

Symbiosis Entrance Test (SET)

Analytical & Logical Reasoning — Sample Paper 3

Total Questions	12
Maximum Marks	12
Duration	12 minutes
Marking Scheme	+1 per correct answer; no negative marking
Mode	Online CBT

Instructions

- This paper contains **12 multiple-choice questions** (MCQs), each carrying **1 mark**.
- Each question has **four options** (A), (B), (C), and (D). Choose the most appropriate answer.
- There is **no negative marking**. You will not lose marks for incorrect or unattempted answers.
- Use the **on-screen timer** to manage your time effectively within the 12-minute window.
- Once you submit the test, you **cannot revisit** any question. Review your answers before submission.

SECTION: Analytical & Logical Reasoning

Read the following information carefully and answer questions Q1 to Q3.

Setup: Four persons — W, X, Y, and Z — live in a four-storey building. Floor 1 is the lowest and Floor 4 is the highest. The following conditions apply:

- X lives on a higher floor than Y.
- Z does not live on the 1st or 4th floor.
- W lives on the floor immediately above Z.
- X lives on the 4th floor.
- Y does not live on the 3rd floor.

Floor 4	X
Floor 3	W
Floor 2	Z
Floor 1	Y

Q1. Who lives on the 2nd floor?

- (A) W
- (B) X
- (C) Z
- (D) Y

Q2. How many floors are there *between* W and Y?

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



Q3. Who lives on the floor immediately below X?

- (A) W
- (B) Z
- (C) Y
- (D) None of these

Syllogisms

Q4. In each question below are given two statements followed by two conclusions. Assuming both statements are true, decide which conclusion(s) logically follow(s).

Statements:

- (I) Some birds are animals.
- (II) All animals are living beings.

Conclusions:

- I. Some birds are living beings.
 - II. All living beings are animals.
- (A) Only II follows
 - (B) Only I follows
 - (C) Neither follows
 - (D) Both follow



Q5. Assuming both statements are true, decide which conclusion(s) logically follow(s).

Statements:

- (I) All trains are buses.
- (II) No bus is a truck.

Conclusions:

- I. No train is a truck.
 - II. Some trucks are trains.
- (A) Both follow
 - (B) Only II follows
 - (C) Only I follows
 - (D) Neither follows

Coding-Decoding

Q6. In a certain code language, APPLE is written as BQQMF. How will MANGO be coded in the same language?

- (A) NCOHP
- (B) NBOIP
- (C) NBOHO
- (D) NBOHP



Q7. In another code language, RAIN is written as IZRM. How will SNOW be coded in the same language?

- (A) HMLD
- (B) HMLE
- (C) HNLD
- (D) HMKD

Blood Relations

Q8. Asha is the mother of Dev. Bitu is Dev's wife. Charu is Bitu's daughter. How is Asha related to Charu?

- (A) Mother
- (B) Grandmother
- (C) Aunt
- (D) Great-grandmother

Number Series

Q9. Find the missing number in the series:

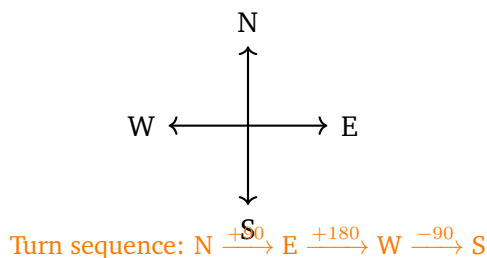
1, 1, 2, 3, 5, 8, 13, ?

- (A) 18
- (B) 20
- (C) 21
- (D) 19

Direction & Turns



Q10. Sita faces North. She turns 90° clockwise, then 180° clockwise, then 90° anticlockwise. Which direction does she face now?



- (A) North
- (B) East
- (C) West
- (D) South

Analogies

Q11. Pen : Write :: Knife : ?

- (A) Cut
- (B) Cook
- (C) Steel
- (D) Wound

Syllogism

Q12. Assuming both statements are true, decide which conclusion(s) logically follow(s).

Statements:

- (I) All computers are machines.
- (II) Some machines are electrical.

Conclusions:



I. Some computers are electrical.

II. All machines are computers.

(A) Only II follows

(B) Neither follows

(C) Only I follows

(D) Both follow



Solutions

Q1. Who lives on the 2nd floor?

Solution

Step-by-step derivation of the floor arrangement:

1. X lives on the **4th floor** (directly given).
2. Z does not live on the 1st or 4th floor, so Z is on Floor 2 or Floor 3.
3. W lives *immediately above* Z.
 - If Z = Floor 3, then W = Floor 4. But X already occupies Floor 4. **Contradiction.**
 - Therefore Z = **Floor 2** and W = **Floor 3**.
4. The only remaining floor is Floor 1, so Y = **Floor 1**.
5. Check conditions: X (4) > Y (1) ✓; Z ≠ 1 or 4 ✓; Y ≠ 3rd floor ✓.

Final arrangement:

Floor	Person
4	X
3	W
2	Z
1	Y

The person on the **2nd floor** is Z.

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

Q2. How many floors are there between W and Y?

Solution

From the arrangement: W = Floor 3, Y = Floor 1.

Floors *between* them (exclusive): Floor 2 only.

Number of floors between W and Y = 1.



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

Q3. Who lives on the floor immediately below X?

Solution

X lives on Floor 4. The floor immediately below Floor 4 is Floor 3.

From the arrangement, W lives on Floor 3.

The person immediately below X is W.

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

Q4. Syllogism — Birds, Animals, Living Beings.

Solution

Logical chain:

Some Birds $\subseteq$ Animals $\subseteq$ Living Beings $\Rightarrow$ Some Birds $\subseteq$ Living Beings

- **Conclusion I** (*Some birds are living beings*): Since some birds are animals, and all animals are living beings, those birds are also living beings. **Conclusion I follows.**
- **Conclusion II** (*All living beings are animals*): Statement II only says all *animals* are living beings, not the converse. Living beings can include plants etc. **Conclusion II does NOT follow.**

Only Conclusion I follows.

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

Q5. Syllogism — Trains, Buses, Trucks.

Solution

Logical chain:

All Trains $\subseteq$ Buses, Buses $\cap$ Trucks = $\emptyset \Rightarrow$ Trains $\cap$ Trucks = $\emptyset$

- **Conclusion I** (*No train is a truck*): All trains are buses, and no bus is a truck, so no train can be a truck. **Conclusion I follows.**
- **Conclusion II** (*Some trucks are trains*): This directly contradicts Conclusion I. If



no train is a truck, there cannot be any truck that is a train. **Conclusion II does NOT follow.**

Only Conclusion I follows.

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

Q6. Coding-Decoding — APPLE → BQQMF.

Solution

Identify the pattern:

Letter	Position	Code (Position + 1)
A	1	B (2)
P	16	Q (17)
P	16	Q (17)
L	12	M (13)
E	5	F (6)

Rule: Each letter is shifted forward by +1 in the alphabet.

Apply to MANGO:

Letter	Position	Code (Position + 1)
M	13	N (14)
A	1	B (2)
N	14	O (15)
G	7	H (8)
O	15	P (16)

MANGO → NBOHP

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

Q7. Coding-Decoding — RAIN → IZRM.

Solution

Identify the pattern (mirror/opposite coding: letter n maps to letter $27 - n$):



Letter	Position n	Code: $27 - n$
R	18	I (9) ✓
A	1	Z (26) ✓
I	9	R (18) ✓
N	14	M (13) ✓

Rule: Each letter is replaced by its mirror opposite in the alphabet ($A \leftrightarrow Z$, $B \leftrightarrow Y$, ...).

Apply to SNOW:

Letter	Position n	Code: $27 - n$
S	19	H (8)
N	14	M (13)
O	15	L (12)
W	23	D (4)

SNOW $\rightarrow$ HMLD

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

Q8. Blood Relations — Asha and Charu.

Solution

Build the family tree:

- Asha is the **mother** of Dev.
- Bita is **Dev's wife**.
- Charu is **Bit's daughter** $\Rightarrow$ Charu is Dev and Bit's daughter.

Relationship chain: Asha $\xrightarrow{\text{mother of}}$ Dev $\xrightarrow{\text{father of}}$ Charu.

Therefore, Asha is Dev's mother and Dev is Charu's father, which makes Asha **Charu's grandmother**.

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

Q9. Number Series — Fibonacci.



Solution

Identify the pattern:

1, 1, 2, 3, 5, 8, 13, ?

Each term is the **sum of the two preceding terms** (Fibonacci sequence):

$$1 + 1 = 2, \quad 1 + 2 = 3, \quad 2 + 3 = 5, \quad 3 + 5 = 8, \quad 5 + 8 = 13, \quad 8 + 13 = 21$$

The missing number is **21**.

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

Q10. Direction & Turns — Sita's final direction.

Solution

Track each turn step by step:

1. **Start:** Sita faces **North**.

2. **Turn 1 — 90° clockwise:**

North $\xrightarrow{+90 \text{ CW}}$ **East**

3. **Turn 2 — 180° clockwise:**

East $\xrightarrow{+180 \text{ CW}}$ **West**

(180° always lands on the opposite direction.)

4. **Turn 3 — 90° anticlockwise:**

West $\xrightarrow{-90 \text{ (anticlockwise)}}$ **South**

(Turning anticlockwise from West goes to South.)

Summary: North → East → West → **South**.

Sita finally faces **South**.

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

Q11. Analogy — Pen : Write :: Knife : ?



Solution

Identify the relationship:

A **pen** is a tool used to **write**.

Applying the same tool-to-function relationship: a **knife** is a tool used to **cut**.

- (B) Cook — a knife assists cooking but is not primarily used for cooking.
- (C) Steel — steel is a material, not a function.
- (D) Wound — wounding is an incidental harm, not the primary purpose.
- (A) **Cut** — the primary function of a knife. **Correct.**

Pen : Write :: Knife : Cut

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

Q12. Syllogism — Computers, Machines, Electrical.

Solution

Logical analysis:

All Computers $\subseteq$ Machines, Some Machines are Electrical

- **Conclusion I** (*Some computers are electrical*): The electrical machines referred to in Statement II may or may not be computers. All computers are machines, but the *some machines* that are electrical could be non-computer machines. This conclusion does **not necessarily follow**.
- **Conclusion II** (*All machines are computers*): Statement I says all computers are machines, not the converse. Many machines (e.g., washing machines) are not computers. **Conclusion II does NOT follow.**

Neither conclusion follows.

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



Answer Key

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

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