

# UPSC OPEN MOCK TEST-3 CSAT (SOLUTION)

Q 1. Ans: (d)

**Explanation:**

- (a) **Incorrect.** This option is close but incorrectly assumes afforestation alone is sufficient. The passage explicitly criticizes such policy simplifications for ignoring ecological thresholds and system variability.
- (b) **Incorrect.** This option is misleading because it presents human impact as creating stable emission systems. The passage instead highlights fluctuating transitions between carbon sinks and sources.
- (c) **Incorrect.** This option wrongly states uniform policy outcomes across diverse ecosystems. The passage stresses that carbon storage varies significantly across spatial and ecological conditions.
- (d) **Correct.** This option captures the passage's core idea that forest carbon storage is complex and uncertain. It emphasizes adaptive policy and ecological understanding, which aligns with the concluding insight of the passage.

Hence, answer is option (d).

Q 2. Ans: (b)

**Explanation:**

- (a) **Incorrect.** This appears reasonable but overemphasizes material destruction as the primary determinant. The passage stresses that non-material consequences are equally significant in long-term outcomes.
- (b) **Correct.** This follows logically as the passage emphasizes layered consequences beyond visible destruction. It captures the idea that warfare creates enduring systemic disruptions across multiple dimensions.
- (c) **Incorrect.** This subtly reverses the argument by suggesting institutional strengthening. The passage clearly indicates that resource diversion undermines institutional stability rather than enhancing resilience.
- (d) **Incorrect.** This acknowledges psychological consequences but assumes they fade with reconstruction. The passage instead suggests deeper and persistent socio-psychological impacts beyond material rebuilding.

Hence, answer is option (b).

Q 3. Ans: (c)

**Explanation:**

- (a) **Incorrect.** This option appears reasonable but introduces relative stability in identity. The passage explicitly rejects any stable or enduring essence underlying the self.
- (b) **Incorrect.** This option subtly contradicts the passage by suggesting the emergence of a stable core. The passage clearly denies any permanent psychological foundation.

(c) **Correct.** This option captures the passage's central philosophical claim. It reflects that the self is merely a flow of perceptions without any enduring or stable underlying essence.

(d) **Incorrect.** This option introduces the idea of an inherent mental structure supporting identity. The passage rejects any intrinsic foundation, emphasizing constructed continuity through perceptions alone.

Hence, answer is option (c).

Q 4. Ans: (c)

**Explanation:**

i. **Invalid.** This option acknowledges cognitive ordering of experience. However, it incorrectly assumes a deeper identity beneath constructions, which the passage explicitly rejects.

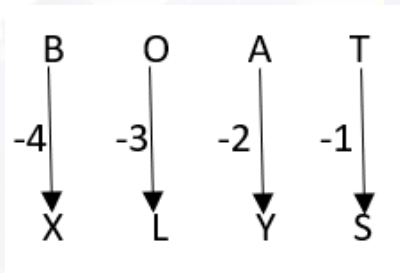
ii. **Invalid.** This option appears plausible by associating memory with continuity. However, the passage argues memory creates only an illusion, not evidence of a stable identity.

Hence, answer is option (c).

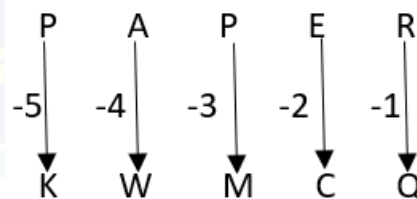
Q 5. Ans: (b)

Pattern used:

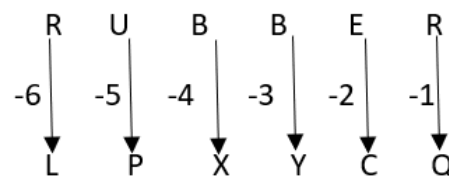
Code for BOAT:



Code for PAPER:



Code for RUBBER:



Hence, answer is option (b).

**Q 6. Ans: (d)**

Pattern used: Multiplication of alphabetical place values

Code for GHIJ:  $7 \times 8 \times 9 \times 10 = 5040$

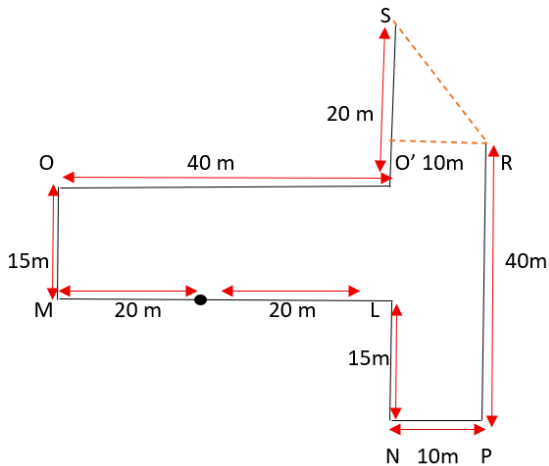
Code for KLMN:  $11 \times 12 \times 13 \times 14 = 24024$

Code for OPQR:  $15 \times 16 \times 17 \times 18 = 73440$

Hence, answer is option (d).

**Q 7. Ans: (c)**

According to the question, following figure obtained:



Apply Pythagoras triplet in triangle SO'R:

$$RS^2 = O'R^2 + O'S^2$$

$$RS^2 = 10^2 + 10^2$$

$$RS = 10\sqrt{2}$$

Hence, answer is option (c).

**Q 8. Ans: (d)**

According to the question,

The big cube is cut into  $27 = 3 \times 3 \times 3$  small cubes.

Statement A: Cubes with 1 face painted (face centers):

Each face has  $(n-2)^2 = 1(3-2)^2 = 1$  cube

Total faces = 6

$$\Rightarrow \text{Total cubes} = 6 \times 1 = 6$$

Thus, statement A is correct

Statement B: Cubes with no paint (inside):

$$(n-2)^3 = 1^3 = 1 \text{ cube}$$

Thus, statement B is correct

Statement C: Cubes with 2 faces painted (edges, excluding corners):

Each edge has  $(n-2) = 1$  cube between corners

Total edges = 12

$$\Rightarrow \text{Total cubes} = 12 \times 1 = 12$$

Thus, statement C is incorrect

Statement D: Cubes with 3 faces painted (corners):

A cube has 8 corners  $\rightarrow 8$  cubes

Thus, statement D is correct

Hence, answer is option (d).

**Q 9. Ans: (b)**

According to the question,

There are 12 friends

Each friend gives 3 souvenirs to every other friend

Souvenirs given by one friend:  $3 \times 11 = 33$

Total souvenirs:  $12 \times 33 = 396$

So, total souvenirs exchanged = 396

$$\text{Each pair hugs once: } {}^{12}C_2 = \frac{12 \times 11}{2} = 66$$

So, total hugs = 66

Required difference =  $396 - 66 = 330$

Hence, answer is option (b).

**Q 10. Ans: (b)**

According to the question,

It is given that 25 Dec 2016 is Sunday

Number of days from 4 July to 25 Dec = 174 days

$$174 \div 7 = 24 \text{ weeks} + 6 \text{ days}$$

So going backward 6 days from Sunday:

Sunday - 6 days = Monday

Hence, answer is option (b).

**Q 11. Ans: (c)**

Let total work = LCM (30, 60) = 60 units

Efficiency of Arjun = 2 units/day

Efficiency of Ramesh = 1 unit/day

Karan's Work = 20% of 60 = 12 units

Arjun and Ramesh's combined work =  $60 - 12 = 48$  units

Let the total time to finish the job be T

Arjun worked for the entire duration: T days

Ramesh joined after 3 days: (T - 3) days

So:

$$2T + (T - 3) + 12 = 60$$

$$3T + 9 = 60$$

$$T = 17$$

Hence, answer is option (c).

**Q 12. Ans: (c)**

According to the given information,

Raanu is 18th from top and 27th from bottom

$$\text{So, total passed} = 18 + 27 - 1 = 44$$

Now, failed students are 4

$$\text{Total appeared} = 44 + 4 = 48$$

Students not appeared = 7

$$\text{Total students in class} = 48 + 7 = 55$$

Hence, answer is option (c).

**Q 13. Ans: (c)**

**Explanation:**

- (a) **Incorrect.** This appears plausible but reverses the hierarchy of influence. The passage suggests unconscious processes are pervasive, not occasional or secondary to rational control.
- (b) **Incorrect.** This option shifts emphasis toward conscious intention and external factors. The passage instead highlights internal unconscious mechanisms as dominant in shaping behavior.
- (c) **Correct.** This option captures the central argument that unconscious processes significantly shape behavior.

It highlights the limitation of complete rational awareness emphasized throughout the passage.

- (d) **Incorrect.** This correctly identifies hidden processes influencing behavior. However, it incorrectly assumes conscious reasoning retains primary control, which the passage challenges.

Hence, answer is option (c).

**Q 14. Ans: (a)**

**Explanation:**

- I. **Valid.** The passage assumes cognition includes processes beyond conscious control. This supports the idea that unconscious mechanisms operate independently while still influencing behavior and decisions.
- II. **Invalid.** This subtly prioritizes conscious intentions over internal processes. The passage instead highlights that unconscious influences often guide or override perceived rational actions.

Hence, answer is option (a).

**Q 15. Ans: (a)**

**Explanation:**

- I. **Valid.** The passage suggests identity is about uncovering what already exists internally. This implies self-understanding is a process of revelation, not construction or external formation.
- II. **Invalid.** This option incorrectly assumes certainty of realization through introspection. The passage only suggests introspection enables recognition, not that it guarantees complete or universal realization.

Hence, answer is option (a).

**Q 16. Ans: (d)**

**Explanation:**

- (a) **Incorrect.** This shifts emphasis toward external frameworks guiding decisions. The passage highlights internal capacity as central, with external support playing a secondary role.
- (b) **Incorrect.** This correctly identifies internal capacity and adaptability. However, it incorrectly suggests reduced engagement as a consequence, which is not implied in the passage.
- (c) **Incorrect.** This reflects both independence and external support. However, it overemphasizes independence rather than presenting the balanced integration emphasized in the passage.
- (d) **Correct.** This option captures the nuanced balance between autonomy and support. It reflects the passage's emphasis on calibrated self-reliance integrated with engagement rather than isolation.

Hence, answer is option (d).

**Q 17. Ans: (d)**

Apply the given replacements:

'÷' → division (÷), '+' → multiplication (×), '-' → subtraction (-) and '×' → addition (+)

We will check the options one by one -

Option (a):  $8 + 24 - 16 \div 4 - 2$   
 $\rightarrow 8 \times 24 \div 16 - 4 \div 2$   
 $= 192 \div 16 - 4 \div 2$   
 $= 12 - 2$   
 $= 10 \neq 46$  (L.H.S  $\neq$  R.H.S)  
 Option (b):  $8 - 24 \div 16 \times 4 + 2$   
 $\rightarrow 8 \div 24 - 16 + 4 \times 2$   
 $= 1/3 - 16 + 8$

$= -7 \frac{2}{3} \neq 65$  (L.H.S  $\neq$  R.H.S)

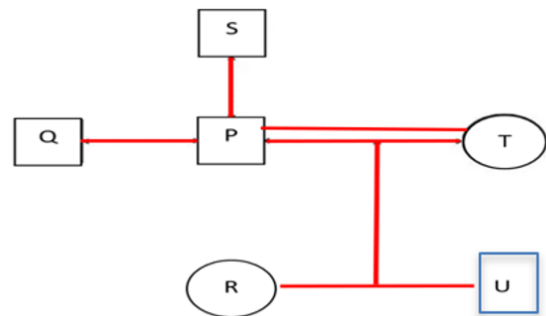
Option (c):  $8 + 24 - 16 \div 4 \times 2$   
 $\rightarrow 8 \times 24 \div 16 - 4 + 2$   
 $= 192 \div 16 - 4 + 2$   
 $= 12 - 4 + 2$   
 $= 10 \neq 78$  (L.H.S  $\neq$  R.H.S)

Option (d):  $8 \div 24 \times 16 + 4 - 2$   
 $\rightarrow 8 - 24 + 16 \times 4 \div 2$   
 $= 8 - 24 + 64 \div 2$   
 $= 8 - 24 + 32$   
 $= 16 = 16$  (L.H.S = R.H.S)

Hence, answer is option (d).

**Q 18. Ans: (d)**

According to the question, following tree obtained:



Statements:

1. T is the mother in the family → True
  2. P is married to T → True
  3. The family has four male members → True
- Hence, answer is option (d).

**Q 19. Ans: (a)**

According to the given information,  
 Watch is 2 minutes slow (-2 min) at 2 p.m. on Monday  
 Watch is 4 minutes fast (+4 min) at 2 p.m. on Wednesday  
 Total gain from -2 to +4 = 6 minutes  
 Total time from Monday 2 p.m. to Wednesday 2 p.m. = 48 hours  
 Time to gain 2 minutes (to reach correct time) =

$\frac{2}{6} \times 48 = 16$  hours

Monday 2 p.m. + 16 hours = Tuesday 6 am  
 Hence, answer is option (a).

**Q 20. Ans: (b)**

Pattern used:

$$4698 \times .5 = 2349$$

$$2349 \times 1 = 2349$$

$$2349 \times 1.5 = 3523.5$$

$$3523.5 \times 2 = 7047$$

Hence, answer is option (b).

**Q 21. Ans: (c)**

$$2^3 - 2^2 = 8 - 4 = 4$$

$$3^3 - 3^2 = 27 - 9 = 18$$

$$4^3 - 4^2 = 64 - 16 = 48$$

$$5^3 - 5^2 = 125 - 25 = 100$$

$$6^3 - 6^2 = 216 - 36 = 180$$

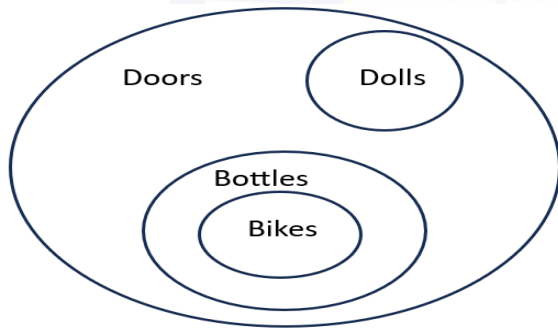
$$7^3 - 7^2 = 343 - 49 = 294$$

$$8^3 - 8^2 = 512 - 64 = 448$$

Hence, answer is option (c).

**Q 22. Ans: (c)**

According to the question, following figure obtained:



Conclusions:

I. All bikes are doors → True

II. Some bikes are dolls → False

III. Some doors are bikes → True

Hence, answer is option (c).

**Q 23. Ans: (c)**

Given series: P Q 3 R S 9 Z Y & A Z M © K M 1 ↑ 5 N T %

We can see 3 (between Q and R) and 9 (between S and Z) are the two digits

Hence, answer is option (c).

**Q 24. Ans: (a)**

According to the question,

Let total number of boys = N

From left = N - 18 + 1 = N - 17

Case 1: Rahul is to the left of Karan

Number of boys between them = 6

$$(N - 17) - 15 - 1 = 6$$

$$N - 33 = 6$$

$$N = 39$$

Case 2: Karan is to the left of Rahul

$$15 - (N - 17) - 1 = 6$$

$$32 - N - 1 = 6$$

N=25

Statement I: Maximum number of boys is 39

Statement II: Minimum number of boys is 25 not 29

Hence, answer is option (a).

**Q 25. Ans: (b)**

**Explanation:**

- (a) **Incorrect.** This option appears reasonable but ignores the trade-offs discussed. The passage clearly highlights social costs and economic constraints associated with inflation reduction.
- (b) **Correct.** This logically follows from the passage's emphasis on trade-offs and uneven impacts. It captures how disinflation shifts economic burdens across sectors and social groups.
- (c) **Incorrect.** This subtly suggests long-term improvement in employment. The passage focuses on slowdown and reduced employment without implying eventual strengthening.
- (d) **Incorrect.** This option acknowledges fiscal discipline but overstates its benefits. The passage indicates fiscal tightening may actually limit welfare and increase inequality in the short term.

Hence, answer is option (b).

**Q 26. Ans: (a)**

**Explanation:**

- I. **Valid.** The passage assumes that inflation control affects broader economic dynamics. It implies policy actions extend beyond prices, influencing investment, employment and sectoral performance.
- II. **Invalid.** This subtly suggests employment stability despite tightening policies. The passage clearly indicates reduced expansion and weaker employment generation during disinflation.

Hence, answer is option (a).

**Q 27. Ans: (c)**

**Explanation:**

- (a) **Incorrect.** This appears reasonable but overgeneralizes mutation effects as harmful. The passage clearly states many mutations remain silent or are buffered.
- (b) **Incorrect.** This correctly notes biological buffering mechanisms. However, it assumes inevitability of disease, which contradicts the passage's emphasis on variability and resilience.
- (c) **Correct.** This option captures the core idea that mutation effects depend on interactions. It reflects the emphasis on context, regulation and adaptive responses determining pathogenicity.
- (d) **Incorrect.** This acknowledges environmental influence but overstates genetic primacy. The passage emphasizes interaction rather than dominance of any single factor.

Hence, answer is option (c).

Q 28. Ans: (b)

**Explanation:**

- i. **Invalid.** This option appears logical but assumes consistency in outcomes. The passage clearly highlights variability even for identical mutations across different contexts.
- ii. **Valid.** The passage assumes biological systems can buffer mutation effects. This supports the idea that redundancy and compensatory mechanisms prevent many mutations from becoming pathogenic.

Hence, answer is option (b).

Q 29. Ans: (a)

- **Conclusion I follows:** Digital connectivity has a greater positive impact on formal and skill-based education than on adult basic literacy.
- **Conclusion II does not follow:** This one is too strong. Words like most effective and every household make it a broad claim. Unless the passage clearly proves this, we can't accept it.

Hence, answer is option (a).

Q 30. Ans: (c)

**Conclusion I follow:** It says more laws alone don't ensure better accountability.

This directly follows because despite more laws, prosecutions haven't increased.

**Conclusion II follow:** It says forensic evidence is a critical missing component in successful prosecution. The statement clearly mentions this as the primary reason for failure.

Hence, answer is option (c).

Q 31. Ans: (d)

Let the present age of S be b years.

Given: Present age of R = 60 years

According to the question,

At the time of S's birth, R was four times S's present age

$$60 - b = 4b$$

$$60 = 5b$$

$$b = 12 \text{ years}$$

So, present ages are:

$$R = 60 \text{ years, } S = 12 \text{ years}$$

Statement 1: 12 years ago, the age of R was five times the age of S

$$\text{Age of R, 12 years ago} = 60 - 12 = 48 \text{ years}$$

$$\text{Age of S, 12 years ago} = 12 - 12 = 0 \text{ years}$$

Therefore, statement 1 is incorrect.

Statement 2: After 18 years, the ratio of ages of R to S would be 11: 6

After 18 years:

$$\text{Age of R} = 60 + 18 = 78 \text{ years}$$

$$\text{Age of S} = 12 + 18 = 30 \text{ years}$$

$$R : S = 78 : 30 = 13 : 5$$

This is not equal to 11: 6.

Therefore, statement 2 is incorrect.

Hence, answer is option (d).

Q 32. Ans: (c)

According to the question,

$$\text{Total income of family} = \text{Rs. } 75000$$

$$\text{Savings} = 12\% \rightarrow \text{Rs. } 9,000$$

$$\text{Education} = 10\% \rightarrow \text{Rs. } 7,500$$

Now,

$$\text{Savings increased to } 20\% \rightarrow \text{Rs. } 15,000$$

$$\text{Increase in Savings} = 15,000 - 9,000 = \text{₹}6,000$$

This extra Rs. 6,000 is taken only from Education.

New Education expenditure

$$\text{New Education} = 7,500 - 6,000 = \text{Rs. } 1,500$$

Percentage of Education now:

$$\frac{1500}{75000} \times 100 = 2\%$$

Central angle of Education sector

$$\text{Angle} = \frac{2}{100} \times 360^\circ = 7.2^\circ \text{ Hence, answer is option (c)}$$

Q 33. Ans: (d)

Logic used:

$$\text{Row 1: } 37 \times 2 = 74; 74 \times 3 = 222$$

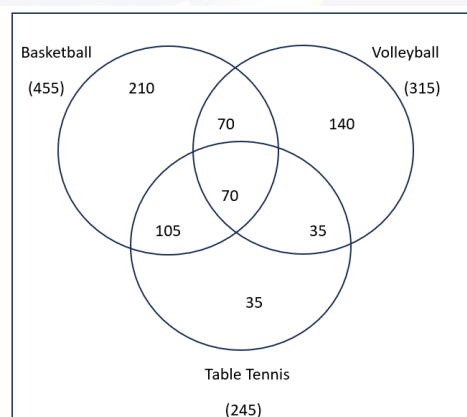
$$\text{Row 2: } 17 \times 2 = 34; 34 \times 3 = 102$$

$$\text{Row 3: } 19 \times 2 = 38; 38 \times 3 = 114$$

Hence, answer is option (d).

Q 34. Ans: (b)

According to the given information, following Venn diagram obtained:



$$\text{Students who play none} = 700 - (455 + 140 + 35 + 35) = 700 - 665 = 35$$

Hence, answer is option (b).

Q 35. Ans: (c)

Total objects = 20

If no three points are collinear, number of lines:  ${}^{20}C_2$

$$= \frac{20 \times 19}{2} = 190$$

Now, 4 objects lie on the same straight line.  
 Normally, 4 collinear points give:  ${}^4C_2 = 6$  lines  
 But all these pairs lie on only 1 actual line, so overcounting  
 $= 6 - 1 = 5$   
 Maximum distinct lines now =  $190 - 5 = 185$   
 Hence, answer is option (c).

**Q 36. Ans: (c)**

Let 9 consecutive things in the circle be 1, 2, 3, ... 9.  
 In a circular arrangement, selecting k consecutive items out of n in the clockwise direction means choosing a starting point, and each starting point gives exactly one selection.

Total items = 9

Consecutive items to select = 6

We can start from any of the 9 positions:

- Start at 1 → (1 to 6)
- Start at 2 → (2 to 7)
- ....
- Start at 9 → wraps around

Since each starting point gives a unique selection, total valid selections = 9.

Hence, answer is option (c).

**Q 37. Ans: (d)**

**Explanation:**

- (a) **Incorrect.** This appears plausible but contradicts the passage's emphasis on coordination. The text suggests absence of multilateral frameworks increases risks of conflict and imbalance.
- (b) **Incorrect.** This option overemphasizes technological capability as the determinant of access. The passage stresses governance and cooperation rather than capability alone.
- (c) **Incorrect.** This recognizes benefits of coordination but introduces continued competition. The passage emphasizes minimizing disputes rather than accepting persistent strategic competition.
- (d) **Correct.** This option captures the core message emphasizing cooperative governance. It reflects the need for multilateral frameworks to ensure sustainability, fairness, and peaceful utilization of shared resources.

Hence, answer is option (d).

**Q 38. Ans: (d)**

**Explanation:**

- i. **Invalid.** This option contradicts the passage by suggesting resilience. The text emphasizes contraction, vulnerability and weakening industrial performance rather than stability or strength.
- ii. **Invalid.** This acknowledges inflation dynamics but incorrectly links them with recovery and income improvement. The passage highlights stagnation and limited policy flexibility instead.

Hence, answer is option (d).

**Q 39. Ans: (d)**

**Explanation:**

- (a) **Incorrect.** The passage does not claim cooperation improves outcomes despite inequality. Instead, it emphasizes that unequal benefits generate distrust, challenging sustainability of global health collaboration frameworks.
- (b) **Incorrect.** The passage mentions intellectual property regimes but critiques their role in reinforcing disparities. It does not suggest they successfully balance innovation incentives with equitable access globally.
- (c) **Incorrect.** Transparency alone is insufficient according to the passage. It explicitly argues that fairness and reciprocity must accompany transparency for sustainable cooperation in pathogen-sharing frameworks.
- (d) **Correct.** The passage centers on asymmetry and lack of reciprocal benefits in pathogen sharing. This imbalance undermines trust and creates inequitable access to resulting innovations across stakeholders.

Hence, answer is option (d).

**Q 40. Ans: (a)**

**Explanation:**

- i. **Valid.** The argument assumes contributors expect some form of proportional benefit. Without this expectation, perceived imbalance and resulting distrust would not meaningfully arise in the first place.
- ii. **Invalid.** The passage critiques intellectual property regimes for reinforcing disparities. It does not assume they are primarily designed to ensure equitable access to healthcare innovations globally.

Hence, answer is option (a).

**Q 41. Ans: (c)**

Let larger and smaller numbers be x and y respectively

$$x - y = 1008 \dots (i)$$

Also,

$$x = 5y + 8$$

$$\Rightarrow x - 5y = 8 \dots (ii)$$

On solving eqn. (i) & (ii), we get:

$$y = 250$$

$$x = 250 + 1008 = 1258$$

Hence, answer is option (c).

**Q 42. Ans: (b)**

**Assumption I is implicit:** Tele-consultation will only work if there is reliable digital infrastructure in remote areas.

Without internet/connectivity, the whole plan fails.

**Assumption II is implicit:** The system depends on specialist doctors being available and willing to consult remotely. Otherwise, the effectiveness of the tele-consultation system would be affected.

**Assumption III is not implicit:** It claims tele-consultation

is more effective than physical examination for all major ailments. The statement only says it provides access, not that it is better in all cases. This is an extreme assumption and not required.

Hence, answer is option (b).

**Q 43. Ans: (c)**

**Assumption I is implicit:** The policy gives free travel to job-seekers.

This only makes sense if travel cost is a real barrier to attending interviews or searching for jobs.

**Assumption II is implicit:** Providing transport is useful only if there are actual job opportunities within reach via public transport. Otherwise, the usefulness of free passes in reducing unemployment would be limited.

Hence, answer is option (c).

**Q 44. Ans: (d)**

Option (a):  $A > B > C < D \leq E = F \rightarrow$  False

Option (b):  $A > B > C = D \leq E = F \rightarrow$  False

Option (c):  $A > B > C > D \leq E = F \rightarrow$  False

Hence, answer is option (d).

**Q 45. Ans: (a)**

According to the question, we count numbers of length 1 to 6 digits

For each digit place, we have 4 choices.

Total numbers =  $4^1 + 4^2 + 4^3 + 4^4 + 4^5 + 4^6$

This is a geometric series =  $\frac{4(4^6 - 1)}{4 - 1} = \frac{(4^7 - 4)}{4 - 1} = \frac{16380}{3} = 5460$

Hence, answer is option (a).

**Q 46. Ans: (c)**

Let the maximum marks be M and the cutoff marks be C.

For first participant:  $\frac{p}{100}M = C - m \dots (i)$

For second participant:  $\frac{q}{100}M = C + n \dots (ii)$

Subtracting equation (i) from (ii):

$$\frac{q}{100}M - \frac{p}{100}M = (C + n) - (C - m)$$

$$\frac{(q - p)}{100}M = m + n$$

$$M = \frac{100(m + n)}{q - p}$$

Therefore, maximum marks =  $\frac{100(m + n)}{q - p}$

Hence, answer is option (c).

**Q 47. Ans: (b)**

According to the question,

$$\text{Given: } \frac{x}{y} = \frac{4}{7}, \frac{y}{z} = \frac{3}{2} \Rightarrow x : y : z = 12 : 21 : 14$$

Let  $x = 12k, y = 21k, z = 14k$

**Statement I:**  $xz = 12(y + z)$

LHS:  $xz = 12k \cdot 14k = 168k^2$

RHS:  $12(y + z) = 12(21k + 14k) = 12 \cdot 35k = 420k$

So,  $168k^2 \neq 420k$  (not true for all k)

Statement I is false

**Statement II:**  $xz = 168$

But:  $xz = 168k^2$

This is only true if  $k = 1$ , not always.

Statement II is false

Hence, answer is option (b).

**Q 48. Ans: (d)**

It is given that  $9x + 84$  is divisible by x.

It means that 84 is divisible by x i.e. x is a factor of 84.

$$84 = 2^2 \times 3 \times 7$$

So, possible values of x are: 1, 2, 3, 4, 6, 7, 12, 14, 21, 28, 42, 84

Total possible values are 12.

Hence, answer is option (d).

**Q 49. Ans: (a)**

According to the question,

From first equation:

$$0.8p + q = 1.4q$$

$$\Rightarrow 0.8p = 0.4q$$

$$\Rightarrow q = 2p$$

From second equation:

$$0.5p + r = 1.2r$$

$$\Rightarrow 0.5p = 0.2r$$

$$\Rightarrow r = 2.5p$$

On comparing values, we get:  $p < q < r$

Hence, answer is option (a).

**Q 50. Ans: (a)**

Initial quantities: P = 150 ml milk and Q = 150 ml water

Now, after 30 ml transfer:

Remaining quantity of P = 120 ml milk

Remaining quantity of Q = 150 water + 30 milk = 180 ml

Ratio in Q = 150: 30 = 5: 1

Now, transfer back 30 ml from Q:

$$\text{Milk} = 30 \times \frac{1}{6} = 5 \text{ ml}$$

$$\text{Water} = 30 \times \frac{5}{6} = 25 \text{ ml}$$

Final quantities:

$$P \rightarrow 120 + 5 = 125 \text{ ml milk} \Rightarrow m = \frac{125}{150} = \frac{5}{6}$$

$$Q \rightarrow 150 - 25 = 125 \text{ ml water} \Rightarrow n = \frac{125}{150} = \frac{5}{6}$$

Hence, answer is option (a).

**Q 51. Ans: (b)**

**Explanation:**

- i. **Incorrect.** The passage emphasizes balance, not sufficiency of decentralization alone. Claiming inherent equity ignores structural constraints and contradicts the need for calibrated state intervention.
- ii. **Correct.** The passage highlights structural asymmetries shaping access and outcomes. Hence, neutral or non-interventionist approaches may inadvertently sustain inequalities rooted in historical institutional disadvantages.

Hence, answer is option (b).

**Q 52. Ans: (c)**

**Explanation:**

- (a) **Incorrect.** The passage does not attribute failure primarily to financial inadequacy. It emphasizes structural and institutional disconnects, making financial increase alone insufficient as a logical consequence.
- (b) **Incorrect.** Centralization is critiqued for weakening local responsiveness. While efficiency may seem plausible, the passage does not support this trade-off explicitly, making the inference incomplete.
- (c) **Correct.** The passage implies adaptation succeeds when policy aligns with local realities. Therefore, integrating local contexts with coordinated institutions logically follows as a necessary consequence for effective outcomes.
- (d) **Incorrect.** The passage clearly states that policy emphasis does not guarantee implementation success. Therefore, assuming inherent effectiveness contradicts the argument about translation gaps and constraints.

Hence, answer is option (c).

**Q 53. Ans: (b)**

**Explanation:**

- i. **Invalid.** The passage critiques national-level abstraction and lack of contextual sensitivity. Therefore, it does not assume national planning adequately captures diverse vulnerabilities across regions.
- ii. **Valid.** The argument assumes local knowledge is important for meaningful implementation. Without this, the emphasis on grassroots alignment and contextual adaptation would lack conceptual justification.

Hence, answer is option (b).

**Q 54. Ans: (c)**

**Explanation:**

- (a) **Incorrect.** The passage critiques superficial and short-term responses. Technological fixes alone do

not address structural causes, making this option a misleading simplification of the core argument.

- (b) **Incorrect.** The passage rejects incremental or superficial solutions. It clearly indicates that systemic and structural reforms are required, making this statement inconsistent with the argument.
- (c) **Correct.** The passage stresses that rising heat is rooted in structural developmental issues. Therefore, addressing underlying drivers is the core lesson necessary for achieving sustainable mitigation outcomes.
- (d) **Incorrect.** Integrated planning is relevant, but this reflects a solution rather than the core message. It does not fully capture the emphasis on underlying structural drivers.

Hence, answer is option (c).

**Q 55. Ans: (c)**

Given:

$$\text{HCF (a, b)} = 8, \text{ LCM (a, b)} = 192$$

$$a + b = 56 \dots (i)$$

We know that,

$$a \times b = \text{HCF} \times \text{LCM}$$

$$a \times b = 8 \times 192 = 1536 \dots (ii)$$

From eqn. (i) & (ii):

$$\frac{1}{a} + \frac{1}{b} = \frac{a+b}{ab}$$

$$\frac{1}{a} + \frac{1}{b} = \frac{56}{1536} = \frac{7}{192}$$

Hence, answer is option (c).

**Q 56. Ans: (b)**

Given:

Distance between P and Q = 5 km

Arjun's speed = 5 km/h (starts at 9:00 AM)

Varun's speed = 10 km/h (starts at 9:45 AM)

According to the question,

$$\text{Time taken by Arjun to reach Q} = \frac{5}{5} = 1 \text{ hour}$$

So, Arjun reaches Q at 10:00 AM and immediately starts to return journey

Now, their positions at 10:00 AM

Arjun is at Q (5 km from P)

$$\text{Varun has to run for 15 minutes: } 10 \times \frac{15}{60} = 2.5 \text{ km}$$

So, Varun is 2.5 km from P

Distance between them Arjun and Varun at 10:00 AM = 5 - 2.5 = 2.5 km

Relative speed (they are moving towards each other) =

$$5 + 10 = 15 \text{ km/h}$$

$$\text{Time to meet} = \frac{2.5}{15} = \frac{1}{6} \text{ hour} = 10 \text{ minutes}$$

Required time = 10:00 + 10 min = 10:10 am  
Hence, answer is option (b).

**Q 57. Ans: (b)**

According to the question,  
P is 40% less efficient than Q  
⇒ P: Q = 3: 5  
Q takes 20% less time than R  
⇒ Q: R = 5: 4  
Combined ratios: P: Q: R = 3: 5: 4  
P & Q do 80% work in 12 days:  
(3 + 5) × 12 = 96 units

$$100\% \text{ work} = \frac{96}{80} \times 100 = 120 \text{ units}$$

Value I:  
Q + R = 5 + 4 = 9 units/day  
Now, days required by Q & R to finish 60% work:

$$\text{Time} = \frac{(60\% \text{ of } 120)}{9} = \frac{72}{9} = 8 \text{ days}$$

Value I = 8  
Value II: (P + R complete 75%)  
P + R = 3 + 4 = 7 units/day  
Now, days required by P & R to finish 75% work:

$$\text{Required time} = \frac{90}{7} \approx 12.86 \text{ days}$$

Value II = 12.86  
On comparing, we get:  
Value I < Value II  
Hence, answer is option (b).

**Q 58. Ans: (c)**

Total outcomes (two dice) = 6 × 6 = 36 outcomes  
I: Sum divisible by 3  
Possible sums divisible by 3: 3, 6, 9, 12  
Count outcomes:  
Sum = 3 → (1,2), (2,1) → 2  
Sum = 6 → (1,5), (2,4), (3,3), (4,2), (5,1) → 5  
Sum = 9 → (3,6), (4,5), (5,4), (6,3) → 4  
Sum = 12 → (6,6) → 1  
Total favourable outcomes: 2 + 5 + 4 + 1 = 12

$$P = \frac{12}{36} = \frac{1}{3}$$

Thus, statement I is correct  
II: Product is odd  
Product is odd only when both numbers are odd  
Odd numbers on a die are 1, 3, 5 → 3 choices  
Favourable cases = 3 × 3 = 9

$$P = \frac{9}{36} = \frac{1}{4}$$

Thus, statement II is correct  
Hence, answer is option (c).

**Q 59. Ans: (b)**

Statement I:  
Given ratio: Difference: Sum: Product = 2: 7: 20  
Let Difference = 2k, Sum = 7k and Product = 20k  
It is given that xy = 40  
⇒ 20k = 40  
⇒ k = 2  
So: x + y = 7k = 14, x - y = 2k = 4  
On solving:

$$\Rightarrow x = \frac{14+4}{2} = 9 \text{ and } y = \frac{14-4}{2} = 5$$

Product of x & y:  
xy = 9 × 5 = 45 ≠ 40  
Thus, statement I is false

Statement II:  
Only the last digit matters → 3<sup>7</sup>  
Cyclicity of 3 is 4: 3, 9, 7, 1 (repeats every 4)  
7 ÷ 4 = Remainder (3)  
So, take the 3rd term in the cycle: 7  
Thus, statement II is true  
Hence, answer is option (b).

**Q 60. Ans: (d)**

Factors of 30 = 2 × 3 × 5  
Break expression: 5 × 5<sup>3</sup> × (2 × 11<sup>2</sup>) × 9<sup>3</sup> × 5<sup>4</sup> × (2<sup>3</sup> × 11111)  
For 30<sup>n</sup> = 2<sup>n</sup> × 3<sup>n</sup> × 5<sup>n</sup>  
We take minimum of powers:  
2's → 4  
3's → 6  
5's → 8  
n = min (4,6,8) = 4  
Hence, answer is option (d).

**Q 61. Ans: (b)**

Single-digit numbers (1-9) = 9 digits  
Remaining digits = 150 - 9 = 141  
Two-digit numbers (10-99):  
Each has 2 digits: 141 ÷ 2 = 70 remainder 1  
Count 70 numbers starting from 10: 10 + (70 - 1) = 79  
Next number = 80  
Since remainder is 1 take the 1st digit of next number  
First digit of 80 = 8  
Hence, answer is option (b).

**Q 62. Ans: (a)**

The sequence follows a pattern; each group is written in reverse order from n to 1  
The next term will be: 7, 6, 5, 4, 3, 2, 1  
Then, 8, 7, 6, 5, 4, 3, 2, 1  
Number of terms: 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 = 36  
So, 8 groups are complete  
Sum of groups: 1 + 3 + 6 + 10 + 15 + 21 + 28 + 36 = 120  
Hence, answer is option (a).

Q 63. Ans: (d)

**Explanation:**

- (a) **Incorrect.** The passage does not prioritize objective existence over subjective awareness. Instead, it highlights their tension and lack of reconciliation, making this interpretation logically inconsistent.
- (b) **Incorrect.** The passage acknowledges meaning construction through consciousness. However, it does not assume stable external structures, instead emphasizing flux and contingency, making this only partially aligned.
- (c) **Incorrect.** The passage explicitly states reconciliation remains elusive. Suggesting consistent resolution contradicts the argument about ongoing philosophical struggle and unresolved conceptual tensions.
- (d) **Correct.** The passage emphasizes existence as dynamic and interpretative, shaped by subjective engagement with changing realities. It captures the interplay between experience, meaning-making, and evolving existential conditions.

Hence, answer is option (d).

Q 64. Ans: (a)

**Explanation:**

- I. **Valid.** The argument presumes meaning emerges through conscious engagement. If meaning existed independently of experience, the emphasis on interpretation and lived experience would lose its foundational relevance.
- II. **Invalid.** The passage suggests conceptual closure is resisted. While refinement is possible, assuming eventual closure contradicts the open-ended nature emphasized in the argument.

Hence, answer is option (a).

Q 65. Ans: (b)

**Explanation:**

- (a) **Incorrect.** The passage does not treat subjective experience as a minor anomaly. It presents it as a fundamental challenge, making this interpretation reductive and logically misaligned.
- (b) **Correct.** The passage centers on the unresolved tension between computational explanations and subjective experience. It highlights an ongoing debate rather than resolution, making this the most accurate crux.
- (c) **Incorrect.** The passage acknowledges challenges posed by subjective experience. However, it does not suggest possible integration, making this an overextended interpretation beyond the argument.
- (d) **Incorrect.** The passage explicitly questions complete computational determination of consciousness. This option contradicts the central tension by asserting a definitive and unsupported conclusion.

Hence, answer is option (b).

Q 66. Ans: (c)

**Explanation:**

- (a) **Incorrect.** The passage does not portray desire as occasional disturbance. It treats it as structurally embedded and persistent, making this interpretation insufficiently aligned.
- (b) **Incorrect.** The passage links desire with ethical distortion. However, it focuses more on existential cycles rather than reasoning processes alone, making this statement incorrect.
- (c) **Correct.** The passage emphasizes the cyclical nature of dissatisfaction arising from unchecked desires. This option captures the enduring and self-perpetuating character of human unrest.
- (d) **Incorrect.** The passage does not suggest regulation as a solution. It emphasizes transcendence beyond desire, making this interpretation inconsistent with the philosophical argument.

Hence, answer is option (c).

Q 67. Ans: (b)

According to the question,

In a knockout tournament, every match results in exactly one player being eliminated.

Since there are no draws, each match clearly removes one participant from the competition.

Total players = 512

To get 1 winner:  $512 - 1 = 511$  eliminations

Since each match eliminates one player, the number of matches played is equal to the number of eliminations

$\Rightarrow$  Total matches = 511

Hence, answer is option (b).

Q 68. Ans: (d)

According to the question,

Total amount spent =  $20000 + 25000 + 40000 = 85000$

Remaining amount for bank =  $120000 - 85000 = 35000$

Now, amount after 3 years:

$$A = P \left( 1 + \frac{r}{100} \right)^n$$

$$A = 35000 \left( 1 + \frac{12}{100} \right)^3$$

$$A = 35000 \times 1.404928 = 49172.48$$

$$\text{Selling value of assets (at 75\%)} = \frac{75}{100} \times 85000 = 63750$$

$$\text{Total final wealth} = 63750 + 49172.48 = 112922.48$$

$$\text{Loss} = 120000 - 112922.48 = 7077.52$$

$$\text{Percentage change} = \frac{7077.52}{120000} \times 100 \approx -5.90\%$$

Hence, answer is option (d).

**Q 69. Ans: (b)**

Given CP ratio of A & B:

$$A : B = 3 : 5$$

Let CP of A be  $3x$  and B be  $5x$

According to the question,

If he sells both at profit of 12% each:

$$12\% \text{ of } (3x + 5x) = 24$$

$$\frac{12}{100} \times 8x = 24$$

$$\Rightarrow x = 25$$

Now, actual cost prices:

$$A = 3x = 75$$

$$B = 5x = 125$$

New selling condition

A at 15% loss:

$$SPA = 75 - 15\% = 75 \times 0.85 = 63.75$$

$$\text{Loss} = 75 - 63.75 = 11.25$$

B at 25% profit:

$$SPB = 125 \times 1.25 = 156.25$$

$$\text{Profit} = 156.25 - 125 = 31.25$$

$$\text{Net profit} = 31.25 - 11.25 = 20$$

Hence, answer is option (b).

**Q 70. Ans: (a)**

Let the age of youngest employees =  $x$

Age of team leader =  $x + 4$

According to the question,

Average age of 11 employees = 30

$$\text{Total age of 11 employees} = 11 \times 30 = 330$$

Sum of ages of 3 groups (9 employees)

Each group has 3 employees:

$$\text{Total of 9 employees} = (3 \times 27) + (3 \times 32) + (3 \times 35) = 81 + 96 + 105 = 282$$

$$\text{Age of remaining employees} = 330 - 282 = 38$$

Now,

$$x + x + 4 = 48$$

$$2x = 44$$

$$x = 22 \text{ years}$$

$$\text{Age of team leader} = 22 + 4 = 26 \text{ years}$$

Hence, answer is option (a).

**Q 71. Ans: (a)**

According to the question, following figure obtained:

Days	Doctors
Monday	K
Tuesday	L
Wednesday	J
Thursday	I
Friday	M
Saturday	N
Sunday	H

From the above table, we can see that I is assigned immediately before M.

Hence, answer is option (a).

**Q 72. Ans: (b)**

Pattern used:

$$8 \star 15 = 8^2 + (15^2) = 64 + 225 = 289$$

$$10 \star 21 = 100 + 441 = 541$$

$$14 \star 35 = 196 + 1225 = 1421$$

Hence, answer is option (b)

**Q 73. Ans: (a)**

According to the question,

Odd numbers not divisible by 5 will always end in: 1, 3, 7, 9 (repeats evenly)

$$\text{Unit digit of one full set} = 1 \times 3 \times 7 \times 9 = 189 = 9$$

Total such numbers from 1 to 999 are 400, which means

$$\frac{400}{4} = 100 \text{ sets}$$

So, product's unit digit =  $9^{100}$

The unit digits of powers of 9 follow a pattern: 9, 1, 9, 1... (cycle of 2)

Since 100 is even, the unit digit is 1.

Hence, answer is option (a).

**Q 74. Ans: (c)**

According to the question,

Any number divisible by 4 or 6 is automatically divisible by 2

So, we only need to consider 2, 3 and 5.

Now, count numbers from 1 to 150 divisible by:

- $2 \rightarrow 150/2 = 75$
- $3 \rightarrow 150/3 = 50$
- $5 \rightarrow 150/5 = 30$

Numbers divisible by two at a time:

- $2 \ \& \ 3 \ (6) \rightarrow 25$
- $2 \ \& \ 5 \ (10) \rightarrow 15$
- $3 \ \& \ 5 \ (15) \rightarrow 10$

Numbers divisible by all three:

- $2, 3 \ \& \ 5 \ (30) \rightarrow 5$

$$\text{Total such numbers} = 75 + 50 + 30 - (25 + 15 + 10) + 5 = 110$$

$$\text{Numbers not divisible by any: } 150 - 110 = 40$$

Hence, answer is option (c).

**Q 75. Ans: (d)**

**Explanation:**

- (a) **Incorrect.** The passage suggests misalignment between governance and participation. However, this is a recommendation, not a direct consequence emerging from the described conditions.
- (b) **Incorrect.** The passage focuses on structural barriers, not awareness deficits. This oversimplifies the issue and fails to capture the deeper institutional dynamics discussed.
- (c) **Incorrect.** The passage argues fragmentation reduces cohesive representation. This option assumes diversity ensures equity, which contradicts the structural argument presented.
- (d) **Correct.** The passage implies governance continues functionally while participation weakens. This captures

the natural outcome of administrative efficiency coexisting with democratic disengagement.  
Hence, answer is option (d).

**Q 76. Ans: (a)**

**Explanation:**

- i. **Valid.** The argument presumes governance priorities influence participation levels. Emphasis on service delivery over engagement implies reduced political involvement when participatory mechanisms are deprioritized.
- ii. **Invalid.** The passage highlights that economic participation does not ensure representation. Assuming automatic translation contradicts the argument about procedural barriers and systemic exclusion.

Hence, answer is option (a).

**Q 77. Ans: (a)**

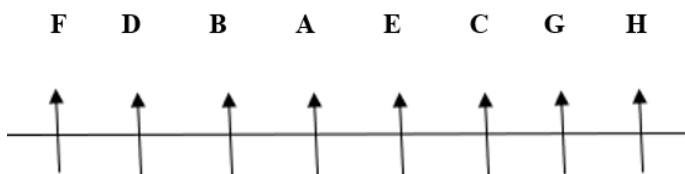
**Explanation:**

- i. **Correct.** The passage links productivity gains with persistent vulnerabilities. This suggests technological benefits may not eliminate dependency risks, making this a subtle but valid inference.
- ii. **Incorrect.** The passage clearly states uneven distribution of investment. Assuming balance contradicts the argument and oversimplifies the effects of liberalization policies.

Hence, answer is option (a).

**Q 78. Ans: (c)**

According to the given information, following arrangement obtained:



From the above arrangement, we can see that F is sitting second to the left of B.

Hence, answer is option (c).

**Q 79. Ans: (b)**

Let filling capacity be  $x$  m<sup>3</sup>/minute  
 $\Rightarrow$  Emptying capacity =  $(x + 10)$  m<sup>3</sup>/minute  
 According to the question,

$$\frac{1200}{x} - \frac{1200}{x+10} = 6$$

$$\frac{1200(x+10-x)}{x(x+10)} = 6$$

$$12000 = 6x(x+10)$$

$$2000 = x^2 + 10x$$

$$x^2 + 10x - 2000 = 0$$

$$x = 40, -50 \text{ (neglect negative)}$$

Therefore, the filling capacity of tank is 40 m<sup>3</sup>/minute

Hence, answer is option (b)

**Q 80. Ans: (d)**

We know that the cyclicity of 9 is 2:

$$9^1 = 9 \rightarrow \text{unit digit } 9$$

$$9^2 = 81 \rightarrow \text{unit digit } 1$$

According to the question,

$$\text{Unit digit of } 9^{95} = 9$$

$$\text{Unit digit of } 9^{58} = 1$$

$$\text{Unit digit of } (9^{95} - 9^{58}) = 9 - 1 = 8$$

Hence, answer is option (d)

# UPSC

## Mains Test Series 2026

अ Bilingual

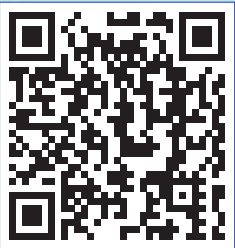
Offline & Online

20 Full Length Test

### Key Features

- Comprehensive Coverage of the Syllabus
- Questions are Prepared on Recent Trends of UPSC Examination
- Copy Evaluation with Detailed Feedback
- Model Answers PDF with Video Solution
- Compilation of Year-Long Current Affairs
- Mentorship with every Test

Starts From June 06



Scan to Know More

Offer Fee

₹ 4999/-

### Offline Centers

Prayagraj

8/8A, Tej Bahadur Sapru Road,  
Civil Lines, Prayagraj-211001

+91 9311 552 329

Azadpur

Ground Floor Azadpur Metro Station  
Gate No - 1

+91 9205 777 817

Karol Bagh

56/4, Ground Floor, Old Rajendra  
Nagar, New Delhi-110060

+91 9205 777 818

Patna

KGS Campus, Near Sai Mandir,  
Musallahpur Hat, Patna,  
Bihar-800006

+91 8757 354 880

Patna

2nd Floor, Kumar Tower, Boring  
Road Crossing Chauraha, Patna,  
Bihar-800001

+91 8757 354 880

