



Ssc Cgl Tier I Previous Year Question Paper Overview

Here, you can solve all the questions asked in Ssc Cgl Tier I Previous Year Question Paper on 2022-12-06 in the Afternoon exam. The detailed solutions are also provided for every previous year question and some of these questions can be asked again in your Ssc Cgl Tier I exam. There are 100 questions in the exam and 60 minutes are provided for the Ssc Cgl Tier I exam. The Cutoff of the exam was 140 marks hence you should try to score at least 150 marks.

Ssc Cgl Tier I Previous Year Question Paper : Questions and Solutions

Question 1 :

If $(4x - 7y) = 11$ and $xy = 8$, what is the value of $16x^2 + 49y^2$, given that x and y are positive numbers?

Difficulty : Moderate

Average Time : 44 Seconds

Options :

1. 596
2. 484
3. 569
4. 448

Solution :

The correct answer is **option 3** i.e. **569**

Given:

$$(4x - 7y) = 11 \text{ and } xy = 8$$

Formula used:

$$(a + b)^2 = a^2 + b^2 + 2ab \quad \text{---- (1)}$$

Calculations:

Using equation (1), we get



$$11^2 = 16x^2 + 49y^2 - 2 \times 224$$

$$16x^2 + 49y^2 = 448 + 121 = 569$$

Question 2 :

What is the smallest perfect square which is completely divisible by each of 16, 18 and 36?

Difficulty : Moderate**Average Time : 51 Seconds****Options :**

1. 144
2. 81
3. 196
4. 169

Solution :

The correct answer is **option 1** i.e. **144**

Concept used:

LCM method

Calculations:

LCM of 16, 18 and 36 = 144

Hence 144 is the square of 12 and it is the smallest perfect square which is divisible by 16, 18 and 36.

Question 3 :

Solve the following to find its value in terms of trigonometric ratios. $(\sin A + \cos A)(1 - \sin A \cos A)$

Difficulty : Moderate**Average Time : 42 Seconds****Options :**

1. $\sin^3 A + \cos^3 A$
2. $\sin^2 A - \cos^2 A$
3. $[\cos A - \sin A] [\sin^2 A + \cos^2 A]$
4. $\sin^3 A - \cos^3 A$

Solution :

The correct answer is **option 1** i.e. $\sin^3 A + \cos^3 A$

Formula used:

$$\sin^2 A + \cos^2 A = 1 \quad \text{---- (1)}$$

$$a^3 + b^3 = (a + b)(a^2 + b^2 - ab) \quad \text{---- (2)}$$

Calculations:

$$(\sin A + \cos A)(1 - \sin A \cos A)$$

Can be written as

Using equation (1)

$$(\sin A + \cos A)(\sin^2 A + \cos^2 A - \sin A \cos A)$$

Using equation (2), we get

$$\sin^3 A + \cos^3 A$$

Question 4 :

What is the value of: $((k - \frac{1}{k})(k^2 + \frac{1}{k^2})(k^4 + \frac{1}{k^4})(k^8 + \frac{1}{k^{16}})(k^{32} + \frac{1}{k^{32}}))?$

Difficulty : Moderate

Average Time : 74 Seconds

Options :

1. $(\frac{k^{64} - \frac{1}{k^{64}}}{k + \frac{1}{k}})$
2. $(\frac{k^{32} - \frac{1}{k^{32}}}{k - \frac{1}{k}})$
3. $(\frac{k^{32} - \frac{1}{k^{32}}}{k + \frac{1}{k}})$
4. $(\frac{k^{32} + \frac{1}{k^{32}}}{k + \frac{1}{k}})$

Solution :

The correct answer is **option 1** i.e. $(\frac{k^{64} - \frac{1}{k^{64}}}{k + \frac{1}{k}})$

Calculations:

$$((k - \frac{1}{k})(k^2 + \frac{1}{k^2})(k^4 + \frac{1}{k^4})(k^8 + \frac{1}{k^{16}})(k^{32} + \frac{1}{k^{32}}) \setminus)$$

Multiplying and dividing the above equation by $x + 1/x$

$$((k - \frac{1}{k})(k^2 + \frac{1}{k^2})(k^4 + \frac{1}{k^4})(k^8 + \frac{1}{k^{16}})(k^{32} + \frac{1}{k^{32}}) \setminus \times \frac{(k + \frac{1}{k})}{(k + \frac{1}{k})} \setminus)$$



Using $(a + b)(a - b) = a^2 - b^2$, we get

$$\left(\frac{k^{64} - \frac{1}{k^{64}}}{k + \frac{1}{k}}\right)$$

Question 5 :

In a certain code language, 'GLAND' is written as 'GQDOJ', and 'MEANS' is written as 'VQDHP'. How will 'CYSTS' be written in that language?

Difficulty : Moderate**Average Time : 75 Seconds****Options :**

1. VWVCF
2. FBVWV
3. UVUAE
4. VWVBF

Solution :

The correct answer is **option 4** i.e. **VWVBF**.

The logic used here is:

'GLAND' is written as 'GQDOJ'

First, reverse the code.

GLAND = JODQG

G + 3 = J

L + 3 = O

A + 3 = D

N + 3 = Q

D + 3 = G

'MEANS' is written as 'VQDHP'

MEANS = PHDQV

M + 3 = P

E + 3 = H



$$A + 3 = D$$

$$N + 3 = Q$$

$$S + 3 = V$$

Similarly;

Code for the word CYSTS:

$$C + 3 = F$$

$$Y + 3 = B$$

$$S + 3 = V$$

$$T + 3 = W$$

$$S + 3 = V$$

$$\text{CYSTS} = \text{VWCBF}$$

Hence, **option 4** is the correct answer.

Question 6 :

Select the set in which the numbers are NOT related in the same way as the numbers of the given set. (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed) (16, 7, 112)

Difficulty : Moderate

Average Time : 77 Seconds

Options :

1. (18, 3, 54)
2. (14, 5, 70)
3. (22, 7, 154)
4. (26, 5, 132)

Solution :

The correct answer is **option 4** i.e. (26, 5, 132).

The logic used here is:

(16, 7, 112)



$$16 \times 7 = 112$$

Whereas;

$$(26, 5, 132)$$

$$26 \times 5 = 130$$

Hence, **option 4** is the odd one out.

Question 7 :

Study the table and answer the questions that follows. School Name Total number of Student enrolled Percentage of students Who opted for statistics A 450 20 B 200 18 C 500 12 D 400 15 What is the average number of students who opted for other than statistics subject in school A and D?

Difficulty : Moderate

Average Time : 48 Seconds

Options :

1. 7340
2. 360
3. 355
4. 350

Solution :

The correct answer is **option 4** i.e. **350**

Calculations:

Sum of the number of students who opted for other than statistics subject in school A and D

$$80\% \text{ of } 450 + 85\% \text{ of } 400$$

$$360 + 340 = 700$$

$$\text{Required average} = 700/2 = 350$$

Question 8 :

Which letter cluster will replace the question mark (?) to complete the given series? ZUPK, YTOJ, ?, WRMH, VQLG

Difficulty : Moderate

Average Time : 40 Seconds

Options :

1. XSNI



XSMI

3. XSNJ

4. XTNI

Solution :

The correct answer is **option 1** i.e. **XSNI**.

Given series: ZUPK, YTOJ, ?, WRMH, VQLG

The series follows this pattern:

ZUPK, YTOJ

Z - 1 = Y

U - 1 = T

P - 1 = O

K - 1 = J

Similarly;

YTOJ, ?

Y - 1 = X

T - 1 = S

O - 1 = N

J - 1 = I

So, the missing term in the series is **XSNI**.

Question 9 :

A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

REV, UXD, XQL, AJT, ?

Difficulty : Moderate

Average Time : 56 Seconds

Options :

1. DMR

2. DRM

RMQ**4. DCB****Solution :**The correct answer is **option 4** i.e. **DCB**.

Given series: REV, UXD, XQL, AJT, ?

The series follows this pattern:

REV, UXD

 $R + 3 = U$ $E - 7 = X$ $V + 8 = D$

Similarly;

AJT, ?

 $A + 3 = D$ $J - 7 = C$ $T + 8 = B$ So, the next term in the series is **DCB**.**Question 10 :**

The following sentence has been split into four segments. Identify the segment that contains a grammatical error. When the train pulled in / at the station, it take / Joseph some time / to get off.

Difficulty : Moderate**Average Time : 54 Seconds****Options :**

1. When the train pulled in
2. at the station, it take
3. Joseph some time
4. to get off

Solution :



The correct answer is **option 2** i.e. **at the station, it take.**

- The second part of the sentence is erroneous in nature.
- The verb form "take" should be in the past tense to agree with the past tense of the sentence.
- Therefore, it should be "it took" instead of "it take."

Thus, the corrected sentence would be:

*When the train pulled in at the station, it **took** Joseph some time to get off.*

Question 11 :

Select the INCORRECTLY spelt word.

Difficulty : Moderate

Average Time : 56 Seconds

Options :

1. Thyriod
2. Disaster
3. System
4. Distance

Solution :

The correct answer is **option 1** i.e. **Thyriod**

The correct spellings and meaning of the given words are:

- **Thyroid:** A butterfly-shaped gland located in the neck that produces hormones involved in regulating metabolism and other bodily functions.
- **Disaster:** An event or occurrence resulting in great damage, destruction, or suffering; a catastrophe.
- **System:** A set of connected parts or components working together to perform a specific function or achieve a particular goal.
- **Distance:** The amount of space between two points or objects; the extent or length of a physical or conceptual separation.

Question 12 :

Select the correct passive form of the given sentence. The government will build an amphitheatre.

Difficulty : Moderate

Average Time : 59 Seconds

Options :

1. An amphitheatre will be build by the government.



An amphitheatre will be built by the government.

3. An amphitheatre would be built by the government.

4. An amphitheatre be build by the government.

Solution :

The correct answer is **option 2** i.e. **An amphitheatre will be built by the government.**

Following steps should be followed to convert the given sentence into its passive form:

- The subject in the active voice becomes the object in the passive voice and the object in the active voice becomes the subject in the passive voice.
- The subject in the active voice becomes the object in the passive voice and the object in the active voice becomes the subject in the passive voice.
- Use 3rd form of verb + is/ am/ are/ was/ were/ been/ being according to the tense in passive voice.
- There is no passive voice of present/ past/ future perfect continuous sentences and future continuous.
- Generally, passive voice can be made of transitive verb i.e. verbs which have an object attached to them.

Thus, the correct passive form for the given sentence is:

An amphitheatre will be built by the government.

Question 13 :

Select the most appropriate option that can substitute the underlined segment in the given sentence. She acted as if she is the one who was hurt.

Difficulty : Moderate

Average Time : 88 Seconds

Options :

1. as if she has been
2. as if she will be
3. as if she would
4. as if she was

Solution :

The correct answer is **option 4** i.e. **as if she was.**



- In the given sentence, the underlined segment "she is" is in the present tense, which is inconsistent with the past tense of the rest of the sentence.
- To make the sentence grammatically correct and maintain tense consistency, we need to replace 'is' with 'was', justifying both the tense and the singularity of the subject.

The most appropriate option would be:

*She acted as if she **was** the one who was hurt.*

Question 14 :

Select the most appropriate meaning of the given idiom. A rolling stone gathers no moss

Difficulty : Moderate

Average Time : 60 Seconds

Options :

1. A person who settles for a short time and runs from place to place, enjoying his freedom
2. A person who does not settle anywhere for a short time, and is always searching for gold
3. A person who settles for a long time and leads a boring and useless life
4. A person who does not settle in one place for a long time, does not gain wealth, name or fame

Solution :

The correct answer is **option 4** i.e. **A person who does not settle in one place for a long time, does not gain wealth, name or fame.**

- The meaning of the given idiom i.e., **A rolling stone gathers no moss** is **a person who does not settle in one place will not accumulate wealth or status, or responsibilities or commitments.**

Thus, the most appropriate choice among the given options is 'A person who does not settle in one place for a long time, does not gain wealth, name or fame.'

Question 15 :

Choose the most appropriate meaning of the underlined word in the given sentence. The students have decided to conspire to steal the test papers.

Difficulty : Moderate

Average Time : 77 Seconds

Options :

1. Enact

Moderate

3. Plot

4. Assist

Solution :

The correct answer is **option 3** i.e. **Plot**.

- **The meaning of the given words is:**
- **Conspire:** To plan or scheme secretly with others to carry out an illegal, harmful, or wrongful act.
- **Plot:** To devise a secret or strategic plan to accomplish a specific goal or outcome.
- **Enact:** To officially make a law, rule, or policy into effect by establishing or implementing it.
- **Moderate:** Referring to a person or position that is neither extreme nor excessive. It denotes a balanced or measured approach, avoiding extremes or radical viewpoints.
- **Assist:** To help, support, or aid someone in accomplishing a task, achieving a goal, or dealing with a difficulty.

Thus, the most appropriate synonym for the underlined word is **plot**.

Question 16 :

Select the option that can be used as a one-word substitute for the given group of words. An eccentric manner of living

Difficulty : Moderate

Average Time : 72 Seconds

Options :

1. Bohemian
2. Numismatist
3. Gourmet
4. Misanthrope

Solution :

The correct answer is **option 1** i.e. **Bohemian**.

The meaning of the given words is:

- **Intrinsic:** Relating to qualities or characteristics that are inherent or essential to something or someone.
- **Extrinsic:** Relating to external or outside influences, factors, or circumstances that are not inherent or essential to something or someone.
- **Knowledge:** The understanding, information, skills, or awareness acquired through learning, experience, or study.



Elemental: Pertaining to the basic, fundamental, or essential aspects or components of something.

- **Inherent:** Referring to qualities, characteristics, or features that are naturally or permanently part of something or someone.

Thus, the most appropriate one word substitution for the given word is **Bohemian**.

Question 17 :

Select the most appropriate ANTONYM of the underlined word. One must aim to develop intrinsic motivation within learners for better retention of knowledge.

Difficulty : Moderate

Average Time : 68 Seconds

Options :

1. **knowledge.**
2. **Elemental**
3. **Extrinsic**
4. **Inherent**

Solution :

The correct answer is **option 3** i.e. **Extrinsic**.

The meaning of the given words is:

- **Intrinsic:** Relating to qualities or characteristics that are inherent or essential to something or someone.
- **Extrinsic:** Relating to external or outside influences, factors, or circumstances that are not inherent or essential to something or someone.
- **Knowledge:** The understanding, information, skills, or awareness acquired through learning, experience, or study.
- **Elemental:** Pertaining to the basic, fundamental, or essential aspects or components of something.
- **Inherent:** Referring to qualities, characteristics, or features that are naturally or permanently part of something or someone.

Thus, the most appropriate antonym for the underlined word is **extrinsic**.

Question 18 :

Select the option that expresses the given sentence in passive voice. Don't pluck the flowers.



Difficulty : Moderate

Average Time : 69 Seconds

Options :

1. The flowers should not be pluck.
2. You are requested not to plucked the flowers.
3. I am requesting you to pluck the flowers.
4. Let the flowers not be plucked.

Solution :

The correct answer is **option 4** i.e. **Let the flowers not be plucked.**

Following steps should be followed to convert the given active voice sentence into passive voice:

- When the sentence is imperative, 'Let' is placed at the beginning.
- An imperative sentence in the passive voice has the following form: **Let + object + be + past participle.**
- When the active voice is in the negative, the passive voice takes the form: **Let + object + not + be + past participle.**

Thus, the passive form of the given sentence would be:

Let the flowers not be plucked.

Question 19 :

The question below consists of a set of labeled sentences. Out of the four options given, select the most logical order of the sentences to form a coherent paragraph. P. The demand for fish has increased. Q. However, adequate fish is not available in the lake. R. This is mainly because the migratory fish from Chindwin-Irrawaddy river system to Manipur river system have declined steadily after the barrage came up. S. At least two lakh people are directly dependent on the lake for fishing.

Difficulty : Moderate

Average Time : 85 Seconds

Options :

1. SPQR
2. RPSQ
3. QRPS
4. RQSP

**Solution :**

The correct answer is **option 1** i.e. **SPQR**.

- The paragraph starts with **sentence S**, which introduces the topic by highlighting the dependency of a large number of people on the lake for fishing.
- **Sentence P** follows, providing information about the increased demand for fish, which indicates the importance of the fishing industry in the context.
- **Sentence Q** comes next, presenting the contrasting information that despite the demand, there is an insufficient supply of fish in the lake.
- Finally, **sentence R** provides an explanation for the shortage of fish, attributing it to the declining numbers of migratory fish after the construction of a barrage.

Thus, the corrected paragraph would be:

At least two lakh people are directly dependent on the lake for fishing. The demand for fish has increased. However, adequate fish is not available in the lake. This is mainly because the migratory fish from Chindwin-Irrawaddy river system to Manipur river system have declined steadily after the barrage came up.

Question 20 :

Select the most appropriate ANTONYM of the word IDENTIFY from the given sentence: My pet dog can classify and identify our family friends easily and doesn't overlook anonymous and unknown ones

Difficulty : Moderate**Average Time : 84 Seconds****Options :**

1. anonymous
2. spot
3. classify
4. overlook

Solution :

The correct answer is **option 4** i.e. **overlook**.

The meaning of the given words are:

- **Identify:** To recognize, distinguish, or establish the identity or characteristics of someone or something.
- **Overlook:** To fail to notice, see, or consider something or someone, often due to inattention or oversight.
- **Anonymous:** Without a known or disclosed identity; nameless or unidentified.
- **Spot:** To visually detect, locate, or notice something or someone quickly or easily.



Classify: To categorize, group, or organize things or individuals based on shared characteristics, properties, or criteria.

Thus, the most appropriate antonym for the given word is **overlook**.

Question 21 :

Rearrange the parts of the sentence in correct order. One element that P. is timing, in particular ensuring that Q. is essential to navigating deep space R. the time on board spacecraft is synchronised S. with the time on the ground

Difficulty : Moderate

Average Time : 70 Seconds

Options :

1. PRQS
2. PSQR
3. RSPQ
4. QPRS

Solution :

The correct answer is **option 4** i.e. **QPRS**.

- In this corrected sequence, the sentence begins with "One element that is essential to navigating deep space," which establishes the main subject or concept being discussed. Thus, **statement Q** will follow the given part of the sentence.
- The next part, "is timing, in particular ensuring that," elaborates on the specific aspect that is crucial for deep space navigation. Thus, **statement P** will follow statement Q.
- Following that, the **statement R** i.e., "the time on board spacecraft is synchronized" provides the specific detail regarding the synchronization of time on spacecraft.
- Finally, the **sentence S** i.e., "with the time on the ground" further clarifies the synchronization by specifying that it is done with the time on the ground.

Therefore, the correct sentence would be:

One element that is essential to navigating deep space is timing, in particular ensuring that the time on board spacecraft is synchronised with the time on the ground.

Question 22 :

Select the most appropriate collocation to fill in the blank. We came to _____ as we were passing through.

Difficulty : Moderate

Average Time : 83 Seconds



Options :

1. give a hand
2. say hello
3. slow in
4. take a look

Solution :

The correct answer is **option 2** i.e. **say hello**.

The meanings of the given phrases are:

- **Give a hand:** This collocation means to offer assistance or help to someone.
- **Say hello:** This collocation is used to greet or acknowledge someone when meeting or arriving at a location.
- **Slow in:** This collocation is not commonly used or idiomatic.
- **Take a look:** This collocation means to observe or examine something.
- In the given sentence, the phrase "We came to" indicates that the subject arrived at a certain place to do a gesture
- The blank needs to be filled with a collocation that accurately reflects a gesture. Thus, 'say hello' is the most appropriate filler for the given blank.

Therefore, the completed sentence is:

We came to **say hello** as we were passing through.

Question 23 :

Select the INCORRECTLY spelt word in the following sentence. Apparently, he seems to be an amateur person, but I know that he is a disciplined and committed person when it comes to doing something seriously.

Difficulty : Moderate

Average Time : 86 Seconds

Options :

1. amateur
2. apparently
3. committed



disciplined

Solution :

The correct answer is **option 1** i.e. **amature**.

The correct spellings and meanings of the given words are:

- **Amateur:** An individual who engages in an activity or pursuit for personal enjoyment or as a hobby, typically lacking professional expertise or experience in the field.
- **Apparently:** Used to indicate that something seems to be true based on the available information or the way things appear, although it may not be confirmed or certain.
- **Committed:** Demonstrating dedication, loyalty, and a strong sense of responsibility towards a cause, task, or relationship.
- **Disciplined:** Possessing self-control, orderliness, and the ability to follow rules or routines, maintaining a consistent and focused approach to actions and behaviors.

Question 24 :

Select the most appropriate ANTONYM of the underlined word in the given sentence. The money she offered him was insufficient to persuade him to sell.

Difficulty : Moderate

Average Time : 68 Seconds

Options :

1. Clade
2. Propagandize
3. Discourage
4. Influence

Solution :

The correct answer is **option 3** i.e. **Discourage**.

The meaning of the given words is:

- **Persuade:** To convince or encourage someone to adopt a certain belief or take a particular action.
- **Discourage:** To dissuade or demotivate someone from pursuing a specific course of action or holding a particular belief.
- **Propagandize:** To spread biased or misleading information with the intention of promoting a specific ideology,



belief, or cause.

- **Discourage:** To discourage someone is to make them reconsider or abandon their intended path by highlighting potential drawbacks, challenges, or negative consequences.
- **Influence:** The capacity to shape or alter someone's opinions, behaviors, or decisions through persuasion, power, or authority.

Thus, the most appropriate antonym for the underlined word is **discourage**.

Question 25 :

Select the sentence with the appropriate use of preposition.

Difficulty : Moderate

Average Time : 68 Seconds

Options :

1. Children are fond to sweets.
2. Children are fond off sweets.
3. Children are fond with sweets.
4. Children are fond of sweets.

Solution :

The correct answer is **option 4** i.e. **Children are fond of sweets**.

- The preposition "of" is used to indicate possession or association.
- In this case, it is used to show the relationship between the noun "sweets" and the adjective "fond."
- When we say that children are fond of something, it means they have a liking or an affection for that thing.

So, the sentence "**Children are fond of sweets**" correctly conveys that children have a fondness or liking for sweets.

Question 26 :

Select the most appropriate option to fill in the blank. The great director Satyajit Ray after receiving the Honorary Academic Award from Audrey Hepburn, _____ in his Kolkata home.

Difficulty : Moderate

Average Time : 64 Seconds

Options :

1. breathed his last
2. nipped in the bud



kept the ball rolling

4. dug the grave

Solution :

The correct answer is **option 1** i.e. **breathed his last**.

Let's understand what the phrases in the options actually mean:

- "**Breathed his last**" is an idiomatic expression used to indicate someone's death.
- "**Nipped in the bud**" is used to describe stopping something at an early stage or preventing it from developing further.
- "**Kept the ball rolling**" is an idiom that means to continue or sustain a particular activity or process.
- "**Dug the grave**" is a literal expression used to refer to the act of preparing a burial site.
 - In the given sentence, the phrase "after receiving the Honorary Academic Award from Audrey Hepburn" suggests a significant event that occurred in the life of the great director Satyajit Ray.
 - Therefore, the most appropriate option to fill in the blank in the given sentence would be "breathed his last."

Thus, the completed sentence would be:

*The great director Satyajit Ray after receiving the Honorary Academic Award from Audrey Hepburn, **breathed his last** in his Kolkata home.*

Question 27 :

Fill in the blank by selecting the appropriate word from the given options that would complete the collocation. The judge directed the advocate general to _____ an enquiry on the case.

Difficulty : Moderate

Average Time : 94 Seconds

Options :

1. make
2. produce
3. hold
4. get

Solution :

The correct answer is **option 3** i.e. **hold**.

- In the given sentence, the phrase "directed the advocate general to" implies that the judge instructed or commanded the advocate general to perform a specific action.
- The action being described is related to conducting an inquiry on the case.



Among the options given, the most suitable word is "hold." Since, the sentence means to organize, arrange, or initiate the investigation or examination of the case.

Thus, the completed sentence would be:

*The judge directed the advocate general to **hold** an inquiry on the case.*

Question 28 :

Select the correct indirect form of the given sentence. "We had opened the lock." they told me.

Difficulty : Moderate

Average Time : 61 Seconds

Options :

1. They said that we had opened the lock.
2. They said to me that they have opened the lock.
3. They told me that they had opened the lock.
4. They says that we had opened the lock.

Solution :

The correct answer is **option 3** i.e. **They told me that they had opened the lock.**

Following steps should be followed to convert the given direct speech sentence into indirect speech:

- Identify the reporting verb: In this case, the reporting verb is "told."
- Determine the reporting clause: The reporting clause is "they told me."
- Identify the reporting verb's tense: The reporting verb "told" is in the past tense.
- Convert the reporting verb and tense: Change the reporting verb and its tense to match the tense of the reported speech. In this case, since the reported speech is in the past tense, we keep the reporting verb "told" as it is.
- Introduce a reporting conjunction: Use an appropriate reporting conjunction to connect the reported speech to the reporting clause. In this case, the conjunction "that" can be used.
- Change the pronouns: Change the pronouns in the reported speech to fit the perspective of the reporting clause. In this case, "we" in the reported speech should be changed to "they" to match the reporting clause.
- Adjust the verb form: Adjust the verb form in the reported speech to match the tense of the reporting clause. In this

case, "had opened" in the reported speech should be changed to "had opened" to maintain the past tense.

Thus, the indirect form of the given sentence would be:

They told me that they had opened the lock.

Question 29 :

Select the option that can be used as a one-word substitute for the given group of words. The property left to someone by a will

Difficulty : Moderate

Average Time : 118 Seconds

Options :

1. Ledger
2. Legacy
3. Legend
4. Lexical

Solution :

The correct answer is **option 2** i.e. **Legacy**.

The meaning of the given words is:

- **Legacy:** This term refers to something left behind or handed down by a previous generation or period.
- **Ledger:** A ledger is a book or record used for keeping track of financial transactions.
- **Legend:** It refers to a traditional or mythical story that often explains historical or supernatural events.
- **Lexical:** This term relates to the vocabulary or words used in a particular language or field of study.

*Thus, the most appropriate one word substitution for the given set of words is **Legacy**.*

Comprehension :

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank. A new world research shows that the French (1) _____ large amounts of cheese and butter. Therefore, they have low levels of heart disease. The research (2) _____ that animal fat is good for human body and helps in reducing the risks of heart attack. This study was (3) _____ in 2018 in 21 low and middle income countries. However, it (4) _____ that eating moderately is the (5) _____ key in this regard.

Question 30 :



Select the most appropriate option to fill in blank number 1.

Difficulty : Moderate

Average Time : 86 Seconds

Options :

1. consume
2. drink
3. gobble
4. take

Solution :

The correct answer is **option 1** i.e. **consume**.

- In this sentence, the word "consume" is the most appropriate choice for the blank.
- "Consume" means to eat or drink something, typically referring to the act of ingesting food or beverages.
- Using "consume" indicates a broader and more general way of describing the act of eating, which includes both solid (cheese) and semi-solid (butter) food items.
- Thus, the most appropriate filler for the given blank is consume.

Therefore, the completed sentence is:

*A new world research shows that the French **consume** large amounts of cheese and butter.*

Comprehension :

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank. A new world research shows that the French (1) _____ large amounts of cheese and butter. Therefore, they have low levels of heart disease. The research (2) _____ that animal fat is good for human body and helps in reducing the risks of heart attack. This study was (3) _____ in 2018 in 21 low and middle income countries. However, it (4) _____ that eating moderately is the (5) _____ key in this regard.

Question 31 :

Select the most appropriate option to fill in blank number 2.

Difficulty : Moderate

Average Time : 84 Seconds

Options :

1. accepts
2. credits
3. trusts



believes

Solution :

The correct answer is **option 4** i.e. **believes**.

The meaning of the given words is:

- Believes: This term refers to having a personal conviction or faith in something without necessarily requiring concrete evidence or proof.
- Accepts: This word implies the act of acknowledging or agreeing to something as true, valid, or accurate.
- Credits: This term means recognizing or attributing the merit, value, or contribution of someone or something.
- Trusts: This word refers to having confidence, reliance, or faith in the integrity, abilities, or reliability of someone or something.
- Thus, the most appropriate filler for the given blank is **believes**.

Therefore, the completed sentence is:

The research **believes** that animal fat is good for human body and helps in reducing the risks of heart attack.

Comprehension :

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank. A new world research shows that the French (1) _____ large amounts of cheese and butter. Therefore, they have low levels of heart disease. The research (2) _____ that animal fat is good for human body and helps in reducing the risks of heart attack. This study was (3) _____ in 2018 in 21 low and middle income countries. However, it (4) _____ that eating moderately is the (5) _____ key in this regard.

Question 32 :

Select the most appropriate option to fill in blank number 3.

Difficulty : Moderate

Average Time : 94 Seconds

Options :

1. directed
2. managed
3. supervised
4. conducted

Solution :

The correct answer is **option 4** i.e. **conducted**.

In this sentence, the word "conducted" is the most appropriate choice for the blank.

- "Conducted" refers to the act of carrying out or performing a study, research, or investigation.
- It implies that the study was planned, organized, and executed in 2018 in the specified 21 low and middle income countries.
- Using "conducted" indicates that the study was systematically implemented and involved gathering data or information for analysis or evaluation purposes.

Thus, the completed sentence is:

*This study was **conducted** in 2018 in 21 low and middle income countries.*

Comprehension :

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank. A new world research shows that the French (1) _____ large amounts of cheese and butter. Therefore, they have low levels of heart disease. The research (2) _____ that animal fat is good for human body and helps in reducing the risks of heart attack. This study was (3) _____ in 2018 in 21 low and middle income countries. However, it (4) _____ that eating moderately is the (5) _____ key in this regard.

Question 33 :

Select the most appropriate option to fill in blank number 4.

Difficulty : Moderate

Average Time : 83 Seconds

Options :

1. closed
2. concluded
3. finished
4. stopped

Solution :

The correct answer is **option 2** i.e. **concluded**.

- In this sentence, the word "concluded" is the most appropriate choice for the blank.
- "Concluded" means to arrive at a decision or judgment based on reasoning or evidence.
- It suggests that after careful consideration or analysis, it was determined that eating moderately is the crucial key in the given context.
- Therefore, the use of "concluded" in this sentence conveys that a decision was reached, based on evaluation or investigation, regarding the significance of eating moderately.

Thus, the completed sentence would be:



However, it **concluded** that eating moderately is the crucial key in this regard.

Comprehension :

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank. A new world research shows that the French (1) _____ large amounts of cheese and butter. Therefore, they have low levels of heart disease. The research (2) _____ that animal fat is good for human body and helps in reducing the risks of heart attack. This study was (3) _____ in 2018 in 21 low and middle income countries. However, it (4) _____ that eating moderately is the (5) _____ key in this regard.

Question 34 :

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

Difficulty : Moderate

Average Time : 86 Seconds

Options :

1. crucial
2. diligent
3. principle
4. eminent

Solution :

The correct answer is **option 1** i.e. **crucial**.

- In this sentence, the word "concluded" indicates that a decision or judgment has been reached after considering relevant information or evidence.
- The word "**crucial**" is the most appropriate choice for the blank in the fifth position because it means extremely important or essential.
- It suggests that eating moderately is deemed vital or indispensable in achieving the desired outcome or addressing the matter under discussion.
- The phrase "key in this regard" emphasizes that eating moderately is the primary or central factor in the given context.
- Thus, the most appropriate filler for the given blank is **crucial**.

Thus, the completed sentence would be:

However, it concluded that eating moderately is the **crucial** key in this regard.

**Question 35 :**

What is the difference in the number of years between the summer and winter Olympic events?

Difficulty : Moderate**Average Time : 73 Seconds****Options :**

1. 1
2. 2
3. 4
4. 3

Solution :

The correct answer is **option 2** i.e. **2**.

- The summer and winter events are staggered so that there's an Olympic event every two years.
- The Summer Olympics, more popularly known as just The Olympics is a much bigger event with 206 countries participating in the 2020 Olympics held in Tokyo in 2021.
- The Winter Olympics is an event on a relatively smaller scale, with 91 countries participating in the 2022 Winter Olympics in China.

Question 36 :

Battle of Plassey was fought between English company and Nawab of Bengal in which year?

Difficulty : Moderate**Average Time : 49 Seconds****Options :**

1. 1750
2. 1757
3. 1850
4. 1857

Solution :

The correct answer is **option 2** i.e. **1757**.

- The Battle of Plassey was fought in north-eastern India on 23 June 1757.
- Troops of the British East India Company, led by Robert Clive, came up against the forces of Siraj-ud-Daulah, the



last Nawab of Bengal, and his French allies.

Question 37 :

Which of the following countries hosted the 2022 Asian Wrestling Championships where Ravi Dahiya became the first Indian freestyle wrestler to win a hat-trick of gold medals?

Difficulty : Moderate

Average Time : 45 Seconds

Options :

1. Almaty, Kazakhstan
2. New Delhi, India
3. Ulaanbaatar, Mongolia
4. Xi'an, China

Solution :

The correct answer is **option 3** i.e. **Ulaanbaatar, Mongolia**.

- Indian wrestler Ravi Kumar Dahiya won the gold medal while Bajrang Punia and Gourav Baliyan settled for silvers at the Asian Wrestling Championships 2022 in Ulaanbaatar, Mongolia.
- Asian Wrestling C'ships: Aman Sehrawat wins first gold medal for India; Deepak bags bronze.

Question 38 :

In April 2022, 'SVANidhi se Samridhhi' program was launched in additional 126 cities. This program provides _____.

Difficulty : Moderate

Average Time : 46 Seconds

Options :

1. insurance cover
2. scholarships to students
3. hospital facilities
4. social security benefits

Solution :

The correct answer is **option 4** i.e. **social security benefits**.

- The Scheme ensures that the worthy startups get the required funding to improve their product and scale their business.
- Under this Scheme, the prevailing and imminent accelerators shall be provided bolster for augmenting their



services.

Question 39 :

In which of the following state of India, coniferous trees are found?

Difficulty : Moderate

Average Time : 44 Seconds

Options :

1. Uttarakhand
2. Bihar
3. Uttar Pradesh
4. Madhya Pradesh

Solution :

The correct answer is **option 1** i.e. **Uttarakhand**.

- Conifers are trees that bear their seeds in cones (hence the name conifer).
- The vast majority of conifers have needle-like (e.g. pine or fir) or scale-like leaves (e.g. cypress or juniper).
- It is majorly found in himalayan region.

Question 40 :

Which of the following is natural acid-base indicator? I. Litmus II. Turmeric

Difficulty : Moderate

Average Time : 44 Seconds

Options :

1. Only II
2. Only I
3. Neither I nor II
4. Both I and II

Solution :

The correct answer is **option 4** i.e. **Both I and II**.

- The three most common indicators to test for acids and bases are: Litmus; Methyl orange; Phenolphthalein. Litmus is a natural indicator.
- Turmeric, red cabbage, China rose, etc. are some common natural indicators used widely to show the acidic or basic character of substances.

**Question 41 :**

Which of the following objectives of NAMASTE scheme launched by the centre in August 2022 is correct? I. Zero fatalities in sanitation work in India II. Sanitation workers are collectivized into SHGs and are empowered to run sanitation enterprises.

Difficulty : Moderate**Average Time : 53 Seconds****Options :**

1. Both I and II
2. Only II
3. Only I
4. Neither I nor II

Solution :

The correct answer is **option 1** i.e. **Both I and II**.

- Ministry of Social Justice and Empowerment has formulated "National Action for Mechanised Sanitation Ecosystem" (NAMASTE).
- It aims to stop deaths of Sewers and Septic Tank Workers (SSWs) and to promote mechanisation of cleaning operations with a vision to reduce hazardous cleaning and ensure safety of sanitation workers.

Question 42 :

Who among the following was the first Indian female musician to win the Grammy award?

Difficulty : Moderate**Average Time : 49 Seconds****Options :**

1. Neeti Mohan
2. Tanvi Shah
3. Shweta Pandit
4. Shalmali Kholgade

Solution :

The correct answer is **option 2** i.e. **Tanvi Shah**.

- Tanvi Shah won the prestigious Grammy Award for Best Song Written for Motion Picture or Other Visual Media for her Spanish lyrics for the song "Jai Ho" from Slumdog Millionaire (2010), an award she shared with maestro A.R. Rahman and lyricist Gulzar.



She is the first Indian woman to have won this coveted award.

- She also got the World Soundtrack Award (2009) with Rahman and Gulzar besides receiving the BMI Award in 2009 in London for the same track.

Question 43 :

According to census 2011, number of literates in India is _____ million.

Difficulty : Moderate

Average Time : 55 Seconds

Options :

1. 767.5
2. 765.5
3. 769.5
4. 763.5

Solution :

The correct answer is **option 4** i.e. **763.5**.

- After the 2011 census, literacy rate India 2011 was found to be 74.04% in which males is 82.14% and among females is 65.46%.
- Compared to the adult literacy rate here the youth literacy rate is about 9% higher.

Question 44 :

Identify the function of plasmid DNA.

Difficulty : Moderate

Average Time : 39 Seconds

Options :

1. None of the given options are correct
2. To form blood cells
3. To confer certain unique phenotypic characters to bacteria
4. To help in the formation of rRNA

Solution :

The correct answer is **option 3** i.e. **To confer certain unique phenotypic characters to bacteria**.

- A plasmid is a small circular DNA molecule found in bacteria and some other microscopic organisms.
- Plasmids are physically separate from chromosomal DNA and replicate independently.

**Question 45 :**

When, for the first time, did the Election Commission of India become a multi-member body?

Difficulty : Moderate

Average Time : 47 Seconds

Options :

1. 1995
2. 1985
3. 1989
4. 1994

Solution :

The correct answer is **option 3** i.e. **1989**.

- The Election Commission of India can either be a single member or a multi-member body.
- Till 1989, the Election Commission was a single member. Just before the 1989 general elections, two Election Commissioners were appointed, making the body multi-member. Soon after the elections, the Commission reverted to its single member status.

Question 46 :

Krishna III of Manyakheta belonged to which dynasty?

Difficulty : Moderate

Average Time : 43 Seconds

Options :

1. Chera
2. Pala
3. Rashtrakuta
4. Gurjara-Pratihara

Solution :

The correct answer is **option 3** i.e. **Rashtrakuta**.

- Krishna III, also known as Kannara in Kannada, was the last great warrior and able monarch of the Rashtrakuta dynasty of Manyakheta (r. 939 – 967 C.E.).
- He was a shrewd administrator and a skilled military campaigner.
- He fought many wars to restore Rashtrakuta's glory and was instrumental in rebuilding the Rashtrakuta empire.

Question 47 :



Who among the following was the first recipient of the State annual award Nishagandhi Puraskaram from the Government of Kerala in 2013?

Difficulty : Moderate

Average Time : 50 Seconds

Options :

1. Madhavi Mudgal
2. Shobana C Pillai
3. Uday Shankar
4. Mrinalini Sarabhai

Solution :

The correct answer is **option 4** i.e. **Mrinalini Sarabhai**.

- Mrinalini Sarabhai is one of the foremost personalities in Indian classical dance. She was trained in Bharatnatyam, Kathakali as well as Mohiniattam and eventually turned to choreography as well as dance training.
- In 1965 the Indian government awarded Sarabhai with the Padma Shri and the Padma Bhushan in 1992.
- The University of East Anglia, Norwich, UK also honoured her with the Degree of Doctor of Letters in 1997. She also received the medal and Diploma of the French association Archives Internationales de la Danse and the Sangeet Natak Akademi Fellowship, New Delhi in 1994.

Question 48 :

Which of the following dance forms did NOT originate in South India?

Difficulty : Moderate

Average Time : 59 Seconds

Options :

1. Kathakali
2. Kuchipudi
3. Sattriya
4. Bharatanatyam

Solution :

The correct answer is **option 3** i.e. **Sattriya**.

- Sattriya is a dance form that is more than 500 years old and comes from the Vaishnavite monasteries of Assam northeast India.
- The root of the Sattriya Dance can be traced back to Bharat Muni's Natya Shastra.



Mahapurush Srimanta Sankardev institutionalized the dance form in Assam and became part of his Bhakti Movement. As the dance form got the present form in Sattras of Assam it is known as Sattriya Dance.

Question 49 :

Who among the following won a Padma Vibhushan award in year 1971?

Difficulty : Moderate

Average Time : 51 Seconds

Options :

1. Rajee Narayan
2. S Swaminathan
3. Devjani Chaliha
4. Uday Shankar

Solution :

The correct answer is **option 4** i.e. **Uday Shankar**.

- Uday Shankar, the pioneer of Indian non-classical dance forms who enthralled western audiences with his unique style.
- His greatest recognition was his popularity across both the West and the East, which got him many followers, including artistes like Zohra Sehgal, Simkie, and musicians Vishnu Das Shirali and Alauddin Khan Sahab of the Maihar gharana.
- In order to recognize his contribution to the field of art and culture, the Government of India awarded Uday with the coveted Padma Vibhushan. He was also presented the Desikottama by the prestigious Visvabharati University

Question 50 :

The fundamental duty of a parent or guardian to provide opportunities for education to his child or, as the case may be, ward between the age of 6 and _____.

Difficulty : Moderate

Average Time : 62 Seconds

Options :

1. 20
2. 14
3. 18
4. 16

Solution :



The correct answer is **option 2** i.e. **14**.

- 86th amendment act inserted a new article 21A, i.e. Right to Education.
- According to it "The State shall provide free and compulsory education to all children of the age of six to fourteen years in such manner as the State may, by law, determine".
- 86th amendment also substituted the article 45 with a new article 45, according to which "The State shall endeavor to provide early childhood care and education for all children until they complete the age of six years". 86th amendment also added another Fundamental Duty which is "who is a parent or guardian to provide opportunities for education to his child or, as the case may be, ward between the age of six and fourteen years".

Question 51 :

Which of the following is NOT associated with Aryabhata?

Difficulty : Moderate

Average Time : 63 Seconds

Options :

1. Stated that day and night were caused by the rotation of the earth on its axis.
2. Developed a scientific explanation for eclipses
3. Found a way of calculating the circumference of a circle
4. Spoke about elaborate surgical procedures

Solution :

The correct answer is **option 4** i.e. **Spoke about elaborate surgical procedures**.

- Aryabhata was a great Indian mathematician and astronomer. It is believed that he was born in 476 AD in Patliputra which is now modern Patna in Bihar.
- The Aryabhatiya is widely regarded as Aryabhata's crowning achievement.
- Mathematics and astronomy were well-represented in the Aryabhatiya, which was a comprehensive treatise. The work was saved from oblivion thanks to quotations from it in other works.
- In the mathematics aspect of the work, a lot of attention was paid to subjects like plane trigonometry and spherical trigonometry, as well as arithmetic, quadratic equations, and algebra.

Question 52 :

The Sahara Desert is located in which of the following continent?

Difficulty : Moderate

Average Time : 67 Seconds

Options :

1. South America

North America

3. Africa

4. Australia

Solution :

The correct answer is **option 3** i.e. **Africa**.

- The Sahara Desert is the world's largest hot desert and the third largest desert behind Antarctica and the Arctic.
- It stretches from the Red Sea in the West and the Mediterranean in the North to the Atlantic Ocean in the West, including 10 countries: Algeria, Chad, Egypt, Libya, Mali, Mauritania, Morocco, Niger, Sudan, and Tunisia

Question 53 :

Which of the following is NOT a part of the institutional structure of rural banking?

Difficulty : Moderate

Average Time : 49 Seconds

Options :

1. Moneylenders
2. Regional rural banks
3. Commercial banks
4. Cooperative and land development banks

Solution :

The correct answer is **option 1** i.e. **Moneylenders**.

- Rural banking refers to providing banking services to individuals living in rural.
- Co-operative Credit Societies, Regional Rural Banks, Commercial Banks, Government are the different types of rural banking.

Question 54 :

Who among the following proposed the term 'ecosystem'?

Difficulty : Moderate

Average Time : 41 Seconds

Options :

1. AG Tansely
2. Grinnel



Lindeman

4. Turreson

Solution :

The correct answer is **option 1** i.e. **AG Tansely**.

- Sir Arthur G. Tansley coined the term ecosystem in 1935.
- An ecosystem is a geographic area where plants, animals, and other organisms, as well as weather and landscape, work together to form a bubble of life.
- There are two main types of ecosystems: terrestrial and aquatic.

Question 55 :

How many anions surround a sodium ion in a crystal lattice of sodium chloride?

Difficulty : Moderate

Average Time : 46 Seconds

Options :

1. Six
2. Eight
3. Seven
4. Nine

Solution :

The correct answer is **option 1** i.e. **Six**.

- Each sodium ion, is surrounded by six chlorine ions, and each chlorine ion is surrounded by six sodium ions.
- A crystal builds up like this, giving the sodium chloride crystal a cubic structure. This cubic structure is reflected in the cubic shape of salt crystals.

Question 56 :

The Balance of Payment Account of an economy is related to the _____.

Difficulty : Moderate

Average Time : 44 Seconds

Options :

1. agriculture sector
2. external sector



government sector

4. private sector

Solution :

The correct answer is **option 2** i.e. **external sector**.

- The balance of payments (BOP) is the method by which countries measure all of the international monetary transactions within a certain period.
- The balance of payments includes both the current account and capital account.

Question 57 :

Identify the step that is NOT a part of decomposition.

Difficulty : Moderate

Average Time : 44 Seconds

Options :

1. Leaching
2. Humification
3. Catabolism
4. Soil erosion

Solution :

The correct answer is **option 4** i.e. **Soil erosion**.

- Soil erosion is a gradual process that occurs when the impact of water or wind detaches and removes soil particles, causing the soil to deteriorate.
- Erosion happens at the tops of mountains and under the soil.
- Water and chemicals get into the rocks and break them up through those mechanical and chemical forces.

Question 58 :

Who among the following has launched the US Startup SETU programme?

Difficulty : Moderate

Average Time : 48 Seconds

Options :

1. Amit Shah
2. Yogi Adityanath
3. Nitin Gadkari



Piyush Goyal

Solution :

The correct answer is **option 4** i.e. **Piyush Goyal**.

- The Union Minister of Commerce and Industry recently launched the US Startup SETU - Supporting Entrepreneurs in Transformation and Upskilling programme in the Bay Area of San Francisco, United States of America.
- The program aims to provide mentorship and customized assistance with deal flow of the best startups from across India to US-based Investors and startup ecosystem leaders.
- The Mentorship, Advisory, Assistance, Resilience, and Growth (MAARG) program is a single stop solution finder for startups in India.

Question 59 :

Nagabhata was the king of which of the following dynasty?

Difficulty : Moderate

Average Time : 54 Seconds

Options :

1. Kakatiya
2. Vardhana
3. Pratihara
4. Reddy

Solution :

The correct answer is **option 3** i.e. **Pratihara**.

- Nagabhata I (730-760 CE) was the founder of northern India's imperial Gurjara Pratihara dynasty.
- The foundation of Pratihara dynasty's magnitude was positioned by Nagabhata I, who ruled between 730-756 C.E.
- Nagabhata I was succeeded by his brother's sons, Kakkuka and Devaraja.

Question 60 :

Select the option figure in which the given figure is embedded (rotation is not allowed).

Difficulty : Moderate

Average Time : 45 Seconds

Options :

- 1.

- 1.
- 2.
- 3.
- 4.

Solution :



The correct answer is **option 3** i.e.

The given figure is embedded in option 3, as shown below:



Question 61 :

Select the option that is related to the fifth letter cluster in the same way as the second letter cluster is related to the first letter cluster and the fourth letter cluster is related to the third letter cluster. OILS: UNLS:: PAIN: PKDT:: QUIK:?

Difficulty : Moderate

Average Time : 70 Seconds

Options :



1. MLXU

2. MKXV

3. MLYV

4. MKXU

Solution :

The correct answer is **option 4** i.e. **MKXU**.

The logic used here is:

OILS: UNLS

First, reverse the code.

OILS = SLNU

O + 4 = S

I + 3 = L

L + 2 = N

S + 2 = U

PAIN: PKDT

PAIN = TDKP

P + 4 = T

A + 3 = D

I + 2 = K

N + 2 = P

Similarly,

QUIK:?

Q + 4 = U

U + 3 = X

I + 2 = K

K + 2 = M

QUIK = MKXU

Hence, **option 4** is the correct answer.

Question 62 :

Three statements are given followed by three conclusions numbered I, II and III. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements. Statements: All javascript are binary. All binary are minecraft. All roblox are minecraft. Conclusions: I. Some javascript are roblox. II. Some javascript are minecraft. III. All javascript are minecraft.

Difficulty : Moderate

Average Time : 72 Seconds

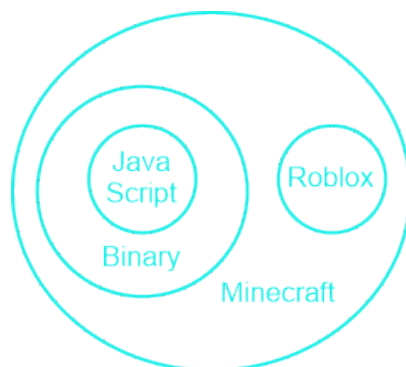
Options :

1. Only conclusions I and III follow
2. Only conclusions I and II follow
3. All conclusions follow
4. Only conclusions II and III follow

Solution :

The correct answer is **option 4** i.e. **Only conclusions II and III follow.**

The least possible Venn Diagram for the given statements is drawn below:

**Conclusions:**

- I. Some javascript are roblox **False** (It is possible, but no definite conclusion can be drawn.)
- II. Some javascript are minecraft **True** (As all javascript are binary, so, all binary are minecraft, so, some javascript are binary is true.)
- III. All javascript are minecraft **True** (As all javascript are binary, so, all binary are minecraft, so, all javascript are binary is true.)

also true.)

Hence, **Only conclusions II and III follow.**

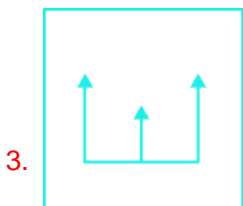
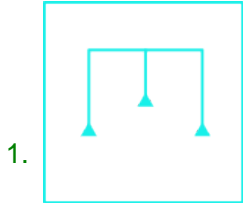
Question 63 :

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

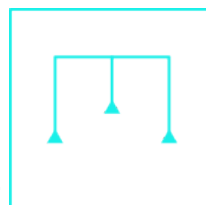
Difficulty : Moderate

Average Time : 72 Seconds

Options :



Solution :

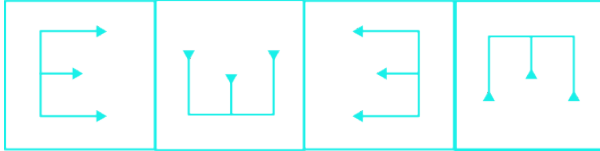


The correct answer is **option 1** i.e.

The logic used here is:

1. The figure is rotating in the anticlockwise direction.
2. The pointed end of the arrow is reversed alternatively.

The series of figures is:



Question 64 :

Select the correct mirror image of the given figure when the mirror is placed at line AB as shown.

Difficulty : Moderate

Average Time : 69 Seconds

Options :



4.

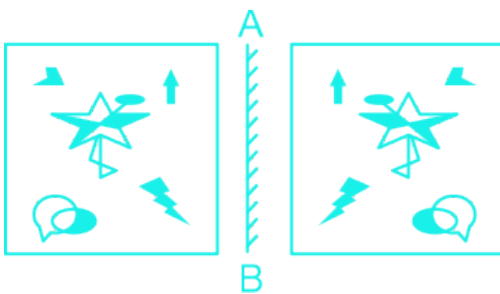


Solution :



The correct answer is **option 3** i.e.

The mirror image of the question figure is shown below:



Since the mirror is placed right to the question figure, the right-hand side of the original image will be now the left-hand side of the mirror image.

Hence, **option 3** is the correct answer.

Question 65 :

Which of the following interchange of numbers and signs would make the given equation correct? $10 \div 20 + 16 \times 8 = 16$

Difficulty : Moderate

Average Time : 74 Seconds

Options :

1. 10 and 16, \times and \div
2. 4 and 8, \times and \div
3. 4 and 20, $+$ and \div



10 and 20, + and ×

Solution :

The correct answer is **option 2** i.e. **4 and 8, × and ÷**.

Given equation: $10 \div 4 + 20 + 16 \times 8 = 16$

Option 1: 10 and 16, × and ÷

After interchanging the expression becomes:

$$= 16 \div 4 \times 20 + 10 \div 8 = 16$$

$$= 16 \div 4 \times 20 + 10 \div 8$$

$$= -62.75 \text{ is not equal to } 16.$$

Option 2: 4 and 8, × and ÷

After interchanging the expression becomes:

$$= 10 \times 8 \div 20 + 16 \div 4 = 16$$

$$= 16 \text{ is equal to } 16.$$

As we have found our answer, so, there is no need of checking other options.

Hence, **option 2** is the correct answer.

Question 66 :

Select the option that is related to the fourth term in the same way as the first term is related to the second term and the fifth term is related to the sixth term. 47: 9:: ?: 14:: 92: 18

Difficulty : Moderate

Average Time : 69 Seconds

Options :

1. 72

2. 73

3. 37

4. 27

Solution :

The correct answer is **option 1** i.e. **72**.



The logic used here is:

47: 9

$$9 \times 5 + 2 = 47$$

92: 18

$$18 \times 5 + 2 = 92$$

Similarly,

?: 14

$$14 \times 5 + 2 = 72$$

Hence, **option 1** is the correct answer.

Question 67 :

If '+' means '÷', '∩' means '+', 'x' means '∩' and '÷' means 'x', what will be the value of the following expression? $[(32 \times 20) - (2 \div 3)] + (2 - 4) \div 3$

Difficulty : Moderate

Average Time : 47 Seconds

Options :

1. 8
2. 10
3. 9
4. 6

Solution :

The correct answer is **option 3** i.e. **9**.

Given equation: $[(32 \times 20) - (2 \div 3)] + (2 - 4) \div 3$

Given conditions:

'+' means '÷'

'∩' means '+'

'x' means '∩'

'÷' means 'x'

After interchanging the expression becomes:

$$= \{[(32 - 20) + (2 \times 3)] \div (2 + 4)\} \times 3$$

$$= \{[12 + 6] \div 6\} \times 3$$

$$= [18 \div 6] \times 3$$

$$= 3 \times 3$$

$$= 9$$

Hence, **option 3** is the correct answer.

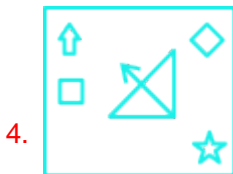
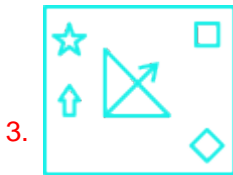
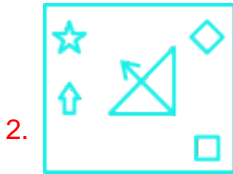
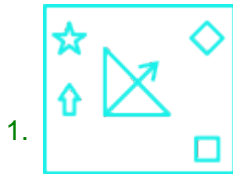
Question 68 :

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

Difficulty : Moderate

Average Time : 53 Seconds

Options :



Solution :

The correct answer is **Option 1** i.e.



Logic: The centre image is moving anticlockwise on the vertex of the square and the rest elements are also changing their positions along the sides so in the 4th figure first figure will come again. Thus, option 1 is correct.

Hence, the correct answer is option 1.

Question 69 :

Which number will replace the question mark (?) in the following series? 27, 29, ?, 182, 730, 3652

Difficulty : Moderate

Average Time : 65 Seconds

Options :

1. 58
2. 110
3. 122
4. 60

Solution :

The correct answer is **option 4** i.e. **60**.

Given series: 27, 29, ?, 182, 730, 3652

The series follows this pattern:

$$27 \times 1 + 2 = 29$$

$$29 \times 2 + 2 = 58 + 2 = 60$$

$$60 \times 3 + 2 = 180 + 2 = 182$$

$$182 \times 4 + 2 = 728 + 2 = 730$$

$$730 \times 5 + 2 = 3650 + 2 = 3652$$

So, the missing term in the series is **60**.

Question 70 :

By Interchanging the given two numbers which of the following equation will be correct? 1 and 7



Difficulty : Moderate

Average Time : 43 Seconds

Options :

1. $7 \times 2 + 1 - 5 = 6$

2. $1 \times 2 - 7 + 8 \div 2 = 16$

3. $7 + 1 \times 2 - 6 \div 3 = 13$

4. $7 + 6 \div 3 - 5 \times 1 = -10$

Solution :

The correct answer is **option 3** i.e. $7 + 1 \times 2 - 6 \div 3 = 13$.

Given condition: 1 and 7

Option 1: $7 \times 2 + 1 - 5 = 6$

After interchanging the expression becomes:

$$= 1 \times 2 + 7 - 5 = 6$$

$$= 2 + 7 - 5$$

$$= 9 - 5$$

= 4 is not equal to 6.

Option 2: $1 \times 2 - 7 + 8 \div 2 = 16$

After interchanging the expression becomes:

$$= 7 \times 2 - 1 + 8 \div 2 = 16$$

$$= 7 \times 2 - 1 + 4$$

$$= 14 - 1 + 4$$

= 17 is not equal to 16.

Option 3: $7 + 1 \times 2 - 6 \div 3 = 13$

After interchanging the expression becomes:

$$= 1 + 7 \times 2 - 6 \div 3 = 13$$

$$= 1 + 7 \times 2 - 2$$

$$= 1 + 14 - 2$$

= 13 is equal to 13.

As we have found our answer, so, there is no need of checking other options.

Hence, **option 3** is the correct answer.

Question 71 :

'A @ B' means 'A is the husband of B'. 'A & B' means 'A is the mother of B'. 'A # B' means 'B is the daughter of A'. If D # E # F & G @ H # I, then how is G related to E?

Difficulty : Moderate**Average Time : 83 Seconds****Options :**

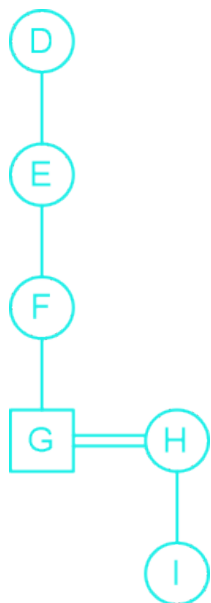
1. Daughter
2. Son
3. Father
4. Daughter's son

Solution :

The correct answer is **option 4** i.e. **Daughter's son**.

In the diagram shown;

Square shows males, the circle shows females, vertical lines show generations, a single horizontal line shows brothers or sisters, and double lines show a couple.



From the above tree, G is the daughter's son of E.

Hence, **option 4** is the correct answer.

Question 72 :

If $A + B$ means that A is the father of B, $A - B$ means that A is the mother of B, $A \times B$ means that A is the brother of B. Then which of the following expression shows that Q is the son of P?

Difficulty : Moderate

Average Time : 63 Seconds

Options :

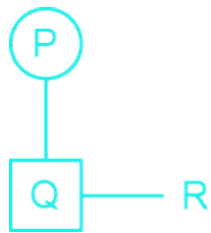
1. $P - Q \times R$
2. $Q - P \times R$
3. $P - Q + R$
4. $P - R \times Q$

Solution :

The correct answer is **option 1** i.e. $P - Q \times R$.

In the diagram shown;

Square shows males, the circle shows females, vertical lines show generations, a single horizontal line shows brothers or sisters, and double lines show a couple.

Option1: $P - Q \times R$ 

From the above tree, Q is the son of P.

Hence, **option 1** is the correct answer.

Question 73 :

After arranging the given words according to dictionary order, which word will come at the 'Third' position? 1. Oblivion 2. Oblique 3. Oblige 4. Oblate 5. Oblong

Difficulty : Moderate

Average Time : 62 Seconds

Options :

1. Oblate
2. Oblique
3. Oblige
4. Oblivion

Solution :

The correct answer is **option 2** i.e. **Oblique**.

In this question, you need to arrange the words as they would appear in the English dictionary and then find the word which will come in the third position.

1. Oblate
2. Oblige
3. Oblique
4. Oblivion
5. Oblong

Hence, the word that comes in the third position is 'Oblique.'

Question 74 :

Three of the following four-letter clusters are alike in a certain way and one is different. Pick the odd one out.

Difficulty : Moderate

Average Time : 50 Seconds

Options :

1. IJM
2. ABE
3. XYA
4. EFI

Solution :

The correct answer is **option 3** i.e. **XYA**.

The logic used here is:

1st letter + 1 = 2nd letter



2nd letter + 3 = 3rd letter

Option 1: IJM

$$I + 1 = J$$

$$J + 3 = M$$

This follows the logic.

Option 2: ABE

$$A + 1 = B$$

$$B + 3 = E$$

This follows the logic.

Option 3: XYA

$$X + 1 = Y$$

$$Y + 3 = B$$

This does not follow the logic.

Hence, **option 3** is the odd one out.

Question 75 :

Select the odd group of numbers. (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g.13 – Operations on 13 such as adding /subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)

Difficulty : Moderate

Average Time : 68 Seconds

Options :

1. $20 - 406$

2. $14 - 200$

3. $10 - 106$

4. $12 - 150$

Solution :

The correct answer is **option 2** i.e. $14 - 200$.

The logic used here is:



$(1\text{st number})^2 + 6 = 2\text{nd number}$

Option 1: 20 – 406

$$20^2 = 400 + 6 = 406$$

This follows the logic.

Option 2: 14 – 200

$$14^2 = 196 + 6 = 202$$

This does not follow the logic.

Hence, **option 2** is the odd one out.

Question 76 :

Select the option that is related to the third word in the same way as the second word is related to the first word. (The words must be considered as meaningful English words and must not be related to each other based on the number of letters/number of consonants/vowels in the word) Cricket: Pitch:: Badminton:?

Difficulty : Moderate

Average Time : 61 Seconds

Options :

1. Track
2. Field
3. Court
4. Pool

Solution :

The correct answer is **option 3** i.e. **Court**.

The logic used here is:

Cricket: Pitch

Cricket is played on a pitch.

Similarly,

Badminton:?

Badminton is played on a court.

Hence, **option 3** is the correct answer.

**Question 77 :**

Select the option that is related to the fifth number in the same way as the second number is related to the first number and the fourth number is related to the third number. $12 : 120 :: 20 : 360 :: 3 : ?$

Difficulty : Moderate**Average Time : 48 Seconds****Options :**

1. 15
2. 32
3. 7
4. 3

Solution :

The correct answer is **Option 4** i.e. **3**.

The logic used here is:

$$12 : 120$$

$$12 \times (12 - 2)$$

$$= 12 \times 10$$

$$= 120$$

$$20 : 360$$

$$20 \times (20 - 2)$$

$$= 20 \times 18$$

$$= 360$$

Similarly,

$$3 : ?$$

$$3 \times (3 - 2)$$

$$3 \times 1$$

$$= 3$$

Hence, **3** is the correct answer.

Question 78 :



Select the cube that can be formed by folding the given sheet along the lines.

Difficulty : Moderate

Average Time : 47 Seconds

Options :

1. Only D
2. Only A and C
3. Only C and D
4. Only B

Solution :

The correct answer is **option 3** i.e. **Only C and D**.

When the sheet is folded along the lines, the opposite pairs are;

1 is opposite to 3.

2 is opposite to 4.

5 is opposite to 6.

In dice A and B, opposite pair 5 and 6 are adjacent to each other. Hence, this cube cannot be formed.

In dice C and D, no opposite pairs are adjacent to each other. Hence, both these cubes can be formed.

Question 79 :

In a certain code language, 'birds are flying' is coded as '536', 'the nest is big' is coded as '3423' and 'close the door' is coded as '534'. How will 'complete your work' be coded in that language?

Difficulty : Moderate

Average Time : 61 Seconds

Options :

1. 844
2. 484
3. 733
4. 955

Solution :

The correct answer is **option 1** i.e. **844**.



The logic used here is:

'birds are flying' is coded as '536'

'the nest is big' is coded as '3423'

'close the door' is coded as '534'

The code for each word is the number of letters in that word.

Code for the phrase 'complete your work' is 844.

Hence, **option 1** is the correct answer.

Question 80 :

In the following question below are given some statements followed by some conclusions based on those statements. Taking the given statements to be true even if they seem to be at variance from commonly known facts. Read all the conclusions and then decide which of the given conclusion logically follows the given statements. Statements: I. No A is D. II. All D are E. Conclusions: I. No D is A. II. Some E are D.

Difficulty : Moderate

Average Time : 66 Seconds

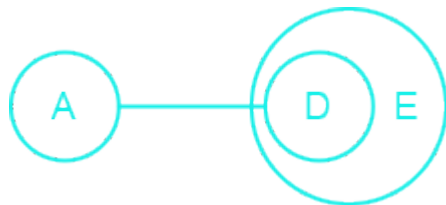
Options :

1. Neither conclusion follows
2. Both conclusions I and II follows
3. Only conclusion II follows
4. Only conclusion I follows

Solution :

The correct answer is **option 2** i.e. **Both conclusions I and II follows.**

The least possible Venn Diagram for the given statements is drawn below:



Conclusions:

I. No D is A **True** (As no A is D, so, no D is A is also true.)



II. Some E are D **True** (As all D are E, so, some E are D is also true.)

Hence, **Both conclusions I and II follows.**

Question 81 :

Calculate the area of a sector of a circle with radius 10 metres and angle of 90 degrees at the centre.

Difficulty : Moderate

Average Time : 65 Seconds

Options :

1. 79.3 m²
2. 79.5 m²
3. 78.5 m²
4. 75 m²

Solution :

The correct answer is **option 3** i.e. **78.5 m²**

Formula used:

Area of sector = (Angle made by the sector/360) × r² ---- (1)

Calculations:

Using equation (1), we get

$$\text{Area of sector} = (90/360) \times 22/7 \times 10 \times 10$$

$$\text{Area of sector} = 78.5 \text{ m}^2$$

Question 82 :

In the figure, O is the centre of the circle. Its two chords AB and CD intersect each other at the point P within the circle. If AB = 20 cm, PB = 12 cm and CP = 8 cm, then find the measure of PD.

Difficulty : Moderate

Average Time : 57 Seconds

Options :

1. 12 cm
2. 11 cm
3. 22 cm



14 cm

Solution :

The correct answer is **option 1** i.e. **12 cm**

Given:

Two chords AB and CD intersect each other at the point P within the circle.

AB = 20 cm, PB = 12 cm and CP = 8 cm

Formula used:

Using the given figure;

$$PA \times PB = PC \times PD \quad \text{---- (1)}$$

Calculations:

We have, $PA = 20 - 12 = 8$ cm

Using equation (1), we get

$$8 \times 12 = 8 \times PD$$

$$PD = 12 \text{ cm}$$

Question 83 :

A dealer buys an article listed at ₹,13,000 and gets successive discounts of 15% and 15%. He spends ₹,1250 on transportation and sells it at a profit of 20%. Find the selling price of the article.

Difficulty : Moderate

Average Time : 60 Seconds

Options :

1. ₹,13300

2. ₹,12901

3. ₹,13250

4. ₹,13200

Solution :

The correct answer is **option 2** i.e. **₹,12901**

Calculations:

Cost price of the article at which the buys after 2 successive discounts = $3000 \times 85\% \times 85\% = 2167.5$

Total cost price after spending Rs 250 on transportation = $2167.5 + 250 = 2417.5$

Selling price after a profit of 20% = $2417.5 \times 120\% = \text{Rs } 2901$

Question 84 :

In a linear race of 1000 m, A beats B by 50 m or 5 seconds. What is the difference between the speeds (in m/s) of A and B?

Difficulty : Moderate

Average Time : 45 Seconds

Options :

1. $\frac{10}{19}$
2. $\frac{10}{19}$
3. $\frac{9}{19}$
4. $\frac{9}{10}$

Solution :

The correct answer is **option 2** i.e. $\frac{10}{19}$

Calculations:

If 5 more seconds are given to B, it can complete 50 m distance, speed of B = $50/5 = 10$ m/s

B can complete the 1000 m distance, time = $1000/10 = 100$ seconds

A took 5 seconds less than B, time taken by A = $100 - 5 = 95$ seconds

Speed of A = $1000/95 = 200/19$

Required difference = Speed of A - speed of B

$$200/19 - 10$$

$$(200 - 190)/19 = 10/19$$

Question 85 :

The table given below shows the cost price and selling price of 5 different articles. Article Cost Price Selling Price A1 350 450 A2 550 550 A3 450 650 A4 250 550 A5 150 650 What is the ratio of cost price of A1 to the selling price of A4?

Difficulty : Moderate

Average Time : 62 Seconds

Options :

1 : 2

2. 1 : 3

3. 7 : 5

4. 7 : 11

Solution :

The correct answer is **option 4** i.e. **7 : 11**

Calculations:

Cost price of A1 = 350

Selling price of A4 = 550

Required ratio = 350 : 550 = 7 : 11

Question 86 :

The selling price of 28 items is equal to the cost price of 17 items. What is the percentage of profit or loss?

Difficulty : Moderate

Average Time : 38 Seconds

Options :

1. $(39\frac{2}{7}\%$ loss)

2. $(39\frac{2}{7}\%$ profit)

3. $(33\frac{2}{7}\%$ profit)

4. $(33\frac{2}{7}\%$ loss)

Solution :

The correct answer is **option 1** i.e. $(39\frac{2}{7}\%$ loss)

Formula used:

$$\text{Loss} = \text{SP} - \text{CP} \quad \text{---- (1)}$$

$$\text{Loss}\% = (\text{Loss}/\text{CP}) \times 100 \quad \text{---- (2)}$$

Calculations:

According to the question;

$$28\text{SP} = 17\text{CP}$$

$$SP/CP = 17/28$$

Let the SP and CP be $17x$ and $28x$

Using equation (1), we get

$$\text{Loss} = 28x - 17x = 11x$$

Using equation (2)

$$\text{Loss \%} = (11x/28x) \times 100 = 275/7$$

$$39(2/7)\%$$

Question 87 :

If the price of petrol is increased by 28%, by what percentage should the consumption be decreased by the consumer, if the expenditure on petrol remains unchanged? (Correct to 2 decimal places)

Difficulty : Moderate

Average Time : 67 Seconds

Options :

1. 12.35%
2. 21.88%
3. 20.25%
4. 25.75%

Solution :

The correct answer is **option 2** i.e. **21.88%**

Concept used:

If expenditure remains same, Price and consumption are inversely proportional to each other.

Calculations:

$$\text{Ratio of the price of petrol} = \text{Old price} : \text{new price} = 100 : 128$$

$$25 : 32$$

$$\text{Ratio of consumption is inversely proportional} = \text{Old consumption} : \text{New consumption} = 32 : 25$$

$$\text{Required percentage} = [(32 - 25)/32] \times 100 = 21.88\%$$

Question 88 :

A sum of money amounts to $\hat{a},1767$ in 3 years, and to $\hat{a},1806$ in 4 years on simple interest at 6% annum. What is the sum?



Difficulty : Moderate

Average Time : 48 Seconds

Options :

1. ₹,1600
2. ₹,1560
3. ₹,1675
4. ₹,1650

Solution :

The correct answer is **option 4** i.e. ₹,1650

Calculations:

Interest for 1 year = Amount for 4 years - Amount for 3 years = 806 - 767 = 39

Interest of 3 years = 39 × 3 = 117

Sum = Amount - Interest

Sum = 767 - 117 = 650

Question 89 :

Study the given pie-chart and answer the question that follows. The pie-chart represents the spending of a state on various sports during a particular year. How much percent more is spent on cricket than on tennis (correct up to 2 decimal places)?

Difficulty : Moderate

Average Time : 47 Seconds

Options :

1. 33.33%
2. 32.75%
3. 30.35%
4. 28.25%

Solution :

The correct answer is **option 1** i.e. 33.33%

Calculations:

Amount spent on cricket in degrees = 72



Amount spent on tennis in degrees = 54

Required percentage = $[(72 - 54)/54] \times 100 = 33.33\%$

Question 90 :

Simplify the following. $\cot 13^\circ \cot 27^\circ \cot 45^\circ \cot 63^\circ \cot 77^\circ = ?$

Difficulty : Moderate

Average Time : 37 Seconds

Options :

1. 1
2. $\sqrt{3}$
3. 2
4. $\sqrt{2}$

Solution :

The correct answer is **option 1** i.e. 1

Concept used:

$\cot 45 = 1$

We know that, $\cot A \cdot \cot B = 1$ when $A + B = 90$

Calculations:

$\cot 13^\circ \cot 27^\circ \cot 45^\circ \cot 63^\circ \cot 77^\circ$

Now using the concept we know, $\cot 13 \cdot \cot 77 = 1$ and $\cot 27 \cdot \cot 63 = 1$

$\cot 13^\circ \cot 27^\circ \cot 45^\circ \cot 63^\circ \cot 77^\circ = 1$

Question 91 :

The average of eight consecutive odd numbers is 48. Find the sum of the fifth and seventh numbers.

Difficulty : Moderate

Average Time : 50 Seconds

Options :

1. 102
2. 86
3. 89



90

Solution :

The correct answer is **option 1** i.e. **102**.

Calculations:

Let the 8 consecutive odd numbers be $2n + 1, 2n + 3, 2n + 5, 2n + 7, 2n + 9, 2n + 11, 2n + 13, 2n + 15$

According to the question;

$$2n + 1 + 2n + 3 + 2n + 5 + 2n + 7 + 2n + 9 + 2n + 11 + 2n + 13 + 2n + 15 = 48 \times 8$$

$$2n + 8 = 48$$

$$2n = 40$$

$$n = 20$$

$$\text{Required sum} = 2n + 9 + 2n + 13 = 4n + 22$$

$$4 \times 20 + 22 = 102$$

Question 92 :

The sides of a triangle are in the ratio $(\frac{1}{3}:\frac{1}{5}:\frac{1}{6})$. If the perimeter is 147 cm, then the length of the smallest side is _____.

Difficulty : Moderate**Average Time : 52 Seconds****Options :**

1. 12 cm
2. 25 cm
3. 30 cm
4. 35 cm

Solution :

The correct answer is **option 4** i.e. **35 cm**

Formula used:

Perimeter of triangle = Sum of all three sides

Calculations:



Three sides are in the ratio of $\left(\frac{1}{3}:\frac{1}{5}:\frac{1}{6}\right)$

Ratio = 10 : 6 : 5

Let the three sides be 10x, 6x, 5x

According to the question;

$$10x + 6x + 5x = 147$$

$$21x = 147$$

$$x = 7$$

Smallest side = 5x = 5 × 7 = 35 cm

Question 93 :

The ratio of the outer and the inner circumference of a circular path is 5 : 4. If path is 50 metres wide, then what is the radius of the inner circle?

Difficulty : Moderate

Average Time : 56 Seconds

Options :

1. 250 metres
2. 300 metres
3. 200 metres
4. 210 metres

Solution :

The correct answer is **option 3** i.e. **200 metres**

Concept used:

Ratio of circumference = ratio of radius

Calculations:

Using the above concept;

ratio of the outer and the inner radius = 5 : 4

Let the outer and inner radius be 5x and 4x

According to the question;



$$5x - 4x = 50$$

$$x = 50$$

$$\text{Radius of inner circle} = 4x = 4 \times 50 = 200 \text{ m}$$

Question 94 :

If $2a + 3b = 10$ and $ab = 3$, then find the value of $4a^2 + 9b^2$

Difficulty : Moderate**Average Time : 50 Seconds****Options :**

1. 60

2. 62

3. 64

4. 66

Solution :

The correct answer is **option 3** i.e. **64**

Given:

$$2a + 3b = 10 \text{ and } ab = 3$$

Formula used:

$$(a + b)^2 = a^2 + b^2 + 2ab \quad \text{---- (1)}$$

Calculations:

Using equation (1), we get

$$10^2 = 4a^2 + 9b^2 + 2 \times 18$$

$$100 - 36 = 4a^2 + 9b^2$$

$$4a^2 + 9b^2 = 64$$

Question 95 :

If $\sin^{-1}\left(\frac{1}{\sqrt{2}}\right)$, then the value of $(3\cos^{-1}\left(\frac{1}{\sqrt{2}}\right) - 4\cos^3\left(\frac{1}{\sqrt{2}}\right))$ is:

Difficulty : Moderate**Average Time : 53 Seconds****Options :**



0

2. 1

3. 2

4. -1

Solution :The correct answer is **option 1** i.e. 0**Formula used:**

$$\cos 3\theta = 3\cos\theta - 4\cos^3\theta \quad \text{---- (1)}$$

Calculations:We know that, $\sin\theta = 1/2$ when $\theta = 30^\circ$

Using equation (1), we get

$$3\cos\theta - 4\cos^3\theta = \cos 3\theta$$

$$\cos 3(30^\circ) = \cos 90^\circ = 0$$

Question 96 :Find the mean proportion of $\frac{a^3+b^3}{a-b}$ and $\frac{a^2-b^2}{a^2-ab+b^2}$ **Difficulty : Moderate****Average Time : 48 Seconds****Options :**

1. 1

2. $a + b$ 3. $\frac{a+b}{a-b}$ 4. $\sqrt{a+b}$ **Solution :**The correct answer is **option 2** i.e. $a + b$ **Concept used:**If x is the mean proportion of a and b then

$$x^2 = ab \quad \text{---- (1)}$$

**Calculations:**

Let the mean proportion be x .

Using equation (1), we get

$$x^2 = [(a^3 + b^3)/(a - b)] \times [(a - b)(a + b)/a^2 - ab + b^2]$$

$$x^2 = [(a + b)(a^2 - ab + b^2)/(a - b)] \times [(a - b)(a + b)/a^2 - ab + b^2]$$

$$x^2 = (a + b)(a + b)$$

$$x = a + b$$

Question 97 :

Numbers divisible by 9 between 43 and 481 are:

Difficulty : Moderate

Average Time : 68 Seconds

Options :

1. 51

2. 49

3. 48

4. 50

Solution :

The correct answer is **option 2** i.e. **49**

Formula used:

Nth term of the AP

$$T_n = a + (n - 1)d \quad \text{---- (1)}$$

Where T_n = nth term, a = first term, n = number of terms and d = difference

Calculations:

First number and last number that are divisible between 43 and 481 are 45 and 487.

$$T_n = 487, a = 45, d = 9$$

Using equation (1), we get

$$487 = 45 + (n - 1)9$$



$$53 = 5 + n - 1$$

$$n = 49$$

Question 98 :

A and B can complete a piece of work in 10 and 16 days respectively. A begins to do the work and they work alternatively one at a time for one day each. The whole work will be completed in :

Difficulty : Moderate**Average Time : 59 Seconds****Options :**

1. $\frac{12}{4}$ days
2. $\frac{13}{4}$ days
3. $\frac{15}{4}$ days
4. $\frac{14}{4}$ days

Solution :

The correct answer is **option 1** i.e. $\frac{12}{4}$ days

Calculations:

Total work (LCM of 10 and 16) = 80 units

Efficiency of A = $80/10 = 8$

Efficiency of B = $80/16 = 5$

Work done in 2 days, if they work alternatively starting with A

2 days = 13 unit work

12 days = 78 unit work

Remaining work is completed by A = $2/8 = 1/4$

Hence total time = $12 + 1/4 = 12(1/4)$ days

Question 99 :

The following pie chart show the number of start-ups started in various sectors since 2016 and the number of successful start-ups in those sectors respectively. Out of all the start-ups that started since 2016, what percentage (approx. up to two decimal places) started in travel sector?

Difficulty : Moderate**Average Time : 62 Seconds**

**Options :**

1. 13.12%
2. 12.19%
3. 12.91%
4. 13.21%

Solution :

The correct answer is **option 3** i.e. **12.91%**

Calculations:

Number of travel startups = 324

Total startups = 560 + 720 + 256 + 650 + 324 = 2510

Required percentage = $(324/2510) \times 100 = 12.91\%$

Question 100 :

If the volume of a sphere is $179 \frac{2}{3}$ m³, what is its surface area?

Difficulty : Moderate**Average Time : 36 Seconds****Options :**

1. 221 m²
2. 154 m²
3. 144 m²
4. 151 m²

Solution :

The correct answer is **option 2** i.e. **154 m²**

Formula used:

Volume of sphere = $(\frac{4}{3})r^3$ ---- (1)

Surface area of sphere = $4r^2$ ---- (2)

Calculations:

Let the radius of the sphere be r.



Using equation (1), we get

$$179(2/3) = (4/3) \times (22/7) \times r^3$$

$$r^3 = 343/8$$

$$r = 7/2$$

Using equation (2), we get

$$\text{Surface area of sphere} = 4 \times (22/7) \times (7/2) \times (7/2)$$

$$154 \text{ m}^2$$

Ssc Cgl Tier I Previous Year Question Paper Analysis

The analysis of Ssc Cgl Tier I Previous Year Question Paper held on 2022-12-06 in the Afternoon exam is as follows:

1. 100 questions were moderate.
2. The safe score is 140 marks.
3. 25 questions were asked from Quantitative Aptitude, 25 questions were asked from Logical Reasoning, 25 questions were asked from English Language and 25 questions were asked from General Awareness
4. 21 questions should have been skipped if you were short of time.

Ssc Cgl Tier I Previous Year Question Paper Topic Wise Weightage

Quantitative Aptitude

1. Average - 1
2. Percentage - 1
3. Data Interpretation - 4
4. Time And Work - 1
5. Time Speed And Distance - 1
6. Interest - 1
7. Ratios And Proportion - 1
8. Geometry - 3
9. Trigonometry - 3
10. Mensuration - 2



- Algebra - 3
- 12. Number System - 1
- 13. Profit And Loss - 2
- 14. Arithmetic - 1

Logical Reasoning

- 1. Coding Decoding - 2
- 2. Analogy - 5
- 3. Classification - 2
- 4. Blood Relations - 2
- 5. Syllogism - 2
- 6. Dictionary Based - 1
- 7. Figure Based - 2
- 8. Series - 3
- 9. Mathematical Reasoning - 3
- 10. Cubes And Dice - 1
- 11. Seating Arrangement And Puzzle - 2

English Language

- 1. Grammar - 1
- 2. Cloze Test - 5
- 3. Parajumbles - 1
- 4. Sentence Jumbles - 1
- 5. Idioms - 1
- 6. One Word Substitution - 2
- 7. Narration - 1
- 8. Voice - 2
- 9. Sentence Improvement - 2
- 10. Synonym - 1
- 11. Antonym - 3
- 12. Filler (Vocab) - 1
- 13. Filler (Grammar) - 2
- 14. Incorrectly Spelt - 2
- 15. Incorrectly Spelt - 2

General Awareness

Art And Culture - 25

Ssc Cgl Tier I Previous Year Question Paper Tips and Tricks



1. Try to solve Ssc Cgl Tier I Previous Year Question Paper without taking any help from the solutions.
2. Ssc Cgl Tier I Previous Year Question Paper require proper usage of concept so firstly read the question thoroughly and then use the right concept.
3. In case you're not able to solve the question in less than 30 seconds in the exam then you should skip the question and move to the next question.

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