CLAT Quantitative Techniques

Sample Paper – 1

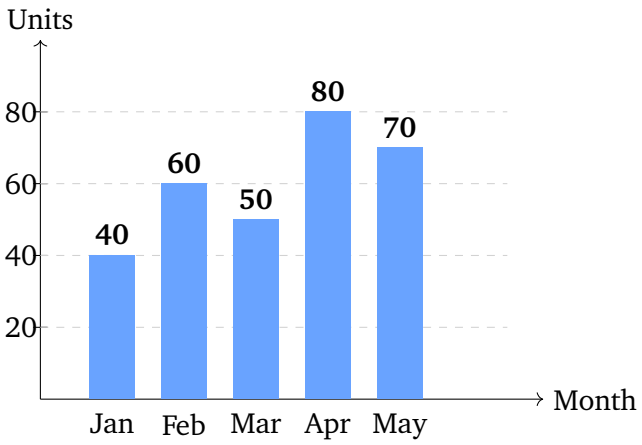
Duration: 12 Minutes **Maximum Marks: 12**

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 bar chart below shows the number of units of a product sold by a shop over five months. Study it and answer the questions that follow.



Q1. What is the total number of units sold by the shop over the five months?

(A) 280

(B) 300

(C) 320

(D) 260

Q2. What is the average number of units sold per month over the five months?

(A) 50

(B) 55

(C) 60

(D) 65

Q3. The number of units sold in April is what percent more than the number sold in March?

(A) 30%

(B) 60%

(C) 50%

(D) 62.5%

Q4. What is the ratio of the units sold in January to the units sold in April?

(A) 2 : 1

(B) 1 : 1

(C) 1 : 2

(D) 2 : 3

Data Set II

Directions (Q5–Q8): The table below shows the number of boys and girls in four classes of a school. Study it and answer the questions that follow.

Class	Boys	Girls	Total
VI	30	20	50
VII	20	40	60
VIII	45	35	80
IX	25	25	50

Q5. What is the total number of students in the four classes taken together?

(A) 220

(B) 230

(C) 235

(D) 240

Q6. Which class has the highest number of boys?

(A) Class VIII

(B) Class VI

(C) Class IX

(D) Class VII

Q7. What is the ratio of the total number of boys to the total number of girls in the school?

(A) 2 : 1

(B) 5 : 4

(C) 4 : 5

(D) 1 : 1

Q8. What is the average number of students per class?

(A) 55

(B) 58

(C) 60

(D) 65

Data Set III

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

A trader named Rohan runs a small shop. He bought a bicycle for **Rs 4000** and later sold it for **Rs 4600**. Separately, he deposited **Rs 5000** in a bank that pays **simple interest at 8% per annum**. One day, on a delivery trip, he travelled **120 km in 3 hours**. In his shop, out of a batch of **200 items**, **30** were found to be defective.

Q9. What is Rohan's profit percent on the sale of the bicycle?

(A) 12%

(B) 15%

(C) 10%

(D) 20%

Q10. How much simple interest will he earn on his deposit at the end of one year?

(A) Rs 400

(B) Rs 450

(C) Rs 500

(D) Rs 800

Q11. What was his average speed on the delivery trip?

(A) 40 km/h

(B) 36 km/h

(C) 45 km/h

(D) 60 km/h

Q12. What percent of the batch of items was found to be defective?

(A) 10%

(B) 20%

(C) 12%

(D) 15%

Detailed Solutions

Q1.

Solution

Concept – reading a bar chart and adding values: Read the height of each bar and add them.

Step 1 – list the monthly sales: Jan $= 40$, Feb $= 60$, Mar $= 50$, Apr $= 80$, May $= 70$.

Step 2 – add them: $40+60=100$. $100+50=150$. $150+80=230$. $230+70=300$.

Why the other options are wrong:

- Options A, C, D: 280, 320 and 260 each drop or mis-add one bar; the correct sum is 300.

Final Answer: Total $= 300$ units $\Rightarrow \boxed{\text{B}}$

Answer: (B) Go Back to Q1

Q2.

Solution

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

Step 1 – total sales: From Q1, the total over the five months $= 300$ units.

Step 2 – divide by the number of months: Average $= \dfrac{300}{5} = 60$ units.

Why the other options are wrong:

- Options A, B, D: 50, 55 and 65 do not equal $300 \div 5$; only 60 does.

Final Answer: Average $= 60$ units per month $\Rightarrow \boxed{\text{C}}$

Answer: (C) Go Back to Q2

Q3.

Solution

Concept – percentage increase: Percent increase $= \dfrac{\text{increase}}{\text{original}} \times 100$, with March as the original.

Step 1 – find the increase: April $= 80$, March $= 50$, so the increase $= 80 - 50 = 30$.

Step 2 – divide by the March value and convert to percent: $\dfrac{30}{50} \times 100 = 60\%$.

Why the other options are wrong:

- Option A (30%): that is the raw increase in units, not a percentage.
- Option C (50%): uses a wrong base.
- Option D (62.5%): divides by April (80) instead of the original March (50).

Final Answer: Increase $= 60\% \Rightarrow \boxed{\text{B}}$

Answer: (B) Go Back to Q3

Q4.

Solution

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

Step 1 – write the ratio: Jan $= 40$, Apr $= 80$, so the ratio is $40 : 80$.

Step 2 – reduce: Divide both by 40: $40 : 80 = 1 : 2$.

Why the other options are wrong:

- Option A (2:1): reverses the order.
- Options B, D: 1:1 and 2:3 do not match $40 : 80$.

Final Answer: Ratio $= 1 : 2 \Rightarrow \boxed{\text{C}}$

Answer: (C) Go Back to Q4

Q5.

Solution

Concept – reading a table total: Add the "Total" column, or add all boys and all girls.

Step 1 – add the class totals: $50 + 60 + 80 + 50$.

Step 2 – compute: $50 + 60 = 110$; $110 + 80 = 190$; $190 + 50 = 240$.

Why the other options are wrong:

- Options A, B, C: 220, 230 and 235 each miss part of a class; the four totals sum to 240.

Final Answer: Total $= 240$ students $\Rightarrow$ D

Answer: (D) Go Back to Q5

Q6.

Solution

Concept – comparing a column: Compare the "Boys" entries and pick the largest.

Step 1 – list the boys: VI $= 30$, VII $= 20$, VIII $= 45$, IX $= 25$.

Step 2 – pick the highest: The largest is 45, which is Class VIII.

Why the other options are wrong:

- Option B (VI $= 30$), Option C (IX $= 25$), Option D (VII $= 20$): all are fewer than 45.

Final Answer: Class VIII has the most boys $\Rightarrow$ A

Answer: (A) Go Back to Q6

Q7.

Solution

Concept – ratio of two totals: Add all boys, add all girls, then reduce.

Step 1 – total boys and girls: Boys $= 30 + 20 + 45 + 25 = 120$. Girls $= 20 + 40 + 35 + 25 = 120$.

Step 2 – form and reduce the ratio: $120 : 120 = 1 : 1$.

Why the other options are wrong:

- Options A, B, C: 2:1, 5:4 and 4:5 would need unequal totals, but boys and girls are both 120.

Final Answer: Boys : Girls $= 1 : 1 \Rightarrow$ D

Answer: (D) Go Back to Q7

Q8.

Solution

Concept – average: Average per class $= \dfrac{\text{total students}}{\text{number of classes}}$.

Step 1 – use the total: Total $= 240$ students (from Q5) across 4 classes.

Step 2 – divide: $\dfrac{240}{4} = 60$.

Why the other options are wrong:

- Options A, B, D: 55, 58 and 65 do not equal $240 \div 4$; only 60 does.

Final Answer: Average $= 60$ students per class $\Rightarrow$ C

Answer: (C) Go Back to Q8

Q9.

Solution

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

Step 1 – find the profit: Profit $= 4600 - 4000 = 600$.

Step 2 – divide by cost and convert: $\dfrac{600}{4000} \times 100 = 15\%$.

Why the other options are wrong:

- Options A, C, D: 12%, 10% and 20% do not equal $600/4000 \times 100$; the profit is exactly 15%.

Final Answer: Profit $= 15\% \Rightarrow$ B

Answer: (B) Go Back to Q9

Q10.

Solution

Concept – simple interest: SI $= \dfrac{P \times R \times T}{100}$.

Step 1 – put in the values: $P = 5000$, $R = 8$, $T = 1$.

Step 2 – compute: $\dfrac{5000 \times 8 \times 1}{100} = \dfrac{40000}{100} = 400$.

Why the other options are wrong:

- Option D (Rs 800): that is the interest for two years, not one.
- Options B, C: Rs 450 and Rs 500 do not match the formula.

Final Answer: Interest $=$ Rs 400 $\Rightarrow$ A

Answer: (A) Go Back to Q10

Q11.

Solution

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

Step 1 – put in the values: Distance $= 120$ km, time $= 3$ hours.

Step 2 – divide: $\dfrac{120}{3} = 40$ km/h.

Why the other options are wrong:

- Options B, C, D: 36, 45 and 60 km/h do not equal $120 \div 3$; the speed is 40 km/h.

Final Answer: Speed $= 40$ km/h $\Rightarrow$ A

Answer: (A) 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: Defective $= 30$, batch $= 200$.

Step 2 – compute: $\dfrac{30}{200} \times 100 = 15\%$.

Why the other options are wrong:

- Options A, B, C: 10%, 20% and 12% do not equal $30/200 \times 100$; the defective share is 15%.

Final Answer: Defective $= 15\%$ $\Rightarrow$ D

Answer: (D) Go Back to Q12

Answer Key

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