CAT 2022 Slot 1 Memory-based Questions

Section - Quantitative Aptitude (QA)

Q1. Out of a total 100 people surveyed, 73 like Coffee, 80 like Tea, 52 like Lemonade. Find the difference between the minimum and maximum number of people who like all 3 drinks.
- A) 52
- B) 48
- C) 47
- D) 53

Answer Key: The answer is **C) 47**, calculated based on the 'chocolate-distribution' method.

Q2. Let A, B, C be non-zero numbers such that b^2 <4ac, and f(x) = ax^2 + bx + c. If set S consists of all integers 'm' such that f(m) <0, then set S must necessarily be:
- A) Either empty or set of all integers
- B) The set of all integers
- C) The Empty Set
- D) Set of all Positive integers

Answer Key: The answer is **A)** Either empty or set of all integers

Q3. The largest real value of 'A' for which equation |x-a|+|x-1|=2 has an infinite number of solutions for x is:
- A) 0
- B) 1
- C) 2
- D) -1

Answer Key: The answer is **B) 1** solved with the help of a number scale.

Q4. Two trains - A&B started from two points X and Y, respectively, towards each other simultaneously. Train A reaches point Y in 10 minutes. Train B takes 9 more minutes to reach point X, after meeting train A. What is the total time taken by train B to travel the complete distance YX?
- A) 12
- B) 6
- C) 15
- D) 10

Answer Key: The answer is **C) 15 minutes** based on the ratio of speeds of both trains calculated as per their meeting point, that is, A:B = 3:2.

Q5. Let ABCD be a parallelogram, such that the coordinates of 3 verticals (i.e. A, B, and C) are (1,1), (3,4), (-2, 8), respectively. Then, the coordinates of vertex D is:

    A) (-4, 5)

    B) (0, 11)

    C) (-3, 4)

    D) (4, 5)

Answer Key: The answer is A) (-4,5) by calculating the mid-point of AC and DB from bisected diagonals.

Q6. Let $0 \leq A \leq X \leq 100$, and $f(x) = |X-A| + |X-100| + |X-A-50|$ such that the maximum of f(x) becomes 100 when A = _____.

    A) 25

    B) 100

    C) 50

    D) 0

Answer Key: The answer is **C) 50**.

Q7. Amal buys 100 kg of syrup and 120 kg of juice. The syrup is 20% less costly than the juice per kg. He sells 10 kg of syrup at 10% profit and 20 kg of juice at 20% profit. He mixes the remaining liquids to sell at Rs. 308.32 per kg. If overall profit is 64%, then Amal's cost price for syrup in Rs./kg is:

Answer Key: The answer is Rs. 0.5 per kg.

More questions with answer key will be updated here…