CLAT Quantitative Techniques

Sample Paper – 8

Duration: 12 Minutes **Maximum Marks: 12**

Instructions

- This paper contains **12** Multiple Choice Questions (Single Correct Answer), modelled on the Quantitative Techniques section of **CLAT** (Common Law Admission Test).
- Each correct answer carries **+1 mark**. There is **a negative marking of 0.25 marks** for every incorrect answer; unattempted questions carry no penalty.
- The paper has **three data sets**, each giving information as a graph, table, or short passage, followed by **four** questions. Derive the figures from the set and apply elementary mathematics (up to **Class 10** level) to answer.
- CLAT is an offline pen-and-paper (OMR) test with no sectional time limit; attempt this practice paper in one timed sitting of about **12 minutes**.
- Use of calculators, mobile phones, and other electronic gadgets is strictly prohibited; do the arithmetic by hand.

Data Set I

Directions (Q1–Q4): The table below shows the number of students choosing three streams (Science, Commerce and Arts) in four schools. Study it and answer the questions that follow.

School	Science	Commerce	Arts	Total
P	40	30	30	100
Q	50	20	30	100
R	60	40	20	120
S	30	30	20	80

Q1. What is the total number of students in the four schools taken together?

(A) 380

(B) 420

(C) 400

(D) 360

Q2. What is the average number of Science students per school?

(A) 45

(B) 50

(C) 40

(D) 48

Q3. In School R, what percent of the students chose the Science stream?

(A) 40%

(B) 50%

(C) 45%

(D) 60%

Q4. What is the ratio of the number of Commerce students in School P to the number of Commerce students in School R?

(A) 4 : 3

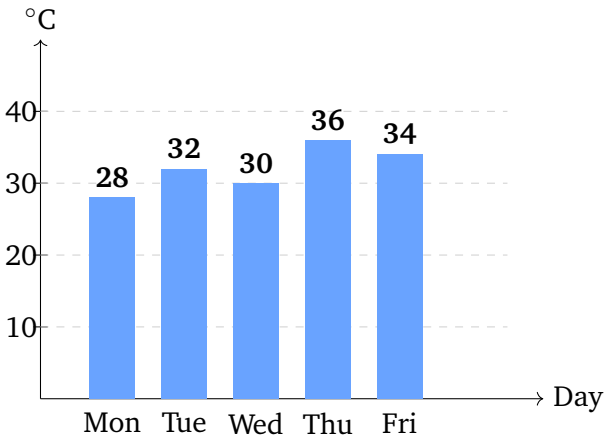
(B) 1 : 2

(C) 2 : 3

(D) 3 : 4

Data Set II

Directions (Q5–Q8): The bar chart below shows the daily maximum temperature (in degrees Celsius) recorded over five days. Study it and answer the questions that follow.



Q5. What is the average maximum temperature over the five days?

(A) 30°C

(B) 34°C

(C) 31°C

(D) 32°C

Q6. On which day was the maximum temperature the highest?

(A) Tuesday

(B) Thursday

(C) Friday

(D) Wednesday

Q7. By how many degrees did the maximum temperature on Thursday exceed that on Monday?

(A) 6°C

(B) 8°C

(C) 10°C

(D) 4°C

Q8. What is the ratio of Monday's maximum temperature to Tuesday's maximum temperature?

(A) 7 : 8

(B) 8 : 7

(C) 3 : 4

(D) 14 : 15

Data Set III

Directions (Q9–Q12): Read the following information carefully and answer the questions that follow.

A mechanic named Imran runs a garage. He bought a used engine for **Rs 8000** and later sold it for **Rs 10000**. On a given day, his workshop had **15 cars** and **25 bikes** waiting to be serviced. After repairing a car, he took it on a test drive and covered **90 km in 2 hours**. In his tool box, out of **40 tools**, **8** were found to be rusted.

Q9. What is Imran's profit percent on the sale of the engine?

(A) 20%

(B) 30%

(C) 15%

(D) 25%

Q10. What is the ratio of the number of cars to the number of bikes waiting to be serviced?

(A) 5 : 3

(B) 2 : 5

(C) 3 : 5

(D) 3 : 4

Q11. What was his average speed on the test drive?

(A) 40 km/h

(B) 30 km/h

(C) 45 km/h

(D) 60 km/h

Q12. What percent of the tools in the tool box were found to be rusted?

(A) 20%

(B) 25%

(C) 15%

(D) 10%

Detailed Solutions

Q1.

Solution

Concept – reading a table total: Add the "Total" column, or add all three streams for every school.

Step 1 – list the school totals: P $= 100$, Q $= 100$, R $= 120$, S $= 80$.

Step 2 – add them: $100 + 100 = 200$. $200 + 120 = 320$. $320 + 80 = 400$.

Why the other options are wrong:

- Options A, B, D: 380, 420 and 360 each drop or mis-add one school; the correct sum is 400.

Final Answer: Total $= 400$ students $\Rightarrow$ C

Answer: (C) Go Back to Q1

Q2.

Solution

Concept – average: Average $= \dfrac{\text{total}}{\text{number of items}}$.

Step 1 – add the Science students: $40 + 50 = 90$. $90 + 60 = 150$. $150 + 30 = 180$.

Step 2 – divide by the number of schools: Average $= \dfrac{180}{4} = 45$.

Why the other options are wrong:

- Options B, C, D: 50, 40 and 48 do not equal $180 \div 4$; only 45 does.

Final Answer: Average $= 45$ Science students per school $\Rightarrow$ A

Answer: (A) Go Back to Q2

Q3.

Solution

Concept – percentage of a total: Percent $= \dfrac{\text{part}}{\text{whole}} \times 100$.

Step 1 – read School R: Science $= 60$, total $= 120$.

Step 2 – compute the percentage: $\dfrac{60}{120} \times 100 = 50\%$.

Why the other options are wrong:

- Options A, C, D: 40%, 45% and 60% do not equal $60/120 \times 100$; the Science share is exactly 50%.

Final Answer: Science share $= 50\% \Rightarrow$ B

Answer: (B) Go Back to Q3

Q4.

Solution

Concept – ratio: Write the two quantities and reduce to lowest terms.

Step 1 – write the ratio: Commerce in P $= 30$, Commerce in R $= 40$, so the ratio is $30 : 40$.

Step 2 – reduce: Divide both by 10: $30 : 40 = 3 : 4$.

Why the other options are wrong:

- Option A (4:3): reverses the order.
- Options B, C: 1:2 and 2:3 do not match $30 : 40$.

Final Answer: Ratio $= 3 : 4 \Rightarrow$ D

Answer: (D) Go Back to Q4

Q5.

Solution

Concept – average: Average $= \dfrac{\text{total}}{\text{number of days}}$.

Step 1 – add the daily maximum temperatures: $28 + 32 = 60$. $60 + 30 = 90$. $90 + 36 = 126$. $126 + 34 = 160$.

Step 2 – divide by the number of days: Average $= \dfrac{160}{5} = 32$.

Why the other options are wrong:

- Options A, B, C: 30, 34 and 31 do not equal $160 \div 5$; only 32 does.

Final Answer: Average $= 32°$C $\Rightarrow$ D

Answer: (D) Go Back to Q5

Q6.

Solution

Concept – comparing bar heights: Compare the labelled temperatures and pick the tallest bar.

Step 1 – list the temperatures: Mon $= 28$, Tue $= 32$, Wed $= 30$, Thu $= 36$, Fri $= 34$.

Step 2 – pick the highest: The largest is 36, which falls on Thursday.

Why the other options are wrong:

- Option A (Tue $= 32$), Option C (Fri $= 34$), Option D (Wed $= 30$): all are lower than Thursday's 36.

Final Answer: Thursday was the hottest day $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q6

Q7.

Solution

Concept – difference of two values: Subtract the smaller reading from the larger.

Step 1 – read the two days: Thursday $= 36$, Monday $= 28$.

Step 2 – subtract: $36 - 28 = 8$.

Why the other options are wrong:

- Options A, C, D: 6, 10 and 4 do not equal $36 - 28$; the gap is exactly 8 degrees.

Final Answer: Difference $= 8^\circ$C $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q7

Q8.

Solution

Concept – ratio: Write the two quantities and reduce to lowest terms.

Step 1 – write the ratio: Monday $= 28$, Tuesday $= 32$, so the ratio is $28 : 32$.

Step 2 – reduce: Divide both by 4: $28 : 32 = 7 : 8$.

Why the other options are wrong:

- Option B (8:7): reverses the order.
- Options C, D: 3:4 and 14:15 do not match $28 : 32$.

Final Answer: Ratio $= 7 : 8 \Rightarrow \boxed{A}$

Answer: (A) Go Back to Q8

Q9.

Solution

Concept – profit percent: $\text{Profit\%} = \dfrac{\text{selling price} - \text{cost price}}{\text{cost price}} \times 100.$

Step 1 – find the profit: $\text{Profit} = 10000 - 8000 = 2000.$

Step 2 – divide by cost and convert: $\dfrac{2000}{8000} \times 100 = 25\%.$

Why the other options are wrong:

- Options A, B, C: 20%, 30% and 15% do not equal $2000/8000 \times 100$; the profit is exactly 25%.

Final Answer: Profit $= 25\% \Rightarrow \boxed{D}$

Answer: (D) Go Back to Q9

Q10.

Solution

Concept – ratio: Write the two quantities and reduce to lowest terms.

Step 1 – write the ratio: Cars $= 15$, bikes $= 25$, so the ratio is $15 : 25$.

Step 2 – reduce: Divide both by 5: $15 : 25 = 3 : 5$.

Why the other options are wrong:

- Option A (5:3): reverses the order.
- Options B, D: 2:5 and 3:4 do not match $15 : 25$.

Final Answer: Cars : Bikes $= 3 : 5 \Rightarrow \boxed{C}$

Answer: (C) Go Back to Q10

Q11.

Solution

Concept – average speed: Speed $= \dfrac{\text{distance}}{\text{time}}$.

Step 1 – put in the values: Distance $= 90$ km, time $= 2$ hours.

Step 2 – divide: $\dfrac{90}{2} = 45$ km/h.

Why the other options are wrong:

- Options A, B, D: 40, 30 and 60 km/h do not equal $90 \div 2$; the speed is 45 km/h.

Final Answer: Speed $= 45$ km/h $\Rightarrow \boxed{\text{C}}$

Answer: (C) Go Back to Q11

Q12.

Solution

Concept – percentage of a total: Percent $= \dfrac{\text{part}}{\text{whole}} \times 100$.

Step 1 – identify part and whole: Rusted $= 8$, total tools $= 40$.

Step 2 – compute: $\dfrac{8}{40} \times 100 = 20\%$.

Why the other options are wrong:

- Options B, C, D: 25%, 15% and 10% do not equal $8/40 \times 100$; the rusted share is 20%.

Final Answer: Rusted $= 20\% \Rightarrow \boxed{\text{A}}$

Answer: (A) Go Back to Q12

Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	C	2	A	3	B	4	D	5	D
6	B	7	B	8	A	9	D	10	C
11	C	12	A						