

Symbiosis Entrance Test (SET)

Analytical & Logical Reasoning — Sample Paper 1

Total Questions: 12

Maximum Marks: 12

Duration: 12 minutes

Marking Scheme: +1 per correct answer; no negative marking

Mode: Online CBT

Instructions

1. This paper contains 12 multiple-choice questions carrying 1 mark each.
2. Each question has four options (A)–(D). Choose the single best answer.
3. There is no negative marking for wrong answers.
4. Attempt all questions within the stipulated time of 12 minutes.
5. Syllabus: Puzzles, Syllogisms, Coding-Decoding, Blood Relations, Series, Direction Sense, Analogies — as tested in SET (Symbiosis Entrance Test) Analytical & Logical Reasoning section.

SECTION: Analytical & Logical Reasoning
(12 Questions × 1 Mark)

Read the following information carefully and answer Questions 1–3.

Setup: Five persons — Riya, Sam, Tom, Uma, and Veer — are sitting in a straight row facing North. Tom sits at the extreme left end. Uma sits to the immediate right of Veer. Sam sits at the extreme right end. Riya does not sit adjacent to Sam.

Q1. How many persons sit between Tom and Uma?

- (A) 2
- (B) 1
- (C) 3
- (D) 0

Q2. Who sits to the immediate left of Sam?

- (A) Riya
- (B) Uma
- (C) Veer
- (D) Tom

Q3. What is Veer's position from the right end?

- (A) 2nd
- (B) 4th
- (C) 3rd
- (D) 5th

Q4. Statements:

- (I) All roses are flowers.
- (II) All flowers are plants.

Conclusions:

- I. All roses are plants.



II. Some plants are roses.

Which of the following holds?

- (A) Only Conclusion I follows
- (B) Only Conclusion II follows
- (C) Neither follows
- (D) Both Conclusion I and Conclusion II follow

Q5. Statements:

- (I) No cup is a plate.
- (II) Some plates are bowls.

Conclusions:

- I. No cup is a bowl.
- II. Some bowls are not cups.

Which of the following holds?

- (A) Only Conclusion II follows
- (B) Only Conclusion I follows
- (C) Both follow
- (D) Neither follows

Q6. In a certain code language, QUICK is written as RVJDL. How will BRAVE be coded in the same language?

- (A) CSBVF
- (B) CSBWF
- (C) DSBWF
- (D) CSAWF

Q7. A introduces B to C saying, “He is the son of the only son of my grandfather.” How is B related to A?

- (A) Uncle



- (B) Cousin
- (C) Brother
- (D) Nephew

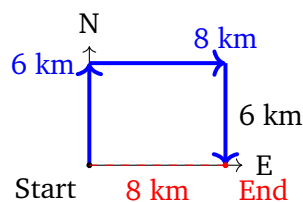
Q8. Suresh's mother is the only daughter of Anita's father. How is Anita related to Suresh?

- (A) Aunt
- (B) Sister
- (C) Grandmother
- (D) Mother

Q9. Find the missing number in the series: 3, 7, 13, 21, 31, ?

- (A) 43
- (B) 41
- (C) 45
- (D) 39

Q10. Priya walks 6 km towards the North. She then turns right and walks 8 km. She then turns right again and walks 6 km. How far is she from her starting point, and in what direction?



- (A) 6 km West
- (B) 8 km East
- (C) 10 km North-East
- (D) 8 km West

Q11. Thermometer : Temperature $\therefore$ Barometer : ?



- (A) Wind
- (B) Rain
- (C) Pressure
- (D) Humidity

Q12. Statements:

- (I) All stones are rocks.
- (II) Some rocks are minerals.

Conclusions:

- I. Some stones are minerals.
- II. All minerals are stones.

Which of the following holds?

- (A) Both follow
- (B) Only Conclusion I follows
- (C) Only Conclusion II follows
- (D) Neither follows



Detailed Solutions

Solution

Topic: Linear Seating Arrangement

Step-by-step deduction of the arrangement:

- Q1.
- Tom sits at the **extreme left** (Position 1). Sam sits at the **extreme right** (Position 5).
 - Uma sits to the **immediate right** of Veer, so Veer and Uma occupy consecutive positions: (Veer, Uma) can be (2,3), (3,4), or (4,5). Since Position 5 is taken by Sam, the pair cannot be (4,5).
 - The remaining persons for Positions 2, 3, 4 are Riya, Veer, Uma.
 - **Riya does not sit adjacent to Sam** (Position 5), so Riya cannot be at Position 4.
 - Therefore Riya must be at Position 2.
 - That leaves Veer and Uma for Positions 3 and 4. Since Uma is to the immediate right of Veer: Veer = 3, Uma = 4. ✓

Final arrangement:

Tom	Riya	Veer	Uma	Sam
1	2	3	4	5

Q1 answer: Persons between Tom (Position 1) and Uma (Position 4) are Riya and Veer — that is **2 persons**.

Option (B) says 1 — incorrect. Option (C) says 3 — incorrect. Option (D) says 0 — incorrect.

Correct answer: (A) 2.

Answer: (A) [Go Back to Q 1](#)

Q2.

Solution

Topic: Linear Seating Arrangement

Using the arrangement established in Q1:

Tom(1) – Riya(2) – Veer(3) – Uma(4) – Sam(5)



The person to the **immediate left of Sam** (Position 5) is the person at Position 4, which is **Uma**.

Option (A) Riya is at Position 2 — not immediately left of Sam. Option (C) Veer is at Position 3 — not immediately left of Sam. Option (D) Tom is at Position 1 — not immediately left of Sam.

Correct answer: (B) Uma.

Answer: (B) [Go Back to Q 2](#)

Solution

Topic: Linear Seating Arrangement

Using the arrangement established in Q1:

Tom(1) – Riya(2) – Veer(3) – Uma(4) – Sam(5)

Counting from the **right end** (Sam = 1st from right):

- Q3.
- Sam: 1st from right
 - Uma: 2nd from right
 - **Veer: 3rd from right**
 - Riya: 4th from right
 - Tom: 5th from right

Option (A) 2nd from right is Uma — incorrect. Option (B) 4th from right is Riya — incorrect. Option (D) 5th from right is Tom — incorrect.

Correct answer: (C) 3rd.

Answer: (C) [Go Back to Q 3](#)

Solution

Topic: Syllogisms

Statements:

- Q4.
- (I) All roses are flowers.
 - (II) All flowers are plants.

Analysis:

Since every rose is a flower (Statement I) and every flower is a plant (Statement



II), it follows by transitivity (universal syllogism) that **every rose is a plant**. This means **Conclusion I (All roses are plants) definitely follows**.

Furthermore, since all roses are plants and roses exist (as a non-empty set), at least some plants must be roses. Therefore **Conclusion II (Some plants are roses) also follows**.

Option (A) — only I: incomplete. Option (B) — only II: incomplete. Option (C) — neither: incorrect.

Correct answer: (D) Both Conclusion I and Conclusion II follow.

Answer: (D) [Go Back to Q 4](#)

Solution

Topic: Syllogisms

Statements:

Q5. (I) No cup is a plate.

(II) Some plates are bowls.

Analysis of Conclusion I — “No cup is a bowl”:

Statement I tells us that cups and plates are entirely separate. Statement II tells us that some plates are also bowls. However, there may be bowls that are *not* plates. Those non-plate bowls could potentially be cups (Statement I only blocks the cup–plate overlap, not a possible cup–non-plate-bowl overlap). Because we cannot definitively rule out cups being non-plate bowls, **Conclusion I does not necessarily follow**.

Analysis of Conclusion II — “Some bowls are not cups”:

From Statement II, some plates are bowls. From Statement I, no cup is a plate. Therefore those particular bowls (the ones that are also plates) cannot be cups. Hence **at least some bowls are not cups — Conclusion II definitely follows**.

Option (B) — only I: incorrect (I does not follow). Option (C) — both: incorrect. Option (D) — neither: incorrect.

Correct answer: (A) Only Conclusion II follows.

Answer: (A) [Go Back to Q 5](#)

Solution

Topic: Coding-Decoding (Letter Shift)



Finding the pattern from QUICK → RVJDL:

Q6. Q U I C K
 ↓ +1 ↓ +1 ↓ +1 ↓ +1 ↓ +1
 R V J D L

Each letter is shifted **one position forward** in the alphabet.

Applying the same rule to BRAVE:

 B R A V E
 ↓ +1 ↓ +1 ↓ +1 ↓ +1 ↓ +1
 C S B W F

The code for BRAVE is **CSBWF**.

Option (A) CSBVF: V is wrong (should be W). Option (C) DSBWF: D is wrong (should be C). Option (D) CSAWF: A is wrong (should be B).

Correct answer: (B) CSBWF.

Answer: (B) [Go Back to Q 6](#)

Solution

Topic: Blood Relations

A says: "He [B] is the son of the only son of my grandfather."

Tracing the chain:

- Q7. • "My grandfather" = A's grandfather.
- "The only son of my grandfather" = A's father (since he is the *only* son of A's grandfather).
- "The son of the only son of my grandfather" = the son of A's father = A's **brother** (or A himself, but since B is introduced as another person, B is A's brother).

Option (A) Uncle: An uncle would be a brother of A's father, not A's father's son. Incorrect. Option (B) Cousin: A cousin would be the son of A's uncle. Incorrect. Option (D) Nephew: A nephew would be the son of A's sibling — but B is the sibling of A here, not B's son. Incorrect.

Correct answer: (C) Brother.

Answer: (C) [Go Back to Q 7](#)



Solution**Topic: Blood Relations**

“Suresh’s mother is the only daughter of Anita’s father.”

Tracing the chain:

- Q8.
- “Anita’s father” has an only daughter.
 - The **only daughter** of Anita’s father is **Anita herself** (she is the only daughter).
 - Therefore: Suresh’s mother = Anita.
 - So Anita is Suresh’s **mother**.

Option (A) Aunt: An aunt would be a sister of one of Suresh’s parents — not the case here. Incorrect. Option (B) Sister: A sister would be in the same generation as Suresh. Incorrect. Option (C) Grandmother: A grandmother would be the mother of Suresh’s parent, but Anita is Suresh’s parent. Incorrect.

Correct answer: (D) Mother.

Answer: (D) [Go Back to Q 8](#)

Solution**Topic: Number Series**

Series: 3, 7, 13, 21, 31, ?

Finding the pattern — successive differences:

$$\begin{array}{cccccc} \text{Q9.} & 3 & 7 & 13 & 21 & 31 & ? \\ & +4 & +6 & +8 & +10 & +12 & \end{array}$$

The differences increase by **2** each time: 4, 6, 8, 10, 12, ...

The next difference is **12**, so the missing number = $31 + 12 = 43$.

Option (B) 41 corresponds to a difference of 10 (already used). Option (C) 45 would require a difference of 14, skipping 12. Option (D) 39 would require a difference of 8 (already used).

Correct answer: (A) 43.

Answer: (A) [Go Back to Q 9](#)



Solution**Topic: Direction Sense****Step-by-step movement:**

- Q10.** (a) Priya starts at the origin (Start point).
- (b) She walks **6 km North** — she is now 6 km directly North of the start.
- (c) She turns **right** (i.e., now facing East) and walks **8 km East** — she is now at coordinates (8 km East, 6 km North) relative to the start.
- (d) She turns **right** again (i.e., now facing South) and walks **6 km South** — she returns to the same latitude as the start, ending at (8 km East, 0 km North).

Final position: 8 km **due East** of the starting point. This is confirmed by the diagram in the question — the horizontal dashed line from Start to End is 8 km in the East direction.

Option (A) 6 km West: Wrong direction and distance. Option (C) 10 km North-East: The net displacement is purely horizontal — no North component remains. Option (D) 8 km West: Correct distance but wrong direction (East, not West).

Correct answer: (B) 8 km East.

Answer: (B) [Go Back to Q 10](#)

Solution**Topic: Instrument–Measurement Analogy**

The relationship is: **Instrument : Quantity it measures.**

- Q11.** • A **Thermometer** measures **Temperature**.
- A **Barometer** measures **Atmospheric Pressure**.

Option (A) Wind: Wind speed is measured by an Anemometer, not a Barometer. Incorrect. Option (B) Rain: Rainfall is measured by a Rain Gauge (Pluviometer). Incorrect. Option (D) Humidity: Humidity is measured by a Hygrometer. Incorrect.

Correct answer: (C) Pressure.

Answer: (C) [Go Back to Q 11](#)

Solution**Topic: Syllogisms**

Statements:

Q12. (I) All stones are rocks.

(II) Some rocks are minerals.

Analysis of Conclusion I — “Some stones are minerals”:

Statement I says every stone is a rock. Statement II says *some* rocks are minerals, but it does not specify *which* rocks are minerals. The rocks that happen to be minerals may or may not include any stones. We **cannot** conclude that any stone is definitely a mineral. **Conclusion I does not follow.**

Analysis of Conclusion II — “All minerals are stones”:

Statement II only says *some* rocks are minerals; it says nothing about all minerals being rocks (let alone stones). This is a clear over-generalisation. **Conclusion II does not follow.**

Option (A) Both follow: Incorrect — neither follows. Option (B) Only I: Incorrect.

Option (C) Only II: Incorrect.

Correct answer: (D) Neither follows.

Answer: (D) [Go Back to Q 12](#)

ANSWER KEY

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	A	2	B	3	C	4	D	5	A
6	B	7	C	8	D	9	A	10	B
11	C	12	D						

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