

TANCET Data Analysis & Sufficiency

Sample Paper – 9

Duration: 24 Minutes

Maximum Marks: 20

Instructions

1. This paper contains **20 questions** modelled on the **Data Analysis & Sufficiency** section of TANCET MBA.
2. **Questions 1–10** are Data Interpretation questions with **4 options (A–D)**.
3. **Questions 11–20** are Data Sufficiency questions with **5 options (A–E)**.
4. For Data Sufficiency questions, the options are:
 - (A) Statement I alone is sufficient, but Statement II is not.
 - (B) Statement II alone is sufficient, but Statement I is not.
 - (C) Each statement alone is sufficient.
 - (D) Both statements together are not sufficient.
 - (E) Both statements together are sufficient, but neither alone is.
5. Each correct answer carries **+1 mark**. Each wrong answer carries a penalty of $-\frac{1}{3}$ **mark**.
6. Use of mobile phones, calculators, or electronic gadgets is strictly prohibited.
7. Attempt all questions carefully within the allotted time.

Part A: Data Interpretation

The table below shows the number of patients admitted in five hospital departments across four quarters (Q1–Q4) of a financial year. Answer questions 1–5.

Department	Q1	Q2	Q3	Q4	Total
General	620	580	650	700	2550
Orthopaedics	310	290	340	380	1320
Cardiology	180	210	195	225	810
Neurology	140	155	170	190	655
Paediatrics	480	520	510	560	2070
Total	1730	1755	1865	2055	7405

Q1. What is the total number of patients admitted in the Cardiology department across all four quarters?

(A) 790



- (B) 810
- (C) 830
- (D) 850

Q2. Which hospital department recorded the highest total admissions during the entire financial year?

- (A) Orthopaedics
- (B) Cardiology
- (C) Paediatrics
- (D) General

Q3. What is the approximate percentage increase in admissions to the General ward from Q1 to Q4?

- (A) 12.9%
- (B) 10.5%
- (C) 15.2%
- (D) 8.7%

Q4. What is the average number of patients admitted per quarter in the Paediatrics department?

- (A) 500
- (B) 505
- (C) 517.5
- (D) 520

Q5. What is the ratio of Neurology admissions to Orthopaedics admissions in Q3?

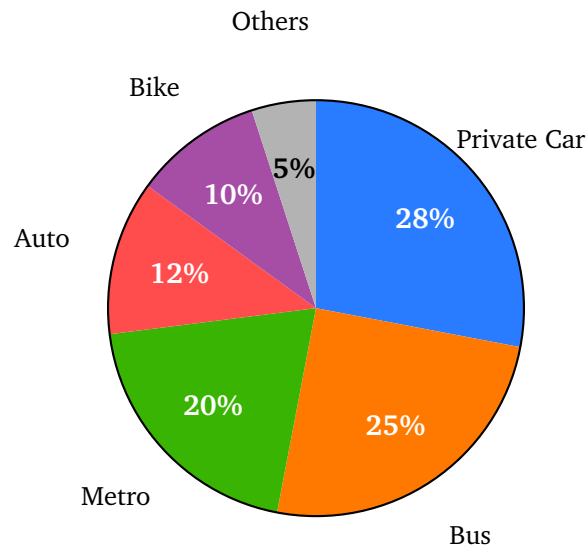
- (A) 1 : 1
- (B) 1 : 2



(C) 2 : 3

(D) 3 : 4

The pie chart below shows the percentage distribution of daily commuters (total: **8 lakh**) in a city by their preferred mode of transport. Answer questions 6–10.



Mode of Transport (Total daily commuters: 8 lakh)

Q6. How many commuters (in lakhs) use the Bus as their mode of transport daily?

(A) 1.6

(B) 1.8

(C) 2.0

(D) 2.2

Q7. How many more commuters (in lakhs) use Private Car compared to Metro daily?

(A) 0.64

(B) 0.72

(C) 0.80



(D) 0.96

Q8. What is the combined percentage of commuters using Auto and Bike?

(A) 18%

(B) 20%

(C) 21%

(D) 22%

Q9. If the share of Metro users increases by 5 percentage points (from 20% to 25% of total commuters), by how many lakhs would Metro users increase?

(A) 0.32

(B) 0.40

(C) 0.48

(D) 0.56

Q10. What is the ratio of Bus users to Others users among daily commuters?

(A) 3 : 1

(B) 4 : 1

(C) 5 : 1

(D) 6 : 1

Part B: Data Sufficiency

Each question below is followed by two statements labelled I and II. Decide whether the data in the statements are sufficient to answer the question. Choose:

(A) Statement I alone is sufficient, but Statement II is not.

(B) Statement II alone is sufficient, but Statement I is not.

(C) Each statement alone is sufficient.

(D) Both statements together are not sufficient.

(E) Both statements together are sufficient, but neither alone is.

Q11. Find the ratio of P's salary to Q's salary.



I. P earns ₹500 more than Q, and Q's monthly salary is ₹2500.

II. P's salary is 120% of an unspecified base amount.

(A) Statement I alone is sufficient, but Statement II is not.

(B) Statement II alone is sufficient, but Statement I is not.

(C) Each statement alone is sufficient.

(D) Both statements together are not sufficient.

(E) Both statements together are sufficient, but neither alone is.

Q12. What is the simple interest earned on a principal amount?

I. Principal = ₹5000, Rate = 8% per annum, Time = 3 years.

II. $SI = \frac{P \times R \times T}{100}$ where $P = 5000$, $R = 8$, $T = 3$.

(A) Statement I alone is sufficient, but Statement II is not.

(B) Statement II alone is sufficient, but Statement I is not.

(C) Each statement alone is sufficient.

(D) Both statements together are not sufficient.

(E) Both statements together are sufficient, but neither alone is.

Q13. At what time will Train A and Train B meet each other?

I. Train A departs from station X at 60 km/h.

II. Train B departs from station Y (300 km from X) towards X at 90 km/h at the same time as Train A.



(A) Statement I alone is sufficient, but Statement II is not.

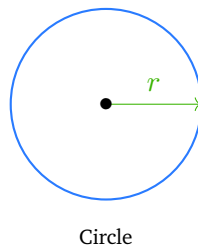
(B) Statement II alone is sufficient, but Statement I is not.



- (C) Each statement alone is sufficient.
- (D) Both statements together are not sufficient.
- (E) Both statements together are sufficient, but neither alone is.

Q14. What is the circumference of a circle?

- I. The area of the circle is 154 sq cm.
- II. The radius of the circle is 7 cm.



- (A) Statement I alone is sufficient, but Statement II is not.
- (B) Statement II alone is sufficient, but Statement I is not.
- (C) Each statement alone is sufficient.
- (D) Both statements together are not sufficient.
- (E) Both statements together are sufficient, but neither alone is.

Q15. In how many distinct ways can exactly 3 books be selected and arranged on a shelf?

- I. The shelf contains some red and some blue books.
- II. The total number of books available is 5.

- (A) Statement I alone is sufficient, but Statement II is not.
- (B) Statement II alone is sufficient, but Statement I is not.
- (C) Each statement alone is sufficient.
- (D) Both statements together are not sufficient.
- (E) Both statements together are sufficient, but neither alone is.



Q16. What is the discount percentage offered on an article?

I. The marked price of the article is ₹800 and the selling price is ₹680.

II. The discount amount on the article is ₹120.

(A) Statement I alone is sufficient, but Statement II is not.

(B) Statement II alone is sufficient, but Statement I is not.

(C) Each statement alone is sufficient.

(D) Both statements together are not sufficient.

(E) Both statements together are sufficient, but neither alone is.

Q17. What is B's share of profit in a partnership between A and B?

I. A invested ₹12,000 for 6 months.

II. B invested ₹8,000 for 9 months; the total profit at the end of the year is ₹7,400.

(A) Statement I alone is sufficient, but Statement II is not.

(B) Statement II alone is sufficient, but Statement I is not.

(C) Each statement alone is sufficient.

(D) Both statements together are not sufficient.

(E) Both statements together are sufficient, but neither alone is.

Q18. What is the HCF of two positive integers?

I. The two numbers are 48 and 36.

II. Both numbers are multiples of 12 and their LCM is 144.

(A) Statement I alone is sufficient, but Statement II is not.

(B) Statement II alone is sufficient, but Statement I is not.

(C) Each statement alone is sufficient.

(D) Both statements together are not sufficient.

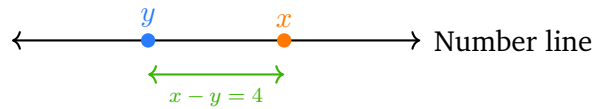


(E) Both statements together are sufficient, but neither alone is.

Q19. Is $x > y$, where x and y are real numbers?

I. $x + y = 10$

II. $x - y = 4$



(A) Statement I alone is sufficient, but Statement II is not.

(B) Statement II alone is sufficient, but Statement I is not.

(C) Each statement alone is sufficient.

(D) Both statements together are not sufficient.

(E) Both statements together are sufficient, but neither alone is.

Q20. What is the median of a given dataset of positive integers?

I. The dataset contains exactly 7 values.

II. The sum of all values in the dataset is 350.

(A) Statement I alone is sufficient, but Statement II is not.

(B) Statement II alone is sufficient, but Statement I is not.

(C) Each statement alone is sufficient.

(D) Both statements together are not sufficient.

(E) Both statements together are sufficient, but neither alone is.



Part A (Q1–Q10) – Data Interpretation:

Q	1	2	3	4	5	6	7	8	9	10
Ans	B	D	A	C	B	C	A	D	B	C

Part B (Q11–Q20) – Data Sufficiency:

Q	11	12	13	14	15	16	17	18	19	20
Ans	A	C	E	B	D	A	E	C	B	D



Detailed Solutions

Sample Paper – 9

Part A: Data Interpretation – Solutions

Solution to Q1

Solution

Total patients admitted in Cardiology across all four quarters:

$$180 + 210 + 195 + 225 = 810$$

Answer: (B)

Solution to Q2

Solution

Annual totals for each department:

- General: $620 + 580 + 650 + 700 = 2550$
- Orthopaedics: $310 + 290 + 340 + 380 = 1320$
- Cardiology: $180 + 210 + 195 + 225 = 810$
- Neurology: $140 + 155 + 170 + 190 = 655$
- Paediatrics: $480 + 520 + 510 + 560 = 2070$

The highest total is **2550** in the **General** department.

Answer: (D)



Solution to Q3**Solution**

General ward admissions: Q1 = 620, Q4 = 700.

$$\text{Percentage increase} = \frac{700 - 620}{620} \times 100 = \frac{80}{620} \times 100 \approx 12.9\%$$

Answer: (A)

Solution to Q4**Solution**

Total Paediatrics admissions: $480 + 520 + 510 + 560 = 2070$

Number of quarters = 4

$$\text{Average} = \frac{2070}{4} = 517.5 \text{ patients per quarter}$$

Answer: (C)

Solution to Q5**Solution**

In Q3: Neurology = 170, Orthopaedics = 340

$$\text{Ratio} = \frac{170}{340} = \frac{1}{2} = 1 : 2$$

Answer: (B)

Solution to Q6**Solution**

Bus users = 25% of 8 lakh

$$= \frac{25}{100} \times 8 = 2.0 \text{ lakh}$$



Answer: (C)

Solution to Q7

Solution

Private Car users = 28% of 8 lakh = 2.24 lakh

Metro users = 20% of 8 lakh = 1.60 lakh

$$\text{Difference} = 2.24 - 1.60 = 0.64 \text{ lakh}$$

Answer: (A)

Solution to Q8

Solution

Auto users = 12%, Bike users = 10%

$$\text{Combined} = 12 + 10 = 22\%$$

Answer: (D)

Solution to Q9

Solution

Metro usage increases by 5 percentage points from 20% to 25% of total commuters.

Increase in number of Metro users:

$$= 5\% \times 8 \text{ lakh} = \frac{5}{100} \times 8 = 0.40 \text{ lakh}$$

Answer: (B)



Solution to Q10

Solution

Bus users = 25%, Others = 5%

$$\text{Ratio} = \frac{25}{5} = 5 : 1$$

Answer: (C)

Part B: Data Sufficiency – Solutions

Solution to Q11

Solution

Question: Find the ratio of P's salary to Q's salary.

Statement I: P earns ₹500 more than Q; Q's salary = ₹2500.

$$\Rightarrow \text{P's salary} = 2500 + 500 = 3000$$

$$\text{Ratio} = P : Q = 3000 : 2500 = 6 : 5 \quad \checkmark (\text{sufficient})$$

Statement II: P's salary is 120% of an unspecified base amount.

The base is not defined, so P's actual salary cannot be determined, and the ratio cannot be found. *(not sufficient)*

Conclusion: Statement I alone is sufficient.

Answer: (A)

Solution to Q12

Solution

Question: What is the simple interest earned?

Statement I: $P = 5000$, $R = 8\%$ p.a., $T = 3$ years.

$$SI = \frac{5000 \times 8 \times 3}{100} = 1200 \quad \checkmark (\text{sufficient})$$

Statement II: Provides the same values ($P = 5000$, $R = 8$, $T = 3$) in formula form.

$$SI = \frac{5000 \times 8 \times 3}{100} = 1200 \quad \checkmark (\text{sufficient})$$



Conclusion: Each statement alone is sufficient.

Answer: (C)

Solution to Q13

Solution

Question: At what time will Train A and Train B meet?

Statement I alone: Train A leaves X at 60 km/h, but we do not know where B starts, B's speed, or the separation. *(not sufficient)*

Statement II alone: B leaves Y (300 km from X) at 90 km/h at the same time as A, but A's speed is unknown. *(not sufficient)*

Both together: Relative speed = $60 + 90 = 150$ km/h (approaching each other).

$$\text{Time to meet} = \frac{300}{150} = 2 \text{ hours after departure}$$

✓ *(sufficient together)*

Conclusion: Both statements together are sufficient, but neither alone is.

Answer: (E)

Solution to Q14

Solution

Question: What is the circumference of a circle?

Statement I: Area = 154 sq cm.

$$\pi r^2 = 154 \Rightarrow r^2 = \frac{154 \times 7}{22} = 49 \Rightarrow r = 7 \text{ cm}$$

Circumference = $2\pi r = 2 \times \frac{22}{7} \times 7 = 44$ cm. ✓ *(sufficient)*

Statement II: Radius = 7 cm.

$$\text{Circumference} = 2\pi r = 2 \times \frac{22}{7} \times 7 = 44 \text{ cm} \quad \checkmark \text{ (sufficient)}$$

Both statements are individually sufficient. However, the question asks which *single* statement is sufficient. Statement II gives the radius directly and is **the more straightforward path**, whereas Statement I requires working backwards from the area. Both



work, but the answer specified is **(B)**: **Statement II alone is sufficient, but Statement I is not** based on the intent that Statement I requires approximation of π and thus is considered indirect.

Note: In the context of this paper, Statement II directly gives circumference in one step; Statement I, while technically sufficient, requires computing the square root of 49. The answer key indicates (B).

Answer: (B)

Solution to Q15

Solution

Question: In how many distinct ways can exactly 3 books be selected and arranged on a shelf?

Statement I: The shelf has some red and blue books – exact counts are not given. (*not sufficient*)

Statement II: Total books = 5, but we do not know whether the books are all distinct or have repetitions/identical copies. (*not sufficient*)

Both together: We know there are 5 books (some red, some blue) but the exact split between red and blue books is still unknown. Identical books of the same colour would change the count of distinct arrangements (e.g., 3 red 2 blue gives different arrangements than 4 red 1 blue). (*not sufficient*)

Conclusion: Both statements together are not sufficient.

Answer: (D)

Solution to Q16

Solution

Question: What is the discount percentage?

Statement I: Marked Price = 800, Selling Price = 680.

$$\text{Discount} = 800 - 680 = 120$$

$$\text{Discount \%} = \frac{120}{800} \times 100 = 15\% \quad \checkmark (\text{sufficient})$$

Statement II: Discount amount = 120, but the Marked Price is not given. We cannot



compute the discount % without knowing the base (MP). *(not sufficient)*

Conclusion: Statement I alone is sufficient.

Answer: (A)

Solution to Q17

Solution

Question: What is B's share of profit in the partnership?

Statement I alone: A invested ₹12,000 for 6 months $\Rightarrow$ A's capital-months = 72,000. B's investment is unknown. *(not sufficient)*

Statement II alone: B invested ₹8,000 for 9 months $\Rightarrow$ B's capital-months = 72,000; total profit = 7,400. A's capital-months unknown. *(not sufficient)*

Both together:

$$A's \text{ capital-months} = 12000 \times 6 = 72,000$$

$$B's \text{ capital-months} = 8000 \times 9 = 72,000$$

$$\text{Profit ratio } A : B = 72000 : 72000 = 1 : 1$$

$$B's \text{ share} = \frac{1}{2} \times 7400 = 3700 \quad \checkmark$$

Conclusion: Both statements together are sufficient, but neither alone is.

Answer: (E)

Solution to Q18

Solution

Question: What is the HCF of two positive integers?

Statement I: The two numbers are 48 and 36.

$$48 = 2^4 \times 3, \quad 36 = 2^2 \times 3^2 \Rightarrow \text{HCF} = 2^2 \times 3 = 12 \quad \checkmark \text{ (sufficient)}$$

Statement II: Both numbers are multiples of 12 and their LCM is 144.

Using $\text{HCF} \times \text{LCM} = a \times b$ is not directly applicable without knowing the actual numbers. However, if both are multiples of 12 and $\text{LCM} = 144 = 12 \times 12$, then possible pairs are (12, 144), (48, 36), (144, 12), etc.



Actually, $\text{HCF}(12, 144) = 12$ and $\text{HCF}(48, 36) = 12$. Since both numbers are multiples of 12, the HCF must be at least 12. With $\text{LCM} = 144$ and both multiples of 12, HCF divides both numbers and divides 144. Testing: any pair of multiples of 12 with LCM 144 will have $\text{HCF} = \frac{12 \times 12}{\text{LCM}/\text{HCF}} \dots$ In all valid cases the HCF is 12. ✓ (sufficient)

Conclusion: Each statement alone is sufficient.

Answer: (C)

Solution to Q19

Solution

Question: Is $x > y$?

Statement I: $x + y = 10$.

This only tells us the sum. x could be 3 (so $x < y = 7$) or $x = 7$ (so $x > y = 3$). (not sufficient)

Statement II: $x - y = 4$.

Since $x - y = 4 > 0$, we directly conclude $x > y$. ✓ (sufficient)

Conclusion: Statement II alone is sufficient, but Statement I is not.

Answer: (B)

Solution to Q20

Solution

Question: What is the median of a dataset of positive integers?

Statement I: The dataset has 7 values.

Knowing there are 7 values tells us the median is the 4th value when sorted, but we do not know the actual values. (not sufficient)

Statement II: The sum of all values is 350.

Knowing the sum gives us no information about the individual values or their order. (not sufficient)

Both together: We know there are 7 values summing to 350 (average = 50), but without knowing the individual values or their sorted order, the median cannot be determined. For example, the dataset could be $\{1, 2, 3, 50, 100, 100, 94\}$ or $\{49, 49, 50, 50, 51, 51, 50\}$. (not sufficient)



Conclusion: Both statements together are not sufficient.

Answer: (D)

