SNAP Analytical and Logical Reasoning

Sample Paper – 6

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, 11, 19, 29, 41, ?**

(A) 53

(B) 55

(C) 57

(D) 51

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: **Pen : Write :: Knife : ?**

(A) Sharp

(B) Metal

(C) Cut

(D) Kitchen

Q4. Choose the option that completes the analogy: **4 : 64 :: 3 : ?**

(A) 9

(B) 27

(C) 81

(D) 12

Part B: Coding and Decoding

Q5. In a certain code, DOCTOR is written as EPDUPS. How is NURSE written in that code?

(A) OVSUF

(B) NVSTF

(C) OVSTF

(D) PVSTF

Q6. If BRIDGE is coded as DTKFIG, how is CASTLE coded in the same way?

(A) ECUVNG

(B) ECUVMG

(C) DCUVNG

(D) ECUWNG

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) 53

Part C: Blood Relations and Direction Sense

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

(A) Daughter

(B) Sister

(C) Aunt

(D) Niece

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 "A $\times$ B $\div$ C", how is A related to C?

(A) Aunt

(B) Mother

(C) Sister

(D) Grandmother

Q10. A woman introduces a man as "the son of the daughter of my father." How is the man related to the woman?

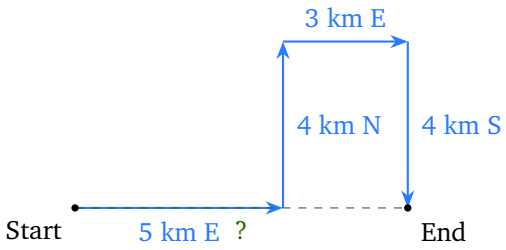
(A) Son

(B) Brother

(C) Uncle

(D) Nephew

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



(A) 8 km West

(B) 6 km East

(C) 8 km East

(D) 4 km North

Part D: Arrangement and Ranking

Q12. In a row of 9 people facing south, K is fourth from the left end and L is fourth from the right end. How many people sit between K and L?

(A) 3

(B) 0

(C) 2

(D) 1

Q13. In a row, a boy is 9th from the left end and 15th from the right end. How many boys are there in the row?

(A) 24

(B) 23

(C) 22

(D) 25

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

(A) Mohan

(B) Ravi

(C) Deepak

(D) Sunil

Q15. Seven books are placed in a vertical stack. Book X is third from the top and Book Y is third from the bottom. How many books lie between X and Y?

(A) 1

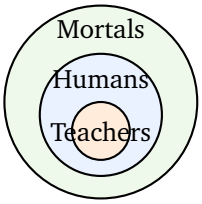
(B) 2

(C) 0

(D) 3

Part E: Syllogisms

Q16. **Statements:** All teachers are humans. All humans are mortal.
Conclusion I: All teachers are mortal. **Conclusion II:** All mortals are teachers.



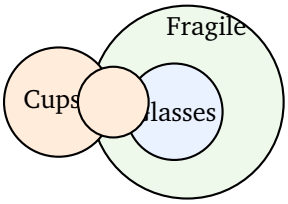
(A) Both Conclusion I and Conclusion II follow

(B) Neither conclusion follows

(C) Only Conclusion II follows

(D) Only Conclusion I follows

Q17. **Statements:** Some cups are glasses. All glasses are fragile.
Conclusion I: All cups are fragile. **Conclusion II:** All fragile things are glasses.



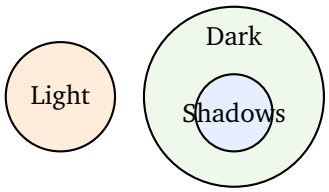
(A) Only Conclusion I follows

(B) Only Conclusion II follows

(C) Both Conclusion I and Conclusion II follow

(D) Neither conclusion follows

Q18. **Statements:** No light is dark. All shadows are dark.
Conclusion I: No light is a shadow. **Conclusion II:** Some dark things are shadows.



(A) Only Conclusion I follows

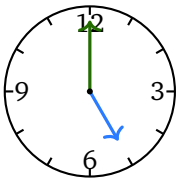
(B) Only Conclusion II follows

(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 5:00?



(A) 120 degrees

(B) 90 degrees

(C) 210 degrees

(D) 150 degrees

Q20. If today is Thursday, what day of the week will it be after 75 days?

(A) Sunday

(B) Monday

(C) Tuesday

(D) Wednesday

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

(A) 22

(B) 24

(C) 44

(D) 20

Part G: Logical Deduction

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

(A) Only Conclusion I follows

(B) Only Conclusion II follows

(C) Both conclusions follow

(D) Neither conclusion follows

Q23. If "+" means multiply, "−" means add, "×" means divide, and "÷" means subtract, then find the value of: $\mathbf{16 \div 8 \times 4 + 2 - 5}$

(A) 17

(B) 15

(C) 19

(D) 13

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

(A) 27

(B) 100

(C) 64

(D) 125

Q25. Ravi is the son of Kamal. Kamal is the sister of Mohan. Mohan is the son of Suresh. How is Suresh related to Ravi?

(A) Grandfather

(B) Father

(C) Uncle

(D) Brother

Detailed Solutions

Q1.

Solution

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

Step 1: Find the differences: 11-5=6, 19-11=8, 29-19=10, 41-29=12.

Step 2: The differences are 6, 8, 10, 12; each grows by 2, so the next difference is 14.

Step 3: Next term = 41 + 14 = 55.

Why other options are wrong:

- Option A: 53 would need a difference of 12, but the difference must grow to 14.
- Option C: 57 would need a difference of 16, skipping 14.
- Option D: 51 is smaller than the required jump of 14.

Final Answer: The next number is 55 $\Rightarrow$ 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: 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 pen is a tool whose main function is to write, so the link is tool to its main action.

Application: A knife is a tool whose main function is to cut, matching the pattern.

Why other options are wrong:

- Option A: Sharp describes a property of a knife, not its action.
- Option B: Metal is the material of a knife, not its function.
- Option D: Kitchen is a place where a knife is used, not its action.

Final Answer: A knife is used to Cut $\Rightarrow$ C

Answer: (C) Go Back to Q3

Q4.

Solution

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

Step 1: $64 = 4 \times 4 \times 4 = 4^3$, so the rule is "cube the number".

Step 2: Apply to 3: $3^3 = 27$.

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, a different rule.
- Option D: $12 = 3 \times 4$, a different rule.

Final Answer: $3^3 = 27 \Rightarrow$ B

Answer: (B) Go Back to Q4

Q5.

Solution

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

Step 1: D→E, O→P, C→D, T→U, O→P, R→S. Each letter moves forward by 1 place.

Step 2: Apply +1 to NURSE: N→O, U→V, R→S, S→T, E→F, giving OVSTF.

Why other options are wrong:

- Option A: OVSUF moves R (4th letter) to U instead of S.
- Option B: NVSTF keeps N instead of moving it to O.
- Option D: PVSTF moves N forward by 2 to P.

Final Answer: NURSE becomes OVSTF ⇒ C

Answer: (C) Go Back to Q5

Q6.

Solution

Concept — Coding: Find the shift by matching BRIDGE to DTKFIG.

Step 1: B→D, R→T, I→K, D→F, G→I, E→G. Each letter moves forward by 2 places.

Step 2: Apply +2 to CASTLE: C→E, A→C, S→U, T→V, L→N, E→G, giving ECUVNG.

Why other options are wrong:

- Option B: ECUVMG moves L to M (only +1) instead of N.
- Option C: DCUVNG moves C to D (only +1) instead of E.
- Option D: ECUWNG moves T to W (+3) instead of V.

Final Answer: CASTLE becomes ECUVNG ⇒ A

Answer: (A) 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: 53 undercounts by 4.

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: "The brother of my wife" is the man's brother-in-law.

Step 2: "The daughter of" the wife's brother is that brother's daughter, that is, the man's niece.

Why other options are wrong:

- Option A: A daughter would be the man's own child, not his brother-in-law's child.
- Option B: A sister would be of the man's own generation and family, not a niece.
- Option C: An aunt would be a generation above the man, not below.

Final Answer: The girl is the man's niece $\Rightarrow$ D

Answer: (D) Go Back to Q8

Q9.

Solution

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

Step 1: "A $\times$ B" means A is the mother of B, so A is female and B is her child.

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

Step 3: B and C share the same parents, and A is B's mother, so A is also C's mother.

Why other options are wrong:

- Option A: An aunt would be the parent's sister, but A is the direct parent.
- Option C: A sister would be of C's own generation, not a parent.
- Option D: A grandmother would be two generations above, but A is only one generation above.

Final Answer: A is the mother of C $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q9

Q10.

Solution

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

Step 1: "The daughter of my father" is the woman herself or her sister; taken as a distinct person, it is the woman's sister.

Step 2: "The son of" that sister is the sister's son, that is, the woman's nephew.

Why other options are wrong:

- Option A: A son would be the woman's own child, not her sister's child.
- Option B: A brother would be of the woman's own generation, not below.
- Option C: An uncle would be a generation above the woman, not below.

Final Answer: The man is the woman's nephew $\Rightarrow$ $\boxed{\text{D}}$

Answer: (D) Go Back to Q10

Q11.

Solution

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

Step 1: He walks 5 km East, reaching a point 5 km to the east.

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

Step 3: A right turn from North faces East; he walks 3 km East, now $5 + 3 = 8$ km east of the start.

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

Step 5: Net movement is 8 km East and 0 km North-South, so he is 8 km East of the start.

Why other options are wrong:

- Option A: West is the wrong direction; both eastward legs push him east.
- Option B: 6 km ignores the 3 km added by the second eastward leg.
- Option D: The North and South legs cancel, so he is not 4 km North.

Final Answer: He is 8 km East of the start $\Rightarrow$ C

Answer: (C) Go Back to Q11

Q12.

Solution

Concept — Row position: Convert each end-position to a single left-count, then count the seats between.

Step 1: K is 4th from the left, so K is at position 4.

Step 2: L is 4th from the right in a row of 9, so L is at position $9 - 4 + 1 = 6$.

Step 3: The only position strictly between 4 and 6 is position 5, so 1 person sits between them.

Why other options are wrong:

- Option A: 3 overcounts the seats between positions 4 and 6.
- Option B: 0 would mean K and L are adjacent, but they are two seats apart.
- Option C: 2 counts one endpoint as "between".

Final Answer: 1 person sits between K and L $\Rightarrow$ D

Answer: (D) Go Back to Q12

Q13.

Solution

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

Step 1: The boy is 9th from the left and 15th from the right.

Step 2: Total boys = 9 + 15 − 1 = 23. We subtract 1 because the boy is counted in both positions.

Why other options are wrong:

- Option A: 24 forgets to subtract the double-counted boy.
- Option C: 22 subtracts one too many.
- Option D: 25 adds an extra boy.

Final Answer: There are 23 boys $\Rightarrow$ B

Answer: (B) Go Back to Q13

Q14.

Solution

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

Step 1: Ravi taller than Sunil but shorter than Mohan gives Sunil < Ravi < Mohan.

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

Step 3: Nitin is the shortest. Combining: Nitin < Sunil < Ravi < Mohan < Deepak.

Step 4: The tallest is Deepak.

Why other options are wrong:

- Option A: Mohan is taller than Ravi but still shorter than Deepak.
- Option B: Ravi is in the middle of the order.
- Option D: Sunil is near the shorter end.

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

Answer: (C) Go Back to Q14

Q15.

Solution

Concept — Stack position: Number the books from the top, then count the ones strictly between.

Step 1: Book X is third from the top, so X is at position 3 from the top.

Step 2: Book Y is third from the bottom in a stack of 7, so Y is at position $7 - 3 + 1 = 5$ from the top.

Step 3: The only position strictly between 3 and 5 is position 4, so 1 book lies between them.

Why other options are wrong:

- Option B: 2 counts one of the endpoints as "between".
- Option C: 0 would mean X and Y are adjacent, but they are two places apart.
- Option D: 3 overcounts the books between positions 3 and 5.

Final Answer: 1 book lies between X and Y $\Rightarrow$ A

Answer: (A) Go Back to Q15

Q16.

Solution

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

Setup: "All teachers are humans" puts Teachers inside Humans. "All humans are mortal" puts Humans inside Mortals. So Teachers sits inside Humans, which sits inside Mortals.

Conclusion I — All teachers are mortal: Since Teachers is inside Mortals, every teacher is mortal. Conclusion I follows.

Conclusion II — All mortals are teachers: Mortals is the outermost circle; there can be mortals who are not even humans, let alone teachers. Conclusion II does not follow.

Result: Only Conclusion I follows.

Final Answer: Only Conclusion I follows $\Rightarrow$ 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 cups are glasses" overlaps Cups with Glasses. "All glasses are fragile" puts Glasses inside Fragile. So the part of Cups that is Glasses lies inside Fragile, but the rest of Cups may lie outside Fragile.

Conclusion I — All cups are fragile: Only the cups that are glasses are guaranteed fragile; the remaining cups need not be fragile. Conclusion I does not follow.

Conclusion II — All fragile things are glasses: Glasses are inside Fragile, not the reverse; there can be fragile things that are not glasses. Conclusion II does not follow.

Result: Neither conclusion follows.

Final Answer: Neither conclusion follows $\Rightarrow$ D

Answer: (D) Go Back to Q17

Q18.

Solution

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

Setup: "No light is dark" keeps Light and Dark completely separate. "All shadows are dark" puts Shadows inside Dark. So Shadows lies within Dark, and Light stays outside Dark.

Conclusion I — No light is a shadow: Every shadow is inside Dark, and no light touches Dark, so no light can be a shadow. Conclusion I follows.

Conclusion II — Some dark things are shadows: Shadows exist and all of them are dark, so at least those dark things are shadows. Conclusion II follows.

Result: Both conclusions follow.

Final Answer: Both Conclusion I and Conclusion II follow $\Rightarrow$ 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 5:00 the minute hand points to 12 and the hour hand points to 5.

Step 2: The gap from 12 to 5 is 5 hour marks.

Step 3: Angle $= 5 \times 30 = 150$ 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.
- Option C: 210 degrees is the reflex angle; the smaller angle asked for is 150 degrees.

Final Answer: The angle is 150 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 75 by 7: $75 = 7 \times 10 + 5$, so the remainder is 5.

Step 2: Count 5 days forward from Thursday: Friday, Saturday, Sunday, Monday, Tuesday.

Step 3: The day is Tuesday.

Why other options are wrong:

- Option A: Sunday would be a remainder of 3.
- Option B: Monday would be a remainder of 4.
- Option D: Wednesday would be a remainder of 6.

Final Answer: It will be Tuesday $\Rightarrow$ C

Answer: (C) Go Back to Q20

Q21.

Solution

Concept — Clock right angles: The hands form a right angle twice each hour, but two of these coincide with hour boundaries in every 12-hour span.

Step 1: In each hour the hands are at 90 degrees roughly twice, giving about $2 \times 12 = 24$ in 12 hours.

Step 2: However, two of these right angles are shared at the boundaries, so the true count is $24 - 2 = 22$ in a 12-hour period.

Why other options are wrong:

- Option B: 24 forgets that two right-angle positions are shared.
- Option C: 44 is the count for a full 24-hour day.
- Option D: 20 undercounts the right angles.

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 doctors are educated" puts Doctors inside Educated. "Some educated people are wealthy" overlaps Educated with Wealthy.

Step 2: Conclusion I says "Some doctors are wealthy". The wealthy part of Educated may lie entirely outside the Doctors circle, so this is not certain. Conclusion I does not follow.

Step 3: Conclusion II says "Some wealthy people are educated". Since some educated people are wealthy, those same people are both educated and wealthy, so some wealthy people are educated. Conclusion II follows.

Why other options are wrong:

- Option A: Conclusion I is not guaranteed by the statements.
- Option C: Both cannot follow when Conclusion I is uncertain.
- Option D: Conclusion II clearly follows, so "neither" is wrong.

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

Answer: (B) Go Back to Q22

Q23.

Solution

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

Step 1: "÷" means subtract, "×" means divide, "+" means multiply, "−" means add. The expression $16 \div 8 \times 4 + 2 - 5$ becomes $16 - 8 \div 4 \times 2 + 5$.

Step 2: Do division and multiplication first, left to right: $8 \div 4 = 2$, then $2 \times 2 = 4$.

Step 3: Now $16 - 4 + 5 = 12 + 5 = 17$.

Why other options are wrong:

- Option B: 15 comes from missing the final addition of 5 correctly.
- Option C: 19 adds instead of subtracting the 4.
- Option D: 13 uses a wrong order of operations.

Final Answer: The value is 17 $\Rightarrow$ 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: $8 = 2^3$, $27 = 3^3$, $64 = 4^3$, $125 = 5^3$ 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: $27 = 3^3$ is a cube and fits the group.
- Option C: $64 = 4^3$ is a cube and fits the group.
- Option D: $125 = 5^3$ is a cube and fits the group.

Final Answer: 100 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: Kamal is the sister of Mohan, and Mohan is the son of Suresh, so Kamal and Mohan are both children of Suresh.

Step 2: Ravi is the son of Kamal, so Ravi is the child of Suresh's daughter.

Step 3: The father of one's parent is one's grandfather, so Suresh is Ravi's grandfather.

Why other options are wrong:

- Option B: The father of Ravi is not Suresh but Kamal's husband.
- Option C: An uncle would be Kamal's brother, not her father.
- Option D: Suresh is two generations above Ravi, so he is not a brother.

Final Answer: Suresh is the grandfather of Ravi $\Rightarrow$ $\boxed{A}$

Answer: (A) Go Back to Q25

Answer Key

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