

UPSC OPEN MOCK TEST-2 CSAT (SOLUTION)

Q 1. Ans: (c)

Explanation:

- (a) **Incorrect.** This presents a normative endorsement of utilitarianism. The passage does not advocate absolute prioritization of collective happiness, instead highlighting concerns regarding marginalization of minority interests.
- (b) **Incorrect.** This reflects utilitarianism's claim of maximizing happiness. Yet, it ignores the passage's critical perspective regarding fairness and risks to minority rights.
- (c) **Correct.** This captures both strengths and limitations of utilitarian reasoning presented in the passage. It reflects administrative simplicity alongside the risk of neglecting qualitative ethical concerns and minority rights.
- (d) **Incorrect.** The passage indicates a tendency, not an unavoidable outcome, making this statement incorrect.

Hence, answer is option (c).

Q 2. Ans: (b)

Explanation:

- I. **Invalid.** This reflects the dominance of majority preferences in utilitarian reasoning. However, it incorrectly assumes such preferences are morally superior, which the passage critically questions.
- II. **Valid.** The passage implies that utilitarianism's appeal lies in administrative simplicity. It assumes policymakers may prefer manageable frameworks even if they inadequately address deeper ethical complexities.

Hence, answer is option (b).

Q 3. Ans: (c)

Explanation:

- (a) **Incorrect.** This is consistent with the passage but not a necessary consequence. It restates an observation rather than deriving a new implication about response or structural adaptation.
- (b) **Incorrect.** The passage implies blurred boundaries, but not specifically institutional classification frameworks. This introduces a narrower interpretation not directly necessitated by the argument.
- (c) **Correct.** The passage indicates fragmented responses against multidimensional threats. Therefore, restructuring institutions into coordinated mechanisms logically follows as a necessary consequence to effectively counter hybrid warfare.
- (d) **Incorrect.** This reflects an idea already present in the passage about fragmented responses. However, it does not extend into a derived consequence, making it descriptive rather than corollary.

Hence, answer is option (c).

Q 4. Ans: (d)

Explanation:

- (a) **Incorrect.** This assumes sensory perception accurately reflects real change. The passage questions sensory evidence, suggesting it may misrepresent the true, unchanging nature of reality.
- (b) **Incorrect.** This recognizes the role of logic in questioning change. However, it overstates the argument by implying complete denial of observable change rather than reinterpretation.
- (c) **Incorrect.** This shifts, focus toward reconciliation between senses and reason. The passage instead prioritizes rational permanence over sensory change without emphasizing reconciliation.
- (d) **Correct.** This captures the central argument that change is a cognitive illusion. It reflects the idea that underlying reality remains constant despite appearances of transformation.

Hence, answer is option (d).

Q 5. Ans: (c)

Explanation:

- I. **Valid.** The passage relies on logical coherence to question the possibility of change. It assumes that valid ontological claims must not violate principles like non-being generating being.
- II. **Valid.** By characterizing perceived change as a cognitive misinterpretation and contrasting it with enduring reality, the passage assumes that sensory cognition is unreliable for grasping the fundamental nature of reality.

Hence, answer is option (c).

Q 6. Ans: (c)

Check each option using BODMAS:

(a) +, -, ×

$$(15+5)-6\times 10=20-60=-40\neq 28$$

(b) ×, ÷, -

$$(15\times 5)\div 6-10=75/6-10=12.5-10=2.5\neq 28$$

(c) ÷, ×, +

$$(15\div 5)\times 6+10=3\times 6+10=18+10=28$$

L.H.S = R.H.S

Hence, answer is option (c).

Q 7. Ans: (b)

According to the question,

$$\text{Total small cubes} = 64 = 4^3$$

$$\Rightarrow \text{cube is } 4 \times 4 \times 4$$

Now,

$$\text{Inner Core (0 painted): } 2 \times 2 \times 2 = 8 \text{ cubes}$$

Face Centres (1 painted): $6 \text{ faces} \times (2 \times 2) = 24 \text{ cubes}$

Edges (2 painted): $12 \times 2 = 24 \text{ cubes}$

Total: $8 + 24 + 24 = 56$

Hence, answer is option (b).

Q 8. Ans: (c)

According to the question,

Testing the Options:

(a) $2: 2 + 21 + 12 + 22 + 5 = 62$

Does not match 122

(b) $5: 5 + 51 + 15 + 55 + 5 = 131$

Does not match 155

(c) $7: 7 + 71 + 17 + 77 + 5 = 177$

Matches 177 perfectly.

Hence, answer is option (c).

Q 9. Ans: (c)

Logic used: Increasing decimal multiplier with the addition of consecutive prime numbers.

$$(10 \times 0.5) + 2 = 5 + 2 = 7$$

$$(7 \times 1.0) + 3 = 7 + 3 = 10$$

$$(10 \times 1.5) + 5 = 15 + 5 = 20$$

$$(20 \times 2.0) + 7 = 40 + 7 = 47$$

$$(47 \times 2.5) + 11 = 117.5 + 11 = 128.5$$

Thus, the value of X is 128.5

Hence, answer is option (c).

Q 10. Ans: (d)

We know that,

For $n \geq 5$, $n!$ ends with 0

$\Rightarrow (n!)^4$ also ends with 0.

So, all terms from $5!$ to $2025!$ contribute 0.

We only compute first four terms:

Unit digits:

$$(1!)^4 = 1^4 = 1 \rightarrow 1$$

$$(2!)^4 = 2^4 = 16 \rightarrow 6$$

$$(3!)^4 = 6^4 \rightarrow \text{always ends in } 6$$

$$(4!)^4 = 24^4 \Rightarrow 4^4 = 256 \rightarrow 6$$

Sum of unit digits = $1 + 6 + 6 + 6 = 19$

Unit digit = 9

Hence, answer is option (d).

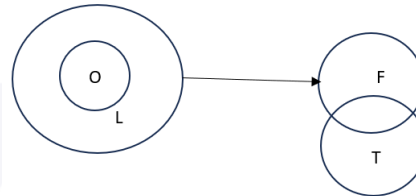
Q 11. Ans: (a)

- Assumption I is implicit: The statement says eucalyptus is banned to improve groundwater and soil health and replaced with indigenous trees. This only makes sense if indigenous trees are better for these purposes than eucalyptus.

- Assumption II is not implicit: The statement talks about a policy decision, not about availability of saplings. Whether the department has enough saplings is a logistical issue, not required for the statement to hold. Hence, answer is option (a)

Q 12. Ans: (b)

According to the question, following Venn diagram obtained:



Conclusions:

I. Some thinkers are not leaders \rightarrow True

II. No officer is a follower \rightarrow True

III. Some thinkers are officers \rightarrow False

Hence, answer is option (b).

Q 13. Ans: (d)

Logic used: Alphabetical Position + Total Number of Letters in the word.

Code for BIRD (4 letters):

$$B (2) + 4 = 6 (F)$$

$$I (9) + 4 = 13 (M)$$

$$R (18) + 4 = 22 (V)$$

$$D (4) + 4 = 8 (H)$$

Result: FMVH

CAT (3 letters):

$$C (3) + 3 = 6 (F)$$

$$A (1) + 3 = 4 (D)$$

$$T (20) + 3 = 23 (W)$$

Result: FDW

Code for FISH (4 letters):

$$F (6) + 4 = 10 (J)$$

$$I (9) + 4 = 13 (M)$$

$$S (19) + 4 = 23 (W)$$

$$H (8) + 4 = 12 (L)$$

Final Code: JMWL

Hence, answer is option (d).

Q 14. Ans: (b)

Explanation:

- (a) **Incorrect.** This assumes a direct and immediate transmission of costs into prices. The passage explicitly suggests that firms may delay or avoid passing cost increases to consumers.
- (b) **Correct.** The passage implies that conflating cost inflation with price escalation leads to policy errors. Hence, misidentifying underlying causes can result in inappropriate economic interventions and ineffective stabilization measures.
- (c) **Incorrect.** This recognizes the importance of production-side costs in price stability. However,

it ignores demand-driven factors, making it an incomplete and logically inadequate conclusion.

- (d) **Incorrect.** This assumes uniform policy responses for different economic phenomena. The passage stresses the need for distinguishing causes, implying that differentiated approaches are essential for effective governance.

Hence, answer is option (b).

Q 15. Ans: (d)

Explanation:

- (a) **Incorrect.** This suggests a clear shift toward individual freedom, which the passage does not fully endorse. It ignores continuing societal resistance and conditional nature of autonomy emphasized in the text.
- (b) **Incorrect.** This incorrectly assumes institutional safeguards are fully effective in eliminating caste-based violence. The passage explicitly highlights their limited success and persistence of such social crimes.
- (c) **Incorrect.** Although the passage mentions asymmetry in protections, this is not its central theme. The broader focus is on tension between autonomy and societal constraints, not just legal inconsistency.
- (d) **Correct.** This option captures the passage's core tension between personal autonomy and social control over marriage. It reflects the ideological conflict shaping legal and societal responses without oversimplifying outcomes.

Hence, answer is option (d).

Q 16. Ans: (a)

Explanation:

- i. **Valid.** The passage implies that despite legal safeguards, harmful practices persist. This assumes that law alone is insufficient to change entrenched social and cultural norms completely.
- ii. **Invalid.** The passage does not assume that legal expansion automatically reduces conformity pressures. It emphasizes persistence of societal constraints despite evolving legal interventions.

Hence, answer is option (a).

Q 17. Ans: (b)

Explanation:

- i. **Incorrect.** Manufacturing growth is highlighted, but stability across sectors is not guaranteed. The passage stresses imbalance, implying dominance alone cannot ensure systemic industrial stability.
- ii. **Correct.** The passage indicates structural imbalances and weak demand affecting sustainability. Thus, it logically follows that resolving sectoral disparities and demand constraints is essential for stable growth.

Hence, answer is option (b).

Q 18. Ans: (c)

Given: Difference between two natural numbers = 12
Numbers divisible by 4 lying between them: 4, 8, 12, 16, 20,...

So, in a gap of 12, the count of multiples of 4 depends on where the interval starts.

Let the smaller number be n , larger = $n + 12$

Now look at multiples of 4 between them.

If $n = 1$: interval (1, 13) \rightarrow 4, 8, 12 \rightarrow 3 numbers

If $n = 2$: interval (2, 14) \rightarrow 4, 8, 12 \rightarrow 3 numbers

If $n = 3$: interval (3, 15) \rightarrow 4, 8, 12 \rightarrow 3 numbers

If $n = 4$: interval (4, 16) \rightarrow 8, 12 \rightarrow 2 numbers

So, the number of such values can vary (2 or 3).

Hence, answer is option (c).

Q 19. Ans: (d)

Given $0 < x < 1$, check each statement:

According to the question,

Statement I: $\frac{1}{x} > \sqrt{x}$

Since $0 < x < 1$:

$$\frac{1}{x} > 1$$

$$\sqrt{x} < 1$$

So clearly, $\frac{1}{x} > \sqrt{x}$

Thus, statement I is correct.

Statement II: $x^2 - x < 0$

Factor: $x(x-1) < 0$

For $0 < x < 1$:

$$x > 0$$

$$x - 1 < 0$$

Product = negative

Thus, statement II is correct.

Statement III: $x + \frac{1}{x} > 2$

Use known inequality (AM \geq GM):

$$x + \frac{1}{x} \geq 2$$

Equality holds only when $x = 1$, but here $x < 1$, so:

$$x + \frac{1}{x} > 2$$

Thus, statement III is correct.

Hence, answer is option (d).

Q 20. Ans: (a)

According to the question,

Value-I: Minimum value of the sum when the 15 numbers are consecutive integers and their product is 0

For product to be 0, one of the integers must be 0.

Let the 15 consecutive integers be:

$$x, x+1, x+2, \dots, x+14$$

To include 0, take the smallest possible starting point:

-14, -13, ..., -1, 0
Sum of these numbers:

$$\text{Sum} = -(1 + 2 + \dots + 14) = -\frac{14 \cdot 15}{2} = -105$$

Value - I = -105

Value-II: Minimum value of the average when the 15 numbers are consecutive integers and the sum of their squares is minimum

Let the numbers be:

$$x, x+1, x+2, \dots, x+14$$

The sum of squares is minimized when numbers are closest to 0 (i.e., symmetric about 0).

So, the set is:

$$-7, -6, \dots, 0, \dots, 6, 7$$

The average of consecutive numbers = middle number = 0

Value - II = 0

On comparing, we get:

Value I < Value II

Hence, answer is option (a).

Q 21. Ans: (b)

According to the question,

$$A = 4E$$

$$B = D + 3$$

$$D = C + 2$$

Since digits are (0 - 9) and $A = 4E$:

$$E = 1 \Rightarrow A = 4$$

$$E = 2 \Rightarrow A = 8$$

(Other values make $A > 9$, not possible)

Case 1: $E = 1, A = 4$

Now use:

$$D = C + 2, B = C + 5$$

Check valid C such that digits ≤ 9 :

$$C = 0 \Rightarrow D = 2, B = 5 \text{ valid}$$

$$C = 3 \Rightarrow D = 5, B = 8 \text{ valid}$$

Valid sets: (C, D, B) = (0, 2, 5) and (3, 5, 8)

So, 2 numbers

Case 2: $E = 2, A = 8$

Again:

$$D = C + 2, B = C + 5$$

Valid sets: (1, 3, 6) and (4, 6, 9)

So, 2 numbers

Thus, required result: $2 + 2 = 4$

Hence, answer is option (b).

Q 22. Ans: (b)

Let the common remainder be 'r' and divisor be 'n'.

Then,

$94 - r, 136 - r, 220 - r$ are divisible by n

\Rightarrow 'n' divides:

$$136 - 94 = 42$$

$$220 - 136 = 84$$

$$220 - 94 = 126$$

So,

$$\text{HCF}(42, 84, 126) = 42$$

Now,

$$94 \div 42 \text{ gives remainder} = 10$$

So, $(r = 10)$

$$\text{Thus, required value} = (n - r) = 42 - 10 = 32$$

Hence, answer is option (b).

Q 23. Ans: (c)

Logic used: This is double-difference series, where the second layer of differences forms an Arithmetic Progression (AP).

Find the first layer of differences:

$$19 - 11 = 8$$

$$41 - 19 = 22$$

$$83 - 41 = 42$$

$$151 - 83 = 68$$

Find the second layer of differences:

$$22 - 8 = 14$$

$$42 - 22 = 20$$

$$68 - 42 = 26$$

The differences in the second layer are increasing by a constant of +6

$$\text{Value of X: } 151 + 68 + (26 + 6) = 251$$

Hence, answer is option (c).

Q 24. Ans: (a)

- Assumption I is implicit: The authority is shifting to hydrogen to achieve Net Zero, so it assumes hydrogen fuel is a practical and zero-emission solution for buses.
- Assumption II is not implicit: The statement only talks about achieving Net Zero emissions, not about reducing the city's overall pollution share. Even if buses contribute a small portion, the authority may still aim to eliminate their emissions. So this assumption is not necessary.

Hence, answer is option (a)

Q 25. Ans: (b)

Logic used: The word is split into two halves. First half +1 shift, Second half -1 shift.

Code for TENT:

First half (TE):

$$T + 1 = U, E + 1 = F$$

Second half (NT):

$$N - 1 = M, T - 1 = S$$

Result: UFMS

Code for BOOK:

First half (BO):

$$B + 1 = C, O + 1 = P$$

Second half (OK):

$$O - 1 = N, K - 1 = J$$

Result: CPNJ

Similarly, code for LAMP:

First half (LA):

$$L + 1 = M, A + 1 = B$$

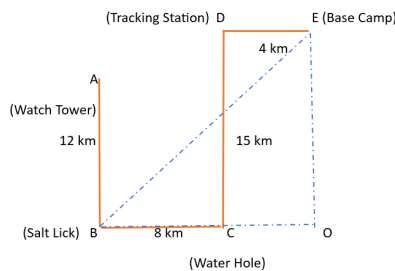
Second half (MP):

$$M - 1 = L, P - 1 = O$$

Final Code: MBLO
Hence, answer is option (b).

Q 26. Ans: (d)

According to the question, following figure obtained:



Apply Pythagoras triplet in triangle BEO,

$$BE^2 = EO^2 + OB^2$$

$$BE^2 = 15^2 + 12^2$$

$$BE = \sqrt{369} = 3\sqrt{41} \approx 19.2 \text{ km}$$

Hence, answer is option (d)

Q 27. Ans: (d)

Explanation:

- Incorrect.** This assumes contradictions are ultimately eliminated, which contradicts the passage. The text stresses that contradictions persist, even within synthesis, rather than being fully resolved.
- Incorrect.** Although progress appears linear, the passage highlights underlying cyclical patterns. This option ignores the recursive nature of dialectics, making it subtly but significantly incorrect.
- Incorrect.** This option incorrectly minimizes their constructive role, though it partially acknowledges their disruptive function.
- Correct.** This captures the essence that contradictions drive progress but are never fully resolved. It reflects the cyclical and transformative nature of dialectics emphasized throughout the passage.

Hence, answer is option (d).

Q 28. Ans: (a)

Explanation:

- Valid.** The passage presumes that contradictions are embedded within conceptual systems themselves. Without this assumption, the emergence of antithesis and continuation of dialectical movement would not logically follow.
- Invalid.** Although synthesis appears reconciliatory, the passage does not assume a final equilibrium. It highlights continuous cycles, implying no ultimate stabilization of conceptual conflicts.

Hence, answer is option (a).

Q 29. Ans: (d)

Explanation:

- Incorrect.** This introduces social conditioning as a limiting factor, which is not central here. The passage

emphasizes radical freedom rather than structural constraint shaping identity formation.

- Incorrect.** This correctly highlights anxiety and conflict with roles. However, it reduces the argument to psychological tension, ignoring the foundational absence of essence and responsibility.
- Incorrect.** This shifts emphasis toward social structures determining meaning. The passage instead argues that meaning is individually constituted, not socially imposed in any definitive sense.
- Correct.** This captures the essential philosophical claim: absence of essence leads to responsibility. It reflects the core existential structure without adding external or secondary elements.

Hence, answer is option (d).

Q 30. Ans: (b)

Explanation:

- Invalid.** Although social expectations exist, the passage emphasizes radical freedom beyond such limits. This option incorrectly constrains freedom, contradicting the implied philosophical stance.
- Valid.** The passage presumes meaning must be constructed individually. Without assuming primacy of individual agency, the argument about self-created meaning and authenticity cannot logically stand.

Hence, answer is option (b).

Q 31. Ans: (d)

We have 6 distinct projects and 3 distinct teams.

Each project can go to any team = $3^6 = 729$

Now exclude cases where at least one team is empty (Inclusion-Exclusion):

Case 1: One team is empty

Choose empty team = ${}^3C_1 = 3$ ways

Remaining 2 teams get all projects: $2^6 = 64$

$$\Rightarrow (3 \times 64 = 192)$$

Case 2: Two teams are empty

Choose 2 empty teams: ${}^3C_2 = 3$

All projects go to 1 team: $1^6 = 1$

$$\Rightarrow (3 \times 1 = 3)$$

Now, Valid assignments = $(729 - 192 + 3) = 540$

Hence, answer is option (d).

Q 32. Ans: (a)

Let R's investment = x

$$Q \text{ invests } 2/5 \text{ of } R = \frac{2}{5}x$$

$$P \text{ invests } 4 \text{ times } Q = \frac{8}{5}x$$

So, investment ratio: P: Q: R

$$= \frac{8}{5}x : \frac{2}{5}x : x = 8: 2: 5$$

Now, total parts = 15
 And total profit = Rs. 7500
 Value per part = $7500 \div 15 = 500$
 So: $P = 8 \times 500 = 4000$
 $Q = 2 \times 500 = 1000$
 $R = 5 \times 500 = 2500$
 Value I: $= P - R = 4000 - 2500 = 1500$
 Value 2: $= Q + R = 1000 + 2500 = 3500$
 On comparing, we get:
 Value II > Value I
 Hence, answer is option (a).

Q 33. Ans: (c)

Value I:
 Given:
 Rate = 20% p.a.,
 Time = 2 years (compounded half-yearly)
 $SI = 40\% \text{ of } P = 0.40P$

$$CI = (P(1.10)^4 - P = 0.4641P)$$

Difference = $0.4641P - 0.40P = 0.0641P$
 Given difference = 102.56
 $\Rightarrow 0.0641P = 102.56$
 $\Rightarrow P = 1600$

Value II:
 $SI = \text{Rs. } 640$
 Rate = 10% p.a., Time = 4 years

$$SI = \frac{P \times R \times T}{100}$$

$$640 = \frac{P \times 10 \times 4}{100}$$

$640 = 0.4P$
 $\Rightarrow P = 1600$
 So, value of X is Rs. 1600

On comparing, we get:
 Value II = Value I
 Hence, answer is option (c).

Q 34. Ans: (c)

Number of employees = 1000
 Water consumption per employee per day = 45 litres
 Total daily consumption = $1000 \times 45 = 45000$ litres
 Tank volume = $10 \times 9 \times 2 = 180 \text{ m}^3$
 Convert to litres:
 $1 \text{ m}^3 = 1000$ litres
 $\Rightarrow 180 \times 1000 = 180000$ litres

Now,
 Days the water will last = $\frac{180000}{45000} = 4$ days

Hence, answer is option (c).

Q 35. Ans: (c)

According to the question,

Statement I: When 19^{15} is divided by 20, remainder is 19.
 We can write 19 as $(20-1)$

$$\Rightarrow \frac{(20-1)^{15}}{20} \equiv \frac{-1^{15}}{20}$$

\Rightarrow A remainder of -1 in divisor 20 is $20 - 1 = 19$

Thus, statement I is true

From statement II:

The remainder would be given by:

$$\Rightarrow \frac{1 \times 3 \times 5}{12}$$

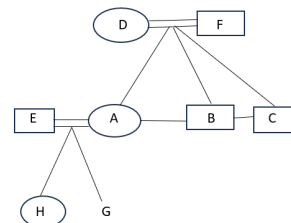
$$\Rightarrow \frac{15}{12} = \text{Remainder } 3$$

Thus, statement II is true

Hence, answer is option (c).

Q 36. Ans: (c)

According to the question, following tree obtained:



- (a) Only A, D, H are female and gender of G is unclear: Not definite
 - (b) G's gender not fixed: Not definite
 - (c) E married to A; C is A's brother \rightarrow C is brother-in-law of E: Definitely true
 - (d) E is A's husband \rightarrow not B's father: Not True
- Hence, answer is option (c)

Q 37. Ans: (b)

At 12:00 noon, the hour hand points to the digit 12, which is designated as North

On a clock:

- ✓ 3 \rightarrow East
- ✓ 6 \rightarrow South
- ✓ 9 \rightarrow West

At 3:00 PM, the hour hand is exactly on 3.

So, it points towards East.

Hence, answer is option (b)

Q 38. Ans: (c)

According to the question,

From Feb 29, 1896 to Feb 29, 1904 = 8 years

Odd days from normal years = 8 days

Leap years in between:

1900 (not leap), 1904 (counts since Feb 29 reached)

So, 1 extra leap day

Total odd days: $8 + 1 = 9 \equiv 2$

Day shift = +2 days

Final day = Saturday + 2 = Monday
Hence, answer is option (c).

Q 39. Ans: (c)

Explanation:

- (a) **Incorrect.** This captures the tension between ecology and equity effectively. However, it remains descriptive and does not convey the forward-looking realization about resilience emphasized in the passage.
- (b) **Incorrect.** This identifies complexity in efficiency but stays confined to conceptual ambiguity. It does not communicate the broader realization about sustainability and distributive consequences.
- (c) **Correct.** This reflects the author's deeper takeaway that sustainability and equity must be recognized together for long-term resilience. It synthesizes hidden costs and future-oriented implications effectively.
- (d) **Incorrect.** This integrates ecological and equity concerns. However, it remains problem-focused rather than conveying the deeper lesson about resilience and systemic rethinking.

Hence, answer is option (c).

Q 40. Ans: (d)

Explanation:

- (a) **Incorrect.** This option assumes compensation can fully substitute losses, which contradicts the passage's argument. The passage clearly states that non-material losses cannot be adequately compensated.
- (b) **Incorrect.** This suggests development justifies cultural loss, which the passage critiques indirectly. The author presents development as paradoxical, not as justification for ignoring cultural consequences.
- (c) **Incorrect.** This captures administrative neglect but limits the issue to unintentional oversight. The passage implies deeper structural inadequacy rather than mere unintended ignorance.
- (d) **Correct.** This option reflects the central idea that development must go beyond economic compensation. It highlights the need to incorporate socio-cultural dimensions, which the passage strongly emphasizes.

Hence, answer is option (d).

Q 41. Ans: (c)

Explanation:

- (a) **Incorrect.** While governance improvement is discussed, the passage does not present it as the main idea. It emphasizes risks and tensions rather than highlighting benefits as primary.
- (b) **Incorrect.** This suggests concerns arise only from improper implementation, which is misleading. The passage indicates that risks are inherent even within properly functioning surveillance systems.
- (c) **Correct.** This option captures the core paradox highlighted throughout the passage. It reflects the tension between technological efficiency and erosion

of democratic freedoms as the central theme.

- (d) **Incorrect.** This incorrectly assumes surveillance leads to equitable outcomes across populations. The passage explicitly highlights disproportionate negative impacts on marginalized communities due to systemic biases.

Hence, answer is option (c).

Q 42. Ans: (b)

Explanation:

- i. **Invalid.** The passage mentions algorithmic bias but does not fully assume societal reflection. It suggests bias exists but does not explicitly generalize its broader origins.
- ii. **Valid.** The passage suggests individuals may not perceive gradual erosion of freedoms. This implies an assumption that awareness is limited in continuously monitored environments.

Hence, answer is option (b).

Q 43. Ans: (c)

Given:

First day penalty = Rs. 1000

Common difference = Rs. 250

Number of days = 20

This forms an AP.

\Rightarrow Total penalty = $S_n = n/2 [2a + (n-1)d]$

$S_{20} = 20/2 [2(1000) + 19(250)]$

$= 10 [2000 + 4750]$

$= 10 \times 6750$

$= \text{Rs. } 67,500$

Hence, answer is option (c).

Q 44. Ans: (c)

Arjun beats Varun by 2 rounds in 60 minutes

\Rightarrow Relative speed = 2 rounds / 60 min = 1 round in 30 minutes

In 8 rounds:

Varun is 2 rounds behind Arjun

\Rightarrow When Arjun completes 8 rounds, Varun completes 6 rounds

\Rightarrow Difference = 2 rounds

\Rightarrow Time taken by Arjun to complete 8 rounds = 60 minutes

\Rightarrow Time per round = $60 \div 8 = 7.5$ minutes

Hence, answer is option (c).

Q 45. Ans: (a)

$125 \times 67 \times 43 \times 16 \times 91 \times 22$

$\Rightarrow 125 \times 16 = 2000$ (divisible by 1000)

Since the product contains a factor divisible by 1000, the entire expression becomes divisible by 1000.

\Rightarrow Remainder = 0

Hence, answer is option (a).

Q 46. Ans: (b)

Let the required number be (N).

Given:

When (N) is divided by 9, 12, or 15, remainder is 7.

$\Rightarrow (N - 7)$ is divisible by 9, 12, and 15

LCM (9, 12, 15) = 180

So, $(N - 7 = 180k)$

$\Rightarrow (N = 180k + 7)$

Now find smallest $(N > 3000)$:

$180k + 7 > 3000$

$180k > 2993$

$k \geq 17$

For $k = 17$:

$N = 180 \times 17 + 7 = 3067$

Hence, answer is option (b).

Q 47. Ans: (a)

According to the question,

Five years ago, total age of 3 members = 60

\Rightarrow Present total age of those 3 members = $60 + (3 \times 5) = 75$

Let present age of child = x

Now family has 4 members.

5 years ago average = $60 \div 3 = 20$

So present average must also be 20

\Rightarrow Present total age of 4 members = $20 \times 4 = 80$

So,

$75 + x = 80$

$x = 5$

Hence, answer is option (a).

Q 48. Ans: (b)

Logic used:

In this pattern, each block is based on the set M N O P, but the letter that should be in the blank's position is replaced by its Alphabetical Opposite.

Required result: M N O K / M N L P / M M O P / N N O P

Hence, answer is option (b).

Q 49. Ans: (d)

According to the question,

P is 16th from left, R is in middle of P and Q and between P and R = 5 students

\Rightarrow distance = 6

So, R can be:

Right of P: $16 + 6 = 22^{\text{nd}}$

Left of P: $16 - 6 = 10^{\text{th}}$

Case 1: R = 22nd

Since R is midpoint:

$Q = 22 + 6 = 28^{\text{th}}$ from left

Q is 20th from right:

Total = $28 + 20 - 1 = 47$

Case 2: R = 10th

$Q = 10 - 6 = 4^{\text{th}}$ from left

Total = $4 + 20 - 1 = 23$

Difference:

$47 - 23 = 24$

Hence, answer is option (d).

Q 50. Ans: (a)

According to the question,

Conclusions:

I. $U > Q \rightarrow$ True

II. $M > O \rightarrow$ Not definite

III. $V < T \rightarrow$ Not definite

Hence, answer is option (a).

Q 51. Ans: (a)

Explanation:

i. **Correct.** The passage implies that unexamined ideologies weaken the ability to solve complex problems. It connects lack of critical engagement with reduced societal capacity for meaningful responses.

ii. **Incorrect.** While rhetorical consistency is mentioned, the passage criticizes it rather than praising it. It does not suggest that such consistency strengthens discourse meaningfully.

Hence, answer is option (a).

Q 52. Ans: (d)

Explanation:

(a) **Incorrect.** While informal practices contribute to problems, the passage does not claim they are the sole cause. Eliminating them alone would not fully prevent disasters.

(b) **Incorrect.** The passage explicitly critiques reliance on experiential knowledge as insufficient. Therefore, suggesting it is sufficient contradicts the overall argument.

(c) **Incorrect.** Global models are referenced indirectly, but direct application is not supported. The passage implies need for adaptation rather than uncritical adoption of external frameworks.

(d) **Correct.** The passage highlights lack of institutionalized scientific approaches as a key problem. Therefore, formalizing such knowledge logically leads to reduction in recurring and preventable crowd disasters.

Hence, answer is option (d).

Q 53. Ans: (b)

Explanation:

(a) **Incorrect.** While disorder is mentioned, the passage rejects excessive control as a solution. It emphasizes moderation rather than firm control as the basis of effective governance.

(b) **Correct.** This option captures the core idea of balancing competing imperatives through moderation. It reflects the passage's emphasis on equilibrium as essential for effective and sustainable governance.

(c) **Incorrect.** The passage supports moderation but does not suggest it limits responsiveness. Instead, it presents moderation as enabling adaptability while maintaining ethical and normative coherence.

(d) **Incorrect.** This option prioritizes flexibility over norms, which contradicts the passage. The text emphasizes maintaining balance, not favoring one aspect disproportionately over the other.

Hence, answer is option (b).

Q 54. Ans: (a)

Explanation:

- I. **Valid.** The argument presumes that ethical and practical considerations must coexist. The need for alignment is implicit in advocating moderation between authority and responsiveness in governance.
- II. **Invalid.** This assumes rigidity ensures stability, which the passage questions. It argues that excessive rigidity suppresses effectiveness rather than maintaining stable governance outcomes.

Hence, answer is option (a).

Q 55. Ans: (a)

Let label price be 'Rs. 100x'

According to the question,

$$\Rightarrow SP = 81\% \text{ of } 100x = 81x$$

Now, the shopkeeper wants to make a profit of 20%

$$\Rightarrow \frac{120}{100} \times 81x = 97.2x$$

However, he wants to get this at Rs. 97.2 after providing a discount of 10%

$$\text{Thus, } MRP \times \frac{90}{100} = 97.2$$

$$\Rightarrow MRP = 97.2 \times \frac{100}{90} = 108$$

Percentage by which his marked price is greater than

$$\text{original label price} = \frac{108x - 100x}{100x} \times 100 = 8\%$$

Hence, answer is option (a).

Q 56. Ans: (b)

Given:

$$4^8 \times 7^6 \times 11^3$$

Break into primes:

$$4 = 2^2 \Rightarrow 4^8 = (2^2)^8 = 2^{16}$$

So, expression becomes:

$$2^{16} \times 7^6 \times 11^3$$

Total number of prime factors (with repetition):

$$16 + 6 + 3 = 25$$

Hence, answer is option (b)

Q 57. Ans: (d)

According to the question,

Each question has 2 possible answers (True or False).

For 5 questions, total unique answer keys = $2^5 = 32$

Hence, answer is option (d)

Q 58. Ans: (d)

According to the question,

After 40 innings, average = 65

$$\Rightarrow \text{Total runs in 40 innings} = 40 \times 65 = 2600$$

$$\text{Runs in last 10 innings} = 800$$

$$\Rightarrow \text{Runs in first 30 innings} = 2600 - 800 = 1800$$

$$\text{Average runs in first 30 innings} = \frac{1800}{30} = 60$$

Hence, answer is option (d).

Q 59. Ans: (d)

According to the information given:

Height Ranking (Tallest to Shortest):

Order: A (1) > D (2) > B (3) > C (4) > E (5) > F/G

Salary Ranking (Highest to Lowest):

Order: G (1) > F (2) > B (3) > E (4) > C (5) > D (6) > A (7)

3rd shortest person = E

$$\Rightarrow \text{Salary of E} = \text{Rs. } 45,000$$

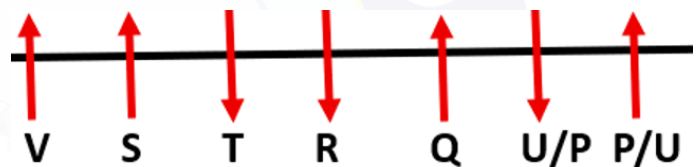
Since E earns more than C $\Rightarrow C < \text{Rs. } 45,000$

No value satisfies $C < 45,000$

Hence, answer is option (d).

Q 60. Ans: (d)

According to the question, following arrangement obtained:



Since U and P are immediate neighbours and there are no further clues to distinguish which one is at the end; the exact person cannot be identified.

Hence, answer is option (d).

Q 61. Ans: (c)

Let all three = x

$$\Rightarrow \text{Exactly two} = 4x$$

$$\Rightarrow \text{Exactly one} = 120$$

According to the question,

$$\text{Total: } 120 + 4x + x = 180$$

$$\Rightarrow 120 + 5x = 180$$

$$\Rightarrow x = 12$$

Given: Only D = x = 12 and $(L \cap V \text{ only}) = 18$

Exactly two = 48

$$\Rightarrow \text{Remaining: } (D \cap L) + (D \cap V) = 48 - 18 = 30$$

Since L = V:

Exactly one:

$$12 + \text{Only L} + \text{Only V} = 120 \Rightarrow 12 + 2(\text{Only L}) = 120 \Rightarrow \text{Only L} = 54$$

Split remaining:

$$(D \cap L) = (D \cap V) = 15$$

Total in L: Only L + $(D \cap L)$ + $(L \cap V)$ + (All three)

$$= 54 + 15 + 18 + 12 = 99$$

Hence, answer is option (c).

Q 62. Ans: (a)

- Conclusion I follow: The statement gives a clear pattern: countries spending >5% GDP on healthcare →

life expectancy >75 years. Since country X spends 6%, it fits the condition, so the same result is expected.

- Conclusion II does not follow: The statement shows a relationship, not that it is the only way. There could be other factors (nutrition, lifestyle, environment), so this conclusion is too extreme.

Hence, answer is option (a)

Q 63. Ans: (c)

Explanation:

- Incorrect.** The passage rejects the idea of discovering objective meaning through rationality. It emphasizes limits of rational understanding rather than its ability to resolve existential questions.
- Incorrect.** The passage explicitly states that recognizing absurdity does not lead to resignation. Instead, it highlights continued engagement with life despite lack of inherent meaning.
- Correct.** This option captures the essence of absurdism as presented in the passage. It reflects acceptance of meaninglessness while emphasizing active engagement as a form of human assertion.
- Incorrect.** This reflects subjective meaning but introduces emotional reconciliation not emphasized in the passage. The focus remains on conscious acceptance, not emotional alignment with reality.

Hence, answer is option (c).

Q 64. Ans: (b)

Explanation:

- Invalid.** This assumes rational inquiry can resolve existential contradictions, which the passage denies. It emphasizes limits of rational understanding rather than its ultimate problem-solving capacity.
- Valid.** The passage assumes humans naturally seek meaning and coherence in existence. This inherent tendency explains the tension between human desire and the indifferent nature of reality.

Hence, answer is option (b).

Q 65. Ans: (c)

Explanation:

- Incorrect.** This option appears balanced but assumes independent external reality beyond consciousness. The passage rejects this by grounding reality entirely within experiential awareness.
- Incorrect.** This option acknowledges appearance through consciousness but introduces objective structures. The passage avoids such dualism by emphasizing complete experiential constitution of reality.
- Correct.** This option captures the essence that consciousness actively constitutes meaning and reality. It reflects the passage's focus on lived experience as the foundation of knowledge.
- Incorrect.** This option accepts mediation by consciousness but suggests transcendence beyond it.

The passage denies any reality beyond experiential structures, making this insufficient.

Hence, answer is option (c).

Q 66. Ans: (b)

Let the average height = H

Total height of all 6 trees = 6H

Express individual trees

Tallest = H + 7

Shortest = H - 3

Let the three equal trees each be x

Fourth tree = x + 4

Now,

$$(H + 7) + (H - 3) + x + x + x + (x + 4) = 6H$$

$$2H + 4 + 4x + 4 = 6H$$

$$2H + 4x + 8 = 6H$$

$$4x = 4H - 8 \Rightarrow x = H - 2$$

The shortest among those 4 trees is x = H - 2

Hence, answer is option (b).

Q 67. Ans: (b)

According to the question,

Find work rates

X: 1/12

Y: 1/18

Z: 1/24

Take LCM = 72:

X:Y:Z = 6:4:3

Wages \propto work rates

\Rightarrow ratio of daily wages = 6:4:3

Total ratio = 13

They worked 3 days and earned Rs. 11,700

\Rightarrow 1-day total earning = $11,700 \div 3 =$ Rs. 3,900

Y's share per day:

$$= \frac{4}{13} \times 3900$$

$$= \text{Rs. } 1,200$$

Hence, answer is option (b).

Q 68. Ans: (d)

According to the question,

Average = 42

$$\text{Sum} = 4 \times 42 = 168$$

New average after T joins = 44

$$\text{New sum} = 5 \times 44 = 220$$

$$\text{So, age of T: } 220 - 168 = 52$$

Now, U replaces P

$$U = T - 10 = 52 - 10 = 42$$

New average (Q, R, S, T, U) = 41

$$\text{New sum} = 5 \times 41 = 205$$

Total after replacement: $220 - P + U = 205$

Substitute U = 42:

$$220 - P + 42 = 205$$

$$262 - P = 205$$

$$P = 57$$

Hence, answer is option (d).

Q 69. Ans: (a)

Given:

$$\text{Sum} = 132, \text{LCM} = 360$$

$$\text{HCF}(132, 360) = 12$$

$$\text{Let numbers} = 12a, 12b$$

$$\Rightarrow 12(a + b) = 132$$

$$\Rightarrow a + b = 11$$

$$\text{Also, LCM} = 12ab = 360$$

$$\Rightarrow ab = 30$$

$$\text{Now: } a + b = 11, ab = 30$$

$$\Rightarrow (a, b) = (5, 6)$$

$$\text{Numbers} = (60, 72), \text{ Only one valid pair}$$

Hence, answer is option (a).

Q 70. Ans: (c)

Let the assistant's present age be x

Then architect's present age = x^2

3 years ago:

$$x^2 - 3 = 11(x - 3)$$

$$x^2 - 3 = 11x - 33$$

$$x^2 - 11x + 30 = 0$$

$$(x - 5)(x - 6) = 0$$

$$\text{So, } x = 5 \text{ or } 6$$

But assistant is younger than 6, so $x = 5$.

Now, present ages:

$$\text{Assistant} = 5$$

$$\text{Architect} = 5^2 = 25$$

Let after 't' years:

$$25 + t = 3(5 + t)$$

$$25 + t = 15 + 3t$$

$$10 = 2t$$

$$\Rightarrow t = 5$$

Hence, answer is option (c).

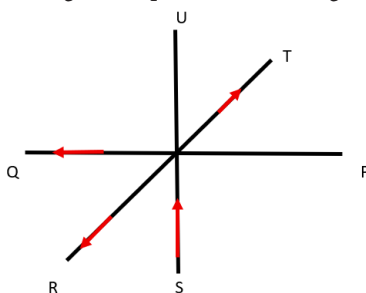
Q 71. Ans: (a)

- Conclusion I follow: The statement says 15% of children in the 14–18 age group are out of school, meaning the policy's goal of all children up to 18 having access has not been achieved yet.
- Conclusion II does not follow: The statement gives no reason for why children are out of school. "Curriculum irrelevance" is an unsupported assumption; the cause could be poverty, distance to school, family issues, etc.

Hence, answer is option (a)

Q 72. Ans: (d)

According to the question, following sitting arrangement obtained:



From the above arrangement, we can see that direction of P is not defined so we cannot find out the required result. Hence, answer is option (d).

Q 73. Ans: (a)

Total people = 31 (30 students + 1 teacher)

Statement I:

Average including teacher = 20

$$\Rightarrow \text{Total age of all 31} = 31 \times 20 = 620$$

If teacher is removed, average decreases by 1 \rightarrow 19 for 30 students

$$\Rightarrow \text{Total age of 30 students} = 30 \times 19 = 570$$

$$\text{So, teacher's age} = 620 - 570 = 50$$

Thus, statement I alone is sufficient

Statement II:

Teacher + class representative = 62

This gives only one equation with two unknowns

$$\Rightarrow \text{Teacher's age cannot be found uniquely}$$

Thus, statement II alone is not sufficient

Hence, answer is option (a).

Q 74. Ans: (c)

Explanation:

- (a) **Incorrect.** This suggests governance improvement despite reduced inclusivity, appearing balanced. However, the passage emphasizes negative consequences, not trade-offs, making this subtly incorrect.
- (b) **Incorrect.** This assumes diversity remains acknowledged despite standardization. The passage highlights narrowing recognition, so this contradicts the implied consequence without appearing obviously wrong.
- (c) **Correct.** This directly follows from procedural fragility and lack of deliberation. It logically results in exclusionary policies that fail to align with complex lived social realities.
- (d) **Incorrect.** This recognizes legitimacy through consultation but introduces administrative efficiency as equally important. The passage prioritizes inclusivity, not efficiency balance, making this incomplete.

Hence, answer is option (c).

Q 75. Ans: (d)

Explanation:

- (a) **Incorrect.** This option appears balanced but retains independent material reality beyond perception. The passage rejects such independence entirely, making this a close but ultimately incorrect interpretation.
- (b) **Incorrect.** This option includes divine cognition but wrongly assigns partial independence to material objects. The passage denies any ontological status to matter beyond perception, making this subtly incorrect.
- (c) **Incorrect.** This option suggests perception is primary but still grants limited relevance to matter. The passage

rejects even minimal explanatory significance of material substance, making this insufficient.

- (d) **Correct.** This option subtly captures the complete dependence of reality on perception. It correctly eliminates independent material substance without overstating, aligning precisely with the passage's philosophical argument.

Hence, answer is option (d).

Q 76. Ans: (a)

Explanation:

- i. **Valid.** This aligns with the idea that reality persists through continuous perception. The passage assumes stability depends on ongoing perceptual engagement rather than inherent material existence.
- ii. **Invalid.** This assumes independent material existence, which contradicts the passage's core argument. Although plausible, it directly opposes the philosophical framework presented.

Hence, answer is option (a).

Q 77. Ans: (a)

According to the question,
Simplify the expression:

$$\frac{(240)^2}{13} + \frac{126}{13} + \frac{57}{13} + \frac{82}{13} + \frac{64}{13}$$

Convert all terms to remainders:

$$\frac{10+9+5+4+12}{13}$$

Add the remainders:

$$\frac{40}{13} = 1(\text{Remainder})$$

Hence, answer is option (a).

Q 78. Ans: (a)

Value I:

Let distance = d km

Time taken by Amit = d/4

Time taken by Sumit = d/5

Given: Amit takes 15 minutes more = $\frac{1}{4}$ hour

$$\frac{d}{4} - \frac{d}{5} = \frac{1}{4}$$

$$\frac{5d - 4d}{20} = \frac{1}{4} \Rightarrow \frac{d}{20} = \frac{1}{4} \Rightarrow d = 5$$

Value I = 5 km

Value II:

Let total distance = D km

Speed = 60 km/hr

Time for first 75%:

$$\frac{0.75D}{60}$$

$$60$$

Time for last 25%:

$$\frac{0.25D}{60}$$

$$60$$

Given difference = 10 minutes = $\frac{1}{6}$ hour

$$\frac{0.75D}{60} - \frac{0.25D}{60} = \frac{1}{6}$$

$$\frac{0.5D}{60} = \frac{1}{6} \Rightarrow \frac{D}{120} = \frac{1}{6} \Rightarrow D = 20$$

Value II = 20 km

On comparing, we get:

Value I < Value II

Hence, answer is option (a).

Q 79. Ans: (c)

For a row of stripes, no two adjacent stripes can have the same color.

Statement I:

First stripe: 3 choices

Each next stripe: 2 choices (different from previous)

So, total ways = $(3 \times 2^3 = 24)$

Thus, statement I is correct

Statement II:

First stripe: 3 choices

Each next stripe: 2 choices

So, total ways = $(3 \times 2^4 = 48)$

Thus, statement II is also correct

Hence, answer is option (c).

Q 80. Ans: (c)

According to the given question,

S1: C is taller than only A and E

$\Rightarrow C > A, E$

Also, B is taller than C but shorter than D

$\Rightarrow C < B < D$

Order: A, E < C < B < D

We still do not know whether F is tallest or not

Thus, S1 alone is not sufficient

Statement S2:

B is shorter than F

$\Rightarrow B < F$

D is taller than B, but D is not the tallest

$\Rightarrow B < D < (\text{someone else is tallest})$

We still cannot determine full order or confirm tallest uniquely

Thus, S2 alone is not sufficient

On combining S1 and S2 together; we get:

$F > D > B > C > A/E$

Thus, F is the tallest.

Hence, answer is option (c).