CSAT WALLAH

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Previous 10 Years' (2014-23) Solved Questions

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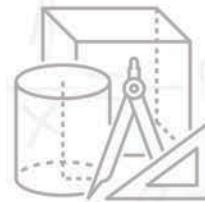
FEATURES

- Exam Trend Analysis
- Topic-wise Segregation
- Step-by-Step Solutions with Conceptual Clarity
- Detailed Explanations
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UPSC CSAT PYQs TREND ANALYSIS: 2014-2023

CIVIL SERVICES APTITUDE TEST (CSAT)

In the UPSC-CSE exam, the Civil Services Aptitude Test (CSAT) is the second paper of the preliminary stage. Unlike the first paper, which focuses on general studies, the CSAT paper is of qualifying nature, requiring candidates to score a minimum of 33% to pass.

Traditionally, many candidates have taken a more relaxed approach to preparing for the CSAT paper due to its qualifying nature. However, in recent years, there has been a noticeable increase in the difficulty level of the CSAT paper. This shift has prompted candidates to adopt a more serious and strategic approach to their CSAT preparation in order to meet the new challenges posed by the exam.

Exam Pattern of UPSC CSAT

Number of Questions	Total Marks	Qualifying Marks	Marks per Question	Negative Marking	Time Duration
80	200	66 (33%)	2.5	0.83 per wrong attempt	2 hours (2:30 PM-4:30 PM)

CHANGING NATURE OF UPSC CSAT FROM 2014 TO 2023

❑ This paper essentially aims to test the candidate's quantitative skills, logical-analytical ability and comprehension skills. It is observed that the nature of this paper has changed significantly from 2014 to 2023 both in terms of topics from which questions are asked and their difficulty level.

❑ Hence, it is of utmost importance for aspirants to understand the changing pattern so that they can prepare for the upcoming exam. We will analyse this change in nature based on two cornerstones:
- Variation in topics asked
- Variation in difficulty level

❑ The overall composition of the paper in terms of topics asked has remained the same except for a few changes. Interpersonal and communication skills are mentioned in the syllabus; but barring 2014; in which 2 questions were asked, it has not appeared in the question papers from 2015 to 2023. Not a single decision-making question has appeared in CSAT from 2014 to 2023 despite being separately mentioned in the syllabus.

For the rest of the topics/sections, we will examine detailed analysis in the following sections.

CSAT Yearwise Trend Analysis of Different Sections
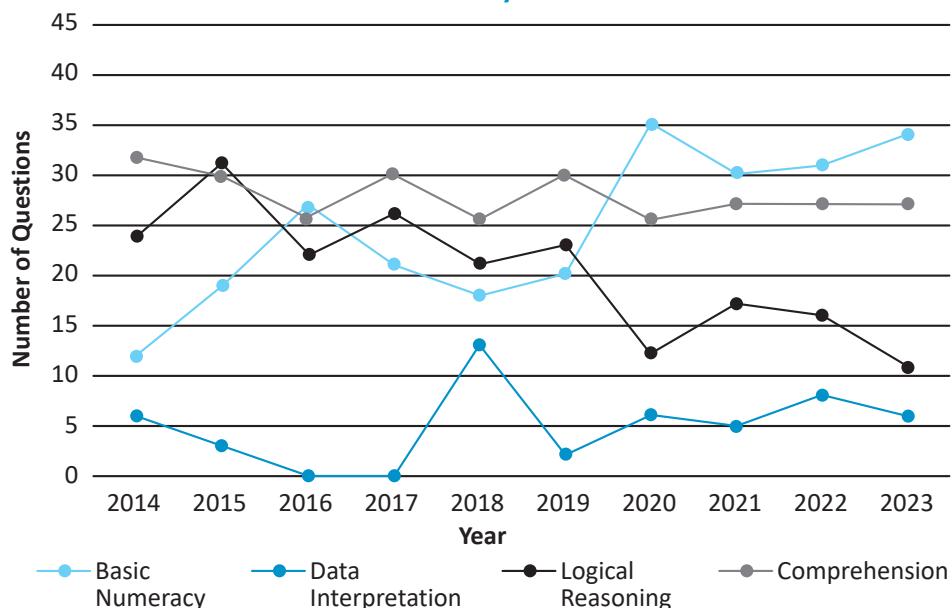
- However, during 2014-1018 questions were asked mainly from data interpretation, which has decreased significantly during 2019- 2023.
- Whereas not a single question of data sufficiency was asked during 2014- 2018 but during 2019-2023, data sufficiency questions were asked regularly without a miss.

Variation in Difficulty Level:

- Questions from this section have remained easy to moderate over the years. Data Interpretation questions have been easy, though it often involves lengthy calculations and contains lots of information.
- While questions from data sufficiency have remained moderate to difficult over the years.

Logical Reasoning

- Through various topics, it assesses a candidate's cognitive abilities such as logical and analytical reading and numerical ability.
- Spatial reasoning assesses candidates' ability to visualise and manipulate spatial relationships. This could involve tasks such as identifying patterns in shapes, completing sequences, or mentally rotating objects
- It is observed that rather than evaluating mathematical ability, this section evaluates how a candidate approaches the question; what different ways can a candidate think of while solving a problem. For example in Series, all different possible patterns should come up in your mind based on numbers or alphabets given in the series.
- Hence, it becomes all the more important to read the question with extra attention in this section. Also, more and more practice is required to cultivate your mind to think in different possible ways and ultimately select the quickest way to solve the problem.

Year Wise Questions Distribution across Topics

S.No	Topic	Difficulty	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
1	Series	Difficult	1	2	-	-	2	5	3	4	3	4
2	Coding & Decoding	Easy	-	-	1	1	2	1	2	2	2	1
3	Clock	Easy	1	1	-	2	-	1	-	1	2	-
4	Calendar	Moderate	-	1	-	1	-	2	1	1	1	1
5	Direction & Distance	Easy	2	2	3	3	-	2	1	2	1	-
6	Sitting Arrangement	Moderate	1	-	1	-	2	-	-	-	1	1
7	Blood Relation	Moderate	-	-	-	2	-	-	1	-	1	-
8	Ages	Easy	-	1	1	1	-	2	1	1	-	-
9	Ranking	Moderate	3	4	2	3	-	3	1	-	1	-
10	Puzzles	Difficult	7	3	9	6	6	-	-	1	1	1
11	Syllogism	Easy	-	1	-	1	-	-	2	3	3	-
12	Cube & Dice	Easy	-	-	1	1	4	2	-	-	-	1
13	Non-verbal & Visual Reasoning	Easy	4	2	-	-	3	-	-	1	-	-
14	Verbal & Analytical Reasoning	Difficult	4	8	3	5	-	-	-	-	-	-
15	Inequalities	Easy	-	1	1	-	1	3	-	-	-	2
16	Venn Diagram	Easy	1	5	-	-	1	2	-	1	-	-

Trend Analysis

Variation in Topics Asked:

- Yet another important component of CSAT, questions have appeared regularly from this section in the question paper. However, the number of questions asked from this section has decreased considerably from 2020.
- From 2014 to 2019, more than 20 questions have been asked from this section every year but during 2020 - 2023, only around 10-15 questions have been asked from this section.

CONTENTS

Reasoning

Basic Numeracy

Reading Comprehension

Mock Tests

Coding and Decoding

KEY CONCEPTS

Position of alphabets in forward order:

A	B	C	D	E	F	G	H	I	J	K	L	M
1	2	3	4	5	6	7	8	9	10	11	12	13

N	O	P	Q	R	S	T	U	V	W	X	Y	Z
14	15	16	17	18	19	20	21	22	23	24	25	26

Position of alphabets in backward order:

A	B	C	D	E	F	G	H	I	J	K	L	M
26	25	24	23	22	21	20	19	18	17	16	15	14

N	O	P	Q	R	S	T	U	V	W	X	Y	Z
13	12	11	10	9	8	7	6	5	4	3	2	1

- ❑ **Backward position of letter = 27 – forward position of letter.**
- ❑ **Opposite Letter Position = (26 – Forward Position of that letter) + 1**

Opposite Letters

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

Tricks to remember the position of Alphabet:

Remembering the position of each alphabet can be quite challenging, so we often create simple tricks to help us recall their place values easily. Some of them are discussed below:

Trick 1: CFILORUX and EJOTY Formula:

C	F	I	L	O	R	U	X
3	6	9	12	15	16	18	21

Things will become easier if you remember and use these formulas. In the 1st formula, we have the position values of C, F, I, L, O, R, U, and X, which are the multiples of THREE, which will make it easier to remember the position value of the alphabet in the forward direction

E	J	O	T	Y
5	10	15	20	25

The position values of E, J, O, T and Y, which are the multiples of FIVE.

Trick 2: To find the position value in reverse order, we can use the 1st formula by reversing the alphabet as shown in the figure below:

X	U	R	O	L	I	F	C
3	6	9	12	15	18	21	24

PREVIOUS YEAR QUESTIONS

1. The letters of the word "INCOMPREHENSIBILITIES" are arranged alphabetically in reverse order. How many positions of the letter/letters will remain unchanged? **(UPSC CSAT 2023)**

   (a) None
   (b) One
   (c) Two
   (d) Three

Ans: (c)

   Let us arrange the letters of the word "INCOMPREHENSIBILITIES" in reverse order, the resultant is: TSSRPONNMLIIIIIHEEECB

   Now, we can find the letters with unchanged positions.

I	N	C	O	M	P	R	E	H	E	N	S	I	B	I	L	I	T	I	E	S
T	S	S	R	P	O	N	N	M	L	I	I	I	I	I	H	E	E	E	C	B

   Thus, the position of only two I's remain unchanged.

2. If the order of the letters in the English alphabet is reversed and each letter represents the letter whose position it occupies, then which one of the following represents 'LUCKNOW'? **(UPSC CSAT 2022)**

   (a) OGXPMLD   (b) OGXQMLE
   (c) OFXPMLE   (d) OFXPMLD

Ans: (d)

   There are a total of 26 alphabets in english.

   Opposite Letter Position = (26 – Forward Position of that letter) + 1

   Opposite letters:

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

   For 'LUCKNOW' (using the table)

   Letter opposite to 'L' = (26 – 12) + 1 = 15 i.e O

   Letter opposite to 'U' = F

Letter opposite to 'C' = X
Letter opposite to 'K' = P
Letter opposite to 'N' = M
Letter opposite to 'O' = L
Letter opposite to 'W' = D
Required code = 'OFXPMLD'

3. **If 'ZERO' is written as 'CHUR', then how is 'PLAYER' written?** **(UPSC CSAT 2022)**
   (a) SOCACT
   (b) SODBGT
   (c) SODBHT
   (d) SODBHU

Ans: (d)

We can first analyse the relation between ZERO and CHUR

We can see that the pattern is adding 3 to the underlying alphabet no:

Original Letter	Operation	Coded Letter
Z	+3	C
E	+3	H
R	+3	U
O	+3	R

Similarly, the code PLAYER will be

Original Letter	Operation	Coded Letter
P	+3	S
L	+3	O
A	+3	D
Y	+3	B
E	+3	H
R	+3	U

4. **In the English alphabet, the first 4 letters are written in opposite order, and the next 4 letters are written in opposite order and so on; and at the end Y and Z are interchanged. Which will be the fourth letter to the right of the 13th letter?** **(UPSC CSAT 2021)**
   (a) N
   (b) T
   (c) H
   (d) I

Ans: (b)

The english alphabet when four letters grouped together is:

ABCD EFGH IJKL MNOP QRST UVWX YZ

As per the question, the letters are arranged as follows:

DCBA HGFE LKJI PONM TSRQ XWVU ZY

The 13th letter in this arrangement is 'P'.

And the 4th letter to the right of 'P' is 'T'.

5. **In a code language 'MATHEMATICS' is written as 'LBSIDNZUHDR'. How is CHEMISTRY' written in that code language?** **(UPSC CSAT 2021)**
   (a) DIDLHRSSX
   (b) BIDNHTSSX
   (c) BIDLHTSSX
   (d) DGFLIRUQZ

Ans: (b)

Original Letter	Operation	Coded Letter
M	−1	L
A	+1	B
T	−1	S
H	+1	I
E	−1	D
M	+1	N
A	−1	Z
T	+1	U
I	−1	H
C	+1	D
S	−1	R

Similarly,

Original Letter	Operation	Coded Letter
C	−1	B
H	+1	I
E	−1	D
M	+1	N
I	−1	H
S	+1	T
T	−1	S
R	+1	S
Y	−1	X

6. **What is the missing term @ in the following?**
   ACPQ : BESU : MNGI : @ **(UPSC CSAT 2020)**
   (a) NPJL
   (b) NOJM
   (c) NPIL
   (d) NPJM

Ans: (d)

We need to decipher the pattern in the first pair and then apply the same pattern in the second pair to find the answer.

The pattern in first pair (ACPQ : BESU) is as follows:

A + 1 = B, C + 2 = E, P + 3 = S, Q + 4 = U

So by applying the same logic on the second pair we will get:

M + 1 = N, N + 2 = P, G + 3 = J, I + 4 = M

So, @ = 'NPJM'

7. **The letters from A to Z are numbered from 1 to 26, respectively. If GHI = 1578 and DEF = 912, then what is ABC equal to?** **(UPSC CSAT 2020)**
   (a) 492
   (b) 468
   (c) 262
   (d) 246

Ans: (d)

When alphabets are numbered, then:

GHI = 789
DEF = 456
ABC = 123

Clock

POSITION OF CLOCK HANDS

The general formula to find the time when the minute and hour hands are t minutes apart between 'x' and (x + 1) o'clock is given by:

$$Time = \frac{(5x \pm t) \times 112}{11} \text{ minutes past 'x'}$$

Here, 'x' is the hour and 't' is the minute spacing between the hour and minute hand. The '+' sign is used when the minute hand is ahead, and the '−' sign is used when the hour hand is ahead.

	Angle between minute and hour hand will be 0°	Angle between minute and hour hand will be 90°	Angle between minute and hour hand will be 180°
In 12 hours period	11	22	11
In 24 hours period	22	44	22

❑ Angle between minute and hour hand at any point of time

$$= \left[\frac{11}{2} \times M - 30 \times H\right]$$

Here, M = minutes and H = hour

TIME GAINED OR LOST BY A CLOCK

If the minute hand goes ahead of the hour hand every 'x' minutes compared to the real time, then the clock is either

gaining or losing $\left[\left(\frac{720}{11} - x\right) \times \left(\frac{60 \times 24}{x}\right)\right]$ minutes each day.

Note:
If the result is (+ve) then clock gains and if the result is (-ve), then clock loses.

MIRROR/WATER IMAGE OF CLOCK

Mirror image of time = (11 hr : 60 min) − (Given time)

Example: If the time in a clock is 5 hr. 45 min. then what time does it show on the mirror?

Explanation: Mirror image of time

= (11 hr : 60 min) − (Given time)

= (11 hr : 60 min) − (5 hr : 45 min)

= 6 hr : 15 min

PREVIOUS YEAR QUESTIONS

1. **Consider the following statements:**

   I. Between 3:16 p.m. and 3:17 p.m., both hour hand and minute hand coincide.

   II. Between 4:58 p.m. and 4:59 p.m.. both minute hand and second hand coincide.

   Which of the above statements is/are correct?

   (UPSC CSAT 2022)

   (a) 1 only   (b) 2 only

   (c) Both 1 and 2   (d) Neither 1 nor 2

Ans: (c)

From statement 'I':

Since, the angle between minute and hour hand

$$= \frac{11}{2} \times M - 30 \times H$$

For minute and hour hand to coincide angle between then must be zero

Putting 'H' = 3 and angle = 0, we can find the value of the minute at which both minute and hour hands will concide

So, $\frac{11}{2} \times M - 30 \times 3 = 0$

So, M = $\frac{180}{11}$ ~ 16.36 which is between 16 and 17.

So, minute and hour hand will coincide between 3:16 and 3:17

Hence, statement I is correct.

From statement 'II':

At 4:58 p.m. the second hand is at 12.

In the next minute, the second will definitely cross the minute hand.

Thus, between 4:58 p.m. and 4:59 p.m. the minute hand and second hand will definitely coincide.

So, statement II is correct.

2. **How many seconds in total are there in 'x' weeks, 'x' days, 'x' hours, 'x' minutes and 'x' seconds?**

(UPSC CSAT 2022)

(a) 11580x (b) 11581x

(c) 694860x (d) 694861x

Ans: (d)

We know that

1 week = 7 Days

1 day = 24 hours

1 hour = 60 minutes

1 minute = 60 seconds

So, number of seconds in 'x' weeks

= 7 × 24 × 60 × 60 × x seconds = '604800x' seconds

So, number of seconds in 'x' days

= 24 × 60 × 60 × x seconds = '86400x' seconds

And, number of seconds in 'x' hours

= 60 × 60 × x seconds = '3600x' seconds

And, number of seconds in 'x' minutes

= 60 × x seconds = '60x' seconds

Therefore, total seconds in 'x' weeks, 'x' days, 'x' hours, 'x' minutes and 'x' seconds = 604800x + 86400x + 3600x + 60x + x = 694861x

3. **At which one of the following times, do the hour hand and the minute hand of the clock make an angle of 180° with each other?** **(UPSC CSAT 2021)**

(a) At 7:00 hours

(b) Between 7:00 hours and 7:05 hours

(c) At 7:05 hours

(d) Between 7:05 hours and 7:10 hours

Ans: (d)

Since, the angle between minute and hour hand

$= \dfrac{11}{2} \times M - 30 \times H$

Here, the angle between minute and hour hand is 180 and H = 7

Putting 'H' = 3 and angle = 180, we can find the value of 'M'

So, $\dfrac{11}{2} \times M - 30 \times 7 = \pm 180$

Or, M ~ 5.45 or 70.9

So, the minute and hour hand will be 180 degree apart at 7 hours 5.45 minutes i.e. between 7:05 and 7:10

4. **A wall clock moves 10 minutes fast in every 24 hours. The clock was set right to show the correct time at 8:00 a.m. on Monday. When the clock shows the time 6:00 p.m. on Wednesday, what is the correct time?**

(UPSC CSAT 2019)

(a) 5:36 p.m. (b) 5:30 p.m.

(c) 5:24 p.m. (d) 5:18 p.m.

Ans: (a)

In 24 hours, the correct clock moves 24 × 60 = 1440 minutes, but the incorrect clock will move 1440 + 10 = 1450 minutes

Now according to the condition given in question, the faulty clock has moved 24 (form Monday) + 24 (For Tuesday) + 10 (For wednesday) = 58 hours

Thus the faulty clock has moved = 58 × 60 = 3480 minutes.

So, if the faulty clock moved 3480 minutes, the correct clock will have moved $\dfrac{(1440 \times 3480)}{1450}$ = 3456 minutes.

Converting 3456 minutes into hours we have $\left(\dfrac{3456}{60}\right)$

= 57 hours 36 minutes.

So, 57 hours 36 minutes from 8:00 am on Monday will be 5:36 p.m. on Wednesday

Alternate Method:

Since, the clock gains 10 minutes in 1 day or 24 hours

And, total hours between 8:00 am on Monday and 6:00 p.m. on Wednesday = 24 + 24 + 10 = 58 hours

So, number of minutes gained in 58 hours

$= \dfrac{10}{24} \times 58$ ~ 24 minutes

So, the correct time is = 6:00 p.m. – 24 minutes

= 5:36 p.m.

5. **A watch loses 2 minutes in every 24 hours while another watch gains 2 minutes, in 24 hours. At a particular instant, the two watches showed an identical time. Which of the following statements is correct if the 24-hour clock is followed?**

(UPSC CSAT 2017)

(a) The two watches show the identical time again on completion of 30 days.

(b) The two watches show the identical time again on completion of 90 days.

(c) The two watches show the identical time again on completion of 120 days.

(d) None of the above statements are correct.

Ans: (d)

One watch loses 2 minutes while another watch gains 2 minutes in every 24 hours.

So, the time difference between the two watches will increase by 4 minutes/day.

Both clocks will show the same identical time again when the time difference = 24 hours

i.e. 24 × 60 = 1440 minutes

Number of days it will take for the time difference to be 24 hours i.e., 1440 minutes = $\left(\dfrac{1440}{4}\right)$ = 360 days

Mock Test

Questions

Directions for the following three items (1 to 3).

Read the following passages and answer the items that follow the passages. Your answer to these items should be based on the passage only.

Passage

The Supreme Court of India, in a landmark move, has directed the Election Commission of India (ECI) to submit detailed data on electoral bond contributions received by all political parties till September 30, 2023. This order comes amidst ongoing petitions challenging the opacity of the electoral bond scheme, which allows anonymous donations to political parties through bearer instruments. The petitioners argue that the scheme undermines transparency and accountability in election funding, potentially facilitating undue corporate influence and money laundering. The ECI has been tasked with providing information on the amount, source, and recipient of each electoral bond transaction, raising hopes for a clearer picture of political party finances. The Supreme Court's decision is expected to have a significant impact on the future of electoral funding in India.

1. **Which of the following statements best summarizes the central theme of the passage?**
   (*a*) The Supreme Court has declared the electoral bond scheme unconstitutional.
   (*b*) The ECI has been mandated to disclose the identities of all electoral bond donors.
   (*c*) The Supreme Court is investigating potential misuse of electoral bonds by political parties.
   (*d*) Concerns about transparency and corporate influence have led to increased scrutiny of electoral bond funding.

Passage

In a significant move aimed at nurturing a politically aware citizenry, the Ministry of Education (MoE) and the Election Commission of India (ECI) have joined forces through a Memorandum of Understanding (MoU). This collaborative effort seeks to integrate electoral literacy into the fabric of India's education system, starting from school to college levels. The MoU envisions the development of age-appropriate curriculum materials, capacity-building programs for educators, and engaging awareness campaigns to equip students with the knowledge and skills needed to make informed electoral choices. This initiative holds the potential to empower future generations with a deep understanding of their democratic rights and responsibilities, laying the groundwork for a more informed and engaged electorate.

2. **What is the most likely long-term consequence of the MoU?**
   (*a*) A significant increase in voter turnout in upcoming elections.
   (*b*) A rise in the number of politically active youth organizations.
   (*c*) A noticeable shift in voting patterns based on ideological considerations.
   (*d*) A gradual strengthening of democratic values and responsible political participation.

Passage

Across India, a growing number of bills passed by state legislatures are languishing in the hands of governors, stoking concerns about political interference and legislative paralysis. As of December 2023, over 200 bills await gubernatorial assent, spanning diverse issues

like education reform, environmental protection, and economic policy. This backlog has sparked accusations of partisan bias, with critics alleging that governors are selectively delaying bills based on their alignment with the ruling party at the center. Supporters, however, argue that the governors are exercising their constitutional prerogative to scrutinize bills for legal and policy inconsistencies, ensuring they align with national interests. This tug-of-war between political expediency and constitutional duty has created an unsettling impasse, leaving crucial legislation in limbo and hampering the smooth functioning of state governments.

3. **In the context of the passage, the most logical and rational message to convey to governors would be:**
   (*a*) Act swiftly and approve all pending bills to avoid legislative stagnation.
   (*b*) Prioritize bills based on their economic and social impact, regardless of political affiliations.
   (*c*) Apply a transparent and consistent set of criteria for reviewing and approving bills.
   (*d*) Seek clarification from the centre on any concerns before granting assent to potentially controversial bills.

(*c*) Local communities directly dependent on coral reefs will readily embrace and actively participate in conservation efforts.

(*d*) International cooperation and the sharing of best practices across countries will play a critical role in achieving the set goals.

Passage

The Coalition for Disaster-Resilient Infrastructure (CDRI) released its latest biennial report, "Capturing the Resilience Dividend," emphasizing the pivotal role of resilient infrastructure in establishing a sustainable and secure future. The report illustrates the "resilience dividend," showcasing economic, social, and environmental benefits derived from investments in disaster-resistant infrastructure. Through case studies, it demonstrates how resilient infrastructure saves lives and sustains livelihoods during natural hazards, such as earthquake-resistant buildings in Nepal reducing fatalities in the 2015 earthquake. Beyond immediate disaster response, the report emphasizes the lasting benefits of a resilient approach, attracting investment, promoting economic growth, and fostering social stability. While acknowledging challenges like high upfront costs and a lack of awareness, the report advocates for innovative financing, knowledge-sharing platforms, and capacity-building initiatives. Collaboration among governments, businesses, and civil society is deemed crucial to accelerate the adoption of resilient infrastructure solutions. The core message is clear: investing in resilient infrastructure is not solely about disaster preparedness; it's about securing a thriving future. Prioritizing resilience can protect lives and communities, unlock economic opportunities, and contribute to a more sustainable and equitable world. The CDRI report calls decision-makers to action, urging them to embrace the "resilience dividend" and lead towards a future where infrastructure safeguards, rather than threatens, our well-being.

33. **Based on the passage, which of the following assumptions best underpins the CDRI report's argument for prioritizing resilient infrastructure?**

(*a*) The economic benefits of resilient infrastructure, particularly in attracting investment and promoting growth, will automatically outweigh the initial higher costs.

(*b*) Public awareness campaigns and education initiatives alone will be sufficient to overcome the existing knowledge gap and drive widespread adoption of resilient practices.

(*c*) Technological advancements in construction materials and disaster prediction systems will render the risks associated with natural hazards negligible in the long run.

(*d*) Investing in resilient infrastructure is a strategic imperative for achieving sustainable development goals and creating a future resilient to climate change and other global challenges.

Passage

The Sunderban, the world's largest mangrove forest, faces an imminent ecological crisis due to rising sea levels, erosion, and diminishing landmass, exacerbated by climate change. India's recent appeal to designate the Sunderban as a Global Common emphasizes the urgency of preserving this vital ecosystem that transcends national boundaries. The consequences of the Sunderban's decline extend globally, affecting biodiversity, ecosystem services, and vulnerable communities. Home to endangered species like the Royal Bengal tiger and saltwater crocodile, the Sunderban's mangrove roots act as a natural barrier against rising sea levels, offering protection from cyclones and storm surges. Despite these attributes, the ecosystem is losing ground to climate change, with erosion at a concerning rate of 4 km² per year and salinization threatening to transform the delta into a wasteland. Recognizing the Sundarban as a Global Common goes beyond symbolism; it signifies a collective responsibility to preserve this irreplaceable ecosystem for the benefit of all. Granting this status commits the international community to mobilize resources, expertise, and global cooperation to combat the forces jeopardizing its existence. The Sunderban's crisis is not confined by national borders, and its fate is linked to the planet's well-being. India's plea serves as a call to action, urging global collaboration to protect this crucial global common. Addressing this challenge demonstrates a commitment to safeguarding the natural world and securing a sustainable future for generations to come.

34. **The most likely message conveyed by the author of the passage regarding the Sunderban is:**

(*a*) India's unilateral efforts are sufficient to address the Sunderban's climate-induced challenges, and international recognition is unnecessary.

(*b*) While acknowledging the critical role of the Sunderban, the author primarily advocates for technological solutions and local community adaptation programs.

(*c*) Granting the Sunderban Global Common status is crucial for mobilizing international resources and expertise to prevent its ecosystem.

(*d*) The Sunderban crisis is primarily a consequence of local mismanagement and unsustainable resource utilization, requiring internal policy reforms within India.

Passage

The seemingly inconspicuous cement industry wields a substantial impact, responsible for a staggering 7% of the global carbon footprint. From limestone extraction to clinker production, its operations emit significant greenhouse gasses, contributing significantly to climate change. Decarbonizing this industry is not merely an ambitious goal; it is a fundamental necessity for a sustainable future. Cement,

Passage

In the arena of India's international relations, the delicate balance between national security and strategic autonomy is paramount. As elucidated by External Affairs Minister, Sushma Swaraj, the pursuit of strategic autonomy does not imply isolationism; rather, it reflects a proactive engagement that safeguards national interests. The evolving global landscape necessitates a nuanced approach where India maintains its autonomy while actively participating in collaborative efforts. Swaraj asserts that a secure nation is one that strategically navigates the international arena, protecting its interests while contributing to global stability.

63. **Which of the following is the most valid assumption that underpins the argument of the passage?**

(*a*) Pursuing strategic autonomy implies a shift away from isolationism in India's international relations.

(*b*) Collaborative efforts in the international arena compromise India's national security.

(*c*) Sushma Swaraj advocates for an strategic autonomous approach in India's international relations.

(*d*) India's national security can be effectively safeguarded through proactive engagement and strategic autonomy.

Passage

To truly dismantle the roots of violent extremism, we must dismantle the systems of inequality and exclusion that breed it. When women are systematically marginalised, denied education, and subject to discrimination, their vulnerability to exploitation by extremist groups increases. By prioritising gender equality and empowering women through access to education, economic opportunities, and political participation, we build resilient communities less susceptible to the allure of hate and violence. True security doesn't come from walls and weapons, but from building a world where everyone, regardless of gender, has the power to build a peaceful and prosperous future.

64. **What is the most crucial message conveyed by the passage about countering terrorism?**

(*a*) The primary strategy for combating terrorism should be military intervention and increased security measures, with gender equality playing a supporting role.

(*b*) Addressing gender inequality through economic empowerment is influential in preventing women from being influenced by terrorist groups.

(*c*) Countering terrorism effectively requires a comprehensive approach that prioritises empowering women and dismantling systems of inequality as a fundamental preventative measure.

(*d*) While ensuring women's rights is important, addressing broader socio-economic inequalities holds the ultimate key to eliminating the appeal of extremism.

65. **If $M + N = 36$, then which of the following statements must be true?**

Statement I: Both M and N must be positive.

Statement II: If M is positive, N must be negative.

Statement III: If M is negative, N must be positive.

Select the correct answer using the code given below.

(*a*) Only I and II   (*b*) Only II

(*c*) Only III   (*d*) Only II and III

66. **Two number series I and II, have missing numbers P, and Q respectively, given below. You are expected to solve them and answer the questions accordingly.**

Series I: 50, 75, (P), 147, -22, 267

Series II: 24, 22, 42, (Q), 226, 615

Which of the following statement(s) is/are definitely true.

I. Highest Common Factor of ($P + 1$) and Q is 3.

II. ($Q - 12$) is a perfect square.

III. ($P + Q + 1$) is exactly divisible by 6.

(*a*) II Only

(*b*) II and III Only

(*c*) I and III Only

(*d*) I, II and III

67. **M and N are two different prime numbers, both greater than 2, then which of the following must be true?**

(*a*) $M = N$ (*b*) $M - N = 23$

(*c*) $N = 43 + M$ (*d*) $M + N \neq 87$

Directions for the following two items (68 and 69).

Answer the questions based on the information given below.

Given below is the information regarding the number of shoes in five different shops: '*A*', '*B*', '*C*', '*D*' and '*E*'.

Note: Total number of shoes in each shop = number of rubber shoes + number of leather shoes.

■ Number of rubber shoes   ▨ Number of leather shoes
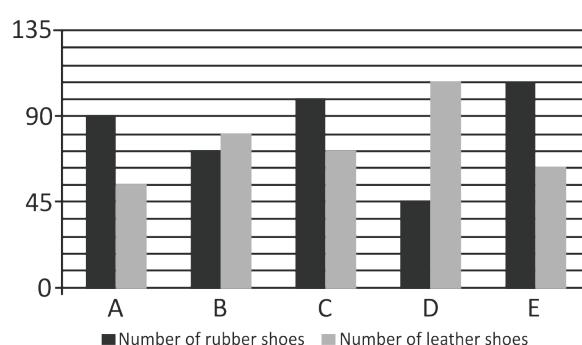
68. **What is the ratio of the number of rubber shoes in shops '*A*' and '*C*' together to the number of leather shoes in shops '*C*' and '*D*' together?**

(*a*) 21 : 20   (*b*) 17 : 22

(*c*) 21 : 17   (*d*) 22 : 17

75. In the given table, which option will replace the question mark?

4A	6C	2E
6P	13R	7T
8N	10P	?

(a) 2T

(b) 2R

(c) 4T

(d) 4R

76. 4 years ago, the ratio of the ages of *P* and *Q* was 5: 6. Four years hence the ratio of the ages of *P* and *Q* will be 7: 8. If at present *R* is 8 years younger than *Q*, then what will be the ratio of the present age of *P* to *R*?

(a) 4: 5

(b) 7: 2

(c) 7: 4

(d) 6: 5

77. While going for the school, Aubrey has different choices for his clothing. He has 3 pairs of shoes, 4 pants, 3 half-pants, 6 shirts, 3 sweaters and 2 jackets. The outfit is defined as consisting of a pair of shoes, a choice of "lower wear "(either a pant or a half-pant), a choice of "upper wear" (it could be a shirt or a sweater or both) and finally he may or may not choose to wear a jacket. How many different outfits are possible?

(a) 647

(b) 1892

(c) 746

(d) 1701

78. 10 men can do a work in 6 days; 8 women can do it in 7 days, and 12 children can do the same work in 10 days. Then find the ratio of the efficiency of a man, a woman, and a child, respectively?

(a) 13: 15: 7

(b) 13: 15: 9

(c) 14: 15: 9

(d) 14: 15: 7

79. Ram travels 500 km to his home partly by cab and partly by train. It takes him 10 hours and 50 minutes, if he travels 200 km by train and rest by cab and he takes 20 min more if he travels 160 km by Train and the rest by Cab. Then find the speed of the cab in km/hr.

(a) 30 km/hr

(b) 40 km/hr

(c) 50 km/hr

(d) 45 km/hr

80. The average score of a group of students in a test was 70. The brightest 20% of them secured an average of 80 and the dullest 25% secured an average score of 30. Then find the average score of the remaining 55% students.

(a) 84.54

(b) 83.50

(c) 85.60

(d) 86.34

ANSWERS

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

EXPLANATIONS

1. (*d*)

Explanation:

While the passage mentions the Supreme Court's order and the petitioners' concerns, it does not explicitly state any definitive conclusions or actions.

Option (*a*) is incorrect as the passage only mentions scrutiny, not a final verdict.

Option (*b*) is inaccurate as ECI has been mandated to provide various information about electoral bonds and not to disclose identities of donors.

Option (*c*) is partially correct but lacks the broader context of transparency and corporate influence.

Therefore, option (*d*) best captures the central theme by highlighting the key issues mentioned in passage such as transparency and accountability in election funding and clarity in political finance.

Hence, option (*d*) is correct.

2. (*d*)

Explanation:

While the MoU may indirectly influence voter turnout (*a*), youth activism and organizations (*b*), or even voting patterns based on ideological consideration (*c*); these are not its primary or guaranteed outcomes as discussed in the passage.

Option (*d*) best captures the long–term vision of the MoU, which is to cultivate a generation of responsible and informed citizens actively engaged in

the democratic process. This option emphasizes the deeper impact on democratic values and responsible participation, aligning with the passage's focus on electoral literacy education.

Hence, option (*d*) is correct.

3. (*c*)

Explanation:

While options (*a*) and (*b*) advocate for specific actions, they lack the nuance required in a complex political situation which is maintaining balance between constitutional prerogative to scrutinize bills and allegations on governors of aligning with the ruling party at the center. So, option (*a*) and (*b*) are incorrect.

Option (*d*) implies deferring to the center, potentially compromising the governor's constitutional role, which may amplify accusations of partisan bias. So, (*d*) is incorrect.

Option (*c*) best captures the essence of the passage's concerns. It emphasizes transparency, consistency, and adherence to legal and policy considerations, which are crucial for governors to fulfill their constitutional duty while minimizing accusations of bias. This option encourages a balanced approach, ensuring responsible and effective utilization of the governor's power to review and approve bills.

Hence, option (*c*) is correct.

4. (*a*)

Explanation:

Length of the new rectangle, L2 is '27*x*'

Breadth of the new rectangle, B2 is '12*x*'

27*x* × 12*x* = 324

324*x*² = 324

x = 1

Length of the new rectangle, L2= 27m

Breadth of the new rectangle, B2 = 12m

For older rectangle,

L1 = 27 × $\dfrac{7}{9}$ =21m

B1 = 12 × $\dfrac{4}{3}$ =16m

For cylinder,

Radius, *r* = 12m

Height, *h* = 21m

Volume = π*r*²*h*

V = $\dfrac{22}{7}$ × 12 × 12 × 21 = 9504m³

Hence, option (*a*) is correct.

5. (*c*)

Explanation:

Let pipe B fill the tank in 7.5 minutes.

Pipe A fills the tank in 15 minutes.

Let the total capacity of tank is 60 liters.

Efficiency of pipe A = 4

Efficiency of pipe B = 8

Efficiency of pipe C = 2

Required time = $\dfrac{60 - (8 \times 4) + (5 \times 2)}{8 + 4}$

= $\dfrac{38}{12}$ = 3.167 minutes

Hence, option (*c*) is correct.

6. (*d*)

Explanation:

According to question,

$\dfrac{D + 500}{\dfrac{5D}{2}} = \dfrac{D - 100}{D}$

3D = 1500

So, value of D = 500

Now, length of another train = 2D = 2 × 500 = 1000 meters

Speed of train in m/s = 72 x $\dfrac{5}{18}$ = 20 m/s

Required time = $\dfrac{1000 + 350}{20}$ = 67.50 seconds

Hence, option (*d*) is correct.

7. (*c*)

Explanation:

Let as assume the total voters = 500*x*

Voters promised vote for A = 500*x* × 60% = 300*x*

Voters promised vote for B = 500*x* × 40% = 200*x*

According to question,

For A,

300*x* × $\dfrac{85}{100}$ = 255*x*

Voters who promised to vote for A and went back from their promise:

= 300*x* − 255*x* = 45*x*

For B, genuine voters:

200*x* × $\dfrac{82}{100}$ = 164*x*

Now,

255*x* − 164*x* − 45*x* = 1380

46*x* = 1380

x = 30

So, 500*x* = 15000

Total number of voters = 15000

Hence, option (*c*) is correct.

8. (*b*)

Explanation:

Suppose;

Present age of Ram = 7*a* + 4

Present age of Sam = 5*a* + 4

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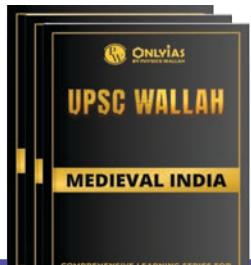
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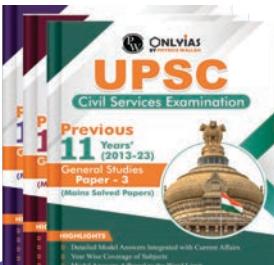
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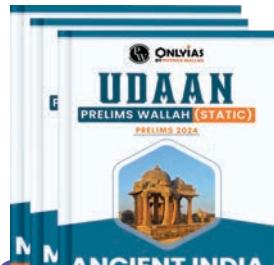
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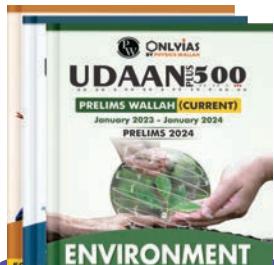
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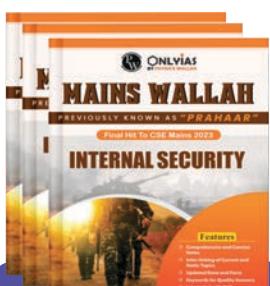
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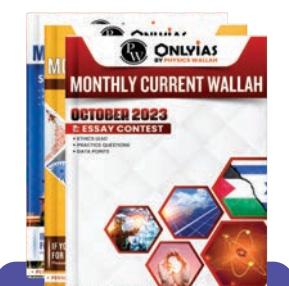
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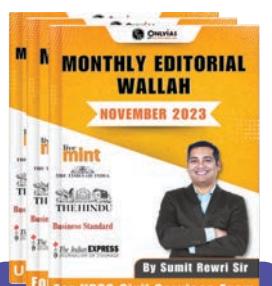
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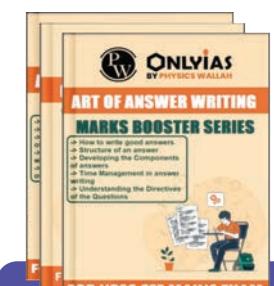
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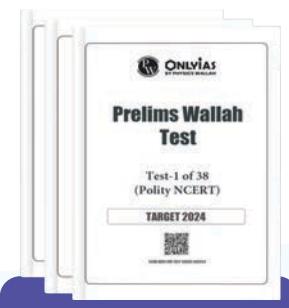
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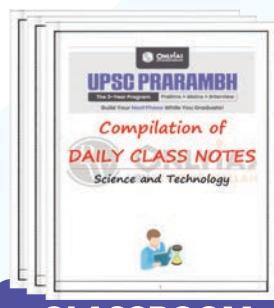
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