



**FORTUNE
IAS ACADEMY**

**PTS 2025
COMPREHENSIVE
TEST 02 - PAPER II KEY**

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PTS 2025 - COMPREHENSIVE TEST 02 - PAPER 2

1	d	21	b	41	b	61	b
2	c	22	c	42	a	62	d
3	c	23	a	43	a	63	b
4	d	24	d	44	c	64	d
5	d	25	a	45	b	65	b
6	d	26	d	46	d	66	a
7	c	27	b	47	b	67	d
8	a	28	b	48	d	68	d
9	b	29	b	49	a	69	a
10	c	30	d	50	c	70	c
11	b	31	d	51	a	71	c
12	c	32	a	52	b	72	d
13	c	33	c	53	d	73	d
14	c	34	b	54	c	74	c
15	c	35	a	55	a	75	c
16	b	36	b	56	c	76	b
17	c	37	b	57	a	77	a
18	b	38	a	58	d	78	c
19	a	39	c	59	c	79	b
20	a	40	a	60	a	80	d



1) **Answer: (d)**

Difficulty Level: Easy

- **Assumption 1 is CORRECT:** This assumption is valid as the passage highlights that a large section of society continues to live in precarious conditions, indicating that economic growth and welfare policies have not sufficiently benefited marginalized communities.
- **Assumption 2 is CORRECT:** This assumption is valid since the passage mentions that the social justice movement lacks support due to a limited understanding of its ethics and apprehensions, which aligns with the idea that widespread support is hindered by these factors.
- **Assumption 3 is CORRECT:** This assumption is valid as the passage notes that poor networking among activists, NGOs, and influencers has hindered efforts, implying that improved coordination could enhance advocacy efforts for social justice.

2) **Answer: (c)**

Difficulty Level: Medium

- **Option (a) is INCORRECT:** While the passage highlights poor networking among stakeholders, this is only one aspect of the challenges faced and does not capture the crux.
- **Option (b) is INCORRECT:** The failure of economic liberalization and welfare policies is discussed but is a part of the broader issue rather than the central focus.
- **Option (c) is CORRECT:** This statement captures the essence of the passage, which emphasizes the need for better coordination and advocacy to address social justice and related challenges effectively.
- **Option (d) is INCORRECT:** Although the passage mentions apprehensions and limited understanding, it does not encapsulate the overarching message.

3) **Answer: (c)**

Difficulty Level: Easy

- **Assumption 1 is CORRECT:** The passage mentions the rise in literacy rates, indicating significant progress in education.
- **Assumption 2 is INCORRECT:** The passage criticizes the education system for focusing too much on academic performance, suggesting that this approach is inadequate for preparing students for future challenges.
- **Assumption 3 is CORRECT:** The passage emphasizes the need to shift the focus from academic performance to life skills to better prepare students for modern challenges.

4) **Answer: (d)**

Difficulty Level: Easy

- **Option (a) is INCORRECT:** While the passage acknowledges the improvement in literacy rates, it stresses that academic success alone is not sufficient to address the challenges of the 21st century.
- **Option (b) is INCORRECT:** The passage critiques the focus on academic performance and argues that this approach does not adequately prepare students for the complexities of modern life.



- **Option (c) is INCORRECT:** The passage calls for a shift toward a more inclusive, student-led education system, indicating that a sole focus on academic performance is no longer sufficient.
- **Option (d) is CORRECT:** This statement best captures the core message of the passage, which advocates for an educational shift that includes life skills and emotional well-being alongside academic achievement.

5) Answer: (d)

Difficulty: Easy

Micro Topic: Types of numbers

- Prime number is a positive integer which has no factor other than 1 and itself
- Solving for, $46 = 23 \times 2$
- $91 = 13 \times 7$
- $143 = 11 \times 13$
- All these are product of prime number, but
- $153 = 17 \times 9$
- 9 is not a prime number

6) Answer: (d)

Difficulty: Easy

Micro topic: Types of numbers

- Statement-1 tells us that the sum of x and y is even
- Statement-2 tells us that the difference between x and y is even
- But neither statement, alone or together can determine whether x itself is an even integer or not
- For example, if $x=4$ and $y=2$ then both $x+y=6$ and $x-y=2$, both even integers and x is even
- On the other hand, if $x=5$ and $y=3$ then both $x+y=8$ and $x-y=2$ are even integers, and x is odd

7) Answer: (c)

Difficulty: Easy

Micro Topic: Unit Digit

- To find the unit digit, multiply the units digit of the given expression
- That is, $1 \times 2 \times 3 \times 4 \times 6 \times 7 \times 7 \times 8 \times 9$
- That will be 508032
- The unit digit of this product is 2
- Hence the unit digit of the given expression is '2'.

8) Solution (a)

Difficulty: Hard

Micro topic: Law of divisibility

- To find the smallest number greater than 3000 that when divided by 5,7,9,11 will leave a remainder of 3, we need to find the LCM of these numbers and add 3
- The LCM of 5,7,9, and 11 is 3465
- So, a number of the form $3465N+3$ will leave a remainder of 3 when divided by these numbers



- But $3465N+3>3000$
- $3465N>2997$
- $N>0.865$
- So, the smallest integer of N that satisfies this inequality is 1
- Applying the value in equation gives $x= 3465\times(1) +3= 3468$

9) Solution: (b)

Difficulty level: Easy

Micro Topic: Number system – place value, exponents

We know that $5^3=125$ and $20^3 = 8000$. Calculating $21^3 = 9261$ and $22^3 = 10648$. Thus 17 perfect cubes that are three-digit numbers (from 5^3 to 21^3).

10) Answer: (c)

Difficulty Level: Hard

Micro Topic: TIME & WORK

Explanation:

According to the question,

$A : C = 6 : 10$ and $B : C = 6 : 4$

Now, $(B/A) = (B/C) \times (C/A) = (6/4) \times (10/6) = (5/2)$

Therefore, $B = (5/2) \times A \Rightarrow (5/2) \times 48 = 120$ days.

So, time taken by B to do the work = 120 days

11) Answer: (b)

Difficulty Level: Medium

- **Option (a) is INCORRECT:** The passage emphasizes India's challenge of balancing climate obligations with the need for accelerated growth, not a sole focus on emissions reduction.
- **Option (b) is CORRECT:** This statement best reflects the crux of the passage, where India stresses the need for developed nations to meet their obligations and support developing countries by removing financial and technological barriers.
- **Option (c) is INCORRECT:** While India has set climate goals, the passage does not indicate that it has committed to reducing emissions without regard to development needs.
- **Option (d) is INCORRECT:** The passage mentions reduced climate action but does not claim that global climate action has completely stalled due to the pandemic.

12) Answer: (c)

Difficulty Level: Easy

- **Assumption 1 is INCORRECT:** While the passage stresses the importance of global cooperation and support from developed nations, it does not claim that India's climate goals are solely dependent on this support.
- **Assumption 2 is CORRECT:** The passage highlights India's challenge of balancing its climate obligations with the need for accelerated economic growth.
- **Assumption 3 is INCORRECT:** The passage does not suggest this.



13) Answer: (c)

Difficulty Level: Medium

- **Statement 1 is CORRECT:** The passage mentions that the power of influential families is preserved through the corporate sector, especially due to the passing down of wealth without taxes.
- **Statement 2 is INCORRECT:** The passage highlights that while the corporate sector is starting to address governance issues, it does not claim that these reforms are sufficient to solve fairness and accountability issues.
- **Statement 3 is CORRECT:** The passage stresses that both public and private sectors require reforms to address power, privilege, and governance issues, ensuring fairness and accountability

14) Answer: (c)

Difficulty Level: Easy

- **Option (a) is INCORRECT:** The passage does not claim that reservations are the sole solution; it highlights the role of power and privilege, which need to be addressed in both public and private sectors.
- **Option (b) is INCORRECT:** The passage mentions that the corporate sector is beginning to address governance issues but does not state that it is free of nepotism and governance problems.
- **Option (c) is CORRECT:** The passage points to the growing influence of power and privilege, particularly in the corporate sector, and the need for reforms in both the public and private sectors to ensure fairness and accountability.
- **Option (d) is INCORRECT:** The passage acknowledges that the corporate sector is beginning to address governance issues but does not claim that it has solved them.

15) Answer: (c)

Difficulty: Hard

Micro Topic: Types of numbers

- **Statement a:**
 - b is odd, a-c is odd
 - product of two odd numbers is odd, so $b(a-c)$ is odd
- **Statement b:**
 - b is odd, hence b^2 is also odd
 - a-c is odd
 - the product of two odd numbers is always odd, so $b^2(a-c)$ is odd
- **Statement c:**
 - (a-c) is odd because the difference between an odd and an even number is odd
 - Squaring an odd number results in an odd number, so $(a-c)^2$ is odd
 - b is odd, multiplying an odd and even number will give an odd product, hence $b(a-c)^2$ is odd, not even.
- **Statement d:**
 - c is even, and a-b is even, since difference between two odd numbers are even
 - squaring an even number will give an even number, so $(a-b)^2$ is even
 - the product of an even number and another even number is even, so $c(a-b)^2$ is even



16) Answer: (b)

Difficulty Level: Hard

Micro Topics: Number Systems

Break down each base into prime factors:

- $25 = 5^2$, so $25^{50} = (5^2)^{50} = 5^{100}$
- $16 = 2^4$, so $6^{45} = (2^4)^{45} = 2^{180}$
- $9 = 3^2$, so $9^{75} = (3^2)^{75} = 3^{150}$

So, the given expression simplifies to:

$$5^{100} \times 2^{180} \times 3^{150}$$

Trailing zeros come from the factor 10, which is formed by multiplying 2 and 5 together.

- 5^{100} contains **100 factors of 5**.
- 2^{180} contains **180 factors of 2**.

Since each factor of 5 can pair with a factor of 2 to form **100 trailing zeros**, we remove those, leaving:

$$2^{80} \times 3^{150}$$

The last digits of powers of 2 follow a repeating cycle of 4:

$$2, 4, 8, 6$$

To determine where 2^{80} falls in this cycle, divide 80 by 4:

$$80 \div 4 = 20; \text{leaves remainder } 0$$

Since the remainder is **0**, the last digit follows the 4th term in the cycle, which is **6**.

So, the last digit of 2^{80} is **6**.

The last digits of powers of **3** follow a repeating cycle of 4:

$$3, 9, 7, 1$$

To determine where 3^{150} falls in this cycle, divide 150 by 4:

$$150 \div 4 = 37; \text{leaves remainder } 2$$

Since the remainder is **2**, the last digit follows the 2nd term in the cycle, which is **9**.

So, the last digit of 3^{150} is **9**.

Now, multiply the last digits of 2^{80} and 3^{150} :

$$6 \times 9 = 54$$

The last **nonzero** digit is **4**.

17) Answer: (c)

Difficulty: Hard

Micro Topic: Factorization

- Prime factorization of 2160 = $2^3 \times 3^3 \times 5^1$
- For a factor to be a perfect cube, all the exponents in prime factorization must be multiples of 3.
- So if the factorization is of the form $2^a \times 3^b \times 5^c$, then 'a' and 'b' can take the values of 0 and 3 and, c takes 0.
- Possible perfect cube factors:
 - $1 = 2^0 \times 3^0 \times 5^0$
 - $8 = 2^3 \times 3^0 \times 5^0$
 - $27 = 2^0 \times 3^3 \times 5^0$
 - $216 = 2^3 \times 3^3 \times 5^0$
- Hence 4 possible cube factors



18) Answer:(b)

Difficulty: moderate

Micro Topic: Factorization

- Odd factors come only from the odd prime factors
- Ignore factor of 2, focus on 3^2 and 7^3
- Total number of odd factors= $(2+1) \times (3+1) = 3 \times 4 = 12$

19) Answer: (a)

Difficulty: moderate

Micro Topic: Types of numbers

- Statement 1: when $x > 0$; divide it into two cases
 - When $0 < x \leq 1$, then $x^3 < x^2$, thus answer is NO
 - When $x > 1$, then $x^3 > x^2$, then YES
 - So here the question cannot be solved by statement 1 alone
- Statement 2: when $x < 0$
 - Here, for all values of x , x^3 will be negative and x^2 will be positive
 - So answer will be NO in all cases
 - So the question can be answered by statement 2 alone

20) Answer: (a)

Difficulty: Easy

Micro Topic: Law of divisibility

- There are two 5's (in 110 and 115) and a 2 (in 110)
- We know that, $5 \times 5 \times 2 = 50$
- Hence remainder will be zero

21) Answer: (b)

Difficulty Level: Medium

- **Statement 1 is INCORRECT:** The passage does not imply a direct and exclusive link between mental health/education and economic output but stresses the importance of these factors for overall youth development.
- **Statement 2 is CORRECT:** The passage indicates that issues like smartphone addiction and access to inappropriate content could worsen the challenges.
- **Statement 3 is INCORRECT:** While social and technological changes are part of the issue, the passage suggests a broader range of causes, including nutrition and gender bias.

22) Answer: (c)

Difficulty Level: Easy

- **Option (a) is INCORRECT:** The passage discusses broader challenges beyond just education and hygiene.
- **Option (b) is INCORRECT:** While smartphone addiction and gender bias are mentioned, they are not the sole focus of the passage.
- **Option (c) is CORRECT:** his statement captures the essence of the passage, which highlights the challenges faced by India's youth population and the need to address them to harness their potential.



- **Option (d) is INCORRECT:** Although inclusive education and restricting adult content are mentioned, they are part of a larger set of challenges discussed in the passage.

23) Answer: (a)

Difficulty Level: Medium

- **Option (a) is CORRECT:** This statement captures the main idea of the passage, which discusses the steady rise in suicides among daily wage-earners due to economic deprivation and lack of personal, family, and social support systems.
- **Option (b) is INCORRECT:** While the passage mentions the failure of welfare schemes, it does not attribute the rise in suicides solely to this factor.
- **Option (c) is INCORRECT:** The passage notes that the crisis began before the pandemic, so the pandemic is not the primary cause.
- **Option (d) is INCORRECT:** Although the passage mentions the absence of support systems, it is not the sole focus of the report.

24) Answer: (d)

Difficulty: Hard

- Digits from numbers 1 to 9 (single-digit numbers):
 - There are 9 single-digit numbers contributing 9 digits.
 - Positions covered: 1 to 9
- Digits from numbers 10 to 99 (two-digit numbers):
 - There are $99 - 10 + 1 = 90$ two-digit numbers.
 - Each contributes 2 digits, so the total contribution is: $90 \times 2 = 180$ digits
 - Positions covered: 10 to 189.
- Total digits so far: $9 + 180 = 189$.
- Digits from numbers 100 to 150 (three-digit numbers):
 - Now we need to find the digit at position 250, which is beyond 189, so it falls within this range.
 - Digits needed to reach 250: $250 - 189 = 61$ digits
 - Each number from 100 contributes 3 digits.
- Find the specific number:
 - Divide 61 by 3 = 20 full numbers with a remainder of 1
 - So the 250th digit is the 1st digit of the 21st number in this range.
- Identify the 21st number:
 - The first number in this range is 100.
 - The 21st number is: $100 + 20 = 120$
 - Thus, the 250th digit is the 1st digit of 120, which is 1.

25) Answer: (a)

Difficulty: moderate

Micro Topic: Unit digit

- Unit digit = 7
- Exponent = $6 \times 4 \times 2 = 48$
- Cyclicity:
 - $7^1 = 7$
 - $7^2 = 49$ (unit digit = 9)



- $7^3=343$ (unit digit= 3)
- $7^4= 2401$ (unit digit= 1)
- The pattern repeats after every 4 terms
- Remainder of $48/4=0$
- Hence, the unit digit corresponds to 7^4 , which is 1.

26) Answer: (d)

Difficulty: Hard

Micro Topic: Law of divisibility

- $46DD/D=ABC$
- Since ABC is a 3-digit number, then $D \geq 5$
 - If $D=5$, then $4655/5 = 931$
 - If $D=6$, then $4666/6 =$ Not divisible
 - If $D=7$, then $4677/7 =$ not divisible
 - If $D=8$, then $4688/8= 586$, but here the value of B and D will become same which is not allowed
 - If $D=9$, then $4699/9=$ Not divisible
- Hence $A=9$, $B=3$, $C=1$ and $D=5$
- $(A+B) \times (C+D) = (9+3) \times (1+5) = 12 \times 6 = 72$

27) Answer: (b)

Difficulty: Easy

- Single digit numbers (1 to 9)
 - There are 9 single digit numbers
 - Total characters= $9 \times 1=9$
- Double digit numbers (10 to 99)
 - There are $99-10+1= 90$ double digit numbers
 - Total characters= $90 \times 2= 180$
- Triple digit numbers(100 to 150)
 - There are $150-100+1= 51$ triple digit numbers
 - Total characters= $51 \times 3= 153$
- Total characters= $9+180+153= 342$
- Teacher needs to type 342 characters

28) Answer: (b)

Difficulty: Easy

Micro Topic: Types of numbers

- Triangular number: A number that can be expressed as the sum of consecutive natural numbers starting from 1. For instance, 3 (1+2), 6 (1+2+3), 10 (1+2+3+4) etc. Among them 6 is the lowest non-prime number. So, statement 1 is true.
- Twin prime numbers: Prime numbers having a difference 2. (3,5) is the lowest twin prime number. Hence, statement 2 is not true.
- Co-prime numbers: For two numbers having HCF 1, there is no requirement for the numbers to be prime, and hence statement 3 is not true.



29) Answer: (b)

Difficulty: Moderate

Micro Topic: Place value

- Let $P = xy$. Then $Q = yx$
- $P \times Q = 3640$. Since the number ends with zero, either P or Q has 5 at the unit place.
- Assume P to have 5 at unit place. Now Q 's 10's place will also be 5.
- The unit place of Q can be either 2, 4, 6, or 8.
- By trial and error, we get the number to be 6. Thus, P and Q are respectively 65 and 56.
- Hence, $P+Q = 121$

30) Answer: (d)

Difficulty: Moderate

Micro Topic: Place value

- Here, we need to find the sum of all the digits of the first 100 natural numbers.
- $1 + 2 + 3 + \dots + 9 = 45$. This 45 gets repeated for every unit's place addition. For instance, while adding 10 to 19 the sum of unit digits is 45. The same is true while adding digits from 20 to 29. Hence 45 gets repeated 10 times, making the sum 450.
- From 10 to 19, the ten's place digit is 1 which gets repeated 10 times. Similarly, from 20 to 29, 2 gets repeated 10 times. Thus the sum of ten's place digits will be $10 + 20 + 30 + \dots + 90 = 450$.
- 100's place has only one digit, which is 1
- Hence sum of digits = $450 + 450 + 1 = 901$

31) Answer: (d)

Difficulty Level: Hard

- **Statement 1 is CORRECT:** The passage explicitly states that relying solely on organic farming, as seen in Sri Lanka, can "jeopardize food security." This implies that a complete reliance on organic farming might not be sufficient to meet the increasing food demands, potentially leading to food security issues.
- **Statement 2 is CORRECT:** "A gradual, balanced strategy combining organic, natural, and technology-driven farming, including the use of genetically modified crops, is essential to address challenges like pests, soil degradation, and growing population demands while maintaining national food security."
- **Statement 3 is CORRECT:** The passage acknowledges the need for genetically modified crops to address challenges like pests, soil degradation, and growing population demands.

32) Answer: (a)

Difficulty Level: Easy

- **Option (a) is CORRECT:** The passage explicitly calls for a gradual, multifaceted approach integrating organic, natural, and technological practices to achieve sustainable food security.
- **Option (b) is INCORRECT:** While the passage mentions Sri Lanka's experience, it uses it as a cautionary example, not as the primary focus.



- **Option (c) is INCORRECT:** The passage advocates for combining various methods rather than relying solely on genetically modified crops.
- **Option (d) is INCORRECT:** While organic farming is part of the strategy, the passage does not suggest it as the sole focus, even when paired with technology.

33) Answer: (c)

Difficulty Level: Hard

- **Statement 1 is INCORRECT:** The passage doesn't suggest that the shift to short-duration paddy will fully compensate for the decline in acreage. Short-duration varieties generally have lower yields, which will likely impact overall rice production.
- **Statement 2 is INCORRECT:** While a monsoon revival might allow for some late planting, it's unlikely to completely prevent a significant drop in rice production. The delayed planting will limit the time available for crop growth, impacting yields.
- **Statement 3 is CORRECT:** The passage states that the decline in crop output, particularly rice, is likely to impact food security. Reduced supply can lead to higher food prices, contributing to inflation.

34) Answer: (b)

Difficulty Level: Medium

- **Option (a) is INCORRECT:** While short-duration varieties might be a necessary adaptation, the passage does not advocate for a nationwide shift as the primary solution.
- **Option (b) is CORRECT:** The passage emphasizes the impact of uneven monsoons on kharif crops, particularly rice, leading to reduced acreage and potential productivity decline, which encapsulates the central theme.
- **Option (c) is INCORRECT:** The passage does not explicitly state that short-duration varieties are inadequate. It acknowledges that they have lower yields compared to traditional varieties.
- **Option (d) is INCORRECT:** The passage attributes the challenges to monsoon variability rather than inappropriate crop selection.

35) Answer: (a)

Difficulty: Hard

Micro Topic: Place value

- Let $A = 100x + 10y + z$
- Then $B = 100z + 10y + x$
- $B - A = 99(z - x)$
- Given, $B - A$ is a multiple of 5. Since 99 is not a multiple of 5, $(z - x)$ should be multiple of 5.
- For this, the different possibilities of (x, z) are $(1, 6)$, $(2, 7)$, $(3, 8)$ and $(4, 9)$.
- Maximum value of A is possible when $(4, 9)$ is taken, with y also taking the maximum value of 9. Thus 499 is the highest value.
- Minimum value of A is possible when $(1, 6)$ is taken, with y also taking a minimum value of 0. Thus 106 is the lowest value.
- So the range of A is between 106 and 499. Thus, only statement 1 is right.



36) Answer: (b)

Difficulty: Moderate

Micro Topic: Unit digit

- For finding the unit digit of expression, one needs to find the unit digit of each of these numbers, which are respectively ending with 3, 4 and 5.
- 3^n , for n being natural numbers, will have unit digits that follow a cycle of (3, 9, 7, 1). Following this cycle, 3^{123} will have 7 as the unit digit.
- Similarly if any number ending with 4 is chosen as the base, the unit digit will be 4 if the power is odd and will be 6 if the unit digit is even. Hence, in this case the unit digit is 6 as the power is 234(even).
- When any number ending with 5 is chosen as the base, the unit digit will also be 5 irrespective of the power. Hence, the unit digit of the third term is 5.
- Unit digit of whole expression = Unit digit (7 + 6 + 5) = 8.

37) Answer: (b)

Explanation:

Let the present age of Rahul, Ajay and Soniya be x, y, z respectively

According to statement 1,

$$y - 6 = x$$

$$\Rightarrow y = x + 6 \dots\dots (1)$$

From statement 1 we couldn't necessarily find a conclusion.

Consider statement 2,

$$z = 3 \times y$$

$$3(x + 6) \dots\dots (2)$$

From (1) and (2) together, we couldn't find a conclusion.

Consider statement 3,

$$\Rightarrow (x+z)/2 = 23$$

$$\Rightarrow x + 3(x + 6) = 46$$

$$\Rightarrow 4x + 18 = 46$$

$$x = 7$$

Therefore, age of Rahul = 7

\Rightarrow All the statements are necessary to find the answer.

38) Answer: (a)

Explanation:

Let the number of students in a row be 'x' and number of rows be 'y'.

\Rightarrow Total number of students = xy

Given,

If the number of students in a row = $x+1$ then number of rows = $y-2$

If the number of students in a row = $x-1$ then number of rows = $y+3$

$$(x + 1)(y - 2) = xy \quad (1)$$

$$(x - 1)(y + 3) = xy \quad (2)$$

$$(1) \Rightarrow -2x + y = 2$$

$$(2) \Rightarrow 3x - y = 3$$

On solving these 2 equations,



$x=5$ and $y=12$

So, total number of students = $12 \times 5 = 60$

39) Answer: (c)

Difficulty Level : Easy

Micro Topic : HCF & LCM

Explanation:

Here to find the maximum value of X, we have to find HCF of (60,50,80).

Factorising each numbers,

$$60 = 2 \times 2 \times 3 \times 5$$

$$50 = 2 \times 5 \times 5$$

$$80 = 2 \times 2 \times 2 \times 2 \times 5$$

Therefore HCF = $2 \times 5 = 10$

Maximum Possible value of X = 10

40) Answer: (a)

Difficulty Level : Moderate

Micro Topic : Cube & Cuboids

Explanation:

Here we have a cube of size 4×4

For a cube of side $n \times n$

Number of smaller cubes with 0 faces painted = $(n - 2)^3$

$$\Rightarrow (4 - 2)^3 = 8$$

As there are 4 edges between green and blue colour and each edge possesses 2 cubes, with exactly two faces, one painted with blue and the other with green,

Total number of required cubes = 8

So statement 2 is wrong.

41) Answer: (b)

Difficulty Level: Hard

- **Statement 1 is INCORRECT:** The passage mentions the increased demand for animal feed, but it doesn't explicitly state that this will lead to a policy shift prioritizing animal feed over human food crops.
- **Statement 2 is CORRECT:** The passage highlights the changing consumption patterns (shift to finer grains, increased meat consumption, growing demand for ready-made food) and rising incomes. It states that these factors will likely increase food demand beyond what current production can meet. This directly challenges the sufficiency of the existing food security model, which might not adequately address these evolving dietary needs and preferences.
- **Statement 3 is INCORRECT:** The passage explicitly states that the growing popularity of ready-made food is driving up food demand. This suggests that this trend is not transient and will have a significant impact on long-term food grain demand.

42) Answer: (a)

Difficulty Level: Medium

- **Option (a) is CORRECT:** The passage indicates that the changing consumption patterns, alongside rising incomes, will lead to an unsustainable food demand unless productivity, yields, and acreage are increased.



- **Option (b) is INCORRECT:** While the rise in animal feed demand is mentioned, the passage does not state that this is the primary cause of food grain shortages in India; rather, it highlights the general increasing demand due to changing consumption patterns and rising incomes.
- **Option (c) is INCORRECT:** The passage does not suggest that India's food security can be resolved by focusing on fine cereals and reducing meat consumption. It emphasizes the need for increased productivity, yields, and acreage to meet the growing demand.
- **Option (d) is INCORRECT:** The passage describes a shift away from coarse cereals towards finer cereals, not a shift towards coarse cereals.

43) Answer: (a)

Difficulty Level: Medium

- **Statement 1 is CORRECT:** The passage emphasizes the importance of combating malnutrition as a central aspect of nutritional security, which supports the assumption that preventing malnutrition is a key part of achieving nutritional security.
- **Statement 2 is INCORRECT:** The passage suggests that food sources are a crucial component of addressing nutritional deficiencies like iron and protein. However, it does not advocate for completely avoiding supplements.
- **Statement 3 is INCORRECT:** While improving nutritional security is crucial for reducing child deaths related to malnutrition, the passage does not claim that it will eradicate them.

44) Answer: (c)

Difficulty Level: Easy

- **Option (a) is INCORRECT:** This is overly simplistic. While addressing malnutrition is important, it doesn't guarantee the prevention of all diet-related diseases, which can arise from various factors beyond just nutrient deficiencies.
- **Option (b) is INCORRECT:** This contradicts the passage, which clearly states that nutritional security should also address diet-related lifestyle diseases.
- **Option (c) is CORRECT:** The passage explicitly states that nutritional security should address not only malnutrition but also diet-related lifestyle diseases. It emphasizes the need for access to healthy, nutrient-rich food, suggesting that simply providing food is not enough; the quality and nutritional value of the food are crucial.
- **Option (d) is INCORRECT:** The passage does not suggest this.

45) Answer: (b)

Difficulty Level : Easy

Micro Topic : Coding & Decoding

Explanation:

Given, PLAY = LHEC

Here,

$L = P - 4$

$H = L - 4$

$E = A + 4$



$$C = Y + 4$$

Therefore,

$$T - 4 = P$$

$$U - 4 = Q$$

$$R + 4 = V$$

$$F + 4 = J$$

So, answer is PQVJ

46) Answer: (d)

Difficulty Level : Moderate

Micro Topic : Clocks & Calendars

Explanation:

For a clock, the minute hand covers 6° in 1 minute and hour hand covers 0.5° in 1 minute for each 6° the minute hand has covered.

Here when the minute hand is at 40, angle covered by it = $40 \times 6 = 240^\circ$

As hour hand reached 6, angle covered by it = $30 \times 6 = 180^\circ$

Now for the 40 minutes covered by minute hand, hour hand has covered additional angle of $40 \times 0.5 = 20^\circ$

So, Angle between hour hand and minute hand at 6:40 = $240 - (180 + 20) = 40$

47) Answer: (b)

Difficulty Level : Moderate

Micro Topic : LCM & HCF

Explanation:

The first wheel completes 45 revolutions per minute, so the time for one revolution = $\frac{1}{45}$ minutes = $\frac{4}{3}$ seconds

The second wheel completes 36 revolutions per minute, so the time for one revolution = $\frac{1}{36}$ minutes = $\frac{5}{3}$ seconds

The third wheel completes 12 revolutions per minute, so the time for one revolution = $\frac{1}{12}$ minutes = 5 seconds

The time at which white spots simultaneously touch the ground again

$$= \text{LCM}\left(\frac{5}{3}, \frac{4}{3}, \frac{5}{1}\right)$$

LCM of fractions = LCM of numerator/HCF of denominator

$$\text{LCM of } 5, 4, 5 = 20$$

$$\text{HCF of } 3, 3, 1 = 1$$

$$\text{So required LCM} = 20$$

The time at which white spots simultaneously touch the ground again = 20 seconds

48) Answer: (d)

Micro Topic: Blood Relation

Difficulty Level: Easy

- **Statement-I:** P and Q are sisters.

This statement tells us about the relationship between P and Q, but it provides no direct or indirect information about S or S's mother.

Thus, Statement-I ALONE is NOT sufficient.



- **Statement-II:** Q's husband is the brother of S's husband.
This statement establishes a relationship between Q's husband and S's husband (they are brothers), but it does not provide any information about who S's mother is.
Thus, Statement-II ALONE is NOT sufficient.
- Combining both:
Statement-I tells us that P and Q are sisters, while **Statement-II** tells us about the relationship between their husbands. However, even when combined, these statements do not offer any clue about S's mother.
The question cannot be answered even by using both the statements together.

49) Answer: (a)

Difficulty Level : Moderate

Micro Topic : Sequence & Series

Explanation:

Club 3 consecutive terms and add them

$\Rightarrow (3 + 2 + 1) + (2 + 4 + 3) + \dots$ upto 30 terms

$\Rightarrow 6 + 9 + 12 + \dots$ upto 10 terms

Here the terms are in AP.

Sum of AP = $\frac{n}{2} [2a + (n - 1)d]$

Where n= no of terms; d= command difference; a= first term

Here a= 6; n= 10; d= 3

Sum = $\frac{10}{2} [2 \times 6 + (10 - 1)3] = 195$

50) Answer: (c)

Difficulty Level : Easy

Micro Topic : Sequence & Series

Explanation:

$9 = (5 \times 2) - 1$

$18 = (9 \times 2) - 1$

$129 = (65 \times 2) - 1$

Therefore,

Required number = $(17 \times 2) - 1 = 33$

51) Answer: (a)

Difficulty Level: Hard

- **Option (a) is CORRECT:** The passage emphasizes the importance of managing stress in healthy ways to avoid its negative impact on mental, emotional, and physical health.
- **Option (b) is INCORRECT:** While the passage mentions the link between stress, tension, and health, it does not focus on this as the central idea.
- **Option (c) is INCORRECT:** The passage states that suppressing emotions causes harm but does not claim it's a purely natural response.
- **Option (d) is INCORRECT:** The passage specifically advises against venting anger through harmful actions like fighting or fleeing.



52) Answer: (b)

Difficulty Level: Easy

- **Option (a) is INCORRECT:** The passage does not suggest passive acceptance; it emphasizes intellectual thought as the means to preserve identity, not submission to foreign rulers.
- **Option (b) is CORRECT:** The passage highlights how higher intellectual thought has the power to peacefully influence people and preserve cultural identity, even amidst foreign invasions.
- **Option (c) is INCORRECT:** The passage mentions that India preserved its cultural identity through intellectual thought, not the absence of foreign invasions.
- **Option (d) is INCORRECT:** While the passage mentions ethnic strife and violence, it doesn't explicitly state that people are naturally inclined towards it.

53) Answer: (d)

Difficulty Level: Medium

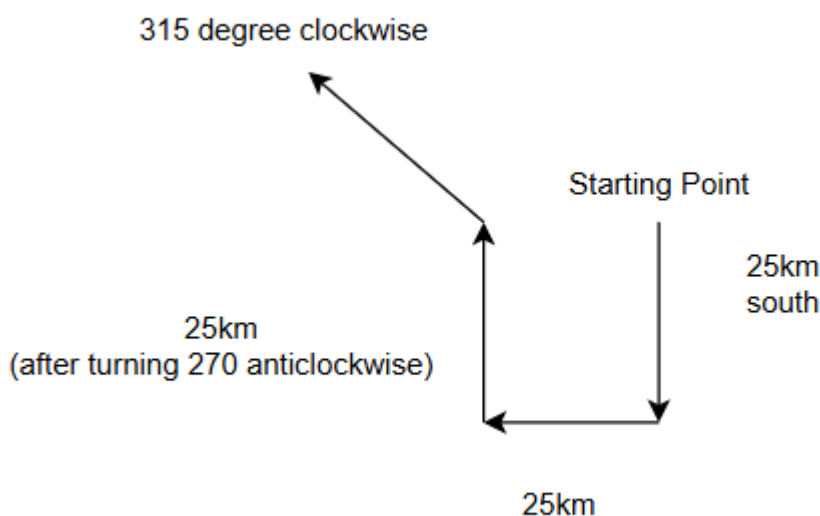
- **Option (a) is INCORRECT:** The passage argues that while food security was achieved, India should now focus on nutritional security, not rely solely on past successes.
- **Option (b) is INCORRECT:** The passage stresses the need to focus on nutritional security, not industrial development, as the next step.
- **Option (c) is INCORRECT:** The passage does not imply that technological investments have reached their limits but calls for further focus on quality, not just quantity.
- **Option (d) is CORRECT:** The passage emphasizes that although India has achieved food security, it must now aim for nutritional security to provide quality, nutritious food.

54) Answer: (c)

Difficulty Level: Difficult

Micro Topic: Directions

Explanation:





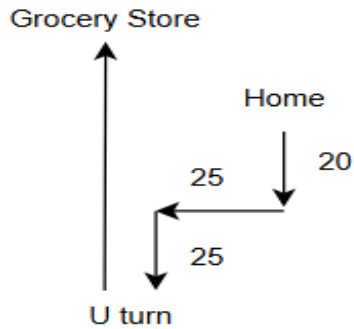
The direction in which he is walking = North West

55) Answer: (a)

Difficulty Level: Moderate

Micro Topic: Directions

Explanation:



56) Answer: (b)

Difficulty Level: Hard

Micro Topic: Logical Reasoning and General Mental Ability

Explanation:

$$L \pm N \Rightarrow L = N$$

$$P + O \Rightarrow P > O$$

$$M - P \Rightarrow M \leq P$$

$$L \div M \Rightarrow L < M$$

$$\text{So, } N = L < M \leq P > O$$

$$L \div O \Rightarrow L < O \text{ (can't be determined)}$$

$$M + N \Rightarrow M > N \text{ (True)}$$

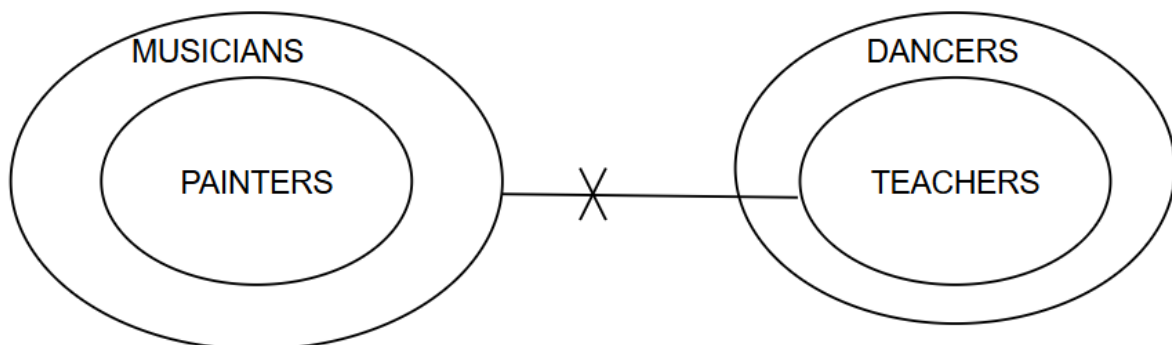
So, option B is the correct answer

57) Answer: (a)

Difficulty Level: Easy

Micro Topic: Syllogism

Explanation:





58) Answer: (d)

Difficulty Level: Hard

Micro Topic: Area, Volume and Mensuration

Explanation:

All three are correct

59) Answer: (c)

Difficulty Level: Easy

Micro Topic: Partnerships

Explanation:

Number of months for which A invested in the business = $18 + 3 = 21$ months

Respective ratio of profit shares of A and B = $(6300 \times 21):(9800 \times 18)$

= $132300:176400$

= $3:4$

So, profit share of A = $5670 \times (3/4) = \text{Rs. } 2,430$

60) Answer: (a)

Difficulty Level: Moderate

Micro Topic: Geometry

Explanation:

A hexagon has 6 sides.

So, total number of points = $6 \times 2 + 6 = 18$

Number of triangles using any 3 points as vertices = $18C_3$

$\Rightarrow \frac{18!}{3!(18-3)!} = 816$

But triangles cannot be made from any of the 3 out of 4 collinear points on a side and there are 6 sides. Hence total number of impossible triangles are $=4C_3 \times 6 = 24$

Total number of possible triangles = $816 - 24 = 792$

61) Answer: (b)

Difficulty Level: Easy

- **Option (a) is INCORRECT:** The passage highlights that mustard is being chosen over wheat due to its higher price, not the other way around.
- **Option (b) is CORRECT:** The passage stresses the importance of fodder security alongside food security to support the dairy sector and maintain economic stability.
- **Option (c) is INCORRECT:** The passage does not advocate for replacing mustard with wheat. It acknowledges the economic benefits of mustard cultivation for farmers.
- **Option (d) is INCORRECT:** The primary purpose of introducing an MSP for fodder is to support the dairy sector by ensuring adequate fodder availability. It will directly benefit farmers who cultivate fodder crops and indirectly support the entire dairy value chain.

62) Answer: (d)

Difficulty Level: Medium

- **Option (a) is INCORRECT:** While the Himalayas are emphasized, the passage underscores vulnerabilities across multiple regions and sectors.



- **Option (b) is INCORRECT:** The passage describes impacts extending to a broader destabilization across various sectors and it cannot be inferred to be limited to certain areas alone.
- **Option (c) is INCORRECT:** Although region-specific strategies are important, the passage suggests broader systemic efforts rather than isolated ones.
- **Option (d) is CORRECT:** The passage highlights the wide-ranging effects of climate change, demanding comprehensive reforms across sectors and geographies.

63) Answer: (b)

Difficulty Level: Easy

- **Option (a) is INCORRECT:** The passage does not claim that adopting international standards would fully resolve the safety issues; it focuses on the need for urgent reform and adoption of the ILO standards.
- **Option (b) is CORRECT:** The passage emphasizes the shortcomings in legal, institutional systems and application of existing labour regulations, pointing to their ineffectiveness in addressing the rising number of industrial accidents.
- **Option (c) is INCORRECT:** The passage suggests that India's economic development necessitates stronger and updated occupational health standards, especially with rising workplace accidents.
- **Option (d) is INCORRECT:** The passage argues that India's legal and institutional gaps need to be addressed through the adoption of international standards like the ILO's OSH Convention.

64) Answer: (d)

Difficulty Level: Moderate

Micro Topic: Profit & Loss

Explanation:

If cost price of 'x' articles is equal to selling price of 'y' articles, then Selling Price = x,
Cost Price = y

Hence, Profit or Loss% = $\frac{x-y}{y} \times 100$

$\Rightarrow \frac{3-5}{5} \times 100 = -40$ (Loss of 40%)

65) Answer: (b)

Difficulty Level: Easy

Micro Topic: Simple and Compound Interest

Explanation:

Given, $r = 4$; $t = 2$; $CI = 2448$

$$\begin{aligned} CI &= P \left[1 + \frac{r}{100} \right]^t - P \\ \Rightarrow 2448 &= P \left[1 + \frac{4}{100} \right]^2 - P \\ \Rightarrow 2448 &= P \left[\left(\frac{26}{25} \right)^2 - 1 \right] \end{aligned}$$

$P = 30,000$

Therefore, $SI = \frac{P \times r \times t}{100} = \frac{30000 \times 4 \times 2}{100} = 2400$



66) Answer: (a)

Difficulty Level: Moderate

Micro Topic: Set Theory

Explanation:

As 18% of the readers neither read comic books nor read history books,

% who reads either comic or history books = $100 - 18 = 82\%$

Percentage of readers who like to read both Comic and History books

= % reads comic books + % who reads history books - % who reads either comic or history books

= $40 + 50 - 82 = 8\%$

67) Answer: (d)

Difficulty Level: Moderate

Micro Topic: Ratio & Proportion

Explanation:

Let income of A be $4x$ and B be $7x$

Let expenditure of A be $6y$ and B be $11y$

Given savings of A = $(1/3)$ of $4x = 4x/3$ (1)

According to the question,

$$4x - 6y = 4x/3$$

$$\Rightarrow y = 4x/9$$

Now savings of B = $7x - 11 \times (4x/9) = 19x/9$ (2)

So ratio of savings of A and B = $\frac{4x}{3} : \frac{19x}{9} = 12 : 19$

68) Answer: (d)

Difficulty Level: Easy

Micro Topic: Mixtures & Percentages

Explanation:

Let x be the number.

$$\text{Error} = \frac{5}{3}x - \frac{3}{5}x = \frac{16x}{15}$$

Therefore % error = $\frac{16x/15}{5x/3} \times 100 = 64\%$

69) Answer: (a)

Difficulty Level: Easy

Micro Topic: Averages

Explanation:

$$\text{average of } x, y = \frac{x+y}{2} \quad (1)$$

$$\text{average of } y, z = \frac{y+z}{2} \quad (2)$$

$$(1) - (2) \Rightarrow \frac{x-z}{2} = 18$$

$$\Rightarrow x - z = 36$$



70) Answer: (c)

Difficulty Level: Hard

Micro Topic: Arithmetic Progression

Explanation:

$$\text{Sum of AP} = \frac{n}{2} [2a + (n - 1)d]$$

Where n= no of terms; d= common difference; a= first term

Here at first, n= 30;

Sum =3600

$$3600 = \frac{30}{2} [2a + (30 - 1)d]$$

$$\Rightarrow 2a + 29d = 240 \quad (1)$$

Given, 20 instalments cover $\frac{4}{9}$ th of debt (five-nineth of the debt left unpaid).

$$\frac{4}{9}\text{th of debt} = \frac{4}{9} \times 3600 = 1600$$

$$\text{Now } 1600 = \frac{20}{2} [2a + (20 - 1)d]$$

$$\Rightarrow 2a + 19d = 160 \quad (2)$$

Solving (1) and (2),

$$d = 8$$

$$a = 4$$

71) Answer: (c)

Difficulty Level: Easy

- **Option (a) is INCORRECT:** The passage explicitly states that objectivity does not mean neutrality; instead, it involves deep engagement with different perspectives.
- **Option (b) is INCORRECT:** The passage argues that effective arguments respect and thoughtfully present alternative perspectives, rather than ignoring them.
- **Option (c) is CORRECT:** This option best captures the passage's emphasis on critically understanding and engaging with opposing views rather than merely presenting a detached stance.
- **Option (d) is INCORRECT:** The passage stresses the importance of acknowledging and respecting alternative perspectives, not ignoring them.

72) Answer: (d)

Difficulty Level: Medium

- **Option (a) is INCORRECT:** While the passage addresses the relationship between mental illness and sleep disorders, it does not suggest that it is "misunderstood."
- **Option (b) is INCORRECT:** The passage does not claim that minor mental illness is always the cause of sleep disorders, only that there is a potential link.
- **Option (c) is INCORRECT:** This statement does not address the primary point of the passage, which focuses more on the link between minor mental illness and sleep disorders rather than the complexity of physiological processes.



- **Option (d) is CORRECT:** This option best reflects the passage's central point, which is the speculation that mild mental illness might often lead to the development of sleep disorders.

73) Answer: (d)

Difficulty Level: Difficult

Micro Topic: Geometric Progression

Explanation:

Let $a = 30$ be bacteria present initially.

After one hour, number of bacteria = $60 = a \times 2$

After 2 hour, number of bacteria = $120 = a \times 4$ and so on,

After n th hour, number of bacteria = $a \times 2^n$

Therefore, Number of bacteria at end of n th hour = $30(2^n)$

74) Answer: (a)

Difficulty Level: Moderate

Micro Topic: Averages

Explanation:

According to the question, the average score of Rajeev, Mahendra and Suresh is 63. D's score = $63 + 30 = 93$

Now, A's score = $93 - 15 = 78$

B's score = $78 - 10 = 68$

\therefore C's score = $63 \times 3 - (78 + 68) = 43$

\therefore (B + C)'s scores = $68 + 43 = 111$

Hence option a is the correct answer.

75) Answer: (c)

Difficulty Level: Easy

Micro Topic: Time, Distance & Speed

Explanation:

Let the average speed of the bike = x km/h

Then, the average speed of the truck = $5x$ km per hour

According to the question,

$$\frac{840}{x} - \frac{840}{5x} = 168$$

$$x = \frac{840 \times 4}{5 \times 168} = 4$$

The speed of the truck = $5x = 5 \times 4 = 20$ km per hour

The time it will take to cover 840 km = $\frac{840}{20} = 42$ hr

Answer is option C

76) Answer: (b)

Difficulty Level: Difficult

Micro Topic: Time, Distance & Speed

Explanation:

Let us say P meets Q after 't' seconds he starts from the starting point.



Speeds of P = $1000/200 = 5$ m/s

Speed of Q = $1000/400 = 2.5$ m/s

$$t = \frac{1000}{5-2.5} = 400s$$

Distance travelled by P when meets Q for the first time = $400 \times 5 = 2000$ m

i.e., after 2 complete revolutions.

P can make 10 complete revolutions. As P meets Q after every two revolutions, P would meet Q after the 10th revolution for the last time

i.e., after $400 \times 5 = 2000$ seconds.

77) Answer: (a)

Difficulty Level: Moderate

Micro Topic: Probability

Explanation:

The balls which bears either perfect cube or perfect square = 1, 4, 8, 9, 16, 25, 27, 36, 49, 64, 81, 100, 121, 125, 144, 169, 196

The total number of balls in which the unit digit is either multiple of 3 or multiple of 2 and also a perfect cube or perfect square = 4, 8, 9, 16, 36, 49, 64, 100, 144, 169, 196 = 11

So the required probability = $11/200$

78) Answer: (c)

Difficulty Level: Easy

Micro Topic: Permutation and Combination

Explanation:

If three people do not want to sit next to each other, they will occupy alternate chairs, i.e., the first, third and fifth chairs.

They can be arranged on these 3 chairs in $3!$ Ways.

The remaining two people can be arranged on the second and the fourth chairs in $2!$ Ways. \therefore The total number of arrangements = $3! \times 2! = 12$

79) Answer: (b)

Difficulty Level: Moderate

Micro Topic: Time & Work

Explanation:

As A can do half of work in 35 days,

A can do 1 work in 70 days

According to the question,

Ratio of efficiency of A and B

$$A : B = 3:4$$

Let A's efficiency be $3x$ and B's efficiency be $4x$.

Total units of work A alone will do in 70 days = $70 \times 3x$

Units of Work A & B together do in 1 day = $3x + 4x = 7x$

No of days A & B together take to complete the work = $70 \times (3x/7x) = 30$ days



80) Answer: (d)

Difficulty Level: Easy

Micro Topic: Pipes & Cisterns

Explanation:

Total time taken to fill the tank together by A, B and C = $\frac{1}{\frac{1}{50} + \frac{1}{120} + \frac{1}{60}}$

= 600/ 27 minutes

So, time taken to fill 27% of tank = 27% of 600/27 = 6 minutes