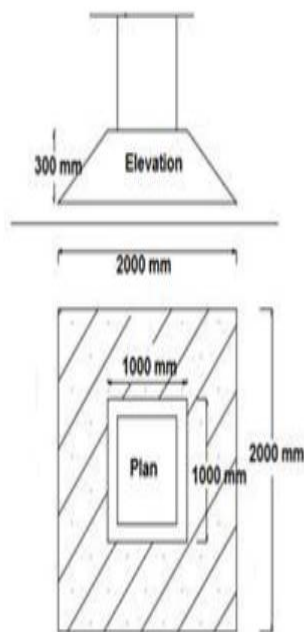
Q.48 Which of the following is NOT an electromagnetic distance measurement equipment?

- Ans ☒ A. Tellurometer
☒ B. Geodimeter
☒ C. Distomats
☒ D. Planimeter

Question ID : 1034358900

Status : Answered

Q.49 What is the volume of the trapezoidal footing in the given figure?



- Ans ☒ A. 1.15 cu. m
☒ B. 1.25 cu. m
☒ C. 1.40 cu. m
☒ D. 1.75 cu. m

Question ID : 1034358888

Status : Answered

Q.50 Which type of fixture and fastenings are used in rail joints to maintain the continuity of the rails?

- Ans ☒ A. Keys
- ☒ B. Bearing plate
- ☒ C. Spikes
- ☒ D. Fish plate

Question ID : 1034358953

Status : Answered

Q.51 Which of the following beams is a statically indeterminate structure?

- Ans ☒ A. Propped cantilever beam
- ☒ B. One end of the beam is hinged and the other end is supported by a simple support
- ☒ C. One end of the beam is hinged and the other end is supported by the roller support
- ☒ D. Cantilever beam

Question ID : 1034358971

Status : Answered

Q.52 Which of the following is NOT a method of land reclamation of salt-affected land in irrigated command area?

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

Question ID : 1034358944

Status : Answered

Q.53 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 : Answered

Q.54 The ratio of the power available at the shaft of the turbine to the power delivered to the runner is defined as:

- Ans
- ☒ A. overall efficiency of turbine
 - ☒ B. mechanical efficiency of turbine
 - ☒ C. volumetric efficiency of turbine
 - ☒ D. hydraulic efficiency of turbine

Question ID : 1034358924

Status : Answered

Q.55 Which of the following is NOT the ill effect of irrigation?

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

Question ID : 1034358940

Status : Answered

Q.56 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

Q.57 _____ are used to overcome the accelerating effect of high temperature on the setting properties of concrete in hot weather concreting.

- Ans
- ☒ A. Catalysers
 - ☒ B. Plasticizers
 - ☒ C. Accelerators
 - ☒ D. Retarders

Question ID : 1034358979

Status : Answered

Q.58 Which type of water distribution system can water be made to circulate continuously through the whole distribution system?

- Ans
- ☒ A. Dead end system
 - ☒ B. Combined system
 - ☒ C. Radial system
 - ☒ D. Grid iron system

Question ID : 1034358960

Status : Answered

Q.59 Which of the following tests is used to measure the undrained shear strength of soft saturated clay in the field?

- Ans ☒ A. Vane shear test
- ☐ B. Unconfined compression test
- ☐ C. Direct shear test
- ☐ D. Triaxial compression test

Question ID : 1034358913

Status : Answered

Q.60 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. $1.0l$
- ☐ B. $1.2l$
- ☒ C. $0.5l$
- ☐ D. $0.7l$

Question ID : 1034358984

Status : Answered

Q.61 Following are the major irrigation projects of India. In which project is the culturable command area (CCA) the highest?

- Ans ☐ A. Gandak Project
- ☐ B. Beas Project
- ☒ C. Bhakra Nangal Project
- ☐ D. Nagarjuna Sagar Project

Question ID : 1034358945

Status : Answered

Q.62 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. 48 cm

☐ B. 36 cm

☐ C. 45 cm

☐ D. 40 cm

Question ID : 1034358930

Status : Answered

Q.63 Which of the following distillates is NOT used for the preparation of cutback Bitumen?

Ans ☐ A. Naphtha

☒ B. Linseed oil

☐ C. Diesel oil

☐ D. Furnace oil

Question ID : 1034358947

Status : Answered

Q.64 Which of the following is NOT a type of sewerage system?

Ans ☐ A. Partially combined system

☐ B. Separate system

☒ C. Reticulated system

☐ D. Combined system

Question ID : 1034358961

Status : Answered

Q.65 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°
- ☒ B. 22.5°
- ☒ C. 67.5°
- ☒ D. 0°

Question ID : 1034358916

Status : Answered

Q.66 The traffic signal 'STOP' sign as shown comes under the _____.



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

Question ID : 1034358956

Status : Answered

Q.67 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. Crossing method
- ☐ B. Out to out and in to in method
- ☐ C. Centre line method
- ☐ D. Bay method

Question ID : 1034358886

Status : Answered

Q.68 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. an initial consolidation
- ☐ C. the secondary consolidation
- ☒ D. the degree of consolidation

Question ID : 1034358911

Status : Answered

Q.69 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 compact test
- ☐ C. Standard bearing test
- ☒ D. Standard penetration test

Question ID : 1034358917

Status : Answered

Q.70 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. $1.45 d$

☒ B. $0.75 d$

☒ C. $0.45 d$

☒ D. $0.60 d$

Question ID : 1034358981

Status : Answered

Q.71 The point of contraflexure exists for which type of beams?

Ans ☒ A. Fixed beam

☒ B. Cantilever beam

☒ C. Overhanging beam

☒ D. Simply supported beam

Question ID : 1034358972

Status : Answered

Q.72 What is the unit of dynamic viscosity of fluid in SI system?

Ans ☒ A. Square metre/second

☒ B. Dyne-second/square centimetre

☒ C. Kilogram force-second/square metre

☒ D. Newton-second/square metre

Question ID : 1034358918

Status : Answered

Q.73 In consolidation of soils, the _____ is defined as the decrease in void ratio per unit increase in effective stress.

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

Question ID : 1034358910

Status : Answered

Q.74 In hydrostatics, the centre of pressure is calculated using the:

- Ans ☒ A. principle of momentum
- ☒ B. principle of energy
- ☒ C. principle of moments
- ☒ D. principle of Bernoulli

Question ID : 1034358919

Status : Answered

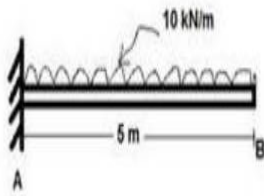
Q.75 Which of the following sewage treatment components is used to remove oil and grease from the sewage?

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

Question ID : 1034358964

Status : Answered

Q.76 What is the maximum moment at fixed end of the given cantilever beam?



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

Question ID : 1034358983

Status : Answered

Q.77 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. $2500\pi \text{ kN-mm}$
 - ☒ B. $2800\pi \text{ k N-mm}$
 - ☒ C. $2000\pi \text{ kN-mm}$
 - ☒ D. $1500\pi \text{ kN-mm}$

Question ID : 1034358975

Status : Answered

Q.78 Which of the following types of topographical surveys consists of methods of radiation, intersection, traversing and resection?

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

Question ID : 1034358895

Status : Answered

Q.79 The numerical difference between the plastic limit and shrinkage limit of a soil is known as the:

- Ans ☒ A. plasticity index
- ☒ B. shrinkage ratio
- ☒ C. consistency index
- ☒ D. shrinkage index

Question ID : 1034358905

Status : Answered

Q.80 According to IS: 4954-1968, the acceptable outdoor noise level in urban residential area is:

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

Question ID : 1034358968

Status : Answered

Q.81 Select the correct order of following surface water treatment processes chronologically.

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

Question ID : 1034358959

Status : Answered

Q.82 The ratio of the volume of water obtained by gravity to the total volume of material (aquifer) drained is known as:

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

Question ID : 1034358938

Status : Answered

Q.83 Which type of surveying does NOT make use of the principle of Triangulation?

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

Question ID : 1034358893

Status : Answered

Q.84 In the effective stress principle, pore water cannot resist _____ and is taken as _____.

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

Question ID : 1034358909

Status : Answered

Q.85 For a soil sample, the ratio of the volume of voids to the volume of solids is called:

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

Question ID : 1034358901

Status : Answered

Q.86 According to IS code SP-27-1987, no deduction shall be made for opening NOT exceeding _____ in painting work estimate.

- Ans ☒ A. 0.05 sq. m
- ☒ B. 0.75 sq. m
- ☒ C. 0.50 sq. m
- ☒ D. 1.00 sq. m

Question ID : 1034358884

Status : Answered

Q.87 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. $\frac{D_{30}^2}{D_{60} \times D_{10}}$

✗ B. $\frac{D_{60}^2}{D_{30} \times D_{10}}$

✗ C. $\frac{D_{60}}{D_{10}}$

✗ D. $\frac{D_{10}^2}{D_{60} \times D_{30}}$

Question ID : 1034358904

Status : Answered

Q.88 Which of the following methods is NOT used for calculating depreciation?

Ans ✗ A. Straight line method

✗ B. Quantity survey method

✓ C. Crossing method

✗ D. Sinking fund method

Question ID : 1034358890

Status : Answered

Q.89 The estimated value of a built-up property at the end of its useful life without being dismantled is called:

Ans ☒ A. salvage value

☐ B. scrap value

☐ C. book value

☐ D. market value

Question ID : 1034358891

Status : Answered

Q.90 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. Coulomb's wedge theory

☐ B. Passive earth pressure

☐ C. Active earth pressure

☒ D. Rankine's earth pressure theory

Question ID : 1034358915

Status : Answered

Q.91 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. Side slope canal

☒ B. Watershed canal

☐ C. Detour canal

☐ D. Contour canal

Question ID : 1034358936

Status : Answered

Q.92 Which of the following is a non-recording type of rain gauge?

- Ans ☒ A. Weighing type
- ☒ B. Symon's type
- ☒ C. Float type
- ☒ D. Tipping bucket type

Question ID : 1034358927

Status : Answered

Q.93 The coefficient of permeability of soil deposit in-situ condition can be determined by the:

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

Question ID : 1034358907

Status : Answered

Q.94 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. ₹620
- ☒ B. ₹950
- ☒ C. ₹840
- ☒ D. ₹720

Question ID : 1034358882

Status : Answered

Q.95 The extra water that has to be supplied for different crop periods overlap in different seasons is known as:

- Ans
- ☒ A. capacity factor
 - ☒ B. overlap allowance
 - ☒ C. outlet factor
 - ☒ D. kor watering

Question ID : 1034358934

Status : Answered

Q.96 Select the primary air pollutant from the following.

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

Question ID : 1034358967

Status : Answered

Q.97 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. 940 cu. m
 - ☒ B. 960 cu. m
 - ☒ C. 920 cu. m
 - ☒ D. 980 cu. m

Question ID : 1034358887

Status : Answered

Q.98 A soil is said to be normally consolidated when:

- Ans ☒ A. the soils which had not been subjected to the pressure greater than the present existing pressure
- ☐ B. the soil had been subjected in the past to a pressure in excess of the present pressure
- ☐ C. the soil changes its volume by the initial pressure applied on it
- ☐ D. the soil undergoes primary consolidation without any initial pressure acting on it

Question ID : 1034358912

Status : Answered

Q.99 The harmful effects of municipal solid waste includes all, EXCEPT:

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

Question ID : 1034358965

Status : Answered

Q.100 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. 65%
- ☒ B. 50%
- ☐ C. 80%
- ☐ D. 10%

Question ID : 1034358906

Status : Answered

Q.101 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. $E = \frac{KG}{K + G}$

☒ C. $E = \frac{9KG}{3K + G}$

☒ D. $E = \frac{9KG}{3G + K}$

Question ID : 1034358970

Status : Answered

Q.102 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. Statement-1 is correct and statement-2 is incorrect

☒ B. Both statements are incorrect

☒ C. Both statements are correct

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

Question ID : 1034358889

Status : Answered

Q.103 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. parallax

☒ D. diaphragm

Question ID : 1034358897

Status : Answered

Q.104 Softening point of the bitumen is determined using the _____.

Ans ☒ A. ring and ball test

☒ B. float test

☒ C. flash and fire point test

☒ D. viscosity test

Question ID : 1034358948

Status : Answered

Q.105 Among the following, identify the one, which does NOT belong to the temporary adjustments for a Dumpy level.

Ans ☒ A. Setting up the level

☒ B. Elimination of parallax

☒ C. Levelling up

☒ D. Level tube adjustment

Question ID : 1034358898

Status : Answered

Q.106 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. 200 mm
- ☒ B. 600 mm
- ☒ C. 800 mm
- ☒ D. 400 mm

Question ID : 1034358978

Status : Answered

Q.107 Which of the following is NOT an assumption of Bernoulli's theorem applied to fluid flow?

- Ans ☒ A. The fluid is real.
- ☒ B. The flow is ideal.
- ☒ C. The flow is incompressible.
- ☒ D. The flow is steady.

Question ID : 1034358921

Status : Answered

Q.108 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. 0.45
- ☒ B. 0.49
- ☒ C. 0.54
- ☒ D. 0.59

Question ID : 1034358902

Status : Answered

Q.109 The standard width of an Indian broad gauge railway track is:

Ans ☒ A. 1524 mm

☒ B. 762 mm

☒ C. 1676 mm

☒ D. 1000 mm

Question ID : 1034358952

Status : Answered

Q.110 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. 8.5 m

☒ B. 4.5 m

☒ C. 14 m

☒ D. 1.5 m

Question ID : 1034358946

Status : Answered