SNAP Analytical and Logical Reasoning

Sample Paper – 10

Duration: 25 Minutes **Maximum Marks: 25**

Instructions

- This paper contains **25** Multiple Choice Questions (Single Correct Answer), modelled on the Analytical and Logical Reasoning section of **SNAP** (Symbiosis National Aptitude Test).
- Each correct answer carries **+1 mark**. **0.25 marks** are deducted for every wrong answer. Unattempted questions carry no penalty.
- Only **one** option is correct. Choose the most appropriate answer.
- SNAP is a computer-based test with no sectional time limit; attempt this practice paper in one timed sitting of about **25 minutes**.
- Use of mobile phones, calculators, or electronic gadgets is strictly prohibited.

Part A: Series and Analogy

Q1. Find the next number in the series: **3, 6, 12, 24, 48, ?**

(A) 72

(B) 96

(C) 84

(D) 90

Q2. Find the next term in the series: **C, F, I, L, ?**

(A) O

(B) N

(C) P

(D) M

Q3. Choose the option that completes the analogy: **Painter : Brush :: Writer : ?**

(A) Book

(B) Paper

(C) Ink

(D) Pen

Q4. Choose the option that completes the analogy: **5 : 125 :: 4 : ?**

(A) 16

(B) 81

(C) 64

(D) 100

Part B: Coding and Decoding

Q5. In a certain code language, CAMERA is written as XZNVIZ. Using the same rule, how is BOX written?

(A) YLD

(B) YLC

(C) ZLC

(D) YMC

Q6. In a certain code, WINDOW is written as YKPFQY. How is DESK written in the same way?

(A) FGUL

(B) EGUM

(C) FHUM

(D) FGUM

Q7. If each letter is given its position value in the alphabet (A=1, B=2, and so on), what is the code for the word MOON, taken as the sum of its letters?

(A) 57

(B) 55

(C) 59

(D) 56

Part C: Blood Relations and Direction Sense

Q8. Pointing to a boy, Suresh said, "He is the son of my father's brother." How is the boy related to Suresh?

(A) Brother

(B) Nephew

(C) Cousin

(D) Uncle

Q9. Pointing to a photograph, Meena said, "He is the only son of the mother of my brother." How is he related to Meena?

(A) Father

(B) Uncle

(C) Cousin

(D) Brother

Q10. Pointing to a man, a woman said, "His mother is the only daughter of my mother." How is the woman related to the man?

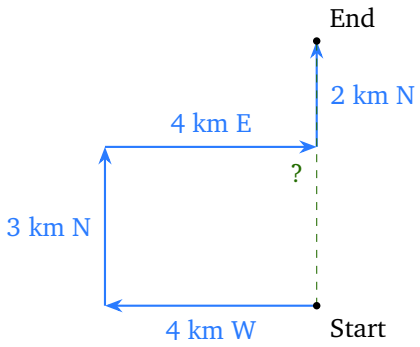
(A) Sister

(B) Mother

(C) Aunt

(D) Grandmother

Q11. A person starts walking towards the West and covers 4 km. He then turns right and walks 3 km, turns right again and walks 4 km, and finally turns left and walks 2 km. How far and in which direction is he now from his starting point?



(A) 5 km South

(B) 5 km North

(C) 3 km North

(D) 9 km North

Part D: Arrangement and Ranking

Q12. Five people — Vijay, Wasim, Xavier, Yash and Zara — sit in a row facing north. Vijay is at the right end. Wasim is immediately to the left of Vijay. Xavier is second from the left. Yash sits between Xavier and Wasim. Who sits in the middle of the row?

(A) Yash

(B) Wasim

(C) Xavier

(D) Zara

Q13. In a row of children, Kavya is 12th from the left end and 18th from the right end. How many children are there in the row?

(A) 30

(B) 28

(C) 29

(D) 31

Q14. Among five friends, Ravi is taller than Sohan but shorter than Tarun. Umesh is taller than Tarun. Vikas is the shortest of all. Who is the tallest?

(A) Tarun

(B) Umesh

(C) Ravi

(D) Sohan

Q15. Eight students stand in a row facing north. Karan is second from the left end and Nisha stands at the sixth position from the left. How many students stand between Karan and Nisha?

(A) 2

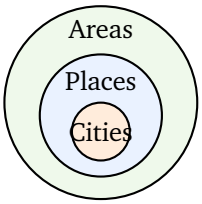
(B) 4

(C) 3

(D) 5

Part E: Syllogisms

Q16. **Statements:** All cities are places. All places have an area.
Conclusion I: All cities have an area. **Conclusion II:** All areas are places.



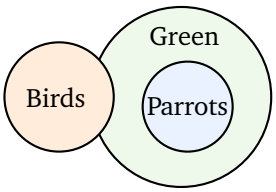
(A) Only Conclusion I follows

(B) Both Conclusion I and Conclusion II follow

(C) Only Conclusion II follows

(D) Neither conclusion follows

Q17. **Statements:** Some birds are parrots. All parrots are green.
Conclusion I: All parrots are birds. **Conclusion II:** All green things are parrots.



(A) Only Conclusion I follows

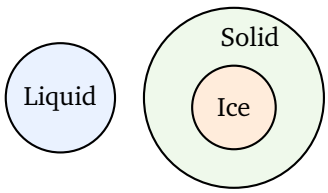
(B) Only Conclusion II follows

(C) Both Conclusion I and Conclusion II follow

(D) Neither conclusion follows

Q18. **Statements:** No liquid is solid. All ice is solid.

Conclusion I: No ice is liquid. **Conclusion II:** Some solids are ice.



(A) Only Conclusion I follows

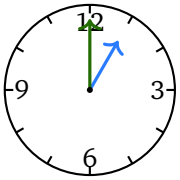
(B) Only Conclusion II follows

(C) Both Conclusion I and Conclusion II follow

(D) Neither conclusion follows

Part F: Clocks, Calendars and Miscellaneous

Q19. What is the angle between the hour hand and the minute hand of a clock at exactly 1:00?



(A) 30 degrees

(B) 60 degrees

(C) 90 degrees

(D) 15 degrees

Q20. If today is Friday, what day of the week will it be after 18 days?

(A) Tuesday

(B) Monday

(C) Wednesday

(D) Thursday

Q21. How many times in a full day of 24 hours are the hour and minute hands of a clock at right angles (90 degrees) to each other?

(A) 24

(B) 48

(C) 22

(D) 44

Part G: Logical Deduction

Q22. **Statements:** All doctors are graduates. Some graduates are researchers. **Conclusion I:** Some doctors are researchers. **Conclusion II:** Some graduates are doctors.

(A) Only Conclusion I follows

(B) Both conclusions follow

(C) Only Conclusion II follows

(D) Neither conclusion follows

Q23. If "$\times$" means add, "$\div$" means subtract, "+" means multiply, and "$-$" means divide, then find the value of: $\mathbf{8 \times 4 \div 2 + 3}$

(A) 5

(B) 6

(C) 7

(D) 8

Q24. Find the odd one out: **8, 27, 64, 100, 125**

(A) 100

(B) 27

(C) 64

(D) 125

Q25. P is the father of Q. Q is the mother of R. How is P related to R?

(A) Father

(B) Uncle

(C) Brother

(D) Grandfather

Detailed Solutions

Q1.

Solution

Concept — Number series: Check the ratio between consecutive terms.

Step 1: Divide each term by the one before it: $6 \div 3 = 2$, $12 \div 6 = 2$, $24 \div 12 = 2$, $48 \div 24 = 2$.

Step 2: Every term is exactly double the previous term, so the rule is "multiply by 2".

Step 3: Next term $= 48 \times 2 = 96$.

Why other options are wrong:

- Option A: $72 = 48 + 24$, which follows an "add" pattern, not the doubling rule.
- Option C: 84 does not fit any consistent rule here.
- Option D: 90 is not double of 48.

Final Answer: The next number is 96 $\Rightarrow$ B

Answer: (B) Go Back to Q1

Q2.

Solution

Concept — Letter series: Convert letters to their alphabet positions and find the gap.

Step 1: C(3), F(6), I(9), L(12). Each term rises by 3.

Step 2: Next position $= 12 + 3 = 15$, which is the letter O.

Why other options are wrong:

- Option B: N is position 14, a gap of only 2.
- Option C: P is position 16, a gap of 4.
- Option D: M is position 13, a gap of 1.

Final Answer: The next term is O $\Rightarrow$ A

Answer: (A) Go Back to Q2

Q3.

Solution

Concept — Analogy: Name the exact relationship in the first pair.

Relationship: A painter uses a brush as the main tool of the trade, so the link is worker to the tool used for the work.

Application: A writer uses a pen as the main tool for writing, matching the pattern.

Why other options are wrong:

- Option A: A book is the product of writing, not the tool.
- Option B: Paper is the surface written on, not the tool held.
- Option C: Ink is the material inside the pen, not the tool itself.

Final Answer: Writer uses a Pen $\Rightarrow$ $\boxed{\text{D}}$

Answer: (D) Go Back to Q3

Q4.

Solution

Concept — Number analogy: Find the rule linking the two numbers.

Step 1: $125 = 5 \times 5 \times 5 = 5^3$, so the rule is "cube the number".

Step 2: Apply to 4: $4^3 = 4 \times 4 \times 4 = 64$.

Why other options are wrong:

- Option A: $16 = 4^2$, the square of 4, not the cube.
- Option B: $81 = 3^4$, an unrelated rule.
- Option D: $100 = 10^2$, not the cube of 4.

Final Answer: $4^3 = 64 \Rightarrow \boxed{\text{C}}$

Answer: (C) Go Back to Q4

Q5.

Solution

Concept — Coding: Compare each letter of the code with the original to find the rule.

Step 1: For CAMERA → XZNVIZ, pair each letter with its opposite in the alphabet (A↔Z, B↔Y, and so on): C→X, A→Z, M→N, E→V, R→I, A→Z. The rule is "replace each letter by its opposite letter".

Step 2: Apply to BOX: B is the 2nd letter, opposite is the 25th = Y; O is the 15th, opposite is the 12th = L; X is the 24th, opposite is the 3rd = C. So BOX → YLC.

Why other options are wrong:

- Option A: YLD wrongly maps X to D instead of C.
- Option C: ZLC maps B to Z instead of Y.
- Option D: YMC maps O to M instead of L.

Final Answer: BOX becomes YLC ⇒ B

Answer: (B) Go Back to Q5

Q6.

Solution

Concept — Coding: Find the shift by matching WINDOW to YKPFQY.

Step 1: W→Y, I→K, N→P, D→F, O→Q, W→Y. Each letter moves forward by 2 places.

Step 2: Apply +2 to DESK: D→F, E→G, S→U, K→M, giving FGUM.

Why other options are wrong:

- Option A: FGUL moves K to L (only +1) instead of M.
- Option B: EGUM moves D to E (only +1) instead of F.
- Option C: FHUM moves E to H (+3) instead of G.

Final Answer: DESK becomes FGUM ⇒ D

Answer: (D) Go Back to Q6

Q7.

Solution

Concept — Number coding: Add the alphabet positions of the letters.

Step 1: M is the 13th letter, O is the 15th, O is the 15th, N is the 14th.

Step 2: Sum = 13 + 15 + 15 + 14 = 57.

Why other options are wrong:

- Option B: 55 undercounts by 2.
- Option C: 59 overcounts by 2.
- Option D: 56 undercounts by 1.

Final Answer: M + O + O + N = 57 $\Rightarrow$ A

Answer: (A) Go Back to Q7

Q8.

Solution

Concept — Blood relation: Break the statement from the inside out.

Step 1: "My father's brother" is Suresh's uncle.

Step 2: "The son of" Suresh's uncle is the child of the uncle, which makes him Suresh's cousin.

Why other options are wrong:

- Option A: A brother would be a son of Suresh's own father, not of the uncle.
- Option B: Nephew reverses the relation; the boy is not one generation below Suresh.
- Option D: An uncle would be the father's brother himself, not the uncle's son.

Final Answer: The boy is Suresh's cousin $\Rightarrow$ C

Answer: (C) Go Back to Q8

Q9.

Solution

Concept — Blood relation: Work outward from the innermost phrase.

Step 1: "The mother of my brother" is Meena's own mother.

Step 2: "The only son of" Meena's mother is Meena's brother.

Step 3: Therefore the man in the photograph is Meena's brother.

Why other options are wrong:

- Option A: The father would be the husband of Meena's mother, not her son.
- Option B: An uncle would be the mother's brother, a different generation.
- Option C: A cousin would come from a different parent, not Meena's own mother.

Final Answer: He is Meena's brother $\Rightarrow \boxed{D}$

Answer: (D) Go Back to Q9

Q10.

Solution

Concept — Blood relation: Identify the person referred to by the inner phrase first.

Step 1: "The only daughter of my mother" is the woman herself, since she is her mother's only daughter.

Step 2: The statement then reads "His mother is the woman herself", so the woman is the man's mother.

Why other options are wrong:

- Option A: A sister link does not fit, because she is his mother.
- Option C: An aunt would be the sister of his parent, not his parent.
- Option D: A grandmother would be his parent's mother, one generation too high.

Final Answer: The woman is the man's mother $\Rightarrow \boxed{B}$

Answer: (B) Go Back to Q10

Q11.

Solution

Concept — Direction sense: Track each turn on a rough sketch (see the figure).

Step 1: He walks 4 km West, reaching a point 4 km to the left of the start.

Step 2: Facing West, a right turn faces North; he walks 3 km North.

Step 3: Facing North, a right turn faces East; he walks 4 km East, which cancels the 4 km West and brings him back to the vertical line of the start.

Step 4: Facing East, a left turn faces North; he walks 2 km North. His total northward distance is $3 + 2 = 5$ km, with no net East–West shift.

Why other options are wrong:

- Option A: He moves North overall, not South.
- Option C: 3 km ignores the final 2 km North leg.
- Option D: 9 km wrongly adds the West and East legs instead of cancelling them.

Final Answer: He is 5 km North of the start $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q11

Q12.

Solution

Concept — Linear arrangement: Fix the end clues first, then fill the gaps.

Step 1: Vijay is at the right end, so Vijay takes position 5.

Step 2: Wasim is immediately to the left of Vijay, so Wasim takes position 4.

Step 3: Xavier is second from the left, so Xavier takes position 2.

Step 4: Yash sits between Xavier (2) and Wasim (4), so Yash takes position 3. Zara fills the remaining position 1. The row is Zara, Xavier, Yash, Wasim, Vijay, so the middle seat (position 3) is Yash.

Why other options are wrong:

- Option B: Wasim sits fourth, not in the middle.
- Option C: Xavier sits second.
- Option D: Zara sits at the left end.

Final Answer: Yash sits in the middle $\Rightarrow$ A

Answer: (A) Go Back to Q12

Q13.

Solution

Concept — Ranking: Total = (rank from left) + (rank from right) − 1.

Step 1: Kavya is 12th from the left and 18th from the right.

Step 2: Total children = 12 + 18 − 1 = 29. We subtract 1 because Kavya is counted in both ranks.

Why other options are wrong:

- Option A: 30 forgets to subtract the double-counted Kavya.
- Option B: 28 subtracts one too many.
- Option D: 31 adds extra children.

Final Answer: There are 29 children $\Rightarrow$ C

Answer: (C) Go Back to Q13

Q14.

Solution

Concept — Comparison: Turn each clue into an inequality and combine.

Step 1: Ravi taller than Sohan but shorter than Tarun gives Sohan < Ravi < Tarun.

Step 2: Umesh taller than Tarun gives Tarun < Umesh.

Step 3: Vikas is the shortest. Combining: Vikas < Sohan < Ravi < Tarun < Umesh.

Step 4: The tallest is Umesh.

Why other options are wrong:

- Option A: Tarun is tall but still shorter than Umesh.
- Option C: Ravi is in the middle of the order.
- Option D: Sohan is near the shorter end.

Final Answer: Umesh is the tallest $\Rightarrow$ B

Answer: (B) Go Back to Q14

Q15.

Solution

Concept — Row position: Count the seats strictly between the two fixed positions.

Step 1: Karan is at position 2 and Nisha is at position 6.

Step 2: The positions strictly between them are 3, 4 and 5.

Step 3: That is 3 students between Karan and Nisha.

Why other options are wrong:

- Option A: 2 misses one of the three middle seats.
- Option B: 4 wrongly counts one endpoint as "between".
- Option D: 5 counts both endpoints as well.

Final Answer: 3 students stand between Karan and Nisha $\Rightarrow$ C

Answer: (C) Go Back to Q15

Q16.

Solution

Concept — Syllogism: Use the nested Venn diagram to test each conclusion.

Setup: "All cities are places" puts Cities inside Places. "All places have an area" puts Places inside the group of things that have an area. So Cities sits inside Places, which sits inside Areas.

Conclusion I — All cities have an area: Since Cities is inside the Areas group, every city has an area. Conclusion I follows.

Conclusion II — All areas are places: We only know places have an area, not the reverse; there can be things with an area that are not places. Conclusion II does not follow.

Result: Only Conclusion I follows.

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

Answer: (A) Go Back to Q16

Q17.

Solution

Concept — Syllogism: A conclusion follows only if it is true in every possible diagram.

Setup: "Some birds are parrots" overlaps Birds with Parrots. "All parrots are green" puts Parrots inside Green.

Conclusion I — All parrots are birds: We are only told some birds are parrots, which means some parrots are birds, not all. There can be parrots that are not birds. Conclusion I does not follow.

Conclusion II — All green things are parrots: We know all parrots are green, not the reverse; there can be green things that are not parrots. Conclusion II does not follow.

Result: Neither conclusion follows.

Final Answer: Neither conclusion follows $\Rightarrow$ $\boxed{\text{D}}$

Answer: (D) Go Back to Q17

Q18.

Solution

Concept — Syllogism: Check whether each conclusion is forced by the statements.

Setup: "All ice is solid" puts Ice inside Solid. "No liquid is solid" keeps the Liquid circle completely separate from the Solid circle.

Conclusion I — No ice is liquid: Ice lies inside Solid, and Solid has no overlap with Liquid, so no ice can be liquid. Conclusion I follows.

Conclusion II — Some solids are ice: All ice is solid and ice exists, so at least those solids that are ice confirm that some solids are ice. Conclusion II follows.

Result: Both conclusions follow.

Final Answer: Both Conclusion I and Conclusion II follow $\Rightarrow$ $\boxed{\text{C}}$

Answer: (C) Go Back to Q18

Q19.

Solution

Concept — Clock angle: Each hour gap on the dial is 30 degrees $(360 \div 12)$.

Step 1: At 1:00 the minute hand points to 12 and the hour hand points to 1.

Step 2: The gap from 12 to 1 is 1 hour mark.

Step 3: Angle $= 1 \times 30 = 30$ degrees.

Why other options are wrong:

- Option B: 60 degrees would be a 2-hour gap, as at 2:00.
- Option C: 90 degrees would be a 3-hour gap, as at 3:00.
- Option D: 15 degrees would be half an hour mark, which does not occur at an exact o'clock.

Final Answer: The angle is 30 degrees $\Rightarrow \boxed{A}$

Answer: (A) Go Back to Q19

Q20.

Solution

Concept — Calendar: Days of the week repeat every 7 days, so use the remainder.

Step 1: Divide 18 by 7: $18 = 7 \times 2 + 4$, so the remainder is 4.

Step 2: Count 4 days forward from Friday: Saturday, Sunday, Monday, Tuesday.

Step 3: The day is Tuesday.

Why other options are wrong:

- Option B: Monday would be a remainder of 3.
- Option C: Wednesday would be a remainder of 5.
- Option D: Thursday would be a remainder of 6.

Final Answer: It will be Tuesday $\Rightarrow \boxed{A}$

Answer: (A) Go Back to Q20

Q21.

Solution

Concept — Clock right angles: The hands form a right angle twice most hours, but two of those overlaps are shared across each 12-hour cycle.

Step 1: In 12 hours the hands are at right angles 22 times, not 24, because two crossings coincide at the changeover.

Step 2: In a full day of 24 hours this happens twice as often: $22 \times 2 = 44$ times.

Why other options are wrong:

- Option A: 24 wrongly assumes exactly 2 right angles in every one of the 12 hours.
- Option B: 48 doubles that same over-count.
- Option C: 22 is the count for only 12 hours, not the full day.

Final Answer: The hands are at right angles 44 times $\Rightarrow$ D

Answer: (D) Go Back to Q21

Q22.

Solution

Concept — Statement and conclusion: A conclusion follows only if the statements force it.

Step 1: "All doctors are graduates" means every doctor is inside the graduates group, so some graduates are certainly doctors. Conclusion II follows.

Step 2: "Some graduates are researchers" tells us only about a part of the graduates; those researchers need not include any doctor. So we cannot be sure some doctors are researchers. Conclusion I does not follow.

Step 3: Only Conclusion II is forced by the statements.

Why other options are wrong:

- Option A: Conclusion I is not certain, so "only I" is wrong.
- Option B: Both cannot follow, since Conclusion I is uncertain.
- Option D: Conclusion II clearly follows, so "neither" is wrong.

Final Answer: Only Conclusion II follows $\Rightarrow$ C

Answer: (C) Go Back to Q22

Q23.

Solution

Concept — Symbol substitution: Replace each symbol with its real operation, then use BODMAS.

Step 1: "$\times$" means add ($+$), "$\div$" means subtract ($-$), "$+$" means multiply ($\times$). So $8 \times 4 \div 2 + 3$ becomes $8 + 4 - 2 \times 3$.

Step 2: Do multiplication first: $2 \times 3 = 6$.

Step 3: Now $8 + 4 - 6 = 12 - 6 = 6$.

Why other options are wrong:

- Option A: 5 comes from a wrong order of operations.
- Option C: 7 miscounts the subtraction.
- Option D: 8 forgets to subtract the 6.

Final Answer: The value is 6 $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q23

Q24.

Solution

Concept — Odd one out: Find the shared property and the one that breaks it.

Step 1: Check the numbers for perfect cubes: $8 = 2^3$, $27 = 3^3$, $64 = 4^3$, $125 = 5^3$. These four are perfect cubes.

Step 2: $100 = 10^2$ is a perfect square, not a perfect cube, so it breaks the pattern.

Why other options are wrong:

- Option B: $27 = 3^3$ fits the cube group.
- Option C: $64 = 4^3$ fits the cube group.
- Option D: $125 = 5^3$ fits the cube group.

Final Answer: 100 is the odd one out $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q24

Q25.

Solution

Concept — Blood relation: Link the relations one generation at a time.

Step 1: P is the father of Q, so P is one generation above Q.

Step 2: Q is the mother of R, so Q is one generation above R.

Step 3: P is two generations above R and is on the male side, so P is the grandfather of R.

Why other options are wrong:

- Option A: The father of R would be one generation above R, but P is two.
- Option B: An uncle would be a sibling of R's parent, not a direct ancestor.
- Option C: A brother would be in R's own generation.

Final Answer: P is the grandfather of R $\Rightarrow$ $\boxed{\text{D}}$

Answer: (D) Go Back to Q25

Answer Key

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