ANSWERS & EXPLANATION

APTITUDE TEST–Test (4284) – 2024

1 (a)

Average of 5k and 3l is equal to 50% of 6l.
Or (5k + 3l)/2 = 50% of 6l
Or (5k + 3l)/2 = 3l
Or (5k + 3l) = 6l
Or 5k = 6I – 3l
Or 5k = 3l
Or k/I = 3/5
Hence, option (a) is correct.

2 (b)

The formula for a weighted average is:
Sum of the (weight x values) divided by the sum of the weights.
Mid-term exam was worth four times as much as a quiz, and the final exam was worth six times as much as a quiz.
So, Weighted Average of marks = (1 x 94 + 1 x 78 + 1 x 92 + 4 x 92 + 6 x 94) / (1 + 1 + 1 + 4 + 6)
= 1196 / 13
= 92
Hence, option (b) is correct.

3 (c)

B is the average of A, C and F.
So, B = (A + C + F)/3
D is the average of C, E, G and H.
So, D = (C + E + G + H)/4
So, Average of B and D = [(A + C + F)/3 + (C + E + G + H)/4] / 2
= [(4A + 4C + 4F + 3C + 3E + 3G + 3H)/12] / 2
= (4A + 4C + 4F + 3C + 3E + 3G + 3H) / 24
Hence, option (c) is correct.

4 (d)

Production costs in 2006 = Rs. 10,000 × 5,000 = Rs. 500 lakhs
Production costs in 2010 = Rs. 15,000 × 9,000 = Rs. 1350 lakhs
The percent increase in gross production cost from 2006 to 2010 = [(1350 – 500)/500] × 100 = 170%
Hence, option (d) is correct.

5 (c)

Each year the gap between actual production and capacity decreased by 1000.
In 2010, the gap is 15000 – 9000 = 6000.
So, in 6 years the gap would disappear, i.e. in 2016.
Hence, option (c) is correct.

6 (c)

Assumption 1 is correct. The line *"Large areas of western and central India receive more than 90 per cent of their total annual rainfall during the summer monsoon season",* validates the assumption made in the statement that if these areas depend 90 per cent on the monsoon rainfall and climate change may upset the monsoon season, then alternate ways should be explored. Hence, this assumption is correct as per the passage.

Assumption 2 is correct. As per the line "*For thousands of years, farming has been carefully timed to coincide planting with the onset of monsoon rains to maximize crop production",* if there is any change in the onset of monsoon or if the plantation is not as per the onset, then it could reduce the crop yield or lead to crop loss. Hence, this assumption is correct as per the passage.

7 (d)

Option (a) is incorrect. The given option is not correct because it compares which model is better. However, the passage does not compare which is good. Also, the option specifically talks about young people and that democracy is good for them, but the passage is not focussed on young people only. Hence, this option is not the best crux.

Option (b) is incorrect. Democracy being the mask for authoritarianism is not discussed in the passage. Hence, this option is beyond the scope of the passage and is not the crux of the passage.

Option (c) is incorrect. The given option is not correct because it talks about an ideal scenario in that no country should be under authoritarianism due to the benefits offered by democracy. However, whether a country should be a democracy or under a dictatorship is not discussed in the passage.

Option (d) is correct. The lines "*Many countries are not democracies, and most countries that are democratic are younger than a lifetime. This means that for most people, life under authoritarianism is either their current experience, or they remember a time when it was",* support the claim given in the option. The passage, talks about how people are either living in a dictatorship or they know what it looks like due to their historical experience. Hence, this is the best crux of the passage.

8 (b)

Frequency of steps of X, Y and Z, X_1: Y_1: Z_1 = 5:6:7
Let X_1 = 5c, Y_1 = 6c and Z_1 = 7c (c is a constant)
In terms of size of step, $4X_2 = 5Y_2 = 6Z_2 = k$ (k is a constant)
So, $X_2 = k/4$; $Y_2 = k/5$ and $Z_2 = k/6$.
Since, Speed = Distance × Frequency = Step size × Frequency
So, the speeds of X, Y and Z are:
$X_3 = (5/4)$ ck; $Y_3 = (6/5)$ ck and $Z_3 = (7/6)$ ck.
So the ratio of speeds of X, Y and Z = (5/4) : (6/5) : (7/6)
= (5/4) ×60 : (6/5) ×60 : (7/6) ×60
(LCM of 4, 5 and 6 = 60)
= 75:72:70
Hence, option (b) is correct.

9 (c)

Let the 3 numbers in increasing order be X, Y and Z.
The arithmetic mean of the first two is 7 less than the arithmetic mean of all the three.
[(X + Y + Z)/3] – [(X + Y)/2] = 7
Or 2X + 2Y + 2Z - 3X - 3Y = 42
Or 2Z - X - Y = 42 ..... (i)
The sum of the first two numbers is equal to the arithmetic mean of the last two.
X + Y = (Y + Z)/2
Or 2X + 2Y = Y + Z
Or 2X + Y - Z = 0
Or Z = 2X + Y ..... (ii)
Putting the value of Z in equation (i), we get:
2(2X + Y) - X - Y = 42
Or 3X + Y = 42
From Statement-1:
The second number, i.e. Y is given.

Thus, we can find the first number.
Thus, Statement 1 alone is sufficient to answer the question.
From Statement-2:
The arithmetic mean of the first and third numbers is given. That is, (X + Z)/2 is known.
So, we have 3 equations and 3 unknowns. So, we can solve them for the value of X. Thus, we can find the first number.
Thus, Statement 2 alone is also sufficient to answer the question.
Hence, option (c) is correct.

10 (d)

Let speed of stream be x km/hr.
Speed of boat in still water = 22 km/hr
Downstream speed = 22 + x
Upstream speed = 22 – x
It takes him thrice as long to row up than to row down. As the distance covered by boat downstream is the same as the distance covered by that boat upstream,
Time taken by boat downstream / Time taken by boat upstream = Upstream speed/Downstream speed
Or 1/3 = (22 – x)/(22 + x)
Or 22 + x = 3(22 – x)
Or 22 + x = 66 – 3x
Or 4x = 44
Or x = 11 km/hr
Thus, the speed of the stream is 11 km/hr.
Hence, option (d) is correct.

11 (d)

Distance between X and Y = 680 km
The ratio of the speeds of P and Q = 7:10
Here, time is constant. So, the distance covered by P and Q is directly proportional to the speeds of P and Q.
So, the ratio of the distance covered by P and Q = 7:10
Required distance = 680 × (10 – 7) / (7 + 10)
= 680 × 3/17 = 120 km
Thus, Q would cover 120 km more than P.
Hence, option (d) is correct.

12 (b)

Let man's age be 6x and his wife’s age be 5x.
After 6 years,
Man's age = 6x + 6
Wife’s age = 5x + 6
According to the question,
Or (6x+6)/(5x+6) = 7/6
Or 36x + 36 = 35x + 42
Or x = 42 – 36
Or x = 6
So, Man's age = 6x = 6×6 = 36 years
Wife’s age = 5x = 5×6 = 30 years
Let us assume that they were married 'm' years ago, then:
(36–m)/(30–m) = 4/3
Or 3(36–m) = 4(30–m)
Or 108 – 3m = 120 – 4m
Or m = 120 – 108
Or m = 12 years
Thus, they were married 12 years ago.
Hence, option (b) is correct.

13 (b)

Let 8 kg of first alloy and 11 kg of second alloy are mixed together.
In 8 kg of first alloy,
Quantity of gold = 8 × 5/8 = 5 kg
Quantity of copper = 8 × 3/8 = 3 kg
In 11 kg of second alloy,
Quantity of gold = 11 × 3/7 = 33/7 kg
Quantity of copper = 11 × 4/7 = 44/7 kg
Required ratio = $(5 + 33/7) : (3 + 44/7)$
= 68/7 : 65/7
= 68 : 65
Thus, the ratio of gold and copper in the newly formed alloy is 68:65.
Hence, option (b) is correct.

14 (c)

Let the number of selected candidates be 3x and the number of unselected candidates by 11x.
Total number of candidates that applied for the interview process = 3x + 11x = 14x
Number of selected candidates = 3x – 34
Number of candidates that applied = 14x – 90
So, Number of unselected candidates = (14x – 90) – (3x – 34) = 11x – 56
According to the question,
(3x – 34) / (11x – 56) = 1/4
Or 4(3x – 34) = 11x – 56
Or 12x – 136 = 11x – 56
Or 12x – 11x = –56 + 136
Or x = 80
So, Number of candidates that applied for the job interview originally = 14x = 14 × 80 = 1120
Hence, option (c) is correct.

15 (a)

Let 'x' number of candidates passed the exam.
Number of failed candidates = 296 – x
According to the question,
89x + (296 – x) × 57 = 296 × 77
Or 89x + (296 × 57) – 57x = 296 × 77
Or 32x = (296 × 77) – (296 × 57)
Or 32x = 296 × 20
Or x = 296 × 20/32 = 185
Thus, 185 candidates passed the exam.
Hence, option (a) is correct.

16 (c)

Sum of the ages of P and Q, P + Q = 31 × 2 = 62 years .....(i)
Sum of the ages of R and Q, Q + R = 38 × 2 = 76 years .....(ii)
Sum of the ages of P and R, P + R = 42 × 2 = 84 years .....(iii)
From equations (i), (ii) and (iii), we get:
2(P + Q + R) = 62 + 76 + 84 = 222
Or P + Q + R = 222/2 = 111 .....(iv)
From equations (i) and (iv), we get:
Age of R = 111 – 62 = 49 years
From equations (ii) and (iv), we get:
Age of P = 111 – 76 = 35
Thus, age of R is more than that of P by (49 – 35), i.e. 14 years.
Hence, option (c) is correct.

17 (c)

Let 9 consecutive odd natural numbers, whose average is 'm', be:
m–8, m–6, m–4, m–2, m, m+2, m+4, m+6, m+8
When 4 more such numbers are considered, just next to the previous 9 numbers, the 13 numbers with us will be:
m–8, m–6, m–4, m–2, m, m+2, m+4, m+6, m+8, m+10, m+12, m+14, m+16
Required average of 13 numbers = [(m–8) + (m–6) + (m–4) + (m- 2) + m + (m+2) + (m+4) + (m+6) + (m+8) + (m+10) + (m+12) + (m+14) + (m+16)] /13
= (13m + 52) / 13
= m + 4
Hence, option (c) is correct.

18 (c)

Let's assume that the batsman played 'n' innings before he got out of form, and his average at that time was 'x' runs.
Total runs scored by the batsman in n innings = 2014
Average score of batsman in 'n' innings, x = 2014/n .....(i)
Average score of batsman in (x+10) innings, x – 32 = (2014 + 132)/(n + 10)
Or x – 32 = 2146/(n + 10)
Or (2014/n) – 32 = 2146/(n + 10) [Since, x = 2014/n]
n = 19 satisfies the above equation.
So, total innings played by the batsman = n + 10 = 19 + 10 = 29
Hence, option (c) is correct.

19 (a)

Option (a) is correct. The given option is the best crux because of the lines "*Gender equality remains unfinished business **in every country of the world**" and "The progress that has been made towards gender equality over the past quarter of a century, though slow and incremental, does, however, show that **change is possible**."* These lines show that situation of women could improve in future. So, the given option is the best crux.
Option (b) is incorrect. The context of patriarchal mindset is not a part of the passage. The passage does not contain any information on the patriarchal mindset being the cause of gender inequality. So, this statement is beyond the scope of the passage.
Option (c) is incorrect. Whether a country's progress is meaningful or meaningless vis-à-vis the contribution of female gender cannot be concluded from the information given in the passage. This statement is subjective, and the passage only mentions that gender inequality exists. So, this is not the best crux.
Option (d) is incorrect. The context of laws and policies for women's empowerment is not a part of the passage. So, this option is beyond the scope of the passage and therefore, it cannot be the best crux of the passage.

20 (d)

Option (a) is not correct. This statement reflects the view of a popular author, rather than that of the author of the passage. The passage says, *"Stock, author of books such as Material Girls: Why Reality Matters for Feminism (2021), has long been at the receiving end of criticism for her view that biological sex is more socially significant than gender identity, even though it does not exclude sympathy for the trans-rights movement".* Hence, this is not the message of the passage.
Option (b) is not correct as it is not the view of the author or message of the passage. The author is just conveying a viewpoint of "trans-exclusionary radical feminists", who think that females maybe at a risk of violence at the hands of trans-women.
Option (c) is not correct. The passage says, *"TERF or "trans-exclusionary radical feminist" refers to feminists whose advocacy for women's rights do not include the rights of transgender people, especially trans women".* Hence, TERF activists do not advocate for the rights of transgenders.
Option (d) is correct. The passage revolves around the theme that a category of feminists excludes trans people when it comes to women rights. The passage says, *"TERF or "trans-exclusionary radical feminist" refers to feminists whose advocacy for women's rights do not include the rights of transgender people, especially trans women".*

21 (a)

Statement 1 is correct. The passage clearly says, ***"****At the talk,* ***Stock, 51, who quit her position at the University of Sussex in 2021 owing to sustained protests and accusations of transphobia against her,*** *reiterated her views****….".*** Hence, it is a correct statement.
Statement 2 is not correct. The passage clearly says, *"Even though the term gained currency in the early 2000s, it was born during the early 1970s feminist movement in the US".* Hence, it is incorrect to say that it originated in the 21st century.

22 (d)

Arithmetic mean of five different numbers is 65.
So, sum of these five different numbers = 65 × 5 = 325.
From Statement 1:
There can be 1, 2, 3 or 4 numbers greater than 65, even if none of them is greater than 100.
So, Statement 1 alone is not sufficient to answer the question.
From Statement 2:
Three of the five numbers are 36, 44 and 56.
Sum of the given three numbers = 36 + 44 + 56 = 136
So, Sum of the remaining two numbers = 325 – 136 = 189
One or both of these numbers can be greater than 65.
So, Statement 2 alone is not sufficient to answer the question.
From Statement 1 and 2:
Sum of the remaining two numbers is 189, and none of them is greater than 100.
Thus, we can conclude that both of these numbers must be greater than 65, e.g. 90 and 99.
Hence, both the Statements are needed together to answer the question.
Hence, option (d) is correct.

23 (d)

From S1:
Train A usually goes 720 km in 10 hours. So, we can find the usual speed of the train. However, we cannot find the speed of the train when it's raining.
So, S1 alone is not sufficient to answer the question.
From S2:
When it's raining, it typically takes train A thrice the usual time. From this information we can't find the exact speed of the train when it's raining.
So, S2 alone is not sufficient to answer the question.
From Statement 1 and 2:
Ratio of the time taken when train A goes at usual speed and when it's raining = 1 : 3
So, Ratio of the usual speed of the train and when it's raining = 3 : 1
Usual speed of train = 720/10 = 72 km/hr
So, Speed of train when it's raining = 72 × 1/3 = 24 k/hr
Time taken by train A to reach a town which is 576 km away when it's raining = 576/24 = 24 hr
Hence, both the Statements are needed together to answer the question.
Hence, option (d) is correct.

24 (b)

Let there be x, y and z number of students in the three sections - A, B and C of class X.
The average score of students in sections A, B and C of class X is 92, 84 and 70 respectively.
So, Total score of all students of section A = 92x
Total score of all students of section B = 84y
Total score of all students of section C = 70z
The average score of students in sections A and B together is 90.
So, Total score of all students in sections A and B together = 90(x + y)
Thus, we get:
92x + 84y = 90(x + y)
Or 2x = 6y
Or x:y = 6:2 = 3:1

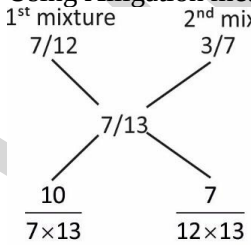
The average score of students in sections B and C together is 78.
So, Total score of all students in sections B and C together = 78(y + z)
Thus, we get:
84y + 70z = 78(y + z)
Or 6y = 8z
Or y:z = 8:6 =4:3
So, x:y:z = 12:4:3
Average score for all students of class X = (92x + 84y + 70z)/(x + y + z)
= (92×12 + 84×4 + 70×3)/(12 + 4 + 3)
= 86.8 (approximately)
Hence, option (b) is correct.

25 (a)

Let speed of the boat be x km/hr and the stream current be y km/hr.
A person covers a distance of 35 km in 1 hr 45 min along the stream.
1 hr 45 min = 7/4 hr
Time = Distance/Speed
Or 7/4 = 35/(x + y)
Or x + y = 35 × 4/7 = 20 ……. (i)
Distance covered against the stream = (35/2) km
Now, the time taken to cover the distance along the stream is 40% less than the time taken to cover the distance against the stream.
So, [(35/2)/(x – y)] × (60/100) = (7/4)
Or [35/(x – y)] × (3/10) = (7/4)
Or [7/(x – y)] × (3/2) = (7/4)
Or 3/(x – y) = (1/2)
Or x – y = 6 ……. (ii)
On solving (i) and (ii), we get:
y = 7 km/hr
∴ Rate of river current = 7 km/hr
Hence, option (a) is correct.

26 (a)

Quantity of alcohol in 1st mixture = 7/(7+5) =7/12
Quantity of alcohol in 2nd mixture = 3/(3+4) = 3/7
Quantity of alcohol in resultant 3rd mixture = 7/(7+6) = 7/13
Using Alligation method, we get:



Ratio of 1st and 2nd mixture = [10/(7×13)] : [7/(12×13] = 120:49
∴ The quantity of first mixture = 169 × [120/(120+49)] = 120 litres
Hence, option (a) is correct.

27 (d)

Let's denote the five numbers as A, B, C, D, and E. We know that the average of these five numbers is 12. So, we can write the following equation:
(A + B + C + D + E) / 5 = 12
Next, we are told that if one number is multiplied by 2, and another number is multiplied by 3, the new average becomes 18. But here all the 5 numbers are unknown, and it is not mentioned which number is multiplied by 2 and which number is multiplied by 3. Thus, the average of the two multiplied numbers cannot be determined using the given information.
Hence, option (d) is correct.

28 (c)

Time taken by Usha to cover 100 m = 100/4 (time = distance/speed)
= 25 s
So, Dutee covers (100 - 5.5) m = 94.5 m in (25 + 2) sec = 27 sec.
∴ Dutee's speed = distance/speed = 94.5/27 = 3.5 m/s.
Hence, option (c) is correct.

29 (a)

Option (a) is correct. The entire passage revolves around the theme of how big oil corporations are lobbying in international environmental summits, and probably getting decisions in their favour. For example, the passage says, *"Their presence could unduly influence the outcome of the United Nations Framework Convention on Climate Change (UNFCC) meeting of the Subsidiary Bodies (SB58) aimed at discussing climate finance, adaptation, operationalising the loss and damage fund and the global stocktake".* **Hence, it is the correct option.**
Option (b) is not correct. Though they influence the decision-makers, the passage nowhere mentions that lobbyists out power policymakers. **Hence, it is not a correct option.**
Option (c) is not correct. The lobby of large oil corporations may influence international summits and get things done in their favour, but the passage does not mention that it causes any kind of harm to developing countries. **Hence, it is not a correct option.**
Option (d) is not correct. The passage mentions, *"The top five oil and gas majors in the European Union (EU) and the United States, namely Shell, BP, ExxonMobil, Chevron and Total Energies, had 403 lobbyists registered from the 21st Conference of the Parties of the UNFCCC (COP21) to COP27."* It does not mention that they are responsible for most of the carbon emissions. It only mentions their clout through lobbyists. **Hence, it is not a correct option.**

30 (d)

Statement 1 is not correct. Though it may be factually correct, the passage nowhere mentions that global warming is the most harmful for the least developed countries. It does not find mention in the passage. **Hence, it is not a correct statement.**
Statement 2 is not correct. The passage says, *"The aforementioned organisations believe that lobbyists are there at Bonn to push the agenda of fossil fuel expansion forward to continue to rake in profits".* However, this does not imply that the only objective of these lobbyists is to make profit at the cost of the poor. **Hence, it is not a correct statement.**

31 (d)

Let the number of male employees in P be x.
So, Number of female employees in P = 120x/100 = 6x/5
Total number of employees in P = x + 6x/5 = 11x/5
Let the number of male employees in Q be y.
So, Number of female employees in Q = (62.5/100) y = 5y/8
Total number of employees in Q = y + 5y/8 = 13y/8
As per the question,
(11x/5) – (13y/8) = 15000
Or 88x – 65y = 600000
There are two variables and one equation, so we can't solve it.
Hence, option (d) is correct.

32 (a)

Let Raman's speed in still water be 'x' and speed of stream be 'y'.
Upstream speed of Raman's boat = x – y = 80/4 = 20 km/hr
Thus, x – y = 20 km/hr
Speed of speedboat in still water = 40 km/hr
Upstream speed of speedboat = 40 – y
Speed boat starts after 2 minutes of Raman's departure and crosses him after 5 minutes.
It implies that the speed boat covered the same distance in 5 minutes that Raman took 7 minutes to cover.
Hence, the ratio of the upstream speeds of Raman and Speedboat = (x – y)/(40 – y) = 5/7

Or 20/(40 − y) = 5/7 [Since, x – y = 20 km/hr]
Or 140 = 200 – 5y
Or 5y = 200 – 140 = 60
Or y = 60/5 = 12 km/hr
Since, x – y = 20 km/hr
Raman's speed in still water, x = 20 + y = 20 + 12 = 32 km/hr
Hence, option (a) is correct.

33 (d)

Quantity of milk in 1st tank = 120 × 7/12 = 70 litres
Quantity of water in 1st tank = 120 × 5/12 = 50 litres
Quantity of milk in 2nd tank = 135 × 4/9 = 60 litres
Quantity of water in 2nd tank = 135 × 5/9 = 75 litres
So, Quantity of milk in final mixture = 70 + 60 = 130 litres
And Quantity of water in the final mixture = 50 + 75 = 125 litres
When 15 litres of water is added to the whole.
New quantity of water in the final mixture = 125 + 15 = 140 litres
Required ratio = 130 : 140 = 13 : 14
Hence, option (d) is correct.

34 (d)

Speed downstream = (x+4) km/h.

Speed upstream = (x-4) km/h.

Since, time = distance/speed ,

So, Downstream time = 6(x+4) and

Upstream time = 6(x+4) .

So, 6(x+4) + 6(x-4) = 2

⇨ 3(x+4) + 3(x-4) = 1

⇨ $x^2 – 6x – 16 = 0$

⇨ (x – 8) (x + 2) = 0

⇨ x = 8,

or x = -2 (negative value, not acceptable).
Hence, speed of the cargo ship in still water = 8 km/h.
Hence, option (d) is correct.

35 (c)

Since Amar and Deepak are moving in the same direction along the circular path, so they will first meet each other when there is a difference of one round between the two.

Relative speed of Amar and Deepak = 5 – 2

= 3 rounds per hour.

∵ 3 rounds = 1 hour

∵ 1 round = 1/3 hour

= 20 minutes.

So, the time taken to complete one round at this relative speed = 20 minutes.

So, they shall first cross each other at 6:20 PM.
Hence, option (c) is correct.

36 (c)

Just look at the white bars. White dice was rolled 19 times.
So, the average = (1 + 1 + 1 + 2 + 2 + 2 + 3 + 3 + 3 + 3 + 4 + 4 + 4 + 5 + 5 + 5 + 6 + 6 + 6)/19 = 66/19 = 3.47
Hence, option (c) is correct.

37 (d)

Let usual speed of the scooty be 'y' km/hr.
When he covers the same distance via route 2, his speed increases by 10 km/hr, and he takes 3 hours less time.
So, 60/y - 60/(y + 10) = 3
On solving the above equation, we get:
y = 10 km/hr
Thus, his usual speed is 10 km/hr.
Checking Statement 1:
Time taken to cover 60 km distance via route 1 = 60/10 = 6 hr
Time taken to cover 60 km distance via route 2 = 60/(10 + 10) = 3 hr
Time taken to cover 60 km distance via route 3 = 60/(10 - 5) = 12 hr
Thus, statement 1 is not correct.
Checking Statement 2:
Ratio of the speeds via route 1 and route 2 is 1:2.
Thus, statement 2 is also incorrect.
Hence, option (d) is correct.

38 (b)

Let speed of the local train be x km/hr.
Then, the speed of the express train will be 1.4x km/hr.
According to the question,
(84/x) – (84/1.4x) = 30/60
Or x = 48 km
Speed of the express train = 1.4x = 48 × 1.4 = 67.2 km/hr
Hence, option (b) is correct.

39 (a)

Option (a) is correct. Eradication of polio is the central theme of the passage. The passage revolves around the theme of how African countries, with the help of the world bank are implementing the schemes to eradicate polio. The passage also mentions, *"Eradicating polio requires immunising every child until transmission stops."* **Hence, it is the correct option.**
Option (b) is not correct. The passage says, *"All polio cases in West and Central Africa are due to circulating vaccine-derived poliovirus — the final strain of polio remaining on the African continent; these outbreaks are rare".* Though it is a correct statement, it is a part of the main theme and not the main theme of the passage. The passage revolves around the theme of how African countries, with the help of the world bank are implementing the schemes to eradicate polio. **Hence, it is not a correct option.**
Option (c) is not correct. The passage deals with polio cases in Africa and how governments there are taking initiatives to eradicate polio. It does not mention about the rest of the world. **Hence, it is not a correct option.**
Option (d) is not correct. The passage mentions, *"This is a crucial undertaking to close vaccination gaps in the wake of the COVID-19 pandemic and will provide millions of children with vital protection from the risk of irreversible polio paralysis".* This implies that a pandemic can cause a temporary pause in the vaccination programs, but it is not the central theme of the passage. **Hence, it is not a correct option.**

40 (b)

Statement 1 is not correct. The passage says, *"...three countries — Cameroon, Chad and Niger — kicked off Africa's largest polio vaccination campaign since 2020, according to World Health Organization (WHO)".* This implies that it is not the largest ever polio eradication program, but the largest, post the pandemic of Covid-19. **Hence, it is not a correct statement.**
Statement 2 is not correct. The passage clearly mentions, *"Polio is a highly infectious viral disease that* ***primarily affects children under five years*** *and causes permanent paralysis or death".* It does not mean that it affects children only under 5. **Hence, it is not a correct statement.**
Statement 3 is correct. The last line of the passage clearly mentions, ***"There is no cure****, but safe and effective vaccines can protect children. Eradicating polio requires immunising every child until transmission stops".* **Hence, it is a correct statement.**

41 (d)

Statement 1 is correct. The passage says, *"To achieve global net zero goals and garner the public support required for this, it is imperative in the long-term to view emissions within the larger context of global consumption and production patterns".* **Hence, it is a correct statement.**
Statement 2 is correct. The passage says, *"Consumption and production patterns vary greatly based on the cultural, social, and economic factors. But both consumption and production ethics also vary due to beliefs, values and traditions".* **Hence, it is a correct statement.**
Statement 3 is correct. It is mentioned in the passage, *"This may lead to the undermining of local economies and often leads to social and environmental degradation. To avoid this, local producers need to have access to fair markets and fair prices so that they can invest in alternative, environmentally friendly production methods".* This implies that when poorer countries get direct access to markets, this can lessen their exploitation at the hands of developed countries. **Hence, it is a correct statement.**

42 (c)

P's initial speed = 4 m/sec
Q's initial speed = 16 m/sec
Time taken to meet for the first time = 400/(4 + 16) = 20 sec
After 1st meet,
P's speed = 8 m/sec
Q's speed = 8 m/sec
Time taken to meet for the second time = 400/(8 + 8) = 25 sec
After 2nd meet,
P's speed = 16 m/sec
Q's speed = 4 m/sec
Time taken to meet for the third time = 400/(16 + 4) = 20 sec
Total time taken to meet for the third time = 20 + 25 + 20 = 65 sec
Hence, option (c) is correct.

43 (b)

The average of 17 numbers is 19.
So, Sum of 17 numbers = 17 × 19 = 323
Now, if we multiply each number by 5, the sum of the new set of numbers = 323 × 5 = 1615.
Since, there are still 17 numbers in the new set, so new average = 1615/17 = 95
Hence, option (b) is correct.

44 (c)

Sum of the weights of 11 players = 160 × 11 = 1760 pounds
If the heaviest player is removed, the average weight of the remaining 10 players becomes 158 pounds.
Sum of the weights of 10 players = 158 × 10 = 1580 pounds
So, Weight of the heaviest player = 1760 – 1580 = 180 pounds
Hence, option (c) is correct.

45 (a)

The median of a set of numbers is the middle number in the set (after the numbers have been arranged from least to greatest) - or, if there are an even number of data, the median is the average of the middle two numbers. To determine if the median is greater than 60, we need to know the specific values of the numbers in the set. Let's analyze the statements:
Statement 1: The sum of the smallest and largest numbers in the set is 150.
The average of a set of 7 numbers is 40. So, there sum total = 7 × 40 = 280
So, the sum total of the middle 5 numbers = 280 – 150 = 130
If the middle of these 5 numbers is 60, then two other numbers must also be above 60. This is not possible. So, it's clear that the median of the set cannot be greater than 60.
So, Statement 1 alone is sufficient.
Statement 2: The range of the set is 80.
The range is the difference between the largest and smallest numbers in the set. This statement alone doesn't give any information about the values between the largest and smallest numbers.
So, Statement 2 alone is insufficient.
Hence, option (a) is correct.

46 (d)

Since A wins the race over B by 400 m, the distance covered by B = 3600 – 400 = 3200 m
Ratio of the distances covered by A and B = 3600 : 3200
B can give a head start of 900 m to C in such a race.
So, Distance covered by C = 3600 – 900 = 2700 m
Ratio of the distances covered by B and C = 3600 : 2700 = 4 : 3
= (4 : 3) × 800 = 3200 : 2400
Ratio of the distances covered by A, B and C = 3600 : 3200 : 2400
So, to finish the race at the same time, A should give C a head start of 3600 - 2400 = 1200 m
Hence, option (d) is correct.

47 (b)

Speed of boat in still water = 7 km/hr.
Speed of the stream = 1 km/hr.
So, Downstream speed of the boat = 7 + 1 = 8 km/hr.
And, Upstream speed of the boat = 7 – 1 = 6 km/hr.
We know that, Upstream speed of the boat/Downstream speed of the boat = Time taken in covering downstream distance/ Time taken in covering upstream distance
Or 6/8 = Time taken in covering downstream distance/ Time taken in covering upstream distance
Or Time taken in covering downstream distance/ Time taken in covering upstream distance = 3/4 ….. (i)
Now, Time taken in covering downstream distance + Time taken in covering upstream distance = 84
Or 1 + [Time taken in covering upstream distance / Time taken in covering downstream distance] = 84/ Time taken in covering downstream distance
Or 1 + (4/3) = 84 / Time taken in covering downstream distance
Or 7/3 = 84 / Time taken in covering downstream distance
Or Time taken in covering downstream distance = 36 minutes
So, Time taken in covering upstream distance = (4/3) × Time taken in covering downstream distance = (4/3) × 36 = 48 minutes
Total distance covered by the boat from P to Q and Q to P = [Downstream speed × Time taken in covering downstream distance] + [Upstream speed × Time taken in covering upstream distance]
= [8 × (36/60)] + [6 × (48/60)]
= [8 × (3/5)] + [6 × (4/5)]
= 48/5
= 9.6 km
Hence, option (b) is correct.

48 (d)

Speed of Aakash = 40 km/h.
Speed of Anil = 60 km/h.
Their relative speed = 60 – 40 (they are moving in the same direction)
= 20 km/h.
Distance travelled by Aakash in 30 minutes (1/2 hour)
= 40 × 1/2 (distance = speed × time)
= 20 km.
So, the time taken by Anil to meet Aakash = *Distance* / *Relative speed*
= 20 / 20
= 1 h.
Hence, the distance Anil need to cover = speed of Anil × time needed
= 60 × 1
= 60 km.
Hence, option (d) is correct.

49 (a)

Let the number of students in swimming class and dance class be 13x an 8x respectively.
According to the question,
13x – 8x = 25
Or 5x = 25
Or x = 25/5 = 5
So, Total number of students in swimming class = 13 × 5 = 65
Total number of students in class dance class = 8 × 5 = 40
Number of girls in swimming class = 65 × 8/(5 + 8) = 40
Number of girls in dance class = 40 × 3/(2 + 3) = 24
So, Required ratio = 40:24 = 5 : 3
Hence, option (a) is correct.

50 (c)

Difference between the B's monthly income and his savings is Rs.18000.
Expenditure = Income – Saving = 18000
Thus, B's expenditure is Rs. 18000.
Savings of B = 18000 × 160% = Rs. 28800
Thus, B's monthly income = Savings + Expenditure = 28800 + 18000 = Rs. 46800
So, A's monthly income = 46800 × 4/5 = 37440
And C's monthly income = 46800 × 7/9 = 36400
Average of the incomes of A, B and C = (37440 + 46800 + 36400)/3 = Rs. 40,213 (approx)
Hence, option (c) is correct.

51 (b)

Statement 1 is not correct. The passage clearly says, *"Reported violence against or obstruction of health care decreased in the Central African Republic, Ethiopia and Syria in 2022 compared to 2021".* In many countries, the incidence of violence has actually decreased. **Hence, it is not a correct statement.**
Statement 2 is correct. According to the passage, healthcare workers have faced attacks in Ukraine (Europe), Myanmar and Syria (Asia) and Africa. Hence, it can be inferred that they faced violent reaction in at least three continents. **Hence, it is a correct statement.**

52 (b)

Statement 1 is not correct. The passage says, *"Over half of the total attacks were reported in just two countries, Ukraine and Myanmar, the report stated".* It does not mention that the largest number of attacks were witnessed in Myanmar. **Hence, it is not a correct statement.**
Statement 2 is correct. The passage clearly mentions*, "Over the last year, we identified a 45 percent increase in reported incidents of violence against or obstruction of health care in conflict zones as compared to 2021,".* Therefore, it is correct to say that attacks against healthcare personnel have increased by less than 50% (45%). **Hence, it is a correct statement**

53 (c)

Option (a) is incorrect. The given option is not correct because the context of the criminal justice system is not a part of the passage. The option states that the cause of missing women is crime. However, the passage does not explain the cause of missing women in particular. Hence, this is not the best crux.
Option (b) is incorrect. The context of matriarchal society and whether it will lead to improvement in the status of women is not based on the information given in the passage. So, this option is beyond the scope of the passage and is not the best crux.
Option (c) is correct. The lines "*… capture the fact that the proportion of women is lower than what would be expected if girls and women throughout the developing world were born and died at the same rate, relative to boys and men, as they do in sub-Saharan Africa"* show that this issue exists in developing world and "*Of these, 23 per cent are never born (violation of the right to life), 10 per cent are missing in early childhood, 21 per cent are in the reproductive years, and 38 per cent are above the age of 60. Stark as the excess mortality is, it still does not capture the fact that throughout their lives, even before birth, women in developing countries are treated differently than their brothers, lagging behind men in many domains",* validate that women are not valued or are at loss as compared to men. The tone of the passage is descriptive rather than being solution-rendering. So, this option best reflects the crux of the passage.

Option (d) is incorrect. The lines "*For each missing woman, many more women fail to get an education, a job, or a political responsibility that they would have obtained if they had been men*", explain that many women are not able to participate in education, politics, etc. To state that making changes in laws, and politics will improve the status of women would not be correct because the passage does not mention so. Hence, this is not the best crux of the passage.

54 (d)

Assumption 1 is incorrect. The passage only states that "*Rapid digitalization in the past decade has led to **the proliferation of domestic and foreign online communication services** that use encryption and pose challenges to national security bodies and law enforcement agencies",* which does not mean that government should enhance its technological capabilities, and that too for surveillance. Hence, the given assumption is not correct as it is not based on the information given in the passage.

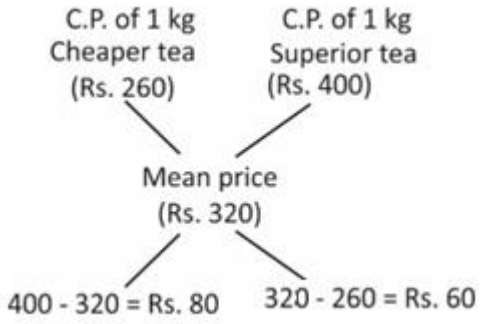
Assumption 2 is incorrect. The lines "*To help overcome these challenges, the Indian government **issued controversial new rules** in February 2021 that require messaging communication providers to supply information regarding the originators of messages. Many providers argue that this requirement **significantly weakens** the end-to-end (E2E) encryption they deploy*", reflect that due to controversial rules, companies feel that they will weaken the encryption of communication. However, encryption is a more technical aspect rather than being directly related to business environment. Hence, this assumption is not correct based on the given passage.

55 (d)

Fuel Cost per hour = $(\text{Speed})^2$
Other cost per hour = Rs. 100
Let speed for 500 kilometre journey = X.
Time of journey = Distance/Speed = 500/X hours.
Cost of journey = $(500/X) \times 100 + (500/X) \times X^2 = 500(100/X + X)$
Option (a) Cost of journey may be 3000 when $(100/X + X) = 6$ (not possible).
Option (b) Cost at 40km/hr = $500 \times (100/40 + 40) = 500 \times 42.5$
Cost of journey at 25 km/hr = $500 \times (100/25 + 25) = 500 \times 29$ which is lower.
Option (c) Time can be anything depending on speed.
Option (d) For X = 10: Cost = 500×20 = Rs. 10000

56 (d)

Using Alligation method,



The required ratio of the two varieties of tea = 80:60 = 4:3.
∴ Quantity of the second variety of tea = $132 \times 3/4 = 99$ kg
Hence, option (d) is correct.

57 (d)

Let Sachin walks 'd' km to reach the bus stand.

Let usual time taken by him in reaching the bus stand be 't' hours.

Since, time = distance/speed

So, $d / 2 = t + 25 / 60$ ……..(I)

or $d / 4 = t - 10 / 60$ ……..(II)

Subtracting (II) from (I), we get,

d = 35/15 = 7/3 km

Hence, option (d) is correct.

58 (b)

Speed of faster train = 120 km/hr

Speed of slower train = 84 km/hr

Length of the faster train = 180 m

Let length of the slower train be 'x' m.

Time taken by the faster train to cross the slower train = Sum of the lengths of the two trains / Difference in their speeds

Or $30 = 180 + x / (120 - 84) \times 5 / 18$

Or $30 = 180 + x / 36 \times (5 / 18)$

Or $180 + x = 36 \times 30 \times 5 / 18$

Or $180 + x = 300$

Or $x = 300 - 180$

Or $x = 120$ m

So, length of the slower train is 120 m.

Hence, option (b) is correct.

59 (a)

Total distance = length of the bullet train + length of platform = 210 + 190 = 400 m
Total distance covered = Speed of the bullet train × Time
Or 400 = Speed of the bullet train × 8
Or Speed of the bullet train = 400/8 = 50 m/sec
= 50 × 18/5 = 180 km/hr
Hence, option (a) is correct.

60 (a)

Let the number of boys be 4x and the number of girls be 3x.
According to the question,
(4x + 10)/(3x + 15) = 10/9
Or 9(4x + 10) = 10(3x + 15)
Or 36x + 90 = 30x + 150
Or 36x – 30x = 150 – 90
Or 6x = 60
Or x = 10
So, Number of boys = 4x = 4 × 10 = 40
Number of girls = 3x = 3 × 10 = 30
So, Number of boys - Number of girls = 40 – 30 = 10
Hence, option (a) is correct.

61 (c)

Let Mr. Sharma's salary be Rs. x.
Amount given to his father = x × 40/100 = 40x/100
Remaining amount = x – 40x/100 = 60x/100
Amount invested in insurance and share market = (60x/100) × (40/100) = 24x/100
Amount invested in share market = (24x/100) × (11/15) = 88x/500
Remaining amount that he keeps in his bank account = (60x/100) – (24x/100) = 36x/100
According to the question,
(36x/100) – (88x/500) = 46000
Or (180x – 88x)/500 = 46000
Or 92x/500 = 46000
Or x = 46000 × 500/92

Or x = 2,50,000
Thus, Mr. Sharma's salary in Rs. 2,50,000.
Hence, option (c) is correct.

62 (c)

Let's mix x units of alloy A with y units of alloy B.
Quantity of silver in alloy A = 5x/8
Quantity of copper in alloy A = 3x/8
Quantity of silver in alloy B = 9y/16
Quantity of copper in alloy B = 7y/16
According to the question,
(5x/8 + 9y/16) / (3x/8 + 7y/16) = 3/2
Or [(10x + 9y)/16] / [(6x + 7y)/16] = 3/2
Or (10x + 9y)/(6x + 7y) = 3/2
Or 2(10x + 9y) = 3(6x + 7y)
Or 20x + 18y = 18x + 21y
Or 20x – 18x = 21y – 18y
Or 2x = 3y
Or x:y = 3:2
Thus, these two alloys should be mixed together in the ratio of 3:2 to get a new alloy having silver and copper in the ratio 3:2.
Hence, option (c) is correct.

63 (c)

Option (a) is incorrect. The given option is not correct because of the line, "*Alternatively, relativistic cultural positions have been put forth mostly by socialization theories that focus on how cultures transmit values rather than what values are applied across groups and individuals*." This line shows that culture too may have a role in moral development. Hence, this option is not the best crux of the passage.
Option (b) is incorrect. Whether socialization is the most important tool in moral development or not cannot be concluded on the basis of the given passage. So, this option is beyond the scope of the passage and is not correct.
Option (c) is correct. The given option best reflects the crux, as evident in the lines "*Many research traditions have examined this question, with social-cognitive and structural-developmental positions theorizing that morality has a* ***universal requirement to it****, drawing from moral philosophy."* and *"****Alternatively****, relativistic cultural positions have been put forth mostly by socialization theories that focus on how cultures transmit values rather than what values are applied across groups and individuals."* So, this option is the best crux of the passage.
Option (d) is incorrect. The passage does not make any comparison between universal moral values and moral values developed through socialization. Therefore, to conclude that universal moral values are stronger would not be correct. Hence, this is not the best crux.

64 (d)

Assumption 1 is incorrect. Only the private sector's role is mentioned in the passage; the role of the government in the context of promoting startups is not discussed in the passage. So, this assumption is not correct.
Assumption 2 is incorrect. The lines, "*This is due, in part, to constraints in sharing knowledge and lessons learned among countries and regions of the Global South",* show that poor knowledge and lesson sharing is a major challenge, but only to this specific region of the global south. However, to extrapolate it across the globe would not be correct. So, this assumption is not correct.

65 (d)

Option (a) is incorrect. The lines "*This is due, in part, to constraints in sharing knowledge and lessons learned among countries and regions of the Global South. As a result, agricultural solutions have failed to achieve the wider impact that could modernize and transform the continent's agricultural and food industry sectors",* verify that lack of knowledge and lesson sharing is only a part, and the *only* restriction with modernizing and transforming of the agricultural sector. Hence, this is not the best crux.
Option (b) is incorrect. The context of startups is very limited in the passage, as seen in the lines *"Startups led by the private sector are tackling issues ranging from access to markets to the provision of*

financial services." Also, to say that, "Startups in the field of agriculture can solve the core persisting issues of agriculture" would not be correct, as other issues also persist that maybe beyond the scope of startups, e.g. knowledge sharing between countries. So, this option cannot be the best crux or the core theme of the passage.

Option (c) is incorrect. The context of all countries across the world investing in agricultural technology is not a part of the passage. So, this option is beyond the scope of the passage.

Option (d) is correct. As per the passage, *"This is due, in part, to constraints in sharing knowledge and lessons learned among countries and regions of the Global South. As a result, agricultural solutions have failed to achieve the wider impact that could modernize and transform the continent's agricultural and food industry sectors."* These lines show that sharing knowledge and lessons is important for agricultural solutions in the global south. So, sharing knowledge and lessons will help harness the potential of agriculture. Hence, option is the closest to being the crux of the passage.

66 (c)

From S1:

The average of the consecutive integers from X to Y, including both, will always be equal to the average of the integers X and Y, since the elements in the sum are consecutive.

For example, the average of the numbers 1 to 4 is 2.5, which equals (1 + 4)/2 = 2.5.

Hence, S1 alone is sufficient to answer the question.

From S2:

The average of the consecutive integers between m and n not including either is the same as the average including them, since the elements in the sum are consecutive.

For example, the average of the numbers 2 and 3 is 2.5, which equals (1 + 2 + 3 + 4)/2 = 2.5.

Hence, S2 alone also answers the question.

So, either S1 alone or S2 alone is sufficient to answer the question.

Hence, option (c) is correct.

67 (d)

S1 gives information only about income. While, S2 gives information only about expenditure.

Hence, neither statement alone is sufficient to answer the question.

Using both the statements together:

The ratio of incomes of Mr. X in the years 2022 and 2023 is 3 : 4.

The ratio of his expenditures in the years 2022 and 2023 is 5 : 6.

Even from the above information, we cannot find the ratio of Mr. X's savings in the year 2022 to that in the year 2023.

Therefore, even the two statements together are not sufficient to answer the question.

Hence, option (d) is correct.

68 (c)

Suppose they meet 'h' hours after 11 AM.

Thus, Distance moved by the train from X in 'h' hours + Distance moved by the train from Y in (h+1) hours

= 1000

$\Rightarrow$ 50h + 100(h+1) = 1000 (distance = speed × time)

$\Rightarrow$ 150h = 900

$\Rightarrow$ h = 6 hours

So, they meet 6 hours after 11 AM, i.e. at 5 PM.

Hence, option (c) is correct.

69 (a)

Since the average of 20 numbers is zero, it means that their sum must be zero.

To ensure maximum positive numbers, we can have 19 positive numbers and the magnitude of the 20th negative number may be equal to the sum of these 19 positive numbers.

Hence, option (a) is correct.

70 (b)

The average age of 11 players is 32 years.
Sum of the ages of 11 players = 32 × 11 = 352 years
From Statement-1:
The captain is 16 years older than the youngest player.
Age of the captain = Age of the youngest player + 16
Statement 1 alone is not sufficient to answer the question.
From Statement-2:
The average age of 10 players other than the captain is 31.5 years.
So, Sum of the ages of 10 players other than the captain = 31.5 × 10 = 315 years
So, age of the captain = 352 - 315 = 37 years
Thus, Statement 2 alone is sufficient to answer the question.
From Statement-3:
Leaving aside the captain and the youngest player, the average ages of the three groups of three players each are 35 years, 33 years and 30 years respectively.
Sum of the ages of 9 players other than the captain and the youngest player = 35×3 + 33×3 + 30×3 = 294
So, Sum of the ages of the captain and the youngest player = 352 - 294 = 58 years
Thus, Statement 3 alone is not sufficient to answer the question.
From Statements 1 & 3:
Age of the captain = Age of the youngest player + 16
Or Age of the captain - Age of the youngest player = 16 years .....(i)
Sum of the ages of the captain and the youngest player = 58 years .....(ii)
From equation (i) & (ii), we get:
Age of the captain = (58 + 16)/2 = 37 years
Thus, Statements 1 & 3 together are sufficient to answer the question.
Hence, option (b) is correct.

71 (d)

We cannot solve the question using either statement alone.
From Statement 1 and 2:
70/(Speed of boat + 2) + 70/(Speed of boat - 2) = 12
or Speed of boat = 12 km/hr
Hence, both the statements are needed together to answer the question.
Hence, option (d) is correct.

72 (a)

Time taken to cover 2500 km
= 2500 *km* / 100 *km/h* (time = *distance* / *speed*)
= 25 h.
Number of stoppages = Total distance / 125 – 1
= 2500 / 125 – 1
= 20 – 1 = 19
Total time of stoppage = 19 × (5 min) = 95 min
Hence, total time taken = 25 h + 95 min
= 25 h + (1 h + 35 min)
= 26 h 35 min.
Hence, option (a) is correct.

73 (a)

Inference 1 is correct. The lines "*It is a matter of concern that despite huge investments, our cities still face many efficiency-and sustainability-related challenges. None of our cities features among the top 50 cities in many global rankings",* show that global rankings contain those cities which are efficient and

sustainable. Therefore, it would be correct to infer that the presence or absence of cities in global rankings reflect their efficiency and sustainability.

Inference 2 is incorrect. As per the passage, there is no issue of poor investment; rather this claim is contradicted by the line "*It is a matter of concern that **despite huge investments**, our cities still face many efficiency-and sustainability-related challenges*". Hence, this inference about poor investments is not correct.

74 (a)

Option (a) is correct. The lines, "*As India reaches a tipping point of transitioning from a mostly rural to an urban society, the focus must be on ensuring the **best opportunities for economic growth for all sections of the society (inclusive growth)"*** and "*The **need of the hour is incisive, insightful planning** – in the absence of which neither investments nor actions would be able to yield a long-term solution",* show that city planning should be insightful. Also, planned urban spaces are a must for the growth of all the sections ensuring inclusive growth. Hence, this option best reflects the crux of the passage.

Option (b) is incorrect. Replanning of each city is not a part of the passage. To conclude that due to the increasing load on cities, replanning each city is necessary would not be correct.

Option (c) is incorrect. This option is beyond the scope of the passage, because the passage nowhere mentions that India should aim to get its cities in the top 50 global rankings.

Option (d) is incorrect. The idea that unplanned urbanization would lead to poverty and loss of GDP, etc. cannot be concluded on the basis of the given passage. Hence, this option is beyond the scope of the passage, and so cannot be the correct crux.

75 (b)

Inference 1 is incorrect. The passage does not mention that the unclear mechanism of SDGs is the cause of hunger in the world. Hence, this option is beyond the scope of the passage and is not correct.

Inference 2 is correct. The line "*Food security exists when all people have physical and economic access to sufficient, safe, and nutritious food",* shows that food security is not only about sufficient food, but also about safe and nutritious food. Therefore, the inference that only consuming sufficient calories will not solve the challenges related to food security is correct.

76 (b)

Option (a) is incorrect. The given option is not the best crux because it is beyond the scope of the passage. The passage nowhere mentions that food security issues can be solved by sharing information on available food resources across nations.

Option (b) is correct. The given option is the best crux because of the lines, "*But how to achieve this goal is debated controversially. Genetically modified (GM) crops are sometimes mentioned in this connection. Some see the development and use of GM crops as key to reducing hunger while others consider this technology as a further risk to food security. Solid empirical evidence to support either of these views is thin*". These lines describe that GM crops can help in food sufficiency; however the safety issue persists. However, neither of these views can be substantiated due to the lack of empirical studies. Therefore, to state that before going for mass production the debate around safe use should be concluded is correct as per the passage.

Option (c) is incorrect. The given option is based on the lines "*Some see the development and use of GM crops as key to reducing hunger while others consider this technology as a further risk to food security. Solid empirical evidence to support either of these views is thin.*" The passage mentions that there is no evidence of food sufficiency or safety from GM crops, and to conclude and say that it guarantees quantity and not safety is not correct.

Option (d) is incorrect. The context of organic farming is not covered in the passage. Hence, this option is beyond the scope of the passage.

77 (c)

The total score of those 9 students = $9 \times 78 = 702$.
The expected total score of the entire class = $10 \times 80 = 800$.
Therefore, the last student needs a score of $800 - 702 = 98$.
Hence, option (c) is correct.

78 (d)

$(b + 1 + 1)/2 = (b + 4 + 4 + 2)/3$
Or $3b + 6 = 2b + 20$
Or $b = 14$
Hence, option (d) is correct.

79 (c)

Maximum possible number of graduates who are fresh out of college = 70 (considering all are fresh graduates)
Minimum possible number of graduates who are fresh out of college = 30 (considering all 50 non graduates are fresh from college)
Required ratio = 3:7
Hence, option (c) is correct.

80 (d)

$x = (r + 11)/2$
$y = (3r + 19)/2$
$z = (5r + 20)/2$
$x + y + z = (r + 11 + 3r + 19 + 5r + 20)/2$
or $x + y + z = (9r + 50)/2 = 4.5r + 25$
Hence, option (d) is correct.