SNAP Analytical and Logical Reasoning

Sample Paper – 3

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: **5, 10, 20, 40, 80, ?**

(A) 120

(B) 100

(C) 140

(D) 160

Q2. Find the next term in the series: **A, C, F, J, ?**

(A) N

(B) O

(C) P

(D) M

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

(A) Painting

(B) Brush

(C) Canvas

(D) Gallery

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

(A) 16

(B) 48

(C) 64

(D) 81

Part B: Coding and Decoding

Q5. In a certain code, FLOWER is written as GMPXFS. How is the word coded when each letter follows the same rule? Choose the code for FLOWER.

(A) GMPXFS

(B) GMPXFT

(C) HMPXFS

(D) GNPXFS

Q6. If the coding rule from the previous question is changed so that every letter moves forward by 2 places instead of 1, how is BASKET coded in that new rule?

(A) DCUMGW

(B) DCUMFV

(C) ECUMGV

(D) DCUMGV

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) 55

(B) 59

(C) 57

(D) 53

Part C: Blood Relations and Direction Sense

Q8. Pointing to a boy, Sita said, "He is the son of the only daughter of my father." Sita is the only daughter of her father. How is the boy related to Sita?

(A) Son

(B) Brother

(C) Nephew

(D) Cousin

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

(A) Brother

(B) Father

(C) Son

(D) Husband

Q10. Pointing to a photograph, Meena said, "She is the mother of my son's father." How is the lady in the photograph related to Meena?

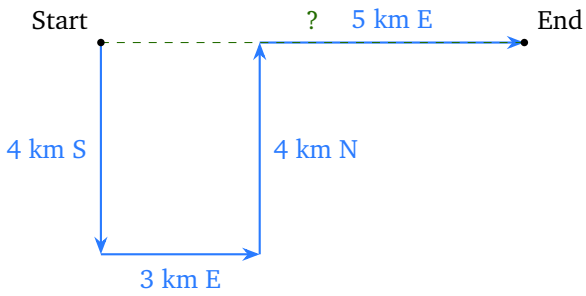
(A) Mother

(B) Mother-in-law

(C) Aunt

(D) Sister

Q11. A man starts from a point and walks 4 km towards South, then turns left and walks 3 km, then turns left again and walks 4 km, and finally turns right and walks 5 km. How far and in which direction is he now from his starting point?



(A) 5 km East

(B) 4 km West

(C) 6 km North

(D) 8 km East

Part D: Arrangement and Ranking

Q12. Five boys J, K, L, M and N stand in a row facing north. J is at the right end. K is second from the left. N is to the left of K. L is immediately to the left of M. Who stands in the middle of the row?

(A) K

(B) L

(C) M

(D) N

Q13. In a row of 40 students all facing north, Ravi is 15th from the left end. What is his position from the right end?

(A) 24

(B) 25

(C) 26

(D) 27

Q14. Among five students, Anil is taller than Vijay but shorter than Sunil. Deepak is taller than Sunil. Ravi is the shortest of all. Who is the tallest?

(A) Anil

(B) Sunil

(C) Vijay

(D) Deepak

Q15. Eight children stand in a row facing north. Priya is third from the left end and Rahul is fourth from the left end. How many children stand between Priya and Rahul?

(A) 0

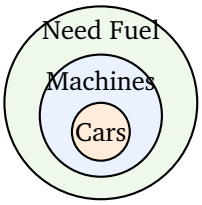
(B) 1

(C) 2

(D) 3

Part E: Syllogisms

Q16. **Statements:** All cars are machines. All machines need fuel.
Conclusion I: All cars need fuel. **Conclusion II:** All machines are cars.



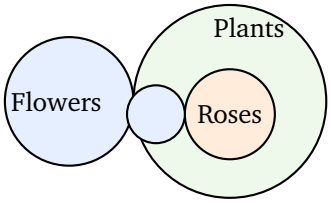
(A) Both Conclusion I and Conclusion II follow

(B) Neither conclusion follows

(C) Only Conclusion I follows

(D) Only Conclusion II follows

Q17. **Statements:** Some flowers are roses. All roses are plants.
Conclusion I: Some flowers are plants. **Conclusion II:** All flowers are plants.



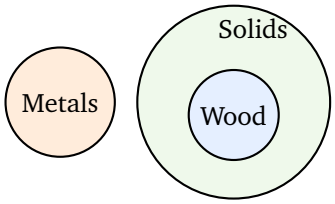
(A) Both Conclusion I and Conclusion II follow

(B) Only Conclusion I follows

(C) Only Conclusion II follows

(D) Neither conclusion follows

Q18. **Statements:** No metal is wood. All wood is solid.
Conclusion I: Some solids are wood. **Conclusion II:** No metal is solid.



(A) Neither conclusion follows

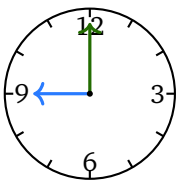
(B) Only Conclusion II follows

(C) Only Conclusion I follows

(D) Both Conclusion I and Conclusion II follow

Part F: Clocks, Calendars and Miscellaneous

Q19. What is the angle between the hour hand and the minute hand of a clock at exactly 9:00?



(A) 60 degrees

(B) 90 degrees

(C) 120 degrees

(D) 180 degrees

Q20. If today is Tuesday, what day of the week will it be after 100 days?

(A) Thursday

(B) Wednesday

(C) Friday

(D) Saturday

Q21. Through how many degrees does the minute hand of a clock move in 10 minutes?

(A) 30 degrees

(B) 45 degrees

(C) 50 degrees

(D) 60 degrees

Part G: Logical Deduction

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

(A) Only Conclusion I follows

(B) Only Conclusion II follows

(C) Both conclusions follow

(D) Neither conclusion follows

Q23. If "+" means divide, "−" means multiply, "×" means add, and "÷" means subtract, then find the value of: $\mathbf{12 + 4 - 3 \times 2 \div 5}$

(A) 5

(B) 6

(C) 7

(D) 8

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

(A) 27

(B) 100

(C) 64

(D) 125

Q25. Q is the son of P. R is the sister of Q. S is the mother of R. How is P related to S?

(A) Husband

(B) Brother

(C) Father

(D) Son

Detailed Solutions

Q1.

Solution

Concept — Number series: Check whether each term is obtained by multiplying the previous term.

Step 1: $10 \div 5 = 2$, $20 \div 10 = 2$, $40 \div 20 = 2$, $80 \div 40 = 2$.

Step 2: Each term is double the one before it, so the ratio is a fixed 2.

Step 3: Next term $= 80 \times 2 = 160$.

Why other options are wrong:

- Option A: 120 would mean adding 40, not doubling.
- Option B: 100 would mean adding only 20.
- Option C: 140 does not fit any steady rule here.

Final Answer: The next number is 160 $\Rightarrow$ $\boxed{\text{D}}$

Answer: (D) Go Back to Q1

Q2.

Solution

Concept — Letter series: Convert letters to positions and study how the gap grows.

Step 1: A(1), C(3), F(6), J(10). The gaps are 2, 3, 4.

Step 2: The gaps increase by 1 each time, so the next gap is 5.

Step 3: Next position $= 10 + 5 = 15$, which is the letter O.

Why other options are wrong:

- Option A: N is position 14, a gap of only 4.
- Option C: P is position 16, a gap of 6.
- Option D: M is position 13, a gap of 3.

Final Answer: The next term is O $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) 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 creator to the work produced.

Application: A painter is the person who creates a painting, matching the same creator-to-work pattern.

Why other options are wrong:

- Option B: A brush is a tool the painter uses, not the work created.
- Option C: A canvas is the surface used, not the finished work.
- Option D: A gallery is where paintings are shown, not what a painter makes.

Final Answer: A Painter creates a Painting $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) 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, not the cube.
- Option B: 48 does not match any clean power rule.
- Option D: $81 = 3^4$, unrelated to 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 given code with the original word.

Step 1: FLOWER has letters F, L, O, W, E, R.

Step 2: Move each letter forward by 1 place: F→G, L→M, O→P, W→X, E→F, R→S.

Step 3: Reading them together gives GMPXFS, which matches the stated code.

Why other options are wrong:

- Option B: GMPXFT moves R forward by 2 to T instead of S.
- Option C: HMPXFS moves F forward by 2 to H instead of G.
- Option D: GNPXFS moves L forward by 2 to N instead of M.

Final Answer: FLOWER becomes GMPXFS ⇒ $\boxed{A}$

Answer: (A) Go Back to Q5

Q6.

Solution

Concept — Coding: Apply the new shift of +2 places to every letter of BASKET.

Step 1: BASKET has letters B, A, S, K, E, T.

Step 2: Move each forward by 2: B→D, A→C, S→U, K→M, E→G, T→V.

Step 3: Reading them together gives DCUMGV.

Why other options are wrong:

- Option A: DCUMGW moves T forward by 3 to W instead of V.
- Option B: DCUMFV moves E only by 1 to F instead of G.
- Option C: ECUMGV moves B forward by 3 to E instead of D.

Final Answer: BASKET becomes DCUMGV ⇒ $\boxed{D}$

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 again, N is the 14th.

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

Step 3: 13 + 15 = 28, 28 + 15 = 43, 43 + 14 = 57.

Why other options are wrong:

- Option A: 55 undercounts by 2.
- Option B: 59 overcounts by 2.
- Option D: 53 undercounts by 4.

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

Answer: (C) Go Back to Q7

Q8.

Solution

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

Step 1: "The only daughter of my father" is Sita herself, since she is the sole daughter of her father.

Step 2: "The son of" Sita is therefore Sita's own son.

Why other options are wrong:

- Option B: A brother would be another child of Sita's father, not of Sita.
- Option C: A nephew would be the son of Sita's sibling, but the phrase points to Sita's own son.
- Option D: A cousin would come from an uncle or aunt, not directly from Sita.

Final Answer: The boy is Sita's son $\Rightarrow$ 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 father of Q.

Step 2: "Q # R" means Q is the son of R, so R is a parent of Q.

Step 3: P is the father of Q, and R is Q's other parent, so R is the mother of Q.

Step 4: P (father) and R (mother) are the parents of the same child Q, so P is the husband of R.

Why other options are wrong:

- Option A: P and R are not siblings; they are the two parents of Q.
- Option B: R is not P's child, so P is not R's father.
- Option C: P is a parent of Q, not the son of R.

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

Answer: (D) Go Back to Q9

Q10.

Solution

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

Step 1: "My son's father" is Meena's husband.

Step 2: "The mother of" Meena's husband is Meena's mother-in-law.

Why other options are wrong:

- Option A: Meena's own mother is not the mother of her husband.
- Option C: An aunt would be a sister of a parent, not the husband's mother.
- Option D: A sister relation does not fit a parent-of-spouse link.

Final Answer: The lady is Meena's mother-in-law $\Rightarrow$ $\boxed{\text{B}}$

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 South.

Step 2: A left turn from South faces East; he walks 3 km East.

Step 3: A left turn from East faces North; he walks 4 km North, cancelling the earlier 4 km South.

Step 4: A right turn from North faces East; he walks 5 km East.

Step 5: The North and South legs cancel, and the two East legs add up: $3 + 5 = 8$ km East.

Why other options are wrong:

- Option A: 5 km ignores the first 3 km East leg.
- Option B: West is the wrong direction; both sideways legs were to the East.
- Option C: The North and South legs cancel, so he is not 6 km North.

Final Answer: He is 8 km East of the start $\Rightarrow$ $\boxed{\text{D}}$

Answer: (D) Go Back to Q11

Q12.

Solution

Concept — Linear arrangement: Fix the given positions first, then fit the rest.

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

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

Step 3: N is to the left of K, so N takes position 1.

Step 4: L is immediately to the left of M, so L and M fill positions 3 and 4 as L, M.

Step 5: The row is N, K, L, M, J. The middle (third) seat is L.

Why other options are wrong:

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

Final Answer: L stands in the middle $\Rightarrow$ B

Answer: (B) Go Back to Q12

Q13.

Solution

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

Step 1: Total students = 40 and Ravi is 15th from the left.

Step 2: Position from right = 40 − 15 + 1.

Step 3: 40 − 15 = 25, and 25 + 1 = 26.

Why other options are wrong:

- Option A: 24 forgets to add 1 and subtracts an extra.
- Option B: 25 forgets the +1 for counting Ravi's own place.
- Option D: 27 adds one too many.

Final Answer: Ravi is 26th from the right $\Rightarrow$ C

Answer: (C) Go Back to Q13

Q14.

Solution

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

Step 1: Anil taller than Vijay but shorter than Sunil gives Vijay < Anil < Sunil.

Step 2: Deepak taller than Sunil gives Sunil < Deepak.

Step 3: Ravi is the shortest. Combining: Ravi < Vijay < Anil < Sunil < Deepak.

Step 4: The tallest is Deepak.

Why other options are wrong:

- Option A: Anil is in the middle of the order.
- Option B: Sunil is taller than Anil but still shorter than Deepak.
- Option C: Vijay is near the shorter end.

Final Answer: Deepak is the tallest $\Rightarrow$ D

Answer: (D) Go Back to Q14

Q15.

Solution

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

Step 1: Priya is at position 3 and Rahul is at position 4.

Step 2: Positions 3 and 4 are next to each other, so there is no seat in between.

Step 3: That means 0 children stand between them.

Why other options are wrong:

- Option B: 1 would need one empty seat between them, but they are adjacent.
- Option C: 2 would need positions two apart.
- Option D: 3 would need positions four apart.

Final Answer: 0 children stand between Priya and Rahul $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q15

Q16.

Solution

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

Setup: "All cars are machines" puts Cars inside Machines. "All machines need fuel" puts Machines inside the group that needs fuel. So Cars sits inside Machines, which sits inside Need-Fuel.

Conclusion I — All cars need fuel: Since Cars is inside the Need-Fuel group, every car needs fuel. Conclusion I follows.

Conclusion II — All machines are cars: We only know all cars are machines, not the reverse; there can be machines that are not cars. Conclusion II does not follow.

Result: Only Conclusion I follows.

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

Answer: (C) Go Back to Q16

Q17.

Solution

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

Setup: "Some flowers are roses" overlaps Flowers with Roses. "All roses are plants" puts Roses inside Plants.

Conclusion I — Some flowers are plants: The flowers that are roses are inside Roses, which is inside Plants, so those flowers are plants. Conclusion I follows.

Conclusion II — All flowers are plants: Only some flowers are known to be roses; the other flowers need not be plants. 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 metal is wood" separates Metals from Wood. "All wood is solid" puts Wood inside Solids. Metals stay outside Wood but may still lie inside Solids.

Conclusion I — Some solids are wood: Since all wood is solid and wood exists, those wood items are solids, so some solids are wood. Conclusion I follows.

Conclusion II — No metal is solid: Metals are only barred from Wood, not from Solids; a metal can still be a solid. 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 9:00 the minute hand points to 12 and the hour hand points to 9.

Step 2: The shorter gap from 12 to 9 is 3 hour marks.

Step 3: Angle $= 3 \times 30 = 90$ degrees.

Why other options are wrong:

- Option A: 60 degrees would be a 2-hour gap.
- Option C: 120 degrees would be a 4-hour gap.
- Option D: 180 degrees would be a 6-hour gap, as at 6:00.

Final Answer: The angle is 90 degrees $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q19

Q20.

Solution

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

Step 1: Divide 100 by 7: $100 = 7 \times 14 + 2$, so the remainder is 2.

Step 2: Count 2 days forward from Tuesday: Wednesday, Thursday.

Step 3: The day is Thursday.

Why other options are wrong:

- Option B: Wednesday would be a remainder of 1.
- Option C: Friday would be a remainder of 3.
- Option D: Saturday would be a remainder of 4.

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

Answer: (A) Go Back to Q20

Q21.

Solution

Concept — Clock hand movement: The minute hand sweeps a full 360 degrees in 60 minutes.

Step 1: Speed of the minute hand $= 360 \div 60 = 6$ degrees per minute.

Step 2: In 10 minutes it moves $6 \times 10 = 60$ degrees.

Why other options are wrong:

- Option A: 30 degrees would be only 5 minutes of movement.
- Option B: 45 degrees corresponds to 7.5 minutes.
- Option C: 50 degrees does not match a whole 10-minute sweep.

Final Answer: The minute hand moves 60 degrees $\Rightarrow$ 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" puts Doctors inside Graduates. "Some graduates are wealthy" overlaps Graduates with Wealthy, but the wealthy part need not touch Doctors.

Step 2: Conclusion I says some doctors are wealthy. The wealthy graduates could all lie outside the Doctors circle, so this is not certain. Conclusion I does not follow.

Step 3: Conclusion II says all graduates are doctors. We only know all doctors are graduates, not the reverse; there can be graduates who are not doctors. Conclusion II does not follow.

Why other options are wrong:

- Option A: Conclusion I is only a possibility, not a certainty.
- Option B: Conclusion II reverses the given relation wrongly.
- Option C: Both cannot follow when each one is uncertain.

Final Answer: Neither conclusion follows $\Rightarrow$ D

Answer: (D) Go Back to Q22

Q23.

Solution

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

Step 1: "+" means $\div$, "$-$" means $\times$, "$\times$" means $+$, "$\div$" means $-$. The expression $12 + 4 - 3 \times 2 \div 5$ becomes $12 \div 4 \times 3 + 2 - 5$.

Step 2: Do division and multiplication from left to right: $12 \div 4 = 3$, then $3 \times 3 = 9$.

Step 3: Now $9 + 2 - 5 = 11 - 5 = 6$.

Why other options are wrong:

- Option A: 5 comes from a wrong order of operations.
- Option C: 7 miscounts the final subtraction.
- Option D: 8 skips the subtraction of 5.

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

Answer: (B) Go Back to Q23

Q24.

Solution

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

Step 1: $8 = 2^3$, $27 = 3^3$, $64 = 4^3$, $125 = 5^3$. 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 A: 27 is a cube and fits the group.
- Option C: 64 is a cube and fits the group.
- Option D: 125 is a cube and fits the group.

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

Answer: (B) Go Back to Q24

Q25.

Solution

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

Step 1: Q is the son of P, so P is a parent of Q.

Step 2: R is the sister of Q, so R and Q are siblings with the same parents.

Step 3: S is the mother of R, so S is also the mother of Q (same parents).

Step 4: P and S are the two parents of Q, and S is the mother, so P is the father, that is, the husband of S.

Why other options are wrong:

- Option B: P and S are the parents of Q, not siblings.
- Option C: S is not P's child, so P is not S's father.
- Option D: P is a parent, not the son of S.

Final Answer: P is the husband of S $\Rightarrow$ A

Answer: (A) Go Back to Q25

Answer Key

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