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UPSC CSE PRELIMS 2025 TEST SERIES

GRAND TEST-2

GENERAL STUDIES PAPER-II (CSAT)

Key and Explanation

Sol.1 Option c is the correct answer

Statement a is incorrect. The passage states “Dark patterns are practices or dishonest design patterns that use User Interface (UI)/User Experience (UX), interactions on any platform to deceive users into doing something they either did not intend or want to do”. However, the statement does not best reflect the most critical and logical inference that can be made from the passage as it does not highlight the consequence of using dark patterns.

Statement b is incorrect. Though the passage states “With the advent of ride-hailing apps in India, urban mobility has transformed significantly”, the statement does not best reflect the most critical and logical inference that can be made from the passage as it does not mention use of dark patterns.

Statement c is correct The statement best reflects the most critical and logical inference that can be made from the passage as it highlights the consequence of using dark patterns. It is mentioned in the passage as “the growth trajectory of these apps (ride hailing apps) is closely linked to their slightly concerning use of 'dark patterns'. This practice utilises undermining and impairing the user's autonomy, decision-making, or choice.”

Statement d is incorrect Though the passage highlights the ill consequences of using dark patterns by ride hailing apps, it does not make a case for regulation and monitoring the use of dark patterns. Therefore, the statement does not best reflect the most critical and logical inference that can be made from the passage.

Sol.2 Option d is the correct answer

Statement a is incorrect. The passage states “Indian cities like Delhi, Bombay and Bangalore have immense potential but struggle to match global destinations.” However, the statement does not best reflect the most logical and rational inference that can be made from the passage as it does not highlight what can be done to improve Indian cities.

Statement b is incorrect. Though the passage states “Bangkok thrives on its efficient metro, vibrant street life, and tourist-friendly policies”, the statement does not best reflect the most logical and rational inference that can be made from the passage as it highlights only aspects of the passage i.e. tourism in cities.

Statement c is incorrect. Though the passage highlights “green spaces” in London and “clean governance” in Singapore, the statement does not best reflect the most logical and rational inference that can be made from the passage as it highlights one aspect of urban development.

Statement d is correct. The statement best reflects the most logical and rational inference that can be made from the passage as it states how Indian cities could be transformed. It is mentioned in the passage as follows “To compete, Indian cities need bold urban reforms and world-class infrastructure. The time for change is now, and the next decade will determine the fate of our cities.”

Sol.3 Option c is the correct answer

Option a is incorrect: There is no discussion of artificial coral reefs as an alternative livelihood for the protection of natural coral reefs. So, this option is beyond the scope of the passage. The author only discusses solutions like integrated and participatory approaches to reef management, selective tourism and controlled local use of coral reefs.

Option b is incorrect: Refer to the line: “Such approaches include identifying and supporting alternative livelihoods to reduce dependence on coral reefs.” The author does talk about dependence on coral reefs. It is possible that marine biodiversity would be affected by overdependence and the associated exploitation. However,

we cannot say that it would not happen in developed countries. There is no concrete information given the passage to conclusively establish this claim. So, this is not the crux of the passage.

Option c is correct: The lines “The connection between poverty and coral reef ecosystems are significant: two-thirds of all countries with reef areas are developing countries, and a quarter of these are least developed countries.” and “Selective tourism can regulate the level of carrying capacity of the coral reef environment. In the case of selective tourism, the protection of flora and fauna can be done through notification and monitoring of the environment”, clearly demonstrating that selective tourism can help in coral protection in developing and least-developed countries.

Option d is incorrect: Practicing selective tourism is good for coral conservation but the context of uniform policy regulation, that too globally, is not a part of the passage. There could be region wise variations in the exploitation of coral reefs. Therefore, it would be imprudent to recommend a globally uniform regulation.

Sol.4 Option b is the correct answer

Statement 1 is incorrect. Though the passage states “India’s rural areas are at the forefront of environmental challenges, grappling with both the consequences of fossil fuel use and inadequate waste management systems”, it is silent on the comparative status of the waste management systems in rural and urban regions. Therefore, the assumption is incorrect. **Statement 2 is correct.** The passage states “the potential of technologies to convert this waste into renewable energy and fertilisers remains largely. Utilising such technologies would not only address resource depletion but also offer economically viable and eco-friendly energy solutions.” From here we can infer that the assumption is correct.

Sol.5 Option c is the correct answer

Let original male no. be $(100x)$,
so that original female no. is $(6000-100x)$.
no. Of men increased by 10%, new men no. is $(110x)$.
Women no. increased by 20% , New women no. is $((6000-100x) \times (120/100)) = (7200-120x)$.
New total population is $(7200-120x) + (110x) = 6800$.
 $x=40$.
Hence, Original men no. is $100 \times 40 = 4000$
and Original women no. is $6000 - 4000 = 2000$.

Sol.6 Option b is the correct answer

The coins are in the denominations of 1, 2, 5 and the total number of coins are 300. Let the number of coins of 1, 2 and 5 are x , y and z respectively.
Then, $x + y + z = 300$... (1)
The total amount is 960
 $\rightarrow x + 2y + 5z = 960$... (2)
If 1-rupee and 2-rupee coins are interchanged.
Then $y + 2x + 5 = 920$... (3)
Solving equation (1), (2) and (3),
we get $x = 60$, $y = 100$, $z = 140$ Hence, the number of 5-rupee coins is 140.

Sol.7 Option c is the correct answer

The average price of a book (for all 15 books) is ₹600.
If we assume the average price of the 13 books from Amazon to be 'A', then from the second statement, we can see that:
 $\frac{1}{6} \times 600 = \frac{1}{5} A$
 $A = 500$
So, the total price of the 13 books from Amazon would be $13 \times 500 = 6500$.
Thus, the total price of two books purchased from McGraw-Hill = 2500.
If the price of these two books are X and Y respectively, we get:

$$X + Y = 2500 \text{ \& } X/3 = Y/2$$

$$X = 1.5y$$

On solving we get $X = 1500$ and $Y = 1000$.

Sol.8 Option c is the correct answer

Let the cost price of cell phone be $100x$ rupees

Selling price at which Gopal sold cell phone = $100x + 10\%$ of $100x$

$$\Rightarrow 110x$$

Cost price of cell for Ram will be $110x$

Selling price of the cell phone by Ram = $110x - 10\%$ of $110x$

$$\Rightarrow 99x$$

Profit per cent for Gopal = $(100x - 99x)/100x \times 100$ (He get a profit of x rupees on cost price of $100x$)

$$\Rightarrow 1\%$$

Alternate Solution - Assume original cost price = 100rs (Gopal spend)

Sold to ram for 10% profit = 110rs (Gopal gets)

Ram sold to gopal at 10% loss = $110 - 11 = 99\text{rs}$ (Gopal Spends)

Total gain for Gopal $100\text{rs} - 99\text{rs} = 1\text{rs}$.

Sol.9 Option d is the correct answer

Let the total work be n .

For W, 25% of $n = 30$ days

For W, $n = 30 \times 4 = 120$ days

For X, $1/4$ of $x = 10$ days

For X, $n = 40$ days

For Y,

40% of $n = 40$ days

Y can do a work = $40 \times (100/40) = 100$ days

And for Z,

$1/3$ of $n = 13$ days

So, Z can do work = 39 days . Therefore, Z can complete the work first.

Sol.10 Option c is the correct answer

Let suppose milkman has 100 litre of milk, If he added k litre of water, the percentage of water in the mixture = $k/(100 + k) \times 100$

The milk gained 25% , he must have added 25 litre water in 100 litres of milk. Then the percentage of water in the mixture

$$= 25/(100 + 25) \times 100 = 20\%$$

In the new mixture, If the milk is 80% then 80% of total mixture should be 100 litre

$$(100 + k) \times 80/100 = 100$$

$$8x = 200$$

$$k = 25$$

Then, the percentage of water in the mixture = $25/(100 + 25) \times 100 = 20\%$

Sol.11 Option d is the correct answer

Thus the total number of numbers starting from 1 are given by the sum of 1 to $7 = 28$.

Number of numbers starting from 2 - would be given by the sum of 1 to $6 = 21$

Number of numbers starting from 3 - sum of 1 to $5 = 15$

Number of numbers starting from 4 – sum of 1 to $4 = 10$

Number of numbers starting from 5 - sum of 1 to $3 = 6$

Number of numbers starting from $6 = 1 + 2 = 3$

Number of numbers starting from $7 = 1$

Thus a total of: $28 + 21 + 15 + 10 + 6 + 3 + 1 = 84$ such numbers.

Sol.12 Option d is the correct answer

The code of a word is formed by dividing the number of letters into two equal parts (each part have 4 alphabets) and then reversing the order of the letters in each part as following:

The word FRACTION has 8 letters, hence we will divide the number of letters into two parts of four-letter each and then we will reverse the order of letters in each part.

Similarly, CARFNOIT is the code for the word FRACTION.

Sol.13 Option b is the correct answer

Option A is incorrect. The passage focussed on the supply side aspect of population rise ensuring food security even in the times of rapid population rise. Population control measures is a demand side aspect which is beyond the scope of this passage.

Option B is correct. The passage cites an IPCC report which says that a shift towards a more plant-based diet is considered a healthy and sustainable dietary option. Hence, this shift in dietary habits can help in combating climate change.

Option C is incorrect. It is mentioned that a plant-based diet is a healthy and sustainable dietary option. There is also a need to augment food supplies per unit availability of water. However, it would be incorrect to infer that conservation of water resources can offset the need to shift to plant-based diets.

Option D is Incorrect. The passage recommends a MORE plant-based diet and low meat diets. It would be an exaggeration to say that ONLY plant-based diets should be consumed to prevent climate change.

Sol.14 Option c is the correct answer

Statement 1 is correct. The passage delineates low meat consumption and more plant-based diets to prevent climate change. It means that the author has assumed that a high animal-based diet results in an increase in release of greenhouse gases in the environment.

Statement 2 is also correct. The author is serious about the challenges posed by climate change. She cites IPCC report on sustainable dietary habits and UN study on the climatic impact of rapid population increase. Hence, it can be safely assumed that the threat of climate change is real.

Sol.15 Option d is the correct answer

Assumption 1 is incorrect. The passage mentions, —Per capita consumption of the poorest households, therefore, continue to be amongst the lowest in the world and by some estimates, nutritional intakes (particularly calories) have been declining for all income groups since the 1980sll. So, the impact of low per capita consumption and poor nutritional intake is clearly discussed. However, the effect of „per capita income“ per se on malnutrition, stunting or infant mortality rate is nowhere discussed. So, this assumption is incorrect.

Assumption 2 is also incorrect. It is given, —... (National Rural Employment Guarantee Act, NREGA) has similarly been beset with concerns about poor targeting and misappropriationll. So, misappropriation of funds is one of the issues of NREGA. Also, it is given that —...leakages from the PDS are large and grains are often siphoned off to the open marketll. So, another issue with PDS is „leakage“. The passage merely talks about these issues. It has nowhere mentioned that the schemes have failed due to these issues. Moreover, the passage seems to be focused more on implementation issues, than policy-making. So, this assumption is also incorrect.

Sol.16 Option d is the correct answer

Option (a) is correct. The passage mentions, —However, leakages from the PDS are large and grains are often siphoned off to the open marketll. And, “State agencies responsible need to be more vigilant.” So, the passage mentions leakages as an important reason for the ineffectiveness of social security programmes. So, the „minimization“ of leakages and proper „monitoring“ of social security programmes in India is a correct inference.

Option (b) is correct. It is given in the passage, —The ineffectiveness of the PDS in providing food security to the most vulnerable is exemplified by research which shows that long term exposure to a sudden increase in the price of rice supplied by the public distribution system in the state of Andhra Pradesh had no effect on weight-for-age of children. Per capita consumption of the poorest households, therefore, continue to be amongst the lowest in the world and by some estimates, nutritional intakes (particularly calories) have been declining for all income groups since the 1980s. The second largest social protection program which provides the right to employment (National Rural Employment Guarantee Act, NREGA) has similarly been beset with concerns about poor targeting and misappropriation. So, it can be clearly inferred that poor targeting is one of the reasons behind prevalence of poverty and malnutrition. Hence, this statement is correct.

Option (c) is incorrect. It is given in the passage, —The ineffectiveness of the PDS in providing food security to the most vulnerable is exemplified by research which shows that long term exposure to a sudden increase in the price of rice supplied by the public distribution system in the state of Andhra Pradesh had no effect on weight-for-age of children. So, the passage talks about the ineffectiveness of PDS which can be one of the reasons for malnutrition. This cannot be assumed to be the „sole“ reason. So, this statement is incorrect.

Since options (a) and (b) are correct, option (d) is the best answer.

Sol.17 **Option b is the correct answer**

Calculating the number of odd days in 1947 = 1600 + 300 + 46 years

1600 years has 0 odd days

300 years has 1 odd day

47 years has 11 leap years and 36 normal years which is $11 \times 2 + 36 \times 1 = 58$ odd days or simply 2 odd days.

In 1947, the number of days up to 15 august, $31 + 28 + 31 + 30 + 31 + 30 + 31 + 14 = 226$ or 2 odd days.

Total odd days is $1 + 2 + 2 = 5$ odd days.

So, the required day was Friday.

Sol.18 **Option a is the correct answer**

Since the sum of the numbers is the same on each of the cards, and 3 given numbers are even, sum of this and the prime number on other side of card must be odd.

It must be noted that only 39 is odd and all other numbers mentioned on the cards are even.

And, all prime numbers except 2 are odd.

Also we know- Odd + even = Odd

And Even + Odd = Odd

So, in order to ensure that the sum of numbers on both sides of each card is the same.

Card A must have 39 and 2 (since 2 is the only even prime number) $\Rightarrow$ Odd + Even = Odd Hence sum of numbers on Card A is $39 + 2 = 41$.

This means the sum of both the numbers on each card must be 41.

Therefore, B has 24 and 17; C has 34 and 7; D has 12 and 29.

From this, the second largest number is 34 and the second smallest number is 7.

The required difference is $34 - 7 = 27$.

Sol.19 **Option a is the correct answer**

The logic followed here is:

1. A is second to the right of B, who faces Q.

2. There are as many girls between E and F as between A and B. (It means B and E are sitting in the middle of the row because this condition only fulfills in that condition)

3. F is extreme left and faces O.

4. M is fourth left of O and R is third right of M.

5. N is third right of P, who faces A.

O R N Q M P (Facing South)

F _ E B _ A (Facing North)

(Here A faces P and A sits at the extreme end, so P also sits at the extreme end. So if M is fourth left of O, then O will also sit at the extreme end of the row.)

Final sitting arrangement is this: Position of C and D is not clear, so they can sit in either place.

O R N Q M P (Facing South)

F (D/C) E B (C/D) A (Facing North)

From the diagram, C/D face R.

Thus, the correct answer is "C/D".

Sol.20 Option d is the correct answer

Let, Speed of train X and Y are $5x$ and $6x$ respectively.

Length of tunnel = $135 + 151 = 286$ m.

After 10 seconds; Total distance they cover just before meeting is the length of the tunnel = 286 meters

Distance covered = Relative Speed of both trains * Time Taken = 286m

hence, Relative Speed = $286/10 = 28.6$ m/s

Now, $5x + 6x = 28.6$

$\Rightarrow x = 2.6$

Therefore, Speed of train X = 13 m/s.

Distance covered by train X = $13 \times 10 = 130$ m.

Hence, length of train X leaves out = $135 - 130 = 5$ m.

Sol.21 Option c is the correct answer

Numbers that end in 1 = 4

Numbers that end in 2 = 5

Numbers that end in 3 = 1

Numbers that end in 4 = 2

Numbers that end in 5 = 4

Numbers that end in 6 = 1

Numbers that end in 7 = 0

Numbers that end in 8 = 1

Numbers that end in 9 = 0

Hence, total numbers are 18. Hence c.



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Sol.22 option c is the correct answer

Symbolic definition

'P + Q' means 'P is mother of Q'

'P x Q' means 'P is sister of Q'

'P - Q' means 'P is father of Q'

'P ÷ Q' means 'P is brother of Q'

Expression- $AxB-C\div D\div ExV+M$

Let's look at only the portion that connects C to M, since we are finding C's relation to M:

Focus on: $C\div D\div ExV+M$

Start from the innermost/rightmost operations:

$V+M \Rightarrow V$ is mother of M

$E \times V \Rightarrow E$ is sister of V

So E is maternal aunt of M (since V is M's mother) \

$D\div E \Rightarrow D$ is brother of E

So, D is maternal uncle of M (since E is M's maternal aunt)

$C\div D \Rightarrow C$ is brother of D

Since D is maternal uncle, and C is D's brother, C is also a maternal uncle of M.

Sol.23 option a is the correct answer

Amit's clock gains 20 minutes every 4 hours .

It was set correctly at 12:00 a.m. on Tuesday. We are to find the actual time when the clock shows 8:00 p.m. on Thursday.

We shall first Calculate the elapsed time on the clock

From 12:00 a.m. Tuesday to 8:00 p.m. Thursday:

Tuesday: 24 hours

Wednesday: 24 hours

Thursday: 20 hours (from 12:00 a.m. to 8:00 p.m.)

Total time passed according to the clock = $24 + 24 + 20 = 68$ hours

Amit's clock moves 20 minutes fast in every 4 hours, so it gains 20 minutes in every 4 hours.

Number of 4-hour intervals in 68 hours = $68/4 = 17$

Total gain = 17×20 minutes = 340 minutes = 5 hours 40 minutes

Clock shows: 8:00 p.m. Thursday It is ahead by 5 hours 40 minutes

The correct time is 2:20 p.m. on Thursday.

Sol.24 Option a is the correct answer

Given that there is a leisured population due to mechanization of economy, the author discusses how to best channelize this leisured population. This makes option (d) incorrect. Let's consider the other options.

Option (a) is correct: The passage clearly outlines the advantages of an educated population. It is happy; it is aware of the intelligent activities and interests to make best use of the leisure time; it enjoys the technical knowledge etc. The use of ONLY makes it an extreme statement. Let's put this answer option on hold and consider other options.

Option (b) is incorrect. The passage only touches upon how to best leverage leisure time due to mechanization in the economy. It would be an exaggeration to infer that ALL economic development should lead to creation of leisure. Moreover, the author has cautioned that too much leisure can be tedious, and has recommended that education is a necessity to best use leisure time.

Option (c) is incorrect. Refer to the line: "If a leisured population has to be happy, it must be an educated population..." This line restricts its domain to leisured population. For a leisured population to be happy, it must be educated. If it is not educated, the leisure time might be detrimental to the population. This analogy cannot be extrapolated to the non-leisure population also. Therefore, it would be incorrect to say that an increase in the educated population leads to an increase in happiness among people.

Option (d) is incorrect, as already discussed above, at the beginning of the explanation. So, from the above discussion, despite its extreme nature, option (a) is the most appropriate amongst all the provided options.

Sol.25 Option b is the correct answer

Option (a) incorrect: This option is an extreme exaggeration of what the author conveys in the passage. The author only speaks about a tendency for adults to be less thrilled by happy events- He mentions giving and receiving presents to depict one example for the same. The author nowhere makes any assertion or inference that adults cannot be thrilled by presents at all. In fact, (s)he suggests that adults could be happy like children too but only if they would be a little less cautious and sceptical about things- "Their joys are clear and complete, because they have not yet learnt to always add 'but' to every proposition. Perhaps we are too cautious, too anxious, too sceptical. Perhaps some of our cares would shrink if we thought less about them and entered with more single-minded enjoyment into the happiness that came our way."

Option (b) correct: The author states that adults feel less thrilled due several reasons. For example, (based on the passage) looking too forward or too far backward, being too cautious, too anxious, too skeptical etc.

Option (c) incorrect: The author, as per the passage, has properly reasoned why adults don't feel happy with presents, For example, the author reasons, "If presents bring less thrill now that we are grown up, perhaps it is because we have too much already, or perhaps it is because we have lost the fullness of the joy of giving and with it the fullness of the joy of receiving." and "Perhaps we are too cautious, too anxious, too sceptical." Hence this option is incorrect.

Option (d) incorrect: The author does not talk about the "capacity" of the adult to feel love or joy. The author only focuses only on the reasons why an adult should, but does not, feel thrilled.

Sol.26 **Option b is the correct answer**

Statement 1 is not correct as mere monitoring the PDS system will not result in better child nutrition.

Statement 2 is correct as it is related to mother's health and child's health both. Consider a girl getting married at the age of 18 and giving birth to her first child at the age of 19 and in the second case a girl getting married at the age of 22/23 and giving birth to first child at the age of 23/24. In the second case the child will have better chances to have better nourishment in prenatal and neonatal period.

Statement 3 is correct as the mother contains immunoglobulins which are a certain kind of protein that allows a mother to pass immunity to her baby. It helps in providing much needed nutrition to the child and also improves the survival rate.

Statement 4 is correct. According to UNICEF, less than 50 per cent of the population in India has access to safely managed drinking water. Also, inadequate water, sanitation and hygiene (WASH) services in India's health facilities, contributes to the high neonatal mortality rate. So, supply of safe drinking water and proper sanitation facilities to all should be ensured to check the spread of diseases and check malnutrition in children.

Statement 5 is correct. Passage also implies children's poor health due to lack of proper nutrition and associated diseases so vaccination drives should be ensured by authorities for better survival rate of the children.

Sol.27 **Option c is the correct answer**

Statement 1 is not correct as nowhere in the passage, there is a reference made to farmer's remuneration in both the crops; it only talks about higher productivity in case of pulses and not paddy.

Statement 2 is correct The passage explains that *Arhar straw decomposes easily* and can be *ploughed back into the soil* using a rotovator. In contrast, *paddy straw has high silica content* and doesn't decompose easily, leading farmers to burn it as a major cause of air pollution. Therefore, switching to pulse cultivation reduces the need for burning straw and thus reduces pollution.

Statement 3 is correct The passage mentions that Arhar straw is *green* and *decomposes very fast* when ploughed back. This fast decomposition adds organic matter to the soil, which improves soil fertility and structure is a key aspect of enhancing soil quality.

Statement 4 is incorrect as the paddy straw does have usefulness outside the field which is clear from the last statement which says that burning it is the EASIEST option.

Statement 5 is incorrect as it has not been that mechanized farming is the main cause for stubble burning.

Sol.28 **Option a is the correct answer**

Statement 1 contains a valid assumption. Natal homing refers to a pattern of behaviour in which animals leave their geographic area of origin when young, migrate considerable distances, and then return to the area of origin to reproduce. And, sea turtles are iconic long-distance oceanic migrants with extraordinary navigational abilities that aptly suit as an example of natal homing.

Statement 2 is also valid. The passage says, Sea turtles likely go to great lengths to find the places where they began life because successful nesting requires a combination of environmental features that are rare. It inherently means that certain nesting factors are hard to find.

Statement 3 is an invalid assumption. Passage talks only about sea turtles that have similar patterns of migration. It does not talk about other species. Hence, it would be an extreme generalisation.

Sol.29 **Option b is the correct answer.**

Incomes, Komal : Asha = $4x : 3x$

Expenses, Komal : Asha = $3y : 2y$

Now,

$$4x - 3y = 800 \dots (1)$$

$$3x - 2y = 800 \dots (2)$$

Solving for x,

$$x = 800$$

$$\text{Total income} = 4x + 3x = 7x = 7(800) = 5600$$

Sol.30 Option b is the correct answer.

Efficiency of Akash = A

Efficiency of Bharath = B

Efficiency of Chandran = C

Given,

$$B + C = 2A \dots (1)$$

$$A + C = 4B \dots (2)$$

Solving (1) & (2), by eliminating A

$$3C = 7B$$

$$\text{Thus, } B : C = 3 : 7$$

B

$$C = 3$$

$$7 = 21$$

x

$$x = 49$$

Sol.31 Option c is the correct answer.

From option (c),

$$9 > 5 > 4 - 18 > 9 > 16$$

By interchanging the signs,

$$9 + 5 + 4 = 18 \quad 1 \div 9 + 16 \rightarrow 18 = 18$$

Thus, option (c) is correct.

Sol.32 Option b is the correct answer.

XYZ is a three-digit number.

So, we can write this as: $100X + 10Y + Z$ (as X is at hundreds place and Y is at tens place)

$$\text{So, } XYZ + YZX + ZXY = (100X + 10Y + Z) + (100Y + 10Z + X) + (100Z + 10X + Y)$$

$$= 111(X + Y + Z)$$

Hence, it is divisible by $(X + Y + Z)$.

Also, 111 is divisible by 3, as well as 37.

So, the expression $XYZ + YZX + ZXY$ is not divisible by 9.

Sol.33 Option b is the correct answer.

This is a question of arithmetic progression.

Let the number of pages in the book be n.

$$\text{Sum of consecutive numbers from 1 to } n = \frac{n(n+1)}{2} = \text{around } 195$$

$$\text{or } n(n+1) = \text{around } 390$$

As a page with two numbers was torn, so the value of $n(n+1)$ must be more than 390.

The minimum possible value of $n(n+1)$ over 390, such that n is an integer is got when we put $n = 20$

$$\text{So, } n(n+1) = 20 \times 21 = 420$$

$$\text{So, sum of 20 pages} = \frac{n(n+1)}{2} = \frac{(20 \times 21)}{2} = 210$$

$$\text{Hence, sum of the two numbers on the torn page} = 210 - 195 = 15$$

Only option (b) yields 15 as sum, i.e. $7 + 8 = 15$

Sol.34 Option c is the correct answer.

Prime number: A number that can be divided exactly by 1 and itself only. For example, 2, 3, 5 etc.

2 is the only even prime number, and 3 is the smallest odd prime number.

As per the question, the digit at units place = 2

The digit at the tens place = 3

$$\text{Digit at the thousands place} = 3 \times \text{unit digit} = 3 \times 2 = 6$$

Digit at the hundreds place = $2 \times \text{unit digit} = 2 \times 2 = 4$

Digit at the ten thousands place = $2 \times \text{hundreds place} = 2 \times 4 = 8$

$\therefore$ The required number is 86432.

Sol.35 Option a is the correct answer.

From statement I:

All numbers have 3 digits, except the smallest number. So, smallest number must be 99, as numbers are consecutive. Numbers will be from 99 to 105. Their sum can easily be found and its square too.

$\therefore$ Statement I alone is sufficient to answer the question.

From statement II:

Largest number is a multiple of 15. Largest number can be 30, 45, 60, 75, and so on. Numbers cannot be found uniquely, and hence neither the square of their sum.

$\therefore$ Statement II alone is not sufficient to answer the question.

Thus, S1 alone is sufficient to answer the Question.

Sol.36 Option c is the correct answer.

$$p - 3236 = q + 3237 = r - 3238 = s + 3239$$

Putting $s = 0$, we get:

$$p - 3236 = q + 3237 = r - 3238 = 3239$$

$$\Rightarrow q + 3237 = 3239$$

$$\Rightarrow q = 3239 - 3237 = 2$$

$$\Rightarrow p - 3236 = 3239$$

$$\Rightarrow p = 3239 + 3236 = 6475$$

$$\Rightarrow r - 3238 = 3239$$

$$\Rightarrow r = 3239 + 3238 = 6477$$

Hence, r is the largest number.



Sol.37 Option c is the correct answer

Statement a is incorrect. Though the passage states "Be it a pair of limited-edition footwear or a piece of fine art, we have always had this inclination towards possessing the rare", the statement does not best reflect the central idea of the passage as it does not highlight illegal wildlife trade.

Statement b is incorrect. The passage states "Highly endemic species are being poached and traded worldwide. This has not only led to severe ecosystem crises in the source countries, but has also affected the local biodiversity in the destination nations." However, the statement does not best reflect the central idea of the passage as it does not highlight the reasons for increase in wildlife trade.

Statement c is correct. The statement best reflects the central idea of the passage as it highlights illegal wildlife trade and the reason behind it. The passage states "this (human inclination towards possessing the rare) has, in recent years, been among the most active drivers of the illegal wildlife market across the globe"

Statement d is incorrect. Though the passage highlights the consequences of illegal wildlife artifacts trade on both the source and destination countries, it is silent on the need of crackdown for conservation. Therefore, the statement does not best reflect the central idea of the passage.

Sol.38 Option a is the correct answer

Statement 1 is incorrect. Though the passage states "It (eating disorders) is often associated with preoccupations with food or on the effect of food on the weight or shape of the body", it has not linked the issue to obesity and thus the assumption cannot be made.

Statement 2 is correct. The passage mentions "They (eating disorders) can be very serious conditions affecting physical, psychological and social function." It also states "It can often co-occur with other psychiatric disorders most commonly, mood and anxiety disorders, alcohol and substance use disorders." From here we can assume that eating disorders not only affect the physical health of a person but also harms the mental health.

Statement 3 is incorrect. Although the passage talks about the harms of eating disorders, it is silent on how to avoid or cure it. Thus, the assumption that lifestyle changes can help to avoid eating disorders is beyond the scope of the passage.

Sol.39 Option a is the correct answer

Statement A is correct. It is clear from the above explanations. Also, the last line of the passage says, "Thus, Marx, like Weber, contextualizes the origins of modern capitalism, delineating the historical process by which capitalism has manifested itself in its contemporary form." Thus, it can be safely concluded that both Marx and Weber concur on the historical antecedents of modern capitalism.

Statement B is incorrect since both Marx and Weber touch upon the historical aspects of modern capitalism. It is clear from this sentence: "Marx's project is similar to Weber's in that, while he does not devote himself to the historical circumstances which have led to capitalism, he does, like Weber, attempt to understand how modern capitalism has arisen from the capitalism which preceded it."

Statement C is incorrect. It is clearly mentioned, "...capitalism manifested itself in a compulsory, socially rooted system from which NO ONE could escape." Hence, the socially rooted system, as suggested by Weber, was mandatory and not optional in nature.

Statement D is incorrect. The passage says, "Marx's project is SIMILAR to Weber's in that, while he does not devote himself to the historical circumstances which have led to capitalism, he does, like Weber, attempt to understand how modern capitalism has arisen from the capitalism which preceded it." Hence, there are elements of similarity between their work. It does not mean there is no difference.

Sol.40 Option b is the correct answer

Both the statements are mutually contradictory, hence only one of them can be correct.

This eliminates option C.

Statement 1 is an invalid assumption since the passage implies that despite making use of history, there is a difference between the works of Marx and Weber. Difference between their works: Marx does not devote himself to the historical circumstances which have led to capitalism, unlike Weber. Similarity between their works: Both attempt to understand how modern capitalism has arisen from the capitalism which preceded it.

Statement 2 is a valid assumption. The analyses of both Marx and Weber are similar in that both acknowledge the role of historical contexts in the emergence of modern capitalism. Hence, they use the same tool (historical contextualisation) to study a present day phenomenon (modern capitalism).

Sol.41 Option b is the correct answer.

If total maximum marks be x, then,

$$x \times 64 / 100 = 2240 - 128 = 2112$$

$$= ? = 2112 \times 100 / 64 = 3300$$

$$\text{Marks obtained by Meena} = 2240 - 920 = 1320$$

$$\text{Required percentage} = 1320 / 3300 \times 100 = 40$$

Sol.42 Option c is the correct answer.

S1 : R is greater than P as we as Q, i.e. $R > P/Q$

S2 : S is not the largest number.

Either of the two statements alone is not sufficient to answer the question.

Reading both statements together, we can conclude that:

$$R > P/Q/S$$

Hence, we can say that S1 and S2 together are sufficient to answer the question.

Hence, option (c) is the answer.

Sol.43 Option c is the correct answer

Number of 5 from 1 to 100 are 20

Same for the 100 number set till 1000

But we have to include number of 5 from 500 to 599 also which are 100 in number
Total number of 5 from 1 to 1000 = $20 \times 10 + 100 = 300$.

Sol.44 Option a is the correct answer

As per the conditions given in the questions

3421,2431,3142,3412,4312,2143 These are the numbers.

Sol.45 Option b is the correct answer

Using Arithmetic progression formula,

$A=100$ $d= 50$

For total saving,

we have to take the summation of monthly saving.. $S_n = n/2 [2a + (n-1)d]$

$N=12$

$S_n = 6 [200 + 11 \times 50] = 4500$.

Alternate Solution - Manually count his savings for each months till december.

Sol.46 Option a is the correct answer

Let average age of whole team= a

Total Age of all players = $11a$

According to question,

$11a - (26 + 29) = 9(a - 1)$

$11a - 9a = 46$

$2a = 46$

$a = 23$. average age of team is 23 years.

Sol.47 Option b is the correct answer

Inference 1 is incorrect. This inference is not correct, because to state that all-crop output growth was slow in post-independence India would not be correct. Refer to the line: "The all-crop output growth of around 2.57 per cent per annum in the post-Independence period (during 1949–50 to 2007-8) was much higher than the negligible growth rate of around 0.4 per cent per annum in the first half of the last century." This line, in fact, states the contrary the output growth has been much higher. Though it may have been slower than other sectors of the economy. But the statement does not clearly state the comparison yardstick. Therefore, this inference is incorrect.

Inference 2 is correct. This inference is based on the lines, Between 1961 and 2004-05, there was a decline of 34 percentage points in the share of agriculture in GDP while the decline in the share of agriculture in employment was only 19.5 percentage points." It means that the decline in the percentage of employment in agriculture was less (19.5%) but the decline of the share of agriculture in GDP is more (34%, which is more than 19.5%). This helps us in concluding that even though more labour was employed, it was not able to prevent the decline of the share of agriculture in GDP. This means that labour productivity was poor. So, this inference is correct.

Sol.48 Option a is the correct answer

Option (a) is correct. This option is the correct implication, as it is based on the information provided in the passage. The lines, "Between 1961 and 2004-05, there was a decline of 34 percentage points in the share of agriculture in GDP while the decline in the share of agriculture in employment was only 19.5 percentage points. As a result, the gap between labour productivity in agriculture and non-agriculture increased rapidly", show that Indian agriculture faces the issue of poor labour productivity and its share in GDP is also declining. Therefore, this situation should be rectified.

Option (b) is incorrect. This option seems to be correct because it tries to solve the generic issue of agriculture in India, which is poor income, but this is not the core issue discussed in the passage. Policies could be made to solve the issue of labour productivity or increase the share of agriculture in GDP – the specific issues discussed in this passage. However, this answer option does not talk about these issues.

Option (c) is incorrect. This option is beyond the scope of the passage because there is no discussion in the passage on technological intervention in agriculture for increasing its share in GDP.

Option (d) is incorrect. This option is also beyond the scope of the passage because the passage nowhere discusses the issue of surplus agriculture labour, and how non-agricultural sectors can help in solving this issue.

Sol.49 **Option a is the correct answer**

Assumption 1 is correct. The given assumption is correct as per the information provided in the passage. Refer to the lines, —However, individuals by and large adjust well after some time to ground-breaking circumstances and upsetting circumstances-partially because of strength” and “As much as versatility includes "ricocheting back" from these troublesome encounters, it can likewise include significant self awareness.” These lines reflect the same essence as stated in the option which is rebounding from troublesome encounters will increase self-awareness which eventually helps in adjusting to a situation in a better manner.

Assumption 2 is incorrect. This option is not a correct assumption, because nowhere in the passage is there a discussion concerning any kind of happiness that an individual experiences after facing troubles. So, this assumption is beyond the scope of the passage and hence is incorrect.

Sol.50 **Option c is the correct answer**

Option (a) is incorrect. This option seems correct, but the essence is not about facing troubles deliberately to bring change. The line “Each change influences individuals in an unexpected way, bringing a one-of-a kind surge of contemplations, forceful feelings, and vulnerabilityll shows that change brings introspection, increases vulnerability organically. But this answer states that we should face troubles deliberately to bring change in our lives. This is not the central idea of this passage.

Option (b) is incorrect. This option is beyond the scope of the passage, because there is no discussion on destiny and how it creates troubles in one’s life. So, this is not the central idea of the passage.

Option (c) is correct. This option best captures the central idea, because it states that troubles help in increasing a person’s resilience. It is reflected in the following lines, “Each change influences individuals in an unexpected way, bringing a one-of-a-kind surge of contemplations, forceful feelings, and vulnerability. However, individuals by and large adjust well after some time to ground-breaking circumstances and upsetting circumstances-partially because of strengthll and As much as versatility includes "ricocheting back" from these troublesome encounters, it can likewise include significant self awarenessll. All these lines establish that the qualities of adjustment, self-awareness and being in a state of contemplation is possible when a person faces troubles. So, this option is correct.

Option (d) is incorrect. This option says that one should always be positive even in negative situations. This option in general seems correct but there is no relation of this statement to the information given in the passage. The option talks about being positive during troubles and being in a happy state of mind, whereas the passage focuses upon how troubles help one grow, increase flexibility, and make the person self-aware. So, this option is not the central idea.

Sol.51 **Option c is the correct answer.**

From statement 1:

At 3 o’clock, the minute hand is 15 minutes apart from the hour hand.

To be coincident, it must gain 15 minute spaces.

We know that, 55 minutes are gained in 60 minutes.

So, 15 minutes are gained in $(60/55) \times 15 = 180/11$ minutes = 16.36 minutes

Thus, hour hand and minute hand will coincide at 3:16:36, which is between 3:16 pm and 3:17 p.m.

Hence, statement 1 is correct.

From statement 2:

At 4:58 p.m. the second hand is at 12. In the next minute, the second will definitely cross the minute hand. Thus, between 4:58 p.m. and 4:59 p.m. the minute hand and second hand will definitely coincide.

Hence, statement 2 is correct.

Thus, both statements 1 and 2 are correct.

Sol.52 **Option c is the correct answer.**

Let the number of men in the first and second instances be m and n respectively.

So, man-days required = $6k \times m = 5k \times n$

Or $6m = 5n$

Or $n = (6/5)m$

Or $n = 1.2m$

Or $n = m + 20\%$ of m

So, the number of men need to be increased by 20%.

Sol.53 **Option b is the correct answer.**

Total number of lines = Number of Pages $\times$ Lines per page = $60 \times n = 60n$

Now, the number of lines when 3 lines are reduced = $n - 3$

Number of pages when lines are reduced = 70

Total number of lines = $70 \times (n - 3) = 70n - 210$

According to the question,

$60n = 70n - 210$

$\Rightarrow 10n = 210$

$\Rightarrow n = 21$

Hence, the value of n is 21.

Sol.54 **Option d is the correct answer.**

$9^{\text{(odd power)}}$ divided by 10, then it gives 9 as the remainder.

$9^{\text{(even power)}}$ divided by 10, then it gives 1 as remainder.

56473 is odd.

So, if 17469^{56473} is divided by 10, then it will give "9" as the remainder.

Sol.55 **Option a is the correct answer.**

Let the number be N .

When N is divided by 5, the remainder is 2.

So, $N = 5M + 2 \dots (1)$

Further, when M is divided by 5, the remainder is 3.

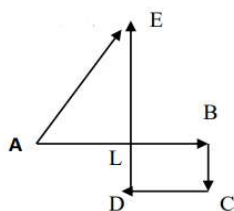
So, $M = 4Q + 3 \dots (2)$

Let $Q = 1$. Then, $M = 7$

So, $N = 37$.

Now, if 37 is divided by 4 and 5 respectively, the remainder would be 1 and 4.

Sol.56 **Option b is the correct answer**



Draw the diagram according to the directions given in the question

$AB = 90\text{m}$; $BC = 20\text{m}$; $CD = 30\text{m}$; $DL = 20\text{m}$; $DE = 100\text{m}$; and $EL = 100\text{m}$.

$AL = 60\text{m}$.

$$\begin{aligned} &\therefore \sqrt{(AL^2 + LE^2)} \\ &= \sqrt{(60^2 + 80^2)} \\ &= \sqrt{(10000)} \\ &= 100\text{m} \end{aligned}$$

Sol.57 **Option b is the correct answer**

Number of students passed = 52-15 = 37

In the list of passed students, Ramesh is 22nd from top.

Ramesh's position from bottom = (37-22)+1 = 16

Sol.58 **Option b is the correct answer**

Option A is incorrect. The passage mentions that the destructive power of fire is necessary for the preservation of other ecosystems. Hence, if there is no fire, other ecosystems might be adversely affected. Therefore, frequent forest fires should be regulated, not all forest fires.

Option B is correct. If all forms of forest fires are prevented, it might prevent the development of natural fauna and flora in other ecosystems. This may have disastrous consequences in the long run. Hence, option B is a logical corollary to the above passage.

Option C is incorrect. The very first line of the passage says, "In a rainforest like the Amazon, massive forest fires are a disaster." Hence, it would be incorrect to say that Amazon fires are not disastrous.

Option D is also incorrect. This answer option merely restates a fact already mentioned in the passage. It does not make any proposition which the questions demands.

Sol.59 **Option d is the correct answer**

Statement 1 is an invalid assumption. The passage clearly says that within three years of the fire, nothing grows in the exhausted soil. Hence, the leftover ash does not help the forest soil address its nutrient deficiency. They might be getting washed away by rain. Though it may be true in some places, It is not a rule.

Statement 2 is also an invalid assumption. The passage quotes the case of Amazon which is a rainforest. It would be incorrect to assume that forest fires predominantly occur in rainforests like the Amazon. It is probable that other types of forests witness more frequent fires.

Sol.60 **Option c is the correct answer**

Inference is a conclusion drawn from the facts, data and arguments made in the passage.

In other words, it is the ability of the reader to read in between the lines.

Option a is an incorrect inference. The passage nowhere says that the internet is used by people who appreciate its power and potential.

Option b is incorrect. It is mentioned in the passage, "The Internet, like any other technology, has a dark side. It has given rise to many human concerns that can potentially threaten our well-being". Hence, there is a significant opportunity cost of internet usage. **Option c is the correct inference.** The passage says, "The Internet has become a LIFELINE of the modern world." It is also mentioned, "But the fact remains that the internet has become INDISPENSABLE and it is here to stay with us". Hence, it can be safely inferred that It is difficult to imagine a life without internet and internet-based applications.

Option d is incorrect. It is evident from sentences like "...we are doing it at the cost of natural human interactions which are spontaneous and more meaningful." Author has clearly outlined the issues with digital communication. Hence, it cannot be a sustainable alternative to real life personal communication.

Sol.61 **Option d is the correct answer**

Statement 1 is an incorrect assumption. The passage only says that the youth are spending more and more time in front of screens. From this it cannot be assumed that those youths who are not Having access to the internet leads to a MORE productive life.

Statement 2 is also incorrect. The passage only says that widespread internet use has other issues associated with it like proliferation of fake news and child abuse. It does not mean these issues did not exist at all in the pre-internet era.

Sol.62 Option c is the correct answer.

Case I:

In the first case, it is given that the profit is 10%.

Case II:

For second case, let the CP of 1 kg of item be Rs. 100

Then CP of 900 g of item = $(100/1000) \times 900 = \text{Rs. } 90$

Hence, profit percentage in Case II = $\{(100 - 90)/90\} \times 100 = 11.11\%$

Case III:

Let the CP of 1 kg of pure item be Rs. 100

If he adds 10% impurity, then CP of 1 kg = $\{(1000/1100) \times 100\} = \text{Rs. } 90.90$

Hence, profit percent = $\{(100 - 90.90)/90.90\} \times 100 = 10.01\%$

Case IV:

If he reduces weight by 5%, then cost price of 950g = $\{(100/1000) \times 950\} = \text{Rs. } 95$ and SP = Rs. 105

Hence, profit percent = $\{(105 - 95)/95\} \times 100 = 10.52\%$

Hence, the profit is maximum in the second case.

Sol.63 Option c is the correct answer.

Efficiency, A : B = 3 : 1

Time taken, A : B = 1 : 3

Difference in time = $3x - x = 2x$

$2x = 20$

So, $x = 10$

Thus, Time taken by A = 10

Time taken by B = 30

Time taken together = $ab / a+b$

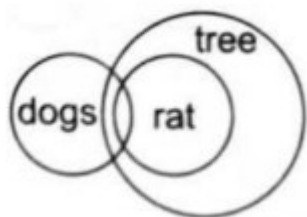
Time taken for 80% of work = $(ab/a+b) \times 80\%$

= $[10 \times 30 / 40] \times (0.8) = 6$



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Sol.64 Option b is the correct answer.



From the above diagram, only option 1 is correct.

Sol.65 Option c is the correct answer.

Given Height = 1.5 m = $1.5 \times 100 \text{ cm} = 150 \text{ cm}$

When ball hits the ground for the 1st time, its height = $(4/5) \times 150 = 120 \text{ cm}$

When ball hits the ground for the 2nd time, its height = $(4/5) \times 120 = 96 \text{ cm}$

When ball hits the ground for the 3rd time, its height = $(4/5) \times 96 = 76.8 \text{ cm}$

When ball hits the ground for the 4th time, its height = $(4/5) \times 76.8 = 61.44 \text{ cm}$

When ball hits the ground for the 5th time, its height = $(4/5) \times 61.44 = 49.15 \text{ cm}$

Since, it is given that if the previous height is less than 50 cm, the ball does not bounce further. So we can say that after the ball hits the ground for the 6th time, it doesn't bounce back.

Hence, option (c) is the correct answer.

Sol.66 Option a is the correct answer.

Ratio of distribution of money among A, B and C is $p : q : r$.

Considering statement 1:

If $p > (q + r)$, then p is definitely the largest number.

So, A must have got the maximum share. Hence, statement 1 is correct.

Considering statement 2:

If $r < (p + q)$, then r may or may not be the smallest number.

For example, $5 < (2 + 4)$

So, C may or may not have got the minimum share. Hence, statement 2 is incorrect.

Sol.67 Option d is the correct answer

Gardening group meets once in 2 days,

electronics group meets once in 3 days,

chess group meets once in 4 days,

yachting group meets once in 5 days

photography group meets once in 6 days.

If they meet on the same day at one time, then the next time they will meet on same day again will be the LCM of 2, 3, 4, 5 and 6 which is equal to 60.

Hence, within 180 days all the five groups will meet on the same day = $180/60 = 3$ times.

Sol.68 Option b is the correct answer

These are the squares of 2, 14, 4, 12, 6, 10, 8

Alternate terms in series increase/decrease by 2. ($2 > 4 > 6 > 8$) and ($14 > 12 > 10$)

So, As per the trend, X should be the square of 8 that is 64.

Sol.69 Option b is the correct answer

Option (a) is incorrect. As such, the definition of „state“ is correct. However, the passage does not mention any specific definition of state in terms of the territorial and political aspects. Thus option (a) is incorrect.

Option (b) is correct. The passage mentions, —its competence is defined by such authority as the state may choose to confer upon it; and if it oversteps that authority it may, where such provision exists, be called to account. It clearly implies that the government must not be allowed to become absolute and irresponsible. It does not have supreme powers – it exists to carry out the purposes of the state.

Option (c) is incorrect, as the passage mentions “Government exists to carry out the purpose of the state. This clearly means that the government cannot exist without the state. The reverse – „state cannot exist without government“ – is difficult to infer from the context of this passage. States may explore other ways to carry out their functions. Therefore, option (c) is not the best answer.

Option (d) is incorrect. Even if the statement is true in itself, the passage does not mention the relationship between the stability and authority of the government and the prevalent traditions and social values. Hence, this answer option is beyond the scope of this passage.

Sol.70 Option d is the correct answer

Statement 1 is valid (but the question is about invalid assumptions) as the passage mentions, —In contrast to opinion-based policy-making, evidence-based policy-making needs an evidence base at all stages... and therefore, EBP advocates a more systematic, rational and rigorous approach to produce better outcomes. The first statement states the advantages of EBP, and the second statement logically establishes the superiority of EBP. Hence, this statement is a valid assumption.

Statement 2 is valid as the passage mentions, Thereby, EBP advocates a more systematic, rational and rigorous approach to produce better outcomes. The reference to „better outcomes“ clearly highlights the potential of evidence-based policy-making for a high-impact change.
Hence, this statement is also a valid assumption.

Sol.71 Option d is the correct answer

Option (a) is incorrect. The passage concentrates only on the benefits and issues of social media. The role of parents and families is not discussed in the passage. Therefore, this option is not the central idea of the passage.

Option (b) is incorrect. There is no mention of government regulation concerning social media. Hence this is not the central idea of the passage.

Option (c) is incorrect. The line “It bridges the gap between friends since a person in Africa can network and interact with his or her friend in the United States” implies an ease of communication rather than physical distance. So, this is not the best central idea of the passage.

Option (d) is correct. The lines, “The use of social media has both negative and positive impacts on our youths today. It bridges the gap between friends since a person in Africa can network and interact with his or her friend in the United States. Spending long hours chatting on social media sites decreases productivity amongst the youths”. This reference properly reflects the idea of a good servant but a bad master.

Sol.72 option c is the correct answer

One Head Coach can be selected from 3 eligible candidates in 3C_1 ways

5 Assistant Coaches can be selected from 7 remaining candidates in 7C_5 ways

Number of possible ways appointments can be made= ${}^3C_1 \times {}^7C_5 = 3 \times 21 = 63$

Sol.73 option a is the correct answer

We are given an expression: $E = a + b - c$ Where:

a, b, c are distinct prime numbers, each less than 20

A prime number is a positive integer, greater than 1, whose only factors are 1 and itself.

Primes Numbers < 20: 2, 3, 5, 7, 11, 13, 17, 19

If we take, $a = 19$, $b = 7$ and $c = 2$,

we get $19 + 7 - 2 = 24$ = Hence 4 is the unit digit, so Statement 1 is correct

If we take, $a = 5$, $b = 13$ and $c = 2$,

we get $5 + 13 - 2 = 16$ = Hence 6 is the unit digit, so Statement 2 is correct

If we take, $a = 13$, $b = 7$ and $c = 2$,

we get $13 + 7 - 2 = 18$ = Hence 8 is the unit digit, so Statement 3 is incorrect.

Hence, Only statement 1 and 2 is correct.

Sol.74 option b is the correct answer

Let the two-digit number be: $10x + y$ where:

x = tens digit

y = units digit

and $x, y \in \{1, 2, \dots, 9\}$ (since it's a two-digit number)

Interchanging digits gives: $10y + x$

We are told the difference between the original number and the reversed number is 27, so:

$$[(10x+y) - (10y+x)] = 27$$

Simplify the expression: We get, $9x - 9y = 27$

$x - y = 3$ Hence, statement 2 is correct, as their difference is fixed.

Now, let analyse, statement 1:

Possibilities for $x - y = 3$:

$$x=4, y=1 \Rightarrow 10x + y = 41$$

$$x=5, y=2 \Rightarrow 10x + y = 52$$

$$x=6, y=3 \Rightarrow 10x + y = 63$$

$$x=7, y=4 = 10x + y = 74$$

$$x=8, y=5 = 10x + y = 85$$

$$x=9, y=6 = 10x + y = 96$$

So, there is no unique 2 digit number in this case. Hence, statement 1 is incorrect.

Sol.75 Option d is the correct answer.

From the statement I:

Let the number the girls be a , then the number of boys = 120% of $a = 6a/5$

From the question : $6a/5 - a = a/5 = 5$ $a=25$

No of boys = 30

We don't have any data regarding money, therefore it is not possible to determine the answer by this statement

From statement II:

Let the total money spent by all the girls = Rs b

Then, the total money spent by all the boys = Rs $b + 400$

From here, the question cannot be answered.

Now, From I and II We could not conclude the value of b therefore, without knowing the value of b , we could not move ahead to answer the question.

Hence the Question cannot be answered even by using both the Statements together

Sol.76 Option b is the correct answer.

Let the consumption be 10 kg and cost per kg be Rs. 10

So, expenditure = consumption $\times$ cost per kg

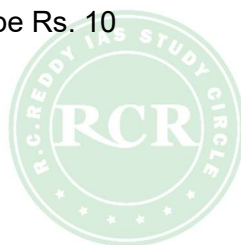
$$\text{Expenditure} = 10 \times 10 = 100$$

After inflation,

$$\text{Expenditure} = 9 \times 12 = 108$$

So, Guru has to pay Rs. 8 extra.

i.e., 8% extra.



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Sol.77 Option b is the correct answer.

Let the amount of money with X, Y and Z be x , y and z .

As per the question,

If Y gives me Rs. 40, then Y will have half of as much as Z.

$$\text{That is, } y - 40 = z/2$$

$$\text{Or } z = 2y - 80 \dots\dots(i)$$

If Z gives me Rs. 40, then three of us will have an equal amount.

$$\text{That is, } x + 40 = y = z - 40$$

$$\text{So, } x = y - 40$$

$$\text{And } z = y + 40 \dots\dots(ii)$$

Using statements (i) and (ii), we get:

$$2y - 80 = y + 40$$

$$\text{Or } y = 120$$

$$\text{So, } x = y - 40 = 120 - 40 = 80$$

$$\text{And } z = y + 40 = 120 + 40 = 160$$

So, money with X, Y and Z will be Rs. 80, Rs. 120, and Rs. 160.

$$\text{Total amount of money with X, Y and Z} = x + y + z = 80 + 120 + 160 = \text{Rs. } 360$$

Sol.78 Option d is the correct answer.

Since the comparative efficiencies of men and women are not known, we cannot determine the time taken by 12 men and 24 women to complete the given work.

Hence, the data is inadequate to draw any conclusion.

Sol.79 Option b is the correct answer.

Quantity of petrol contained in X = 399 litre

Quantity of diesel contained in Y = 532 litres

By taking the factors of 399 and 532 we get:

$$399 = 1 \times 3 \times 7 \times 19$$

$$532 = 1 \times 2 \times 2 \times 7 \times 19$$

So, the possible bottle sizes are 1 litre, 7 litres, 19 litres and 133 litres.

Therefore, the number of possible bottle sizes is 4.

Sol.80 Option c is the correct answer.

Time = 4 : 25

Minute hand moves 6° per minute.

So, Angle traced by minutes hand in 25 minutes = $25 \times 6^\circ = 150^\circ$

The hour hand moves half a degree in one minute.

So, angle traced by hour hand at 4 hours and 25 minutes,

$$\text{i.e. } 265 \text{ minutes} = 265 \times 0.5^\circ = 132.5^\circ$$

$$\text{Thus, the angle between two hands at } 4 : 25 = 150^\circ - 132.5^\circ = 17.5^\circ$$



*For further clarifications and feedback feel free to
write to us at “testseriesrcr@gmail.com”*

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