Q.1) Solution (c)

Explanation:

Option (a) is incorrect: The passage is not about the patience for achieving success. It shows two sides of life in various scenarios like "...every peak is preceded by a valley" and "Every triumph bears the silent scars of past." So, this option does not reflect the logical inference from the passage.

Option (b) is incorrect: This option is about perseverance and wisdom, but the passage just shows two different sides in various aspects of life. So, this is not the best inference from the passage.

Option (c) is correct: The given passage discusses the two sides of life in different conditions like "Every triumph bears the silent scars of past challenges, and every setback carries the potential for growth and resilience. Understanding life allows for a holistic perspective, encouraging an embrace of both light and shadow." These lines show that life is a coin wherein success and failure are two sides of the same coin. So, this option is the most logical inference.

Option (d) is incorrect: The passage does not mention knowledge as the ultimate objective of life. Therefore, this answer option is incorrect.

Q.2) Solution (b)

Explanation:

Option (a) is incorrect: The passage shows how leadership is helpful in handling wars. However, this option states the other way round - war as essential to learn leadership qualities, which is not correct. So, this option is not the best crux of the passage.

Option (b) is correct: The given passage is about leadership and how it helps in handling war scenarios. Leadership can be inherent or learned through training. The idea that such a unique blend of leadership is helpful in handling wars is visible in the lines "While innate traits like resilience and adaptability contribute, structured training cultivates the skills needed to navigate the complexities of warfare." Hence, this option best reflects the crux of the passage.

Option (c) is incorrect: The passage is about learning/ acquiring leadership skills for wars. The line "...*structured training cultivates the skills needed to navigate the complexities of warfare*" suggests that training could be imparted externally. Therefore, it would be incorrect to say that leadership can 'only' be self-acquired; it can also be externally taught. Therefore, this answer option is incorrect.

Option (d) is incorrect: The given option compares the two kinds of leaderships which is not discussed in the passage. The main theme of the passage is not the comparison of war-experienced leadership and the leadership acquired through training. So, this is not the best crux of the passage.

Q.3) Solution (d)

Explanation:

Option (a) is incorrect: The passage is on the clashes between India's food security concerns and WTO norms. The given option means that India does not adhere to international trade norms, which is not reflected in the passage. Also, reforming agricultural laws and policies is not the core idea of the passage. Hence, this option is incorrect.

Option (b) is incorrect: The given option is extreme and is not based on the passage. The passage shows the concerns that India faces in food security by following WTO norms. The author nowhere hints towards leaving WTO. The main theme of the passage is that it is difficult to balance both aspects. So, this is not the correct option.

Option (c) is incorrect: Whether WTO norms are discriminatory is not mentioned in the passage. Also, how those discriminatory norms restrict India's commitment to food security is not mentioned in the passage. So, this option is beyond the scope of the passage and is, therefore, incorrect.

Option (d) is correct: The central theme of the passage is the challenges India faces in ensuring food security in the backdrop of WTO norms. This is reflected in the lines *"However, the clash between India's domestic support programs and WTO norms creates tension. The need to uplift millions from poverty and hunger clashes with the demands of international trade agreements."* This option captures this theme comprehensively.

Q.4) Solution (b)

Explanation:

Option (a) is incorrect: The context of developed and developing countries is nowhere mentioned in the passage. So, this option is beyond the scope of the passage and is not the most rational inference.

Option (b) is correct: The main issue in fighting climate change as per the passage is funding as seen in the lines "*Implementing measures* to reduce greenhouse gas emissions, transition to renewable energy sources, and enhancing climate resilience necessitate financial investments" and "Ultimately, viewing the costs of climate action as an investment in a sustainable and resilient future underscores the importance of proactive measures." Therefore, we can infer that when cost is central to fighting climate change, then without funding and proactive measures, almost everyone will face the brunt of climate change. These arguments are aptly captured in this answer option.

Option (c) is incorrect: The main theme of the passage is the core issue of funding which is essential to fighting climate change. Mitigation and adaptation measures are only a part of the passage and not the central theme of the passage. So, this option is not at all the most rational inference.

Option (d) is incorrect: The given option is quite broad, generic, vague and not quite specific to the information contained in the passage. The passage primarily discusses the issues of funding

in every aspect of fighting climate change. This is not captured in this answer option. So, this option is not the most rational inference of the passage.

Q.5) Solution (d)

Explanation:

Given figure:



The rectangles in the given figure: BCFH, BDFG, DCIJ, IJGH, DCGH

So, there are 5 rectangles.

The triangles in the given figure: BDF, FDG, DIC, ICJ, IJH, IHG, ICH, ABD, ADE, AEC, ABE, ADC, ABC, ABF, AFH

So, there are 15 triangles.

Their product = $5 \times 15 = 75$ Their sum = 5 + 15 = 20Hence, option (d) is the correct answer.

Q.6) Solution (a)

Explanation:

Substituting the signs, equation in option (a) becomes: $3 \times 3 - 1 = 9 - 1 \div 1$ or 8 = 8, which is correct. Hence, option (a) is the correct answer.

Q.7) Solution (a)

Explanation:

Number of hours taken by Sachita to finish the work = $48 \times 9 = 432$ hours

Number of hours taken by Shikha to finish the work = $36 \times 16 = 576$ hours Together they will do, $(432 + 576)/(432 \times 576) = (7/1728)^{th}$ work in 1 hour Hence, they will take 1728/7 hours to finish the work.

Therefore, working 7(5/7) i.e. (54/7) hours a day, they can complete the work in $(1728/7) \times (7/54) = 32$ days.

Hence, option (a) is the correct answer.

Q.8) Solution (c)

Explanation:

Y is thrice as fast as X. So it will take one-third the time of X to produce 1 lakh units.

Time taken by X to produce 1 lakh units = 30 h.

So, time taken by Y to produce 1 lakh units = 30/3 h = 10 h.

Since machine Z takes the same amount of time as machines X and Y running together.

So, if Z takes 'p' hours to produce 1 lakh units, then,

1/p = 1/30 + 1/10(i)

(1 hour work of each of X, Y and Z considered)

If 't' be the time taken to produce 1 lakh units when all the three machines are used simultaneously, then,

1/t = 1/30 + 1/10 + 1/p(ii)

(1 hour work of each of X, Y and Z considered) \Rightarrow 1/t = 1/30 + 1/10 + 1/30 + 1/10 (from I) \Rightarrow 1/t = 2(1/30 +

1/10) ⇒ t = 3.75 h.

Hence, option (c) is the correct answer.

Q.9) Solution (a)

Explanation:

The password moves in a cyclic order First letter becomes the last Letter Second letter becomes the first letter Third letter becomes the second letter Fourth letter becomes the third letter Fifth letter becomes the fourth letter So, the correct password is WQTRE Hence, option (a) is the correct answer.

Q.10) Solution (b)

Explanation:

As H.C.F is 16, so the numbers must be multiples of 16. \therefore p12 = 112, or 512, or 912 And, 7q4 = 704, or 784 The product of LCM and HCF of any two numbers is equal to the product of the numbers. So, LCM = (512 × 784)/HCF = (512 × 784)/16 = 25088. It checks out. So, p = 5 and q = 8 Hence, option (b) is the right answer.

Q.11) Solution (c)

Explanation:

Assumption 1 is correct: The passage mentions, "...when people's fundamental requirements are met, they develop a desire to preserve the ecosystem". This line validates the assumption that when people's fundamental needs are satisfied, they are able to care about the environment. Hence, assumption 1 is correct.

Assumption 2 is correct: This assumption aligns with the argument made in the lines, *"Economic development has long been a focus of economic strategies, but it is only in the last few decades that sustainability has risen to the centre of economic discourse and acquired substantial significance. According to modified neoclassical growth theories, to provide economic stability for future generations, it is critical to accomplish sustainability." That means, sustainability does not arise naturally in the course of growth and development, but needs a conscious effort. Further, the passage also mentions, <i>"resource scarcity and environmental damage"* pointing towards the same issue. Hence, assumption 2 is valid.

Q.12) Solution (a)

Explanation:

Inference 1 is correct: The passage states that U.S. capitalists "had less need for workers and more people looking for jobs" in the 1970s. This implies an oversupply of labour, which weakens workers' bargaining power in negotiating wages. The shift in supply and demand dynamics created an opportunity for employers to suppress wages. Hence, inference 1 is correct. Inference 2 is not correct: While the passage mentions long work hours in the US, it doesn't provide any evidence about their happiness or life satisfaction compared to other countries. Hence, inference 2 is not correct.

Q.13) Solution (c)

Explanation:

Option (a) is incorrect. The following line from the passage "We need to take the spirit of critical pedagogy with absolute seriousness" indicates that there is a need to instil the spirit of critical pedagogy to promote the growth of students. However, this answer option, on the contrary, states critical pedagogy as hampering the growth of the students. Hence option (a) is incorrect. Option (b) is incorrect. This option goes against the message conveyed in the passage. The passage marks the need to move away from bookish knowledge as evident from the line, "seeing beyond the burden of bookish knowledge, overcoming the dead weight of ready-made facts, definitions and theories." It emphasises the need to instil critical thinking, rather than memorising and rote learning. Hence option (b) is incorrect.

Option (c) is correct. The passage revolves around the problems in the prevalent education system and the need to bring reforms in the same "... students are hardly encouraged or trained to see beyond textbooks, ... The prevalent pattern of school examinations demands nothing more than the capacity to memorise." Hence the most logical inference is the need to bring reforms in the same. Hence, option (c) is correct.

Option (d) is incorrect. This option goes against the spirit of the passage, which argues for the facilitation of healthy discussions and developing critical thinking in students. **Hence option (d) is incorrect.**

Q.14) Solution (d)

Explanation:

Option (a) is incorrect. The first line of the passage negates unemployment as the main problem for India. It states that underemployment is the real problem. Hence most of the people are employed (not jobless), but their productivity is low due to underemployment. **Hence option (a) is incorrect.**

Option (b) is incorrect. Refer to the lines: "What we have done is to put much of the capital in very selective sectors which are in any case very capital intensive." We have added capital to these sectors, but it has not helped in the creation of high-productivity jobs. Hence option (b) is incorrect.

Option (c) is incorrect. The following lines from the passage "And that is where the real challenge of jobs is- creating well-paid high productivity jobs. India is a labour-abundant and capital-scarce country" clearly indicate that there is no shortage of labour, but a lack of high productivity jobs. Hence option (c) is incorrect.

Option (d) is correct. Refer to the lines: "We have the situation where **much of the capital is** working with very few workers. And we have a host of workers in agriculture in micro and small enterprises where the capital is hardly present." There is a lack of capital allocation in the labourintensive sectors leading to a mismatch between capital and labour. Hence option (d) is correct.

Q.15) Solution (a)

Explanation:

The given equation is: $8 \ 15 - 20 \times 10 \div 5 = 47$ From option (a): After interchanging - and -, 15 and 8, we get: $15 - 8 \ 20 \times 10 \div 5 = 47$ Applying BODMAS, we get: LHS = $15 - 8 \ 20 \times 10 \div 5 = 15 - 8 \ 40 = 47$ Hence, LHS = RHS = 47Hence, option (a) is the correct answer.

Q.16) Solution (c)

Explanation:

Salary of Ajay in 2021 = Salary of Anuj in 2021 = 24000 [1 - (20/100)] = Rs. 19200 Salary of Ajay in 2022 = 19200 [1 + (20/100)] = Rs. 23040 Total salary of Anuj in both the years = 19200 + 24000 = Rs. 43200 Total salary of Ajay in both the years = 19200 + 23040 = Rs. 42240 Thus, total salary of Ajay is (43200 - 42240) i.e. Rs. 960 less than that of Anuj. \therefore Required percentage = (960/43200) × 100 = (20/9)% Hence, option (c) is the right answer.

Q.17) Solution (c)

Explanation:

Let x and y be the units and ten's digits of the two digit number. Given that; y > x, and 10x + y + 10y + x = 2[9(y - x)] + 2Or 11x + 11y = 18y - 18x + 2Or 29x = 7y + 2We will check the different values of x and y which can satisfy the above equation. Here, x = 2 and y = 8 is the only solution set that satisfies this

equation. So, Original number = yx = 82

Hence, option (c) is the correct answer.

Q.18) Solution (a)

Explanation:

Percentage strength of the acid in the mixture = (Quantity (volume) of the acid in the mixture $)/(Total volume) \times 100$

= $((5 \times 20/100 + 7.5 \times 80/100)/(5 + 7.5)) \times 100 = (5 \times 20 + 7.5 \times 80)/(5 + 7.5) = 56\%$ Hence, option (a) is the correct answer.

Q.19) Solution (d)

Explanation:

Since in 4 minutes, tap X fills 3 buckets. So, in 1 minute, tap X fills 3/4 bucket. Also, Since in 6 minutes, tap Y fills 5 buckets. So, in 1 minute, tap Y fills 5/6 bucket. Again, Since in 10 minutes, tap Z fills 8 buckets. So, in 1 minute, tap Z fills 8/10 bucket. So, buckets filled in 1 minute = 3/4 + 5/6 +8/10 = 143/60. Since 1 bucket can hold 2 gallons of water. So, 143/60 bucket can hold 2×143/60 = 286/60 gallons of water. So, in 1 minute, total water discharge = 286/60 gallons. Since the full tank fills in 1 hour (60 minutes), So, the capacity of the tank = $286/60 \times 60 = 286$ gallons. Hence, option (d) is the correct answer.

Q.20) Solution (a)

Explanation:

P = (40% of A) + (60% of B) = 0.4A + 0.6B Q = (75% of A) - (25% of B) = 0.75A - 0.25BQ is greater than P means 0.4A + 0.6B < 0.75A - 0.25BOr 0.85B < 0.35AOr 0.85/0.35 < A/BOr A/B > 17/7, i.e. A/B > 1Hence, option (a) is the correct answer.

Q.21) Solution (b)

Explanation:

Inference 1 is incorrect: Refer to the line: *"Parents navigate a dynamic journey ...communication, setting boundaries, and providing a supportive environment contribute to a child's emotional well-being."* This line does underline the role of parents in emotional development of their children. However, it does not mean that others (like friends and teachers) do not contribute to emotional well-being of children. So, this inference is not correct.

Inference 2 is correct: The given inference is correct as it is based on the lines "*Effective communication, setting boundaries, and providing a supportive environment contribute to a child's emotional well-being.*"

Q.22) Solution (d)

Explanation:

Option (a) is incorrect: This option captures only the positive aspect of child-rearing which is a small part of the passage. Other aspects like the challenges of child-rearing are not captured in this option. Also, the passage does not mention that the end goal is for them to become *"responsible and compassionate model citizens."* Therefore, this answer option is incorrect.

Option (b) is incorrect: The passage is about the complexity and good things of child-rearing. Child rearing, as done by parents, includes the transfer of values, skills, and knowledge. However, whether such rearing depends on societal values or not is not covered in the passage. So, this is not the best-implied meaning of the passage.

Option (c) is incorrect: The context of child rearing and success is not covered in the passage. The passage does not link good child rearing with a successful life or vice-a-versa. Hence, this is not the best-implied meaning of the passage.

Option (d) is correct: The given option is based on the lines "Balancing discipline with love and fostering independence while ensuring safety **present intricate challenges**. **Parents often find joy** in the process of imparting values, skills, and knowledge." These lines validate that child rearing is a complex process, but parents do enjoy it.

Q.23) Solution (b)

Explanation:

Option (a) is incorrect: This option only covers one aspect of the passage which shows the benefits of globalization as seen in the lines "*While it promotes interconnectedness and shared experiences, it also raises concerns about the loss of cultural diversity*". However, it misses the

issues caused by it in the context of the loss of local culture. So, this is not the most rational inference.

Option (b) is correct: The lines "As a result, local traditions and practices face the risk of erosion or **assimilation into a globalized culture** (cultural homogenization) ... While it promotes interconnectedness and shared experiences, it also raises concerns **about the loss of cultural diversity**" validate this answer option. This option best captures the inference that globalization has threatened local cultures. So, this is the most rational inference from the passage.

Option (c) is incorrect: The context of de-globalization is not correct because it is not discussed in the passage. Also, it is not close to the main theme of the passage which is covered in option (b). This option presents an extreme view. So, this is not the most rational inference.

Option (d) is incorrect: The given option is not correct because it focuses only on Western culture whereas the main theme of the passage is the impact of globalization on local culture. Moreover, even if true, this does not mean that the promotion of local culture globally is the solution. So, this is not the most rational inference.

Q.24) Solution (c)

Explanation:

Given matrix:

Column	C 1	C ₂	C3
Row			
R1	LX	GT	DK
R ₂	IR	TV	KP
R ₃	XU	?	NM

Let's consider R₁C₁,

In the term 'LX', the product of the alphabetical position of L (12) and reverse alphabetical position of X (3) = $12 \times 3 = 36 = (6)^2$.

Applying a similar pattern in the whole matrix, we get:

LX	GT	DK	
36	49	64	
IR	TV	KP	
81	100	121	
XU	?	NM	
144	169	196	

 $R_1C_2 = GT =$ alphabetical value of G × reverse alphabetical value of T = 7×7 = 7² $R_1C_3 = DK =$ alphabetical value of D × reverse alphabetical value of K = 4×16 = 8² $R_2C_1 =$ IR = alphabetical value of I × reverse alphabetical value of R = 9×9 =

9²

 $R_2C_2 = TV =$ alphabetical value of T × reverse alphabetical value of V = 20×5 = 10^2

 $R_2C_3 = KP = alphabetical value of K \times reverse alphabetical value of P = 11×11 = 11^2$

 $R_3C_1 = XU =$ alphabetical value of X × reverse alphabetical value of U = 24×6 = 12^2

 $R_3C_2 = 169 = 13 \times 13 =$ alphabetical position of M × reverse alphabetical position of N = MN $R_3C_3 =$ NM = alphabetical value of N × reverse alphabetical value of M = $14 \times 14 = 14^2$ Hence, required term is 'MN'.

So, option (c) is the correct answer.

Q.25) Solution (d)

Explanation:

Using either of the statement alone, we cannot find the ratio of profit as the data about sales and expenditures are given in different statements.

Combining both the statements, we get:

Let 4a and 5a be the sales and 3b and 4b be the expenditures of A and B

respectively. \therefore Ratio of profits = (4a - 3b)/(5a - 4b)

= [(5a - 4b) - (a -b)]/(5a -

4b) = 1 – [(a - b)/(5a - 4b)]

(a-b)/(5a-4b) may or may not be positive, depending on whether a>b or a<b.

So, the ratio of profits may or may not be greater than 1 and hence, which company got a higher profit **cannot** be determined even using both the statements together.

Hence, option (d) is the correct answer.

Q.26) Solution (a)

Explanation:



Thus, there are 6 people in between Kamal and Vimal. Vimal is third to the right of Manoj. So, there are two people in between Manoj and Vimal. Hence, there are a total of (6 + 2 + 1) i.e. 9 persons in between Manoj and Kamal. Hence, option (a) is the right answer.

Q.27) Solution (b)

Explanation:

As per the given information, we can draw the following sitting arrangement:



Hence, it is clear that Vishal is on the left of Kishan. So, option (b) is the right answer.

Q.28) Solution (c)

Explanation:

The letter K is inside all the shapes. Thus, letter K means lawyer, thief, artist and businessman. Hence, option (c) is the right answer.

Q.29) Solution (c)

Explanation:

The pattern of numbers is as follows: (33 77) \times 5/2 = 110 \times 5/2 = 275 Thus, (19 31) \times 5/2 = 50 \times 5/2 = 125 Hence option (c) is the correct answer. Is

Q.30) Solution (d)

Explanation:

Let x (Rs) be the fixed cost and y (Rs/guest), the variable cost. Then, x + 50y = 50000(I) and x + 100y = 80000.....(II). From (I) and (II), we get, y = 600 and x = 20000. Now let the average expense of 200 guests be Rs 'z', Since the variable cost of the guest house is linearly related to the number of guests

Therefore, $200 \times z = x + 200y = 20000 + 600 \times 200$ or z = Rs 700Hence, option (d) is the correct answer.

Q.31) Solution (d)

Explanation:

Assumption 1 is incorrect: The passage mainly focuses on exports and their importance for economic growth. However, it does not mean that every country must necessarily have an open economy. So, the assumption that no country can have a closed economy is not correct because the passage does not imply this anywhere.

Assumption 2 is incorrect: It may be possible for an economy grow even when businesses do not compete internationally. Also, the issue of "tariff protection" has not been discussed in the passage. Therefore, this answer option is incorrect.

Q.32) Solution (a)

Explanation:

Option (a) is correct: The given option is based on the lines "*The positive correlation between exports and economic growth is evident through various channels. Exports boost a nation's income by generating revenue from foreign markets. This influx of funds can be utilized for domestic investment, infrastructure development, and social programs, all of which contribute to economic advancement.*" These lines explain that exports are crucial for the economic development of a country and are crucial for overall prosperity. Hence, this option best captures *the crux of the passage.*

Option (b) is incorrect: The passage is specific to exports and does not mention other ways of economic growth and social prosperity. So, the conclusion that exports alone are insufficient is not based on the information provided in the passage. Therefore, this answer option is incorrect. **Option (c) is incorrect**: The context of imports is not discussed in the passage. The relative amount of exports and imports, and their impact on economic growth is not discussed in the passage. So, this is not the best crux of the passage.

Option (d) is incorrect: The context of India is not discussed in the passage. The author talks about the role of exports in overall economic growth, without specifically mentioning any particular country. Therefore, this answer option is incorrect.

Q.33) Solution (c)

Explanation:

Let at present Ajay's age = 4x years Then, Sachin's present age = 5x years 10 years ago: Ajay's age = 4x - 10 years Sachin's age = 5x - 10 years According to the question, (4x - 10)/(5x - 10) = 19/25Or 100x - 250 = 95x - 190Or 5x = 60Or x = 12Ajay's present age = 4x = 48 years Sachin's present age = 5x = 60 years Suresh's present age = Ajay's age + 12 = 48 + 12 = 60 years \therefore Required average = (48 + 60 + 60)/3 = 56 years Hence, option (c) is the correct answer.

Q.34) Solution (c)

Explanation:

Pipe A supplies water at 50 liters/hour. Pipe B can fill the tank in 4 hours. Pipe C can empty the tank in 12 hours.

So, portion of tank filled by pipe A in 1 hour = 1 - (1/4) + (1/12) = (5/6)th part \therefore Time taken by pipe A to fill the tank = 6/5 hours So, Volume of the tank = (6/5) × 50 = 60 liters Hence, option (c) is the correct answer.

Q.35) Solution (a)

Explanation:

Let the first term be a and the common ratio be r. Given that, a/(1 - r) = 27(i) And $a^2/(1 - r^2) = 243$ (ii) Dividing (ii) by (i), we get: a/(1 + r) = 9(iii) Dividing (iii) by (i), we get: (1 - r)/(1 + r) = 1/3Or 3 - 3r = 1 + rOr 4r = 2Or r = 1/2Hence, option (a) is the correct answer.

Q.36) Solution (c)

Explanation:

Let d be the distance between Pratapgarh and Prayagraj.

Then time taken by them to meet = $d/[(d/42) + (d/56)] = (42 \times 56)/(42 + 56) = 24$ minutes Since they started at 7:30 am, they would meet at 7:54 am. Hence, option (c) is the correct

Q.37) Solution (b)

Explanation:

Step 1: Let the number be x. the Step 2: According to question, multiplied three-fourth becomes: is by itself. the equation of so Х $x \times (3/4)x = 14700$ **Step 3:** Simplify the left-hand side: $(3/4) \times x^2 = 14700$ Step 4: Multiply both sides by 4 eliminate the denominator: to $3x^2 = 14700 \times 4 = 58800$ Divide both 3 x²: Step 5: sides by to isolate $x^2 = 58800 \div 3 = 19600$ Take Step 6: the square root of both sides: $x = \sqrt{19600} = 140$ Hence option (b) is the correct answer.

Q.38) Solution (a)

Explanation:

Given: 3798125P369 is divisible by 3 If a number is divisible by 3, then its sum of digits will be also divisible by 3.

Sum of the digit of "3798125P369" = 3 + 7 + 9 + 8 + 1 + 2 + 5 + P + 3 + 6 + 9 = 53 + P So, minimum possible value of P is 1.

Hence, option (a) is the correct answer.

Q.39) Solution (b)

Explanation:

Suppose Anuj buys 'a' pen, 'b' pencils and 'c' notebooks.

So, 6a + 5b + 3c = 50

As he has to buy at least 3 items of each kind, Rs. 42 would get spent.

With the remaining Rs. 8, it is only possible to buy 1 pencil and 1 notebook. Thus, there is only one unique combination in which the items can be bought. Hence, option (b) is the right answer.

Q.40) Solution (d)

Explanation:

Each of the nine hamlets is along the bank of a river and the distance between two adjacent hamlets is 1 km. So, it is clear that all the hamlets lie along the same line.

P is 4 km east from L and T is 4 km east from P. Thus, L and T are at the two ends and P is the middle hamlet.

Thus, the nine hamlets lie on the bank of the river as shown in the picture below:



N is 3 km from T. So, N has to come in the position as shown in the above picture. Distance between L and N = Distance between L and P + Distance between P and N

= 4km + 1 km = 5 km.

Hence, option (d) is the correct answer.

Q.41) Solution (c)

Explanation:

Assumption 1 is correct: Refer to the line: *"Patients must have control over how their health data is used and shared."* Clearly, there are privacy concerns with the increasing use of AI in healthcare. So, innovations in AI need to be balanced with addressing these concerns for the effective use of AI in healthcare. So, this assumption is correct as per the passage.

Assumption 2 is correct: The passage is about privacy concerns with the increasing use of AI in healthcare and highlights the need for regulations. It is evident from the line: *"Regulatory frameworks with penalty provisions must evolve to address the unique challenges posed by AI in healthcare."* The government is responsible for regulations through laws and policies. So, this assumption that the government needs to form laws and policies for privacy threats is correct.

Q.42) Solution (c)

Explanation:

Option (a) is incorrect: The passage is about AI in health and the associated privacy concerns. However, this option misses the context of privacy concerns. So, this option is not the best crux of the passage.

Option (b) is incorrect: As per this answer option a robust transparency framework and strict privacy standards will foster innovation in AI health. However, the passage does not mention them as precursors for innovation in AI health. The passage only mentions that privacy and transparency foster trust in AI healthcare solutions. So, this is not the best crux of the passage.

Option (c) is correct: The passage is about AI in health and the privacy challenges associated with it. The lines, "*Patients must have control over how their health data is used and shared*. *Robust cybersecurity measures are essential to prevent unauthorized access and protect against potential breaches*. AI algorithms often rely on vast datasets, *including sensitive health information*, to train and improve their performance", show that without privacy, AI in healthcare can be misused. Hence, it is correct to state that without privacy safeguards AI in healthcare could be dangerous due to the threat of misuse of data.

Q.43) Solution (a)

Explanation:

Inference 1 is correct: The passage clearly shows that the institution of marriage has transitioned from the traditional form to the modern construct as seen in the lines "*The rise in inter-cultural and inter-faith marriages, as well as an increase in instances of late or chosen marriages, indicates a departure from conventional views*". Also, the line "...the traditional perception of marriage as a sacrament is transforming..." clearly shows the changing notion. So, it would be correct to infer that the value of marriage as a sacrament is subjective.

Inference 2 is incorrect: The context of the Western constructs has nowhere been discussed, and how they impact the institution of marriage is also not covered. So, this option is beyond the scope of the passage and is not correct.

Q.44) Solution (a)

Explanation:

Assumption 1 is correct: The passage is about uncertainty in the context of decision-making, and its consequences. This assumption refers to the uncertainty that could result from choices which eventually could cause failure or a pause in growth as per the lines, "*The fear of making the wrong decision immobilizes any person, fostering a state of inertia that hinders personal growth and achievement*. This perpetual hesitancy extends beyond the immediate choices; it corrodes his confidence and self-esteem, creating a cycle of self-doubt." So, this assumption is valid as per the passage.

Assumption 2 is incorrect: The passage covers the issues of uncertainty in decision-making. However, the given assumption mentions what kind of person makes decisive decisions in life which is not a part of the passage. For success, decisive approach might be needed. But to assume that a goal-oriented person is decisive would not be correct, as it is not based on the information contained in the passage. That would be an extreme extrapolation of the propositions made in the passage.

Q.45) Solution (d)

Explanation:

Let the total number of students = n. Number of students to the left of Raman = 6. Number of students to the right of Rohan = 13. Number of students between Raman and Rohan = n/4. Total number of students in the row = 6 + 13 + 2 + n/4 = n So, 3n/4 = 21 Or n = 28. Hence, option (d) is the correct answer.

Q.46) Solution (b)

Explanation:

Ratio of honey and sugar syrup in the vessel after the first replacement = 9:1 When 1 liter of the mixture is taken out, remaining mixture will have $9/10^{th}$ of 9 liter as honey. Quantity of honey in the final mixture = $9 \times (9/10) = 8.1$ liters Quantity of sugar syrup in the final mixture = 10 - 8.1 = 1.9 liters Required ratio = 8.1 : 1.9 = 81 : 19Hence, option (b) is the right answer.

Q.47) Solution (d)

Explanation:

Actual gain of Raghu = (Amount repaid by Kunal) – (Amount repaid by Raghu) = $36000 [1 + (20/100)]^2 - 36000 [1 + (2 \times 10/100)]$ = 36000 (1.44 - 1.2)= Rs. 8640Had Kunal repaid at the end of three years, the gain for Raghu would have been = $36000 [1 + (20/100)]^3 - 36000 [1 + (3 \times 10/100)]$ = 36000 (1.728 - 1.3)= Rs. 15408Extra gain for Raghu = 15408 - 8640 = Rs. 6768Hence, option (d) is the correct answer.

Q.48) Solution (b)

Explanation:

Let us check which of the roads can be used.

- $X \rightarrow$ Affected by flood. \rightarrow Cannot be used.
- $Y \rightarrow$ Blocked by storm \rightarrow Cannot be used.
- $Z \rightarrow$ Blocked because 1 is blocked. \rightarrow Cannot be used.
- $1 \rightarrow$ Affected by flood \rightarrow Cannot be used.
- $2 \rightarrow Can be used$

 $3 \rightarrow$ Affected by flood \rightarrow Cannot be used. Hence, option (b) is the correct answer.

Q.49) Solution (c)

Explanation:

```
9^{3x-1} + 9^{3x+1} = 246
Or (9^{3x}/9) + (9^{3x} \times 9) = 246
Or 9^{3x} [(1/9) + 9] = 246
Or 9^{3x} [82/9] = 246
Or 9^{3x} = (246 \times 9)/82
Or 9^{3x} = 3 \times 9
Or (3^{2)3x} = 33
Or 3^{6x} = 33
Or 6x = 3
```

Or x = 0.5 Hence, option (c) is correct.

Q.50) Solution (b)

Explanation:

The arrangement of trees is somewhat as shown in the picture below:



The first row has n trees; second row has n-1 trees and so on till the last row which will have 1 tree. So, total number of trees = $n + (n-1) + (n-2) \dots + 1 = n (n+1)/2$ As given in the question, n(n+1)/2 = 55So, n = 10

Hence, option (b) is the correct answer.

Q.51) Solution (d)

Explanation:

Statement 1 is incorrect as the passage does not touch upon or imply anything about the need for reducing the number of representatives. It only talks about using AI to train the customer care executives, not about replacing them altogether. **Hence, this statement is incorrect.**

Statement 2 is incorrect as the passage does not suggest a decline in customer satisfaction with automated responses. Also, the passage implies that AI-driven training can improve customer services as it mentions 'individualised training' at a large scale that was not possible with traditional methods that are 'expensive, time-consuming, and difficult to replicate realistically.' Since the use of AI is intended for an improvement in training, it is unlikely to lead to a decline in customer satisfaction. **Hence, this statement is incorrect.**

Q.52) Solution (c)

Explanation:

Option (a) is incorrect because the author states that there has been *'curiously little'* discussion on the difficulty of manufacturing the bomb, indicating that the discussion has not been holistic. **Hence, this option is incorrect.**

Option (b) is incorrect because the author states that there have been *'many reiterations of the useless statement'* about international control. This reflects the criticality of the discussion, therefore, to state that the discussion on atom bombs is useless is not correct as per the passage. **Hence, this option is incorrect.**

Option (c) is correct because the author states in the beginning that given the importance of the matter ('how likely we all are to be blown to pieces by it within the next five years'), there has not been enough discussion of the issue ('as might have been expected.'). Hence, this option is correct.

Option (d) is incorrect because the author notes that there have been several diagrams in the newspapers depicting the inner workings of the bomb (*'protons and neutrons doing their stuff'*). These are technical and hence *'not very helpful to the average man'*. **Hence, this option is incorrect.**

Q.53) Solution (b)

Explanation:

Statement 1 is incorrect as the passage does not state the difficulty of meeting the target. Instead, it focuses on steps that can be taken towards ensuring a low-carbon future for India as seen in the lines "*This calls for a phasing down of fossil-based energy sources in line with India's goal of achieving net zero by 2070.*" The given claim in the statement is extreme and is not based on the information provided in the passage. **Hence, this statement is incorrect.**

Statement 2 is correct as the passage states that green hydrogen can be deployed first in difficulttodecarbonize sectors such as fertiliser and refinery industries, and later in heavy industries. The lines "The industrial sector is the main driver for future growth of energy demand and emissions, and green hydrogen can play a critical role in initially decarbonizing the hard-to-abate industrial sectors, such as fertiliser and refinery industries, and later heavy industries, including iron and steel" from the passage validate the given statement. Hence, this statement is correct.

Q.54) Solution (c)

Explanation:

The book containing 250 pages is numbered from 1 to 250. Total number of digits = (Number of digits in 1-digit page numbers) + (Number of digits in 2-digit page numbers) + (Number of digits in 3-digit page numbers)

Number of digits in 1-digit page numbers, 1 to $9 = 1 \times 9 = 9$

Number of digits in 2-digit page numbers, 10 to $99 = 2 \times 90 = 180$

Number of digits in 3-digit page numbers, 100 to 250 = 3 × 151 = 453

So, the total number of digits = (9 + 180 + 453) = 642 It is less than 700. So, option (a) is correct. The total number of digits in 3-digit page numbers is 453, which is less than 550. So, option (b) is also correct.

Hence, option (c) is the correct answer.

Q.55) Solution (c)

Explanation:

Average of ten numbers is 1100 So, Total of ten numbers = $1100 \times 10 = 11000$ If highest and lowest number is removed, then average becomes 1000. So, Total of remaining eight numbers = $1000 \times 8 = 8000$ So, Sum of highest and lowest numbers = 11000 - 8000 = 3000Ratio of lowest and highest number is 5 : 7 So, Highest number = $(7/12) \times 3000 = 1750$ Required percentage = $(1750/11000) \times 100 = 15.90\%$ (approx. 16%) Hence, option (c) is the correct answer.

Q.56) Solution (b)

Explanation:

Case1:



Case2:



From the above diagrams, we can conclude that either conclusion I or conclusion III follows. Hence, option (b) is the correct answer.

Q.57) Solution (b)

Explanation:

- It is given that the weight of bottle P is 37 kg, which is 15 kg more than N (22 kg).
- However, **P** is explicitly said to NOT be the heaviest bottle.
- It is also stated that **two bottles are heavier than M**, which means M is the **third heaviest** bottle.
- Since P is heavier than M, P must be the second heaviest.
- Therefore, **R must be the only bottle heavier than P**, making **R the heaviest bottle**.
- Thus, R has the maximum weight.

Q.58) Solution (d)

Explanation:

- From the clues, we know that $\mathbf{O} > \mathbf{Q} > \mathbf{S}$ and that **M** is heavier than **O**.
- So, the weight order among those is: M > O > Q > S.
- Also, it is stated that two bottles are heavier than M, so M is the third heaviest.
- Therefore, the complete order from heaviest to lightest (based on clues and given values) is likely:
- R > P (37 kg) > M > O > Q > S > N (22 kg)
- Now, to find how many bottles are heavier than S, we count the ones before it in this order: $\mathbf{R}, \mathbf{P}, \mathbf{M}, \mathbf{O}, \mathbf{Q} \rightarrow \text{That's five bottles heavier than S}$.
- Hence, more than five bottles are heavier than S.

Q.59) Solution (d)

Explanation:

Let's evaluate each option individually:

- Option (a): Weight of R = 50 kg
 - Since P = 37 kg and R is the only bottle heavier than P, R can logically be 50 kg or more.
 - This is a valid assumption.
- Option (b): Weight of Q = 12 kg
 - From the relative order: **O** > **Q** > **S**, and S is lighter than Q.
 - \circ If S = 10 kg, Q can be 12 kg this is consistent with the given relationships.
- Option (c): Weight of O = 29 kg

- O is heavier than Q and S, but lighter than M. If Q = 26 kg, and M = 33 kg, then O = 29 kg fits well in between.
- So, this is also possible.

• Since all three options are possible, none of them contradicts the clues. Henc answer is (d) None of the above

Q.60) Solution (c)

Explanation:

A sum of Rs. 160 is shared among Arun, Banwari and Chandan. Arun + Banwari + Chandan = Rs. 160 \dots (1) From Statement 1: Arun + Banwari = Rs. 80(2) From equation 1 and 2, we get: Chandan = 80 Thus, Chandan gets Rs. 80. From Statement 2: Banwari + Chandan = Rs. 100(3) From equation 1 and 3, we get: Arun = 60Thus, Arun gets Rs. 60. Combining both the Statements, Amount received by Banwari = (100 + 80) - 160 = Rs. 20Thus, Banwari received Rs. 20. Hence, the Question can be answered by using both the Statements together. Hence, option (c) is the correct answer.

Q.61) Solution (d)

Explanation:

Inference 1 is incorrect: The passage is about smartphone addiction and the issues associated with it. However, this option mentions the dopamine cycle and viral news which is not explicitly mentioned in the passage. Even if we assume it to be true, it would be an extreme statement to say that they make it *"impossible"* to break free from phone addiction.

Inference 2 is incorrect: The given inference seems to be based on the following lines "Social relationships can suffer as individuals **prioritize virtual connections over face-to-face** *interactions*." Here, the passage mentions preferring virtual connections whereas the inference is about valuing full isolation more than face-to-face interactions which is not correct because full isolation includes isolating digitally as well

Q.62) Solution (d)

Explanation:

Assumption 1 is incorrect: The passage clearly states "...climate change-induced disruptions can lead to conflicts over scarce resources." The passage does not state that climate change is the only factor causing conflicts over scarce resources. So, this assumption is incorrect.

Assumption 2 is incorrect: The passage does not contain any context of global organizations and governments. Hence, this assumption is not based on the information contained in the passage.

Q.63) Solution (d)

Explanation:

Assumption 1 is incorrect: The given assumption is based on the premise that with high population growth there will be a large young population. However, to assume that such a young population would help reap better dividend would not be correct, because the demographic dividend is not only based on a large young population, it needs adequate skills and employment. So, this assumption is not correct.

Assumption 2 is incorrect: The given assumption is based on the following lines "*The services sector, including technology and finance, is likely to witness heightened demand globally, driven by an expanding middle class.*" However, these lines mean that the service sector expands due to the increasing middle class and not vice versa, as stated in this assumption statement. So, this assumption is not valid.

Q.64) Solution (c)

Explanation:

Let the efficiency of M be 7x units/day. Then, efficiency of N = 5x units/day. Therefore, total work = $(7x + 5x) \times 45/2 = (12x) \times 45/2 = 270x$ For statement1: 70% of work = $(270x) \times 70\% = 189x$ Time taken by M to complete 70% work = 189x/7x = 27 days For Statement 2: 40% of work = $(270x) \times 40\% = 108x$ Time taken by M to complete 40% work = 108x/7x = 15.4 days Therefore, both the statements are correct. Hence, option (c) is the correct answer.

Q.65) Solution (d)

Explanation:

Let, the number of chocolates with Anuj and Basant be x and y respectively.

Given, x + y = 50 and $x^2 + y^2 = 1300$ On solving, we get:

x = 20, y = 30

Or

x = 30, y = 20

The possible number of chocolates with Anuj and Basant, the rate at which they sell their chocolates and the possible amounts they get are tabulated below.

	Α	В	Α	В
Number	20	30	30	20
Rate	5	6	5	6
Amount	100	180	150	120
Total	280		270	
amount				

Hence, option (d) is the correct answer.

Q.66) Solution (b)

Explanation:

Average monthly income of Ananya for that year = [9(12000) + 3(16000)]/12 = Rs. 13000Hence, option (b) is the right answer.

Q.67) Solution (a)

Explanation:

Given, $(5 + 1)(5^2 + 1)(5^4 + 1)(5^8 + 1)(5^{16} + 1)$ It can also be written as: $\{(5 - 1)(5 + 1)(5^2 + 1)(5^4 + 1)(5^{16} + 1)\}/(5 - 1)$ We know that $a^2 - b^2 = (a - b)(a + b)$ So, $\{(5 - 1)(5 + 1)(5^2 + 1)(5^4 + 1)(5^8 + 1)(5^{16} + 1)\}/(5 - 1)$ $= \{(5^2 - 1)(5^2 + 1)(5^4 + 1)(5^{16} + 1)\}/4$ $= \{(5^4 - 1)(5^4 + 1)(5^{16} + 1)\}/4$ $= \{(5^{16} - 1)(5^{16} + 1)\}/4$ $= \{(5^{16} - 1)(5^{16} + 1)\}/4$ $= \{(5^{32} - 1)/4$ Hence, option (a) is the correct answer.

Q.68) Solution (a)

Explanation:

L.C.M. of (5, 9, 24) = 360According to the question, Required number = 360k + 8This number should be divisible by 13. On putting k = 1, Number = $360 \times 1 + 8 = 368$ 368 is not divisible by 13. On putting k = 2, Number = $360 \times 2 + 8 = 728$ 728 is divisible by 13. Hence, required number is 728. Now, sum of squares of the digits = $7^2 + 2^2 + 8^2 = 49 + 4 + 64 = 117$ Hence, option (a) is the correct answer.

Q.69) Solution (a)

Explanation:

From Statement 1: The marked price of the article was 30% more than the cost price. Marked Price (MP) = 130% of CP = 1.3CP

Discount% = 20%So, Selling Price (SP) = (100 - 20)% of MP = 0.8MP Or SP = (0.8) (1.3) CP = 1.04 CP Profit = SP - CP = 1.04 CP - CP = 0.04CPThus, the article is sold at a profit. So, statement 1 alone is sufficient. From statement 2: If the article had been sold at a discount of 40%, then there would have been a loss of Rs. 50. Selling Price (SP) = (100 - 40)% of MP = 0.6MP Loss = CP - SPOr CP - 0.6MP = 50Or CP = 50 + 0.6MPHowever, if discount is 20%, then SP = 0.8 MP Loss = CP - SP = 50 + 0.6MP - 0.8MP = 50 - 0.2MPProfit = SP - CP = 0.8 MP - (50 + 0.6M) = 0.2MP - 50Thus, we can't say whether the selling price of an article is more than the cost price, or not. So, statement 2 alone is not sufficient. Hence, option (a) is the right answer.

Q.70) Solution (c)

Explanation:

Given series:

Q 2 D @ 9 K U % 7 B Y E H 3 L H 5 I \$ 8 F W 6 * A F 4 O S

Now, according to the question, positions of U and A are interchanged and positions of D and I are also interchanged. Hence, we get:

Q 2 I @ 9 K A % 7 B Y E H 3 L H 5 D \$ 8 F W 6 * U F 4 O S

Now, symbols which are preceded by a vowel are @ and %.

Symbol which is followed by an even number is \$.

Hence, 3 such symbols are there which are either preceded by a vowel or followed by an even number.

Hence, option (c) is correct.

Q.71) Solution (b)

Explanation:

Note: The question is about invalid assumptions.

Assumption 1 is correct: The line "*Effective utilization of digital tools requires not only access but also the ability to navigate and leverage them*" clearly shows that there is a lack of digital literacy in the country. Hence, it remains a challenge. So, this assumption is correct.

Assumption 2 is incorrect: It is incorrect to say that the Digital India initiative is not successful because of the lines "The Digital India initiative has made significant strides in enhancing digital infrastructure, promoting e-governance, and fostering technology adoption, there are critical aspects that warrant analysis. One aspect is the digital divide, which persists across urban-rural and socio-economic lines." These lines show that though there are challenges, there are positive results as well.

Q.72) Solution (d)

Explanation:

Assumption 1 is correct. The given assumption is correct as it is based on the following line "Gradually, educational approaches have turned more to skill development and addressing all health aspects, including physical, social, emotional, and mental well-being. ... It can also produce informed citizens who can seek services and advocate for policies and environments that affect their health." So, health education can enhance citizen participation in healthcare governance. Therefore, this answer option is correct.

Assumption 2 is correct. The lines "Educating children and adolescents can instil positive health behaviours in the early years and prevent risk and premature death" and "Education for health is an important and essential component of an effective school health programme, and it is likely to be the most effective", show that health education in school should be prioritized. Hence, the given assumption is correct as per the passage.

Q.73) Solution (d)

Explanation:

Path of Rohit can be represented as follows:



In triangle PQR, PQ can be calculated as follows: $PQ^2 = 6^2 + 8^2$ or PQ = $V(6^2 + 8^2) = 10$ km Hence, option (b) is the correct answer.

Q.74) Solution (b)

Explanation:

At least two matches have to be held in Tier I cities. It is given that B is rejected. So, A and C have to be selected as venues.

We know that Y is selected as a venue.

Direct link between W and Y is damaged. So W cannot be selected as venue.

C and Z are not connected directly. So, Z cannot be selected as venue.

So, from Tier II cities, X and Y can be selected as venues.

Thus, the possible selections are A, C, X and Y. Hence, option (b) is the correct answer.

Q.75) Solution (c)

Explanation:

This question can be solved by using the options:

Option (a) \rightarrow A, B, C and W. \rightarrow B and W are not connected directly. Thus, this combinations is not possible.

Option (b) \rightarrow A, B, C and Z \rightarrow C and Z are not connected directly. Thus, this combinations is not possible.

Option (c) \rightarrow A, B, C and X \rightarrow This combination is possible.

Option (d) \rightarrow A, W, Y and Z \rightarrow The direct road between W and Y has been damaged due to floods. Thus, this combinations is not possible. Also, atleast two tier I cities must be selected. Hence, option (c) is the correct answer.

Q.76) Solution (b)

Explanation:

If A, B and C are selected as venues then W and Z cannot be selected as venues because Cities B & W and C & Z are not directly connected to each other.

Thus, either city X or Y can be selected as the fourth venue.

So, there are two possible options which are as follows:

1. A, B, C and X

2. A, B, C and Y

Hence, option (b) is the correct answer.

Q.77) Solution (a)

Explanation:

We need to check all the options to see which of the codes follow the given rule. Option (a): $M + 2 \rightarrow P + 2 \rightarrow S + 2 \rightarrow V + 2 \rightarrow Y + 2 \rightarrow B + 2 \rightarrow E$ (follows the rule) Option (b): $Q + 2 \rightarrow T$ (does not follow the rule) Option (c): $E + 2 \rightarrow H$ (does not follow the rule) Option (d): $Z + 2 \rightarrow C + 2 \rightarrow F$ (does not follow the rule) Hence, option (a) is the correct answer.

Q.78) Solution (c)

Explanation:

'BDZBKMLN' is the code of 'CALM'

Each letter of the given words is represented by the letter **preceding** it and the letter **following** it. (B-**C**-D), (Z-**A**-B), (K-**L**-M), (L-**M**-N)

Similarly, code for '**TABLE**' will be: S-**T**-U, Z-**A**-B, A-**B**-C, K-**L**-M, D-**E**-F Therefore, **SUZBACKMDF** is the required code. Hence, option (c) is the right answer.

Q.79) Solution (d)

Explanation:

Given series: 15, 21, 34, 54, 81, ? Observing above, we get:

15 ,	21,	34 ,	54	81	115
					\square
+7×1	-1 +7×	$2 - 1 + 7 \times$	3-1 +7:	×4-1 +7:	× 5 - 1
Hence,	115 is the n	ext term.			

So, option (d) is the right answer.

Q.80) Solution (b)

Explanation:

'478' means 'big rose tree '(i)
'701' means 'small rose garden'(ii)
'476' means 'red rose tree'(iii)
Comparing (i) and (iii), we get:
Code for 'rose tree' must be 4/7...... (iv)
Using (iii) and (iv), we get:
6 means red.
Hence, option (b) is the correct answer.