



ANSWERS & EXPLANATIONS GENERAL STUDIES (P) TEST – 4288 (2024)

1 (a)

$9 \times 7 = 63$; $6 + 3 = 9 \rightarrow IX$ (in roman numeral format)
 $12 \times 5 = 60$; $6 + 0 = 6 \rightarrow VI$ (in roman numeral format)
 $5 \times 4 = 20$; $2 + 0 = 2 \rightarrow II$ (in roman numeral format)
 $9 \times 4 = 36$; $3 + 6 = 9 \rightarrow IX$ (in roman numeral format)
Hence, option (a) is correct.

2 (c)

Comparing 1st and 2nd statements,
'money' is coded as 'nim'.

Comparing 1st and 3rd statements,
'time' is coded as 'tis'.

Thus, we can say that, 'is' coded as 'jes'.

Comparing 2nd and 4th statements,
'happiness' is coded as 'xer'.

Comparing 3rd and 4th statements,
'your' is coded as 'hix'.

Thus, we can say that, 'important' is coded as 'mop' and 'save' is coded as 'hop'.

Hence, 'save your important documents' can be coded as 'hop hix mop kop'.

Hence, option (c) is correct.

3 (c)

From the given statements in the question we can deduce the following:

(i) A and D are males (as A is the tallest among the four, he must be a male. D is brother of B, so D must be a male too);

(ii) B and C are females.

Also, it is given that D is brother of B. Therefore, D is husband of C and A is husband of B.

As per the information given in respect of height it is known that: $A > C > B$.

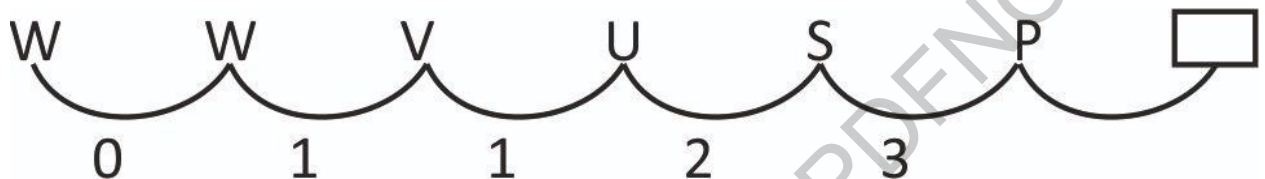
As D is husband of C, he has to be taller than C but shorter than the tallest person, i.e. A.

Thus, the order of heights is: $A > D > C > B$

Hence, option (c) is the correct answer.

4 (c)

Given series:



Gap between two successive letters is:

0, 1, 1, 2, 3, ?

This series is the Fibonacci sequence.

Fibonacci sequence: 0, 1, 1, 2, 3, 5, 8, 13,

Thus, there will be a gap of 5 letters next.

? = P - 5 = K

Hence, option (c) is correct.

5 (a)

Note: This question is about invalid assumptions (not the valid ones).

Assumption 1 is invalid. The given assumption is based on the line – “*The Himalayan region, with its unparalleled ecological significance, is under increasing threat from urbanization, deforestation, tourism, and climate change.*” This line includes climate change as well, which is not mentioned in the assumption. To term human development as the sole cause would not be correct as the passage does not mention so. Hence, the given assumption is not correct.

Assumption 2 is correct. The lines, “*Cooperation among the Himalayan nations is vital for designing a robust conservation strategy and meeting the numerous recent challenges threatening the Himalayas*” and “*Preserving the Himalayas not only safeguards biodiversity but also ensures the well-being of millions who depend on its resources*” validate the assumption that nations which use Himalayan resources should also focus on its conservation. Hence, the given assumption is correct.

6 (b)

Option (a) is incorrect. The context of effective financing is not a part of the passage. Hence, this option is beyond the scope of the passage and is not the most rational inference.

Option (b) is correct. The given option is correct because of the lines – “*Cooperation among the Himalayan nations is vital for designing a robust conservation strategy and meeting the numerous recent challenges threatening the Himalayas.*”, “*Effective implementation of laws is imperative to curb unchecked development that could lead to irreversible damage*” and “*By imposing laws rigorously, we can uphold the Himalayas' ecological balance, maintain vital water sources, and set a global precedent for responsible conservation in vulnerable and ecologically significant regions.*” These lines show that it is the effective enforcement of laws and transnational coordination which are important for Himalayan conservation. Hence, this is the most rational inference of the passage.

Option (c) is incorrect. The context of vulnerable future generations is not a part of the passage. Hence, this option is beyond the scope of the passage and is not the most rational inference of the passage.

Option (d) is incorrect. The context of the need for better laws is not correct because the passage mentions strict enforcement of laws and not lack of better laws as the issue with the conservation of the Himalayas. Hence, the given option is not the most rational inference of the passage.

7 (d)

Option (a) is incorrect. The given option is not correct because the relationship between the values of corporate governance and the capitalist model of business is not explained in the passage. Hence, it would not be correct to conclude that those values do not subscribe to the capitalist model of business. Therefore, this option is not the best crux of the passage.

Option (b) is incorrect. The given lines “*The change in public opinion has become evident among workers, consumers, and investors, as well as through new policies enacted by elected officials, more than ever before, the public supports businesses that demonstrate positive social change and sustainable development*”, only explain that the public supports business which considers society and environment. However, to state that because of this, profit-making becomes difficult, would not be correct as the passage does not indicate anything of this nature. Hence, this is not the best crux of the passage.

Option (c) is incorrect. The given option is not correct because the corporations will work for profit. This is evident in the line - “*Capitalism has provided unprecedented wealth and prosperity ... way for-profit corporations are governed and managed.*” Hence, the given option is not the best crux of the passage.

Option (d) is correct. This option best captures the essence of the passage, especially compared to the other options. For example, consider the lines, “*These new attitudes have begun to take root in corporations themselves, with a growing community of investors, business leaders, and entrepreneurs expressing a fiduciary duty to create value not only for shareholders but for society (changed outlook)*” and “*The change in public opinion ... the public supports businesses that demonstrate positive social change and sustainable development.*” These lines from the passage indicate that this option is the best crux of the passage.

8(c)

In the 1st and 2nd dice, there are two common faces, i.e. Q and P. So, the remaining faces will be opposite to each other. Therefore, R is opposite to S.

In the 2nd and 4th dice, there are two common faces, i.e. Q and S. So, the remaining faces will be opposite to each other. Therefore, P is opposite to T.

Thus, when letter U is at the top, the letter Q will be at the bottom.

Therefore, option (c) is correct.

9 (b)

In the first two positions of the dice, there is one common face, i.e. the one having 2 points, and it is in the same position. Hence, 1 point face is opposite to 3 points face, and 5 points face is opposite to 6 points face. Therefore, the face opposite to 4 points face is the one having 2 points.

Therefore, option (b) is correct.

10 (a)

The dimensions of smaller cubes must be $9 \times 9 \times 9$.

So, number of cubes not painted on any side = $(9 - 2) \times (9 - 2) \times (9 - 2) = 343$

Therefore, option (a) is correct.

Explanation for Questions 11,12 and 13:

T is heavier than W. V is lighter than W, but heavier than S.

So, their order with regards to weight:

$T > W > V > S$

V is faster than T, who is faster than W. W is faster than U.

So, their order with regards to speed:

$V > T > W > U$

U is slower than T, but is heavier than T.

Their order with regards to weight:

$U > T > W > V > S$

Their order with regards to speed:

$V > T > W > U$

U is not the heaviest, while X is not the fastest. The lightest of the group is the fastest of the group.

Their order with regards to weight:

$X > U > T > W > V > S$

Their order with regards to speed:

$S > X > V > T > W > U$

11 (b)

X is the heaviest person of the group.

12 (a)

Rank of T in the decreasing order of weights is third.

13 (c)

S is the fastest in the group.

14 (d)

If 3 is adjacent to 2, 4 and 6, then either 1 or 5 lies opposite to 3. So, the numbers 1 and 5 can't lie opposite to each other. Clearly 1 must be adjacent to 5.

Therefore, option (d) is correct.

15 (d)

$$18 \& 6 \% 5 @ 9 = 48$$

$$18 \div 6 + 5 \times 9 = 3 + 45 = 48$$

$$8 @ 15 \& 3 * 7 = 33$$

$$8 \times 15 \div 3 - 7 = 8 \times 5 - 7 = 33$$

$$\text{So, } 9 @ 6 * 36 \% 12 = 9 \times 6 - 36 + 12$$

$$= 54 - 36 + 12 = 30$$

Therefore, option (d) is correct.

Explanation for Questions 16,17,18 and 19:

Physics lecture is not on Tuesday or Saturday. Economics lecture is on Wednesday. Monday, Thursday or Friday is not the off day.

The day before the English lecture is an off day.

Day	Lecture
Monday	Off
Tuesday	Physics
Wednesday	Economics
Thursday	Off
Friday	Off
Saturday	Off
Sunday	English

There is one day gap between Economics and Computer Science lectures. Mathematics lecture is held before Computer Science lecture. Chemistry lecture is to be held immediately after Mathematics lecture.

Day	Lecture
Monday	Mathematics
Tuesday	Chemistry
Wednesday	Economics
Thursday	Physics
Friday	Computer Science
Saturday	Off
Sunday	English

16 (d)

17 (d)

No lectures are scheduled between Economics and Chemistry.

18 (d)

Physics is scheduled on Thursday.

19 (a)

Saturday is the off day.

20 (b)

Assumption 1 is incorrect. The assumption that agriculture is the cause of free or highly subsidized electricity is not correct. There is no mention of agriculture or its "state" in the passage. Hence this assumption is incorrect.

Assumption 2 is correct. The line "However, poorly conceived (*envisioned*) measures to boost inclusion can have unintended negative consequences that can include distorted product markets, reduced investment, or faster environmental depletion", validates the given assumption. It means that inclusion can have positive as well as negative outcomes as it depends upon how it is envisioned. Hence, the given assumption is correct.

21 (b)

Option 1 is not correct. It is nowhere mentioned in the passage that G20 is an intergovernmental forum comprising 19 countries and the European Union (EU). **Hence, option 1 is not correct.**

Option 2 is correct. First World, Second World and Third World countries were classified on the basis of associations with alliances of US, USSR and Non-aligned countries. **Hence, option 2 is correct.**

22 (b)

Option (a) is not correct. There was a drastic change in the geopolitics of the world during the post-Cold War era. There are multiple aspects of geopolitics like strategic alliances, trade talks, etc. Which aspect lead to the need for new classification of countries is not mentioned in the statement. **Hence, option (a) is not correct.**

Option (b) is correct. The passage mentions, *"In the post-Cold War world, the First World/Third World classification was no longer feasible because when the Communist USSR disintegrated in 1991, most countries had no choice but to ally at some level with the capitalist US – the only remaining global superpower."* This implies that after the Cold War, the US became the sole superpower (Unipolar), making the old classification redundant. This put up a need for a new classification of the countries. **Hence, option (b) is correct.**

Option (c) is not correct. It was not that poor countries wanted patronage of developed countries, but they were left with no choice. Further the passage talks about US in particular, not about developed countries in general in this regard. The passage says, *"...when the Communist USSR disintegrated in 1991, most countries had no choice but to ally at some level with the capitalist US – the only remaining global superpower."* **Hence, option (c) is not correct.**

Option (d) is not correct. Post-Cold War, there was only one superpower left, and countries were left with no choice but to ally with it in some form. The passage does not mention anything about "breaking the hegemony of the superpowers". **Hence, option (d) is not correct.**

23 (d)

From the statement 1 and 2 we can say that Potato is costlier than Lady's finger and Lady finger is costlier than cabbage.

Thus, Potato > Lady's finger > Cabbage

From statement 3: Either peas are as costly as cabbage or peas are costlier than cabbage.

Checking each option one by one we get,

Options (a) and (b) may or may not be true.

Option (c) may be true if peas are costlier than cabbage and false if peas cost equal to cabbage.

Option (d) is definitely true.

24 (a)

We know that making n cuts along one axis divides the cube into $(n + 1)$ parts. To obtain 125 cubes by making a minimum number of cuts, we should be making the same number of cuts along all the axis.

Assume we make $ncuts$ along each of the three axes.

So, the number of cubes formed = $(n + 1)(n + 1)(n + 1) = 125$

or $(n + 1)^3 = 5^3$

or $n + 1 = 5$

or $n = 4$

Thus, least number of cuts required if the rearrangement of the pieces before/after making a cut is not allowed = $4 + 4 + 4 = 12$

Hence, option (a) is correct.

25 (d)

15 (4860) $12 \rightarrow (15 + 12) \times (15 \times 12) = 27 \times 180 = 4860$

13 (1820) $7 \rightarrow (13 + 7) \times (13 \times 7) = 20 \times 91 = 1820$

17 (?) $12 \rightarrow (17 + 12) \times (17 \times 12) = 29 \times 204 = 5916$

Hence, option (d) is correct.

26 (c)

Alphabet Series: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

First two letters are MN. In reverse order they are written as NM. It is a term of 2 alphabets, so next 2 alphabets O and P are skipped.

Next term is QRS. In reverse order it is written as SRQ. It is a term of 3 alphabets, so next 3 alphabets T, U and V are skipped.

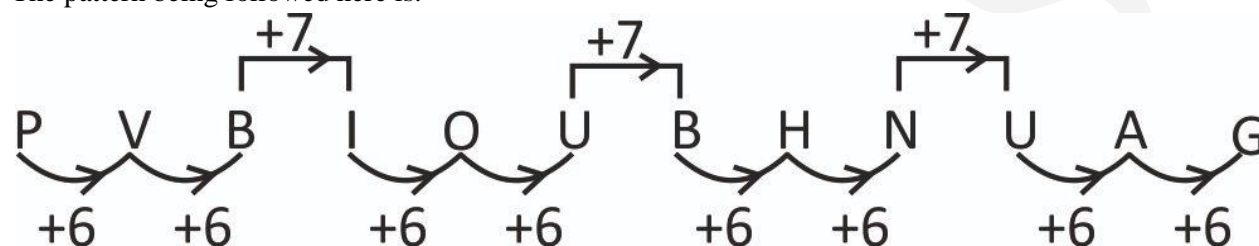
Next term is WXYZ. In reverse order it is written as ZYXW. It is a term of 4 alphabets, so next 4 alphabets A, B, C and D are skipped.

Next term should be a 5 alphabets term. EFGHI in reverse order would be written as IHGFE.

Hence, option (c) is correct.

27(b)

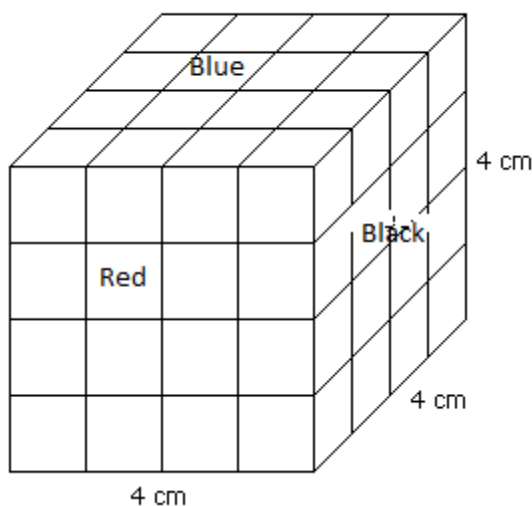
The pattern being followed here is:



Hence, option (b) is correct.

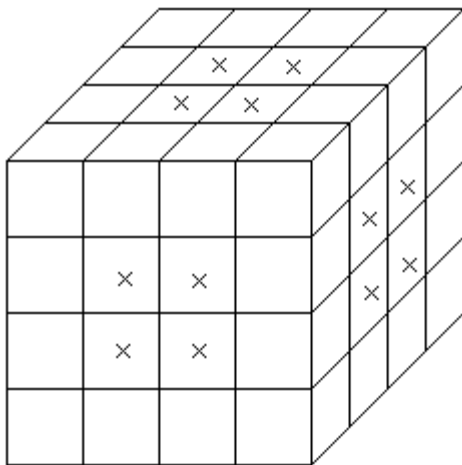
28 (b)

Let us assume that a cube of each side 4 cm, has been painted red, blue and black on pairs of the opposite faces. It is then cut into smaller cubes of each side 1 cm.



The smaller cubes which are painted on one face only are the cubes at the centre of each face of the big cube.

There are 6 faces in the big cube and in each of the face of the big cube there will be four such smaller cubes.



So, there will be 8 smaller cubes which have only one face painted with red colour. Four cubes will be on one face and 4 on the opposite face.

Hence, option (b) is the correct answer.

29 (d)

Option 1 is not correct. According to the passage Gabon had a deal with the Bank of America, the US International Development Finance Corporation (USDFC) and The Nature Conservancy (TNC) for a \$500 million debt-for-nature swap. A similar deal was done by Ecuador too. The passage does not mention that only G7 countries could buy debt for nature swaps from developing countries. **Hence, option 1 is not correct.**

Option 2 is not correct. Nowhere does the passage mention that climate financing holds more importance for island countries. **Hence, option 2 is not correct.**

30 (c)

Option (a) is incorrect. The context of fighting climate change to address global climate and regional climate challenges is not discussed in the passage. The passage is about regional climate models, and not about the challenges of regional or global climate change. Hence, this option is not the best crux of the passage.

Option (b) is incorrect. Equipping farmers to understand and apply the findings of regional climate models is not a part of the passage. The only line about farmers is “*By simulating localized climate scenarios, they empower farmers and policymakers to anticipate shifts in temperature, precipitation, and other environmental factors.*” Hence, the given option is not the best crux of the passage.

Option (c) is correct. The given option best captures the essence of the passage, which is how regional climate models can proactively help in decision-making related to agriculture based on changing climate patterns. Refer to the lines, “*This knowledge enables the identification of suitable crop varieties, irrigation strategies, and planting schedules that align with changing conditions. Additionally, regional climate models aid in mitigating risks associated with extreme weather events, allowing for better resource allocation and adaptive planning.*” These lines show that the given option best reflects the crux of the passage.

Option (d) is incorrect. The given option would have been correct if the word completely was not used. The agricultural output would depend on regional climate models but to state that it is “completely” dependent would not be correct as per the passage. Hence, this is not the best crux of the passage.

31 (a)

The inherent pattern in the two sequences has been represented below.

Sequence I:

4

$$4 \times 1.5 + 7 = 13$$

$$13 \times 2 + 7 = 33$$

$$33 \times 2.5 + 7 = 89.5$$

$$89.5 \times 3 + 7 = 275.5$$

$$278.5 \times 3.5 + 7 = 971.25$$

Sequence II:

8

$$A = 8 \times 1.5 + 7 = 19$$

$$B = 19 \times 2 + 7 = 45$$

$$C = 45 \times 2.5 + 7 = 119.5$$

$$D = 119.5 \times 3 + 7 = 365.5$$

$$E = 365.5 \times 3.5 + 7 = 1286.25$$

Thus, $D = 365.5$

Hence, option (a) is correct.

32 (d)

The given series is: u _ s u _ s s _ s _ _ t u _ t

There are 15 characters in the sequence. By using the given options, we can complete this series using hit and try method, and see if a pattern emerges.

The blanks have been highlighted: u **u** s u **u**/ s s t s s/ **t** t u **t** t

So, the missing letters are: u, u, t, s, t, t

Hence, option (d) is correct.

33 (b)

Here, we are just multiplying up the numbers and then summing up the digits of the resultant number.

$$16 \oplus 8 \oplus 13 = 16 \times 8 \times 13 = 1664 \rightarrow 1 + 6 + 6 + 4 = 17$$

$$7 \oplus 15 \oplus 18 = 7 \times 15 \times 18 = 1890 \rightarrow 1 + 8 + 9 + 0 = 18$$

$$12 \oplus 28 \oplus 7 = 12 \times 28 \times 7 = 2352 \rightarrow 2 + 3 + 5 + 2 = 12$$

$$\text{So, } 14 \oplus 9 \oplus 16 = 14 \times 9 \times 16 = 2016 \rightarrow 2 + 0 + 1 + 6 = 9$$

Hence, option (b) is correct.

34 (c)

Alphabets adjacent to B are A, C, E and F.

Hence, alphabet D must be opposite to alphabet B.

Therefore, option (c) is correct.

35 (a)

$$a + b < c + d \dots\dots\dots(i)$$

$$b + c < d + e \dots\dots\dots(ii)$$

$$c + d < e + a \dots\dots\dots(iii)$$

$$d + e < a + b \dots\dots\dots(iv)$$

From (i) and (iv):

$$a + b + d + e < c + d + a + b$$

$$\text{So, } e < c$$

From (ii) and (iv):

$$b + c + d + e < d + e + a + b$$

$$\text{So, } c < a$$

From (i) and (iii):

$$a + b + c + d < c + d + e + a$$

$$\text{So, } b < e$$

$$\text{Hence, } b < e < c < a$$

From (ii), it is clear that $d > b$. From (iii), it is clear that $d < a$

Thus, it is clear from above, that the largest number is a and the smallest one is b.

Hence, option (a) is the correct answer.

36 (a)

In the given figure, * is opposite to %, @ is opposite to #. Therefore, & must be opposite to \$.

Therefore, option (a) is correct.

37 (b)

In the given two positions of dice, there is one common face, i.e. 9, and it is in the same position. Hence, 4 is opposite to 8, and 5 is opposite to 7.

Therefore, 9 must be opposite to 6.

Therefore, option (b) is correct.

38 (a)

Option 1 is correct. The passage mentions about the Gravity Recovery and Climate Experiment (GRACE), which is used in to deliver data on draught regions of the world. It is clearly mentioned in the passage, *“Major droughts are also spread across wider geographies, they found, highlighting limitations of satellite data”*. Further, to improve data precision, GRACE calculation was mixed with another scientific model. The passage further says, *“The researchers who made the new analysis combined the GRACE measurements with the hydrological model Water GAP for the first time to show, more precisely than ever before, how the total distribution of water over the Earth’s land surfaces has changed in the last two decades”*. Hence, option 1 is correct.

Option 2 is correct. There has been a change in the distribution of groundwater across the globe. The frequency of draught has also increased as compared to the past decade. The passage says, *“The new method allows us to test out model calculations on the future effects of climate change, particularly how rising temperatures and changes in precipitation patterns will impact the water balance in different parts of the world...”* It can be implied that climate change is also responsible for the change in water balance in the world. Hence, option 2 is correct.

Option 3 is not correct. Tropical countries are not specifically mentioned as being affected by the change in the water balance. The passage says, *“...changes in precipitation patterns will impact the water balance in different parts of the world...”* Hence, option 3 is not correct.

39 (b)

Option (a) is not correct. The passage clearly says, *“Though California, in the past, has felt the effects of hurricanes, they typically remain well offshore and subside to become tropical storms by the time they hit they make landfall”*. It can be implied that tropical cyclones have occurred in the past on the coastal parts of California. Hence, option (a) is not correct.

Option (b) is correct. The hurricane will make a landfall on the lands of California and Mexico. The passage mentions, *“It is rare, indeed nearly unprecedented in the modern record, to have a tropical system like this move through Southern California...”* The passage further mentions, *“...the hurricane will make landfall in the Baja peninsula in Mexico”*. It can be implied that previously, cyclones hitting the coast of California and Mexico lose their strength and making a landfall in these regions is a rarity. Hence, option (b) is correct.

Option (c) is not correct. The passage nowhere mentions whether or not coastal California experiences temperate cyclones. Hence, option (c) is incorrect.

Option (d) is not correct. The passage says, *“Though California, in the past, has felt the effects of hurricanes, they typically remain well offshore and subside to become tropical storms by the time they hit they make landfall”*. It can be implied that California in the past has experienced cyclones; therefore they do not come under anti-cyclonic zone. Hence, option (d) is not correct.

40 (b)

Option 1 is not correct. The passage does not mention anything about the type of water around the coast of California. Hence, option 1 is not correct.

Option 2 is correct. It is mentioned in the passage, *“Unlike states like Florida, Louisiana and Texas on the Gulf of Mexico, which have learned over the years on how to survive hurricanes, for Californians and Mexicans in the west, it is a novel, terrifying, experience”*. It implies that citizens of California and Mexico are not familiar with experiencing cyclones. Hence, option 2 is correct.

41(b)

Since out of 216 cubes, we removed 4 columns of 6 cubes each, so:

Number of cubes in the solid after the removal of the columns = $216 - (4 \times 6) = 216 - 24 = 192$

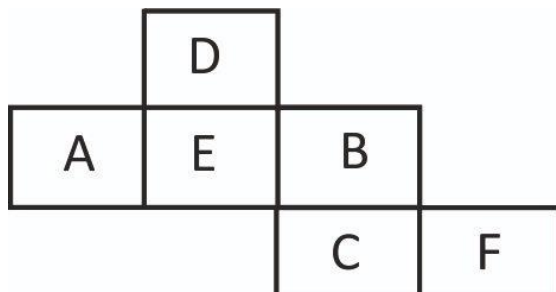
Hence, option (b) is correct.

42 (b)

Number of cubes which do not have any coloured face = Inner cubes + Face cubes on the bottom face = $(6 - 2)^3 + (6 - 2)^2 = 64 + 16 = 80$
Hence, option (b) is correct.

43 (c)

Given unfolded dice:



In the given figure, A is opposite to B, C is opposite to D, and E is opposite to F.
In figure (i), C and D are adjacent to each other. So, it can't be formed from the given unfolded dice.
Therefore, only dice (ii) and (iii) can be formed.
Hence, option (c) is correct.

44 (c)

In 1st and 2nd dice, there are two common faces, i.e. brown and blue. So, the remaining faces will be opposite to each other
Therefore, violet is opposite to yellow.
Therefore, option (c) is correct.

45 (d)

Amit > Binod 1
Divyanshu > Chandan 2
Binod > Chandan 3

From 1 and 3:
Amit > Binod > Chandan
Therefore, option (d) is correct.

46 (b)

In the second test he scored the highest marks. So, his performance was best comparatively in this test.
Therefore, option (b) is correct.

47 (b)

4 edges common to red and yellow faces have 3 cubes each.
So, number of small cubes that have at least two coloured faces, one with red and other with yellow = $4 \times 3 = 12$
Therefore, option (b) is correct.

48 (d)

Option (a) is incorrect. The context of automation level and its impact on the quality of leisure is not a part of the passage. Hence, this option is beyond the scope of the passage and is not the best crux of the passage.

Option (b) is incorrect. The first line of the passage says that automation can liberate human beings from repetitive tasks and create space for leisure pursuits. This does not mean that automation is the “only” way to create a large leisured population. Hence, this option is not the best crux of the passage.

Option (c) is incorrect. The preference between job and leisure is not discussed in the passage. The passage only talks about taking a balanced approach. Hence, this option is not the best crux of the passage.

Option (d) is correct. The given option is correct as it is based on the following lines: “By embracing automation, societies can *liberate human beings from repetitive tasks and create space for leisure pursuits.*” and “However, a *balanced approach is crucial, as unchecked automation might also bring about job displacement and societal inequalities. By carefully managing the integration of machines into various sectors, we can strive for a harmonious coexistence where technology uplifts livelihoods, allowing more to savour the enriching benefits of leisure time.*”. Hence, this option is the best crux of the passage.

49 (c)

Option (a) is incorrect. The given option is not correct because religious values and fertilizers are not a part of the passage. Hence, this option is not the best crux as per the passage.

Option (b) is incorrect. The given option is not correct because the context of religious values and profits is not a part of the passage. Hence, this option is not the best crux of the passage.

Option (c) is correct. The given option is correct as it is based on the lines “... *but with that great acceleration have come trade-offs and new challenges, particularly with climate change, ecosystem resilience and deepening issues of inequity, ... Food systems objectives have therefore progressed from producing enough nutritious food to feed the world to doing so in an environmentally sustainable way while facilitating fair and equitable livelihoods, social justice, and respect for cultural values.*” The essence of these lines is best captured in the given option. Hence, this option is the best crux of the passage.

Option (d) is incorrect as both options (a) and (b) are incorrect.

50 (d)

Option (a) is incorrect. The last line of the passage has a positive tone about the plausibility of alternative solutions to air conditioner. Therefore, it would be incorrect to call them utopian goals.

Option (b) is incorrect. Though probably correct, the context of huge investment or investment per se is not a part of the passage and so can be ignored.

Option (c) is incorrect. Though it seems correct, the context of air conditioners being devastating for the planet is not discussed in the passage. So, this option is beyond the scope of the passage. Moreover, it cannot be the crux of the passage anyways as the passage is solution oriented.

Option (d) is correct. The crux of the passage is in the lines, “*Efficiency competent standards are a key measure to reduce emissions, together with passive, nature-based and alternative solutions to air conditioners, and improved design of buildings and districts.*” These lines show that innovative solutions and competent benchmarks are required to deal with emissions. Hence, this option is the best crux of the passage.

51 (a)

$$\begin{aligned} \text{The number of cubes having only one face painted} &= 2[(l-2)(b-2) + (b-2)(h-2) + (l-2)(h-2)] \\ &= 2[(3-2)(4-2) + (4-2)(5-2) + (3-2)(5-2)] \\ &= 2[(1 \times 2) + (2 \times 3) + (1 \times 3)] \\ &= 2[2 + 6 + 3] = 2 \times 11 = 22 \end{aligned}$$

Therefore, option (a) is correct.

52 (b)

$$n = \text{side of big cube} / \text{side of small cube} = 15/3 = 5$$

$$\text{Number of small cubes which have only two painted faces} = (n - 2) \times \text{number of edges} = (5 - 2) \times 12 = 36$$

Therefore, option (b) is correct.

53 (b)

We can place the small cubes such that all the surface area of the resultant cube is green. So, greatest possible fraction would be 1, or 56/56.

Therefore, option (b) is correct.

and K is not the senior-most person.

Explanation for Questions 54 and 55:

N is senior to L, but junior to P. Q is senior to L, but junior to P. L is not the junior-most person. M is senior to P.

M > P > N / Q > L > _

P is junior to J.

J / M > P > N / Q > L > _

Only two persons are senior to J, who is junior to K. K is not the senior most person.

M > K > J > P > N / Q > L > _

Final arrangement:

M > K > J > P > N / Q > L > O

54 (c)

M is the senior-most person.

55 (d)

Either 2 or 3 persons are junior to K, but senior to N.

56 (c)

Option (a) is incorrect. The given option mentions sustainable production practices as the solution to desertification. However, the passage does not focus on the solutions for desertification. It rather focusses on the issue, cause and effects of desertification. Hence, this option is not what the passage implies.

Option (b) is incorrect. The passage mentions various human activities leading to desertification; but how nature causes desertification leading to its ill consequences is not discussed. Hence, this is not what the passage implies.

Option (c) is correct. The passage discusses the issue of desertification and the problems/risks associated with it. It is reflected in the lines, "*Human activities that can favour desertification are unsustainable farm practices, heavy industry and mining, deforestation, overexploitation and contamination of water and ... Globally, the United Nations estimates that the livelihoods of more than 1 billion people in some 100 countries are at some level of risk linked to the effects of desertification.*" This essence is best captured in the given option. Hence, this is the best answer.

Option (d) is incorrect. The given option is generic as it mentions the environment, rather than specifying desertification. However, the passage is specific to desertification which is not mentioned in the option. Hence, this is not what the passage implies.

57 (b)

Option (a) is incorrect. The given option is not correct because the passage does not mention that the exchange of gifts should be a regular affair in adult life. Hence, this option is beyond the scope of the passage and is not the best logical inference.

Option (b) is correct. The whole passage describes various reasons why adults feel thrilled by presents. Refer to the lines "*Additionally, presents often tap into a sense of nostalgia, rekindling the joy associated with surprises from childhood. They may also represent opportunities for self-indulgence, allowing adults to enjoy something they might not ordinarily prioritize.*" These lines validate the given option as the best logical inference from the passage.

Option (c) is incorrect. The given option is not based on the passage because the passage does not discuss how presents offer limited mechanisms for excitement and self-indulgence. Rather, the essence of

the passage is to signify the importance of presents and gifts in adult life. Hence, this option is not the most rational inference from the passage.

Option (d) is incorrect. The given option is not correct because the passage doesn't signify that gifts and presents are the best way to build memories and feel enjoyment in life. Hence, this option is not the most rational inference.

58 (a)

Option 1 is correct. The passage highlights the key findings of the report published by the World Resources Institute (WRI) Aqueduct Water Risk Atlas. The passage says, "*For West Asia and North Africa, this means 100 percent of the population will live with extremely high-water stress by 2050. This is an issue of concern not just for consumers and water-reliant industries, but for political stability, according to the authors of the WRI report*". This implies that a water deficit region might face political instability. Hence, option 1 is correct.

Option 2 is incorrect. The passage says, "*While most countries in sub-Saharan Africa are not extremely water-stressed right now, demand is growing faster there than any other region in the world.*" It implies that at the moment sub-Saharan Africa is not among the most water-stressed regions of the world. Although, the increase in demand for water in this region will be the highest in the world, at the moment it is not the most water-stressed region. Hence, option 3 is not correct.

59 (a)

Here, we are required to decipher or decode the pattern.

TABLE is written as 8.

Logic: Sum of the letter position numbers / Number of letters

Code of TABLE = $(20 + 1 + 2 + 12 + 5)/5 = 40/5 = 8$

Code of MIND = $(13 + 9 + 14 + 4)/4 = 40/4 = 10$

Code of CHOKER = $(3 + 8 + 15 + 11 + 5 + 18)/6 = 60/6 = 10$

Hence, option (a) is correct.

60 (b)

The pattern being followed here is:

$$40 + (2^2 - 2) = 42$$

$$42 + (4^2 - 2) = 56$$

$$56 + (6^2 - 2) = 90$$

$$90 + (8^2 - 2) = 152 \neq 150$$

$$152 + (10^2 - 2) = 250$$

$$250 + (12^2 - 2) = 392$$

Thus, the wrong term in the series is 150. It should be replaced by 152.

Hence, option (b) is correct.

61 (c)

Given series: B25, A26, Z1, Y2, ?

First letters of each term are B, A, Z, Y, ?

Here 1st letter of each term is reduced by 1. So, next letter will be X.

In 1st term:

B has position 2.

$$\text{So, } 27 - 2 = 25$$

In 2nd term:

A has position 1.

$$\text{So, } 27 - 1 = 26$$

In 3rd term:

Z has position 26.

$$\text{So, } 27 - 26 = 1$$

In 4th term:

Y has position 25.

$$\text{So, } 27 - 25 = 2$$

In 5th term:

X has position 24.

So, $27 - 24 = 3$

$? = X3$

Hence, option (c) is correct.

62 (a)

RAM = $18 + 1 + 13 = 32 \rightarrow 3 + 2 = 5$

TOP = $20 + 15 + 16 = 51 \rightarrow 5 + 1 = 6$

WBC = $23 + 2 + 3 = 28 \rightarrow 2 + 8 = 10 \rightarrow 1 + 0 = 1$

Hence, option (a) is correct.

63 (d)

In the code:

'307' means 'drink fruit juice'(i)

'963' means 'juice is sour'(ii)

'905' means 'apple is fruit'(iii)

Comparing (i) and (ii), we get:

Code for 'juice' must be 3.

Comparing (i) and (iii), we get:

Code for 'fruit' must be 0.

Hence, code for 'drink' must be 7.

Hence, option (d) is correct.

64 (a)

KNOOR = #^%#*

So, O is coded as #.

CRACK = ^%&&@

So, C is coded as &.

R and K are common in KNOOR and CRACK. So, R and K are % or ^.

Therefore, N is coded as *.

S is a new letter; so it must correspond to a new symbol.

Thus, CONS may be coded as &#*\$.

Hence, option (a) is correct.

65 (d)

Given series: Q, W, Y, P, G, I, ?, ?

Observing the pattern carefully, we see that this series consists of 2 of two different series:

(Q, Y, G, ?) and (W, P, I, ?)

1st series:

$Q + 8 = Y$

$Y + 8 = G$

$? = G + 8 = O$

2nd series:

$W - 7 = P$

$P - 7 = I$

$? = I - 7 = B$

Hence, option (d) is correct.

66 (d)

As per the question:

B is shorter than only D. It means D is the tallest and B is second in height.

Now, A is taller than C and they are adjacent to each other. So, two cases are possible:

Case 1	D	B	A	C	E
Case 2	D	B	E	A	C

From case 1 and case 2 it is clear that the middle position is taken by either A or E.
Hence, option (d) is correct.

67 (d)

Minimum number of persons = (Sum of the positions of the two persons from the end – Number of in-between persons) – 2

So, minimum possible number of persons in the queue = $(8 + 10 - 4) - 2 = 12$.

Hence, option (d) is correct.

Explanation for Questions 68 and 69:

We may represent the information in a table as shown below:

	France	Germany	Vegetarian	Non -vegetarian	Thin	Fat
P	√			√	√	
Q	√			√		√
R		√		√	√	
S		√	√		√	
T		√		√		√
U		√	√			√

68(c)

69 (d)

70 (d)

BEYOND is written as DHCMKZ.

We can see that the underlying pattern is very simple, as shown below:

$$B + 2 = D$$

$$E + 3 = H$$

$$Y + 4 = C$$

$$O - 2 = M$$

$$N - 3 = K$$

$$D - 4 = Z$$

We will follow a similar pattern to code VERTEX.

$$V + 2 = X$$

$$E + 3 = H$$

$$R + 4 = V$$

$$T - 2 = R$$

$$E - 3 = B$$

$$X - 4 = T$$

So, the required code is XHVRBT.

Hence, option (d) is correct.

71 (b)

$$n = \text{side of big cube} / \text{side of small cube} = 9/1 = 1$$

$$\text{Number of small cubes having exactly one face painted} = 6(n - 2)^2 = 6(9 - 2)^2 = 294$$

Hence, option (b) is correct.

72 (b)

The cube of side 12 cm will make $12 \times 12 \times 12 = 1728$ small cubes of side 1 cm each.

If the outer most layer is removed, we will have a cube of side 10 cm.

The number of 1 cm side cubes in a 10 cm side cube = $10 \times 10 \times 10 = 1000$

Hence, the number of cubes having color on at least one of their faces = $1728 - 1000 = 728$

Hence, option (b) is correct.

73 (a)

There are two boxes between Red box and Green box and there is one box between Red and Blue box.

Hence, two cases are possible:

Case 1	Case 2
Red	Green
Yellow	Blue
Blue	Yellow
Green	Red

However, Red box is not above Yellow one. So, Case 2 is correct.

So, option (a) is the right answer.

74 (b)

Option (a) is not correct. According to the passage, air pollution is considered to be the world's largest environmental health threat. However, it does not reflect the crux of the passage, as the passage revolves around the central argument of new findings related with PM 2.5. **Hence, Option (a) is not correct.**

Option (b) is correct. This statement best reflects the crux of the passage. A recent study regarding the relationship between fine particulate matter (PM2.5) air pollution and antibiotic resistance suggests that there is a clear correlation between the two. The passage says, *"The study presented the first global estimates of antibiotic resistance and burden of premature deaths attributable to antibiotic resistance resulting from PM2.5 pollution"*. Further, the passage mentions cases of countries and the risk of antibiotic resistance associated with an increase in air pollution. **Hence, option (b) is correct.**

Option (c) is not correct. It is mentioned in the passage, *"China and India could be the countries where changes in PM2.5 have the largest effect on premature deaths attributable to antibiotic resistance due to their large populations"*. It can be implied that the more the population, more the number of deaths. But it is not the central argument of the passage as it correlates death with population, and does not mention anything about the relation between antibiotic resistance and PM 2.5. **Hence, option (c) is not correct.**

Option (d) is not correct. The passage does not mention anything related with the funding of developing countries by the developed world. **Hence, option (d) is not correct.**

75 (d)

Option 1 is not correct. The passage does mention about the details of the MoU between ISRO and Skyroot - a private space tech start-up of India. **Hence, option 1 is not correct.**

Option 2 is not correct. The passage does not mention anything about the funding requirements of the start-ups. **Hence, option 2 is not correct.**

76 (a)

Option (a) is correct. The given option is based on the lines “*Socially innovative activities may deliver products and services like those of incumbent energy business models e.g., **sustainable energy generation, but also create social value that traditional energy business models may not.***” These lines best reflect the crucial message the author wants to convey.

Option (b) is incorrect. The context of India learning from the energy policies of the EU is not correct because it is not mentioned in the passage. Hence, this option is beyond the scope of the passage and is not the crucial message conveyed by the author.

Option (c) is incorrect. The given option is an extreme statement. The passage nowhere signifies the dependency of sustainable energy generation on social inclusion and innovation.

Option (d) is incorrect. The given option seems to be correct but the context of universalization (across the world) is not discussed in the passage as it is focused more on the EU energy package. Hence, the given option is not what the author wants to convey.

77 (a)

Assumption 1 is correct. The given assumption is based on the line “*Striking a balance between personal expression and **receptivity to diverse viewpoints nurtures a well-rounded and intellectually resilient society.***” Therefore, it would be correct to say that intolerance of various opinions could make a society intellectually stagnant. Hence, this assumption is correct.

Assumption 2 is incorrect. The given assumption is not correct. Refer to the lines “*Encouraging people to **withhold their opinions challenges them to engage in deeper reflection, research, and empathy before taking a stance.** This approach can lead to more informed discussions, where ideas are refined and enriched through collaborative exploration.*” For the development of ideas through cooperation people should withhold their opinions and not express them freely in a spontaneous and unfiltered manner. Hence, this assumption is not correct.

78 (d)

Option (a) is incorrect. The given option is not correct because opinions in themselves do not reflect anything as per the line, “*Promoting a mindset where individuals **refrain from both offering and unquestioningly adopting opinions** can foster a culture of critical thinking and open-mindedness. Encouraging people to withhold their opinions challenges them to engage in deeper reflection, research, and empathy before taking a stance.*” This line means that blind acceptance of opinions and offering unfiltered opinions limits critical thinking, and not just opinions per se. Hence, this is not the most crucial message conveyed by the author.

Option (b) is incorrect. The context of substantiation of opinions for decision making is not correct as the passage does not discuss it. Hence, this option is not the most crucial message conveyed by the author.

Option (c) is incorrect. The context of the right to freedom of expression is not discussed in the passage. Therefore, this option is beyond the scope of the passage, and is not the most crucial message conveyed by the author.

Option (d) is correct. The lines, “*Promoting a mindset where individuals refrain from both offering and unquestioningly adopting opinions can foster a **culture of critical thinking and open-mindedness.** Encouraging people to withhold their opinions challenges them to engage in deeper reflection, research, and empathy before taking a stance*” and “*Striking a balance between personal expression and **receptivity to diverse viewpoints nurtures a well-rounded and intellectually resilient society***” show how important it is to think about opinions with patience. It could lead to an intellectually resilient society. Hence, the given option is the most crucial message from the passage.

79 (c)

Inference 1 is correct. The given inference is based on the following line - “*While mitigation efforts continue to hold value, **pragmatic policies emphasizing rapid implementation** will prove pivotal in safeguarding ecosystems, livelihoods, and vulnerable populations from the mounting consequences of evolving climate change reality.*” Therefore, as per the passage, the given inference is correct.

Inference 2 is correct. The line “*Collaborative efforts between nations are vital to share knowledge and best practices, as climate change knows no borders*”, validates the given inference because climate change impacts all people across the world and does not discriminate based on nations. Hence, this inference is correct as per the passage.

80 (b)

Option (a) is incorrect. The given option is not correct because it states that mitigation is in the past, which is not correct as per the line - “While *mitigation efforts continue to hold value*...” Hence, this option is not correct as per the passage.

Option (b) is correct. The given statement is based on the following lines “*Considering the growing realization that ... crafting agile policies for swift responses to its impacts. Embracing adaptive strategies becomes paramount to addressing the imminent challenges posed by changing weather patterns, rising sea levels, and extreme events. ... Collaborative efforts between nations are vital to share knowledge and best practices, as climate change knows no borders.*” These lines show that effective plans and cooperation among nations are important to deal with climate change consequences. Hence, this statement is correct as per the passage.

Option (c) is incorrect. The context of cooperation between world financial institutions is not a part of the passage. Hence, this option is not correct.

Option (d) is incorrect. The context of the role of citizens in fighting climate change is not a part of the passage. Only the role of governments in terms of finances and policies is discussed. Hence, the given statement is not correct as per the passage.

Copyright © by Vision IAS

All rights are reserved. No part of this document may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior permission of Vision IAS.