

TCS NQT Model Question Paper



Aptitude Questions

Q1. What is the fourth proportional of 0.006, 1.2 & 6/25?

- A. 36
- B. 48
- C. 4.8
- D. 3.6

Answer: Option B

Explanation:

Let the fourth proportional be x

Then,

$$0.006: 1.2 :: 6/25 : x$$

$$0.006 * x = 1.2 * 6/25 \text{ (Since Product of means = Product of extremes)}$$

$$x = (1.2*6)/(25*0.006)$$

$$x = 7.2/0.15$$

$$x = 48$$

Q2. Two ants of length 1 cm and 1.2 cm crawl in opposite directions with average speeds of 2 and 3 mm per second respectively. How many seconds will they take to cross each other?

- A. 4.4
- B. 2.8
- C. 0.4

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D. 1.5

Answer: Option A

Explanation:

Relative distance to be covered = Sum of the lengths of ants

$$= 1 + 1.2$$

$$= 2.2 \text{ cm}$$

$$= 22 \text{ mm (1 cm = 10 mm)}$$

Relative speed when bodies move in opposite directions = Sum of the speeds

$$= 2 + 3$$

$$= 5 \text{ mm per second}$$

Time taken to cross each other = Relative distance / Relative speed

$$= 22/5$$

$$= 4.4 \text{ seconds}$$

Q3. The index numbers of five commodities are 121, 123, 125, 126, 128 and the weights assigned to these are respectively 5, 11, 10, 8, 6. Then what is the weighted average index number?

A. 123.8

B. 124.2

C. 124.6

D. 125.2

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Answer: Option C

Explanation:

Weighted average = Sum of all the weights / Total number of weights

Sum of all the weights = $121 \times 5 + 123 \times 11 + 125 \times 10 + 126 \times 8 + 128 \times 6$

= $605 + 1353 + 1250 + 1008 + 768$

= 4984

Number of weights = $5 + 11 + 10 + 8 + 6$

= 40

Weighted average = $4984 / 40$

= 124.6

Q4. Which one among the following has the least value?

A. $\sqrt{75} - \sqrt{74}$

B. $\sqrt{74} - \sqrt{73}$

C. $\sqrt{77} - \sqrt{76}$

D. $\sqrt{76} - \sqrt{75}$

Answer: Option C

Explanation:

Rationalizing the options

$$\sqrt{75} - \sqrt{74} * (\sqrt{75} + \sqrt{74}) / (\sqrt{75} + \sqrt{74}) = 1 / (\sqrt{75} + \sqrt{74})$$

$$\sqrt{74} - \sqrt{73} * (\sqrt{74} + \sqrt{73}) / (\sqrt{74} + \sqrt{73}) = 1 / (\sqrt{74} + \sqrt{73})$$

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$$\sqrt{77} - \sqrt{76} * (\sqrt{77} + \sqrt{76})/(\sqrt{77} + \sqrt{76}) = 1/(\sqrt{77} + \sqrt{76})$$

$$\sqrt{75} - \sqrt{74} * (\sqrt{75} + \sqrt{74})/(\sqrt{75} + \sqrt{74}) = 1/(\sqrt{75} + \sqrt{74})$$

Comparing all the fractions, $1/(\sqrt{77} + \sqrt{76})$ is the least value as its denominator is the greatest

Q5. A sum was lent to Ravi for three years by an organization that fixed a yearly rate of 10% compound Interest for repayment along with the condition of recovery in equal installments of Rs.31944. What percentage (correct to two decimal places) above the borrowed amount Ravi had to pay the organization?

A. 18.43

B. 21.25

C. 16.52

D. 20.63

Answer: Option D

Explanation:

Let x be the amount borrowed.

After one year amount will be = $1.1x$

Amount remaining after paying the first installment = $1.1x - 31944$

For the next year, this amount acts as the principal

After second year amount will be = $1.1(1.1x - 31944)$

= $1.21x - 35138.4$

Amount remaining after paying the second installment = $1.21x - 35138.4 - 31944$

= $1.21x - 67082.4$

This acts as principal for the third year

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After third year, amount will be = $1.1(1.21x - 67082.4)$

$$= 1.331x - 73790.64$$

This amount should exactly be equal to the final installement.

$$\text{Hence, } 1.331x - 73790.64 = 31944$$

$$1.331x = 105734.64$$

$$x = 105734.64/1.331$$

$$x = 79440$$

Borrowed amount = 79440

Amount paid = 31944×3

$$= 95832$$

Percentage of extra amount paid = $(95832 - 79440)/79440 \times 100$

$$= (16392/79440) \times 100$$

$$= 20.63\%$$

Reasoning Questions

Q1. Among 5 objects P, Q, R, S and T

- i. R is twice as heavy as T
- ii. S is one and half times as heavy as Q
- iii. Q and R together weigh as much as S and T together
- iv. P and S together are one and half time as heavy as Q and T together

Which among the five is the heaviest of all?

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A. Q

B. S

C. P

D. R

Answer: Option B

Explanation:

From statement (i), $R = 2T$ --- Eq (1)

From statement (ii), $S = 1.5Q$ --- Eq (2)

From statement (iii), $Q+R = S+T$ --- Eq (3)

From statement (iv), $P+S = 1.5(Q+T)$ --- Eq (4)

Substitute Eq (1) and Eq (2) in Eq (3)

$$Q+2T = 1.5Q+T$$

$$0.5Q = T$$

$$Q = 2T \text{ --- Eq (5)}$$

Substitute Eq (5) in Eq (2)

$$S = 1.5(2T)$$

$$S = 3T \text{ --- Eq (6)}$$

Substitute Eq (5) and Eq (6) in Eq (4)

$$P+3T = 1.5(2T+T)$$

$$P+3T = 4.5T$$

$$P = 1.5T$$

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Now, it is obvious that T will be a positive value as T is the weight of a person.

So, among all the above values, $S = 3T$ will be highest and hence S will be the heaviest of all.

Q2. There are five rods K, L, M, N and O. The weight of O is twice L. The weight of L is equal to the weights of K and M together. The weight of M is twice the weight of K. The weight of N is three times the weight of M. If the weight of N is 90 kg, what will be the weight of O?

A. 120 kg

B. 60 kg

C. 105 kg

D. 90 kg

Answer: Option D

Explanation:

Given,

The weight of O is twice L

$$O = 2L \text{ --- Eq (1)}$$

The weight of L is equal to the weights of K and M together

$$L = K+M \text{ --- Eq (2)}$$

The weight of M is twice the weight of K

$$M = 2K \text{ --- Eq (3)}$$

The weight of N is three times the weight of M

$$N = 3M \text{ --- Eq (4)}$$

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Given, $N = 90 \text{ kg}$ --- Eq (5)

From Eq (4), $3M = 90$

$M = 30$ --- Eq (6)

Substitute Eq (6) in Eq (3)

$30 = 2K$

$K = 15$

Substitute the value of K and M in Eq (2)

$L = 15 + 30 = 45$

Now, substitute the value of L in Eq (1)

$O = 2(45) = 90$

Q3. Which is the odd term in the following series?

CMQ, FPT, JTX, OYC, UFI

A. FPT

B. OYC

C. JTX

D. UFI

Answer: Option D

Explanation:

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CMQ: The difference between C and M is 10. The difference between M and Q is 4.

FPT: The difference between F and P is 10. The difference between P and T is 4.

JTX: The difference between J and T is 10. The difference between T and X is 4.

OYC: The difference between O and Y is 10. The difference between Y and C is 4 (Here, the place value of C is 29 because, after Z which is the 26th letter, the 27th letter will be A, the 28th letter will be B and so on)

UFI: The difference between U and F is 11 (Here the place value of F is 32). The difference between F and I is 3.

So, UFI is the odd term of the given series.

Verbal Ability

Q1. For the four sentence (S1 to S4) paragraph given below, sentences S1 & S4 are given. From the options P, Q and R, choose appropriate sentences for S2 & S3.

S-1: Some of the earliest currencies were objects from nature.

S-2:

S-3:

S-4: They were similar in size, small and durable.

Although they may seem a pretty random choice the shells had a number of advantages. A notable example is cowrie shells first used as money about 1200 BCE. Counterfeiting dates to the invention of money.

QP

RQ

PQ

PR

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Answer: Option A

Explanation:

In order to find the appropriate sentences to be fixed as S-2 and S-3, let us first try to relate the given optional sentences (P, Q, R) with respect to the fixed ones (S-1 and S-4).

If we consider the last sentence (i.e. S-4), there is a pronoun 'They' (They were similar in size, small and durable). We know that a pronoun can be introduced only after the introduction of a noun. Is the noun for this pronoun 'They' introduced in any of the fixed part of the paragraph?

No. If we consider the first sentence S-1, there is a noun, 'objects from nature'. But this is not the noun for the pronoun in S-4. Because the noun in S-1, in general, represents some objects from nature which are considered as currencies. But S-4, in specific, describes a particular object that is similar in size, small and durable. One such specific object from nature is introduced as a noun in which of the given four optional sentences?

Yes. One such specific object from nature is introduced in sentence Q (A notable example is cowrie shells first used as money about 1200 BCE). So, the noun for the pronoun in S-4 is 'Cowrie shells' which is introduced in sentence Q. So, sentence Q should definitely be included as a part in the answer option.

Now in order to find the order for sentence Q, we have to first find the other sentence to be related to the paragraph. Between the remaining two optional sentences P and R, which one can be related to the paragraph?

Yes. The phrase given in R is not even a sentence. It can be a title to the paragraph, but it cannot be related as a part of the paragraph. So, the other sentence to be related to the paragraph is sentence P. Also in sentence P, there is a pronoun 'they' (Although they may seem). The noun for this pronoun should also be 'Cowrie shells' which is introduced in sentence Q. As a pronoun can only follow the noun, the order in which the sentences are to be fixed in S-2 and S-3 is Q and P respectively (The sentence P with the pronoun can only follow the sentence Q with the noun). One such required order of QP is given in option A and hence is the correct answer.

Q2. Select the part of the sentence with error.

Since sunrise to sunset my grandmother would sit by her wheel spinning and reciting prayers.

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No error

My grandmother would sit by her wheel
Spinning and reciting prayers
Since sunrise to sunset

Answer: Option D

Explanation:

In the given sentence the time period is represented as 'Since sunrise to sunset'.

Here the given time period is a specific duration with a definite start and end time. In order to represent a specific time duration with a definite start and end time we use the prepositions 'from' and 'to'. Example: From 5 a.m. to 10 a.m., From Monday to Thursday etc..

Also the preposition 'since' is used to represent the start time of an action/ a happening which had started some time in the past and is still in progress even at the time of reporting. Example: The unit has been functioning great since 2013.

As the time reference presented in the question is with respect to a definite start and end time (sunrise and sunset) the appropriate preposition to be used in the given context is 'From ... to...'.

Thus, the use of the preposition 'since' in the sentence is not correct and so the part 'Since sunrise to sunset' is the one which has error in it. This part is given in option D and hence is the correct answer. If we correct the error, the correct sentence is 'From sunrise to sunset my grandmother would sit by her wheel spinning and reciting prayers.'

Q3. Choose the option that best fits the blank(s).

The candidates _____ certificates the office could not verify were not permitted to appear before the interview board.

Whom
Whose
Who
Which

Answer: Option B

Explanation:

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The word that precedes the blank is 'The candidates' and the word that follows the blank is 'certificates'. From the context it can be understood that 'the certificates belong to the candidates' or 'the candidates possess the certificates'.

If we consider the given options, all the options (whom, whose, who, which) are relative pronouns.

So, from the context it can be understood that the required relative pronoun to be fitted in the blank should reflect the sense of possession.

One such relative pronoun that reflects the sense of possession is 'whose' which is given in option B. Hence option B is the correct answer. If we relate the same, the correct sentence is 'The candidates whose certificates the office could not verify were not permitted to appear before the interview board.'

Use of other options:

'Whom' is used to represent a person when the person is in the object position of the verb.
Example: I submitted the proposal to the person whom I met yesterday.

'Who' is used to represent a person when the person is in the subject position of the verb.
Example: The person who received the proposal has approved the project.

'Which' is used to represent things and animals. Example: I read the letter which was delivered today.

Q4. Read the passage given below and answer the questions.

It's apparently humankind's fate never to stop writing the history of pandemics. No matter how often they occur - and they do occur with great frequency - we collectively refuse to think about them until circumstances demand it. Then, when the immediate crisis passes, we put it out of our minds as quickly as possible. And so, we again are unprepared when the next contagion - in this case, COVID-19 - bursts upon us. Richard Conniff traces this alarming cycle in "How devastating pandemics change us," this month's cover story. It examines our long relationship with infectious diseases, from the hard lessons we've been forced to learn to the brave, and often difficult, characters who've risked their lives to save us.

Smallpox taught us that we could prevent disease through inoculation and, as the 1700s ended, vaccination. By the mid-1800s, cholera's lesson was about sanitation and the need for centralized water and sewer systems. About the same time, one man we've all heard of, Louis

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Pasteur, and one many of us haven't, Robert Koch, became the co-fathers of germ theory. Tools they created are still used to identify and fight what Conniff calls "an astonishing rogues' gallery of deadly pathogens."

And yet here we are, again, fighting on two fronts: the first, against a new coronavirus sweeping the planet to devastating effect; the second, with each other, over domestic and international politics and whether we're willing to pay the price of prevention.

It's an important question for our planet. While we debate, the next pandemic draws nearer.

Q4. Which statement is CORRECT according to the passage?

- Research about vaccines is not reliable
- All pandemics are not to be feared
- Pandemics keep occurring periodically
- There is no solution for a pandemic

Answer: Option C

Explanation:

Option A:

In option A, it is stated that 'Research about vaccines is not reliable'. But the author did not represent one such idea of the vaccines being not reliable in any part of the passage.

In the second paragraph, it is also presented that 'Tools they created (related to germ theory and vaccination) are still used to identify and fight what Conniff calls "an astonishing rogues' gallery of deadly pathogens".' From this statement it can be understood that the concept of vaccination is originally supported in the passage. As this idea contradicts the one given in option A, it cannot be the correct answer.

Option B:

In option B, it is stated that 'All pandemics are not to be feared'.

If we consider the first paragraph, it is presented that 'when the immediate crisis passes, we put it out of our minds as quickly as possible. And so, we again are unprepared when the next contagion - in this case, COVID-19 - bursts upon us.'

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From these lines, it can be understood that according to the author, if we put the learnings from a crisis out of our minds, we become unprepared for the next one. So, the learnings are required to be retained to be prepared for the forthcoming crisis. This requirement also validates the fact that the upcoming crisis are also associated with ill features. In that case it is inappropriate to say that all pandemics are not to be feared. So, option B is not true according to the passage. <https://www.freshersnow.com/placement-papers-download/>

Option C:

Option C is given as: 'Pandemics keep occurring periodically'.

In the first paragraph it is stated that, 'No matter how often they occur - and they do occur with great frequency - we collectively refuse to think about them until circumstances demand it.'

From these lines, it can be understood that the statement 'Pandemics keep occurring periodically' is true according to the passage. So, option C is the correct answer.

Option D:

The statement given in option D is: 'There is no solution for a pandemic'.

The second paragraph altogether describes solutions achieved for different pandemics in the past. In that case, the statement given in option D (There is no solution for a pandemic) is also not true according to the passage. So, it cannot be the correct answer.