SNAP Analytical and Logical Reasoning

Sample Paper – 8

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, 11, 18, 27, ?**

(A) 36

(B) 38

(C) 40

(D) 42

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

(A) O

(B) P

(C) N

(D) M

Q3. Choose the option that completes the analogy: **Bird : Nest :: Bee : ?**

(A) Flower

(B) Honey

(C) Tree

(D) Hive

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

(A) 64

(B) 16

(C) 100

(D) 81

Part B: Coding and Decoding

Q5. In a certain code, PENCIL is written as QFODJM. Using the same rule, how is GARDEN written?

(A) HBSEFP

(B) HBTEFO

(C) HBSEFO

(D) GBSEFO

Q6. In a certain code, MONKEY is written as OQPMGA. Using the same rule, how is TIGER written?

(A) VKIGS

(B) VKIGT

(C) UKIGT

(D) VLIGT

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 LAMP, taken as the sum of its letters?

(A) 40

(B) 41

(C) 42

(D) 44

Part C: Blood Relations and Direction Sense

Q8. Introducing a man, Kavita said, "His mother is the only daughter of my mother." How is the man related to Kavita?

(A) Son

(B) Brother

(C) Father

(D) Nephew

Q9. If "P $\times$ Q" means P is the mother of Q, and "P $\div$ Q" means P is the brother of Q, then in "M $\times$ N $\div$ O", how is M related to O?

(A) Sister

(B) Aunt

(C) Grandmother

(D) Mother

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

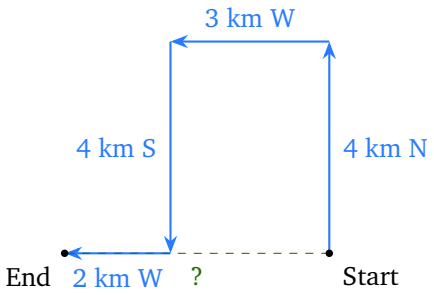
(A) Sister

(B) Mother

(C) Aunt

(D) Grandmother

Q11. A man starts from a point and walks 4 km towards North, then turns left and walks 3 km, then turns left again and walks 4 km, and finally turns right and walks 2 km. How far and in which direction is he now from his starting point?



(A) 5 km East

(B) 3 km West

(C) 5 km West

(D) 7 km West

Part D: Arrangement and Ranking

Q12. Five students A, B, C, D and E sit in a row facing north. D is at the extreme left end. C is to the immediate right of D. E is at the extreme right end. A is to the immediate left of E. Who is sitting in the middle of the row?

(A) B

(B) A

(C) C

(D) D

Q13. In a row of 40 students, Rahul is 15th from the left end. What is his position counted from the right end?

(A) 24th

(B) 25th

(C) 26th

(D) 27th

Q14. Among five boxes V, W, X, Y and Z: W is heavier than X. Y is heavier than W. Z is lighter than X. V is heavier than Y. Which box is the second heaviest?

(A) V

(B) Y

(C) W

(D) X

Q15. Seven students stand in a row facing north. Kiran is fourth from the left end and Meena is sixth from the left end. How many students stand between Kiran and Meena?

(A) 0

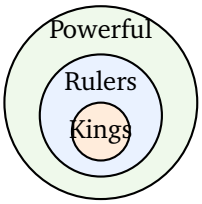
(B) 1

(C) 2

(D) 3

Part E: Syllogisms

Q16. **Statements:** All kings are rulers. All rulers are powerful.
Conclusion I: All kings are powerful. **Conclusion II:** Some powerful people are kings.



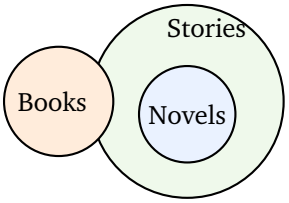
(A) Only Conclusion I follows

(B) Only Conclusion II follows

(C) Neither conclusion follows

(D) Both Conclusion I and Conclusion II follow

Q17. **Statements:** Some books are novels. All novels are stories.
Conclusion I: Some books are stories. **Conclusion II:** All stories are books.



(A) Neither conclusion follows

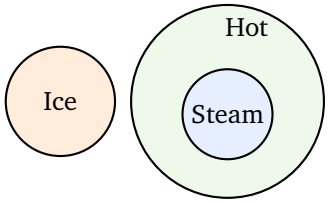
(B) Both Conclusion I and Conclusion II follow

(C) Only Conclusion I follows

(D) Only Conclusion II follows

Q18. **Statements:** No ice is hot. All steam is hot.

Conclusion I: No ice is steam. **Conclusion II:** Some steam is ice.



(A) Neither conclusion follows

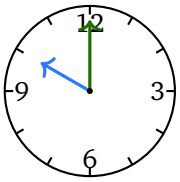
(B) Only Conclusion I follows

(C) Both Conclusion I and Conclusion II follow

(D) Only Conclusion II 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 10:00?



(A) 120 degrees

(B) 90 degrees

(C) 150 degrees

(D) 60 degrees

Q20. If today is Monday, what day of the week will it be after 200 days?

(A) Friday

(B) Thursday

(C) Saturday

(D) Sunday

Q21. How many times in a 12-hour period are the hour and minute hands of a clock at right angles (90 degrees) to each other?

(A) 20

(B) 24

(C) 22

(D) 11

Part G: Logical Deduction

Q22. **Statements:** All the doctors in the hospital are hardworking. Sunil is hardworking.

Conclusion I: Sunil is a doctor in the hospital. **Conclusion II:** Sunil is not a doctor.

(A) Neither conclusion follows

(B) Only Conclusion I follows

(C) Both conclusions follow

(D) Only Conclusion II follows

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

(A) 7

(B) 8

(C) 9

(D) 6

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

(A) 27

(B) 64

(C) 125

(D) 100

Q25. Pointing to a photograph, Neha said, "He is the only son of the father of my brother." How is the man in the photograph related to Neha?

(A) Father

(B) Uncle

(C) Cousin

(D) Brother

Detailed Solutions

Q1.

Solution

Concept — Number series: Look at the difference between consecutive terms.

Step 1: Differences are 6-3=3, 11-6=5, 18-11=7, 27-18=9.

Step 2: The differences are 3, 5, 7, 9, increasing by 2 each time, so the next difference is 11.

Step 3: Next term = 27 + 11 = 38.

Why other options are wrong:

- Option A: 36 would need a difference of 9, but that difference was already used.
- Option C: 40 would need a difference of 13, skipping 11.
- Option D: 42 jumps by 15, far too large.

Final Answer: The next number is 38 $\Rightarrow$ B

Answer: (B) Go Back to Q1

Q2.

Solution

Concept — Letter series: Convert letters to 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: P is position 16, a gap of 4.
- Option C: N is position 14, a gap of only 2.
- Option D: M is position 13, a gap of only 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 bird lives in a nest, so the link is a creature to the home it builds and lives in.

Application: A bee lives in a hive, the home it builds, matching the pattern.

Why other options are wrong:

- Option A: A flower is where a bee gathers nectar, not where it lives.
- Option B: Honey is what a bee produces, not its home.
- Option C: A tree is a general location, not the specific home a bee builds.

Final Answer: A bee lives in a Hive $\Rightarrow$ $\boxed{\text{D}}$

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 B: $16 = 4^2$, the square of 4, not the cube.
- Option C: 100 does not fit any simple power of 4.
- Option D: $81 = 3^4$, unrelated to 4 cubed.

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

Answer: (A) Go Back to Q4

Q5.

Solution

Concept — Coding: Compare each letter of PENCIL with its code QFODJM.

Step 1: P→Q, E→F, N→O, C→D, I→J, L→M. Each letter moves forward by 1 place.

Step 2: Apply +1 to GARDEN: G→H, A→B, R→S, D→E, E→F, N→O, giving HBSEFO.

Why other options are wrong:

- Option A: HBSEFP moves the last N forward by 2 to P.
- Option B: HBTEFO moves R forward by 2 to T.
- Option D: GBSEFO leaves G unchanged instead of moving it to H.

Final Answer: GARDEN becomes HBSEFO ⇒ C

Answer: (C) Go Back to Q5

Q6.

Solution

Concept — Coding: Find the shift by matching MONKEY to OQPMGA.

Step 1: M→O, O→Q, N→P, K→M, E→G, Y→A. Each letter moves forward by 2 places (Y wraps around past Z to A).

Step 2: Apply +2 to TIGER: T→V, I→K, G→I, E→G, R→T, giving VKIGT.

Why other options are wrong:

- Option A: VKIGS moves R forward by only 1 to S.
- Option C: UKIGT moves T forward by only 1 to U.
- Option D: VLIGT moves I forward by 3 to L.

Final Answer: TIGER becomes VKIGT ⇒ B

Answer: (B) Go Back to Q6

Q7.

Solution

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

Step 1: L is the 12th letter, A is the 1st, M is the 13th, P is the 16th.

Step 2: Sum = 12 + 1 + 13 + 16 = 42.

Why other options are wrong:

- Option A: 40 undercounts by 2.
- Option B: 41 undercounts by 1.
- Option D: 44 overcounts by 2.

Final Answer: L + A + M + P = 42 $\Rightarrow$ C

Answer: (C) Go Back to Q7

Q8.

Solution

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

Step 1: "The only daughter of my mother" is Kavita herself, since she is the single daughter.

Step 2: So the man's mother is Kavita, which makes the man Kavita's son.

Why other options are wrong:

- Option B: A brother would share Kavita's mother, not have Kavita as his mother.
- Option C: The father is a generation above Kavita, not her child.
- Option D: A nephew would be the child of Kavita's sibling, not her own child.

Final Answer: The man is Kavita'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: "M $\times$ N" means M is the mother of N.

Step 2: "N $\div$ O" means N is the brother of O, so N and O are siblings.

Step 3: M is the mother of N, and O is N's sibling, so M is also the mother of O.

Why other options are wrong:

- Option A: M is a generation above O, not a sister.
- Option B: An aunt would be the mother's sister, not the parent herself.
- Option C: A grandmother is two generations above; M is only one generation above O.

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

Answer: (D) Go Back to Q9

Q10.

Solution

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

Step 1: "My son's father" is Ramesh himself, since the father of Ramesh's son is Ramesh.

Step 2: So the lady is the mother of Ramesh.

Why other options are wrong:

- Option A: A sister would share Ramesh's mother, not be his mother.
- Option C: An aunt would be the mother's sister, not the mother.
- Option D: A grandmother is two generations above; the lady is only one generation above Ramesh.

Final Answer: The lady is Ramesh's mother $\Rightarrow$ $\boxed{\text{B}}$

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 North.

Step 2: A left turn from North faces West; he walks 3 km West.

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

Step 4: A right turn from South faces West; he walks 2 km more West.

Step 5: The North and South legs cancel, leaving $3 + 2 = 5$ km West of the start.

Why other options are wrong:

- Option A: East is the wrong direction; every horizontal leg went West.
- Option B: 3 km ignores the final 2 km West leg.
- Option D: 7 km wrongly adds the vertical legs into the horizontal total.

Final Answer: He is 5 km West of the start $\Rightarrow$ C

Answer: (C) Go Back to Q11

Q12.

Solution

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

Step 1: D is at the extreme left, so D takes position 1.

Step 2: C is immediately right of D, so C takes position 2.

Step 3: E is at the extreme right, so E takes position 5, and A is immediately left of E, so A takes position 4.

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

Why other options are wrong:

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

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

Answer: (A) Go Back to Q12

Q13.

Solution

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

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

Step 2: Position from right = 40 − 15 + 1 = 26. So Rahul is 26th from the right.

Why other options are wrong:

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

Final Answer: Rahul is 26th from the right ⇒ C

Answer: (C) Go Back to Q13

Q14.

Solution

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

Step 1: W heavier than X gives X < W.

Step 2: Y heavier than W gives W < Y.

Step 3: Z lighter than X gives Z < X, and V heavier than Y gives Y < V.

Step 4: Combining: Z < X < W < Y < V. The heaviest is V and the second heaviest is Y.

Why other options are wrong:

- Option A: V is the heaviest, not the second heaviest.
- Option C: W is in the middle of the order.
- Option D: X is near the lighter end.

Final Answer: Y is the second heaviest ⇒ B

Answer: (B) Go Back to Q14

Q15.

Solution

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

Step 1: Kiran is at position 4 and Meena is at position 6.

Step 2: The only position strictly between them is 5.

Step 3: That is 1 student between Kiran and Meena.

Why other options are wrong:

- Option A: 0 would mean they are adjacent, but they are two seats apart.
- Option C: 2 counts one of the endpoints as "between".
- Option D: 3 counts far too many seats.

Final Answer: 1 student stands between them $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q15

Q16.

Solution

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

Setup: "All kings are rulers" puts Kings inside Rulers. "All rulers are powerful" puts Rulers inside Powerful. So Kings sits inside Rulers, which sits inside Powerful.

Conclusion I — All kings are powerful: Since Kings is inside Powerful, every king is powerful. Conclusion I follows.

Conclusion II — Some powerful people are kings: Kings lie within Powerful, so at least those powerful people who are kings exist. Conclusion II follows.

Result: Both conclusions follow.

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

Answer: (D) Go Back to Q16

Q17.

Solution

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

Setup: "All novels are stories" puts Novels inside Stories. "Some books are novels" overlaps Books with Novels, and that overlap lies inside Stories.

Conclusion I — Some books are stories: The books that are novels are inside Stories, so some books are certainly stories. Conclusion I follows.

Conclusion II — All stories are books: We are only told some books are novels, not that stories are limited to books; there can be stories that are not books. Conclusion II does not follow.

Result: Only Conclusion I follows.

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

Answer: (C) Go Back to Q17

Q18.

Solution

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

Setup: "All steam is hot" puts Steam inside Hot. "No ice is hot" keeps Ice completely outside Hot.

Conclusion I — No ice is steam: Steam lies inside Hot, and Ice lies entirely outside Hot, so Ice cannot touch Steam. No ice is steam. Conclusion I follows.

Conclusion II — Some steam is ice: This would require Ice and Steam to overlap, but they are kept apart. Conclusion II does not follow.

Result: Only Conclusion I follows.

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

Answer: (B) Go Back to Q18

Q19.

Solution

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

Step 1: At 10:00 the minute hand points to 12 and the hour hand points to 10.

Step 2: The shorter gap from 10 to 12 is 2 hour marks.

Step 3: Angle $= 2 \times 30 = 60$ degrees.

Why other options are wrong:

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

Final Answer: The angle is 60 degrees $\Rightarrow$ $\boxed{\text{D}}$

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 200 by 7: $200 = 7 \times 28 + 4$, so the remainder is 4.

Step 2: Count 4 days forward from Monday: Tuesday, Wednesday, Thursday, Friday.

Step 3: The day is Friday.

Why other options are wrong:

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

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

Answer: (A) Go Back to Q20

Q21.

Solution

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

Step 1: In each hour the hands are at right angles about twice, giving roughly 24 in 12 hours.

Step 2: However, over a 12-hour span two of those coincidences are lost, so the actual count is 22, not 24.

Why other options are wrong:

- Option A: 20 undercounts the right angles.
- Option B: 24 forgets the two lost coincidences in a 12-hour span.
- Option D: 11 is the count of overlaps, not right angles.

Final Answer: The hands are at right angles 22 times $\Rightarrow$ C

Answer: (C) Go Back to Q21

Q22.

Solution

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

Step 1: "All doctors in the hospital are hardworking" tells us doctors are a subset of hardworking people, not the reverse.

Step 2: Sunil being hardworking does not make him a doctor, since many hardworking people are not doctors. Conclusion I does not follow.

Step 3: The statements also give no reason to say Sunil is not a doctor; he might or might not be. Conclusion II does not follow either.

Why other options are wrong:

- Option B: Being hardworking does not prove Sunil is a doctor.
- Option C: The two conclusions are opposite and neither is forced.
- Option D: Nothing rules out Sunil being a doctor.

Final Answer: Neither conclusion follows $\Rightarrow$ A

Answer: (A) Go Back to Q22

Q23.

Solution

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

Step 1: "$-$" means $\times$, "$+$" means $\div$, "$\times$" means $+$, "$\div$" means $-$. The expression $18 - 3 + 6 \times 2 \div 4$ becomes $18 \times 3 \div 6 + 2 - 4$.

Step 2: Do multiplication and division left to right: $18 \times 3 = 54$, then $54 \div 6 = 9$.

Step 3: Now handle addition and subtraction: $9 + 2 = 11$, then $11 - 4 = 7$.

Why other options are wrong:

- Option B: 8 comes from a wrong subtraction step.
- Option C: 9 stops before the final $+2 - 4$.
- Option D: 6 miscounts the addition of 2.

Final Answer: The value is $7 \Rightarrow \boxed{A}$

Answer: (A) Go Back to Q23

Q24.

Solution

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

Step 1: $8 = 2^3$, $27 = 3^3$, $64 = 4^3$ and $125 = 5^3$ are all perfect cubes.

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

Why other options are wrong:

- Option A: 27 is 3^3 and fits the group of cubes.
- Option B: 64 is 4^3 and fits the group.
- Option C: 125 is 5^3 and fits the group.

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

Answer: (D) Go Back to Q24

Q25.

Solution

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

Step 1: "The father of my brother" is Neha's own father, since Neha and her brother share the same father.

Step 2: "The only son of" Neha's father is that single son, who is Neha's brother.

Step 3: So the man in the photograph is Neha's brother.

Why other options are wrong:

- Option A: The father is a generation above Neha, not the only son.
- Option B: An uncle would be the father's brother, not the father's son.
- Option C: A cousin would come from a different parent, not from Neha's own father.

Final Answer: The man is Neha's brother $\Rightarrow$ $\boxed{\text{D}}$

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