

ungist

PRELIMS 2025



Ram Mohan Pandey

NUMBER SYSTEM

CSAT (GS PAPER II)

PREVIOUS YEAR QUESTIONS

with

ANSWER KEY

2011-2024

CSAT

CLASSROOM
PROGRAMME

LIVE-ONLINE | OFFLINE | HYBRID

for

PRELIMS 2025

Registration Open



9613-19-20-21



ungist.com



t.me/UNGIST



@UNGISTIAS



ORN, NEW DELHI



9613-19-20-21

ungist

Last Batch *for*

CSAT 2025

ONLINE | OFFLINE

Closely Aligned to UPSC Trends

100 DAYS
FOUNDATION PROGRAM

4 DAYS A WEEK
Monday to Thursday

- Quantitative Aptitude
- Logical Reasoning
- Data Interpretation
- Reading Comprehension

**ENROLL
NOW**

Included

- CSAT Practice Book, Third Edition
- 26 Tests (Mocks, Topic-wise & Sectional)



BATCH STARTS:



10TH February 2025

RAM MOHAN PANDEY

M.Sc. Mathematics, IIT Roorkee

- More than 10 years of teaching experience
- Trained more than 15K Aspirants



ungist.com



t.me/UNGIST



[@UNGISTIAS](https://www.youtube.com/@UNGISTIAS)



ORN, NEW DELHI

Previous Year Questions

Numbers

1. A gardener has 1000 plants. He wants to plant them in such a way that the number of rows and the number of columns remains the same. What is the minimum number of plants that he needs more for this purpose ?
(a) 14 (b) 24
(c) 32 (d) 34 [CSAT 2013]
2. A person is standing on the first step from the bottom of a ladder. If he has to climb 4 more steps to reach exactly the middle step, how many steps does the ladder have ?
(a) 8 (b) 9
(c) 10 (d) 11 [CSAT 2016]
3. There are some nectar-filled flowers on a tree and some bees are hovering on it. If one bee lands on each, flower, one bee will be left out. If two bees land on each flower, one flower will be left out. The number of flowers and bees respectively are
(a) 2 and 4 (b) 3 and 2
(c) 3 and 4 (d) 4 and 3 [CSAT 2016]
4. In aid of charity, every student in a class contributes as many rupees as the number of students in that class. With the additional contribution of Rs. 2 by one student only, the total collection is Rs. 443. Then how many students are there in the class ?
(a) 12
(b) 21
(c) 43
(d) 45 [CSAT 2016]
5. How many numbers are there between 100 and 300 which either begin with or end with 2 ?
(a) 110
(b) 111
(c) 112
(d) None of the above [CSAT 2016]
6. How many numbers are there between 99 and 1000 such that the digit 8 occupies the units place ?
(a) 64 (b) 80
(c) 90 (d) 104 [CSAT 2017]
7. The age of Mr. X last year was the square of a number and it would be the cube of a number next year. What is the least number of years he must wait for his age to become the cube of a number again ?
(a) 42 (b) 38
(c) 25 (d) 16 [CSAT 2017]
8. If X is between -3 and -1 , and Y is between -1 and 1 , then $X^2 - Y^2$ is in between which of the following ?
(a) -9 and 1 (b) -9 and -1
(c) 0 and 8 (d) 0 and 9 [CSAT 2018]
9. X and Y are natural numbers other than 1 , and Y is greater than X . Which of the following represents the largest number ?
(a) XY
(b) X/Y
(c) Y/X
(d) $(X + Y)/XY$ [CSAT 2018]

10. If $x - y = 8$, then which of the following must be true ?

1. Both x and y must be positive for any value of x and y .
2. If x is positive, y must be negative for any value of x and y .
3. If x is negative, y must be positive for any value of x and y .

Select the correct answer using the code given below.

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

[CSAT 2018]

11. The number of times the digit 5 will appear while writing the integers from 1 to 1000 is

- (a) 269
- (b) 271
- (c) 300
- (d) 302

[CSAT 2019]

12. In a conference, out of a total 100 participants, 70 are Indians. If 60 of the total participants are vegetarian, then which of the following statements is/are correct ?

1. At least 30 Indian participants are vegetarian.
2. At least 10 Indian participants are non-vegetarian.

Select the correct answer using the codes given below:

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

[CSAT 2019]

13. In a school, 60% students play cricket. A student who does not play cricket, plays football. Every football player has got a two-wheeler. Which of the following conclusions cannot be drawn from the above data ?

1. 60% of the students do not have two-wheelers.
2. No cricketer has a two-wheeler.

3. Cricket players do not play football.

Select the correct answer using the code given below:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

[CSAT 2019]

14. If x is greater than or equal to 25 and y is less than or equal to 40, then which one of the following is always correct ?

- (a) x is greater than y
- (b) $(y - x)$ is greater than 15
- (c) $(y - x)$ is less than or equal to 15
- (d) $(x + y)$ is greater than or equal to 65

[CSAT 2019]

15. If the numerator and denominator of a proper fraction are increased by the same positive quantity which is greater than zero, the resulting fraction is

- (a) always less than the original fraction
- (b) always greater than the original fraction
- (c) always equal to the original fraction
- (d) such that nothing can be claimed definitely

[CSAT 2019]

16. Consider two statements S1 and S2 followed by a question:

S1: p and q both are prime numbers.

S2: $p + q$ is an odd integer.

Question: Is pq an odd integer ?

Which one of the following is correct ?

- (a) S1 alone is sufficient to answer the question
- (b) S2 alone is sufficient to answer the question
- (c) Both S1 and S2 taken together are not sufficient to answer the question
- (d) Both S1 and S2 are necessary to answer the question

[CSAT 2019]

17. Number 136 is added to $5B7$ and the sum obtained is $7A3$, where A and B are integers. It is given that $7A3$ is exactly divisible by 3. The only possible value of B is
(a) 2 (b) 5
(c) 7 (d) 8 [CSAT 2019]
18. Let XYZ be a 3-digit number, where $(X + Y + Z)$ is not a multiple of 3. Then $(XYZ + YZX + ZXY)$ is not divisible by
(a) 3 (b) 9
(c) 37 (d) $(X + Y + Z)$
[CSAT 2020]
19. Consider all 3-digit number (without repetition of digits) obtained using three non-zero digits, which are multiples of 3. Let S be their sum. Which of the following is/are correct?
1. S is always divisible by 74.
2. S is always divisible by 9.
Select the correct answer using the code given below:
(a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
[CSAT 2021]
20. Let A , B and C represent distinct non-zero digits. Suppose x is the sum of all possible 3-digit numbers formed by A , B and C without repetition. Consider the following statements:
1. The 4-digit least value of x is 1332.
2. The 3-digit greatest value of x is 888.
Which of the above statements is/are correct?
(a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
[CSAT 2022]
21. Let p , q , r and s be natural numbers such that
 $p - 2016 = q + 2017 = r - 2018 = s + 2019$
Which one of the following is the largest natural number?
(a) p
(b) q
(c) r
(d) s [CSAT 2020]
22. Two Statements $S1$ and $S2$ are given below followed by a Question:
 $S1$: There are not more than two figures on any page of a 51-page book.
 $S2$: There is at least one figure on every page.
Question: Are there more than 100 figures in that book?
Which one of the following is correct in respect of the above Statements and the Question?
(a) Both $S1$ and $S2$ are sufficient to answer the Question, but neither $S1$ alone nor $S2$ alone is sufficient to answer the Question.
(b) $S1$ alone is sufficient to answer the Question.
(c) $S1$ and $S2$ together are not sufficient to answer the Question.
(d) $S2$ alone is sufficient to answer the Question. [CSAT 2020]

23. Two Statements S1 and S2 are given below followed by a Question:

S1: n is a prime number.

S2: n leaves a remainder of 1 when divided by 4.

Question: If n is a unique natural number between 10 and 20, then what is n ?

Which one of the following is correct in respect of the above Statements and the Question?

- (a) S1 alone is sufficient to answer the Question.
- (b) S2 alone is sufficient to answer the Question.
- (c) S1 and S2 together are sufficient to answer the Question, but neither S1 alone nor S2 alone is sufficient to answer the Question.
- (d) S1 and S2 together are not sufficient to answer the Question.

[CSAT 2020]

24. Two Statements S1 and S2 are given below with regard to two numbers followed by a Question:

S1: Their product is 21.

S2: Their sum is 10.

Question: What are the two numbers?

Which one of the following is correct in respect of the above Statements and the Question?

- (a) S1 alone is sufficient to answer the Question.
- (b) S2 alone is sufficient to answer the Question.
- (c) S1 and S2 together are sufficient to answer the Question, but neither S1 alone nor S2 alone is sufficient to answer the Question.
- (d) S1 and S2 together are not sufficient to answer the Question.

[CSAT 2020]

25. How many integers are there between 1 and 100 which have 4 as a digit but are not divisible by 4?

- (a) 5
- (b) 11
- (c) 12
- (d) 13 [CSAT 2020]

26. The recurring decimal representation 1.272727... is equivalent to

- (a) $\frac{13}{11}$
- (b) $\frac{14}{11}$
- (c) $\frac{127}{99}$
- (d) $\frac{137}{99}$ [CSAT 2020]

27. For what value of n , the sum of digits in the number $(10^n + 1)$ is 2?

- (a) For $n = 0$ only
- (b) For any whole number n
- (c) For any positive integer n only
- (d) For any real number n [CSAT 2020]

28. How many pairs of natural numbers are there such that the difference of whose squares is 63?

- (a) 3
- (b) 4
- (c) 5
- (d) 2 [CSAT 2020]

29. Which one of the following will have minimum change in its value if 5 is added to both numerator and the denominator of the fractions $\frac{2}{3}$, $\frac{3}{4}$, $\frac{4}{5}$ and $\frac{5}{6}$?

- (a) $\frac{2}{3}$
- (b) $\frac{3}{4}$
- (c) $\frac{4}{5}$
- (d) $\frac{5}{6}$ [CSAT 2020]

30. Integers are listed from 700 to 1000. In how many integers is the sum of the digits 10 ?
(a) 6
(b) 7
(c) 8
(d) 9 [CSAT 2021]
31. Half of the villagers of a certain village have their own houses. One-fifth of the villagers cultivate paddy. One-third of the villagers are literate. Four-fifth of the villagers are under 25 years of age. Which one of the following statements is certainly correct ?
(a) All the villagers who have their own houses are literate.
(b) Some villagers under 25 years of age are literate.
(c) Only half of the villagers who cultivate paddy are literate.
(d) No villager under 25 years of age has his own house.
[CSAT 2021]
32. Consider the following addition problem:
 $3P + 4P + PP + PP = RQ2$; where P , Q and R are different digits.
What is the arithmetic mean of all such possible sums ?
(a) 102
(b) 120
(c) 202
(d) 220 [CSAT 2021]
33. Consider the following multiplication problem:
 $(PQ) \times 3 = RQQ$, where P , Q and R are different digits and $R \neq 0$.
What is the value of $(P + R) \div Q$?
(a) 1
(b) 2
(c) 5
(d) Cannot be determined due to insufficient data.
[CSAT 2021]
34. Consider the following statements:
1. The sum of 5 consecutive integers can be 100.
2. The product of three consecutive natural numbers can be equal to their sum.
Which of the above statements is/are correct ?
(a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
[CSAT 2021]
35. The sum of three consecutive integers is equal to their product. How many such possibilities are there ?
(a) Only one
(b) Only two
(c) Only three
(d) No such possibility is there [CSAT 2022]
36. When a certain number is multiplied by 7, the product entirely comprises ones only (1111...). What is the smallest such number ?
(a) 15713 (b) 15723
(c) 15783 (d) 15873
[CSAT 2021]
37. An Identity Card has the number $ABCDEFG$, not necessarily in that order, where each letter represents a distinct digit (1, 2, 4, 5, 7, 8, 9 only). The number is divisible by 9. After deleting the first digit from the right, the resulting number is divisible by 6. After deleting two digits from the right of original number, the resulting number is divisible by 5. After deleting three digits from the right of original number, the resulting number is divisible by 4. After deleting four digits from the right of original number, the resulting number is divisible by 3. After deleting five digits from the right of original number, the resulting number is divisible by 2. Which of the following is a possible value for the sum of the middle three digits of the number ?
(a) 8 (b) 9
(c) 11 (d) 12 [CSAT 2022]

38. Consider the Question and two Statements given below:

Question: Is x an integer ?

Statement-1: $\frac{x}{3}$ is not an integer.

Statement-2: $3x$ is an integer.

Which one of the following is correct in respect of the Question and the Statements ?

- (a) Statement-1 alone is sufficient to answer the Question.
- (b) Statement-2 alone is sufficient to answer the Question.
- (c) Both Statement-1 and Statement-2 are sufficient to answer the Question.
- (d) Both Statement-1 and Statement-2 are not sufficient to answer the Question.

[CSAT 2022]

39. A person X wants to distribute some pens among 6 children A, B, C, D, E and F . Suppose A gets twice the number of pens received by B , three times that of C , four times that of D , five times that of E and six times that of F . What is the minimum number of pens X should buy so that the number of pens each one gets is an even number ?

- (a) 147
- (b) 150
- (c) 294
- (d) 300 [CSAT 2022]

40. Consider the following statements in respect of two natural number p and q such that p is a prime number and q is a composite number:

- 1. $p \times q$ can be an odd number.
- 2. $\frac{p}{q}$ can be a prime number.
- 3. $p + q$ can be a prime number.

Which of the above statements are correct ?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

[CSAT 2022]

41. If ABC and DEF are both 3-digit numbers such that A, B, C, D, E and F are distinct digits that $ABC + DEF = 1111$, then what is the value of $A + B + C + D + E + F$?

- (a) 28
- (b) 29
- (c) 30
- (d) 31 [CSAT 2023]

42. D is a 3-digit number such that the ratio of the number to the sum of its digits is least. What is the difference between the digit at the hundred's place and the digit at the unit's place of D ?

- (a) 0
- (b) 7
- (c) 8
- (d) 9 [CSAT 2023]

43. Three of the five positive integers p, q, r, s, t are even and two of them are odd (not necessarily in order). Consider the following:

- 1. $p + q + r - s - t$ is definitely even.
- 2. $2p + q + 2r - 2s + t$ is definitely odd.

Which of the above statements is/are correct ?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

[CSAT 2023]

44. Consider the following in respect of prime number p and composite number c .

- 1. $\frac{p+c}{p-c}$ can be even.
- 2. $2p + c$ can be odd.
- 3. pc can be odd.

Which of the statements given above are correct ?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

[CSAT 2023]

45. A 3-digit number ABC , on multiplication with D gives $37DD$ where A, B, C and D are different non-zero digits. What is the value of $A + B + C$?

- (a) 18
- (b) 16
- (c) 15
- (d) Can't be determined due to insufficient data

[CSAT 2023]

46. If p, q, r and s are distinct single digit positive numbers, then what is the greatest value of $(p + q)(r + s)$?

- (a) 230
- (b) 225
- (c) 224
- (d) 221

[CSAT 2023]

47. Let pp, qq and rr be 2-digit numbers, where $p < q < r$. If $pp + qq + rr = tt0$, where $tt0$ is a 3-digit number ending with zero, consider the following statements :

1. The number of possible values of p is 5.
 2. The number of possible values of q is 6.
- Which of the above statements is/are correct ?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

[CSAT 2023]

48. What is the sum of all 4-digit numbers less than 2000 formed by the digits 1, 2, 3 and 4, where none of the digits is repeated ?

- (a) 7998
- (b) 8028
- (c) 8878
- (d) 9238

[CSAT 2023]

49. Question: Is p greater than q ?

Statement-1: $p \times q$ is greater than zero.

Statement-2: p^2 is greater than q^2 .

Which one of the following is correct in respect of the above Question and the Statements ?

- (a) The Question can be answered by using one of the Statements alone, but cannot be answered using the other Statement alone.
- (b) The Question can be answered by using either Statement alone.
- (c) The Question can be answered by using both the Statements together, but cannot be answered using either Statement alone.
- (d) The Question cannot be answered even by using both the Statements together.

[CSAT 2023]

50. Question : Is $(p + q - r)$ greater than $(p - q + r)$, where p, q and r are integers ?

Statement-1: $(p - q)$ is positive.

Statement-2: $(p - r)$ is negative.

Which one of the following is correct in respect of the above Question and the Statements ?

- (a) The Question can be answered by using one of the Statements alone, but cannot be answered using the other Statement alone.
- (b) The Question can be answered by using either Statement alone.
- (c) The Question can be answered by using both the Statements together, but cannot be answered using either Statement alone.
- (d) The Question cannot be answered even by using both the Statements together.

[CSAT 2023]



9613-19-20-21

ungist

CSAT

COMPREHENSIVE TEST SERIES

ONLINE & OFFLINE

for CSE 2025

10

MOCKS (Full Length Test)

6

Sectional Tests

10

Topic-wise Tests

**ENROLL
NOW**

Benefits :

- ▶ Closely aligned to recent UPSC trends.
- ▶ Thinking-based solution.
- ▶ Personalized attention to every aspirant.
- ▶ Detailed Video and PDFs solutions.



Ram Mohan Pandey



ungist.com



t.me/UNGIST



[@UNGISTIAS](https://www.youtube.com/@UNGISTIAS)



ORN, NEW DELHI

51. Consider a 3-digit number.

Question: What is the number ?

Statement-1: The sum of the digits of the number is equal to the product of the digits.

Statement-2: The number is divisible by the sum of the digits of the number.

Which one of the following is correct in respect of the above Question and the Statements ?

- (a) The Question can be answered by using one of the Statements alone, but cannot be answered using the other Statement alone.
- (b) The Question can be answered by using either Statement alone.
- (c) The Question can be answered by using both the Statements together, but cannot be answered using either Statement alone.
- (d) The Question cannot be answered even by using both the Statements together.

[CSAT 2023]

52. AB and CD are 2-digit numbers. Multiplying AB with CD results in a 3-digit number DEF . Adding DEF to another 3-digit number GHI results in 975. Further $A, B, C, D, E, F, G, H, I$ are distinct digits. If $E = 0, F = 8$, then what is $A + B + C$ equal to ?

- (a) 6
- (b) 7
- (c) 8
- (d) 9

[CSAT 2023]

53. Consider the following statements in respect of the sum $S = x + y + z$, where x, y and z are distinct prime numbers each less than 10 :

- 1. The unit digit of S can be 0.
- 2. The unit digit of S can be 9.
- 3. The unit digit of S can be 5.

Which of the statements given above are correct ?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

[CSAT 2024]

54. Let p, q, r and s be distinct positive integers. Let p, q be odd and r, s be even. Consider the following statements :

- 1. $(p - r)^2(qs)$ is even.
- 2. $(q - s)q^2s$ is even.
- 3. $(q + r)^2(p + s)$ is odd.

Which of the statements given above are correct ?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

[CSAT 2024]

55. What is the number of fives used in numbering a 260-page book ?

- (a) 55
- (b) 56
- (c) 57
- (d) 60

[CSAT 2024]

56. If the sum of the two-digit numbers AB and CD is the three-digit number $1CE$, where the letters A, B, C, D, E denote distinct digits, then what is the value of A ?

- (a) 9
- (b) 8
- (c) 7
- (d) Can't be determined due to insufficient data

[CSAT 2024]

57. Three numbers x, y, z are selected from the set of the first seven natural numbers such that $x > 2y > 3z$. How many such distinct triplets (x, y, z) are possible ?

- (a) One triplet
- (b) Two triplets
- (c) Three triplets
- (d) Four triplets

[CSAT 2024]

58. The total cost of 4 oranges, 6 mangoes and 8 apples is equal to twice the total cost of 1 orange, 2 mangoes and 5 apples.

Consider the following statements :

1. The total cost of 3 oranges, 5 mangoes and 9 apples is equal to the total cost of 4 oranges, 6 mangoes and 8 apples.
2. The total cost of one orange and one mango is equal to the cost of one apple.

Which of the statements given above is/are correct ?

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

[CSAT 2024]

59. Let p and q be positive integers satisfying $p < q$ and $p + q = k$. What is the smallest value of k that does not determine p and q uniquely ?

- (a) 3 (b) 4
(c) 5 (d) 6 [CSAT 2024]

60. A Question is given followed by two Statements 1 and 2. Consider the Question and the Statements.

Question: What are the values of m and n , where m and n are natural numbers ?

Statement-1: $m + n > mn$ and $m > n$.

Statement-2: The product of m and n is 24.

Which one of the following is correct in respect of the above Question and the Statements ?

- (a) The Question can be answered by using one of the Statements alone, but cannot be answered using the other Statement alone.
- (b) The Question can be answered by using either Statement alone.
- (c) The Question can be answered by using both the Statements together, but cannot be answered using either Statement alone.
- (d) The Question cannot be answered even by using both the Statements together.

[CSAT 2024]

61. A Question is given followed by two Statements 1 and 2. Consider the Question and the Statements.

Question: What are the unique values of x and y , where x, y are distinct natural numbers ?

Statement-1: xy is odd.

Statement-2: $xy = 12$.

Which one of the following is correct in respect of the above Question and the Statements ?

- (a) The Question can be answered by using one of the Statements alone, but cannot be answered using the other Statement alone.
- (b) The Question can be answered by using either Statement alone.
- (c) The Question can be answered by using both the Statements together, but cannot be answered using either Statement alone.
- (d) The Question cannot be answered even by using both the Statements together.

[CSAT 2024]

62. A Question is given followed by two Statements 1 and 2. Consider the Question and the Statements.

There are three distinct prime numbers whose sum is a prime number.

Question: What are those three numbers ?

Statement-1: Their sum is less than 23.

Statement-2: One of the numbers is 5.

Which one of the following is correct in respect of the above Question and the Statements ?

- (a) The Question can be answered by using one of the Statements alone, but cannot be answered using the other Statement alone.
- (b) The Question can be answered by using either Statement alone.

- (c) The Question can be answered by using both the Statements together, but cannot be answered using either Statement alone.
- (d) The Question cannot be answered even by using both the Statements together.

[CSAT 2024]

63. A Question is given followed by two Statements 1 and 2. Consider the Question and the Statements.

Question: Is $(x + y)$ an integer ?

Statement-1: $(2x + y)$ is an integer.

Statement-2: $(x + 2y)$ is an integer.

Which one of the following is correct in respect of the above Question and the Statements ?

- (a) The Question can be answered by using one of the Statements alone, but cannot be answered using the other Statement alone.
- (b) The Question can be answered by using either Statement alone.
- (c) The Question can be answered by using both the Statements together, but cannot be answered using either Statement alone.
- (d) The Question cannot be answered even by using both the Statements together.

[CSAT 2024]

64. In some code, letters P, Q, R, S, T represent numbers 4, 5, 10, 12, 15. It is not known which letter represents which number. If $Q - S = 2S$ and $T = R + S + 3$, then what is the value of $P + R - T$?

- (a) 1
- (b) 2
- (c) 3
- (d) Can't be determined due to insufficient data

[CSAT 2024]

Summation ' n ' (Σn), Σn^2 and Σn^3

65. What is the total number of digits printed, if a book containing 150 pages is to be numbered from 1 to 150 ?

- (a) 262 (b) 342
(c) 360 (d) 450 [CSAT 2017]

66. While writing all the numbers from 700 to 1000, how many numbers occur in which the digit at hundred's place is greater than the digit at ten's place, and the digit at ten's place is greater than the digit at unit's place ?

- (a) 61 (b) 64
(c) 85 (d) 91 [CSAT 2018]

67. A printer numbers the pages of a book starting with 1 and uses 3089 digits in all. How many pages does the book have ?

- (a) 1040 (b) 1048
(c) 1049 (d) 1050 [CSAT 2019]

68. One page is torn from a booklet whose pages are numbered in the usual manner starting from the first page as 1. The sum of the numbers on the remaining pages is 195. The torn page contains which of the following numbers ?

- (a) 5, 6 (b) 7, 8
(c) 9, 10 (d) 11, 12

[CSAT 2020]

69. In the series $AABABCABCDABCD\ldots$, which letter appears at the 100^{th} place ?

- (a) G (b) H
(c) I (d) J [CSAT 2022]

70. What is the sum of all digits which appear in all the integers from 10 to 100 ?

- (a) 855 (b) 856
(c) 910 (d) 911 [CSAT 2023]

71. 40 children are standing in a circle and one of them (say child-1) has a ring. The ring is passed clockwise. Child-1 passes on to child-2, child-2 passes on to child-4, child-4 passes on to child-7 and so on. After how many such changes (including child-1) will the ring be in the hands of child-1 again ?

(a) 14
(b) 15
(c) 16
(d) 17

[CSAT 2023]

72. What is the middle term of the sequence Z, Z, Y, Y, Y, X, X, X, X, W, W, W, W, W, ..., A ?

(a) H
(b) I
(c) J
(d) M

[CSAT 2023]

73. On January 1st, 2023, a person saved Rs. 1. On January 2nd 2023, he saved Rs. 2 more than that on the previous day. On January 3rd, 2023, he saved Rs. 2 more than that on the previous day and so on. At the end of which date was his total savings a perfect square as well a perfect cube ?

(a) 7th January, 2023
(b) 8th January, 2023
(c) 9th January, 2023
(d) Not possible

[CSAT 2024]

74. What is the sum of the first 28 terms in the following sequence ?

1, 1, 2, 1, 3, 2, 1, 4, 3, 2, 1, 5, 4, 3, 2, ...

(a) 83
(b) 84
(c) 85
(d) 86

[CSAT 2024]

$$xy - yx = 9|x - y|, \quad xyz - zyx = 99|x - z|, \\ xy + yx = 11(x + y)$$

75. Certain 3-digit numbers have the following characteristics :

1. All the three digits are different.
2. The number is divisible by 7.
3. The number on reversing the digits is also divisible by 7.

How many such 3-digit numbers are there ?

(a) 2 (b) 4
(c) 6 (d) 8 [CSAT 2017]

76. A 2-digit number is reversed. The larger of the two numbers is divided by the smaller one. What is the largest possible remainder ?

(a) 9 (b) 27
(c) 36 (d) 45 [CSAT 2017]

77. There are certain 2-digit numbers. The difference between the number and the one obtained on reversing it is always 27. How many such maximum 2-digit numbers are there ?

(a) 3 (b) 4
(c) 5 (d) None of these

[CSAT 2017]

78. A number consists of three digits of which the middle one is zero and their sum is 4. If the number formed by interchanging the first and last digits is greater than the number itself by 198, the difference between the first and last digits is

(a) 1 (b) 2
(c) 3 (d) 4 [CSAT 2018]

79. The ratio of a 2-digit natural number to a number formed by reversing its digits is 4 : 7. The number of such pairs is

(a) 5 (b) 4
(c) 3 (d) 2 [CSAT 2019]

80. The difference between a 2-digit number and the number obtained by interchanging the positions of the digits is 54.

Consider the following statements:

1. The sum of the two-digits of the number can be determined only if the product of the two digits is known.
2. The difference between the two digits of the number can be determined.

Which of the above statements is/are correct ?

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

[CSAT 2021]

81. Let p be a 2-digit number and q be the number consisting of same digits written in reverse order. If $p \times q = 2430$, then what is the difference between p and q ?

- (a) 45 (b) 27
(c) 18 (d) 9

[CSAT 2022]

82. Let X be a two-digit number and Y be another two-digit number formed by interchanging the digits of X . If $(X + Y)$ is the greatest two-digit number, then what is the number of possible values of X ?

- (a) 2 (b) 4
(c) 6 (d) 8

[CSAT 2024]

83. A Question is given followed by two Statements 1 and 2. Consider the Question and the Statements.

Age of each of P and Q is less than 100 years but more than 10 years. If you interchange the digits of the age of P, the number represents the age of Q.

Question: What is the difference of their ages ?

Statement-1: The age of P is greater than the age of Q.

Statement-2: The sum of their ages is $11\frac{1}{6}$ times their difference.

Which one of the following is correct in respect of the above Question and the Statements ?

- (a) The Question can be answered by using one of the Statements alone, but cannot be answered using the other Statement alone.
(b) The Question can be answered by using either Statement alone.
(c) The Question can be answered by using both the Statements together, but cannot be answered using either Statement alone.
(d) The Question cannot be answered even by using both the Statements together.

[CSAT 2024]

Cyclicity (unit digit)

84. If 3^{2019} is divided by 10, then what is the remainder ?

- (a) 1 (b) 3
(c) 7 (d) 9 [CSAT 2021]

85. What is the unit digit in the expansion of $(57242)^{9 \times 7 \times 5 \times 3 \times 1}$?

- (a) 2 (b) 4
(c) 6 (d) 8 [CSAT 2023]

86. What is the rightmost digit preceding the zeros in the value of 30^{30} ?

- (a) 1 (b) 3
(c) 7 (d) 9 [CSAT 2024]

Exponents (Number of zeros)

87. How many zeroes are there at the end of the following product ?

$$1 \times 5 \times 10 \times 15 \times 20 \times 25 \times 30 \\ \times 35 \times 40 \times 45 \times 50 \times 55 \times 60$$

- (a) 10 (b) 12
(c) 14 (d) 15 [CSAT 2020]

88. If $15 \times 14 \times 13 \times \dots \times 3 \times 2 \times 1 = 3^m \times n$, where m and n are positive integers, then what is the maximum value of m ?
 (a) 7
 (b) 6
 (c) 5
 (d) 4 [CSAT 2022]
89. How many consecutive zeros are there at the end of the integer obtained in the product $1^2 \times 2^4 \times 3^6 \times 4^8 \times \dots \times 25^{50}$?
 (a) 50
 (b) 55
 (c) 100
 (d) 200 [CSAT 2024]
93. Two Statements are given followed by two Conclusions:
 Statements: All numbers are divisible by 2.
 All numbers are divisible by 3.
 Conclusion-1: All numbers are divisible by 6.
 Conclusion-2: All numbers are divisible by 4.
 Which of the above Conclusions logically follows/follow from the two given Statements ?
 (a) Only Conclusion-1
 (b) Only Conclusion-2
 (c) Neither Conclusion-1 nor Conclusion-2
 (d) Both Conclusion-1 and Conclusion-2 [CSAT 2020]

Divisibility

90. If $ABC \times DEED = ABCABC$; where A, B, C, D and E are different digits, what are the values of D and E ?
 (a) $D = 2, E = 0$
 (b) $D = 0, E = 1$
 (c) $D = 1, E = 0$
 (d) $D = 1, E = 2$ [CSAT 2015]
91. If R and S are different integers both divisible by 5, then which of the following is **not necessarily true** ?
 (a) $R - S$ is divisible by 5
 (b) $R + S$ is divisible by 10
 (c) $R \times S$ is divisible by 25
 (d) $R^2 \times S^2$ is divisible by 5 [CSAT 2016]
92. An 8-digit number $4252746B$ leaves remainder '0' when divided by 3. How many values of B are possible ?
 (a) 2 (b) 3
 (c) 4 (d) 6 [CSAT 2019]
94. A digit $n > 3$ is divisible by 3 but not divisible by 6. Which one of the following is divisible by 4 ?
 (a) $2n$ (b) $3n$
 (c) $2n + 4$ (d) $3n + 1$ [CSAT 2020]
95. The number $3798125P369$ is divisible by 7. What is the value of the digit P ?
 (a) 1 (b) 6
 (c) 7 (d) 9 [CSAT 2021]
96. For any choices of values of X, Y and Z , the 6-digit number of the form $XYZXYZ$ is divisible by
 (a) 7 and 11 only (b) 11 and 13 only
 (c) 7 and 13 only (d) 7, 11 and 13 [CSAT 2023]
97. A number N is formed by writing 9 for 99 times. What is the remainder if N is divided by 13 ?
 (a) 11 (b) 9
 (c) 7 (d) 1 [CSAT 2023]
98. Each digit of a 9-digit number is 1. It is multiplied by itself. What is the sum of the digits of the resulting number ?
 (a) 64 (b) 80
 (c) 81 (d) 100 [CSAT 2023]

99. $222^{333} + 333^{222}$ is divisible by which of the following numbers ?

- (a) 2 and 3 but not 37
(b) 3 and 37 but not 2
(c) 2 and 37 but not 3
(d) 2, 3 and 37

[CSAT 2024]

100. $32^5 + 2^{27}$ is divisible by

- (a) 3 (b) 7
(c) 10 (d) 11

[CSAT 2024]

101. A Question is given followed by two Statements 1 and 2. Consider the Question and the Statements.

Question: What is the time required to download the software ?

Statement-1: The size of the software is 12 megabytes.

Statement-2: The transfer rate is 2.4 kilobytes per second.

Which one of the following is correct in respect of the above Question and the Statements?

- (a) The Question can be answered by using one of the Statements alone, but cannot be answered using the other Statement alone.
(b) The Question can be answered by using either Statement alone.
(c) The Question can be answered by using both the Statements together, but cannot be answered using either Statement alone.
(d) The Question cannot be answered even by using both the Statements together.

[CSAT 2024]

Remainder theorem

102. What is the remainder when $51 \times 27 \times 35 \times 62 \times 75$ is divided by 100 ?

- (a) 50 (b) 25
(c) 5 (d) 1

[CSAT 2020]

103. If 3^{2019} is divided by 10, then what is the remainder ?

- (a) 1 (b) 3
(c) 7 (d) 9

[CSAT 2021]

104. What is the remainder when

$91 \times 92 \times 93 \times 94 \times 95 \times 96 \times 97 \times 98 \times 99$ is divided by 1261 ?

- (a) 3 (b) 2
(c) 1 (d) 0

[CSAT 2022]

105. What is the remainder when

$85 \times 87 \times 89 \times 91 \times 95 \times 96$ is divided by 100 ?

- (a) 0
(b) 1
(c) 2
(d) 4

[CSAT 2023]

106. If today is Sunday, then which day is it exactly on 10^{10} th day ?

- (a) Wednesday
(b) Thursday
(c) Friday
(d) Saturday

[CSAT 2023]

107. What is the remainder if 2^{192} is divided by 6 ?

- (a) 0
(b) 1
(c) 2
(d) 4

[CSAT 2023]

LCM and HCF

108. Three persons start walking together and their steps measure 40 cm, 42 cm and 45 cm respectively. What is the minimum distance each should walk so that each can cover the same distance in complete steps ?

- (a) 25 m 20 cm
(b) 50 m 40 cm
(c) 75 m 60 cm
(d) 100 m 80 cm

[CSAT 2011]

109. There are five hobby clubs in a college viz, photography, yachting, chess, electronics and gardening. The gardening group meets every second day, the electronics group meets every third day, the chess group meets every fourth day, the yachting group meets every fifth day and the photography group meets every sixth day. How many times do all the five groups meet on the same day within 180 days ?
(a) 3 (b) 5
(c) 10 (d) 18 [CSAT 2013]
110. Five persons fire bullets at a target at an interval of 6, 7, 8, 9 and 12 seconds respectively. The number of times they would fire the bullets together at the target in an hour is
(a) 6 (b) 7
(c) 8 (d) 9 [CSAT 2014]
111. A bell rings every 18 minutes. A second bell rings every 24 minutes. A third bell rings every 32 minutes. If all the three bells ring at the same time at 8 o'clock in the morning, at what other time will they all ring together ?
(a) 12:40 hrs
(b) 12:48 hrs
(c) 12:56 hrs
(d) 13:04 hrs [CSAT 2014]
112. There are five hobby clubs in a college – photography, yachting, chess, electronics and gardening. The gardening group meets every second day, the electronics group meets every third day, the chess group meets every fourth day, the yachting group meets every fifth day and the photography group meets every sixth day. How many times do all the five groups meet on the same day within 180 days ?
(a) 5
(b) 18
(c) 10
(d) 3 [CSAT 2016]
113. A lift has the capacity of 18 adults or 30 children. How many children can board the lift with 12 adults ?
(a) 6
(b) 10
(c) 12
(d) 15 [CSAT 2018]
114. In a school every student is assigned a unique identification number. A student is a football player if and only if the identification number is divisible by 4, whereas a student is a cricketer if and only if the identification number is divisible by 6. If every number from 1 to 100 is assigned to a student, then how many of them play cricket as well as football ?
(a) 4 (b) 8
(c) 10 (d) 12 [CSAT 2019]
115. If you have two straight sticks of length 7.5 feet and 3.25 feet, what is the minimum length can you measure ?
(a) 0.05 foot
(b) 0.25 foot
(c) 1 foot
(d) 3.25 feet [CSAT 2020]
116. What is the greatest length x such that $3\frac{1}{2}$ m and $8\frac{3}{4}$ m are integral multiples of x ?
(a) $1\frac{1}{2}$ m
(b) $1\frac{1}{3}$ m
(c) $1\frac{1}{4}$ m
(d) $1\frac{3}{4}$ m [CSAT 2020]

117. What is the least 4-digit number when divided by 3, 4, 5 and 6 leaves a remainder 2 in each case ?

- (a) 1012
(b) 1022
(c) 1122
(d) 1222

[CSAT 2020]

118. What is the smallest number greater than 1000 that when divided by any one of the numbers 6, 9, 12, 15, 18 leaves a remainder of 3 ?

- (a) 1063
(b) 1073
(c) 1083
(d) 1183

[CSAT 2022]

119. There are three traffic signals. Each signal changes colour from green to red and then from red to green. The first signal takes 25 seconds, the second signal takes 39 seconds and the third signal takes 60 seconds to change the colour from green to red. The durations for green and red colours are same. At 2:00 pm, they together turn green. At what time will they change to green next, simultaneously ?

- (a) 4:00 pm
(b) 4:10 pm
(c) 4:20 pm
(d) 4:30 pm

[CSAT 2023]

120. 421 and 427, when divided by the same number, leave the same remainder 1. How many numbers can be used as the divisor in order to get the same remainder 1 ?

- (a) 1
(b) 2
(c) 3
(d) 4

[CSAT 2024]

121. A can X contains 399 litres of petrol and a can Y contains 532 litres of diesel. They are to be bottled in bottles of equal size so that whole of petrol and diesel would be separately bottled. The bottle capacity in terms of litres is an integer. How many different bottle sizes are possible ?

- (a) 3
(b) 4
(c) 5
(d) 6

[CSAT 2024]

LCM and HCF (Calendar)

122. Seeta and Geeta go for a swim after a gap of every 2 days and every 3 days respectively. If on 1st January both of them went for a swim together, when will they go together next ?

- (a) 7th January
(b) 8th January
(c) 12th January
(d) 13th January

[CSAT 2019]

123. Joseph visits the club on every 5th day, Harsh visits on every 24th day, while Sumit visits on every 9th day. If all three of them met at the club on a Sunday, then on which day will all three of them meet again ?

- (a) Monday
(b) Wednesday
(c) Thursday
(d) Sunday

[CSAT 2021]

Factors

124. Let x be a positive integer such that $7x + 96$ is divisible by x . How many values of x are possible ?

- (a) 10
(b) 11
(c) 12
(d) Infinitely many

[CSAT 2023]

125. How many natural numbers are there which give a remainder of 31 when 1186 is divided by these natural numbers ?

- (a) 6
(b) 7
(c) 8
(d) 9

[CSAT 2023]

Greatest and least value

126. What is the largest number among the following ?

- (a) $\left(\frac{1}{2}\right)^{-6}$ (b) $\left(\frac{1}{4}\right)^{-3}$
(c) $\left(\frac{1}{3}\right)^{-4}$ (d) $\left(\frac{1}{6}\right)^{-2}$

[CSAT 2020]

127. Which number amongst 2^{40} , 3^{21} , 4^{18} and 8^{12} is the smallest ?

- (a) 2^{40} (b) 3^{21}
(c) 4^{18} (d) 8^{12}

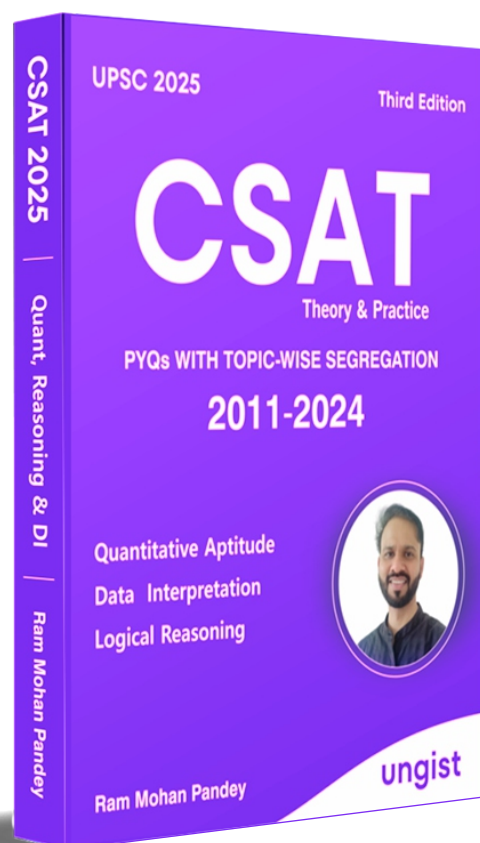
[CSAT 2022]

ANSWER KEY

- | | | | | | | | |
|---------|---------|---------|---------|---------|---------|----------|----------|
| 1. (b) | 17. (d) | 33. (b) | 49. (d) | 65. (b) | 81. (d) | 97. (a) | 113. (b) |
| 2. (b) | 18. (b) | 34. (c) | 50. (c) | 66. (c) | 82. (d) | 98. (c) | 114. (b) |
| 3. (c) | 19. (c) | 35. (c) | 51. (d) | 67. (c) | 83. (a) | 99. (b) | 115. (b) |
| 4. (b) | 20. (a) | 36. (d) | 52. (a) | 68. (b) | 84. (c) | 100. (c) | 116. (d) |
| 5. (a) | 21. (c) | 37. (a) | 53. (c) | 69. (c) | 85. (a) | 101. (c) | 117. (b) |
| 6. (c) | 22. (c) | 38. (d) | 54. (d) | 70. (b) | 86. (d) | 102. (a) | 118. (c) |
| 7. (b) | 23. (d) | 39. (c) | 55. (b) | 71. (b) | 87. (a) | 103. (c) | 119. (b) |
| 8. (d) | 24. (c) | 40. (d) | 56. (a) | 72. (b) | 88. (b) | 104. (d) | 120. (c) |
| 9. (a) | 25. (c) | 41. (d) | 57. (d) | 73. (b) | 89. (d) | 105. (a) | 121. (b) |
| 10. (d) | 26. (b) | 42. (c) | 58. (c) | 74. (b) | 90. (c) | 106. (b) | 122. (d) |
| 11. (c) | 27. (b) | 43. (a) | 59. (c) | 75. (b) | 91. (b) | 107. (d) | 123. (b) |
| 12. (c) | 28. (a) | 44. (d) | 60. (c) | 76. (d) | 92. (c) | 108. (a) | 124. (c) |
| 13. (d) | 29. (d) | 45. (a) | 61. (c) | 77. (d) | 93. (a) | 109. (a) | 125. (d) |
| 14. (c) | 30. (d) | 46. (b) | 62. (a) | 78. (b) | 94. (d) | 110. (b) | 126. (c) |
| 15. (b) | 31. (b) | 47. (c) | 63. (d) | 79. (b) | 95. (b) | 111. (b) | 127. (b) |
| 16. (b) | 32. (c) | 48. (a) | 64. (b) | 80. (b) | 96. (d) | 112. (d) | |

You may refer to the ungist **CSAT Practice Book**
for detailed solutions of PYQs

CSAT Practice Book, Third Edition *for* UPSC Prelims 2025



Buy Now:



amazon

Contact Us



9613-19-20-21



ungist.com



ungist



@ungistias

our presence...



Website



YouTube



Telegram



Discussions

ungist