

CAT Data Interpretation & Logical Reasoning

Sample Paper – 7

Duration: 40 Minutes

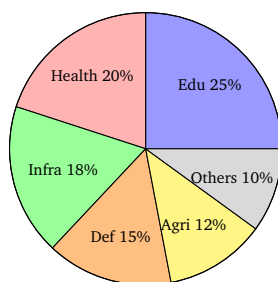
Maximum Marks: 60

Instructions

- This paper contains **20 questions** across **4 sets** (2 Data Interpretation + 2 Logical Reasoning), modelled on the DILR section of **CAT**.
- Each correct answer carries **+3 marks**. There is a penalty of **–1 mark per wrong answer**; **0** marks for unattempted questions.
- All 20 questions are single-correct MCQ. Maximum Marks: **60**.
- **No personal calculators** are permitted; a basic on-screen calculator is provided in the actual CAT exam.
- **Rough sheets** are provided at the test centre. Each set has a common data/scenario; read it carefully before attempting the questions.

Set A: Data Interpretation — Government Budget Allocation (Q1 – Q5)

The pie chart below shows the **allocation of a government budget of Rs. 5000 Crore** across six sectors.



Q1. The pie chart above shows the government budget allocation (Total = Rs. 5000 Crore). What is the **amount allocated to Education**?

- (A) Rs. 1000 Crore
(B) Rs. 1100 Crore



- (C) Rs. 1250 Crore
- (D) Rs. 1500 Crore

Q2. By how much does the **Education allocation exceed the Agriculture allocation?**

- (A) Rs. 500 Crore
- (B) Rs. 550 Crore
- (C) Rs. 600 Crore
- (D) Rs. 650 Crore

Q3. What is the **ratio of Health to Infrastructure allocation?**

- (A) 10 : 9
- (B) 5 : 4
- (C) 9 : 10
- (D) 4 : 5

Q4. What **percentage** of the total budget goes to sectors **other than Defence?**

- (A) 80%
- (B) 85%
- (C) 82%
- (D) 88%

Q5. If the total budget **increases to Rs. 6000 Crore** with the same percentage allocation, what is the **new Health allocation?**

- (A) Rs. 1000 Crore
- (B) Rs. 1100 Crore
- (C) Rs. 1200 Crore
- (D) Rs. 1300 Crore



Set B: Data Interpretation — Student Marks in 5 Subjects (Q6 – Q10)

The table below shows the **marks scored by six students** in five subjects (maximum 100 marks each).

Student	Maths	Science	English	History	Geography	Total
P	85	78	92	70	65	390
Q	70	65	80	75	85	375
R	90	88	75	80	70	403
S	60	72	68	90	80	370
T	75	80	85	65	75	380
U	80	70	78	72	68	368

Q6. Based on the table above, which student has the **highest total score**?

- (A) P (Total: 390)
- (B) T (Total: 380)
- (C) Q (Total: 375)
- (D) R (Total: 403)

Q7. What is the **average score in Maths** across all six students?

- (A) ≈ 76.67
- (B) 75
- (C) 78
- (D) 80

Q8. In how many subjects did student **P** score more than 80 marks?

- (A) 1
- (B) 2
- (C) 3
- (D) 4

Q9. Which student has the **highest score in History**?



- (A) R (80 marks)
- (B) Q (75 marks)
- (C) S (90 marks)
- (D) U (72 marks)

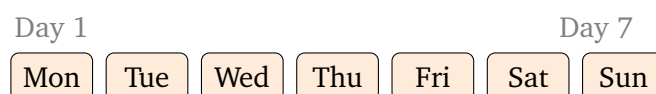
Q10. What is the **total marks scored by all six students in English combined?**

- (A) 465
- (B) 470
- (C) 475
- (D) 478

**Set C: Logical Reasoning — Weekly
Activity Schedule (Q11 – Q15)**

Seven activities — Audit (A), Budget (B), Compliance (C), Design (D), Evaluation (E), Forecasting (F), and Governance (G) — are each scheduled on a different day from **Monday to Sunday** (one activity per day). The following conditions apply:

- (i) Audit is scheduled on **Monday**.
- (ii) Budget is scheduled **exactly 2 days after Audit** (i.e., on Wednesday).
- (iii) Compliance is scheduled on **Sunday**.
- (iv) Design is scheduled on the day **immediately before Evaluation** (consecutive days).
- (v) Forecasting is **NOT** scheduled on any weekend day (not Saturday or Sunday).
- (vi) Governance is scheduled on **Saturday**.



Q11. Based on the scheduling conditions given above, on which day is **Forecasting** scheduled?



- (A) Tuesday
- (B) Thursday
- (C) Saturday
- (D) Friday

Q12. Which activity is scheduled on **Friday**?

- (A) Compliance
- (B) Evaluation
- (C) Budget
- (D) Governance

Q13. How many activities are scheduled **strictly between Audit (Monday) and Budget (Wednesday)**?

- (A) 0
- (B) 2
- (C) 1
- (D) 3

Q14. Which activity is scheduled on **Thursday**?

- (A) Forecasting
- (B) Evaluation
- (C) Compliance
- (D) Design

Q15. How many activities are scheduled **strictly between Design (Thursday) and Compliance (Sunday)**?

- (A) 2
- (B) 1
- (C) 3

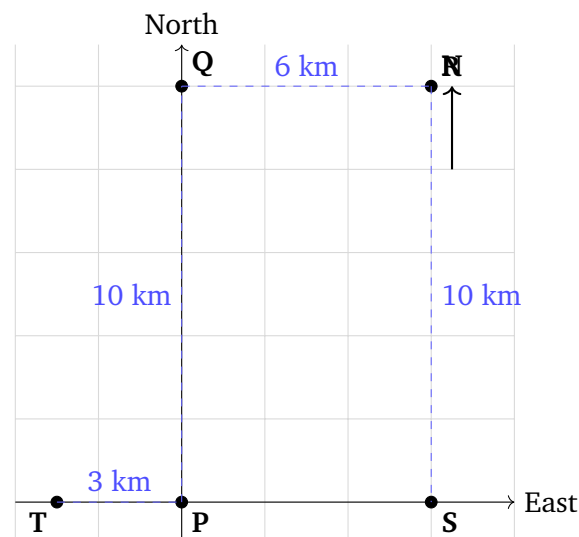


(D) 0

**Set D: Logical Reasoning — Town
Directions Grid (Q16 – Q20)**

Five towns are located on a grid as described below:

- Town **P** is at the origin.
- Town **Q** is **10 km North** of P.
- Town **R** is **6 km East** of Q.
- Town **S** is **10 km South** of R (i.e., directly south of R at the same eastward position as R).
- Town **T** is **3 km West** of P.



Q16. In which **direction** is town R from town P?

- (A) North
- (B) North-East
- (C) East
- (D) South-East

Q17. What is the **straight-line distance** between town P and town S?

- (A) 3 km



- (B) 10 km
- (C) 6 km
- (D) 8 km

Q18. In which **direction** is town T from town Q?

- (A) South
- (B) West
- (C) North-West
- (D) South-West

Q19. What is the **straight-line distance** between town Q and town R?

- (A) 6 km
- (B) 10 km
- (C) 4 km
- (D) 8 km

Q20. If a new town V is located exactly **midway between P and S**, how far is V from P?

- (A) 2 km
- (B) 3 km
- (C) 5 km
- (D) 4 km



Detailed Solutions**Sol. 1.****Solution**

Concept — Reading a Pie Chart (Percentage to Amount): Amount for a sector
$$= \frac{\text{Sector \%}}{100} \times \text{Total Budget.}$$

Step 1 — Identify the Education percentage: From the pie chart, Education = 25%.

Step 2 — Calculate the Education allocation:

$$\text{Education} = \frac{25}{100} \times 5000 = 25 \times 50 = \text{Rs. 1250 Crore}$$

Why other options are wrong:

- Option A: Rs. 1000 Crore — corresponds to 20% of Rs. 5000 Crore (the Health share, not Education).
- Option B: Rs. 1100 Crore — corresponds to 22%, which does not match any given sector.
- Option D: Rs. 1500 Crore — corresponds to 30%, which is more than the Education share.

Final Answer: Education allocation = Rs. 1250 Crore $\Rightarrow$ C

Answer: (C) [Go Back to Q 1](#)

Sol. 2.**Solution**

Concept — Difference Between Two Sector Allocations: Calculate each sector's amount and subtract.

Step 1 — Calculate Education and Agriculture allocations:

- Education: $25\% \times 5000 = \text{Rs. 1250 Crore}$
- Agriculture: $12\% \times 5000 = \text{Rs. 600 Crore}$

Step 2 — Find the difference:

$$1250 - 600 = \text{Rs. 650 Crore}$$



Why other options are wrong:

- Option A: Rs. 500 Crore — would imply Agriculture = Rs. 750 Crore (i.e., 15%), which is incorrect.
- Option B: Rs. 550 Crore — would imply Agriculture = Rs. 700 Crore (i.e., 14%), which is incorrect.
- Option C: Rs. 600 Crore — this is the value of Agriculture itself, not the difference.

Final Answer: Education exceeds Agriculture by Rs. 650 Crore $\Rightarrow$ **D**

Answer: (D) [Go Back to Q 2](#)

Sol. 3.**Solution**

Concept — Ratio of Two Quantities: Since both Health and Infrastructure are percentages of the same total, their ratio equals the ratio of their percentages.

Step 1 — Identify Health and Infrastructure percentages: Health = 20%, Infrastructure = 18%.

Step 2 — Simplify the ratio:

$$\text{Health : Infrastructure} = 20 : 18 = 10 : 9$$

Why other options are wrong:

- Option B: 5 : 4 — would imply Infrastructure is 80% of Health (i.e., 16% if Health is 20%), not 18%.
- Option C: 9 : 10 — this is the *inverse* ratio (Infrastructure : Health), not Health : Infrastructure.
- Option D: 4 : 5 — the reciprocal of a different incorrect ratio.

Final Answer: Health to Infrastructure ratio = 10 : 9 $\Rightarrow$ **A**

Answer: (A) [Go Back to Q 3](#)



Sol. 4.

Solution

Concept — Complement Percentage: Percentage for “other than Defence” = $100\% - \text{Defence \%}$.

Step 1 — Identify the Defence percentage: Defence = 15% of total budget.

Step 2 — Calculate the percentage for non-Defence sectors:

$$100\% - 15\% = 85\%$$

Why other options are wrong:

- Option A: 80% — would imply Defence = 20%, but Defence is only 15%.
- Option C: 82% — would imply Defence = 18%, which is the Infrastructure share.
- Option D: 88% — would imply Defence = 12%, which is the Agriculture share.

Final Answer: 85% of the budget goes to non-Defence sectors $\Rightarrow$ **B**

Answer: (B) [Go Back to Q 4](#)

Sol. 5.

Solution

Concept — Scaling the Budget (Proportional Allocation): When the total budget increases but percentages remain unchanged, the new allocation scales proportionally.

Step 1 — Identify Health’s percentage: Health = 20% of total budget.

Step 2 — Apply to the new total budget:

$$\text{New Health allocation} = \frac{20}{100} \times 6000 = 20 \times 60 = \text{Rs. 1200 Crore}$$

Why other options are wrong:

- Option A: Rs. 1000 Crore — corresponds to 20% of Rs. 5000 (the old budget), not the new one.
- Option B: Rs. 1100 Crore — corresponds to approximately 18.3% of Rs. 6000, which is not the Health share.



- Option D: Rs. 1300 Crore — corresponds to approximately 21.7% of Rs. 6000, which is not the Health share.

Final Answer: New Health allocation = Rs. 1200 Crore $\Rightarrow$ C

Answer: (C) [Go Back to Q 5](#)

Sol. 6.

Solution

Concept — Finding the Maximum in a Column: Compare the “Total” column to identify the student with the highest aggregate.

Step 1 — Read the Total scores: P = 390, Q = 375, R = 403, S = 370, T = 380, U = 368.

Step 2 — Identify the maximum: $403 > 390 > 380 > 375 > 370 > 368$. Student R has the highest total score.

Why other options are wrong:

- Option A: P (390) — second highest, but less than R’s 403.
- Option B: T (380) — third highest overall.
- Option C: Q (375) — fourth among the six students.

Final Answer: R has the highest total score (403) $\Rightarrow$ D

Answer: (D) [Go Back to Q 6](#)

Sol. 7.

Solution

Concept — Arithmetic Mean: $\text{Average} = \frac{\text{Sum of values}}{\text{Number of values}}$.

Step 1 — List the Maths scores for all six students: P = 85, Q = 70, R = 90, S = 60, T = 75, U = 80.

Step 2 — Calculate the sum and average:

$$\text{Sum} = 85 + 70 + 90 + 60 + 75 + 80 = 460$$

$$\text{Average} = \frac{460}{6} \approx 76.67$$



Why other options are wrong:

- Option B: 75 — this is T's individual Maths score, not the average of all six.
- Option C: 78 — one percentage point above the correct value; results from arithmetic error.
- Option D: 80 — this is U's individual Maths score, not the average.

Final Answer: Average Maths score $\approx 76.67 \Rightarrow$ **A**

Answer: (A) [Go Back to Q 7](#)

Sol. 8.

Solution

Concept — Counting Values Exceeding a Threshold: Check each subject score for student P against the condition > 80 .

Step 1 — List student P's scores subject-wise: Maths = 85, Science = 78, English = 92, History = 70, Geography = 65.

Step 2 — Check which scores exceed 80:

- Maths: $85 > 80 \checkmark$
- Science: $78 \leq 80 \times$
- English: $92 > 80 \checkmark$
- History: $70 \leq 80 \times$
- Geography: $65 \leq 80 \times$

Step 3 — Count the qualifying subjects: Maths and English qualify $\Rightarrow$ **2 subjects**.

Why other options are wrong:

- Option A: 1 — only counts one of the two qualifying subjects.
- Option C: 3 — would include Science (78), which does not exceed 80.
- Option D: 4 — significantly over-counts; History (70) and Geography (65) are well below 80.

Final Answer: Student P scores above 80 in exactly 2 subjects $\Rightarrow$ **B**

Answer: (B) [Go Back to Q 8](#)



Sol. 9.

Solution

Concept — Finding the Maximum in a Specific Column: Compare all six History scores.

Step 1 — Read the History scores for all students: $P = 70, Q = 75, R = 80, S = 90, T = 65, U = 72$.

Step 2 — Identify the maximum: $90 > 80 > 75 > 72 > 70 > 65$. Student S has the highest History score (90).

Why other options are wrong:

- Option A: R (80) — second highest in History, but less than S's 90.
- Option B: Q (75) — third highest in History.
- Option D: U (72) — fourth highest; below Q, R, and S.

Final Answer: S has the highest History score (90) $\Rightarrow$ C

Answer: (C) [Go Back to Q 9](#)

Sol. 10.

Solution

Concept — Column Sum: Add all English scores from the table.

Step 1 — List the English scores for all six students: $P = 92, Q = 80, R = 75, S = 68, T = 85, U = 78$.

Step 2 — Sum all values:

$$92 + 80 + 75 + 68 + 85 + 78 = 478$$

Verification: $(92 + 78) + (80 + 68) + (75 + 85) = 170 + 148 + 160 = 478 \checkmark$

Why other options are wrong:

- Option A: 465 — under-counts by 13; likely misreads one or more values (e.g., reads P's English as 79 instead of 92).
- Option B: 470 — under-counts by 8; arises from a single arithmetic error.
- Option C: 475 — under-counts by 3; close but incorrect; results from a minor reading error.



Final Answer: Total English marks for all students = 478 $\Rightarrow$ D

Answer: (D) [Go Back to Q 10](#)

Sol. 11.

Solution

Concept — Deductive Scheduling (Weekly Calendar): Apply all conditions step by step to find the unique schedule.

Step 1 — Apply the fixed assignments from conditions (i), (ii), (iii), (vi):

- Audit (A) = Monday [condition (i)]
- Budget (B) = Wednesday [condition (ii): exactly 2 days after Monday]
- Governance (G) = Saturday [condition (vi)]
- Compliance (C) = Sunday [condition (iii)]

Step 2 — Identify remaining days and activities: Fixed: Mon=A, Wed=B, Sat=G, Sun=C.

Remaining days: Tuesday, Thursday, Friday.

Remaining activities: Design (D), Evaluation (E), Forecasting (F).

Step 3 — Apply condition (iv): Design immediately before Evaluation. D and E must occupy consecutive days from {Tue, Thu, Fri}. Only Thu–Fri is a consecutive pair (Tue–Thu has a gap). So D = Thursday, E = Friday.

Step 4 — Place Forecasting: F occupies the only remaining day: Tuesday. Check condition (v): Forecasting is on Tuesday (not a weekend day) ✓.

Final Schedule: A=Mon, F=Tue, B=Wed, D=Thu, E=Fri, G=Sat, C=Sun.

Forecasting is scheduled on **Tuesday**.

Why other options are wrong:

- Option B: Thursday — Thursday is assigned to Design.
- Option C: Saturday — Saturday is assigned to Governance.
- Option D: Friday — Friday is assigned to Evaluation.

Final Answer: Forecasting is on Tuesday $\Rightarrow$ A

Answer: (A) [Go Back to Q 11](#)



Sol. 12.

Solution

Concept — Reading the Derived Schedule: From the fully derived schedule: A=Mon, F=Tue, B=Wed, D=Thu, E=Fri, G=Sat, C=Sun.

Step 1 — Identify the activity on Friday: Friday is assigned to **Evaluation (E)**.

Step 2 — Verify with conditions: Design (Thu) is immediately before Evaluation (Fri) ✓ (condition iv satisfied).

Why other options are wrong:

- Option A: Compliance — Compliance is on Sunday, not Friday.
- Option C: Budget — Budget is on Wednesday, not Friday.
- Option D: Governance — Governance is on Saturday, not Friday.

Final Answer: Evaluation is scheduled on Friday $\Rightarrow$ **B**

Answer: (B) [Go Back to Q 12](#)

Sol. 13.

Solution

Concept — Counting Activities Between Two Given Days: Count activities scheduled on days strictly between Monday and Wednesday (exclusive of both).

Step 1 — Identify the days strictly between Monday and Wednesday: Only **Tuesday** lies strictly between Monday and Wednesday.

Step 2 — Identify the activity on Tuesday: From the schedule: Tuesday = Forecasting (F).

Count = **1 activity**.

Why other options are wrong:

- Option A: 0 — would mean no day exists between Monday and Wednesday, but Tuesday is between them.
- Option B: 2 — would require two days between Monday and Wednesday, which is not possible in a standard week.
- Option D: 3 — significantly over-counts; only one day (Tuesday) lies between Monday and Wednesday.

Final Answer: 1 activity (Forecasting) is between Audit and Budget $\Rightarrow$ **C**



Answer: (C) [Go Back to Q 13](#)

Sol. 14.

Solution

Concept — Reading the Derived Schedule: From the schedule: A=Mon, F=Tue, B=Wed, D=Thu, E=Fri, G=Sat, C=Sun.

Step 1 — Identify the activity on Thursday: Thursday is assigned to **Design (D)**.

Step 2 — Verify with conditions: Design (Thu) is immediately before Evaluation (Fri) ✓ (condition iv). Both Thu and Fri are non-weekend days.

Why other options are wrong:

- Option A: Forecasting — Forecasting is on Tuesday, not Thursday.
- Option B: Evaluation — Evaluation is on Friday, not Thursday.
- Option C: Compliance — Compliance is on Sunday, not Thursday.

Final Answer: Design is scheduled on Thursday ⇒ **D**

Answer: (D) [Go Back to Q 14](#)

Sol. 15.

Solution

Concept — Counting Activities Between Two Given Days: Count activities on days strictly between Thursday and Sunday.

Step 1 — Identify days strictly between Thursday and Sunday: Friday and Saturday lie strictly between Thursday and Sunday.

Step 2 — Identify the activities on Friday and Saturday:

- Friday = Evaluation (E)
- Saturday = Governance (G)

Count = **2 activities**.

Why other options are wrong:

- Option B: 1 — would mean only one day is between Thursday and Sunday, but both Friday and Saturday qualify.



- Option C: 3 — would require three days between Thursday and Sunday; only Friday and Saturday exist between them.
- Option D: 0 — would mean Thursday and Sunday are adjacent, which is incorrect.

Final Answer: 2 activities (Evaluation and Governance) lie between Design and Compliance $\Rightarrow$ **A**

Answer: (A) [Go Back to Q 15](#)

Sol. 16.

Solution

Concept — Determining Direction Between Two Points: Direction is determined by the relative coordinates: positive x = East, positive y = North.

Step 1 — Identify the coordinates of P and R: $P = (0, 0)$, $R = (6, 10)$.

Step 2 — Determine the direction: From P to R: $\Delta x = +6$ (East) and $\Delta y = +10$ (North).

Both components are positive $\Rightarrow$ R is in the **North-East** direction from P.

Why other options are wrong:

- Option A: North — would require $\Delta x = 0$, i.e., R directly above P, but R is 6 km to the East.
- Option C: East — would require $\Delta y = 0$, i.e., R at the same latitude as P, but R is 10 km North.
- Option D: South-East — would require $\Delta y < 0$ (R south of P), but R is North of P.

Final Answer: R is in the North-East direction from P $\Rightarrow$ **B**

Answer: (B) [Go Back to Q 16](#)

Sol. 17.

Solution

Concept — Distance Between Two Points on a Grid: Use the distance formula $d = \sqrt{(\Delta x)^2 + (\Delta y)^2}$.

Step 1 — Identify the coordinates of P and S: $P = (0, 0)$, $S = (6, 0)$.



Step 2 — Calculate the distance:

$$d = \sqrt{(6 - 0)^2 + (0 - 0)^2} = \sqrt{36} = 6 \text{ km}$$

P and S lie on the same horizontal line (same North–South position), so the distance is simply the East–West separation.

Why other options are wrong:

- Option A: 3 km — this is the distance from T to P (T is 3 km West of P), not P to S.
- Option B: 10 km — this is the North–South distance (P to Q or R to S), not the East–West distance P to S.
- Option D: 8 km — does not correspond to any direct distance between the listed towns.

Final Answer: Distance between P and S = 6 km $\Rightarrow$ C

Answer: (C) [Go Back to Q 17](#)

Sol. 18.**Solution**

Concept — Direction from One Point to Another: Direction from Q to T is determined by Δx (East/West) and Δy (North/South).

Step 1 — Identify the coordinates of Q and T: Q = (0, 10), T = (−3, 0).

Step 2 — Determine Δx and Δy :

$$\Delta x = -3 - 0 = -3 \quad (\text{West})$$

$$\Delta y = 0 - 10 = -10 \quad (\text{South})$$

Both components are negative (West and South) $\Rightarrow$ T is in the **South-West** direction from Q.

Why other options are wrong:

- Option A: South — would require $\Delta x = 0$ (same longitude as Q), but T is 3 km to the West.
- Option B: West — would require $\Delta y = 0$ (same latitude as Q), but T is 10 km to the South.



- Option C: North-West — would require $\Delta y > 0$ (T north of Q), but T has lower northing than Q.

Final Answer: T is in the South-West direction from Q $\Rightarrow$ D

Answer: (D) [Go Back to Q 18](#)

Sol. 19.

Solution

Concept — Distance Between Two Points: Use the distance formula.

Step 1 — Identify the coordinates of Q and R: $Q = (0, 10)$, $R = (6, 10)$.

Step 2 — Calculate the distance:

$$d = \sqrt{(6 - 0)^2 + (10 - 10)^2} = \sqrt{36 + 0} = 6 \text{ km}$$

Q and R are at the same North–South level, so the distance is just the East–West separation of 6 km.

Why other options are wrong:

- Option B: 10 km — this is the North–South distance (e.g., P to Q or R to S), not Q to R.
- Option C: 4 km — does not correspond to any direct given distance.
- Option D: 8 km — does not correspond to the East–West gap between Q and R.

Final Answer: Distance between Q and R = 6 km $\Rightarrow$ A

Answer: (A) [Go Back to Q 19](#)

Sol. 20.

Solution

Concept — Midpoint and Distance: The midpoint of two points divides the segment into two equal halves. Distance from P to the midpoint equals half the distance from P to S.

Step 1 — Identify coordinates of P and S: $P = (0, 0)$, $S = (6, 0)$.



Step 2 — Find the midpoint V:

$$V = \left(\frac{0+6}{2}, \frac{0+0}{2} \right) = (3, 0)$$

Step 3 — Calculate the distance from P to V:

$$d = \sqrt{(3-0)^2 + (0-0)^2} = \sqrt{9} = 3 \text{ km}$$

Why other options are wrong:

- Option A: 2 km — would place V at (2, 0), which is not the midpoint of P and S.
- Option C: 5 km — would place V at (5, 0), which is closer to S than to P (not the midpoint).
- Option D: 4 km — would place V at (4, 0), also not the midpoint.

Final Answer: V is 3 km from P $\Rightarrow$ B

Answer: (B) [Go Back to Q 20](#)



Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	C	2	D	3	A	4	B	5	C
6	D	7	A	8	B	9	C	10	D
11	A	12	B	13	C	14	D	15	A
16	B	17	C	18	D	19	A	20	B

Quick Reference: Correct Answers

Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	C	6	D	11	A	16	B
2	D	7	A	12	B	17	C
3	A	8	B	13	C	18	D
4	B	9	C	14	D	19	A
5	C	10	D	15	A	20	B

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