

Bihar B.Ed CET Logical & Analytical Reasoning

Sample Paper – 9

Duration: 25 Minutes

Maximum Marks: 25

Instructions

- This paper contains **25** Multiple Choice Questions (Single Correct Answer), modelled on the Logical & Analytical Reasoning section of **Bihar B.Ed CET**.
- Each correct answer carries **+1 mark**. There is **no negative marking** for incorrect or unattempted answers.
- Only **one** option is correct. Choose carefully.
- Use of mobile phones, calculators, or electronic gadgets is strictly prohibited.
- Rough work may be done in the margin of the question paper.

Q1. Find the missing term in the series: 2, 5, 10, 17, 26, _____

- (A) 33
- (B) 35
- (C) 37
- (D) 39

Q2. Find the next pair in the series: AZ, BY, CX, DW, _____

- (A) EU
- (B) EV
- (C) FU
- (D) FV

Q3. Choose the correct analogy:

Pen : Writer :: Brush : _____



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- (A) Painter
- (B) Sculptor
- (C) Carpenter
- (D) Weaver

Q4. Choose the correct analogy:

8 : 512 :: 6 : _____

- (A) 36
- (B) 180
- (C) 216
- (D) 256

Q5. Which of the following is the **odd one out**?

- (A) Copper
- (B) Iron
- (C) Gold
- (D) Wood

Q6. In a certain code language, BOOK is written as ERRN. Using the same code, how will PAGE be written?

- (A) RDIF
- (B) SDJH
- (C) TCKI
- (D) PCIG

Q7. Priya's mother's brother's daughter is Sunita. How is Sunita related to Priya?

- (A) Sister
- (B) Niece

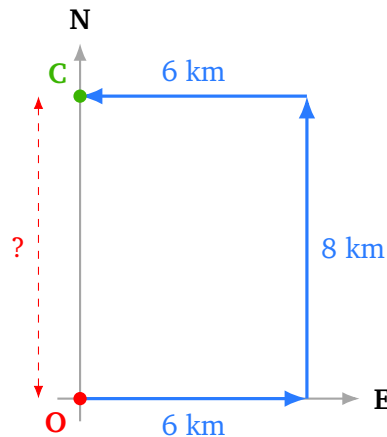


- (C) Cousin
- (D) Aunt

Q8. In a certain code, words are written in **reverse** order of letters. STAR is coded as RATS. Using the same code, LIVE is written as?

- (A) EVIL
- (B) VILE
- (C) LVIE
- (D) ELVI

Q9. A person starts from point O, walks **6 km towards the East**, then turns **left** and walks **8 km towards the North**, and finally turns **left** and walks **6 km towards the West**, reaching point C. What is the straight-line distance from O to C?



- (A) 8 km
- (B) 6 km
- (C) 14 km
- (D) 10 km

Q10. In a row, Renu is **23rd from the left** and **18th from the right**. How many students are there in the row in total?

- (A) 38



- (B) 39
- (C) 40
- (D) 41

Q11. Statements:

All birds can fly.
Penguins are birds.

Conclusions:

- I. All penguins can fly.
- II. Some penguins cannot fly.

Which of the following is correct?

- (A) Only Conclusion I follows
- (B) Only Conclusion II follows
- (C) Neither Conclusion I nor Conclusion II follows
- (D) Both Conclusions I and II follow

Q12. Statements:

Some teachers are poets.
All poets are creative.

Conclusions:

- I. Some teachers are creative.
- II. All creative people are teachers.

Which of the following is correct?

- (A) Only Conclusion I follows
- (B) Only Conclusion II follows
- (C) Both Conclusions I and II follow
- (D) Neither Conclusion I nor Conclusion II follows

Q13. Statement: “Regular exercise reduces the risk of heart disease.”



Conclusions:

- I. People who exercise regularly are less likely to get heart disease.
- II. People who do not exercise will definitely get heart disease.

Which conclusion(s) follow?

- (A) Only Conclusion I follows
- (B) Only Conclusion II follows
- (C) Both Conclusions I and II follow
- (D) Neither Conclusion I nor Conclusion II follows

Q14. Statement: “Drink 8 glasses of water daily for good health.”

Assumptions:

- I. Water is essential for good health.
- II. Most people do not drink enough water.

Which assumption(s) is/are implicit?

- (A) Only Assumption I is implicit
- (B) Only Assumption II is implicit
- (C) Both Assumptions I and II are implicit
- (D) Neither Assumption I nor Assumption II is implicit

Q15. Statement: “Should social media platforms be banned for children below 14 years of age?”

Arguments:

- I. Yes, social media exposes young children to harmful content and addiction.
- II. No, social media helps children learn, communicate, and stay informed.

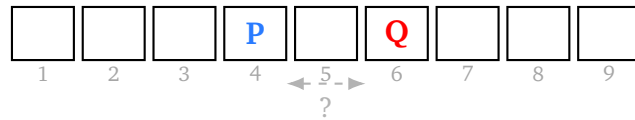
Which argument(s) is/are strong?

- (A) Only Argument I is strong
- (B) Only Argument II is strong



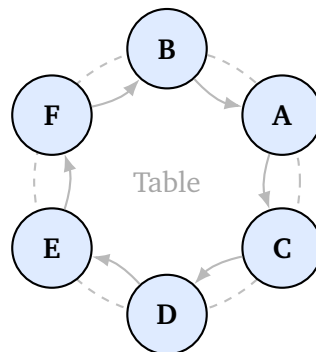
- (C) Both Arguments I and II are strong
- (D) Neither Argument I nor Argument II is strong

Q16. In a row of 9 students, P is at the 4th position from the left and Q is at the 4th position from the right. How many students are sitting between P and Q?



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

Q17. Six friends A, B, C, D, E, F sit around a circular table, all facing the centre. A is to the immediate right of B. C is to the immediate right of A. D is opposite to B. E is to the immediate right of D. Who sits to the immediate left of F?



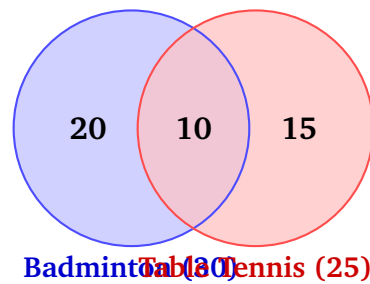
- (A) B
- (B) C
- (C) D
- (D) E



Q18. If $+$ means $\times$, $\times$ means $-$, $-$ means $\div$, and $\div$ means $+$,
find the value of: $4 + 3 - 1 \div 5 \times 2$

- (A) 10
- (B) 12
- (C) 15
- (D) 18

Q19. In a class of **50 students**, **30** play Badminton, **25** play Table Tennis, and **10** play both sports. How many students play **neither** sport?



- (A) 5
- (B) 10
- (C) 15
- (D) 20

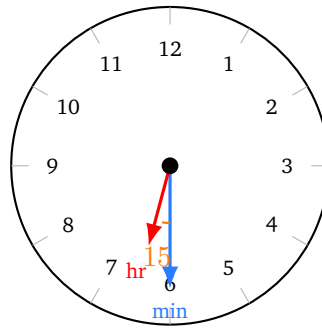
Q20. If **1 January 2020** was a **Wednesday**, what day of the week was **1 January 2021**?

(Note: 2020 is a leap year with 366 days.)

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

Q21. What is the angle (in degrees) between the **minute hand** and the **hour hand** of a clock at **6:30**?





- (A) 15
- (B) 30
- (C) 45
- (D) 90

Q22. Find the next term in the series: C3, F6, I9, L12, _____

- (A) M13
- (B) N14
- (C) O15
- (D) P16

Q23. Which of the following is **NOT** a perfect cube?

- (A) 8
- (B) 36
- (C) 27
- (D) 64

Q24. Find the missing number (?) in the following table:

2	4	8
3	6	12
5	10	?

- (A) 14



- (B) 16
- (C) 18
- (D) 20

Q25. On a standard die, opposite faces always sum to 7 (i.e., 1 is opposite 6, 2 is opposite 5, 3 is opposite 4). If the face showing **3** is on **top** and the face showing **6** is **facing you**, which number is at the **bottom**?

- (A) 4
- (B) 5
- (C) 6
- (D) 1



Detailed Solutions

Q1.

Solution

Concept — Number Series (Increasing Odd Differences): The difference between consecutive terms increases by 2 at each step, following the pattern of consecutive odd numbers.

Step 1 — Find successive differences:

2, 5, 10, 17, 26, ?

$\underbrace{+3}, \underbrace{+5}, \underbrace{+7}, \underbrace{+9}, \underbrace{+?}$

The differences are 3, 5, 7, 9, ... — consecutive odd numbers.

Step 2 — Compute the next difference and term: Next difference = $9 + 2 = 11$.
Missing term = $26 + 11 = 37$.

Why other options are wrong:

- Option A (33): Requires a difference of 7, repeating step 3 — pattern breaks.
- Option B (35): Requires a difference of 9, repeating step 4 — not advancing correctly.
- Option D (39): Requires a difference of 13, skipping 11 — inconsistent with the pattern.

Final Answer: The missing term is 37 $\Rightarrow$ C

Answer: (C) [Go Back to Q1](#)

Q2.

Solution

Concept — Letter Series (Mirror Pairs): Each pair consists of the n -th letter from the beginning and the n -th letter from the end of the alphabet. Their positions always sum to 27.

Step 1 — Analyse the pairs:

- AZ: $A(1) + Z(26) = 27$.
- BY: $B(2) + Y(25) = 27$.
- CX: $C(3) + X(24) = 27$.



- DW: $D(4) + W(23) = 27$.

Step 2 — Find the next pair: 5th letter from the start = E; mirror = $27 - 5 = 22$ nd letter = V.

Next pair: EV.

Why other options are wrong:

- Option A (EU): U is the 21st letter; $5 + 21 = 26 \neq 27$ — mirror sum breaks.
- Option C (FU): F is the 6th letter, not the 5th — premature advance.
- Option D (FV): F is the 6th letter — wrong starting letter for this position.

Final Answer: The next pair is EV $\Rightarrow$ B

Answer: (B) [Go Back to Q2](#)

Q3.

Solution

Concept — Word Analogy (Tool–Specialist): A tool is paired with the professional who uses it as their primary instrument.

Step 1 — Establish the given pair: A *pen* is the primary writing instrument of a *writer*.

Step 2 — Apply the same logic: A *brush* is the primary painting instrument of a *painter*.

Why other options are wrong:

- Option B (Sculptor): Sculptors use chisels, mallets, and modelling tools — not brushes.
- Option C (Carpenter): Carpenters use saws, hammers, and planes — not brushes.
- Option D (Weaver): Weavers use looms and threads — not brushes.

Final Answer: Brush is to Painter $\Rightarrow$ A

Answer: (A) [Go Back to Q3](#)



Q4.

Solution

Concept — Number Analogy (Cube Relationship): The second number in each pair is the *cube* of the first number.

Step 1 — Verify the given pair: $8^3 = 8 \times 8 \times 8 = 512$ ✓

Step 2 — Apply to the unknown: $6^3 = 6 \times 6 \times 6 = 216$

Why other options are wrong:

- Option A (36): $6^2 = 36$ — this is the *square* of 6, not the cube.
- Option B (180): $6 \times 30 = 180$ — no standard power relationship.
- Option D (256): $4^4 = 256$ — unrelated to the base number 6.

Final Answer: $6^3 = 216 \Rightarrow$ C

Answer: (C) [Go Back to Q4](#)

Q5.

Solution

Concept — Odd One Out (Material Classification): Three items belong to one material category; the fourth belongs to a different category.

Step 1 — Classify each option:

- Copper: a *metal* (excellent conductor of electricity).
- Iron: a *metal* (magnetic, widely used in industry).
- Gold: a *metal* (precious, highly malleable and ductile).
- **Wood:** a *non-metallic* organic material derived from trees.

Step 2 — Identify the odd one: Copper, Iron, and Gold are all metals. Wood is not a metal — it is an organic, non-conducting material.

Why other options are wrong:

- Option A (Copper): A metal — belongs to the dominant group.
- Option B (Iron): A metal — belongs to the dominant group.
- Option C (Gold): A metal — belongs to the dominant group.

Final Answer: Wood is the odd one out $\Rightarrow$ D

Answer: (D) [Go Back to Q5](#)



Q6.

Solution

Concept — Coding-Decoding (Letter Shift +3): Each letter of the word is replaced by the letter that appears 3 positions later in the English alphabet.

Step 1 — Verify with BOOK:

$$B(+3) \rightarrow E, \quad O(+3) \rightarrow R, \quad O(+3) \rightarrow R, \quad K(+3) \rightarrow N$$

$$\text{BOOK} \rightarrow \text{ERRN} \checkmark$$

Step 2 — Encode PAGE:

$$P(16 + 3 = 19) \rightarrow S, \quad A(1 + 3 = 4) \rightarrow D, \quad G(7 + 3 = 10) \rightarrow J, \quad E(5 + 3 = 8) \rightarrow H$$

$$\text{PAGE} \rightarrow \text{SDJH}$$

Why other options are wrong:

- Option A (RDIF): R is +2 from P, not +3 — wrong shift applied.
- Option C (TCKI): T is +4 from P — shift is too large.
- Option D (PCIG): P is the same as the original first letter — no encoding done.

Final Answer: PAGE $\rightarrow$ SDJH $\Rightarrow$ B

Answer: (B) [Go Back to Q6](#)

Q7.

Solution

Concept — Blood Relations: Trace the family relationship step by step using standard kinship terms.

Step 1 — Trace the chain:

- Priya's mother's brother = Priya's **Maternal Uncle**.
- Priya's Maternal Uncle's daughter = Priya's **Cousin**.

Step 2 — Conclusion: Sunita is Priya's Maternal Uncle's daughter, which makes Sunita Priya's **Cousin**.

Why other options are wrong:

- Option A (Sister): Sisters share the same parents; Priya and Sunita do not.



- Option B (Niece): A niece is the daughter of one's own sibling; Sunita is not Priya's sibling's child.
- Option D (Aunt): An aunt is a parent's sibling; Sunita is the daughter of Priya's uncle, not a sibling of Priya's parents.

Final Answer: Sunita is Priya's Cousin $\Rightarrow$ C

Answer: (C) [Go Back to Q7](#)

Q8.

Solution

Concept — Coding-Decoding (Reverse Spelling): Each word is coded by writing its letters in reverse order.

Step 1 — Verify with STAR: S-T-A-R reversed = R-A-T-S = **RATS** ✓

Step 2 — Encode LIVE: L-I-V-E reversed = E-V-I-L = **EVIL**

Why other options are wrong:

- Option B (VILE): V-I-L-E is an anagram of LIVE but not a simple reversal.
- Option C (LVIE): Not a systematic reversal of L-I-V-E.
- Option D (ELVI): E-L-V-I incorrectly places L second; the reversal must put V second.

Final Answer: LIVE reversed = EVIL $\Rightarrow$ A

Answer: (A) [Go Back to Q8](#)

Q9.

Solution

Concept — Direction and Distance (Net Displacement): Track the net displacement in each direction separately, then compute the resultant straight-line distance.

Step 1 — Track displacements:

- 6 km East: horizontal displacement = +6 km.
- 8 km North: vertical displacement = +8 km.
- 6 km West: horizontal displacement = +6 - 6 = 0 km (the eastward leg is completely cancelled).



Step 2 — Compute straight-line distance: Net displacement: 0 km (East/West), 8 km (North).

$$OC = \sqrt{0^2 + 8^2} = \sqrt{64} = 8 \text{ km}$$

Why other options are wrong:

- Option B (6 km): Considers only the East–West displacement and ignores North.
- Option C (14 km): $6 + 8 = 14$ — adds legs without accounting for the westward cancellation.
- Option D (10 km): $\sqrt{6^2 + 8^2} = 10$ — incorrectly keeps both the eastward and northward components without noting that the East and West legs cancel.

Final Answer: Point C is 8 km from point O $\Rightarrow$ A

Answer: (A) [Go Back to Q9](#)

Q10.

Solution

Concept — Ranking/Position (Total Count Formula):

$$\text{Total} = \text{Position from left} + \text{Position from right} - 1$$

Step 1 — Apply the formula:

$$\text{Total} = 23 + 18 - 1 = 40$$

Step 2 — Verify: Students to Renu's left: $23 - 1 = 22$.

Students to Renu's right: $18 - 1 = 17$.

Total: $22 + 1 + 17 = 40$ ✓

Why other options are wrong:

- Option A (38): $23 + 18 - 3 = 38$ — subtracts 3 instead of 1.
- Option B (39): $23 + 18 - 2 = 39$ — subtracts 2 instead of 1.
- Option D (41): $23 + 18 = 41$ — fails to subtract 1 for Renu herself.

Final Answer: Total students in the row = 40 $\Rightarrow$ C

Answer: (C) [Go Back to Q10](#)



Q11.

Solution

Concept — Syllogism (Universal Affirmative Premises): In formal logic, conclusions are drawn from the given premises as stated, irrespective of real-world facts.

Step 1 — Map the premises (formal logic): “All birds can fly” $\Rightarrow$ Birds $\subseteq$ Flying-things.

“Penguins are birds” $\Rightarrow$ Penguins $\subseteq$ Birds.

Step 2 — Test the conclusions:

- **Conclusion I** (All penguins can fly): By transitivity, Penguins $\subseteq$ Birds $\subseteq$ Flying-things. **Follows.**
- **Conclusion II** (Some penguins cannot fly): This directly contradicts Conclusion I; if all penguins can fly, none cannot. **Does not follow.**

Why other options are wrong:

- Option B (Only II): II contradicts the chain of universal affirmatives in the premises.
- Option C (Neither): I is a valid chain conclusion.
- Option D (Both): I and II cannot both hold simultaneously.

Final Answer: Only Conclusion I follows $\Rightarrow$ A

Answer: (A) [Go Back to Q11](#)

Q12.

Solution

Concept — Syllogism (Particular + Universal Affirmative):

Step 1 — Map the premises: “Some teachers are poets” $\Rightarrow$ Teachers $\cap$ Poets $\neq \emptyset$.
 “All poets are creative” $\Rightarrow$ Poets $\subseteq$ Creative.

Step 2 — Test the conclusions:

- **Conclusion I** (Some teachers are creative): The teachers who are also poets must be creative (since all poets are creative). **Follows.**
- **Conclusion II** (All creative people are teachers): The premise says some teachers are poets, not that all creative people are teachers. This is an unjustified reversal. **Does not follow.**



Why other options are wrong:

- Option B (Only II): II is an illegal conversion of the given premise.
- Option C (Both): II is not supported by the premises.
- Option D (Neither): I is a valid chain inference.

Final Answer: Only Conclusion I follows $\Rightarrow$ A

Answer: (A) [Go Back to Q12](#)

Q13.

Solution

Concept — Statement and Conclusions: A conclusion is valid if it follows *directly and logically* from the statement without over-generalisation.

Step 1 — Evaluate Conclusion I: “People who exercise regularly are less likely to get heart disease” is a direct and logical restatement of the given statement. **Conclusion I follows.**

Step 2 — Evaluate Conclusion II: “People who do not exercise *will definitely* get heart disease” is an absolute claim. The statement says exercise *reduces risk*, not that absence of exercise *guarantees* disease. **Conclusion II does not follow.**

Why other options are wrong:

- Option B (Only II): II is an unjustified extreme over-generalisation.
- Option C (Both): II is not logically supported by the statement.
- Option D (Neither): I is a valid and direct inference.

Final Answer: Only Conclusion I follows $\Rightarrow$ A

Answer: (A) [Go Back to Q13](#)

Q14.

Solution

Concept — Statement and Assumptions: An assumption is *implicit* if it is an un-stated belief that the statement silently takes for granted in order to be meaningful and actionable.

Step 1 — Test Assumption I (Water is essential for good health): The entire advice to drink water for health makes sense only if water is actually beneficial to



health. This is the foundational premise of the recommendation. **Assumption I is implicit.**

Step 2 — Test Assumption II (Most people do not drink enough water): The recommendation “drink 8 glasses daily” implicitly suggests that the typical person currently drinks less than the recommended amount. The advice would be pointless if people already drank enough. **Assumption II is implicit.**

Why other options are wrong:

- Option A (Only I): Assumption II is equally embedded in the actionable advice.
- Option B (Only II): Assumption I is fundamental to the statement’s logic.
- Option D (Neither): Both assumptions are necessary for the statement to make sense.

Final Answer: Both Assumptions I and II are implicit $\Rightarrow$ C

Answer: (C) [Go Back to Q14](#)

Q15.

Solution

Concept — Statement and Arguments (Strong vs. Weak): A *strong* argument is directly relevant to the statement, logically sound, and raises a significant point for or against it.

Step 1 — Evaluate Argument I: “Social media exposes young children to harmful content and addiction” is a direct, well-documented, and significant reason *for* the ban. **Strong.**

Step 2 — Evaluate Argument II: “Social media helps children learn, communicate, and stay informed” is an equally direct, evidence-backed, and significant reason *against* the ban. **Strong.**

Why other options are wrong:

- Option A (Only I strong): Argument II is equally relevant and substantive.
- Option B (Only II strong): Argument I addresses a serious and real concern.
- Option D (Neither strong): Both arguments directly and substantially address the core question.

Final Answer: Both Arguments I and II are strong $\Rightarrow$ C



Answer: (C) [Go Back to Q15](#)

Q16.

Solution

Concept — Linear Arrangement (Position Conversion): Convert all positions to “from the left” and count seats strictly between the two persons.

Step 1 — Find both positions from the left:

- P is at position 4 from the left (given directly).
- Q is 4th from the right in a row of 9: Position from left = $9 - 4 + 1 = 6$.

Step 2 — Count students between P (pos 4) and Q (pos 6): Positions strictly between 4 and 6: only position 5 — exactly 1 student.

Why other options are wrong:

- Option A (0): Would be correct only if P and Q were at adjacent positions (no seat between them).
- Option C (2): Counts the gap between positions 4 to 6 as two, but only position 5 is *between* them.
- Option D (3): Greatly over-counts; only one position lies strictly between 4 and 6.

Final Answer: 1 student sits between P and Q $\Rightarrow$ **B**

Answer: (B) [Go Back to Q16](#)

Q17.

Solution

Concept — Circular Seating (Facing Centre, 6 Persons): “Immediate right” = adjacent seat in the *clockwise* direction. “Opposite” in a 6-person circle = 3 seats away.

Step 1 — Build the arrangement step by step:

- A is to the immediate right of B $\Rightarrow$ clockwise: B(1) $\rightarrow$ A(2).
- C is to the immediate right of A $\Rightarrow$ clockwise: A(2) $\rightarrow$ C(3).
- D is opposite B(1) $\Rightarrow$ D is at position $1 + 3 = 4$.
- E is to the immediate right of D(4) $\Rightarrow$ E(5).
- F is the only remaining person $\Rightarrow$ F(6).



Step 2 — Full clockwise order and answer:

$$B(1) \rightarrow A(2) \rightarrow C(3) \rightarrow D(4) \rightarrow E(5) \rightarrow F(6) \rightarrow B$$

Immediate *left* of F = counter-clockwise neighbour of F = **E**.

Why other options are wrong:

- Option A (B): B is to the immediate *right* of F (F's clockwise neighbour), not the left.
- Option B (C): C is two seats clockwise from F.
- Option C (D): D is three seats from F (directly opposite).

Final Answer: E sits to the immediate left of F $\Rightarrow$ D

Answer: (D) [Go Back to Q17](#)

Q18.

Solution

Concept — Mathematical Operations (Symbol Substitution): Replace each operator with its actual meaning, then evaluate the expression using standard BODMAS (Brackets, Orders, Division, Multiplication, Addition, Subtraction).

Step 1 — Substitute symbols in $4 + 3 - 1 \div 5 \times 2$:

- $+$ becomes $\times$; $-$ becomes $\div$; $\div$ becomes $+$; $\times$ becomes $-$.

Expression after substitution: $4 \times 3 \div 1 + 5 - 2$

Step 2 — Evaluate (BODMAS):

$$4 \times 3 = 12$$

$$12 \div 1 = 12$$

$$12 + 5 = 17$$

$$17 - 2 = 15$$

Why other options are wrong:

- Option A (10): Results from evaluating left-to-right without following BODMAS.
- Option B (12): Omits the $+5$ step that follows the division.



- Option D (18): Results from an arithmetic error in the final subtraction step.

Final Answer: The value is 15 $\Rightarrow$ C

Answer: (C) [Go Back to Q18](#)

Q19.

Solution

Concept — Venn Diagram / Inclusion-Exclusion Principle:

$$n(A \cup B) = n(A) + n(B) - n(A \cap B)$$

$$\text{Neither} = \text{Total} - n(A \cup B)$$

Step 1 — Find students who play at least one sport:

$$n(B \cup TT) = 30 + 25 - 10 = 45$$

Step 2 — Find students who play neither:

$$\text{Neither} = 50 - 45 = 5$$

Verification with the diagram: Badminton-only = $30 - 10 = 20$; TT-only = $25 - 10 = 15$; Both = 10. Total active = $20 + 15 + 10 = 45$. Neither = $50 - 45 = 5$ ✓

Why other options are wrong:

- Option B (10): $50 - 40 = 10$ — uses an incorrect union value of 40.
- Option C (15): $50 - 35 = 15$ — uses an incorrect union value of 35.
- Option D (20): $50 - 30 = 20$ — considers only Badminton and ignores Table Tennis entirely.

Final Answer: 5 students play neither sport $\Rightarrow$ A

Answer: (A) [Go Back to Q19](#)



Q20.

Solution

Concept — Calendar (Leap Year Odd Days): Count the total days in the year and find the remainder when divided by 7 (odd days); then advance the starting day by that many.

Step 1 — Days in 2020 (a leap year):

$$366 = 52 \times 7 + 2 \Rightarrow \text{Odd days} = 2$$

Step 2 — Advance the starting day: Wednesday + 2 odd days = **Friday**.

Why other options are wrong:

- Option A (Wednesday): Adds 0 odd days — treats the year as having exactly 52 full weeks.
- Option B (Thursday): Adds 1 odd day — uses 365 days and misses the extra leap day.
- Option D (Saturday): Adds 3 odd days — over-counts.

Final Answer: 1 January 2021 was a Friday $\Rightarrow$ C

Answer: (C) [Go Back to Q20](#)

Q21.

Solution

Concept — Clock Angles:

$$\theta = \left| 30H - \frac{11M}{2} \right|^\circ \quad (\text{take the smaller angle if } > 180)$$

Step 1 — Substitute $H = 6, M = 30$:

$$\theta = \left| 30 \times 6 - \frac{11 \times 30}{2} \right| = |180 - 165| = 15$$

Step 2 — Intuitive check: At 6:00, both hands point downward and coincide (0° between them). In 30 minutes, the minute hand sweeps 180 (moving from 6 back to 12) while the hour hand moves only $\frac{30}{2} = 15$ past 6. At 6:30, the minute hand is at 12 and the hour hand is 15 past 6, giving a difference of $|180 - 165| = 15$. ✓

Why other options are wrong:



- Option B (30): This is the angle at 1:00 ($1 \times 30 = 30$).
- Option C (45): This does not correspond to 6:30 — formula gives 15.
- Option D (90): This is the angle at 3:00 ($3 \times 30 = 90$).

Final Answer: The angle at 6:30 is 15 $\Rightarrow$ A

Answer: (A) [Go Back to Q21](#)

Q22.

Solution

Concept — Alphanumeric Series (Two Independent Patterns): The letter component and the number component each follow their own arithmetic progression.

Step 1 — Letter pattern: C(3), F(6), I(9), L(12), O(15) — every 3rd letter of the alphabet, advancing +3 positions each time.

Step 2 — Number pattern: 3, 6, 9, 12, 15 — arithmetic sequence with common difference = 3.

Step 3 — Combine: Next term: letter O (15th letter), number 15 $\Rightarrow$ O15.

Why other options are wrong:

- Option A (M13): M is the 13th letter (+1 from L), but the letter step is +3 — wrong increment.
- Option B (N14): N is the 14th letter (+2 from L); 14 is +2 from 12 — both increments are incorrect.
- Option D (P16): P is the 16th letter (+4 from L) — too large an increment.

Final Answer: The next term is O15 $\Rightarrow$ C

Answer: (C) [Go Back to Q22](#)

Q23.

Solution

Concept — Odd One Out (Perfect Cubes): A perfect cube is an integer expressible as n^3 for some positive integer n . Identify which option cannot be expressed this way.

Step 1 — Check each option:

- Option A: $8 = 2^3$ — *perfect cube* ✓



- Option B: $36 = ? \sqrt[3]{36} \approx 3.30$ — **not a perfect cube** ($3^3 = 27$, $4^3 = 64$; 36 lies between them)
- Option C: $27 = 3^3$ — *perfect cube* ✓
- Option D: $64 = 4^3$ — *perfect cube* ✓

Step 2 — Identify the odd one: 8, 27, and 64 are all perfect cubes. 36 is **not** a perfect cube.

Why other options are wrong:

- Option A (8): $2^3 = 8$ — it is a perfect cube.
- Option C (27): $3^3 = 27$ — it is a perfect cube.
- Option D (64): $4^3 = 64$ — it is a perfect cube.

Final Answer: 36 is not a perfect cube $\Rightarrow$ **B**

Answer: (B) [Go Back to Q23](#)

Q24.

Solution

Concept — Missing Number in a Grid (Doubling Pattern): Each row follows the rule: $\text{Col}_2 = 2 \times \text{Col}_1$ and $\text{Col}_3 = 2 \times \text{Col}_2 = 4 \times \text{Col}_1$.

Step 1 — Verify the pattern in existing rows:

- Row 1: $2 \xrightarrow{\times 2} 4 \xrightarrow{\times 2} 8$ ✓
- Row 2: $3 \xrightarrow{\times 2} 6 \xrightarrow{\times 2} 12$ ✓
- Row 3: $5 \xrightarrow{\times 2} 10 \xrightarrow{\times 2} ? = 20$

Step 2 — Cross-check with column patterns: Col_3 values: 8, 12, ? — differences are +4, +8 (doubling), giving $? = 12 + 8 = 20$ ✓

Why other options are wrong:

- Option A (14): $10 + 4 = 14$ — applies a constant +4 which does not fit.
- Option B (16): $10 + 6 = 16$ — does not match the $\times 2$ rule.
- Option C (18): $10 + 8 = 18$ — close but the rule is $10 \times 2 = 20$, not +8.

Final Answer: The missing number is 20 $\Rightarrow$ **D**

Answer: (D) [Go Back to Q24](#)



Q25.

Solution

Concept — Dice (Opposite Face Rule): On a standard die, opposite faces always sum to 7: the pairs are (1, 6), (2, 5), and (3, 4).

Step 1 — Identify the known face positions:

- Face showing **3** is on **top**.
- Face showing **6** is **facing the observer** (front face).

Step 2 — Find the bottom face: The bottom face is directly opposite the top face. Top = 3; since $3 + 4 = 7$, bottom = 4.

Why other options are wrong:

- Option B (5): 5 is opposite 2; it occupies a side face in this configuration.
- Option C (6): 6 is the front face (facing the observer), not the bottom.
- Option D (1): 1 is opposite 6, so 1 is the back face (facing away), not the bottom.

Final Answer: The bottom face shows 4 $\Rightarrow$ A

Answer: (A) [Go Back to Q25](#)



Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	C	2	B	3	A	4	C	5	D
6	B	7	C	8	A	9	A	10	C
11	A	12	A	13	A	14	C	15	C
16	B	17	D	18	C	19	A	20	C
21	A	22	C	23	B	24	D	25	A

