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DSSSB AE

Previous Year Paper
Civil 27 Sept 2021

T Test Date	27/09/2021
Test Time	12:30 PM - 2:30 PM
Subject	Assistant Engineer (Civil)

Section : **General Ability**

Q.1 Which two signs should be interchanged to make the below equation mathematically correct?
16 × 2 + 5 - 18 ÷ 3 = 33

Ans ✗ A. ×, ÷

✗ B. ×, -

✓ C. +, -

✗ D. +, ÷

Question ID : **97675517998**

Q.2 Complete the following number series:
128, 115, 103, 92, _____

Ans ✓ A. 82

✗ B. 72

✗ C. 75

✗ D. 68

Question ID : **97675517999**

Q.3 If P $ Q means P is the brother of Q; P ! Q means P is the mother Q and P * Q means P is the son of Q, which of the following shows that W is brother of Z?

Ans ✗ A. W * X $ Y ! Z

✓ B. W * X ! Y $ Z

✗ C. W ! X * Y $ Z

✗ D. W ! X $ Y * Z

Question ID : **97675517993**

Q.4 Naina, Preksha, Yash, Uma, Esha and Gauri are sitting around a round table facing the centre. Preksha is between Uma and Yash, Gauri is between Naina and Yash and Gauri is to the left of Naina. Who is to the left of Esha?

Ans ✓ A. Naina

✗ B. Gauri

✗ C. Uma

✗ D. Esha

Question ID : **97675517995**

Q.5 Shubham jogs 3 km west, he then turns 45° to his left and jogs 2 km, he then turns 90° to his left and jogs 3 km, he then turns 180° to his right. Which direction is he facing now?

Ans ✗ A. north-east

✔ B. north-west

✗ C. south-west

✗ D. south-east

Q.6 Aman walks 0.4 km east, then turns south and walks 0.3 km, then turns east and walks 0.7 km, then turns south and walks 0.5 km, and turns to its right and walks 0.11 km. Where is he now with reference to his starting position?

Ans ✔ A. 0.8 km south

✗ B. 0.2 km north

✗ C. 0.2 km south

✗ D. 0.8 km north

Q.7 Select the option that is related to the third image on the same basis as the second image is related to the first image.

Ans

✔ A.

✗ B.

✗ C.
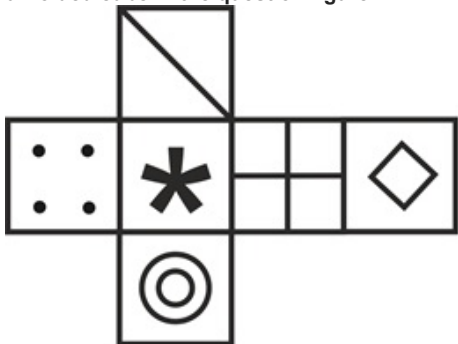
✗ D.
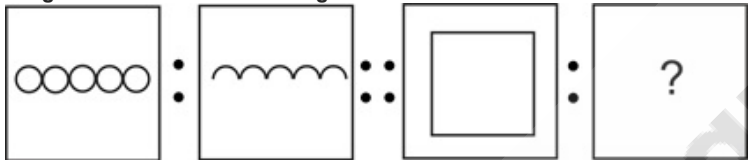
Q.8 If JACKAL is coded as 11-2-4-12-2-13, then what is the code for TIGER?

Ans

✔ A. 21-10-8-6-19

✘ B. 19-12-10-8-17

✘ C. 20-9-7-5-18

✘ D. 22-11-9-7-20

Q.9 Which of the following cube in the answer figure cannot be made based on the unfolded cube in the question figure?

Ans

✘ A.

✘ B.

✔ C.

✘ D.

Q.10 Which of the following answer figure patterns can be combined to make the question figure?

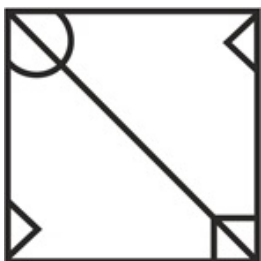**Ans**
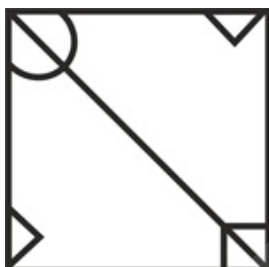
✅ A.

❌ B.

❌ C.

❌ D.
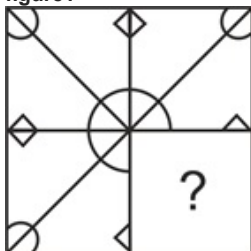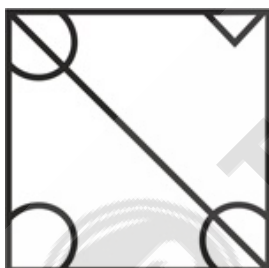
Q.11 In a certain code language
963 means flowers are beautiful
438 means beautiful and expensive
14 means expensive bag
What is the code for 'and'?

Ans ❌ A. 4

✅ B. 8

❌ C. 3

❌ D. 9

Q.12 Find the missing term in the following series :
6Q9, _____, 20Y23, 27C30

Ans ✔ A. 13U16

✘ B. 12S15

✘ C. 13S17

✘ D. 10T12

Question ID : **97675517987**

Q.13 If Seema is taller than Yash; Aisha is taller than Seema; and Yash is taller than Wasim, who is the tallest among all?

Ans ✘ A. Seema

✘ B. Yash

✔ C. Aisha

✘ D. Wasim

Question ID : **97675517994**

Q.14 Select the pair that is related on the same basis to the pair given in the question.
Needle : Tailor :: ?

Ans ✘ A. Wood : Carpenter

✘ B. Leather : Cobbler

✘ C. School : Teacher

✔ D. Saw : Carpenter

Question ID : **97675517990**

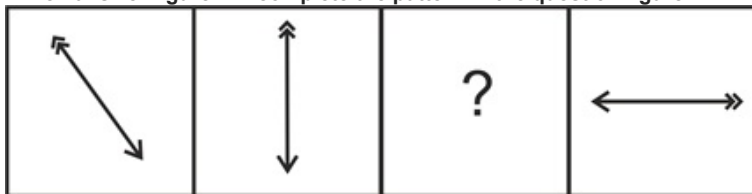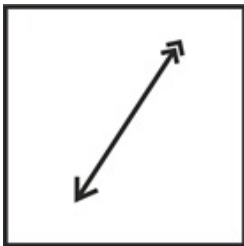**Q.15 Which answer figure will complete the pattern in the question figure?**

Ans

 ✔ A.

 ✘ B.

 ✘ C.

 ✘ D.
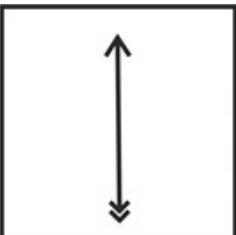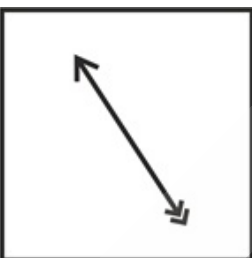
Question ID : **97675518003**

Q.16 Find the wrong term in the following series :
MJ, QN, US, YV, CZ

Ans ✔ A. US

✘ B. CZ

✘ C. QN

✘ D. YV

Question ID : **97675517988**

Q.17 The given Venn diagram shows the number of children in a complex who play a particular sport. How many children play Cricket as well as Chess?

Ans
✗ A. 18

✗ B. 31

✔ C. 15

✗ D. 27
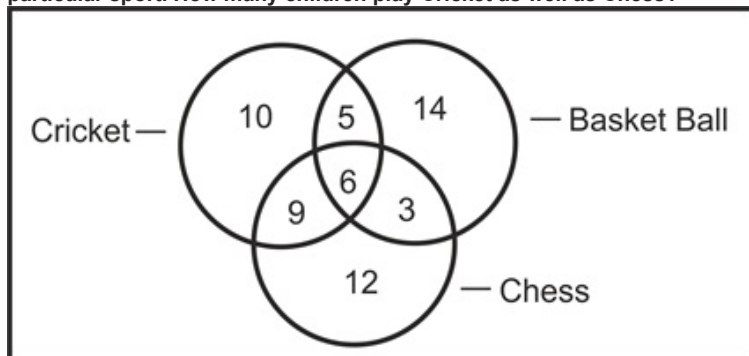
Q.18 In the question one statement is given, followed by two conclusions, I and II. You have to consider the statements to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follows from the given statements.

Statement : 55% of Manisha's office colleagues went to watch the movie.

Conclusion I : Manisha went to watch the movie.
Conclusion II : Manisha did not go to watch the movie.

Ans
✗ A. Only conclusion I follows

✗ B. Only conclusion II follows

✗ C. Both I and II follow

✔ D. Either I or II follows.

Q.19 Select the option that is related to the third term on the same basis as the second term is related to the first term.
HPT : EMQ :: RUD : ?

Ans
✗ A. MSC

✔ B. ORA

✗ C. PND

✗ D. MTC

Q.20 In the question two statements are given, followed by two conclusions, I and II. You have to consider the statements to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follows from the given statements.

Statement 1 : All schools are books.
Statement 2 : No books are papers.

Conclusion I : No schools are books.
Conclusion II : Some books are schools.

Ans   ✗ A. Only conclusion I follows

   ✗ B. Both I and II follow

   ✔ C. Only conclusion II follows

   ✗ D. Neither I nor II follows

Section : **General Awareness**

Q.1 Which among the following banks merged with the Indian Bank with effect from April 2020?

Ans   ✗ A. Canara Bank

   ✗ B. Andhra Bank

   ✗ C. Punjab National Bank

   ✔ D. Allahabad Bank

Q.2 The Kamet is the highest summit in the _____ mountain range.

Ans   ✗ A. Aravalli

   ✗ B. Western Ghats

   ✔ C. Zaskar

   ✗ D. Eastern Ghats

Q.3 Which among the following instruments is used to measure the wind force?

Ans   ✗ A. Hygrometer

   ✗ B. Galvanometer

   ✗ C. Altimeter

   ✔ D. Anemometer

Q.4 As announced in the Budget 2021, Indian Railways have prepared a National Rail Plan for India. The plan is to create a 'future ready' Railway system by _____.

Ans   ✗ A. 2028

   ✔ B. 2030

   ✗ C. 2026

   ✗ D. 2025

Q.5 Who is the director general of World Health Organisation as of February 2021?

Ans ✗ A. Margaret Chan

✗ B. Roberto Azevedo

✗ C. Christine Lagarde

✓ D. Tedros Adhanom Ghebreyesus

Question ID : **97675518020**

Q.6 When was the Battle of Talikota fought?

Ans ✗ A. 1558

✗ B. 1535

✓ C. 1565

✗ D. 1532

Question ID : **97675518018**

Q.7 The members of chlorophyceae are commonly called _____ algae.

Ans ✓ A. green

✗ B. red

✗ C. blue

✗ D. brown

Question ID : **97675518012**

Q.8 How many forms of Shakti are worshipped during Navaratri?

Ans ✗ A. 7

✓ B. 9

✗ C. 10

✗ D. 8

Question ID : **97675518007**

Q.9 Who has the record of the most wickets in career in One Day Internationals as of February 2021?

Ans ✗ A. Wasim Akram

✓ B. Muttiah Muralitharan

✗ C. Shahid Afridi

✗ D. Waqar Younis

Question ID : **97675518025**

Q.10 The ancient name of the_____ river is Vitasta.

Ans ✗ A. Beas

✓ B. Jhelum

✗ C. Chenab

✗ D. Ganga

Question ID : **97675518014**

Q.11 _____ will be hosting the International Olympic Committee's (IOC) session in 2023.

Ans ❌ A. Chennai

✅ B. Mumbai

❌ C. Kolkata

❌ D. New Delhi

Question ID : **97675518026**

Q.12 Pavri Nach is performed by the Kokna tribe of which of the following states?

Ans ✅ A. Maharashtra

❌ B. Odisha

❌ C. Madhya Pradesh

❌ D. Tamil Nadu

Question ID : **97675518008**

Q.13 In which year 'Atal Pension Yojana' was launched?

Ans ❌ A. 2016

❌ B. 2017

❌ C. 2014

✅ D. 2015

Question ID : **97675518016**

Q.14 Which among the following Schedule in the Indian Constitution is associated with Panchayat Raj?

Ans ❌ A. Eighth

❌ B. Ninth

❌ C. Tenth

✅ D. Eleventh

Question ID : **97675518023**

Q.15 49th Constitutional Amendment Act gave a constitutional sanctity to the Autonomous District Council in _____.

Ans ❌ A. Sikkim

❌ B. Meghalaya

❌ C. Arunachal Pradesh

✅ D. Tripura

Question ID : **97675518024**

Q.16 Playing to Win' is the autobiography of which of the following sportspersons?

Ans ✅ A. Saina Nehwal

❌ B. Sania Mirza

❌ C. Anil Kumble

❌ D. Novak Djokovic

Question ID : **97675518021**

Q.17 Who won the Oscar award in 2020 for the performance by an actor in a supporting role?

Ans ✗ A. Tom Hanks

✓ B. Brad Pitt

✗ C. Al Pacino

✗ D. Joe Pesci

Question ID : **97675518022**

Q.18 Night Blindness is caused by the severe deficiency of which of the following vitamins?

Ans ✓ A. Vitamin A

✗ B. Vitamin B

✗ C. Vitamin D

✗ D. Vitamin C

Question ID : **97675518013**

Q.19 Historian Vincent Smith has elevated _____ in Indian history as the Napoleon of India.

Ans ✗ A. Skandagupta

✗ B. Kumaragupta I

✓ C. Samudragupta

✗ D. Chandragupta I

Question ID : **97675518017**

Q.20 Who was the first king of the Rashtrakuta dynasty?

Ans ✓ A. Dantidurga

✗ B. Krishna I

✗ C. Govinda I

✗ D. Dhruva Dharavarsha

Question ID : **97675518019**

Section : **Arithmetic Ability**

Q.1 What is the least positive number that is exactly divisible by 7, 11 and 3?

Ans ✗ A. 235

✓ B. 231

✗ C. 77

✗ D. 230

Question ID : **97675518029**

Q.2 Two identical glass jars have milk and water in the ratio 3 : 1 and 5 : 2 respectively. If the mixture in the two jars were emptied out in an empty bucket, what is the resultant ratio of milk and water in the new mixture?

Ans ✓ A. 41 : 15

✗ B. 41 : 17

✗ C. 31 : 15

✗ D. 41 : 14

Question ID : **97675518037**

Q.3 The following graph shows the frequency of plant samplings in a nursery against height (in cm).

What is the approximate average height of all the plants in the nursery?
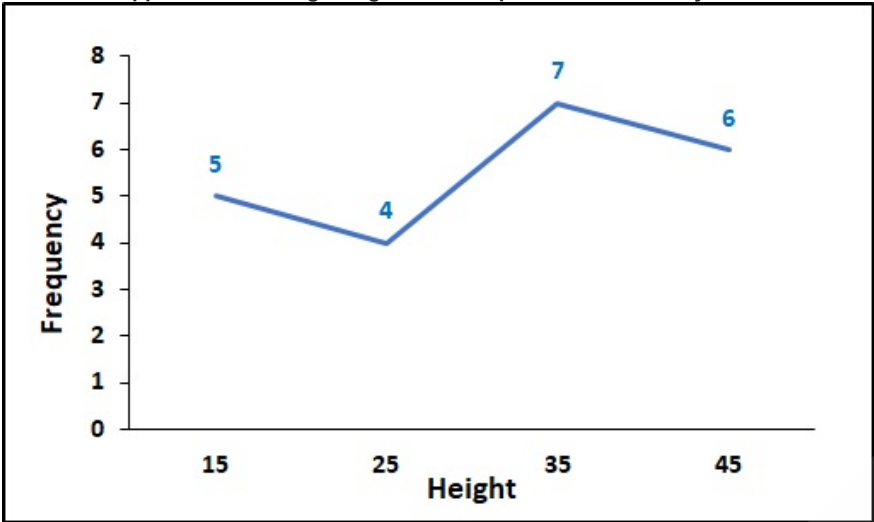
Ans ✅ A. 31 cm

❌ B. 40 cm

❌ C. 30 cm

❌ D. 45 cm

Question ID : **97675518045**

Q.4 Jack has 4 types of candies in the ratio 2 : 6 : 9 : 12. He decided to distribute it among kids such that each get equal number of candies and of only one variety. If he had a total of 116 candies, find the number of kids.

Ans ❌ A. 4

❌ B. 20

❌ C. 6

✅ D. 29

Question ID : **97675518031**

Q.5 The given pie chart shows the monthly expenditure of a man (in Rs 1000s). What is the approximate percentage of the man's savings?

Expenditure

Ans ✔ A. 25%

✘ B. 10%

✘ C. 40%

✘ D. 20%
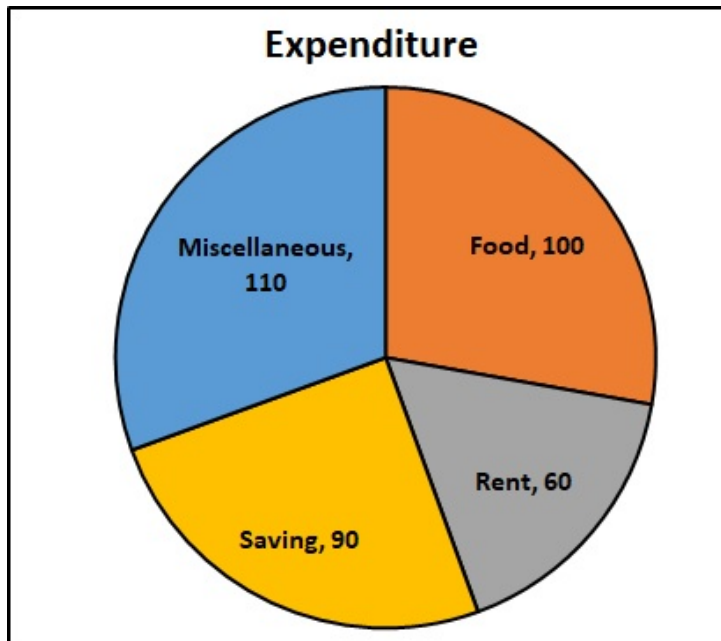
Q.6 A number when divided by 15, 21 and 24 leaves a remainder 1. What is the number?

Ans ✘ A. 840

✘ B. 900

✔ C. 841

✘ D. 790

Q.7 The wheel of a small toy car has circumference of 30 cm. What is the distance it has travelled when the wheel has made 4.5 revolutions?

Ans ✔ A. 135 cm

✘ B. 125 cm

✘ C. 150 cm

✘ D. 120 cm

Q.8 A metal sheet of dimension 44 cm × 20 cm was rolled such that its breadth is now the height of the cylinder so formed. What will be the radius of the cylinder?

Ans ✘ A. 10 cm

✔ B. 7 cm

✘ C. 21 cm

✘ D. 14 cm

Q.9 There are three light bulbs which blink at an interval of 3, 4 and 5 minutes. If they all start together, then in what time will they all blink together again?

Ans ✗ A. 40 min

✗ B. 30 min

✗ C. 100 min

✔ D. 60 min

Question ID : **97675518030**

Q.10 The total number of voters in a small town increased from 40000 to 60000 in a span of 5 years. What is the arithmetic average percentage increase of voters per year in the time span?

Ans ✔ A. 10%

✗ B. 12%

✗ C. 16%

✗ D. 8%

Question ID : **97675518033**

Q.11 The average weight of 40 girls is 40 kg and the average weight of 40 boys is 50 kg. What is the overall average weight?

Ans ✗ A. 40 kg

✗ B. 60kg

✔ C. 45 kg

✗ D. 50kg

Question ID : **97675518032**

Q.12 There are two trains travelling in opposite directions. Train 1 crosses train 2 in 20 seconds and a pole in 24 seconds. What is the length of train 2 if the length of train 1 is 192 m? The speed of train 2 is given as 36 km /hr

Ans ✔ A. 168 m

✗ B. 360 m

✗ C. 150 m

✗ D. 124 m

Question ID : **97675518039**

Q.13 Meena decided to paint a hollow cone of height 20 m and radius 21 m. What will be the total cost of painting at the rate of Rs 15 per sq m?

Ans ✗ A. Rs 28700

✔ B. Rs 28710

✗ C. Rs 2900

✗ D. Rs 3000

Question ID : **97675518042**

Q.14 A is 30% more than C and B is 20% less than C. What is the ratio of A : B : C?

Ans ✗ A. 11 : 7 : 10

✔ B. 13 : 8 : 10

✗ C. 13 : 7 : 10

✗ D. 13 : 8 : 1

Question ID : **97675518036**

Q.15 Meena sells 70 red marbles and 105 blue marbles in boxes without mixing such that each box has x number of marbles. What is the value of x?

Ans ✗ A. 30

✔ B. 35

✗ C. 70

✗ D. 45

Question ID : **97675518028**

Q.16 The following table shows the men and women ratio of a few countries. Which of the given countries has the highest men to women ratio?

COUNTRY	MEN	WOMEN
HUNGARY	3	4
INDIA	4	5
TAIWAN	3	1
BHUTAN	2	4

Ans ✗ A. India

✔ B. Taiwan

✗ C. Bhutan

✗ D. Hungary

Question ID : **97675518044**

Q.17 What will be the selling price if three successive discounts of 10% is applied on an item marked at Rs 3000?

Ans ✗ A. Rs 2100

✗ B. Rs 729

✔ C. Rs 2187

✗ D. Rs 1800

Question ID : **97675518035**

Q.18 A number is increased by 25%. Two fourth of the original number is what percent of the new number so formed?

Ans ✗ A. 45%

✗ B. 50%

✗ C. 25%

✔ D. 40%

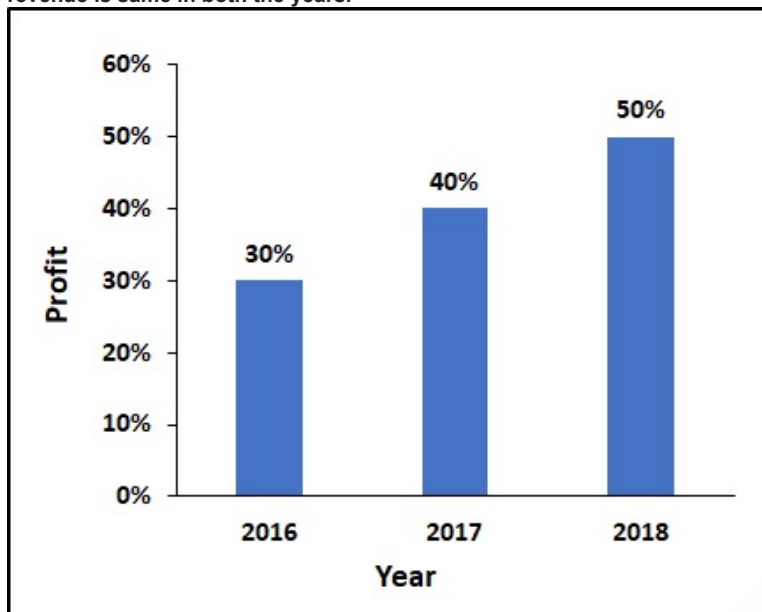Question ID : **97675518034**

Q.19 A man and a child can do a work in 90 days, a woman and a child can do the same work in 60 days and a man and a woman can do the same work in 45 days. How many days will be required to complete the work if all the three work together?

Ans ✗ A. 20 days

✔ B. 40 days

✗ C. 30 days

✗ D. 25 days

Question ID : **97675518040**

Q.20 The following bar graph shows the profit earned by company A in percentage over the years.
The profit in 2017 is more than the profit in 2016 by _____ assuming that the revenue is same in both the years.

Ans
✔ A. 33.33%

✘ B. 50%

✘ C. 65%

✘ D. 100%

Section : **General English**

Q.1 Select the most appropriate meaning of the given idiom.

"Bite the bullet"

Ans ✘ A. To get something over with because it is inevitable

✔ B. To do something that is nearly impossible

✘ C. To eat a very hard biscuit

✘ D. To procrastinate

Q.2 The sentence below has been divided into three parts. Select the part of the sentence that has an error. If the sentence has no error, select the option 'No Error'.

As the time rolls by, rats in there thousands die and lie scattered all over / the streets, while vultures begin hovering over the house as more people / start dying in the village and the epidemic kills without discrimination.

Ans ✘ A. No Error

✔ B.
As the time rolls by, rats in there thousands die and lie scattered all over

✘ C. the streets, while vultures begin hovering over the house as more people

✘ D. start dying in the village and the epidemic kills without discrimination.

Q.3 Fill in the blank with the appropriate word.

Like all classics, this single movement for large orchestra is both luminous and _____ ; both captivating and overwhelming.

Ans ✅ A. unfathomable

❌ B. unassailable

❌ C. insatiable

❌ D. unequivocal

Q.4 Select the word segment that substitutes (replaces) the bracketed word segment correctly and completes the sentence meaningfully. Select the option 'no correction required' if the sentence is correct as given.

The purpose of the Act was to establish an institutional (structured) that could effectively protect, promote and fulfil the fundamental rights guaranteed by the Indian Constitution.

Ans ✅ A. framework

❌ B. qualification

❌ C. reservation

❌ D. no correction required

Q.5 Some parts of a sentence have been jumbled up, and labelled P, Q, R and S. Select the option that gives the correct sequence in which these parts can be rearranged to form a meaningful and grammatically correct sentence.

The principle
P: is to present your stand on the issue at
Q: hand but effective introductory
R: purpose of the introduction
S: paragraphs are so much more
than that.

Ans ❌ A. SRPQ

❌ B. SPQR

✅ C. RPQS

❌ D. RQSP

Q.6 Select the most appropriate 'one word ' for the expression given below.

"perfect, or complete in every way"

Ans ❌ A. consulate

❌ B. consume

❌ C. consuetude

✅ D. consummate

Q.7 Select the word that is the opposite meaning (ANTONYM) to the word given below.

Oblivion

Ans ✗ A. Indifference

 ✗ B. Inadvertence

 ✔ C. Consciousness

 ✗ D. Featherbrained

Question ID : **97675518056**

Q.8 Fill in the blank with the appropriate word.

In protest, a nationwide _____ of work was called, marking the commencement of widespread, although not nationwide, popular discontent.

Ans ✗ A. persistence

 ✔ B. cessation

 ✗ C. beginning

 ✗ D. celebration

Question ID : **97675518051**

Q.9 Some parts of a sentence have been jumbled up, and labelled P, Q, R and S. Select the option that gives the correct sequence in which these parts can be rearranged to form a meaningful and grammatically correct sentence.

After Gandhi
P: because he was a colored person travelling in first-class,
Q: was thrown off a train
R: for injustices that many people of color faced
S: he took that emotion and used it to commence the fight
at the time.

Ans ✗ A. QSPR

 ✔ B. QPSR

 ✗ C. SPQR

 ✗ D. PQRS

Question ID : **97675518054**

Q.10 Select the word segment that substitutes (replaces) the bracketed word segment correctly and completes the sentence meaningfully. Select the option 'no correction required' if the sentence is correct as given.

The controversy before the Madras High Court (products) from the issue of what is to be done after the Human Rights Commission completes its inquiry.

Ans ✗ A. refrains

 ✗ B. digresses

 ✔ C. stems

 ✗ D. no correction required

Question ID : **97675518050**

Q.11 Select the most appropriate meaning of the given idiom.

"To cost an arm and a leg"

Ans ✗ A. Not having the means to do basic things in life

 ✔ B. Something is very expensive

 ✗ C. Doing a courageous act

 ✗ D. Losing something very precious

Question ID : **97675518059**

Q.12 Select the word that is closest in meaning (SYNONYM) to the word given below

Flabbergasted

Ans ✗ A. Disgusted

✗ B. Rubber ring

✗ C. Extreme heat

✓ D. Surprised

Q.13 Four words are given, out of which only one word is spelt correctly. Choose the correctly spelt word.

Ans ✗ A. VISCIOUS

✗ B. VISIOUS

✓ C. VICIOUS

✗ D. VICSIOUS

Q.14 Four words are given, out of which only one word is spelt correctly. Choose the correctly spelt word.

Ans ✗ A. SOBRIQUE

✗ B. SOUBRIQUET

✓ C. SOBRIQUET

✗ D. SOBRIKE

Q.15 The sentence below has been divided into three parts. Select the part of the sentence that has an error. If the sentence has no error, select the option 'No Error'.

A priest uses the opportunity of the plague, / and invoking his god, preach refuge in religion / to overcome the deadly attack.

Ans ✗ A. A priest uses the opportunity of the plague,

✗ B. No Error

✗ C. to overcome the deadly attack.

✓ D. and invoking his god, preach refuge in religion

Comprehension:

A passage is given with 5 questions following it. Read the passage carefully and choose the best answer to each question out of the four alternatives.

All the world's a stage,
And all the men and women merely players;
They have their exits and their entrances ...
- William Shakespeare, As You Like It,
The Philosophy of Rhetoric (1937) by rhetorician I. A. Richards describes a metaphor as having two parts: the tenor and the vehicle. The tenor is the subject to which attributes are ascribed. The vehicle is the object whose attributes are borrowed. In the previous example, "the world" is compared to a stage, describing it with the attributes of "the stage"; "the world" is the tenor, and "a stage" is the vehicle; "men and women" is the secondary tenor, and "players" is the secondary vehicle.

Psychologist Julian Jaynes coined the terms 'metaphrand' and 'metaphier', plus two new concepts, 'paraphrand' and 'paraphier'. 'Metaphrand' is equivalent to the metaphor-theory terms 'tenor', 'target', and 'ground'. 'Metaphier' is equivalent to the metaphor-theory terms 'vehicle', 'figure', and 'source'. In a simple metaphor, an obvious attribute of the metaphier exactly characterizes the metaphrand (e.g. the ship plowed the seas). With an inexact metaphor, however, a metaphier might have associated attributes or nuances – its paraphiers – that enrich the metaphor because they "project back" to the metaphrand, potentially creating new ideas – the paraphrands – associated thereafter with the metaphrand or even leading to a new metaphor. For example, in the metaphor "Pat is a tornado", the metaphrand is "Pat", the metaphier is "tornado". As metaphier, "tornado" carries paraphiers such as power, storm and wind, counter clockwise motion, and danger, threat, destruction, etc. The metaphoric meaning of "tornado" is inexact: one might understand that 'Pat is powerfully destructive' through the paraphrand of physical and emotional destruction; another person might understand the metaphor as 'Pat can spin out of control'. In the latter case, the paraphier of 'spinning motion' has become the paraphrand 'psychological spin', suggesting an entirely new metaphor for emotional unpredictability, a possibly apt description for a human being hardly applicable to a tornado. Based on his analysis, Jaynes claims that metaphors not only enhance description, but "increase enormously our powers of perception...and our understanding, and literally create new objects".

SubQuestion No : 16

Q.16 Metaphrand and metaphier are equivalent to_____.

Ans   ✗ A. Meaning and relation

   ✗ B. Cause and effect

   ✔ C. Target and source

   ✗ D. Relation and co-relation

Question ID : **97675518065**

Comprehension:

A passage is given with 5 questions following it. Read the passage carefully and choose the best answer to each question out of the four alternatives.

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And all the men and women merely players;
They have their exits and their entrances ...
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SubQuestion No : 17

Q.17 What is the "vehicle" in the above passage?

Ans ✗ A. A word that gives a reference to a new word

✗ B. The subject to which attributes are ascribed

✗ C. A thing used to express, embody, or fulfil something

✔ D. The object whose attributes are borrowed

Question ID : 97675518064

Comprehension:

A passage is given with 5 questions following it. Read the passage carefully and choose the best answer to each question out of the four alternatives.

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SubQuestion No : 18

Q.18 **What is the world compared to?**

Ans ✗ A. Needs

✔ B. Stage

✗ C. Part of life

✗ D. Arena of opportunities

Question ID : **97675518063**

Comprehension:

A passage is given with 5 questions following it. Read the passage carefully and choose the best answer to each question out of the four alternatives.

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SubQuestion No : 19

Q.19 Referring to Julian Jaynes theory and considering the metaphor "All the men and women merely players", what are "men" and "women" ?

Ans ✗ A. history

✔ B. metaphrand

✗ C. metaphor

✗ D. metaphier

Comprehension:

A passage is given with 5 questions following it. Read the passage carefully and choose the best answer to each question out of the four alternatives.

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SubQuestion No : 20

Q.20 The statements at the start of the passage are attributed to:

Ans   ✗ A. George Eliot

     ✓ B. William Shakespeare

     ✗ C. George Orwell

     ✗ D. William Blake

Question ID : **97675518067**

Section : **General Hindi**

Q.1 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो दिए गए मुहावरे का सही अर्थ वाला विकल्प है।
सिर पर हाथ होना -

Ans   ✓ A. सहारा होना

     ✗ B. आज्ञा मानना

     ✗ C. विरोधियों से घिरे होना

     ✗ D. अच्छी जगह पर होना

Question ID : **97675518081**

Q.2 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो दी गई लोकोक्ति का सही अर्थ वाला विकल्प है।
अब की अब, तब की तब -

Ans   ✗ A. अपनी इज्जत की रक्षा स्वयं करना

     ✗ B. अपनी बड़ाई आप करना

     ✗ C. सफलता दूर होना

     ✓ D. भविष्य की चिंता छोड़कर वर्तमान की ही सोचना

Question ID : **97675518082**

Q.3 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो दिए गए शब्द का तद्भव रूप हो।

इमि

Ans ✗ A. ऊँचा

✓ B. एवम

✗ C. ऐसा

✗ D. एका

Q.4 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो विराम चिह्न युक्त वाक्य का सही विकल्प हो।

Ans ✗ A. जब शेर इंतजार करते करते थक गया, तब उसने सोचा चलें ज़रा मोची का पता लगाएँ|

✗ B. जब शेर इंतजार करते करते थक गया तब उसने सोचा चलें ज़रा मोची का पता लगाएँ

✓ C. जब शेर इंतजार करते-करते थक गया, तब उसने सोचा, "चलें, ज़रा मोची का पता लगाएँ|"

✗ D. जब शेर इंतजार करते करते थक गया तब उसने सोचा "चलें ज़रा मोची का पता लगाएँ|"

Q.5 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो विदेशी शब्द का सही विकल्प हो।

Ans ✗ A. धक्का

✗ B. डकारा

✗ C. खटपट

✓ D. चेहरा

Q.6 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो दिए गए वाक्य के लिए अव्यय के भेद का सही विकल्प हो।

वह दिन भर काम करता रहा।

Ans ✗ A. समानाधिकरण समुच्चयबोधक अव्यय

✗ B. विस्मयादिबोधक अव्यय

✗ C. व्यधिकरण समुच्चयबोधक अव्यय

✓ D. क्रियाविशेषण अव्यय

Q.7 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो क्रिया के भेद वाला सही विकल्प हो।

मैंने खाना बनवाया।

Ans ✗ A. तात्कालिक क्रिया

✗ B. पूर्वकालिक क्रिया

✗ C. नामधातु क्रिया

✓ D. प्रेरणार्थक क्रिया

Q.8 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो शुद्ध शब्द का सही विकल्प है।

Ans ✓ A. अर्धांगिनी

✗ B. अरधंगिनी

✗ C. अर्धागीनी

✗ D. अरधागिनी

Q.9 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो शुद्ध वाक्य का सबसे अच्छा विकल्प है।

Ans ✗ A. मैं जानता हूँ तुम्हारे अक्षर अच्छा नहीं बनते है।

✓ B. मैं जानता हूँ कि तुम्हारे अक्षर अच्छे नहीं बनते है।

✗ C. मैं जानता हूँ कि तुम अक्षर अच्छे नहीं बनाते है।

✗ D. मैं जानता कि तुम्हारा अक्षर अच्छे नहीं बनते है।

Q.10 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो दिए गए वाक्य के लिए पक्ष के भेद का सबसे अच्छा विकल्प है।
स्वादिष्ट खाने को देखकर भूख बढ़ती जा रही है!

Ans ✓ A. प्रगतिद्योतक

✗ B. पूर्णताद्योतक

✗ C. सातप्यबोधक

✗ D. आरंभद्योतक

Q.11 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो दिए गए मुहावरे का सही अर्थ वाला विकल्प है।
सिर धुनना -

Ans ✓ A. पछताना

✗ B. कृतज्ञ होना

✗ C. लजा जाना

✗ D. मुसीबत दूर होना

Q.12 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो विलोम शब्द का सबसे अच्छा विकल्प है।

मर्त्य

Ans ✗ A. मृत

✗ B. मृदुल

✓ C. अमर

✗ D. मृत्यू

Q.13 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस सही विकल्प का चयन करें जो रिक्त स्थान के लिए उपयुक्त शब्द का सही विकल्प है ।
सभी शिष्य मैदान में _____ खड़े हो गए।

Ans ✗ A. कहकर

✗ B. होकर

✓ C. आकर

✗ D. गुजरकर

Q.14 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो सही वाक्य भेद का विकल्प हो
ज्यों ही उसने दवा पी, वह सो गया।

Ans ✗ A. विधानवाचक वाक्य

     ✗ B. सरल वाक्य

     ✗ C. संयुक्त वाक्य

     ✔ D. मिश्र वाक्य

Question ID : **97675518076**

Q.15 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस सही विकल्प का चयन करें जो दिए गए शब्द के सही अर्थ
का उचित विकल्प हो।
बंदर

Ans ✗ A. वसु

     ✗ B. सैकत

     ✗ C. खग

     ✔ D. हरि

Question ID : **97675518073**

Comprehension:

नीचे दिए गये गद्यांश के बाद 5 प्रश्न दिए गये हैं। इस गद्यांश को ध्यानपूर्वक पढ़ें और चार विकल्पों में से प्रत्येक प्रश्न का सर्वोत्तम उत्तर चुनें।

मेरे मकान के आगे चौराहे पर फुटपाथ पर खाना खाने वाले लोग बैठते हैं- रिक्शेवाले, मजदूर, फेरीवाले, कबाड़ीवाले...। लोग कहते हैं "आपको बुरा नहीं लगता? लोग सड़क पर गन्दा फैला रहे हैं और आप इन्हें बर्दाश्त कर रहे हैं? इनके कारण पूरे मोहल्ले की आबोहवा खराब हो रही है।" मैं उनकी बातों को हल्के में ही लेता हूँ। मुझे पता है कि यहाँ जो लोग जुटते हैं वे गरीब लोग होते हैं। अपने काम-धाम के बीच रोटी खाने चले आते हैं और खाकर चले जाते हैं। ये आमतौर पर गरीब ईमानदार लोग हैं जो हमारे इस परिसर के स्थायी सदस्य हो गए हैं। ये उन अशिष्ट अमीरों से भिन्न हैं, जो साधारण-सी बात पर भी हंगामा खड़ा कर देते हैं। लोगों के पास पैसा तो आ गया पर रहने का तरीका नहीं आया। अधजल गगरी छलकत जाए की तर्ज पर इनमें दिखावे की भावना उबाल खाती है।। इस दुनिया में कहा-सुनी होती है, हाथापाई भी हो जाती है लेकिन कोई किसी के प्रति गाँठ नहीं बाँधता। दूसरे-तीसरे ही दिन परस्पर हँसते-बतियाते और एक-दूसरे के दुःख-दर्द में शामिल होते दिखाई पड़ते हैं।

SubQuestion No : 16

Q.16 साधारण बात पर भी हंगामा कौन खड़ा कर देते हैं?

Ans ✗ A. लेखक के अपरिचित लोग

     ✗ B. गाँव से आए गरीब मजदूर

     ✔ C. अमीर किन्तु असभ्य लोग

     ✗ D. अशिष्ट रेहड़ी-पटरी वाले

Question ID : **97675518085**

Comprehension:

नीचे दिए गये गद्यांश के बाद 5 प्रश्न दिए गये हैं। इस गद्यांश को ध्यानपूर्वक पढ़ें और चार विकल्पों में से प्रत्येक प्रश्न का सर्वोत्तम उत्तर चुनें।

मेरे मकान के आगे चौराहे पर फुटपाथ पर खाना खाने वाले लोग बैठते हैं- रिक्शेवाले, मजदूर, फेरीवाले, कबाड़ीवाले...। लोग कहते हैं "आपको बुरा नहीं लगता? लोग सड़क पर गन्दा फैला रहे हैं और आप इन्हें बर्दाश्त कर रहे हैं? इनके कारण पूरे मोहल्ले की आबोहवा खराब हो रही है।" मैं उनकी बातों को हल्के में ही लेता हूँ। मुझे पता है कि यहाँ जो लोग जुटते हैं वे गरीब लोग होते हैं। अपने काम-धाम के बीच रोटी खाने चले आते हैं और खाकर चले जाते हैं। ये आमतौर पर गरीब ईमानदार लोग हैं जो हमारे इस परिसर के स्थायी सदस्य हो गए हैं। ये उन अशिष्ट अमीरों से भिन्न हैं, जो साधारण-सी बात पर भी हंगामा खड़ा कर देते हैं। लोगों के पास पैसा तो आ गया पर रहने का तरीका नहीं आया। अधजल गगरी छलकत जाए की तर्ज पर इनमें दिखावे की भावना उबाल खाती है। । इस दुनिया में कहा-सुनी होती है, हाथापाई भी हो जाती है लेकिन कोई किसी के प्रति गाँठ नहीं बाँधता। दूसरे-तीसरे ही दिन परस्पर हँसते-बतियाते और एक-दूसरे के दुःख-दर्द में शामिल होते दिखाई पड़ते हैं।

SubQuestion No : 17

Q.17 "इस दुनिया में कहा-सुनी होती है" - 'इस दुनिया' का संकेत है

Ans   ✗ A. लेखक को उकसाने वाला पड़ोस

✔ B. गाँव से शहर आ बसे गरीब

✗ C. अमीर किन्तु अशिष्ट लोग

✗ D. गाँव से शहर जा बसे मजदूरों की दुनिया

Question ID : **97675518086**

Comprehension:

नीचे दिए गये गद्यांश के बाद 5 प्रश्न दिए गये हैं। इस गद्यांश को ध्यानपूर्वक पढ़ें और चार विकल्पों में से प्रत्येक प्रश्न का सर्वोत्तम उत्तर चुनें।

मेरे मकान के आगे चौराहे पर फुटपाथ पर खाना खाने वाले लोग बैठते हैं- रिक्शेवाले, मजदूर, फेरीवाले, कबाड़ीवाले...। लोग कहते हैं "आपको बुरा नहीं लगता? लोग सड़क पर गन्दा फैला रहे हैं और आप इन्हें बर्दाश्त कर रहे हैं? इनके कारण पूरे मोहल्ले की आबोहवा खराब हो रही है।" मैं उनकी बातों को हल्के में ही लेता हूँ। मुझे पता है कि यहाँ जो लोग जुटते हैं वे गरीब लोग होते हैं। अपने काम-धाम के बीच रोटी खाने चले आते हैं और खाकर चले जाते हैं। ये आमतौर पर गरीब ईमानदार लोग हैं जो हमारे इस परिसर के स्थायी सदस्य हो गए हैं। ये उन अशिष्ट अमीरों से भिन्न हैं, जो साधारण-सी बात पर भी हंगामा खड़ा कर देते हैं। लोगों के पास पैसा तो आ गया पर रहने का तरीका नहीं आया। अधजल गगरी छलकत जाए की तर्ज पर इनमें दिखावे की भावना उबाल खाती है। । इस दुनिया में कहा-सुनी होती है, हाथापाई भी हो जाती है लेकिन कोई किसी के प्रति गाँठ नहीं बाँधता। दूसरे-तीसरे ही दिन परस्पर हँसते-बतियाते और एक-दूसरे के दुःख-दर्द में शामिल होते दिखाई पड़ते हैं।

SubQuestion No : 18

Q.18 लेखक लोगों की शिकायतों को हल्के में क्यों लेता है?

Ans   ✗ A. लेखक उन्हें जानता-पहचानता है

✗ B. शिकायत करना लोगों की आदत होती है

✗ C. वह किसी बात को गम्भीरता से नहीं लेता

✔ D. जुटने वाले लोग गरीब और ईमानदार हैं

Question ID : **97675518084**

Comprehension:

नीचे दिए गये गद्यांश के बाद 5 प्रश्न दिए गये हैं। इस गद्यांश को ध्यानपूर्वक पढ़ें और चार विकल्पों में से प्रत्येक प्रश्न का सर्वोत्तम उत्तर चुनें।

मेरे मकान के आगे चौराहे पर फुटपाथ पर खाना खाने वाले लोग बैठते हैं- रिक्शेवाले, मजदूर, फेरीवाले, कबाड़ीवाले...। लोग कहते हैं "आपको बुरा नहीं लगता? लोग सड़क पर गन्दा फैला रहे हैं और आप इन्हें बर्दाश्त कर रहे हैं? इनके कारण पूरे मोहल्ले की आबोहवा खराब हो रही है।" मैं उनकी बातों को हल्के में ही लेता हूँ। मुझे पता है कि यहाँ जो लोग जुटते हैं वे गरीब लोग होते हैं। अपने काम-धाम के बीच रोटी खाने चले आते हैं और खाकर चले जाते हैं। ये आमतौर पर गरीब ईमानदार लोग हैं जो हमारे इस परिसर के स्थायी सदस्य हो गए हैं। ये उन अशिष्ट अमीरों से भिन्न हैं, जो साधारण-सी बात पर भी हंगामा खड़ा कर देते हैं। लोगों के पास पैसा तो आ गया पर रहने का तरीका नहीं आया। अधजल गगरी छलकत जाए की तर्ज पर इनमें दिखावे की भावना उबाल खाती है। । इस दुनिया में कहा-सुनी होती है, हाथापाई भी हो जाती है लेकिन कोई किसी के प्रति गाँठ नहीं बाँधता। दूसरे-तीसरे ही दिन परस्पर हँसते-बतियाते और एक-दूसरे के दुःख-दर्द में शामिल होते दिखाई पड़ते हैं।

SubQuestion No : 19

Q.19 इनमें से कौन - सा अशिष्ट का पर्यायवाची नहीं है?

Ans ✅ A. विनीत

❌ B. अविनीत

❌ C. उजड्डु

❌ D. असभ्य

Question ID : **97675518087**

Comprehension:

SubQuestion No : 20

Q.20 इस अनुच्छेद का कोई उपयुक्त शीर्षक-

Ans ❌ A. शिष्ट परिवार

✅ B. गरीब ईमानदार लोग

❌ C. गरीबों की शिकायत

❌ D. अशिष्ट मज़दूर

Question ID : **97675518088**

Section : Discipline1

Q.1 A block of weight 250 N is placed on an inclined plane, which makes an angle of 20^0 with the horizontal. The components of this weight parallel to the inclined plane and perpendicular to the inclined plane are _____ and _____, respectively.

Ans ❌ A. 204.2 N, 36.59 N

✅ B. 85.5 N, 234.92 N

❌ C. 72.5 N, 56.25 N

❌ D. 92.85 N, 182.6 N

Question ID : **97675518091**

Q.2 Calculate the distance of a centroid from the top of a T-section wherein width of the flange = 150 mm, height of the flange = 10 mm, width of the web = 10 mm and height of the web = 140 mm.

Ans
- ✗ A. 72.98 mm
- ✓ B. 41.21 mm
- ✗ C. 55.68 mm
- ✗ D. 68.23 mm

Q.3 A 20-mm-thick soil sample takes 20 min to reach 20% consolidation. The time taken for a 6-m-thick clay layer to reach 40% consolidation is _____. (Assume double drainage in both cases.)

Ans
- ✗ A. 14.2 years
- ✗ B. 12.2 years
- ✗ C. 15.6 years
- ✓ D. 13.7 years

Q.4 In bolted connections, the minimum pitch allowed as per IS: 800-2007 is:

Ans
- ✗ A. $2.7 \times$ diameter of the bolt
- ✓ B. $2.5 \times$ diameter of the bolt
- ✗ C. $1.5 \times$ diameter of the bolt
- ✗ D. $3 \times$ diameter of the bolt

Q.5 A simply supported beam AB of length 10 m carries point loads 100 kN and 80 kN at a distance of 2 m and 6 m, respectively, from end A. It also carries a uniformly distributed load of 10 kN/m between the point loads. The support reactions at A and B are _____ and _____, respectively.

Ans
- ✗ A. 163 kN, 57 kN
- ✗ B. 54 kN, 166 kN
- ✓ C. 136 kN, 84 kN
- ✗ D. 25 kN, 195 kN

Q.6 A single bolted lap joint is used to connect two plates 8 mm thick. If bolts of 20 mm diameter are used at 60 mm pitch and if we use Fe410 plate and 4.6 grade of bolt, then the efficiency of the joint is _____.

Ans
- ✗ A. 45.23%
- ✓ B. 31.94%
- ✗ C. 51.23%
- ✗ D. 21.45%

Q.7 Which of the following is the correct expression for calculating the direction (θ) of the resultant force between two forces P and Q. Take angle between the forces as α.

Ans

✗ A. $\theta = \tan^{-1}\left(\dfrac{P\sin\alpha}{P+Q\cos\alpha}\right)$

✗ B. $\theta = \tan^{-1}\left(\dfrac{Q\cos\alpha}{P+Q\sin\alpha}\right)$

✔ C. $\theta = \tan^{-1}\left(\dfrac{Q\sin\alpha}{P+Q\cos\alpha}\right)$

✗ D. $\theta = \tan^{-1}\left(\dfrac{P\sin\alpha}{P+Q\sin\alpha}\right)$

Q.8 A strip footing is 1m wide at its base. It is located at a depth of 0.8 m below the ground level. Consider unit weight of soil = 18 kN/m^3, cohesion = 30 kN/m^2 and the angle of friction = 20^0. Calculate the safe bearing capacity of soil using terzaghi's analysis. (Take N_q = 3.9, N_c = 11.8, N_γ = 1.7, factory of safety = 2.5.)

Ans

✗ A. 112.09 kN/m^2

✗ B. 108.33 kN/m^2

✔ C. 131.62 kN/m^2

✗ D. 126.24 kN/m^2

Q.9 The natural water content, liquid limit and plastic limit of a clay sample are 20%, 40% and 18%, respectively. Its liquidity index is:

Ans

✗ A. 0.06

✗ B. 0.07

✗ C. 0.08

✔ D. 0.09

Q.10 If a soil sample in its natural state is fully saturated, it will have water content of 30%. The total weight of water required to saturate a soil mass of volume $10m^3$ is: (Assume G_s = 2.60.)

Ans

✗ A. 440 KN

✗ B. 220 KN

✗ C. 22 KN

✔ D. 44 KN

Q.11 A truss member consists of two angles of ISA 75×75×6, which are placed back to back carrying an ultimate tensile load of 200 KN. The member is connected to an 8-mm thick gusset plate placed in between the two connected legs using 16 mm diameter bolts of grade 4.6. How many bolts are required? (Assume f_u of plates as 410 MPa.)

Ans

✗ A. 6

✔ B. 4

✗ C. 2

✗ D. 8

Q.12 The diameter of a clean capillary tube is 0.06 mm. Determine the expected rise of water in the tube.

Ans ✔ A. 50 cm

✘ B. 42 cm

✘ C. 35 cm

✘ D. 27 cm

Question ID : **97675518104**

Q.13 The correct unit of force among the following is:

Ans ✘ A. kg-m/sec

✘ B. Kg/m/sec

✘ C. $kg/m/sec^2$

✔ D. $kg-m/sec^2$

Question ID : **97675518093**

Q.14 What is the full form of ISMC?

Ans ✘ A. Indian standard mortar and cement

✔ B. Indian standard medium weight channel

✘ C. Indian standard for mixing cement

✘ D. Indian standard mean compaction

Question ID : **97675518099**

Q.15 A clay layer of 6 m thickness has an existing overburden pressure of 300 kpa at the centre of the clay layer. The pressure is expected to increase by 150 kpa due to a new building. By taking c_c = 0.45, w = 50% and G = 2.71, calculate the consolidation settlement.

Ans ✘ A. 147.25 mm

✘ B. 198.56 mm

✘ C. 250.84 mm

✔ D. 201.88 mm

Question ID : **97675518105**

Q.16 A circular area of 6 m diameter carries a uniformly distributed load of 10 kN/m^2. The vertical stress at a depth of 5 m is:

Ans ✘ A. 1.79 kN/m^2

✘ B. 8.29 kN/m^2

✔ C. 3.69 kN/m^2

✘ D. 4.88 kN/m^2

Question ID : **97675518107**

Q.17 If two concurrent forces P and Q of magnitude 25 N and 50 N are acting away from the point of concurrency and inclined at angles 15° and 30° with the horizontal plane respectively, the magnitude of the resultant force is:

Ans
- ✗ A. 64.25 N
- ✔ B. 74.43 N
- ✗ C. 85.26 N
- ✗ D. 58.63 N

Question ID : **97675518090**

Q.18 The equation that represents the A-line on the plasticity chart is:

Ans
- ✔ A. $I_p = 0.73(w_1 - 20)$
- ✗ B. $w_1 = 0.73(I_p - 20)$
- ✗ C. $I_p = 0.2(w_1 - 73)$
- ✗ D. $w_1 = 0.2(I_p - 73)$

Question ID : **97675518102**

Q.19 A boat is rowed at a velocity of 30 km/h across (perpendicular to the direction of stream) a river. The velocity of the stream is 10 km/h. The resultant velocity of the boat (in km/h) is:

Ans
- ✗ A. 47.28
- ✔ B. 31.62
- ✗ C. 42.5
- ✗ D. 51.42

Question ID : **97675518095**

Q.20 Which of the following is the main advantage of rivets in steel construction?

Ans
- ✔ A. They do not loosen when subjected to vibration.
- ✗ B. They need pre-heating.
- ✗ C. They provide an aesthetic finish
- ✗ D. Less workforce is required.

Question ID : **97675518096**

Section : **Discipline2**

Q.1 Match the following

Traffic sign	General shape
1.regulatory signs	a. triangular
2. warning signs	b. rectangular
3.informatory signs	c. circular

Ans
✔ A. 1-c, 2-a, 3-b

✘ B. 1-c, 2-c, 3-a

✘ C. 1-a, 2-b, 3-c

✘ D. 1-b, 2-a, 3-c

Question ID : **97675518125**

Q.2 Plate load tests were conducted in a c-φ soil on the plates of two different sizes and the following data was obtained.

Load	Size of plate	Settlement
40 kN	0.3m X 0.3m	25 mm
100kN	0.6m X 0.6m	25 mm

The size of the square footing required to carry a load of 600 kN at the same specified settlement is:

Ans
✘ A. 1.75 m

✘ B. 2.15 m

✘ C. 2.27 m

✔ D. 1.92 m

Question ID : **97675518111**

Q.3 In a braking test, a vehicle travelling at a speed of 40km/h was stopped by applying brakes fully; the skid marks were 6.3 m in length. The average skid resistance of the pavement surface is (take $g = 10ms^{-2}$):

Ans
✘ A. 0.86

✘ B. 0.72

✘ C. 0.61

✔ D. 0.98

Question ID : **97675518122**

Q.4 In a collision diagram, the symbols →○← and →●← represent _____ and _____, respectively.

Ans
✘ A. parked vehicle, fixed object

✔ B. personal injury, fatal accident

✘ C. rear-end collision, front-end collision

✘ D. side swipe, out of control

Question ID : **97675518124**

Q.5 According to IS 456 : 2000, for a nominal 1.5-hour fire resistance, the nominal covers specified for the simply supported beams, slabs and ribs are _____.

Ans
- ✗ A. 20 mm, 25 mm and 40 mm
- ✓ B. 20 mm, 25 mm and 35 mm
- ✗ C. 20 mm, 25 mm and 20 mm
- ✗ D. 20 mm, 20 mm and 40 mm

Question ID : **97675518128**

Q.6 Maximum width of all vehicles excluding the front and rear bumper is:

Ans
- ✓ A. 2.5 m
- ✗ B. 2.2 m
- ✗ C. 1.8 m
- ✗ D. 3.2 m

Question ID : **97675518121**

Q.7 Which IS code is referred to for the ductile detailing of reinforced concrete structures subjected to seismic forces?

Ans
- ✓ A. IS 13920 : 1993
- ✗ B. IS 1343 : 1980
- ✗ C. IS 875 : 1987
- ✗ D. IS 1893 : 2002

Question ID : **97675518127**

Q.8 The lustre of pyrite is:

Ans
- ✗ A. vitreous
- ✗ B. silky
- ✗ C. dull
- ✓ D. metallic

Question ID : **97675518118**

Q.9 The strength of a sample of fully matured concrete is found to be 40 MPa. Find the strength of identical concrete at the age of 7 days, when cured at an average temperature of $20°$ C during daytime and average temperature of $10°$ C during night time (take A = 32, B = 54).

Ans
- ✗ A. 17.28 MPa
- ✓ B. 26.63 MPa
- ✗ C. 29.23 Mpa
- ✗ D. 22.56 MPa

Question ID : **97675518113**

Q.10 High tensile steel usually contains _____ % of carbon and _____ % of manganese.

Ans
✗ A. 0.7 to 0.85 and 0.75 to 1

✗ B. 0.6 to 0.85 and 0.75 to 1

✓ C. 0.6 to 0.85 and 0.7 to 1

✗ D. 0.7 to 0.85 and 0.7 to 1

Q.11 Which of the following is/are true about cast-in-situ piles?

a) Piles of any size and length may be constructed at the site.

b) The damage due to driving and handling, which is common in the precast piles, is eliminated in this case.

c) They are suitable in soils of poor drainage qualities.

d) They cause vibrations and affect the surrounding structures.

Ans
✓ A. a, b and c only

✗ B. d and c only

✗ C. b, c and d only

✗ D. a and b only

Q.12 A concrete pile of diameter 30 cm is driven into a homogenous consolidated clay deposit having cohesion of 40 kN/m^2 and adhesion factor of 0.7. If the embedded length is 10 m, the safe load is _____. (Take factor of safety as 3.)

Ans
✗ A. 73.95 kN

✗ B. 82.15 kN

✓ C. 96.45 kN

✗ D. 56.25 kN

Q.13 The acute vision cone is around _____ degrees around the line of sight.

Ans
✓ A. 3

✗ B. 5

✗ C. 9

✗ D. 7

Q.14 Which of the following options is INCORRECT with respect to the plate load test?

Ans
✗ A.
The bottom of the pit should coincide with the level of the foundation.

✓ B.
The size of the plate should be equal to the size of the footing.

✗ C.
A seating load of about 70 gm/cm^2 is first applied and released after some time.

✗ D.
The test should continue until a total settlement of 2.5 cm or the settlement at which the soil fails, whichever is earlier.

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Q.15 From the following information, identify the critical path.

Activity	Time in weeks	Preceded by
A	15	-
B	15	-
C	3	A
D	5	A
E	8	B, C
F	12	B, C
G	1	E
H	14	E
I	3	D, G
J	14	F, H, I

Ans
- ✗ A. B-F-J
- ✗ B. B-E-G-I-J
- ✔ C. A-C-E-H-J
- ✗ D. A-C-E-G-I-J

Q.16 Horizontal communication does NOT include:

Ans
- ✔ A. directing subordinates
- ✗ B. task co-ordination
- ✗ C. problem solving
- ✗ D. conflict resolution

Q.17 Which of the following is NOT a method used to obtain self-compacting concrete?

Ans
- ✗ A. Use of plasticizers
- ✗ B. Low water-powder ratio
- ✗ C. Limited aggregate content
- ✔ D. Increasing the water content beyond 350 litres per cum

Q.18 The correct order of steps involved in preparation of brick earth for clay brick manufacturing process is:

Ans
- ✗ A. digging→weathering→unsoiling→tempering→ blending
- ✗ B. digging→weathering→blending→tempering→unsoiling
- ✔ C. Unsoiling→digging→weathering→blending→tempering
- ✗ D. Unsoiling→tempering→digging→blending→weathering

Q.19 Who defined management as 'the art of getting things done through people'?

Ans
❌ A. Henri Fayol

❌ B. Newman and Summer

❌ C. George R Terry

✅ D. Mary Parker Follett

Q.20 From the data in the given table, the modal speed is:

Speed range, km/h	No. of speed observations
0-10	0
10-20	11
20-30	30
30-40	105
40-50	233
50-60	216
60-70	68
70-80	24
80-90	0

Ans
✅ A. 47 km/h

❌ B. 37 km/h
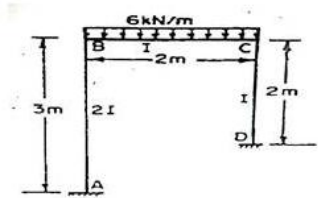
❌ C. 32 km/h

❌ D. 55 km/h

Section : **Discipline3**

Q.1 Lysimeters and field plots are used to measure:

Ans
❌ A. interception

✅ B. evapotranspiration

❌ C. infiltration

❌ D. precipitation

Q.2 Find out the rotational factor for joint 'C' using Kani's method for the following figure.

Ans

✗ A.

Member	R.F
CB	-0.25
CD	0.25

✗ B.

Member	R.F
CB	0.25
CD	0.25

✗ C.

Member	R.F
CB	0.25
CD	-0.25

✔ D.

Member	R.F
CB	-0.25
CD	-0.25

Q.3
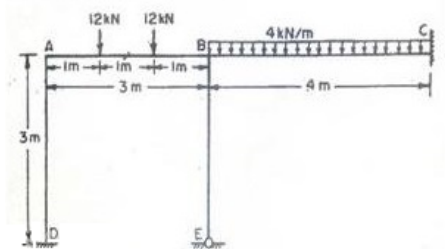
From the above figure,

find out the distribution factor for joint 'B' using moment distribution method.

Ans

✔ A.

Member	D.F
BA	0.4
BE	0.3
BC	0.3

✘ B.

Member	D.F
BA	0.4
BE	0.4
BC	0.3

✘ C.

Member	D.F
BA	0.3
BE	0.3
BC	0.4

✘ D.

Member	D.F
BA	0.3
BE	0.4
BC	0.3

Question ID : **97675518134**

Q.4 Match the following.

| Type of lining	Values of Manning's Rugosity Coefficient 'n' for straight alignment
1. Brick lining	A. 0.018 – 0.020
2. Split boulder lining	B. 0.025 – 0.035
3. Round boulder lining	C. 0.020 – 0.025

Ans

✘ A. 1-A, 2-B, 3-C

✘ B. 1-C, 2-A, 3-B

✔ C. 1-A, 2-C, 3-B

✘ D. 1-C, 2-B, 3-A

Question ID : **97675518146**

Q.5 A three-hinged symmetric circular arch has a span of 60 m and a rise of 12 m. Find the value of 'θ' from the given figure by using properties of circle formula.
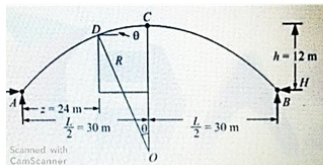
Ans
- ✗ A. $\theta = 6.928°$
- ✔ B. $\theta = 7.928°$
- ✗ C. $\theta = 9.928°$
- ✗ D. $\theta = 8.928°$

Question ID : **97675518135**

Q.6 Determine the time taken to irrigate a strip of land 400 m^2 in area and with a discharge through supply ditch of 70.5 m^3/hr. The irrigation capacity of the soil is taken as 0.05 m/hr and the average depth of the water flowing over the border strip is 0.1m.

Ans
- ✗ A. 35 minutes
- ✗ B. 45 minutes
- ✔ C. 40 minutes
- ✗ D. 30 minutes

Question ID : **97675518143**

Q.7 In case of pin-connected trusses, which method is used to find the deflections of a single joint at a time?

Ans
- ✗ A. Stiffness matrix method
- ✗ B. Willot-Mohr's method
- ✗ C. Joint displacement method
- ✔ D. Castigliano's method

Question ID : **97675518133**

Q.8 A _____ can be defined as a plot of intensity of rainfall against the time interval, represented as a bar chart, which is used for analysing precipitation data.

Ans
- ✗ A. hydrograph
- ✗ B. depth area duration curve
- ✔ C. hyetograph
- ✗ D. mass curve

Question ID : **97675518138**

Q.9 For highways, the maximum legal axle load as specified by IRC is _____ with a maximum equivalent single wheel load of _____.

Ans
- ✗ A. 8170 kg, 4850 kg
- ✗ B. 8710 kg, 4580 kg
- ✗ C. 8710 kg, 4805 kg
- ✔ D. 8170 kg, 4085 kg

Question ID : **97675518148**

Q.10 Using strain energy,

which formula is used to find the deflection of the free end of the cantilever beam of length 'L' subjected to concentrated load 'p' at the free end?
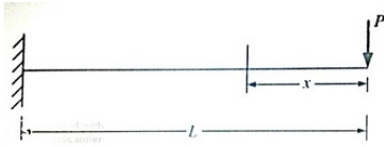
Ans

  ✗ A. $\Delta = \dfrac{PL^3}{2EI}$

  ✗ B. $\Delta = \dfrac{PL^3}{4EI}$

  ✔ C. $\Delta = \dfrac{PL^3}{3EI}$

  ✗ D. $\Delta = \dfrac{PL^3}{EI}$

Q.11 A catchment has 3 rain gauge stations. In a year, the annual rainfalls recorded by the gauges are as follows:

Station	A	B	C
Rainfall (cm)	80	100	180

For a 9% error in the estimation of rainfall, calculate the optimum number of stations in the catchment.

Ans

  ✗ A. 15

  ✗ B. 32

  ✔ C. 24

  ✗ D. 18

Q.12 In case of slenderness limits, according to IS 456 – 2000, the ratio of unsupported length (l) to the least lateral dimension (d) of a column should not exceed a value of _____.

Ans

  ✗ A. 30

  ✗ B. 45

  ✗ C. 50

  ✔ D. 60

Q.13 A rectangular reinforced concrete beam of size 250 mm x 600 mm is simply supported on two masonry walls 230 mm thick and 6 m apart (centre to centre). A beam has to carry, in addition to its own weight, a distributed live load of 10 KN/m and a dead load of 5 KN/m. Determine the factored moment.

(Take safety factor as 1.5 and effective cover as 50 mm.)

Ans

  ✗ A. 121 KNm

  ✔ B. 126 KNm

  ✗ C. 142 KNm

  ✗ D. 169 KNm

Q.14 The _____ is used under rigid pavement for preventing pumping and protecting the subgrade under frost action.

Ans
- ✗ A. sub base course
- ✗ B. soil subgrade
- ✓ C. base course
- ✗ D. surface course

Q.15 By which of the following formulas can we measure the excess rainfall?

Ans
- ✓ A. Excess rainfall = Rainfall - initial basin loss - infiltration
- ✗ B. Excess rainfall = Rainfall + initial basin loss + infiltration
- ✗ C. Excess rainfall = Rainfall - initial basin loss + infiltration
- ✗ D. Excess rainfall = Rainfall + initial basin loss - infiltration

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Q.16 A pre-stressed concrete beam 100 mm wide and 300 mm deep is pre-stressed by straight wires carrying an initial force of 150 KN at an eccentricity of 50 mm. Determine the loss of pre-stress due to elastic deformation of concrete if the area of steel wires is 188 mm^2. Take E_s and E_c as 210 kN/mm^2 and 35 kN/mm^2

Ans
- ✓ A. 40 N/mm^2
- ✗ B. 60 N/mm^2
- ✗ C. 20 N/mm^2
- ✗ D. 80 N/mm^2

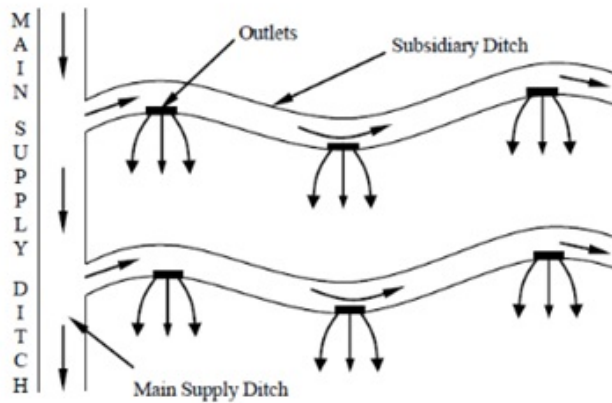**Q.17** Trickle irrigation is also known as:

Ans
- ✗ A. flood irrigation
- ✓ B. drip irrigation
- ✗ C. sub-surface irrigation
- ✗ D. lift irrigation

Q.18

Identify the type of flooding shown in the given figure.

Ans
  ✗ A. Check flooding

  ✗ B. Border flooding

  ✔ C. Free flooding

  ✗ D. Basin flooding

<div style="text-align:right">Question ID : 97675518144</div>

Q.19 A lake had a water surface elevation of 102.91 m above datum at the beginning of the month. The average lake surface area can be taken as 5000 ha.

Given,

1. Inflow volume = 16 Mm^3

2. Outflow volume = 16 Mm^3

3. Input due to precipitation = 7.5 Mm^3

4. Outflow due to evaporation = 3 Mm^3

Find out the net water surface elevation at the end of the month.

Ans
  ✗ A. 103.25 m

  ✗ B. 102.5 m

  ✗ C. 102.75 m

  ✔ D. 103 m

<div style="text-align:right">Question ID : 97675518139</div>

Q.20 Find out the degree of internal indeterminacy, external indeterminacy and total redundancy from the given rigid joint truss.
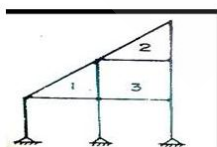
Ans
  ✗ A. I = 8, E = 4, T = 12

  ✔ B. I = 9, E = 3, T = 12

  ✗ C. I = 6, E = 6, T = 12

  ✗ D. I = 7, E = 5, T = 12

<div style="text-align:right">Question ID : 97675518136</div>

Q.1 Pick the correct statement with respect to municipal solid wastes.

Ans ✔ A.

Both The smaller size of the constituents aids in the faster decomposition of the waste; and The higher is the standard of living, the more is the waste produced.

✘ B.

The smaller size of the constituents aids in the faster decomposition of the waste.

✘ C.

The higher is the standard of living, the more is the waste produced.

✘ D.

The larger size of the constituents aids in the faster decomposition of the waste.

Question ID : **97675518168**

Q.2 The current national ambient air quality standards in India were notified on _____ by the central pollution control board.

Ans ✘ A. 18 November 1904

✘ B. 18 November 1984

✔ C. 18 November 1994

✘ D. 18 November 2009

Question ID : **97675518162**

Q.3 The nature of wastewater produced by mercerization operation is:

Ans ✘ A. with high BOD

✘ B. strongly alkaline

✔ C. strongly alkaline and with low BOD both

✘ D. with low BOD

Question ID : **97675518157**

Q.4 Which of the following statements is/are correct with respect to carbon monoxide?

a) Carbon monoxide is a permanent pollutant.

b) Natural processes convert carbon monoxide to other compounds that are not harmful.

Ans ✘ A. Only statement a) is true.

✘ B. Both the statements are false.

✔ C. Only statement b) is true.

✘ D. Both the statements are true.

Question ID : **97675518163**

Q.5 Which Indian standard code specifies the classification of precast concrete pipes?

Ans ✘ A. IS:801:1975

✘ B. IS:456:2000

✔ C. IS:458:2003

✘ D. IS:1343:2012

Question ID : **97675518154**

Q.6 According to IRC, the maximum spacing between expansion joints should not exceed _____ for rough interior surface.

Ans
- ✗ A. 120 m
- ✓ B. 140 m
- ✗ C. 150 m
- ✗ D. 110 m

Q.7 As per IS 2296-1982, which category of surface water can be used as drinking water source without conventional treatment but after disinfection?

Ans
- ✗ A. Category B
- ✓ B. Category C
- ✗ C. Category D
- ✗ D. Category A

Q.8 Which of the following statements is/are correct with respect to dye wastes?

Ans
- ✗ A. COD : BOD ratio is very low.
- ✗ B. COD : BOD ratio is very high.
- ✓ C.
  COD : BOD ratio is very high; and dye wastes not only come from dyes but also from the chemicals used in manufacturing industry.
- ✗ D.
  Dye wastes not only come from dyes but also from the chemicals used in manufacturing industry.

Q.9 Read the following assertion and reason and select the correct option.

Assertion(A): Copper sulfate should not be used for the control of aquatic weeds, except for algae.

Reason(R): The concentration of copper sulfate required to destroy vegetation will assuredly kill any fish present in the water and probably exceed permissible levels in drinking water.

Ans
- ✓ A.
  Both A and R are true and R is the correct explanation of A.
- ✗ B.
  Both A and R are true and R is not the correct explanation of A.
- ✗ C. A is true but R is false.
- ✗ D. A is false but R is true.

Q.10 The compound responsible for causing permanent hardness is:

Ans
- ✗ A. $Mg(HCO3)_2$
- ✗ B. Both $Ca(HCO3)_2$ and $Mg(HCO3)_2$
- ✗ C. $Ca(HCO3)_2$
- ✓ D. $CaSO_4$

Q.11 What is the full form of RSPM?

Ans
- ✅ A. Respiratory Suspended Particulate Matter
- ❌ B. Respiratory Small Particulate Matter
- ❌ C. Respiratory Solid Porous Material
- ❌ D. Respiratory Soluble Particulate Matter

Q.12 Which of the following is an example of a primary air pollutant?

Ans
- ✅ A. NO
- ❌ B. O_3
- ❌ C. PAN
- ❌ D. Formaldehydes

Q.13 Under the wheel load stress, Goldbeck's formula for stress due to the corner load is given by:

Ans
- ❌ A. $S_c = 5P/h^2$
- ❌ B. $S_c = 4P/h^2$
- ✅ C. $S_c = 3P/h^2$
- ❌ D. $S_c = 2P/h^2$

Q.14 Under the design of dowel bars, for a design load being 5100 kg, IRC recommends 2.5 cm dowel bars of length 50 cm to be spaced at 30 cm in case of: _____.

Ans
- ✅ A. 20 cm thick slab
- ❌ B. 25 cm thick slab
- ❌ C. 15 cm thick slab
- ❌ D. 30 cm thick slab

Q.15 The largest potential market for the compost is the:

Ans
- ❌ A. processing sector
- ❌ B. industrial sector
- ❌ C. textile industry
- ✅ D. agricultural sector

Q.16 Under the design of rigid pavement, find the value of radius of relative stiffness of 15 cm thick cement concrete slab from the following data.

1. Modulus of elasticity of cement concrete (E) = 250000 kg/cm^2
2. Poisson's ratio for concrete = 0.13
3. Modulus of subgrade reaction (K) = 0.3

Ans
✗ A. 60 cm

✗ B. 50 cm

✓ C. 70 cm

✗ D. 65 cm

Question ID : **97675518149**

Q.17 Find the spacing of expansion joint (L_e) from the given data:

1. Half the joint width = 1.25 cm
2. Thermal expansion of concrete = 10×10^{-6} per °C

3. Temperature rise = 31 °C

Ans
✗ A. 39 m

✗ B. 38 m

✗ C. 42 m

✓ D. 40 m

Question ID : **97675518150**

Q.18 Earthworms excrete the mucus-coated undigested matter as:

Ans
✓ A. wormcasts

✗ B. vermiculture

✗ C. compost

✗ D. vermicomposting

Question ID : **97675518166**

Q.19 A border region between two adjacent air masses having different characteristics, such as temperature and humidity, is called:

Ans
✗ A. glaze

✗ B. non front

✗ C. turbulence

✓ D. front

Question ID : **97675518155**

Q.20 Read the following assertion and reason and select the correct option.

Assertion (A): Alkenes (olefins) are found to be harmful.

Reason(R): Alkenes (olefins) are unsaturated and highly reactive in the atmosphere through photochemical reactions.

Ans   ✗ A. A is true but R is false.

   ✓ B.
   Both A and R are true and R is the correct explanation of A.

   ✗ C. A is false but R is true.

   ✗ D.
   Both A and R are true and R is not the correct explanation of A.

Section : **Discipline5**

Q.1 1 chain length of a gunter's chain is equal to:

Ans   ✗ A. 68 ft

   ✓ B. 66 ft

   ✗ C. 58 ft

   ✗ D. 60 ft

Q.2 Read the following assertion and reason and select the correct option.

Assertion(A): The nutrients present in the wormcast are easily soluble in water and thus readily available for plant growth.

Reason(R): Wormcasts consists of organic matter that has undergone physical and chemical breakdown through the muscular activity that grinds the material to a particle size of 1 to 3 micron.

Ans   ✗ A. A is true but R is false.

   ✗ B.
   Both A and R are true and R is not the correct explanation of A.

   ✓ C.
   Both A and R are true and R is the correct explanation of A.

   ✗ D. A is false but R is true.

Q.3 In case of the cycling infrastructure, a low traffic street that restricts cars to a slow speed and grants bicycle priority use of road is known as _____ .

Ans   ✗ A. traffic calming

   ✗ B. contraflow lane

   ✓ C. bicycle boulevard

   ✗ D. traffic reduction

Q.4 A surveyor measured the distance between two points on the plan drawn to a scale of l cm = 50 m, and the result was 528 m. Later, however, he discovered that he used a scale on which1 cm = 20 m. The true distance between the two points is:

Ans   ✗ A. 826 m

   ✗ B. 958 m

   ✗ C. 1052 m

   ✓ D. 1320 m

Q.5 Under waterways infrastructure, a/an _____ is a long excavated chamber, having side walls, a semi-circular end wall and a floor.

Ans   ✓ A. graving dock

   ✗ B. marine railway

   ✗ C. floating dock

   ✗ D. lift dock

Q.6 Which of the following is the correct equation that specifies the relation of sound pressure with total atmospheric pressure and Barometric pressure?

Ans   ✓ A.

Sound pressure = total atmospheric pressure - Barometric pressure

   ✗ B.

Sound pressure = total atmospheric pressure ÷ Barometric pressure

   ✗ C.

Sound pressure = total atmospheric pressure + Barometric pressure

   ✗ D.

Sound pressure = total atmospheric pressure × Barometric pressure

Q.7 IS:4954-1968 (R2014) specifies:

Ans   ✗ A.

code of practice for reduction in noise levels in industrial buildings

   ✓ B.

Both acceptable outdoor noise levels in different types of residential areas and acceptable indoor noise levels in different types of residential areas

   ✗ C.

acceptable indoor noise levels in different types of residential areas

   ✗ D.

acceptable outdoor noise levels in different types of residential areas

Q.8 An observer standing on the deck of a ship just sees a lighthouse.

The top of the lighthouse is 40 m above the sea level and the height of the observer's

eye is 8 m above the sea level. If A is the position of the top of the lighthouse and B is the position of the observer's eye, the distance between A and B is:

Ans ✗ A. 35.29 m

✗ B. 42.56 km

✗ C. 42.56 m

✔ D. 35.29 km

Q.9 The rate of doing work by a travelling sound in the direction of the propagation of the wave is called:

Ans ✗ A. sound intensity

✔ B. power of sound

✗ C. sound pressure

✗ D. spectra

Q.10 Pick the correct sequence that is adapted for composting of municipal solid wastes in mechanised plants.

A) Grinding or pulverising of refuse

B) Segregation of refuse

C) Receipt of refuse

D) Digestion or fermentation of refuse

Ans ✗ A. B→C→A→D

✔ B. C→B→A→D

✗ C. A→B→C→D

✗ D. C→A→B→D

Q.11 In case of road infrastructure,

the seven-phase NHDP is being implemented by the National Highways Authority of India (NHAI) with a total estimated expenditure of _____.

Ans ✗ A. USD 86 billion

✔ B. USD 92 billion

✗ C. USD 76 billion

✗ D. USD 81 billion

Q.12 The long and short sides of a rectangle measure 8.28 m and 4.36 m, with error margins of ±6 mm. The area to correct number of significant figures is = _____.

Ans ✗ A. 36.14 m^2

✗ B. 36.18 m^2

✔ C. 36.10 m^2

✗ D. 36.02 m^2

Q.13 A vertical circle that is at the right angles to the meridian and that therefore passes through the east and west points of the horizon is called:

Ans

✗ A. The visible horizon

✗ B. co-latitude

✔ C. prime vertical

✗ D. right ascension

Q.14 In case of railway infrastructure, the thickness of ballast for high density broad gauge track is _____ and for medium density track is _____.

Ans

✗ A. 350 mm, 300 mm

✗ B. 250 mm, 200 mm

✔ C. 300 mm, 250 mm

✗ D. 200 mm, 150 mm

Q.15 For a given frequency of 22 Hz, the second octave band would be from:

Ans

✗ A. 175 Hz to 350 Hz

✗ B. 88 Hz to 175 Hz

✗ C. 22 Hz to 44 Hz

✔ D. 44 Hz to 88 Hz

Q.16 On the broad-gauge lines, a station platform with a minimum length of _____ is desirable.

Ans

✗ A. 405 m

✔ B. 305 m

✗ C. 105 m

✗ D. 205 m

Q.17 The height of the peak sound pressure measured above or below zero pressure line is called:

Ans

✗ A. spectra

✗ B. octave band

✗ C. frequency of the wave

✔ D. amplitude of the wave

Q.18 An instrument was set up at P, and the angle of elevation to a vane 4 m above the foot of the staff held at O was 10°30'. The horizontal distance between P and O was known to be 1500 m. What is the reduced level of the staff station Q given that the reduced level of the instrument axis was 2560.38 m?

Ans
✗ A. 2687.89 m

✔ B. 2834.54 m

✗ C. 2568.56 m

✗ D. 2786.23 m

Q.19 A fluid in which the shear stress is directly proportional to the rate of shear strain is termed as:

Ans
✗ A. Non-Newtonian fluid

✗ B. Ideal fluid

✗ C. Real fluid

✔ D. Newtonian fluid

Q.20 A section line AB appears to be 10.18 cm on photograph, for which the focal length is 18 cm. The corresponding line measures 2.68 cm on a map, which is to a scale of 1/50000. The terrain has an average elevation of 210 m above the sea level. The flying altitude of the aircraft above the sea level when the photo was taken is:

Ans
✔ A. 2579.35 m

✗ B. 2435.69 m

✗ C. 2198.26 m

✗ D. 2896.12 m