SNAP Analytical and Logical Reasoning

Sample Paper – 2

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: **Z, X, V, T, ?**

(A) R

(B) S

(C) Q

(D) P

Q3. Choose the option that completes the analogy: **Book : Author :: Painting : ?**

(A) Brush

(B) Canvas

(C) Gallery

(D) Artist

Q4. Choose the option that completes the analogy: **5 : 125 :: 3 : ?**

(A) 9

(B) 27

(C) 81

(D) 15

Part B: Coding and Decoding

Q5. In a certain code, MOTHER is written as NPUIFS. How is FATHER written in the same code?

(A) GBUIES

(B) GBTIFS

(C) HBUIFS

(D) GBUIFS

Q6. If SILVER is coded as UKNXGT, how is GOLDEN coded in the same way?

(A) IQNFHP

(B) HQNFGP

(C) IQNFGP

(D) IQMFGP

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 PEN, taken as the sum of its letters?

(A) 35

(B) 33

(C) 37

(D) 31

Part C: Blood Relations and Direction Sense

Q8. Pointing to a photograph, a man said, "She is the only daughter of the mother of my brother." How is the woman in the photograph related to the man?

(A) Sister

(B) Mother

(C) Aunt

(D) Daughter

Q9. If "A $ B" means A is the son of B, and "A # B" means A is the wife of B, then in "P $ Q # R", how is P related to R?

(A) Daughter

(B) Father

(C) Son

(D) Brother

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

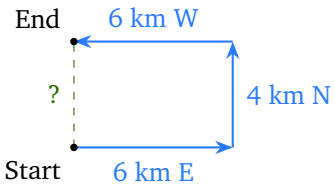
(A) Sister

(B) Aunt

(C) Mother

(D) Grandmother

Q11. A man starts from a point and walks 6 km towards East, then turns left and walks 4 km, then turns left again and walks 6 km. How far and in which direction is he now from his starting point?



(A) 4 km North

(B) 4 km South

(C) 6 km North

(D) 10 km East

Part D: Arrangement and Ranking

Q12. Five people A, B, C, D and E sit in a row facing north. C is at the right end. A is immediately to the left of C. D is at the left end. E sits immediately to the right of D. Who sits in the middle of the row?

(A) A

(B) B

(C) E

(D) D

Q13. In a row of children, Sita is 9th from the left end and 12th from the right end. How many children are there in the row?

(A) 20

(B) 21

(C) 19

(D) 22

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

(A) Manoj

(B) Tarun

(C) Ravi

(D) Sohan

Q15. Seven students stand in a row facing north. Vipin is second from the left end and Neha is fifth from the left end. How many students stand between Vipin and Neha?

(A) 1

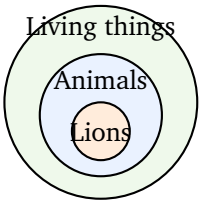
(B) 2

(C) 3

(D) 0

Part E: Syllogisms

Q16. **Statements:** All lions are animals. All animals are living things.
Conclusion I: All lions are living things. **Conclusion II:** All living things are animals.



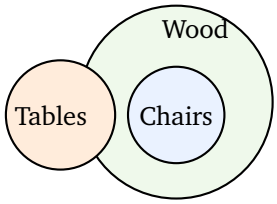
(A) Only Conclusion II follows

(B) Both Conclusion I and Conclusion II follow

(C) Neither conclusion follows

(D) Only Conclusion I follows

Q17. **Statements:** Some tables are chairs. All chairs are made of wood.
Conclusion I: Some tables are made of wood. **Conclusion II:** All tables are made of wood.



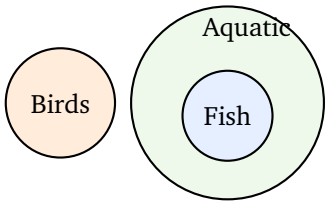
(A) Neither conclusion follows

(B) Only Conclusion I follows

(C) Both Conclusion I and Conclusion II follow

(D) Only Conclusion II follows

Q18. **Statements:** No bird is a fish. All fish are aquatic.
Conclusion I: Some aquatic creatures are fish. **Conclusion II:** No bird is aquatic.



(A) Both Conclusion I and Conclusion II follow

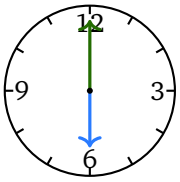
(B) Only Conclusion II follows

(C) Only Conclusion I follows

(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 6:00?



(A) 90 degrees

(B) 120 degrees

(C) 150 degrees

(D) 180 degrees

Q20. If today is Sunday, what day of the week will it be after 45 days?

(A) Monday

(B) Tuesday

(C) Thursday

(D) Wednesday

Q21. How many times do the hour and minute hands of a clock form a right angle (90 degrees) in a 12-hour period?

(A) 22

(B) 24

(C) 11

(D) 44

Part G: Logical Deduction

Q22. **Statements:** All managers work hard. Suresh does not work hard.
Conclusion I: Suresh is not a manager. **Conclusion II:** Suresh is a manager.

(A) Only Conclusion II follows

(B) Both conclusions follow

(C) Only Conclusion I follows

(D) Neither conclusion follows

Q23. If "+" means subtract, "−" means multiply, "×" means divide, and "÷" means add, then find the value of: $\mathbf{18 \times 3 - 2 + 4 \div 6}$

(A) 12

(B) 10

(C) 14

(D) 16

Q24. Find the odd one out: **4, 9, 16, 20, 25, 36**

(A) 4

(B) 20

(C) 16

(D) 25

Q25. M is the father of N. N is the brother of O. O is the daughter of P. How is M related to O?

(A) Brother

(B) Uncle

(C) Grandfather

(D) Father

Detailed Solutions

Q1.

Solution

Concept — Number series: Look at how each term relates to the one before it.

Step 1: Check the ratios: $6 \div 3 = 2$, $12 \div 6 = 2$, $24 \div 12 = 2$, $48 \div 24 = 2$.

Step 2: Each term is double the previous term.

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

Why other options are wrong:

- Option A: $72 = 48 + 24$, an addition rule that does not match the doubling.
- Option C: 84 fits no consistent rule here.
- Option D: 90 fits no consistent rule here.

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

Answer: (B) Go Back to Q1

Q2.

Solution

Concept — Letter series: Convert letters to positions and find the step.

Step 1: Z(26), X(24), V(22), T(20). Each term falls by 2.

Step 2: Next position $= 20 - 2 = 18$, which is the letter R.

Why other options are wrong:

- Option B: S is position 19, a drop of only 1.
- Option C: Q is position 17, a drop of 3.
- Option D: P is position 16, a drop of 4.

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

Answer: (A) Go Back to Q2

Q3.

Solution

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

Relationship: An author is the person who creates a book, so the link is creation to its creator.

Application: An artist is the person who creates a painting, matching the pattern.

Why other options are wrong:

- Option A: A brush is a tool used to make a painting, not its creator.
- Option B: A canvas is the surface of a painting, not its creator.
- Option C: A gallery is where a painting is displayed, not its creator.

Final Answer: A painting is created by an Artist $\Rightarrow$ $\boxed{\text{D}}$

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 3: $3^3 = 3 \times 3 \times 3 = 27$.

Why other options are wrong:

- Option A: $9 = 3^2$, the square of 3, not the cube.
- Option C: $81 = 3^4$, the fourth power of 3.
- Option D: $15 = 3 \times 5$, a different rule.

Final Answer: $3^3 = 27 \Rightarrow \boxed{\text{B}}$

Answer: (B) Go Back to Q4

Q5.

Solution

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

Step 1: M→N, O→P, T→U, H→I, E→F, R→S. Each letter moves forward by 1 place.

Step 2: Apply +1 to FATHER: F→G, A→B, T→U, H→I, E→F, R→S, giving GBUIFS.

Why other options are wrong:

- Option A: GBUIES moves the E of HER wrongly to E instead of F.
- Option B: GBTIFS moves T backward to T instead of forward to U.
- Option C: HBUIFS moves F forward by 2 to H instead of G.

Final Answer: FATHER becomes GBUIFS ⇒ D

Answer: (D) Go Back to Q5

Q6.

Solution

Concept — Coding: Find the shift by matching SILVER to UKNXGT.

Step 1: S→U, I→K, L→N, V→X, E→G, R→T. Each letter moves forward by 2 places.

Step 2: Apply +2 to GOLDEN: G→I, O→Q, L→N, D→F, E→G, N→P, giving IQNFGP.

Why other options are wrong:

- Option A: IQNFHP moves E to H (+3) instead of G.
- Option B: HQNFGP moves G to H (only +1) instead of I.
- Option D: IQMFGP moves L to M (only +1) instead of N.

Final Answer: GOLDEN becomes IQNFGP ⇒ C

Answer: (C) Go Back to Q6

Q7.

Solution

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

Step 1: P is the 16th letter, E is the 5th, N is the 14th.

Step 2: Sum = 16 + 5 + 14 = 35.

Why other options are wrong:

- Option B: 33 undercounts by 2.
- Option C: 37 overcounts by 2.
- Option D: 31 undercounts by 4.

Final Answer: P + E + N = 35 $\Rightarrow$ A

Answer: (A) Go Back to Q7

Q8.

Solution

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

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

Step 2: "The only daughter of" the man's mother is the man's sister.

Why other options are wrong:

- Option B: The mother is the woman being referred to from, not the daughter described.
- Option C: An aunt would be the mother's sister, not the mother's daughter.
- Option D: A daughter would be one generation below the man, not his own sibling.

Final Answer: The woman is the man's sister $\Rightarrow$ A

Answer: (A) Go Back to Q8

Q9.

Solution

Concept — Coded relations: Replace each symbol with its meaning step by step.

Step 1: "P $ Q" means P is the son of Q.

Step 2: "Q # R" means Q is the wife of R, so Q is female and R is her husband.

Step 3: P is Q's son and R is Q's husband, so R is P's father, which makes P the son of R.

Why other options are wrong:

- Option A: P is the son (male), established as "son of Q", not a daughter.
- Option B: R is P's father, not the other way round.
- Option D: A brother relation does not fit; P belongs to a lower generation than R.

Final Answer: P is the son of R $\Rightarrow$ C

Answer: (C) Go Back to Q9

Q10.

Solution

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

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

Step 2: So "his mother" is the woman herself, meaning the woman is the man's mother.

Why other options are wrong:

- Option A: A sister would share the same mother, not be his mother.
- Option B: An aunt would be the mother's sister, but here the woman is the mother.
- Option D: A grandmother would be one more generation up, not the man's own mother.

Final Answer: The woman is the man's mother $\Rightarrow$ C

Answer: (C) Go Back to Q10

Q11.

Solution

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

Step 1: He walks 6 km East.

Step 2: A left turn from East faces North; he walks 4 km North.

Step 3: A left turn from North faces West; he walks 6 km West, cancelling the 6 km East.

Step 4: Net movement is only the 4 km North, so he is 4 km North of the start.

Why other options are wrong:

- Option B: South is the wrong direction; the only surviving leg is Northward.
- Option C: 6 km ignores that the North leg was only 4 km.
- Option D: The East and West legs cancel, so he is not 10 km East.

Final Answer: He is 4 km North of the start $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q11

Q12.

Solution

Concept — Linear arrangement: Place the fixed end clues first, then fit the rest.

Step 1: D is at the left end, so D takes position 1; C is at the right end, so C takes position 5.

Step 2: E is immediately to the right of D, so E takes position 2.

Step 3: A is immediately to the left of C, so A takes position 4.

Step 4: The only seat left is position 3, which goes to B. The row is D, E, B, A, C, so the middle seat is B.

Why other options are wrong:

- Option A: A sits fourth, not in the middle.
- Option C: E sits second.
- Option D: D sits at the left end.

Final Answer: B sits in the middle $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q12

Q13.

Solution

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

Step 1: Sita is 9th from the left and 12th from the right.

Step 2: Total children = 9 + 12 − 1 = 20. We subtract 1 because Sita is counted in both ranks.

Why other options are wrong:

- Option B: 21 forgets to subtract the double-counted Sita.
- Option C: 19 subtracts one too many.
- Option D: 22 adds an extra child.

Final Answer: There are 20 children $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) 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: Manoj taller than Tarun gives Tarun < Manoj.

Step 3: Karan is the shortest. Combining: Karan < Sohan < Ravi < Tarun < Manoj.

Step 4: The tallest is Manoj.

Why other options are wrong:

- Option B: Tarun is taller than Ravi but still shorter than Manoj.
- Option C: Ravi is in the middle of the order.
- Option D: Sohan is near the shorter end.

Final Answer: Manoj is the tallest $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q14

Q15.

Solution

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

Step 1: Vipin is at position 2 and Neha is at position 5.

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

Step 3: That is 2 students between Vipin and Neha.

Why other options are wrong:

- Option A: 1 misses one of the two middle seats.
- Option C: 3 wrongly counts one of the endpoints as "between".
- Option D: 0 would mean they are adjacent, but they are three seats apart.

Final Answer: 2 students stand between Vipin and Neha $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q15

Q16.

Solution

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

Setup: "All lions are animals" puts Lions inside Animals. "All animals are living things" puts Animals inside Living things. So Lions sits inside Animals, which sits inside Living things.

Conclusion I — All lions are living things: Since Lions is inside Living things, every lion is a living thing. Conclusion I follows.

Conclusion II — All living things are animals: The nesting only says animals are living things, not the reverse; there can be living things (like plants) that are not animals. Conclusion II does not follow.

Result: Only Conclusion I follows.

Final Answer: Only Conclusion I follows $\Rightarrow$ $\boxed{\text{D}}$

Answer: (D) Go Back to Q16

Q17.

Solution

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

Setup: "Some tables are chairs" overlaps Tables with Chairs. "All chairs are made of wood" puts Chairs inside Wood.

Conclusion I — Some tables are made of wood: The tables that are chairs must be wood, because every chair is wood. So at least some tables are wood. Conclusion I follows.

Conclusion II — All tables are made of wood: Only the overlapping tables are known to be chairs; the remaining tables need not be wood. Conclusion II does not follow.

Result: Only Conclusion I follows.

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

Answer: (B) Go Back to Q17

Q18.

Solution

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

Setup: "No bird is a fish" separates Birds from Fish. "All fish are aquatic" puts Fish inside Aquatic. Birds stay outside Fish but may still overlap Aquatic.

Conclusion I — Some aquatic creatures are fish: Since all fish are aquatic and fish exist, those fish are aquatic creatures, so some aquatic creatures are fish. Conclusion I follows.

Conclusion II — No bird is aquatic: Birds are only barred from Fish, not from the whole Aquatic circle; a bird can still be aquatic. Conclusion II does not follow.

Result: Only Conclusion I follows.

Final Answer: Only Conclusion I follows $\Rightarrow$ 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 6:00 the minute hand points to 12 and the hour hand points to 6.

Step 2: The gap from 12 to 6 is 6 hour marks.

Step 3: Angle $= 6 \times 30 = 180$ degrees.

Why other options are wrong:

- Option A: 90 degrees would be a 3-hour gap, as at 3:00.
- Option B: 120 degrees would be a 4-hour gap.
- Option C: 150 degrees would be a 5-hour gap.

Final Answer: The angle is 180 degrees $\Rightarrow$ D

Answer: (D) Go Back to Q19

Q20.

Solution

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

Step 1: Divide 45 by 7: $45 = 7 \times 6 + 3$, so the remainder is 3.

Step 2: Count 3 days forward from Sunday: Monday, Tuesday, Wednesday.

Step 3: The day is Wednesday.

Why other options are wrong:

- Option A: Monday would be a remainder of 1.
- Option B: Tuesday would be a remainder of 2.
- Option C: Thursday would be a remainder of 4.

Final Answer: It will be Wednesday $\Rightarrow$ D

Answer: (D) Go Back to Q20

Q21.

Solution

Concept — Clock right angles: The hands make a right angle twice each hour, but two coincidences are lost across a 12-hour span.

Step 1: In each hour the hands are at 90 degrees roughly twice, which would suggest 24 in 12 hours.

Step 2: However, over 12 hours two of these are shared at the boundaries, so the actual count is $24 - 2 = 22$.

Step 3: So the hands form a right angle 22 times in 12 hours.

Why other options are wrong:

- Option B: 24 forgets the two boundary cases that are lost.
- Option C: 11 is the count of overlaps, not right angles.
- Option D: 44 is the count for a full 24-hour day.

Final Answer: The hands form a right angle 22 times $\Rightarrow$ A

Answer: (A) Go Back to Q21

Q22.

Solution

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

Step 1: All managers work hard, so anyone who does not work hard cannot be a manager.

Step 2: Suresh does not work hard, so Suresh cannot be a manager. Conclusion I follows.

Step 3: Conclusion II says the opposite, that Suresh is a manager, which contradicts Step 2, so it does not follow.

Why other options are wrong:

- Option A: Conclusion II is directly contradicted.
- Option B: Both cannot follow when they are opposite.
- Option D: Conclusion I clearly follows, so "neither" is wrong.

Final Answer: Only Conclusion I 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 $\div$, "$-$" means $\times$, "$+$" means $-$, "$\div$" means $+$. The expression $18 \times 3 - 2 + 4 \div 6$ becomes $18 \div 3 \times 2 - 4 + 6$.

Step 2: Do division and multiplication left to right: $18 \div 3 = 6$, then $6 \times 2 = 12$.

Step 3: Now $12 - 4 + 6 = 8 + 6 = 14$.

Why other options are wrong:

- Option A: 12 stops before adding the 6.
- Option B: 10 comes from a wrong order of operations.
- Option D: 16 miscounts the subtraction of 4.

Final Answer: The value is 14 $\Rightarrow$ C

Answer: (C) Go Back to Q23

Q24.

Solution

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

Step 1: The numbers 4, 9, 16, 25 and 36 are all perfect squares $(2^2, 3^2, 4^2, 5^2, 6^2)$.

Step 2: 20 is not a perfect square, so it breaks the pattern.

Why other options are wrong:

- Option A: $4 = 2^2$ is a perfect square and fits the group.
- Option C: $16 = 4^2$ is a perfect square and fits the group.
- Option D: $25 = 5^2$ is a perfect square and fits the group.

Final Answer: 20 is the odd one out $\Rightarrow$ B

Answer: (B) Go Back to Q24

Q25.

Solution

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

Step 1: N is the brother of O, so N and O are siblings who share the same parents.

Step 2: M is the father of N, so M is the father of both N and O, since siblings share parents.

Step 3: O is the daughter of P, so P is O's mother, while M is O's father.

Step 4: Therefore M is the father of O.

Why other options are wrong:

- Option A: A brother relation ignores that M is one generation above O.
- Option B: An uncle would be a parent's brother, but M is the parent himself.
- Option C: A grandfather would be two generations above, not one.

Final Answer: M is the father of O $\Rightarrow$ $\boxed{\text{D}}$

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