

CAT 2025 Slot 1 QA Question Paper

Time Allowed :40 Minutes	Maximum Marks :66	Total Questions :22
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General Instructions

Read the following instructions very carefully:

1. The total duration of the QA section is **40 minutes**.
2. Each correct answer carries **+3 marks**.
3. For multiple-choice questions (MCQs), **−1 mark** will be deducted for each wrong answer.
4. There is **no negative marking** for Type-in-the-Answer (TITA) questions.
5. Once the allotted time for a section ends, you will automatically move to the next section. You cannot go back to a previous section.
6. All answers must be entered on the computer screen using the mouse and keyboard. Rough sheets will be provided.
7. The use of calculators, mobile phones, or any other electronic device is strictly prohibited. An on-screen basic calculator will be provided.

1. A 200-litre container holds a solution that is 30% acid and the rest water. The solution undergoes the following three processes sequentially:

- 20% of the water content is evaporated. From the remaining mixture, 10% of the acid content is chemically extracted and removed. Finally, 15% of the resulting solution is removed and replaced with water.

What is the volume of acid in the final solution?

2. In the sequence 1, 3, 5, 7, ..., k, ..., 57, the sum of the numbers up to k, excluding k, is equal to the sum of the numbers from k up to 57, also excluding k. What is k?

3. Find the number of real values of x satisfying the equation:

$$\log_2(x^2 - 5x + 6) + \log_{1/2}(x - 2) = 3$$

4. Find the number of integer pairs (x, y) that satisfy the following system of inequalities:

$$\begin{cases} x \geq y \geq 3 \\ x + y \leq 14 \end{cases}$$

5. Given that a , b , and c are real numbers satisfying the equations:

1. $2a - 5b + 11c = 0$

2. $11a + 10b - 2c = 5$

Find the value of the expression $(a^2 - b^2 + c^2)$.

- (A) $5/11$
- (B) $2/13$
- (C) 1
- (D) CBD (Cannot be determined)

6. A shopkeeper offers a 22% discount on the marked price of chairs. He gives 13 chairs to a customer at the discounted price of 12 chairs. If he still makes a profit of 26%, what is the marked price (MP) of a single chair, assuming its cost price (CP) is Rupees 100?

7. In a class, there are 10 boys and 'n' girls. After some students leave, 60% of the boys and 40% of the girls remain. If the number of remaining girls is 8 more than the number of remaining boys, what was the initial number of girls, n?

- (A) 20
- (B) 25
- (C) 30
- (D) 35

8. Stocks A, B and C, at 120, 90 and 80 rs respectively. A trader holds a portfolio consisting 60 shares of A, 20 of B and C together. If total value is 33000 what is

the number of shares he holds.

- (A) 320
 - (B) 360
 - (C) 380
 - (D) 400
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9. Arun, Tarun and Varun work for 24, 21 and 15 days respectively and get paid 2160, 2400 and 2160 rupees respectively. They get paid the same even if they work for a partial day. If the work has to be completed within 10 days or less, what is the minimum amount that has to be paid to complete the entire task?

- (A) Rs. 2100
 - (B) Rs. 2160
 - (C) Rs. 2280
 - (D) Rs. 2400
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10. The number of non-negative values of n for which $\log_{1/4}(n^2 - 7n + 14) > 0$ is

- (A) 0
 - (B) 1
 - (C) 2
 - (D) 4
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11. A container contains only milk. $\frac{2}{3}$ of the mixture is removed and replaced with water. This process is done once and then repeated another 3 times. What is the final ratio of milk and water?

- (A) 1 : 26
- (B) 1 : 80
- (C) 16 : 65

(D) 1 : 242

12. If the length of each side of a rhombus is 36 cm, and the area of the rhombus is 396 cm^2 , then what is the absolute value of the difference between the lengths of its diagonals?

(A) 54 cm

(B) 60 cm

(C) 66 cm

(D) 72 cm

13. In a cafeteria, there are 5 breads. One can choose 1 bread from the available breads, either small or large sized, and can choose up to 2 sauces from 6 available sauces. What is the number of different ways one can place an order?

(A) 110

(B) 220

(C) 240

(D) 280
