XAT - 2025

XAT 2025 Quantitative Aptitude & Data Interpretation

PREVIOUS YEAR QUESTION PAPER

XAT 2025 Quantitive Aptitude and Data Interpretation

QUESTION 1: There are 25 rooms in a hotel. Each room can accommodate at most three people. For each room, the single occupancy charge is Rs. 2000 per day, the double occupancy charge is Rs. 3000 per day, and the triple occupancy charge is Rs. 3500 per day. If there are 55 people staying in the hotel today, what is the maximum possible revenue from room occupancy charges today?

  A. Rs. 87500

  B. Rs. 72500

  C. Rs. 77500

  D. Rs. 92500

  E. Rs. 82500

QUESTION 2: Ramesh bought a mobile from a local store. He paid 1/6 of the price via UPI and 1/3 of the price via cash. He agreed to pay the balance amount a year later. While paying back the balance amount, Ramesh paid 10% interest on the balance amount. If the interest paid was Rs. 6000, what was the original price of the mobile?

  A. Rs. 110000

  B. Rs. 150000

  C. Rs. 120000

  D. Rs. 100000

  E. Rs. 90000

QUESTION 3: Adu and Amu have bought two pieces of land on the Moon from an e-store. Both the pieces of land have the same perimeters, but Adu's piece of land is in the shape of a square, while Amu's piece of land is in the shape of a circle. The ratio of the areas of Adu's piece of land to Amu's piece of land is:

  A. $\pi^2 : 4$

  B. $\pi : 4$

  C. $\pi : 2$

  D. $1 : 4$

  E. π

QUESTION 4: The market value of beams, made of a rare metal, has a unique property: the market value of any such beam is proportional to the square of its length. Due to an accident, one such beam got broken into two pieces having lengths in the ratio 4:9. Considering each broken piece as a separate beam, how much gain or loss, with respect to the market value of the original beam before the accident, is incurred?

  A. 74.23% gain

  B. No gain or loss

  C. 31.77% loss

  D. 42.60% loss

  E. 57.40% loss

QUESTION 5: ABCD is a rectangle, where the coordinates of C and D are (-2,0) and (2,0), respectively. If the area of the rectangle is 24, which of the following is a possible equation representing the line AB?

  A. 4x+6y=24

  B. x+y=12

  C. x=6

  D. None of the other options is correct.

  E. y=6

QUESTION 6: Consider the quadratic function $f(x)=ax^2+bx+a$ having two irrational roots, with a and b being two positive integers, such that $a, b \leq 9$. If all such permissible pairs (a, b) are equally likely, what is the probability that a+b is greater than 9?

  A. None of the other answers is correct.

  B. 5/8

  C. 2/3

  D. 7/15

  E. 7/16

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QUESTION 7: A farmer has a quadrilateral parcel of land with a perimeter of 700 feet. Two opposite angles of that parcel of land are right angles, while the remaining two are not. The farmer wants to do organic farming on that parcel of land. The cost of organic farming is Rs. 400 per square foot. Consider the following two additional pieces of information:
- I. The length of one of the sides of that parcel of land is 110 feet.
- II. The distance between the two corner points where the non-perpendicular sides of that parcel of land intersect is 265 feet.

determine the amount of money the farmer needs to spend to do organic farming on the entire parcel of land, which of the above additional pieces of information are MINIMALLY SUFFICIENT?

A. Either of I or II, by itself

B. II only

C. The amount cannot be determined even with the additional pieces of information.

D. I only

E. I and II together only

QUESTION 8: A straight line L_1 has the equation y=k(x-1) where k is some real number. The straight line L_1 intersects another straight line L_2 at the point (5, 8). If L_2 has a slope of 1, which of the following is definitely FALSE?

A. The distance from the origin to one of the lines is $3/\sqrt{2}$.

B. The distance between the x-intercepts of the two lines is 4

C. The distance between the y-intercepts of the two lines is 6

D. The line L_1 passes through the point (1, 0)

E. The distance from the origin to one of the lines is $2/\sqrt{5}$

QUESTION 9: For how many distinct real values of x does the equation below hold true? (Consider a>0)

$$\frac{x^2 log_a(16)}{log_a(32)} - \frac{log_a(64)}{log_a(32)} - x = 0$$

A. 1

B. 0

C. Depends on the value of a

D. 2

E. Infinitely many

QUESTION 10: In a computer game, each move requires pressing a button. When the button is pressed for the first time, as a move, the computer randomly chooses a cell from a 4x4 grid of sixteen cells and puts an "X" mark on that cell. When the button is pressed subsequently, the computer randomly chooses a cell from the remaining unmarked cells and puts an "X" mark on that cell. This goes on till the end of the game. The game ends when either all the cells in any one row, or all the cells in any one column, are marked with "X". What is the maximum possible number of times a player has to press the button to finish the game?

A. 16

B. 10

C. 13

D. 04

E. 06

QUESTION 11: There are five dustbins along a circular path at different places. Ramesh takes multiple rounds of the path every morning, always at the same speed. He noticed that it took him a different number of steps to walk between any two consecutive dustbins. Ramesh also noticed that starting from any of the dustbins, it took a minimum 360 steps to reach every second dustbin, and a maximum 1260 steps to reach every third dustbin. If Ramesh's step size is 0.77 meter, and the width of the path is negligible, which the following can be the radius of the circular path?

A. 230 meters

B. 260 meters

C. 250 meters

D. 220 meters

E. 240 meters

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QUESTION 12: Eight employees of an organization have been rated on a scale of 1 to 50 for their performance. All ratings are integers. The overall average rating of the eight employees is 30. While the five employees with the highest ratings average 38, the five employees with the lowest ratings average 25. Which of the following, about the ratings obtained by the eight employees, is DEFINITELY FALSE?

A. The second highest rating obtained is 38.
B. The lowest rating obtained is 1.
C. The third lowest rating obtained is 37.
D. The median of the eight ratings is 37.5.
E. The highest rating obtained is 40

QUESTION 13: Arun selected an integer x between 2 and 40, both inclusive. He noticed that the greatest common divisor of the selected integer x and any other integer between 2 and 40, both inclusive, is 1. How many different choices for such an x are possible?

A. 1
B. 8
C. 4
D. 0
E. 12

QUESTION 14: An industrial robot manufacturing company is tasked to design humanoid robots to be used in warehouses where the robots need to pick items from a stack of shelves. The height of the topmost shelf from the ground is 7 feet. To operate, the robot has to move on a track, running parallel to the stack of shelves. The track is fixed 1 foot away from the base of the stack of shelves. Further, the robot cannot bend its arms by more than 60° from the horizontal plane. If the robot's arms are attached to its shoulder, what should be the minimum height of the robot from the ground to the shoulder for its arms to reach the topmost shelf?

A. None of the other options is correct
B. 7 feet
C. √3 feet
D. 6 + √3 feet
E. 7 - √3 feet

QUESTION 15: A solid trophy, consisting of two parts, has been designed in the following manner: the bottom part is a frustum of a cone with the bottom radius 30 cm, the top radius 20 cm, and height 40 cm, while the top part is a hemisphere with radius 20 cm. Moreover, the flat surface of the hemisphere is the same as the top surface of the frustum. If the entire trophy is to be gold-plated at the cost of Rs. 40 per square cm, what would the cost for gold-plating be closest to?

A. Rs. 3,60,000
B. Rs. 3,72,000
C. Rs. 1,12,000
D. Rs. 5,23,000
E. Rs. 4,73,000

QUESTION 16:If a, b, and c are all positive integers, with 4a>b, then which of the following conditions is BOTH NECESSARY AND SUFFICIENT for the expression $\sqrt[3]{(3)^a(21)(3a-b)(49)(2b+c)}$ to be a positive integer?

A. a-b=c
B. a-b+2c is divisible by 3
C. a, b, and c are divisible by 3
D. a-b and c are divisible by 3
E. None of the other conditions is both necessary and sufficient

Read the following scenario and answer the THREE questions that follow.

The diagram (in the PDF) represents a road network connecting five towns, namely Meereen, Lannisport, Winterfell, Oldtown, and Gulltown. The maximum speed limits along any stretch of road are as shown in the diagram. The straight road that connects Meereen to Gulltown passes through Oldtown. Another straight road, running west to east, connecting Meereen to Winterfell, passes through Lannisport. Further, two straight roads, one from Lannisport to Oldtown and another from Winterfell to Gulltown, are perpendicular to the road joining Meereen to Winterfell, and run from south to north.

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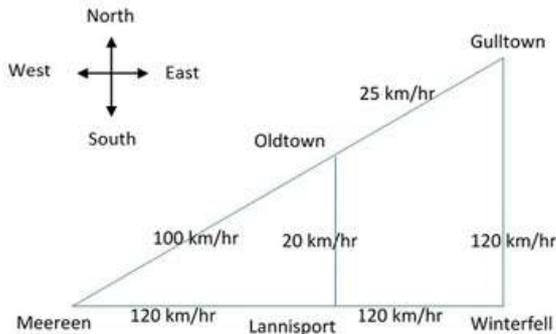
Consider a car always travelling at the maximum permissible speed, and always taking the shortest route. It takes 1 hour to reach Oldtown from Meereen, 2 hours to reach Gulltown from Oldtown, and 45 minutes to reach Winterfell from Gulltown. (For this problem, always consider the shortest route in terms of distance.)

QUESTION 17: Tyrion Lannister drove from Meereen to Oldtown, then from Oldtown to Lannisport, and finally from Lannisport to Winterfell, always taking the shortest paths. He always drove at a speed 10 km/hr below the maximum speed limits for the stretches he took. What was his total driving time closest to?

A. 4 hrs 20 mins

B. 6 hrs 42 mins

C. 7 hrs 50 mins

D. 7 hrs 28 mins

E. 3 hrs 19 mins

QUESTION 18: Missandei starts from Gulltown towards Oldtown by the shortest path, driving at the maximum permissible speed. From Oldtown, she drives at a speed of 10km/hr towards Lannisport. When Missandei starts from Gulltown, Varys starts at the same time from Lannisport to Oldtown along the shortest path, always driving at the maximum permissible speed. If they don't stop anywhere, at what point will they meet?

A. Approximately 13.33 km south of Oldtown.

B. Approximately 6.67 km south of Oldtown.

C. Approximately 57.33 km north of Lannisport.

D. Cannot be uniquely determined from the given information.

E. Approximately 54.33 km north of Lannisport.

QUESTION 19: The capital city, King's Landing, located 40 km to the south of Gulltown on the road connecting Gulltown to Winterfell, did not have a straight road, connecting to Meereen. Now, a new expressway is being built to connect these two towns by a straight road. What should be the maximum speed limit allowed on this expressway so that it cuts down the travel time, from Meeren to King's Landing, from the fastest possible route through the road network shown in the diagram, by 20 minutes?

A. 139 km/hr

B. 130 km/hr

C. 157 km/hr

D. 120 km/hr

E. 100km/hr

Read the following scenario and answer the THREE questions that follow.

The plots below depict and compare the average monthly incomes (in Rs. '000) of males and females in ten cities of India in the years 2005 and 2015. The ten cities, marked A-J in the records, are of different population sizes. For a fair comparison, to adjust for inflation, incomes for both the periods are scaled to 2025 prices. Each red dot represents the average monthly income of females in a particular city in a particular year, while each blue dot represents the average monthly income of males in a particular city in a particular year. The gender gap for a city, for a particular year, is defined as the absolute value of the average monthly income of males, minus the average monthly income of females, in that year.

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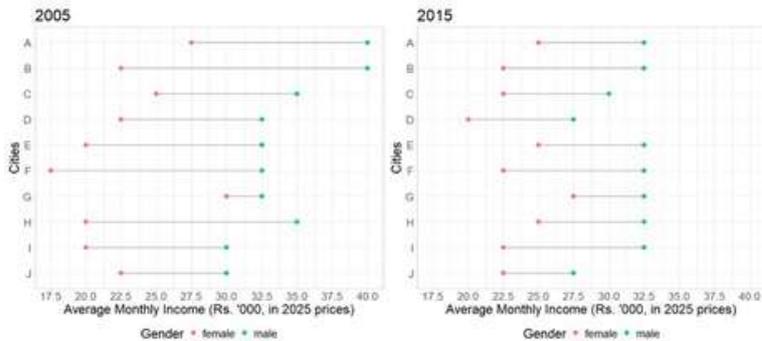
QUESTION 20: In which city did the gender gap, in terms of 2025 prices, change the least, from 2005 to 2015, in terms of percentage?

A. J

B. E

C. C

D. D

E. I

QUESTION 21: Which of the following statements, about the average monthly incomes of the 10 cities, as represented in the plots, is DEFINITELY FALSE?

A. In terms of 2025 prices, the average gender gap of the 10 cities combined in 2015 was less compared to the average gender gap of the 10 cities combined in 2005.

B. In terms of 2025 prices, the average monthly income of men of the 10 cities combined was less than Rs. 30,000 in 2005.

C. In terms of 2025 prices, in more than half of the 10 cities, average monthly incomes of men were more in 2005, compared to 2015.

D. In terms of 2025 prices, the average monthly income of women of the 10 cities combined was less than Rs. 22,000 in 2015.

E. In terms of 2025 prices, the median monthly income of men of the 10 cities combined were higher than the median monthly income of women of the 10 cities combined, both in 2005 and 2015.

QUESTION 22: Rs.100 in 2025 is worth Rs. 60 in 2015 prices, and Rs. 25 in 2005 prices. Based on the given plots, which of the following statements, about the unscaled incomes, i.e., the incomes before scaling to 2025 prices, CANNOT be correct? (All statements refer to people represented in the given plots.)

A. Average unscaled income of women was about Rs. 15,000 in 2015 in City H

B. Average unscaled income of women in City G increased by about 120% from 2005 to 2015

C. Average unscaled income of men in City E increased by about 140% from 2005 to 2015

D. The unscaled gender gaps reduced in all 10 cities from 2005 to 2015

E. Average unscaled income for both genders increased in all 10 cities from 2005 to 2015

Read the following scenario and answer the THREE questions that follow.

GadRev is a firm that reviews different latest gadgets through a team of four reviewers (R1, R2, R3, and R4). Recently the reviewers reviewed four different tech gadgets (A, B, C, and D) on a scale of 1 to 5 (all integer values) where 1 denotes poor and 5 denotes excellent. These review ratings were then tabulated. However, due to a technical glitch, some of these ratings got deleted. The average rating given by each reviewer, and the average rating given to each gadget were earlier communicated to the team management in a separate email and hence can be useful to retrieve the deleted ratings. The available ratings along with the average ratings are represented in the following table:

	A	B	C	D	Average
R1		4		3	4
R2	3		4		4
R3				5	4
R4		4	5		4.25
Average	4	4	4	4.25	

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QUESTION 23: What rating provided by Reviewer R1 to Gadget A can help determining the remaining ratings uniquely?

A. 1
B. 5
C. 2
D. 3
E. 4

QUESTION 24: In how many different ways could Reviewer R2 have rated Gadget B so that the ratings lead to the same averages for the gadgets and the reviewers as shown in the table?

A. 2
B. 3
C. 4
D. 1
E. 5

QUESTION 25: How many different valid combinations of the missing ratings are possible?

A. 5
B. 4
C. 1
D. 3
E. 2

Read the following scenario and answer the THREE questions that follow.

In an 8-week course, a professor administered a test at the end of each week. Each of the eight tests was scored out of 4 marks, and a student could only receive a non-negative integer score. Two students, Ravi and Sumana, took the eight tests. In the first test, Ravi and Sumana scored the same marks. From the second to eighth tests, Ravi scored the exact same non-zero marks. Sumana scored the same marks as Ravi from the fifth test onwards. Ravi's total marks in the first three tests was the same as Sumana's total marks in the first two tests. Also, Sumana's marks in the first test, total marks of the first two tests, and total marks of the eight tests are in a geometric progression.

QUESTION 26: Which of the following CAN be true?

A. Sumana scored 3 marks in the second test
B. Sumana scored 4 marks in the eighth test
C. Ravi scored 4 marks in the third test
D. Sumana scored 2 marks in the first test
E. Ravi scored 0 marks in the fifth test

QUESTION 27: If Ravi scored 4 marks in the first test, how many marks did Sumana score in the third test?

A. 4
B. 3
C. 1
D. 0
E. 2

QUESTION 28: If Ravi scored 1 mark in the second test, what is the maximum possible value of Sumana's total marks in all the eight tests together?

A. 10
B. 9
C. 12
D. Cannot be uniquely determined from the given information
E. 8

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Answers

1. C
2. C
3. B
4. D
5. D
6. D
7. E
8. C
9. D
10. C
11. C
12. E
13. C
14. E
15. E
16. D
17. E
18. D
19. D
20. A
21. A
22. A
23. A
24. E
25. B
26. D
27. D
28. B

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