# PhysicsByAaryan

CSIR NET . GATE . JEST . BARC - Physics

# Mathematical Analysis - CSIR NET Physics PYQs

General Aptitude . All PYQs (2015-2025) with answer key

**128 questions . Answer key included**

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**Q1. [Dec 2015] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2015 Dec | 2 M |
|---|---|---|

A shopkeeper purchases a product for Rs. 100 and sells it making a profit of 10%. In these dealings the shopkeeper makes

1. No profit, no loss
2. Rs. 11
3. Re. 1
4. Rs. 20

**Q2. [Dec 2015] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2015 Dec | 2 M |
|---|---|---|

Secondary colours are made by a mixture of three primary colours, Red, Green and Blue, in different proportions; each of the primary colours comes in 8 possible levels. Grey corresponds to equal proportions of Red, Green and Blue. How many shades of grey exist ii this scheme?

1. $8^3$
2. 8
3. $3^8$
4. $8 \times 3$

**Q3. [Dec 2015] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2015 Dec | 2 M |
|---|---|---|

If $D + I + M = 1501$

$$C + I + V + I + L = 157$$
$$L + I + V + I + D = 557$$
$$C + I + V + I + C = 207$$

What is $V + I + M = ?$

1. Cannot be found
2. 1009
3. 1006
4. 509

**Q4. [June 2015] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2015 June | 2 M |
|---|---|---|

Which of the following values is same as $2^{2^{2^2}}$ ?

1. $2^6$
2. $2^8$
3. $2^{16}$
4. $2^{222}$

**Q5. [June 2015] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2015 June | 2 M |
|---|---|---|

If

$$\begin{array}{r} 2a \\ \times \quad b2 \\ \hline c6 \\ 84 \\ \hline 8d6 \\ \hline \end{array}$$

Here a, b, c, d are digits.

Then $a + b =$

1. 4
2. 9
3. 11
4. 16

**Q6. [June 2015] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2015 June | 2 M |
|---|---|---|

If you change only one observation from a set of 10 observations, which of the following will definitely change?

1. Mean
2. Median
3. Mode
4. Standard Deviation

**Q7. [June 2015] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2015 June | 2 M |
|---|---|---|

Let r be a positive number satisfying

$$r^{(1/1234)} + r^{(-1/1234)} = 2$$

Then

$$r^{4321} + r^{-4321} = ?$$

1. 2
2. $2^{(4321/1234)}$
3. $2^{3087}$
4. $2^{1234}$

**Q8. [Dec 2016] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2016 Dec | 2M |
|---|---|---|

The random errors associated with the measurement of $P$ and $Q$ are $10\%$ and $2\%$, respectively. What is the percentage random error in $P/Q$ ?

1. 12.0
2. 9.8
3. 8.0
4. 10.2

**Q9. [Dec 2016] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2016 Dec | 2M |
|---|---|---|

In how many distinguishable ways can the letters of the word CHANCE be arranged?

1. 120
2. 720
3. 360
4. 240

**Q10. [Dec 2016] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2016 Dec | 2M |
|---|---|---|

A man buys alcohol at Rs. 75/cL, adds water, and sells it at Rs.75/cL making a profit of 50%. What is the ratio of alcohol to water?

1. 2:1
2. 1:2
3. 3:2
4. 2:3

**Q11. [Dec 2016] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2016 Dec | 2M |
|---|---|---|

The sum of digits of a two-digit number is 9. If the fraction formed by taking 9 less than the number as numerator and 9 more than the number as denominator is 3/4, what is the number?

1. 36
2. 63
3. 45
4. 54

**Q12. [June 2016] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2016 June | 2M |
|---|---|---|

A student appearing for an exam is declared to have failed the exam if his/her score is less than half the median score. This implies

1. 1/4 of the students appearing for the exam always fail.
2. if a student scores less than $1/4$ of the maximum score, he/she always fails.
3. if a student scores more than $1/2$ of the maximum score, he/she always passes.
4. it is possible that no one fails.

**Q13. [June 2016] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2016 June | 2M |
|---|---|---|

$N$ is a four digit number. If the leftmost digit is removed, the resulting three digit number is $1/9^{\text{th}}$ of $N$. How many such $N$ are possible?

1. 10
2. 9
3. 8
4. 7

**Q14. [June 2016] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2016 June | 2M |
|---|---|---|

Which of the following best approximates $\sin(0.5°)$?

1. $0.5$
2. $0.5 \times \frac{\pi}{90}$
3. $0.5 \times \frac{\pi}{180}$
4. $0.5 \times \frac{\pi}{360}$

**Q15. [June 2016] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2016 June | 2M |
|---|---|---|

The set of numbers $(5,6,7,m,6,7,8,n)$ has an arithmetic mean of 6 and mode (most frequently occurring number) of 7 . Then $m \times n =$

1. 18
2. 35
3. 28
4. 14

**Q16. [Dec 2017] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2017 Dec | 2M |
|---|---|---|

In a group of students, 30% play only cricket, 20% play only football and 10% play only basketball. 20% of the students play both football and cricket, 15% play both basketball and cricket, 10% play both football and basketball. 15 students play no games, while 5% of the students play all three games. What is the total number of students?

1. 300
2. 250
3. 350
4. 400

**Q17. [Dec 2017] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2017 Dec | 2M |
|---|---|---|

When Ramesh was at the age of 8 years, he hammered a nail into a large tree to mark his height. If the tree grows 2 cm/year, how much higher would the nail be after 5 years?

1. 5 cm higher
2. 0 cm higher
3. 10 cm higher
4. 8 cm higher

**Q18. [Dec 2017] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2017 Dec | 2M |
|---|---|---|

For which of the following numbers is its positive square root closest to the number itself?

1. 0.33
2. 0.99
3. 0.89
4. 0.10

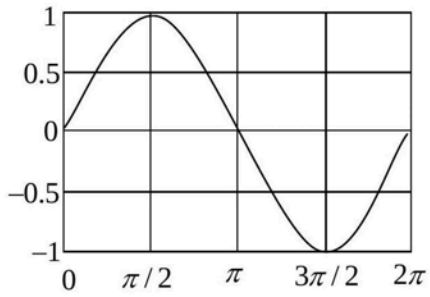
**Q19. [Dec 2017] . 2.0 marks**

General Aptitude > Mathematical Analysis

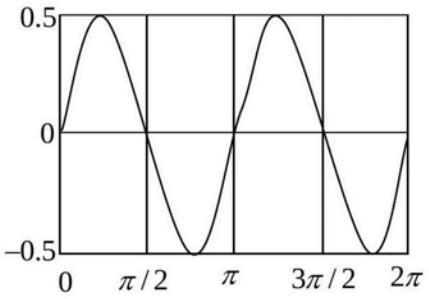
| CSIR NET | 2017 Dec | 2M |
|---|---|---|

Which one of the following graphs represents f(x)=sinx cosx ?

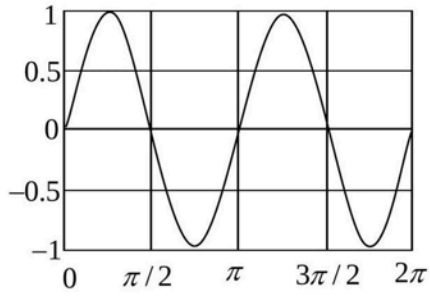
1.



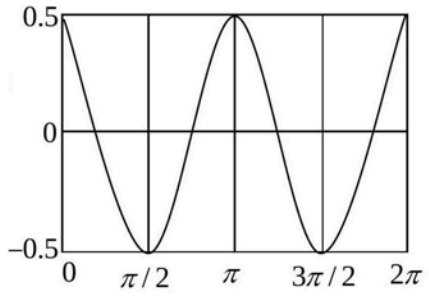

2.




3.




4.




**Q20. [Dec 2017] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2017 Dec | 2M |
|---|---|---|

The number of three English letter words, having at least one consonant, but not having two consecutive consonants, is

1. 2205
2. 3780
3. 2730
4. 3360

**Q21. [Dec 2017] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2017 Dec | 2M |
|---|---|---|

$A$ buys $n$ copies of a book at 20% discount. $B$ gets the same book at 30% discount. What is the minimum value of it for which $B$ can buy one extra copy of the book, spending the same amount as $A$ ?

1. 7
2. 8
3. 6
4. This problem cannot be solved unless the marked price of the book is known.

**Q22. [Dec 2017] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2017 Dec | 2M |
|---|---|---|

The average staff salary of a company is Rs. 8000/-. A new guard and a new manager are recruited with salaries of Rs. 5000/- and 20000/-, respectively. What is the current staff strength if the new average salary is Rs. 4000/- more than that of the guard?

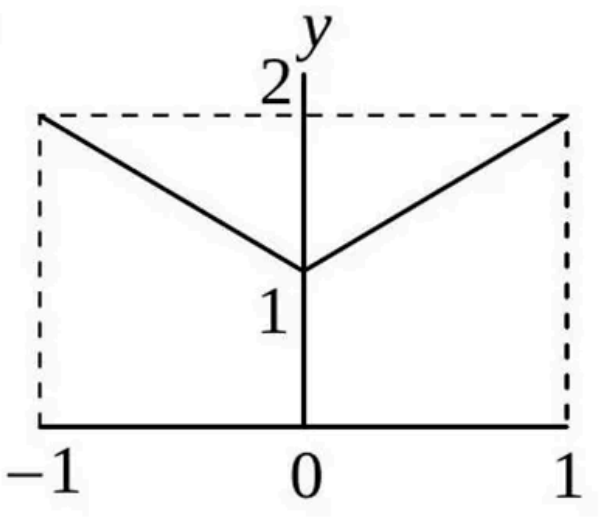
1. 7
2. 9
3. 10
4. 11

**Q23. [June 2017] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2017 June | 2M |
|---|---|---|

What is the average value of $y$ for the range of $x$ shown in the following plot?




1. 0
2. 1
3. 1.5
4. 2

**Q24. [June 2017] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2017 June | 2M |
|---|---|---|

A board has 8 rows and 8 columns. A move is defined as two steps along a column followed by one step along a row or vice-versa. What is the minimum number of moves needed to go from one corner to the diagonally opposite corner?

1. 5
2. 6
3. 7
4. 9

**Q25. [June 2017] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2017 June | 2M |
|---|---|---|

A job interview is taking place with 21 male and 17 female candidates. Candidates are called randomly. What is the minimum number of candidates to be called lo ensure that at least two males or two females have been interviewed?

1. 17
2. 2
3. 3
4. 21

**Q26. [June 2017] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2017 June | 2M |
|---|---|---|

A fair die was thrown three times and the outcome was repeatedly six. If the die is thrown again, what is the probability of getting six?

1. $1/6$
2. $1/216$
3. $1/1296$
4. 1

**Q27. [June 2017] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2017 June | 2M |
|---|---|---|

What should be added to the product of the two numbers 983713 and 983719 to make it a perfect square?

1. 9
2. 13
3. 19
4. 27

**Q28. [June 2017] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2017 June | 2M |
|---|---|---|

In how many ways can you place $N$ coins on a board with $N$ rows and $N$ columns such that every row and every column contains exactly one coin?

1. $N$
2. $N(N-1)(N-2)\ldots.2\times 1$
3. $N^2$
4. $N^N$

**Q29. [Dec 2018] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2018 Dec | 2M |
|---|---|---|

At a birthday party, every child gets 2 chocolates, every mother gets 1 chocolate, while no father gets a chocolate. In total 69 persons get 70 chocolates. If the number of children is half of the number of mothers and fathers put together, then how many fathers are there?

1. 22
2. 23
3. 24
4. 69

**Q30. [Dec 2018] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2018 Dec | 2M |
|---|---|---|

What is the value of

$1^2 - 2^2 + 3^2 - 4^2 + 5^2 - \cdots . + 17^2 - 18^2 + 19^2$ ?

1. -5
2. 12
3. 95
4. 190

**Q31. [Dec 2018] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2018 Dec | 2M |
|---|---|---|

The curves of $y = 2x^2$ and $y = 4x$ intersect each other at

1. only one point
2. exactly two points
3. more than two points
4. no point at all

**Q32. [Dec 2018] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2018 Dec | 2M |
|---|---|---|

If $D = ABC + BCA + CAB$, where $A, B$ and $C$ are decimal digits, then $D$ is divisible by

1. 37 and 29
2. 37 but not 29
3. 29 but not 37
4. neither 29 nor 37

**Q33. [Dec 2018] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2018 Dec | 2M |
|---|---|---|

For the following set of observed values

$\{60,65,65,70,70,70,70,82,85,90,95,95,100,160,160\}$

which of the statements is true?

1. mode < median < mean
2. mode < mean < median
3. mean < median < mode
4. median < mode < mean

**Q34. [Dec 2018] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2018 Dec | 2M |
|---|---|---|

In an examination 100 questions of 1 mark each are given. After the examination, 20 questions are deleted from evaluation, leaving 80 questions with a total of 100 marks. Student $A$ had answered 4 of the deleted questions correctly and got 40 marks, whereas student $B$ had answered 10 of the deleted questions correctly and got 35 marks. In this situation

1. $A$ and $B$ were equally benefited
2. $A$ and $B$ lost equally
3. $B$ lost more than $A$
4. $A$ lost more than $B$

**Q35. [Dec 2018] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2018 Dec | 2M |
|---|---|---|

A student is free to choose only Chemistry, only Biology or both. If out of 32 students, Chemistry has been chosen by 16 and Biology by 25, then how many students have chosen Biology but not Chemistry?

1. 9
2. 16
3. 25
4. 7

**Q36. [June 2018] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2018 June | 2M |
|---|---|---|

In a group of 11 persons, each shakes hand with every other once and only once. What is the total number of such handshakes?

1. 110
2. 121
3. 55
4. 66

**Q37. [June 2018] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2018 June | 2M |
|---|---|---|

What is the value of

$$(1 + 3 + 5 + 7 + \cdots + 4033) + 7983 \times 2017?$$

1. 20170000
2. 20172017
3. 20171720
4. 20172020

**Q38. [June 2018] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2018 June | 2M |
|---|---|---|

What is the last digit of $(2017)^{2017}$?

1. 1
2. 3
3. 7
4. 9

**Q39. [June 2018] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2018 June | 2M |
|---|---|---|

Nine eleventh of the members of a parliamentary committee are men. Of the men, two-thirds are from the Rajya Sabha. Further, 7/11 of the total committee members are from the Rajya Sabha. What fraction of the total number are women from the Lok Sabha?

1. 1/11
2. 6/11
3. 2/11
4. 3/11

**Q40. [June 2018] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2018 June | 2M |
|---|---|---|

Mohan lent Geeta as much money as she already had, she then spent Rs. 10. Next day, he again lent as much money as Geeta now had, and she spent Rs. 10 again. On the third day, Mohan again lent as much money as Geeta now had, and she again spent Rs. 10.If Geeta was left with no money at the end of third day, how much money did she have initially?

1. Rs. 11.25
2. Rs. 10
3. Rs. 7.75
4. Rs. 8.75

**Q41. [June 2018] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2018 June | 2M |
|---|---|---|

In a sequence of 24 positive integers, the product of any two consecutive integer is 24 . If the $17^{th}$ member of the sequence is 6 , the $7^{th}$ member is

1. 24
2. 4
3. 6
4. 17

**Q42. [June 2018] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2018 June | 2M |
|---|---|---|

The prices of diamonds having a particular color and clarity are tabulated below. How many 0.25 carat diamonds can be purchased for the price of a 2-carat diamond?

| Weight of diamond (in carats) | Price of diamond (in rupees / carat) |
|---|---|
| 0.25 | 1 lakh |
| 0.5 | 2 lakh |
| 1 | 4 lakh |
| 2 | 8 lakh |

1. 8
2. 16
3. 32
4. 64

**Q43. [June 2018] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2018 June | 2M |
|---|---|---|

A water tank that is 40% empty holds 40 L more water than when it is 40% full. How much water does it hold when it is full?

1. 100 L
2. 75 L
3. 120 L
4. 200 L

**Q44. [Dec 2019] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2019 Dec | 2M |
|---|---|---|

A two-digit number is such that if the digit 4 is placed to its right, its value would increase by 490 . Find the original number.

1. 48
2. 54
3. 64
4. 56

**Q45. [Dec 2019] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2019 Dec | 2M |
|---|---|---|

Given that $K! = 1 \times 2 \times 3 \times \cdots \times K$, which is the largest among the following numbers?

1. $(2!)^{1/2}$
2. $(3!)^{1/3}$
3. $(4!)^{1/4}$
4. $\frac{(3!)}{2}$

**Q46. [Dec 2019] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2019 Dec | 2M |
|---|---|---|

Of three children, Uma plays all three of cricket, football and hockey. Iqbal plays cricket but not football and Tarun plays hockey but neither football nor cricket. The number of games played by at least two of the children is

1. One
2. Two
3. Three
4. zero

**Q47. [Dec 2019] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2019 Dec | 2M |
|---|---|---|

A multiple-choice exam has 4 questions, each with 4 answer choices. Every question has only one correct answer. The probability of getting all answers correct by independent random guesses for each one is

1. $(1/4)$
2. $(1/4)^4$
3. $(3/4)$
4. $(3/4)^4$

**Q48. [Dec 2019] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2019 Dec | 2M |
|---|---|---|

The result of a survey to find the most preferred leader among A,B,C is shown in the table

| Votes | $A$ | $B$ | $C$ |
|---|---|---|---|
| $1^{st}$ preference | 13 | 54 | 33 |
| $2^{nd}$ preference | 24 | 37 | 39 |
| $3^{rd}$ preference | 63 | 9 | 28 |

First, second and third preferences are given weights 3,2,1, respectively. Statistically, which of the following can be said to represent the preferences of the voters?

1. A and C are within 10% of each other
2. B is the most preferred
3. B and C are within 10% of each other
4. C is the most preferred

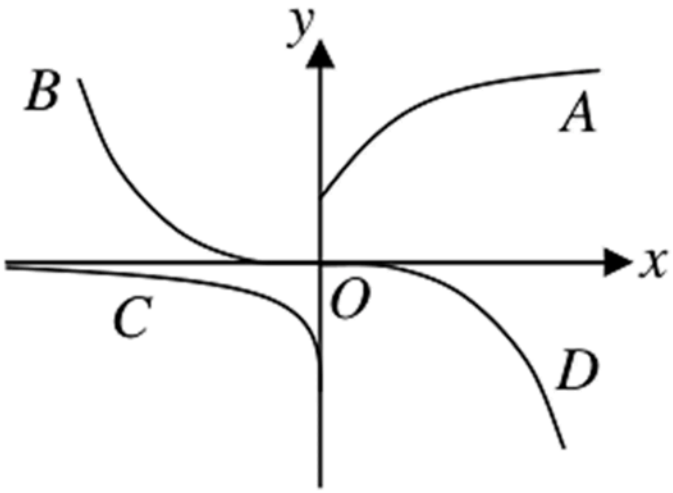
**Q49. [Dec 2019] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2019 Dec | 2M |
|---|---|---|

Which is the curve in the figure whose points satisfy the equation $y = \text{constant} \times e^{x}$

1. $A$
2. $B$
3. $C$
4. $D$




**Q50. [Dec 2019] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2019 Dec | 2M |
|---|---|---|

In a college admission where applicants have to choose only one subject, $1/4^{\text{th}}$ of the applicants opted for Biology. $1/6^{\text{th}}$ for chemistry, $1/8^{\text{th}}$ for Physics and $1/12^{\text{th}}$ for Maths. 18 applicants did not opt for any of the above four subjects. How many applicants were there?

1. 22
2. 24
3. 36
4. 48

**Q51. [Dec 2019] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2019 Dec | 2M |
|---|---|---|

A bag contains 8 red balls, 17 green balls. What is the minimum number of balls that needs to be taken out from the bag to ensure getting at least one ball of each colour?

1. 19
2. 18
3. 28
4. 27

**Q52. [Dec 2019] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2019 Dec | 2M |
|---|---|---|

In a very old, stable forest, a particular species of plants grows to a maximum height of $3m$. In a large survey, it is found that $30\%$ of the plants have heights less than 1 m and $50\%$ have heights more than $2m$. From these observations we can say that the height of the plants increases

1. at the slowest rate when they are less than $1m$ tall
2. at the fastest rate when they are between $1m$ and $2m$ tall
3. at the fastest rate when they are more than $2m$ tall
4. at the same rate at all stages

**Q53. [Dec 2019] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2019 Dec | 2M |
|---|---|---|

Which of the following 7 -digit numbers CANNOT be perfect squares?

$$A = 45xyz26, B = 2xyz175, C = xyz3310$$

1. Only $A$
2. Only $B$
3. Only $C$
4. All three

**Q54. [Dec 2019] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2019 Dec | 2M |
|---|---|---|

The mean of a set of 10 numbers is $M$. By combining with it a second set of $M$ numbers, the mean of the combined set becomes 10 . What is the sum of the second set of numbers?

1. $10M - 1$
2. $10M + 1$
3. 20
4. 100

**Q55. [June 2019] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2019 June | 2M |
|---|---|---|

A precious stone breaks into four pieces having weights in the proportion $1:2:3:4$. The value of such a stone is proportional to the square of its weight. What is the percent loss in the value incurred due to breaking?

1. 0
2. 30
3. 70
4. 90

**Q56. [June 2019] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2019 June | 2M |
|---|---|---|

The nine numbers $x_1, x_2, x_3 \ldots x_9$, are in ascending order. Their average $m$ is strictly greater than all the first eight numbers. Which of the following is true?

1. Average $(x_1, x_2 \ldots x_9, m) > m$ and Average $(x_2, x_3, \ldots x_9) > m$
2. Average $(x_1, x_2 \ldots x_9, m) < m$ and Average $(x_2, x_3, \ldots x_9) < m$
3. Average $(x_1, x_2 \ldots x_9, m) = m$ and Average $(x_2, x_3, \ldots x_9) > m$
4. Average $(x_1, x_2 \ldots x_9, m) < m$ and Average $(x_2, x_3, \ldots x_9) = m$

**Q57. [June 2019] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2019 June | 2M |
|---|---|---|

12 balls, 3 each of the colors red, green, blue and yellow are put in a box and mixed. If 3 balls are picked at random, without replacement, the probability that all 3 balls are of the same color is

1. $\frac{1}{4}$
2. $\frac{1}{12}$
3. $\frac{1}{36}$
4. $\frac{1}{55}$

**Q58. [June 2019] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2019 June | 2M |
|---|---|---|

Which of the following is the largest?

$$2^{50}, 3^{40}, 4^{30}, 5^{20}$$

1. $2^{50}$
2. $3^{40}$
3. $4^{30}$
4. $5^{20}$

**Q59. [June 2019] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2019 June | 2M |
|---|---|---|

The length of a cylinder is measured 10 times yielding 10 distinct values. For this set of values, consider the following statements

A. Five of these values will lie above the mean and five below it

B. Five of these values will lie above median and five below it

C. At least one value will lie above the mean

D. At least one value will lie at the median

Which of the statements are necessarily correct?

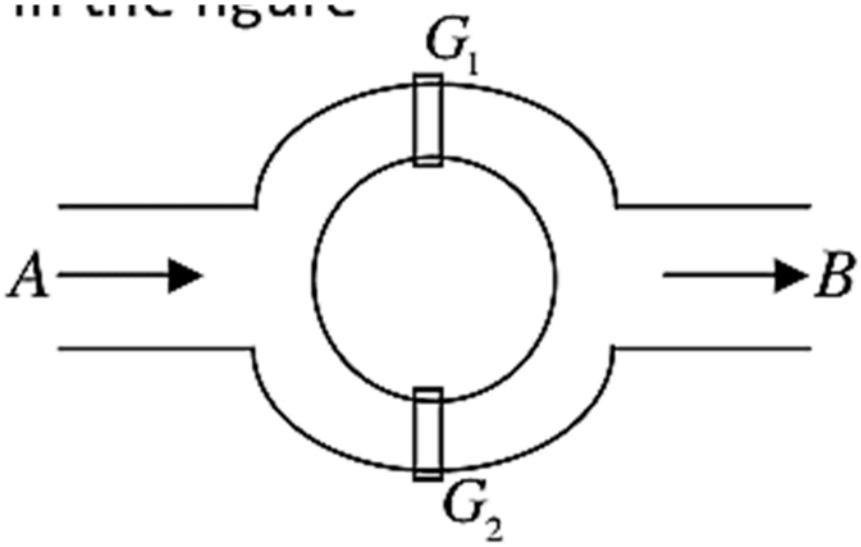
1. B and C
2. A and C
3. B and D
4. A,C and D

**Q60. [June 2019] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2019 June | 2M |
|---|---|---|

A canal system is shown in the figure




Water flows from $A$ to $B$ through two channels. Gates $G_1$ and $G_2$, are operated independently to regulate the flow. Probability of $G_1$ to be open is $10\%$ while that of $G_2$ is $20\%$. The probability that water will flow from $A$ to $B$ is

1. $10\%$
2. $20\%$
3. $28\%$
4. $30\%$

**Q61. [June 2020] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2020 June | 2M |
|---|---|---|

A bank pays interest to its depositors compounded yearly. If a deposit becomes Rs. 54,000/- at the end of $3^{rd}$ year and Rs. 64,800/- at the end of $6^{th}$ year, what is the principal invested in the deposit?

1. 40,000
2. 42,500
3. 45,000
4. 48,000

**Q62. [June 2020] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2020 June | 2M |
|---|---|---|

Ten glass vases were to be packed one each in 10 boxes marked "Glass". Twelve brass vases were to be packed one each in 12 boxes marked "Brass". Four vases and boxes got mixed up. A customer orders 1 glass and 1 brass vase and is sent appropriately marked boxes. The chance that the customer does not get the ordered vases in correctly marked boxes is

1. $4/5$
2. $5/6$
3. $2/3$
4. $1/3$

**Q63. [June 2020] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2020 June | 2M |
|---|---|---|

Based on the table, what is the maximum number of diamonds one can buy for Rs. 10 lakh?

1. 20
2. 25
3. 30
4. 36

| Size (in carat) | Rate (Rs. Lakh per carat) | Number in stock |
|---|---|---|
| 0.25 | 1 | 20 |
| 0.5 | 2 | 10 |
| 1 | 4 | 5 |
| 2 | 8 | 1 |

**Q64. [June 2020] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2020 June | 2M |
|---|---|---|

For a disease, every infected person infects three others on the $5^{th}$ day and recovers. On an average, men and women are infected in the proportion $4:1$. The total number of women who were infected by the end of 35 days, is closest to

1. 972
2. 820
3. 656
4. 502

**Q65. [June 2020] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2020 June | 2M |
|---|---|---|

A marksman had four successes in six attempts. What is the probability that he had three consecutive successes?

1. $9/15$
2. $12/15$
3. $13/15$
4. $6/15$

**Q66. [June 2020] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2020 June | 2M |
|---|---|---|

The scores of the six students of Group A in an examination are 38, 45, 42, 58, 62 and 55. In the same examination, the scores of the six students of Group B of size 7 are 38, 41, 44, 46, 49 and 52, where one score is missing. If the arithmetic means of the scores of the two groups are same, then what is the missing score?

1. 80
2. 65
3. 63
4. 62

**Q67. [June 2021] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2021 June | 2M |
|---|---|---|

An experiment consists of tossing a coin 20 times. Such an experiment is performed 50 times. The number of heads and the number of tails in each experiment are noted. What is the correlation coefficient between the two?

1. $-1$
2. $-20/50$
3. $20/50$
4. $1$

**Q68. [June 2021] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2021 June | 2M |
|---|---|---|

Which of these groups of numbers has the smallest mean?

Group A: 1,2,3,4,5,6,7,8,9

Group B: 1,2,3,4,6,6,7,8,9

Group C: 1,2,2,4,5,6,7,8,9

Group D: 1,3,3,4,5,6,7,9,9

1. A
2. B
3. C
4. D

**Q69. [June 2021] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2021 June | 2M |
|---|---|---|

Identical balls are tightly arranged in the shape of an equilateral triangle with each side containing $n$ balls. How many balls are there in the arrangement?

1. $n^2/2$
2. $n(n+1)/2$
3. $n(n-1)/2$
4. $(n+1)^2/2$

**Q70. [June 2021] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2021 June | 2M |
|---|---|---|

A shopkeeper has a faulty pan balance with a zero offset. When an object is placed in the left plan it is balanced by a standard 100 g weight. When it is placed in the right pan it is balanced by a standard 80 g weight. What is the actual weight of the object?

1. 90 g
2. 88.88 g
3. 95 g
4. 85 g

**Q71. [June 2021] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2021 June | 2M |
|---|---|---|

Consider a solid cube of side 5 units. After painting, it is cut into cubes of 1 unit. Find the probability that a randomly chosen unit cube has only one side painted.

1. $56/125$
2. $36/125$
3. $44/125$
4. $54/125$

**Q72. [June 2021] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2021 June | 2M |
|---|---|---|

How many integers in the set $\{1,2,3,\ldots\ldots,100\}$ have exactly 3 divisors?

1. 4
2. 12
3. 5
4. 9

**Q73. [June 2021] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2021 June | 2M |
|---|---|---|

The arithmetic and geometric means of two numbers are 65 and 25, respectively. What are these two numbers?

1. 110, 20
2. 115,15
3. 120,10
4. 125,5

**Q74. [June 2021] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2021 June | 2M |
|---|---|---|

A cousin is a non-sibling with a common ancestor. If there is exactly one pair of siblings in a group of 5 persons then the maximum possible number of pairs of cousins in the group is

1. 3
2. 6
3. 9
4. 10

**Q75. [June 2022] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2022 June | 2M |
|---|---|---|

Sections $A$, $B$, $C$ and $D$ of a class have 24, 27, 30 and 36 students, respectively. One section has boys and girls who are seated alternately in three rows, such that the first and the last positions in each row are occupied by boys. Which section could this be?

1. $A$
2. $B$
3. $C$
4. $D$

**Q76. [June 2022] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2022 June | 2M |
|---|---|---|

If one letter each is drawn at random from the words CAUSE and EFFECT, the chance that they are the same is

1. $1/30$
2. $1/11$
3. $1/10$
4. $2/11$

**Q77. [June 2022] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2022 June | 2M |
|---|---|---|

What is the product of the number of capital letters and the number of small letters of the English alphabet in the following text?

A4;={c8%$56((+B/;,.H&r]]](u];#~K@>83<??/STvx%^(d)L:/<-N347)))2;:$+}E$###{w}`".:/89

1. 17
2. 37
3. 53
4. 63

**Q78. [June 2022] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2022 June | 2M |
|---|---|---|

On a track of 200 m length, $S$ runs from the starting point and $R$ starts 20 m ahead of $S$ at the same time. Both reach the end of the track at the same time. $S$ runs at a uniform speed of $10\ \mathrm{m/s}$. If $R$ also runs at a uniform speed, what is $R$'s speed (in $\mathrm{m/s}$ )?

1. 9
2. 10
3. 12
4. 8

**Q79. [June 2022] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2022 June | 2M |
|---|---|---|

A plant grows by 10% of its height every three months. If the plant's height today is 1 m , its height after one year is the closest to

1. 1.10 m
2. 1.21 m
3. 1.33 m
4. 1.46 m

**Q80. [June 2022] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2022 June | 2M |
|---|---|---|

In a four-digit PIN, the third digit is the product of the first two digits and the fourth digit is zero. The number of such PINs is

1. 42
2. 41
3. 40
4. 39

**Q81. [June 2022] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2022 June | 2M |
|---|---|---|

A boy has kites of which all but 9 are red, all but 9 are yellow, all but 9 are green, and all but 9 are blue. How many kites does he have?

1. 12
2. 15
3. 9
4. 18

**Q82. [June 2022] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2022 June | 2M |
|---|---|---|

Tokens numbered from 1 to 25 are mixed and one token is drawn randomly. What is the probability that the number on the token drawn is divisible either by 4 or by 6 ?

1. $8/25$
2. $10/25$
3. $9/25$
4. $12/25$

**Q83. [Dec 2023] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2023 Dec | 2 M |
|---|---|---|

In how many ways can a menu be made from 5 dishes, if the menu contains either 3 or 4 dishes?

1. 2
2. 3
3. 7
4. 15

**Q84. [Dec 2023] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2023 Dec | 2 M |
|---|---|---|

Radius of sphere is measured with 5% uncertainty. What is the uncertainty in the volume, determined from this radius?

1. 5%
2. 6.6%
3. 125%
4. 15%

**Q85. [Dec 2023] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2023 Dec | 2 M |
|---|---|---|

For every 5 chocolates that Ramesh gets, Suresh gets 3 chocolates. Geeta gets 3 chocolates for every 2 chocolates that Suresh gets. If Geeta has 18 chocolates, then the sum of chocolates with Ramesh and Suresh is

1. 16
2. 30
3. 32
4. 38

**Q86. [Dec 2023] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2023 Dec | 2 M |
|---|---|---|

In a market, you can buy a mango for Rs. 10, a lemon for Re. 1 and 8 chillies for Re.1. How many of these items do you need to buy to get a mix of 100 items for exactly Rs. 100?

1. 6 mangoes, 22 lemons, 72 chillis
2. 7 mangoes, 21 lemons, 72 chillis
3. 1 mango, 9 lemons, 80 chillis
4. 8 mangoes, 12 lemons, 80 chillis

**Q87. [Dec 2023] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2023 Dec | 2 M |
|---|---|---|

The sum of the two positive integers is 14 . Then their product CANNOT be divisible by

1. 12
2. 13
3. 14
4. 49

**Q88. [Dec 2023] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2023 Dec | 2 M |
|---|---|---|

What is the value of $x$ in the given magic square, (i.e, a square grid in which the sum of the numbers in rows, columns and diagonals is the same)?

| | | |
|---|---|---|
| $x$ | $x-5$ | 8 |
| $x+1$ | $y$ | $y-2$ |
| 2 | 9 | 4 |

1. 6
2. 4
3. 3
4. 1

**Q89. [Dec 2023] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2023 Dec | 2 M |
|---|---|---|

If $a < x < b$, then for which of the following relations does $0 < y < 1$ always hold?

1. $y = \frac{a-x}{b+a}$

2. $y = \frac{x-a}{b-a}$

3. $y = \frac{x-b}{b-a}$

4. $y = \frac{b-x}{a+b}$

**Q90. [Dec 2023] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2023 Dec | 2 M |
|---|---|---|

A letter is drawn at random from the following string of letters.

RAMUKYAJNAS

What is the probability that it is NOT a vowel?

1. 1/2
2. 6/11
3. 7/11
4. 8/11

**Q91. [June 2023] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2023 June | 2M |
|---|---|---|

When a student in Section A who scored 100 marks in a subject is exchanged for a student in Section B who scored 0 marks, the average marks of the Section A falls by 4, while that of Section B increases by 5. Which of the following statements is true?

1. A has the same strength as B
2. A has 5 more students than B
3. B has 5 more students than A
4. The relative strengths of the classes cannot be assessed from the data

**Q92. [June 2023] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2023 June | 2M |
|---|---|---|

Which of the numbers $A = 162^3 + 327^3$ and $B = 612^3 - 123^3$ is divisible by 489 ?

1. Both A and B
2. A but not B
3. B but not A
4. Neither A nor B

**Q93. [June 2023] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2023 June | 2M |
|---|---|---|

Three consecutive integers a, b, c, add to 15 . Then the value of $(a-2)^2 + (b-2)^2 + (c-2)^2$ would be

1. 25
2. 27
3. 29
4. 31

**Q94. [June 2023] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2023 June | 2M |
|---|---|---|

Price of an item is increased by 20% of its cost price and is then sold at 10% discount for Rs. 2160. What is its cost price?

1. 1680
2. 1700
3. 1980
4. 2000

**Q95. [June 2023] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2023 June | 2M |
|---|---|---|

Three friends having a ball each stand at the three corners of a triangle. Each of them throws her ball independently at random to one of the others, once. The probability of no two friends throwing balls at each other is

1. 1/4
2. 1/8
3. 1/3
4. 1/2

**Q96. [June 2023] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2023 June | 2M |
|---|---|---|

Consider two datasets A and B, each with 3 observations, such that both the datasets have the same median. Which of the following MUST be true?

1. Sum of the observations in A = Sum of the observations in B.
2. Median of the squares of the observations in A = Median of the squares of the observations in B.
3. The median of the combined dataset = median of A + median of B.
4. The median of the combined dataset = median of A.

**Q97. [June 2023] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2023 June | 2M |
|---|---|---|

Three fair cubical dice are thrown, independently. What is the probability that all the dice read the same?

1. 1/6
2. 1/36
3. 1/216
4. 13/216

**Q98. [June 2023] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2023 June | 2M |
|---|---|---|

a buffet, 4 curries A,B,C and D were served. A guest was to eat any one or more than one curry, but not the combinations having C and D together. The number of options available for the guest were

1. 3
2. 7
3. 11
4. 15

**Q99. [June 2023] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2023 June | 2M |
|---|---|---|

A building has windows of sizes 2, 3 and 4 feet and their respective numbers are inversely proportional to their sizes. If the total number of windows is 26, then how many windows are there of the largest size?

1. 4
2. 6
3. 12
4. 9

**Q100. [Dec 2024] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2024 Dec | 2M |
|---|---|---|

The square of the geometric mean of two positive integers is 30 . The smallest possible sum of the two integers is

1. 10
2. 11
3. 13
4. 17

**Q101. [Dec 2024] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2024 Dec | 2M |
|---|---|---|

Two fair dice are thrown at random independently. What is the probability that the average of the values on their upper faces is 4 ?

1. $5/36$
2. $1/6$
3. $7/36$
4. $2/9$

**Q102. [Dec 2024] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2024 Dec | 2M |
|---|---|---|

Cube root of $0.0125\%$ is closest to

1. $0.005\%$
2. $0.05\%$
3. $0.5\%$
4. $5\%$

**Q103. [Dec 2024] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2024 Dec | 2M |
|---|---|---|

The value of $\left(1-\frac{1}{2025}\right)\left(1-\frac{1}{2024}\right)\left(1-\frac{1}{2023}\right)\ldots\left(1-\frac{1}{2001}\right)$ is

1. $\left(1-\frac{1}{79}\right)$
2. $\left(1-\frac{1}{80}\right)$
3. $\left(1-\frac{1}{81}\right)$
4. $\left(1-\frac{1}{82}\right)$

**Q104. [Dec 2024] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2024 Dec | 2M |
|---|---|---|

An OTP is made of six digits using 0 to 9 . If three digits and their positions are known, what is the probability (in percentage) of discovering the full pin within 100 trials?

1. 10%
2. 20%
3. 30%
4. 40%

**Q105. [Dec 2024] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2024 Dec | 2M |
|---|---|---|

How many 5 -digit numbers, using 0 to 9 , can be generated such that ' 123 ' appears as a string and no digit appears more than once?

1. 228
2. 108
3. 156
4. 114

**Q106. [June 2024] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2024 June | 2M |
|---|---|---|

A large number of birds, half of which belong to specie A and the other half to specie B , rest on a tree where they are distributed randomly across the branches. In a random sample of 5 birds from the tree, what is the probability that at least one is from specie A?

1. 0.03125
2. 0.15625
3. 0.84375
4. 0.96875

**Q107. [June 2024] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2024 June | 2M |
|---|---|---|

Suppose that the increase in a population can be modelled as $\left(\frac{dN}{dt}\right) = rN\frac{(K-N)}{K}$ where N is the size of the population, K is the carrying capacity, $r$ is the per capita growth rate and $t$ is time. Which of the following statements is correct?

1. When $N \approx 0$, the change in population N is nearly exponential.
2. When $N = K$, the population goes extinct as $dN/dt$ goes to zero.
3. When $N \approx 0$, the population growth $dN/dt$ is maximum.
4. When $N \approx K/4$, the population growth $dN/dt$ is maximum.

**Q108. [June 2024] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2024 June | 2M |
|---|---|---|

How many three-digit numbers exist whose first and last digits add up to 9 ?

1. 90
2. 81
3. 80
4. 72

**Q109. [June 2024] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2024 June | 2M |
|---|---|---|

Among 1000 squirrel babies, 200 have three stripes on their back, 500 have two stripes on their back and the rest have four stripes on their back. While 90% of the three-striped babies survive to adulthood, only 80% of the two-striped and 70% of the four-striped babies survive to adulthood. The fraction of four-striped squirrels among the adults is nearest to

1. 0.21
2. 0.3
3. 0.266
4. 0.228

**Q110. [June 2024] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2024 June | 2M |
|---|---|---|

In a class of 70 students, 20% of girls have spectacles and 40% of boys have spectacles. If the total number of students having spectacle is 23 , the number of boys in the class is

1. 45
2. 14
3. 18
4. 25

**Q111. [June 2024] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2024 June | 2M |
|---|---|---|

A referendum on a proposal involved 7000 participants. Among the participants 3600 were women and the rest were men. 2900 participants, of whom 1300 were women, voted against while 3000 participants voted in favour. 400 women abstained. The ratio of the number of men that did not vote to the total number of participants is

1. 11:70
2. 17:35
3. 1:10
4. 8:70

**Q112. [June 2024] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2024 June | 2M |
|---|---|---|

If 32XY6 is divisible by 9, X and Y being even decimal digits, then X =

1. 2
2. 4
3. 6
4. 8

**Q113. [Dec 2025] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2025 Dec | 2M |
|---|---|---|

Suppose $a_1, a_2, \ldots, a_{300}$ are integers such that $a_{i-1} + a_i + a_{i+1} = 2025$ for all $i = 2,3, \ldots, 299$. If $a_7 = -5, a_9 = 37$, then the value of $a_{106}$ is

1. 1993
2. 37
3. -5
4. 2030

**Q114. [Dec 2025] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2025 Dec | 2M |
|---|---|---|

A lady bought some apples, each costing Rs. 25, and some bananas each costing Rs 6, for a total of Rs. 378. In how many ways could she have chosen the numbers of apples and bananas?

1. 1
2. 2
3. 3
4. 4

**Q115. [Dec 2025] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2025 Dec | 2M |
|---|---|---|

How many 5 -digit numbers can be formed from the digits 0,2,3,4,6,7 and 9 , using each at most once, which are divisible by 5 ?

1. 120
2. 240
3. 360
4. 720

**Q116. [Dec 2025] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2025 Dec | 2M |
|---|---|---|

In an exam, questions of three difficulty levels hard, medium, and easy fetch respectively 7,3 , and 2 marks if correct and 0 if incorrect. Three students got 30 marks each but in three different ways, though the total number of questions correctly answered by each student was the same. Then what could be the total number of questions correctly answered by each of these students?

1. 12
2. 10
3. 9
4. 6

**Q117. [Dec 2025] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2025 Dec | 2M |
|---|---|---|

The value of

$$1+\left(\frac{1}{2^1}+\frac{1}{3}\right)+\left(\frac{1}{2^2}+\frac{1}{5}+\frac{1}{6}+\frac{1}{7}\right)+\cdots+\left(\frac{1}{2^9}+\cdots+\frac{1}{1023}\right)$$

lies between

1. 2 and 10
2. 11 and 20
3. 21 and 30
4. 31 and 40

**Q118. [Dec 2025] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2025 Dec | 2M |
|---|---|---|

The geometric mean of 100 observations is 25 . If each observation is multiplied by 4 , what will be the new geometric mean?

1. 100
2. 50
3. 25
4. $(25\times 4)^{1/2}$

**Q119. [Dec 2025] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2025 Dec | 2M |
|---|---|---|

In a class, 40% and 20% students passed in Mathematics and Physics, respectively, and 10% students passed in both subjects. What is the probability of a randomly selected student to have passed in Physics if the student already passed in Mathematics?

1. $1/2$
2. $1/20$
3. $1/4$
4. $2/25$

**Q120. [Dec 2025] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2025 Dec | 2M |
|---|---|---|

Some, but not all, faces of a six-faced cubical fair die are painted red (R) and the remaining green (G); and the die is thrown until red faces come up on top 4 times. Consider the following sequences of colors listed left to right as they appear on the top.

A: GRRRR

B: GRGRRR

Which one of the following is true?

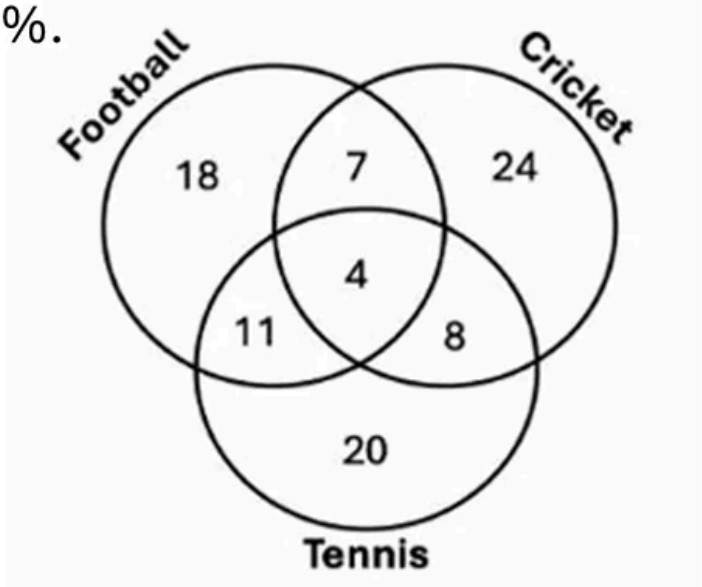
1. A is more probable than B
2. B is more probable than A
3. Both have the same probability
4. Whether A or B is more probable depends upon how many faces are painted green

**Q121. [June 2025] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2025 June | 2M |
|---|---|---|

The given Venn diagram shows numbers of players playing one or more than one sport. The percentage of players who play exactly two sports is closest to ___ %.




1. 5
2. 14
3. 28
4. 32

**Q122. [June 2025] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2025 June | 2M |
|---|---|---|

The value of a company is measured as the total value of its shares owned by different investors. Rakesh owns 2/15 of the shares of a company. He sells 1/3 of his shares for Rs. 75,000/-. What is the total value of the company at that time?

1. Rs. 15,75,800
2. Rs. 16,87,500
3. Rs. 17,75,800
4. Rs. 18,27,500

**Q123. [June 2025] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2025 June | 2M |
|---|---|---|

The initial monthly salaries of employees John, Riya, and Sunil were in the proportion 4:3:5. After an increase of Rs 10000 monthly to all, the new proportion becomes 6: 5: 7. What was the initial salary of Sunil?

1. Rs 20000
2. Rs 25000
3. Rs 30000
4. Rs 35000

**Q124. [June 2025] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2025 June | 2M |
|---|---|---|

Numbers of Rose, Lotus, and Marigold plants in a garden are in the proportion 8:5:7. Later, 75%, 40% and 50% more plants of their respective categories were added. What will be the new proportion of plants, in the same order?

1. 5: 3: 4
2. 4:2:3
3. 5:4:3
4. 7:4:5

**Q125. [June 2025] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2025 June | 2M |
|---|---|---|

What will be the digit at the unit's place of $1^3 + 2^3 + 3^3 + 4^3 + 5^3 + 6^3 + 7^3 + 8^3 + 9^3$ ?

1. 0
2. 5
3. 7
4. 9

**Q126. [June 2025] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2025 June | 2M |
|---|---|---|

A number is mistakenly divided by 2 instead of being multiplied by 2 . What is the change in the result caused by this mistake?

1. 25%
2. 50%
3. 75%
4. 100%

**Q127. [June 2025] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2025 June | 2M |
|---|---|---|

Sum of the digits of a two-digit number 'ab' is subtracted from the number and the result is divided by 9 . Then the result of this will be

1. always a
2. always b
3. neither a nor b
4. either a or b depending on a+b

**Q128. [June 2025] . 2.0 marks**

General Aptitude > Mathematical Analysis

| CSIR NET | 2025 June | 2M |
|---|---|---|

A stock market trader has lost two thirds of her investment on a day. Next day she recovered one third of the previous day's loss. What fraction of her initial investment is she left with?

1. $\frac{1}{3}$
2. $\frac{2}{3}$
3. $\frac{2}{9}$
4. $\frac{5}{9}$

# Answer Key

128 questions . Subject and topic for quick revision

| Q. No | Subject | Topic | Answer |
|---|---|---|---|
| Q1 | General Aptitude | Mathematical Analysis | **2** |
| Q2 | General Aptitude | Mathematical Analysis | **2** |
| Q3 | General Aptitude | Mathematical Analysis | **3** |
| Q4 | General Aptitude | Mathematical Analysis | **3** |
| Q5 | General Aptitude | Mathematical Analysis | **3** |
| Q6 | General Aptitude | Mathematical Analysis | **1** |
| Q7 | General Aptitude | Mathematical Analysis | **1** |
| Q8 | General Aptitude | Mathematical Analysis | **4** |
| Q9 | General Aptitude | Mathematical Analysis | **3** |
| Q10 | General Aptitude | Mathematical Analysis | **1** |
| Q11 | General Aptitude | Mathematical Analysis | **2** |
| Q12 | General Aptitude | Mathematical Analysis | **4** |
| Q13 | General Aptitude | Mathematical Analysis | **4** |
| Q14 | General Aptitude | Mathematical Analysis | **3** |
| Q15 | General Aptitude | Mathematical Analysis | **4** |
| Q16 | General Aptitude | Mathematical Analysis | **1** |
| Q17 | General Aptitude | Mathematical Analysis | **2** |
| Q18 | General Aptitude | Mathematical Analysis | **2** |
| Q19 | General Aptitude | Mathematical Analysis | **2** |
| Q20 | General Aptitude | Mathematical Analysis | **2** |
| Q21 | General Aptitude | Mathematical Analysis | **1** |
| Q22 | General Aptitude | Mathematical Analysis | **2** |
| Q23 | General Aptitude | Mathematical Analysis | **3** |
| Q24 | General Aptitude | Mathematical Analysis | **2** |
| Q25 | General Aptitude | Mathematical Analysis | **3** |
| Q26 | General Aptitude | Mathematical Analysis | **1** |
| Q27 | General Aptitude | Mathematical Analysis | **1** |
| Q28 | General Aptitude | Mathematical Analysis | **2** |
| Q29 | General Aptitude | Mathematical Analysis | **1** |
| Q30 | General Aptitude | Mathematical Analysis | **4** |
| Q31 | General Aptitude | Mathematical Analysis | **2** |
| Q32 | General Aptitude | Mathematical Analysis | **2** |
| Q33 | General Aptitude | Mathematical Analysis | **1** |
| Q34 | General Aptitude | Mathematical Analysis | **3** |
| Q35 | General Aptitude | Mathematical Analysis | **2** |
| Q36 | General Aptitude | Mathematical Analysis | **3** |
| Q37 | General Aptitude | Mathematical Analysis | **1** |
| Q38 | General Aptitude | Mathematical Analysis | **3** |
| Q39 | General Aptitude | Mathematical Analysis | **1** |
| Q40 | General Aptitude | Mathematical Analysis | **4** |

## Answer Key (cont.)

| Q. No | Subject | Topic | Answer |
|---|---|---|---|
| Q41 | General Aptitude | Mathematical Analysis | **3** |
| Q42 | General Aptitude | Mathematical Analysis | **4** |
| Q43 | General Aptitude | Mathematical Analysis | **4** |
| Q44 | General Aptitude | Mathematical Analysis | **2** |
| Q45 | General Aptitude | Mathematical Analysis | **4** |
| Q46 | General Aptitude | Mathematical Analysis | **2** |
| Q47 | General Aptitude | Mathematical Analysis | **2** |
| Q48 | General Aptitude | Mathematical Analysis | **2** |
| Q49 | General Aptitude | Mathematical Analysis | **3** |
| Q50 | General Aptitude | Mathematical Analysis | **4** |
| Q51 | General Aptitude | Mathematical Analysis | **3** |
| Q52 | General Aptitude | Mathematical Analysis | **2** |
| Q53 | General Aptitude | Mathematical Analysis | **4** |
| Q54 | General Aptitude | Mathematical Analysis | **4** |
| Q55 | General Aptitude | Mathematical Analysis | **3** |
| Q56 | General Aptitude | Mathematical Analysis | **3** |
| Q57 | General Aptitude | Mathematical Analysis | **4** |
| Q58 | General Aptitude | Mathematical Analysis | **2** |
| Q59 | General Aptitude | Mathematical Analysis | **1** |
| Q60 | General Aptitude | Mathematical Analysis | **3** |
| Q61 | General Aptitude | Mathematical Analysis | **3** |
| Q62 | General Aptitude | Mathematical Analysis | **4** |
| Q63 | General Aptitude | Mathematical Analysis | **2** |
| Q64 | General Aptitude | Mathematical Analysis | **3** |
| Q65 | General Aptitude | Mathematical Analysis | **1** |
| Q66 | General Aptitude | Mathematical Analysis | **1** |
| Q67 | General Aptitude | Mathematical Analysis | **1** |
| Q68 | General Aptitude | Mathematical Analysis | **3** |
| Q69 | General Aptitude | Mathematical Analysis | **2** |
| Q70 | General Aptitude | Mathematical Analysis | **1** |
| Q71 | General Aptitude | Mathematical Analysis | **4** |
| Q72 | General Aptitude | Mathematical Analysis | **1** |
| Q73 | General Aptitude | Mathematical Analysis | **4** |
| Q74 | General Aptitude | Mathematical Analysis | **3** |
| Q75 | General Aptitude | Mathematical Analysis | **2** |
| Q76 | General Aptitude | Mathematical Analysis | **3** |
| Q77 | General Aptitude | Mathematical Analysis | **4** |
| Q78 | General Aptitude | Mathematical Analysis | **1** |
| Q79 | General Aptitude | Mathematical Analysis | **4** |
| Q80 | General Aptitude | Mathematical Analysis | **1** |
| Q81 | General Aptitude | Mathematical Analysis | **1** |

## Answer Key (cont.)

| Q. No | Subject | Topic | Answer |
|---|---|---|---|
| Q82 | General Aptitude | Mathematical Analysis | **1** |
| Q83 | General Aptitude | Mathematical Analysis | **4** |
| Q84 | General Aptitude | Mathematical Analysis | **4** |
| Q85 | General Aptitude | Mathematical Analysis | **3** |
| Q86 | General Aptitude | Mathematical Analysis | **2** |
| Q87 | General Aptitude | Mathematical Analysis | **3** |
| Q88 | General Aptitude | Mathematical Analysis | **1** |
| Q89 | General Aptitude | Mathematical Analysis | **2** |
| Q90 | General Aptitude | Mathematical Analysis | **3** |
| Q91 | General Aptitude | Mathematical Analysis | **2** |
| Q92 | General Aptitude | Mathematical Analysis | **1** |
| Q93 | General Aptitude | Mathematical Analysis | **3** |
| Q94 | General Aptitude | Mathematical Analysis | **4** |
| Q95 | General Aptitude | Mathematical Analysis | **1** |
| Q96 | General Aptitude | Mathematical Analysis | **4** |
| Q97 | General Aptitude | Mathematical Analysis | **2** |
| Q98 | General Aptitude | Mathematical Analysis | **3** |
| Q99 | General Aptitude | Mathematical Analysis | **2** |
| Q100 | General Aptitude | Mathematical Analysis | **2** |
| Q101 | General Aptitude | Mathematical Analysis | **4** |
| Q102 | General Aptitude | Mathematical Analysis | **4** |
| Q103 | General Aptitude | Mathematical Analysis | **3** |
| Q104 | General Aptitude | Mathematical Analysis | **1** |
| Q105 | General Aptitude | Mathematical Analysis | **4** |
| Q106 | General Aptitude | Mathematical Analysis | **4** |
| Q107 | General Aptitude | Mathematical Analysis | **1** |
| Q108 | General Aptitude | Mathematical Analysis | **1** |
| Q109 | General Aptitude | Mathematical Analysis | **3** |
| Q110 | General Aptitude | Mathematical Analysis | **1** |
| Q111 | General Aptitude | Mathematical Analysis | **3** |
| Q112 | General Aptitude | Mathematical Analysis | **4** |
| Q113 | General Aptitude | Mathematical Analysis | **3** |
| Q114 | General Aptitude | Mathematical Analysis | **2** |
| Q115 | General Aptitude | Mathematical Analysis | **3** |
| Q116 | General Aptitude | Mathematical Analysis | **2** |
| Q117 | General Aptitude | Mathematical Analysis | **1** |
| Q118 | General Aptitude | Mathematical Analysis | **1** |
| Q119 | General Aptitude | Mathematical Analysis | **3** |
| Q120 | General Aptitude | Mathematical Analysis | **1** |
| Q121 | General Aptitude | Mathematical Analysis | **3** |
| Q122 | General Aptitude | Mathematical Analysis | **2** |

## Answer Key (cont.)

| Q. No | Subject | Topic | Answer |
|---|---|---|---|
| Q123 | General Aptitude | Mathematical Analysis | **2** |
| Q124 | General Aptitude | Mathematical Analysis | **2** |
| Q125 | General Aptitude | Mathematical Analysis | **2** |
| Q126 | General Aptitude | Mathematical Analysis | **3** |
| Q127 | General Aptitude | Mathematical Analysis | **1** |
| Q128 | General Aptitude | Mathematical Analysis | **4** |

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