

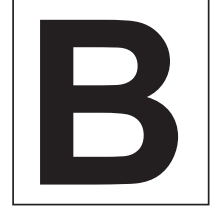
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**NEXT IAS**

Test Booklet Series



परीक्षण पुस्तिका अनुक्रम

**अनुभव-2024**  
**ALL INDIA OPEN MOCK TEST-4**  
**CSAT (Paper-II)**

*Answer Key*

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

## EXPLANATIONS

1. (a)

**Statement 1 is correct.** The passage mentions, "With changing times and a growing population, agriculturists adopted modern scientific techniques. Extensive use of fertilizers and pesticides led to the deterioration of soil health and contamination of water bodies and the food chain." It implies that unsustainable practices like excessive use of fertilizers and pesticides to meet the needs of a growing population have led to food contamination. So this statement is correct.

**Statement 2 is incorrect.** The passage mentions, "Extensive use of fertilizers and pesticides led to the deterioration of soil health and contamination of water bodies and the food chain." It implies that 'extensive' use of fertilizers and pesticides led to food chain contamination. So a judicious use of fertilizer as a modern scientific practice cannot be assumed as a reason behind food chain contamination. So this statement is incorrect.

**Statement 3 is correct.** The passage mentions, "Extensive use of fertilizers and pesticides led to the deterioration of soil health ..... **which pose serious health risks to people and livestock**" This implies that 'extensive' use of fertilizers causes soil degradation which impairs health of people. From this we can infer that soil degradation is one of the causes of food chain contamination.

**Statement 4 is correct.** The passage mentions, "Extensive use of fertilizers and pesticides led to contamination of water bodies and the food chain." It implies that 'extensive' use of fertilizers and pesticides led to mixing of chemicals (leaching) which causes food contamination.

2. (a)

**Statement 1 is correct** as the passage mentions, "The first barrier is "lack of

trust" in the financial system, particularly in money and financial institutions. This can be due to a history of bank failures and the associated loss of hard-earned cash that people may have witnessed." Improving the resilience of financial institutions (such as banks) would make them less prone to failure. This would improve public faith in banks.

**Statement 2 is incorrect** as the passage mentions "Or the price really is too high because the service provider finds it unprofitable to serve some population segments. Consider a small, low-income community. Without a critical mass of potential customers, setting up a fully staffed branch may be too costly. Even if one ignores the fixed costs, the marginal profit from serving low-income clients with narrow financial needs may be too low." Therefore, if the government regulates the prices of financial services to keep them "very" low, it will deeply hurt the profitability of service providers. This will further adversely impact their ability to serve low-income areas.

**Statement 3 is incorrect** as, though the statement may be objectively true, the link between poverty and financial inclusion or prosperity and financial inclusion is not implied in the passage. The passage restricts itself to explaining the three broad barriers to financial inclusion.

3. (c)

**Statement 1 is correct** as the passage mentions, "Rather it seeks to entrench and develop political institutions at the regional and global level as necessary complements to those at the level of the state." This occurs by replicating national democratic institutions at the transnational and global levels." The author is of the view that the same democratic institutions that operate at national level should be replicated at international and regional level. These

regional and international institutions will augment the functions of national level institutions. All these points are effectively captured in this answer option.

**Statement 2 is incorrect** as the passage refers to cosmopolitan democracy as “replicating national democratic institutions at the transnational and global levels, such as the creation of a global parliamentary assembly, international courts, and a constitutional rule of law”. Nowhere in the passage, it is implied that cosmopolitan democracy supports promoting the adoption of democracy in ‘every’ nation.

**Statement 3 is incorrect** as though the statement may be objectively true, it is beyond the scope of the passage. The passage only deals with the question of how the structure of cosmopolitan democracy would be. It does not deal with the ethical dimensions (tolerance, openness) of cosmopolitan democracy.

**Statement 4 is correct** as the passage mentions “These institutions provide a framework to shield human rights and exercise individual autonomy by voting in global elections. Moreover, these institutions are charged with effectively regulating transnational problems that national institutions cannot tackle alone: climate change, the diffusion of nuclear weapons, and financial markets.” Thus, the issue of global human rights and transnational problems transcend local commitments and involve identification with the world.

4. (c)

As per the statements,

Time gap between 09:00 am to 01:30 pm = 4 hrs 30 min.

Normally, the bell rings once after half an hour so, in 4 hrs 30 min the bell ring = 9 times

But, conditionally the bell ring 5 time thrice at beginning, lunch and at the time of end of school =  $5 \times 3 = 15$  times

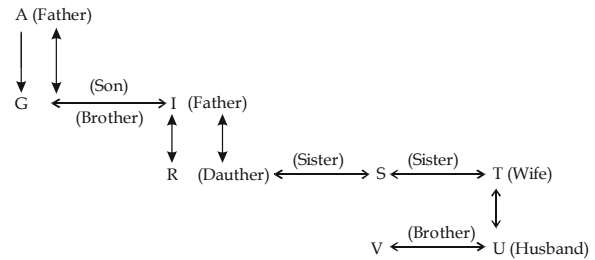
Total bell ring =  $9 + 15 - 2$  (times repetitive)  
(Since there is no single bell to be rang at the starting of the class.)

$$= 24 - 2 = 22 \text{ times}$$

Hence, option (c) is correct.

5. (b)

A+G\$I + R@S@T#U\$V



As per the above diagram, A is not the maternal grandfather of T.

Hence, option (b) is correct.

6. (d)

Let the number of mangoes on each tree on Amit, Mohit, Praveen, Ram and Shyam be a, m, p, r, and s respectively.

Therefore total no of mangoes are 7a, 9m, 11p, 13r and 14s respectively.

Given,

$$7a + 1 = 9m + 3 = 11p - 1 = 13r + 3 = 14s - 6 = x$$

$$\Rightarrow 9m + 3 = 13r + 3$$

$$\Rightarrow 9m = 13r$$

So, lets take  $m = 13$  and  $r = 9$

$$\Rightarrow 9m + 3 = 9 * 13 + 3 = 120$$

i.e.,  $x = 120$

Substituting the value,

$$\Rightarrow 11p - 1 = 120$$

$$\Rightarrow p = 11$$

Substituting the value,

$$\Rightarrow 13r + 3 = 120$$

$$\Rightarrow r = 9$$

Yield per tree in the field of Praveen & Ram respectively = 11, 9

Hence, option (d) is correct.

7. (b)

M is divisible by 3, 5, 7, 11 and M = multiple of LCM of (3, 5, 7, 11)

LCM = 1155

So, two largest possible value of N (real number) = 45 and (-1110)

If N = 45, M = 1155 (divisible by 3, 5, 7, 11)

If N = (-1110), M = 2310 (divisible by 3, 5, 7, 11)

Both of the above values of N satisfy the given conditions.

So, sum of two largest possible value of N = 45 + (-1110) = -1065

Hence, option (b) is correct.

8. (c)

The first digit in the first row can only be 2 or 3, as otherwise thrice the number will not be a three-digit number.

The possible numbers :

237, 239, 273, 279, 293, 297, 327, 329.

Let's check these numbers:

237 × 2 = 474 (repetition of digits not allowed)

239 × 2 = 478; 239 × 3 = 717 (repetition of digits not allowed)

273 × 2 = 546; 273 × 3 = 819 (One combination)

279 × 2 = 558 (repetition of digits not allowed)

293 × 2 = 586; 293 × 3 = 879 (repetition of digits not allowed)

297 × 2 = 594 (repetition of digits not allowed)

327 × 2 = 654; 327 × 3 = 981 (Second combination)

329 × 2 = 658; 329 × 3 = 987 (repetition of digits not allowed)

So, only two cases are possible.

Hence, option (c) is correct.

9. (a)

Let a, b, and c are natural numbers.

Trios of natural numbers so that their sum is 17 = (1, 7, 9), (2, 6, 9), (2, 7, 8), (3, 5, 9), (3, 6, 8), (4, 5, 8), (4, 6, 7)

Total trios = 7

Hence, option (a) is correct.

10. (c)

Ritesh : Satish : Rahul = 12 : 4 : 3  
(Investment ratio)

Let time t<sub>1</sub>, t<sub>2</sub>, t<sub>3</sub> respectively = 3 : 16 : 9  
(profit ratio)

Ratio of their profit = Ratio of their investment

$$3 : 16 : 9 = 12 \times t_1 : 4 \times t_2 : 3 \times t_3$$

Take two ratio,

$$\Rightarrow 3 : 16 = 12 \times t_1 : 4 \times t_2$$

$$\Rightarrow \frac{3}{16} = \frac{12 \times t_1}{4 \times t_2} \Rightarrow \frac{t_1}{t_2} = \frac{1}{16} \Rightarrow t_1 : t_2 = 1 : 16$$

...(1)

Take two other ratio,

$$16 : 9 = 4 \times t_2 : 3 \times t_3$$

$$\Rightarrow \frac{16}{9} = \frac{4 \times t_2}{3 \times t_3} \Rightarrow \frac{t_2}{t_3} = \frac{4}{3} \Rightarrow t_2 : t_3 = 4 : 3 \dots(2)$$

$$\Rightarrow t_1 : t_2 : t_3 = 1 : 16 : 12$$

Hence, option (c) is correct.

11. (a)

**Option (a) is correct.** This is the correct option because it builds on the core idea of the passage. The lines "Most NCDs primarily result from unhealthy lifestyles including the consumption of too much or unhealthy food, too much alcohol and excessive smoking habits, combined with physical inactivity", show that NCDs result from unhealthy lifestyles like physical inactivity and unhealthy food. So, prevention of NCDs can be done through physical activity and healthy food choices.

**Option (b) is incorrect.** There is no lesson for India in the given passage because there is no data to reflect India's situation. Also, there is no discussion about India in the passage.

**Option (c) is incorrect.** This statement is incorrect. The passage mentions, "Especially in the last century, most Western countries have experienced significant demographic changes with a continuing increase in the number of older people who face medical and functional challenges, as well as diseases that are age-specific but have often originated in people's younger years". It merely shows that some age-specific diseases can even develop early. So, the option is incorrect because it talks about the development of any kind of disease at any stage of life.

**Option (d) is incorrect.** This statement is incorrect. The passage mentions, "More specifically, inactivity and unhealthy eating habits are associated with weight gain, overweight and obesity are the major underlying causes for modern diseases such as CHD or type 2 diabetes mellitus." The option given could be correct in general, but the passage mentions that weight gain, overweight and obesity are the major causes of CHD, and diabetes and not unhealthy food, alcohol, or smoking. Moreover, this is just a fact stated in the passage; it cannot be called a practical implication.

12. (c)

**Statement 1 is incorrect.** While the passage discusses a transition in the perception of the environment, it does not specifically mention that this transition is solely due to population growth. The transition is described as a gradual process, indicating a change in understanding rather than solely being driven by population increase.

**Statement 2 is incorrect.** The passage does not suggest that primitive men lacked the capability to adapt to changed situations. Instead, it describes how their perception of the environment evolved over time.

**Statement 3 is correct.** This assumption is valid according to the passage. The passage

explicitly states that primitive men and early civilizations imagined themselves living on a virtually illimitable plane, where there was always somewhere else to go if things got difficult. This perception aligns with the idea of perceiving surroundings as vast and unlimited.

**Statement 4 is correct.** This assumption is valid based on the passage. The passage indicates that as humans accustom themselves to the notion of a spherical Earth and a closed sphere of human activity, where there is nowhere to go if things get difficult, their perception of themselves and their environment changes. This implies that recognition of environmental and social constraints can indeed prompt a shift in human self-perception.

**Statement 5 is incorrect.** While the passage discusses a transition in the perception of the environment, it does not specifically mention that this transition means after today we have no 'land available'.

13. (b)

**Statement 1 is incorrect.** While the passage discusses 'The root of sufferings is neither the feeling of pain nor of sadness nor even of meaninglessness', we cannot state that pain is not associated suffering. The root of suffering is being discussed which is distinct from the fact that pain can cause suffering.

**Statement 2 is correct.** The passage does state that 'the real root of suffering is this never-ending and pointless pursuit of ephemeral feelings'.

**Statement 3 is correct.** This inference is valid as the passage states 'People are liberated from sufferings ... rather when they ... stop craving for them'.

**Statement 4 is incorrect.** This inference is invalid based on the passage. The passage discusses endless pursuit as the real problem and not the avoiding all feelings.

**Statement 5 is incorrect.** Pursuit of ephemeral feelings is discussed negatively

throughout the passage. Based on it we cannot infer that it mostly leads to pleasure.

14. (c)

Total LS seats = 543

LS seats in given 7 states = 320

Remaining LS seats = 223

Target seats = 400

Assured 150 seats out of 223 seats

Target seats from 7 states = 250 seats

**From statement I:**

If BP wins all 80 seats in U.P., then probability of achieving its target

$$= \frac{250 - 80}{320 - 80} = \frac{170}{240} = \frac{17}{24}$$

Statement I is correct.

**From statement II:**

Remaining seats after winning 150 in UP, MH and AP = 100

Total remaining seats = 320 - 170 = 150

2/3 of 150 = 100

Statement II is correct.

Hence, option (c) is correct.

15. (d)

**From statement I:**

$$\Rightarrow 320 \times \frac{75}{100} = 240$$

Total seats = 240 + 150 = 390

Statement I is incorrect.

**From statement II:**

70% seats from WB, TN & MP

$$= [42 + 39 + 29] \times 70\% = 77$$

80% seats from remaining 5 states

$$= 210 \times 80\% = 168$$

Total seats = 150 + 77 + 68 = 395

Statement II is incorrect.

Hence, option (d) is correct.

16. (b)

$$\Rightarrow \frac{32^{n/5} \times 2^{2n+1}}{4^n \times 2^{n-1}} = \frac{(2^5)^{n/5} \times 2^{2n+1}}{(2^2)^n \times 2^{n-1}}$$

$$\Rightarrow \frac{2^n \times 2^{2n+1}}{2^{3n-1}} = \frac{2^{3n+1}}{2^{3n-1}}$$

$$\Rightarrow 2^{(3n+1) - (3n-1)}$$

$$\Rightarrow 2^2 = 4$$

Hence, option (b) is correct.

17. (d)

Let the cylindrical bucket has a capacity of 'x' litres.

then capacity of conical bucket = (x - 500) litres

As per question  $\rightarrow x - 200 = 2(x - 500 - 200)$

$$\Rightarrow x = 1200 \text{ litre}$$

Hence, option (d) is correct.

18. (c)

Let's take Piyush marks be 10, 9, 8, 7 and 6 in five subjects respectively.

Total marks he scored = 10 + 9 + 8 + 7 + 6 = 40 marks

$$\Rightarrow 40 \text{ marks} = 60\% \text{ of total marks}$$

$$\Rightarrow \text{total marks} = \frac{40}{0.6} = 66.7 \text{ or } 67 \text{ (approx.)}$$

$$\text{Maximum marks in each subject} = \frac{67}{5}$$

$$= 13.4 \text{ (approx.)}$$

To pass in a subject, Piyush needs = 50% of 13.4 = 6.7 marks

He scored less than 6.7 marks in one subject & passed in four other subjects.

Hence, option (c) is correct.

19. (c)

25 Farmers can plough the field in 20 days

$$10 \text{ men can plough in} = 20 \times \frac{25}{10} = 50 \text{ days}$$

When 15 men leave the work, 10 men remain & plough for 37.5 days or  $\frac{3}{4}$ th of the field

Hence all men must work till  $(1 - \frac{3}{4})$  or  $\frac{1}{4}$ th

of field is ploughed.



Now 25 men plough  $\frac{1}{4}$  th part in =  $\frac{20}{4}$

= 5 days

Hence 15 men should leave the work after 5 days.

Hence, option (c) is correct.

20. (b)

Let's take in class A, girls be x, boys be y

Proportion of girls =  $\frac{x}{x+y}$

As per given,

No. of boys in class B = x

Total students in class B = 1.5 (x + y)  
(50% more than class 'A')

Proportion of girls =  $1 - \frac{x}{1.5(x+y)}$

Percentage of boys in overall students  
=  $\frac{(x+y)}{2.5(x+y)} \times 100 = 40\%$

Hence, option (b) is correct.

OR

Lets take in calss A. Total students = n

Then class B total students = 1.5 n (as per given in the question)

Lets take girls in class A = x

Then boys in the class A = n - x

Boys in class B = x (as per given in the question)

So girls in class B = 1.5n - x

So percentage of boys = No. of boys in class

$\frac{A+B}{\text{Total no. of students}}$

=  $\frac{n-x+x}{n+1.5n} \times 100 = 40\%$

21. (b)

**Assumption 1 is invalid.** The given assumption is not correct because the lines "Currently, there are public programs that promote renewable energy options and

recommendations in conserving fuel and energy for farms, efficient use of fertilizers and pesticides, soil conservation measures, and energy- efficient methods of growing and transporting foods", talk about replacing fossil fuels with renewable energy. It means that agriculture is not completely dependent on fossil fuels. Therefore, to assume that its future is bleak would not be correct.

**Assumption 2 is valid.** The lines "Currently, there are public programs that promote renewable energy options and recommendations in conserving fuel and energy for farms, efficient use of fertilizers and pesticides, soil conservation measures, and energy-efficient methods of growing and transporting foods, but those programs will need high levels of participation to curb both climate impacts as well as address air and water quality issues associated with traditional agricultural practices", show that along with replacing fossil fuels with renewable energy, it is important to ensure high levels of participation to curb climate change and address air and water quality issues of agriculture. So, it is correct to assume that only fossil-fuel replacement may not address the air and water pollution caused due to agriculture.

22. (d)

**All Statements are correct.** The line "Direct energy use in agriculture is primarily from fossil fuels used to operate automobiles and machinery for preparing fields, planting, and harvesting crops, applying chemicals, and transporting inputs and outputs to and from the market", illustrates that all the given options are the possible uses of energy in agriculture.

23. (d)

**Statement 1 is correct** as the passage mentions, "The rapidly snowballing loss in diversity is largely triggered and fuelled by new age emergencies and interventions, like climate change, change in atmospheric

composition and the spread of invasive alien species." Hence statement 1 is correct.

**Statement 2 is correct** as the passage mentions, "The rapidly snowballing loss in diversity is largely triggered and fuelled by new age emergencies and interventions, like climate change, change in atmospheric composition and the spread of invasive alien species." and also warming of temperature above pre-industrial levels that has impacted agriculture and contributed to the migration of species. Hence statement 2 is correct.

**Statement 3 is correct** as the passage mentions, "In just the last three centuries, global forest areas have shrunk by 40 per cent. Every year, to meet the timber needs from natural sources, the Earth is stripped of 100 million trees.", which clearly indicates deforestation. Its impact has been the risk of faster extinction in the plant kingdom. Hence, statement 3 is correct too.

24. (a)

Let total amount = T

A got = (T × a) (After 'A' got, rest = T (1 - a))

B got = T (1 - a) × b

C got = T (1 - a) (1 - b) × c

D got = T (1 - a) (1 - b) (1 - c)

D gets a% less than what A gets

(T × a) (1 - a) = T (1 - a) (1 - b) (1 - c)

a = (1 - b) (1 - c) ... (1)

B and C get the same amount

(1 - a) × b = (1 - a) × (1 - b) × c

b = (1 - b) × c

b = c - cb

Given, b = c

b + cb = c

b(1 + c) = c

$\Rightarrow b = \frac{c}{c+1}$  ... (2)

$\Rightarrow b = 2a$  ... (3)

Substituting equations (2) and (3) in (1),

We get -

$$\frac{c}{2(c+1)} = \frac{(1-c)}{(c+1)} \Rightarrow c = 2 - 2c \Rightarrow c = \frac{2}{3}$$

$$b = \frac{c}{c+1} = \frac{2}{5}, a = \frac{1}{5}$$

A got = 20%, B got = 40% of remaining 80% or 32% of total.

C got 66.6% of 48% or 32% of total,

D got = 16% of total (20% less than A's share)

- (i) A got 20% of total, C got 32% of total or 160% of A.
- (ii) A got 200, D got 160, A got 40 more than D.

Hence, option (a) is correct.

25. (c)

Let HCF of the numbers be 'h'

The numbers can be taken as ha + hb, where a, b are coprime

h + ha + hb = 91

$\Rightarrow h(1 + a + b) = 91$  (h ≠ 1, h = 7 or 13)

**Case 1 : h = 7**

h = 7, (a + b) = 12

(1, 11), (5, 7) only two pairs are possible as a, b have to be co-prime.

**Case 2 :**

h = 13, (a + b) = 6

(1, 5) - only one pair is possible as a, b have to be co-prime.

Overall 3 pairs of numbers are possible:- (7, 77), (35, 49), (13, 65)

Hence, option (c) is correct.

26. (b)

Cricket = C, Football = F, Basketball = B

$$C \cup F \cup B = C + F + B - (C \cap F) - (F \cap B) - (C \cap B) + (C \cap F \cap B)$$

$$= 70 + 28 + 46 - 14 - 9 - 23 + 4$$

$$= 102$$

No. of students who did not opt. for any sports



$$= 140 - (C \cup F \cup B)$$

$$= 140 - 102 = 38$$

Hence, option (b) is correct.

27. (b)

Scores of Anjana, Monika and Rakshit after review = 11 : 10 : 3

Let their values be 11x, 10x and 3x respectively.

It is known that their score increased by 6 after review.

So, scores before review = 11x - 6, 10x - 6 and 3x - 6 respectively from the data given,

$$(11x - 6 + 10x - 6) \times \frac{1}{12} = 3x - 6$$

$$\Rightarrow 21x - 12 = 36x - 72$$

$$\Rightarrow x = 4$$

So, marks after revision are 44, 40 and 12 respectively.

Anjana's score exceeded Rakshit's by 44 - 12 = 32 marks

Hence, option (b) is correct.

28. (b)

The ratio of the speed of train P to train Q is 11 : 16.

The difference in their speeds is 25 km/hr.

$$\boxed{\text{Distance} = \text{Time} \times \text{Relative speed}}$$

Let speed of train P = 11x, train Q = 16x.

$$\Rightarrow 16x - 11x = 25$$

$$\Rightarrow x = 5$$

Speed of train P = 11 × 5 = 55 kmph

Speed of train Q = 16 × 5 = 80 kmph

Both trains are travelling in opposite directions, So the relative speed

$$= 55 + 80 = 135 \text{ km/h}$$

They cross each other after 1 hr and 36 min.

$$\Rightarrow \frac{96}{60} \text{ hrs.}$$

Distance between station X and station

$$Y = \frac{96}{60} \times 135 = 216 \text{ km.}$$

Time required by train P to travel from station X to station Y =  $\frac{216}{55}$  hrs.

Hence, option (b) is correct.

29. (c)

$$\text{Marks up good by } 50\% \frac{CP}{MP} = \frac{100}{150}$$

$$\text{Offers discount of } 23\% = \frac{MP}{SP} = \frac{100}{77}$$

While buying from wholesaler, uses weight

$$\text{of } 1080 \text{ instead of } 1000 = \frac{CP}{SP} = \frac{1000}{1080}$$

While selling, he uses 770 gm weight

$$\text{instead of } 1000 = \frac{CP}{SP} = \frac{770}{1000}$$

Therefore, effective ratio of  $\frac{CP}{SP}$

$$\frac{100 \times 100 \times 1000 \times 770}{150 \times 77 \times 1080 \times 1000} = \frac{100}{162}$$

Hence, Profit = 62 %

Hence, option (c) is correct.

30. (c)

$$1! = 1$$

$$2! = 2$$

$$3! = 6$$

$$4! = 24$$

$$5! = 120$$

$$6! = 720$$

The unit digit of factorial of any number greater than 4 is 0.

Hence, unit digit of 1! + 2! + 3! + 4! + ..... + 76! + 77! + 78! = Unit digit of 1 + 2 + 6 + 4 + 0..... + 0 = Unit digit of 13 = 3

Hence, option (c) is correct.

31. (c)

**Assumption 1 is incorrect.** The statement mentions arresting climate change with the help of funding and adaptation

mechanisms. However, the lines “Drastic reduction of carbon emissions is only one pillar in the fight against climate change. Many of its consequences can no longer be stopped”, show that climate change has, now, reached a point where it cannot be arrested or stopped. Therefore, it is an incorrect assumption.

**Assumption 2 is correct.** The only line regarding countries from the global south is “Countries in the Global South are particularly hard hit, even though their citizens have been emitting the least CO<sub>2</sub>.” It shows that they too have been emitting carbon dioxide.

**Assumption 3 is incorrect.** The statement says ‘cannot be mitigated’. This is invalid based on the passage.

32. (d)

**Option (a) is incorrect.** This option is not correct because the line “Drastic reduction of carbon emissions is only one pillar in the fight against climate change”, reflects that we have reached a point where only controlling carbon emissions will not address the adverse impacts of climate change. Rather, focussing on “adaptation measures” needs focus, “so people both in cities and in rural areas have the chance to cope with the effects of climate change.”

**Option (b) is incorrect.** This option seems to be correct, but it is not the crucial message because the core theme of the passage is not about making the rich countries accountable, but that climate change is nearly irreversible and needs the world population to urgently adapt to it.

**Option (c) is incorrect.** This option too seems to be correct, but it is not the crucial message because the core theme of the passage is not about making the rich countries accountable, but that climate change is nearly irreversible and needs the world population to urgently adapt to it.

**Option (d) is correct.** This option captures the real essence of the passage. The lines

“Many of its consequences can no longer be stopped. There is an urgent need for adaptation measures so people both in cities and in rural areas have the chance to cope with the effects of climate change” reflect that climate change cannot be reversed and that adaptation is a must for coping with climate change. Therefore, the message in this option is the crucial message of the passage.

33. (d)

**Statement 1 is correct.** The passage mentions “Electronic goods and components are the second largest item, after oil, in India’s import bill”. So, it is correct that Indians consume a lot of electronic goods.

**Statement 2 is correct.** The passage has only made use of the China example to make this suggestion and not to suggest that India ‘will’ use it.

**Statement 3 is correct.** The passage has only made use of the China example to make this suggestion and not to suggest that India ‘will’ use it.

**Statement 4 is correct.** The passage has suggested that foreign firms change their policies based on negotiations with the Chinese government. This suggests access to markets can encourage foreign firms to alter their policies.

34. (c)

**Option (a) is incorrect.** The passage merely mentions “India which will soon have twice the number of Internet users as in the U.S. is a large market for all kinds of new technologies”. There is no information about any kind of electronics or technological services trade between the USA and India. Hence, this option is beyond the scope of the passage. So, this is not the crux of the passage.

**Option (b) is incorrect.** This option is also not correct because there is no information about issues of human resources which

hampers the functioning of domestic industry. Hence, it is not the crux of the passage.

**Option (c) is correct.** The lines "India which will soon have twice the number of Internet users as in the U.S. is a large market for all kinds of new technologies", "For instance, the country is operating far below its potential in electronic manufacturing" and "High-value electronic components needed in the manufacture of, say, mobile phones are technology and design-intensive. Big multinational companies control these technologies and corner the bulk of the revenues", show that despite a large user base, India is not able to exploit the potential of the electronic industry which is mostly controlled by big multinational companies. Therefore, this is the crux of the passage.

**Option (d) is incorrect.** The given option is beyond the scope of the passage because there is no discussion on the aspect of manufacturing bases of big multinational companies. Hence, this is not the crux of the passage.

35. (a)

**Option (a) is correct.** The passage mentions "Hyperconsumption is a curse of our modern times". So, this is the crux of the passage.

**Option (b) is incorrect.** This option is not the crux as it does not tell the main theme (Incineration of waste in India) of the passage.

**Option (c) is incorrect.** There is no discussion on the second-best technique.

**Option (d) is incorrect.** The given option could be a fair suggestion. However, the passage does not mention recycled goods.

36. (b)

Total number of balls = 21 red balls + 36 green balls + 29 yellow balls + 39 white balls + 18 black balls + 27 pink balls = 170 balls

As per statement 1:

Value of  $n$

Let's select 20 red balls, 35 green balls, 28 yellow balls, 38 white balls, 17 black balls, and 26 pink balls. These are 164 balls in total.

So, the value of  $n = 164 + 2 = 166$ .

So, statement 1 is incorrect.

As per statement 2:

Value of  $m$

Black balls is the least, we can draw the maximum possible number of balls except black.

So, value of  $m = 21 + 36 + 29 + 39 + 27 = 152$

Now, only black balls are left. So, the next ball we choose will certainly be a black ball.

So, the value of  $m = 152 + 2 = 154$ .

So, statement 2 is correct.

Hence, option (b) is correct.

37. (b)

$$3^{50} + 7^{50} = 9^{25} + 49^{25}$$

We know,  $(a^n + b^n)$  is divisible by  $(a + b)$ , when  $n$  is odd.

So,  $9^{25} + 49^{25}$  is divisible by  $9 + 49 = 58$

Also,  $29^{29} + 28^{29}$  will be divisible by  $29 + 28 = 57$ .

Now  $57 = 19 \times 3$ , hence it is clear that the term will be divisible by 19. Thus the remainder is 0.

Hence, option (b) is correct.

38. (d)

Share of wages of A : B : C

$$= 1/20 : 1/25 : 1/15 = 15 : 12 : 20$$

Share of C =  $9400 \times 20/47 = 4000$

So, statement I is not true.

A and C one day work =  $1/20 + 1/15 = 7/60$

A and C total days =  $60/7$

A and B one day work =  $1/20 + 1/25 = 9/100$

A and B total days =  $100/9$

Required difference =  $100/9 - 60/7 = 160/63$

So, statement II is not true.

Hence, option (d) is correct.

39. (d)

From statement one :

Let principle is rupees P

$$\text{So, } (P \times 15 \times 8) / 100 - (P \times 12 \times 7) / 100 = 432$$

$$\Rightarrow 36p = 43200$$

$$\Rightarrow P = \text{Rs. } 1200$$

$$\text{Hence, amount} = 1200 \times (1 + 10/200)^2 = \text{Rs. } 1323$$

From statement 2 :

Let principle is Rs. P.

$$(P \times 12 \times 5) / 100 + P(1 + 10/100)^2 = 5620$$

$$\Rightarrow 1.6p + 1.21p = 5620$$

$$\Rightarrow 2.81p = 5620$$

$$\Rightarrow P = \text{Rs. } 2000$$

$$\text{Hence, amount} = 2000 \times (1 + 10/200)^2 = \text{Rs. } 2205$$

So, either statement I or II alone is sufficient

Hence, option (d) is correct.

40. (a)

The probability that on a given day, the weather forecast was correct =  $225/365 = 0.62$

The probability that on a given day, the weather forecast was incorrect =  $1 - 0.62 = 0.38$

Hence, option (a) is correct.

41. (a)

**Statements 1 and 3 are correct.** The lines "Drought will make water more expensive, which will likely affect the cost of raw materials and production. Climate volatility may force companies to deal with uncertainty in the price of resources for production, energy transport and insurance. And some products could become obsolete or lose their markets, such as equipment related to coal mining or skiing in an area that no longer has snow" reflect that options 1 and 3 are disadvantages of climate change.

**Statements 2 and 4 are incorrect.** The lines "Whether in the U.S. or abroad, new regulations such as carbon pricing and subsidies that favour a competitor may affect a business's bottom line. A company's reputation could also suffer if it's seen as doing something that hurts the environment", this shows that carbon pricing is important for dealing with issues of climate change and also, if the companies are forced to think about the environment, then also, it is good for dealing with climate change. So, these are not disadvantages but benefits.

42. (a)

**Option (a) is correct.** The lines "Drought will make water more expensive, which will likely affect the cost of raw materials and production. Climate volatility may force companies to deal with uncertainty in the price of resources for production, energy transport and insurance. And some products could become obsolete or lose their markets, such as equipment related to coal mining or skiing in an area that no longer has snow. Whether in the U.S. or abroad, new regulations such as carbon pricing and subsidies that favour a competitor may affect a business's bottom line.", illustrate the changes or impact of climate change on companies and the production of goods. Therefore, this option is the best crux of the passage.

**Option (b) is incorrect.** The passage discusses the companies but to say that companies which do not follow climate governance will face a boycott of their products will not be correct. So, this option is beyond the scope of the passage.

**Option (c) is incorrect.** This option in general seems to be correct but it is not based on the information given in the passage. The passage mainly focuses on the challenges of climate change from the perspective of companies (not nations)

and what impact will it have on their production methods. So, this is also not correct.

**Option (d) is incorrect.** There is no discussion about the significance of sustainable development in coping with climate change. So, this option is beyond the scope of the passage.

43. (d)

**Option (d) is the correct choice.**

Implication (1) is valid because clearly states 'economic losses, estimated to be 1.36% of GDP in 2019 economic losses, estimated to be 1.36% of GDP in 2019'.

Implication (2) is valid because the passage states 'heightened risk of...premature birth, low birth-weight'.

Implication (3) is valid because the passage states that 'one that can only be confronted through ... science-driven...action'.

44. (d)

**From statement 1 :**

A number is divisible by 36 when it is divisible by both 4 and 9.

$784xy6$  is divisible by 4, when the number formed with its last two digits, i.e.  $y6$  is divisible by 4. So  $y = 5, 7, 9$

$784xy6$  is divisible by 9 when its sum of digits is divisible by 9. Then,

$$\begin{aligned} \text{Sum of digits} &= 7 + 8 + 4 + x + y + 6 \\ &= 25 + x + y \end{aligned}$$

For  $y = 5$ , sum of digits = 30,  $x = 6$

For  $y = 7$ , sum of digits = 32,  $x = 4$

For  $y = 9$ , sum of digits = 34,  $x = 2$

**From statement 2 :**

$$3 < (x, y, z) < 7$$

**From statement 3 :**

$$2x + 3z = 30$$

**From statement 4 :**

A number is divisible by 72 when it is divisible by both 8 and 9.

$437zy20$  is divisible by 8 when the number formed with its last three digits is divisible by 8.

So,  $y = 1, 5, 7, 9$

$437zy20$  is divisible by 9 if its sum of digits is divisible by 9.

$$\begin{aligned} \text{Sum of digits} &= 4 + 3 + 7 + z + y + 2 + 0 \\ &= 16 + z + y \end{aligned}$$

For  $y = 5$ , sum of digits (27) =  $21 + z$ ,  $z = 6$

For  $y = 7$ , sum of digits (27) =  $23 + z$ ,  $z = 4$

For  $y = 9$ , sum of digits (27) =  $25 + z$ ,  $z = 2$

For  $y = 1$ , sum of digits (18) =  $17 + z$ ,  $z = 1$

From statement 1 and 3,

For,  $x = 6$ ,  $2 \times 6 + 3z = 30 \Rightarrow z = 6$

For,  $x = 4$ ,  $2 \times 4 + 3z = 30 \Rightarrow z = 22/3$  (not possible)

For,  $x = 2$ ,  $2 \times 2 + 3z = 30 \Rightarrow z = 26/3$  (not possible)

Therefore combination of statement 1 and 2 together or statement 1 and 3 together or statement 1 and 4 together not sufficient to find out the greatest among  $x$ ,  $y$  and  $z$ .

Hence, option (d) is correct.

45. (c)

Number of students of Jason = 8

Number of students of Jason's each student = 7

Number of students of Jason's students =  $8 \times 7 = 56$

Number of assignments received from

Jason's students =  ${}^8C_2 = 8 \times \frac{7}{2} = 28$

Number of assignment received from students of Jason's students = 56

Number of assignments received by Jason =  $28 + 56 = 84$

Hence, option (c) is correct.

46. (b)

From statement I, We have:

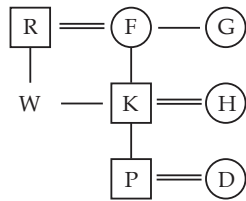
F is mother of W and F is married to R, that means R is father of W.

G is sister in law of W's father, that means G must be the sister of F.

H is married to K and H is mother of P and R is father of D's father-in-law, that means K must be the father of P and P must be



married to D, as only three married couples are in family and W is unmarried member of family. Based on above given information, we get ,

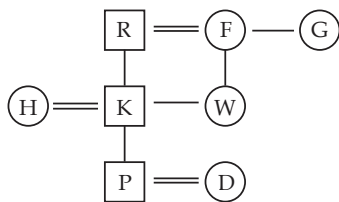


Since gender of W is not known, statement one alone is not sufficient.

From statement II, We have :

H is sister-in-law of W and H is married to K. K is the only son of F. As W is unmarried member and R is father of W, that means R is married to F and W is sister of K. D is married to P, who is son of R's daughter-in-law, that means P is the son of K.

Based on above given information, we get:



Thus, W is aunt of P. Hence, statement 2 alone is sufficient.

Hence, option (b) is correct.

47. (d)

All the statements P, Q, R, S are independent and do not form any relation with one another so far the given options are concerned.

Hence, option (d) is correct.

48. (c)

Let the barrel contains milk  $4x$  and water  $xl$ .

Then, total mixture =  $5xl$

Let the part of mixture drawn be ' $a$ 'l.

$$\therefore (5x - a) \times \frac{4}{5} : (5x - a) \times \frac{1}{5} + a = 2 : 5$$

$$\frac{20x - 4a}{5} : \frac{5x - a + 5a}{5} = \frac{2}{5}$$

$$45x = 14a$$

$$a = 5x \times \left(\frac{9}{14}\right)$$

$$\text{Required percentage} = \frac{9}{14} \times 100 = 64.29\%$$

Hence, option (c) is correct.

49. (d)

Cost price of ' $n$ ' smartwatches = Rs. 80640

Selling price of ' $n$ ' smartwatches =  $588n \times n = 588n^2$

Marked price of ' $n$ ' smartwatches = 125% of 80640 = 100800

According to the question:-

$$\Rightarrow 100800 * [100 - (n + 4)]/100 = 588 n^2$$

$$\Rightarrow 100800 - 1008n - 4032 = 588 n^2$$

$$\Rightarrow 7 n^2 + 12n - 1152 = 0$$

$$\Rightarrow (n - 12), (7n + 96) = 0$$

$$\Rightarrow n = 12, -96/7$$

So,  $n = 12$

Putting the value of  $n$

$$\text{I. } \sqrt{n^4} - 15(n - 4) = 2n$$

$$\Rightarrow 144 - 120 = 24$$

$$\Rightarrow 24 = 24$$

$$\text{II. } 2n^2 - 21(n + 1) = 15$$

$$\Rightarrow 2 \times 12^2 - 21(12 + 1) = 15$$

$$\Rightarrow 15 = 15$$

$$\text{III. } n(n - 10) - 36 = -12$$

$$\Rightarrow 12(12 - 10) - 36 = -12$$

$$\Rightarrow -12 = -12$$

Hence, option (d) is correct.

50. (d)

Given arrangement is :

J Y 2 = S £ á E G M Ä 7 \$ H P 9 K L â @ W Q  
1 3 # C D ©

In all other options except option (d), the third and fourth elements occupy the same positions from the right in the given arrangement as the first and second elements respectively occupy from the left end.

Hence, option (d) is correct.



51. (a)

Option (a) is the correct choice.

Assumption (1) is valid because the passage clearly states that 'variant creation is driven by the amount of replicating virus in existence'.

Assumption (2) is not valid because the passage mentions that 'ultimately takes hold is a product of viral fitness, selection pressures and host susceptibility'.

52. (b)

The main point/critical message of the passage is centred around 'why the most immunocompromised amongst us are so pivotal for preventing the rise of new mutations'

Options (a), (c) and (d) are not correct because they do not address this message of the passage.

Option (b) is correct because it highlights the main message of the passage.

53. (a)

**Option (a) is correct-** As the passage talks about the challenges and prospects of energy and climate policy. The problems are multiple & the mention of myriad factors like sputtering fossil fuel production capabilities, unstable global market, etc. illustrates how the energy decision-making process is complex and interconnected.

**Option (b) is an incorrect-**The statement only talks about India's energy policy tuned to sustainable development goals. It does not talk about the variety of functions that are involved in energy and climate policymaking.

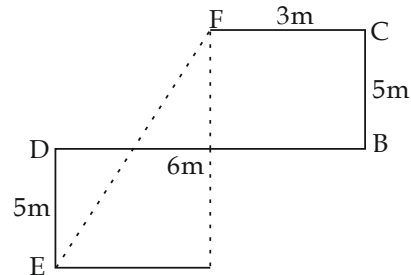
**Option (c) is an incorrect-**This option only talks about how climate actions are not compatible with social and economic goals. Thus, it does not reflect the critical message of the passage which deals with the complexities of policymaking in the energy sector and the few bright spots we have.

**Option (d) is incorrect-** As the passage considers demand-side fluctuations as well by mentioning rising fuel imports. In addition, it is very much evident in the

passage that the policy and decision-making process is complex due to several factors like import deficit, saturated production capabilities, etc.

54. (d)

Using the given directions F & C \$ B \* D \$ E,



Using Pythagoras Theorem,

$$EF^2 = (6 - 3)^2 + (5 + 5)^2 =$$

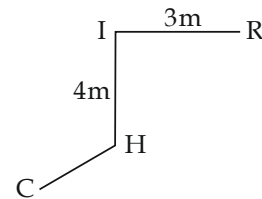
$$EF^2 = 3^2 + 10^2 = 9 + 100 = 109,$$

$$EF = \sqrt{109} m$$

Hence, option (d) is correct.

55. (a)

Using the given directions C % & H % I & R,



We can clearly see that R is in Northeast of C.

Hence, option (a) is correct.

56. (d)

According to the question,

A	B	C	D	E	F	G	H	I	J	K	L	M
4	2	3	5	14	7	11	13	34	17	19	23	29
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
31	74	37	41	43	47	53	118	59	61	67	71	73

Now, we can observe that,

$$M = 29, A = 4, N = 31, G = 11, O = 74$$

So, MANGO will be written as 2943111174.

Hence, option (d) is correct.

57. (c)

**Statement I:** A was ninth in the competition. R was 5<sup>th</sup> and there are seven persons between K and R.

So, there are three persons between K and A. there are total 13 participants.

**Statement II:** The total number of participants are less than 10 but according to question, there are more than 10 participants.

Hence, option (c) is correct.

58. (b)

The persons we need to consider are: R, S, T, U, V and W, i.e. 6 in total and 1 to 6 floors.

We must use statements 1, 2 and 4.

We can say that S lives on 5<sup>th</sup> floor and therefore there is only possibility for T, which is on 4<sup>th</sup> floor. If T lives on 4<sup>th</sup> floor then W will live only 1st floor.

So statements 1, 2, 4 are sufficient to answer the question.

Hence, option (b) is correct.

59. (c)

Day of travel	Person	City	No. of people traveling with him
Monday	J	Paris	4
Tuesday	E	Delhi	1
Wednesday	W	Pairs	0
Thursday	S	Delhi	3
Friday	H	Sydney	2
Saturday	C	Sydney	5

6 persons will travel to Paris (J + W + 4).

Hence, option (c) is correct.

60. (d)

Day of travel	Person	City	No. of people traveling with him
Monday	J	Paris	4
Tuesday	E	Delhi	1
Wednesday	W	Pairs	0
Thursday	S	Delhi	3
Friday	H	Sydney	2
Saturday	C	Sydney	5

Hence, option (d) is correct.

61. (c)

**Statement 1 is incorrect** as the passage implies that regulation may lag behind development but there is no explicit mention of it 'always' lagging behind.

**Statement 2 is correct** based on sentences 3 and 4 which speak of development of better capabilities for policy communication.

**Statement 3 is incorrect** as the passage states 'An adequate understanding of technology' and expertise.

62. (a)

**Option (c) is clearly wrong**, as it says "...cannot be solved".

**Option (d) is wrong** as it is nowhere mentioned in the passage.

Efficiency is not being discussed in the passage, rather financial viability is. **So (b) is not entirely correct.**

**So option (a) is correct.**

63. (b)

**Statement 1 is not correct**, as "rich cities could supply water for free" is mentioned. We are talking of sustainability in statement 1.

**Statement 2 is correct** as sustainable delivery includes many aspects other than just supplying water to households.

Hence option (b) is right.

64. (b)

**Option (a) is incorrect** as the passage does not state that rights awareness is the reason there is more need for empowerment in rural areas.

**Option (b) is correct** as the last sentence of the passage mentions that self-reliance can be achieved.

**Option (c) is incorrect** as it extends beyond the scope of the passage.

**Option (d) is incorrect** for the same reasons as option (a). The passage does not stress on rights awareness.

65. (a)

We must use statements 2 and 3.

X has to marry T or W and W has only one child. So X will be married to T.

Statements 2 and 3 are enough to answer the above question.

Hence, option (a) is correct.

66. (b)

6 violet, some green, some yellow, some pink.

**S1:** Probability of drawing a violet ball is  $1/8$

$\therefore$  Total balls =  $6 \times 8 = 48$

$$\left[ \begin{array}{l} \text{Let total balls be } x \\ \therefore \frac{6}{x} = \frac{1}{8} \Rightarrow x = 6 \times 8 = 48 \end{array} \right]$$

**S2:** Probability of drawing a yellow ball  
 $= \frac{1}{4}$

$$\therefore \text{No. of yellow balls} = 48 \times \frac{1}{4} = 12$$

**S3:** Pink = Green + Yellow

$$\text{Pink} = \text{Green} + 12$$

From,  $S_1, S_2$  &  $S_3$

$$\text{Total} = \text{Vio} + \text{Yellow} + \text{Pink} + \text{Green}$$

$$48 = 6 + 12 + (\text{Green} + 12) + \text{Green}$$

$$\therefore \text{Green} = 9$$

$$\text{Pink} = 21 \text{ (from } S_3\text{)}$$

Probability of Green & Pink together

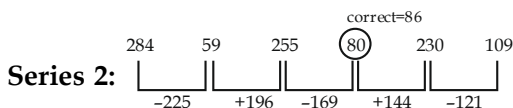
$$= \frac{{}^9C_1 \times {}^{21}C_1}{{}^{48}C_2} = \frac{9 \times 21}{48 \times 47}$$

$$= \frac{9 \times 21 \times 2}{48 \times 47} = \frac{63}{376}$$

All  $S_1, S_2$  &  $S_3$  together are sufficient.

Hence, option (b) is correct.

**67. (c)**



Missing term in series 1 =  $\boxed{134}$

So wrong term in series 2 = 80

Correct term in series 2 =  $\boxed{86}$

**S1:** Sum of missing term in series 1 & correct term in series 2 =  $134 + 86 = 220$  which is divisible by 20.

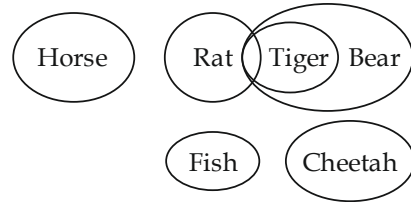
**S2:** Difference between (Wrong term & correct term) =  $80 - 86 = -6$ , which is a multiple of 3.

**S3:** Wrong term =  $\frac{\text{Missing term}}{2} + 13$

$$= \frac{134}{2} + 13 = 80$$

Hence, option (c) is correct.

**68. (d)**



Hence none of the conclusions follows.

Hence, option (d) is correct.

**69. (b)**

If we arrange the word QWATPUSVMBK alphabetically, it becomes ABKMPQSTUVW.

So, two letters 'P' & 'S' are at the same position.

Hence, option (b) is correct.

**70. (c)**

As per given options,

$$(12, 42, 7) \Rightarrow \frac{12 \times 7}{2} = 42$$

$$(9, 18, 4) \Rightarrow \frac{9 \times 4}{2} = 18$$

$$(7, 12, 6) \Rightarrow \frac{7 \times 6}{2} = 21$$

$$(13, 52, 8) \Rightarrow \frac{13 \times 8}{2} = 52$$

Hence, option (c) is correct.

**71. (b)**

**Option (b) is the correct choice.**

**Option (a) is not correct** because the passage does not discuss and imply anything about the benefits of cultural homogeneity.

**Option (b) is correct** because the passage mentions that ethnic politics plagues developed countries as well.

**Option (c) is not correct** because 'citizens' in general 'losing faith' in the democracy has not been discussed in the passage.

**Option (d) is not correct** because it goes against the information given in the passage.

72. (c)

Option (c) is the correct choice.

Option (a) is not correct because the passage itself offers an explanatory definition which is 'understood'.

Option (b) is not correct because 'need collaboration' extends beyond the scope of the passage as it is vague.

Option (c) is correct because it underscores the author's message of how '...environmental crimes are no longer restricted to...'

Option (d) is not correct because it is not central message offered by the passage.

73. (c)

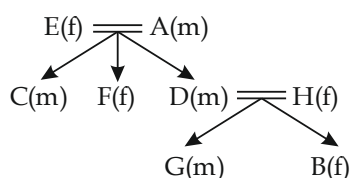
Option (c) is the correct choice.

Assumption (1) is valid because the passage states that 'from natural resources to support non-state armed groups and terrorism'.

Assumption (2) is valid because the passage states 'global network of transnational organized environmental crimes...'

74. (c)

Slot	Name	Profession	Relation
09 : 00 - 10 : 00	B	Artist	Daughter
10 : 00 - 10 : 30	E	Doctor	Mother
10 : 30 - 11 : 30	C	Golfer	Brother
11 : 30 - 12 : 30	H	Chef	Wife
12 : 30 - 01 : 00	F	Lawyer	Sister
01 : 00 - 02 : 00	A	Teacher	Father
02 : 00 - 02 : 30	D	Baker	-----
02 : 30 - 03 : 00	G	Cook	Son



Hence statement I and III are true.

Hence, option (c) is correct.

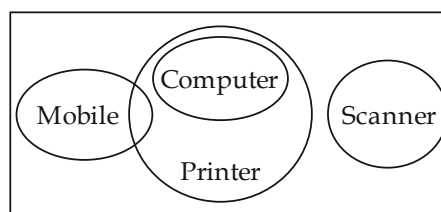
75. (a)

76. (c)

Five people talk between G who is D's son and E who is the doctor.

77. (c)

Diagram of given statements:



Conclusion: Some mobile being computer is a possibility. It's true because possibility may be true. Hence, I is correct.

As per above diagram,

There is no relation between printer and scanner.

So, conclusion-II is correct.

And conclusion III is not correct.

Hence, both I & II are true.

Hence, option (c) is correct.

78. (c)

As per provided terms,

(i)	(ii)	(iii)
0	2	?
9	7	11
5	3	6
4	2	1

(i)  $9 - 5 - 4 = 0$

(ii)  $7 - 3 - 2 = 2$

(iii)  $11 - 6 - 1 = 4$

Hence, option (c) is correct.

79. (b)

Total number of ways they can be seated = 7!

No. of ways AP & IC leader sit together =  $6! * 2!$

No. of ways they do not sit together =  $7! - 6! * 2! = 7 * 6! - 6! * 2 = 6! * 5$

Hence, option (b) is correct.

80. (b)

$$\begin{array}{r} AD4 \\ \times E \\ \hline A206 \end{array}$$

At unit digit

$4 \times E = \text{either } 16 \text{ or } 36, E = 4 \text{ or } 9$

Let's take  $E = 4$  then

$D \times 4 + 1 = 0$  (Not possible)

Let's take  $E = 9$  then

$D \times 9 + 3 = 0$  ( $D = 3$ )

So,  $E = 9$  and  $D = 3$

So, conclusion 1 is incorrect.

It fulfils the term of total last 3-digits  
i.e., 206.

Now,  $A = 1$  complete the whole terms

$134 \times 9 = 1206$

Thus,  $A + D + E = 1 + 3 + 9 = 13$ .

So, conclusion 2 is correct.

Hence, option (b) is correct.

■■■■

