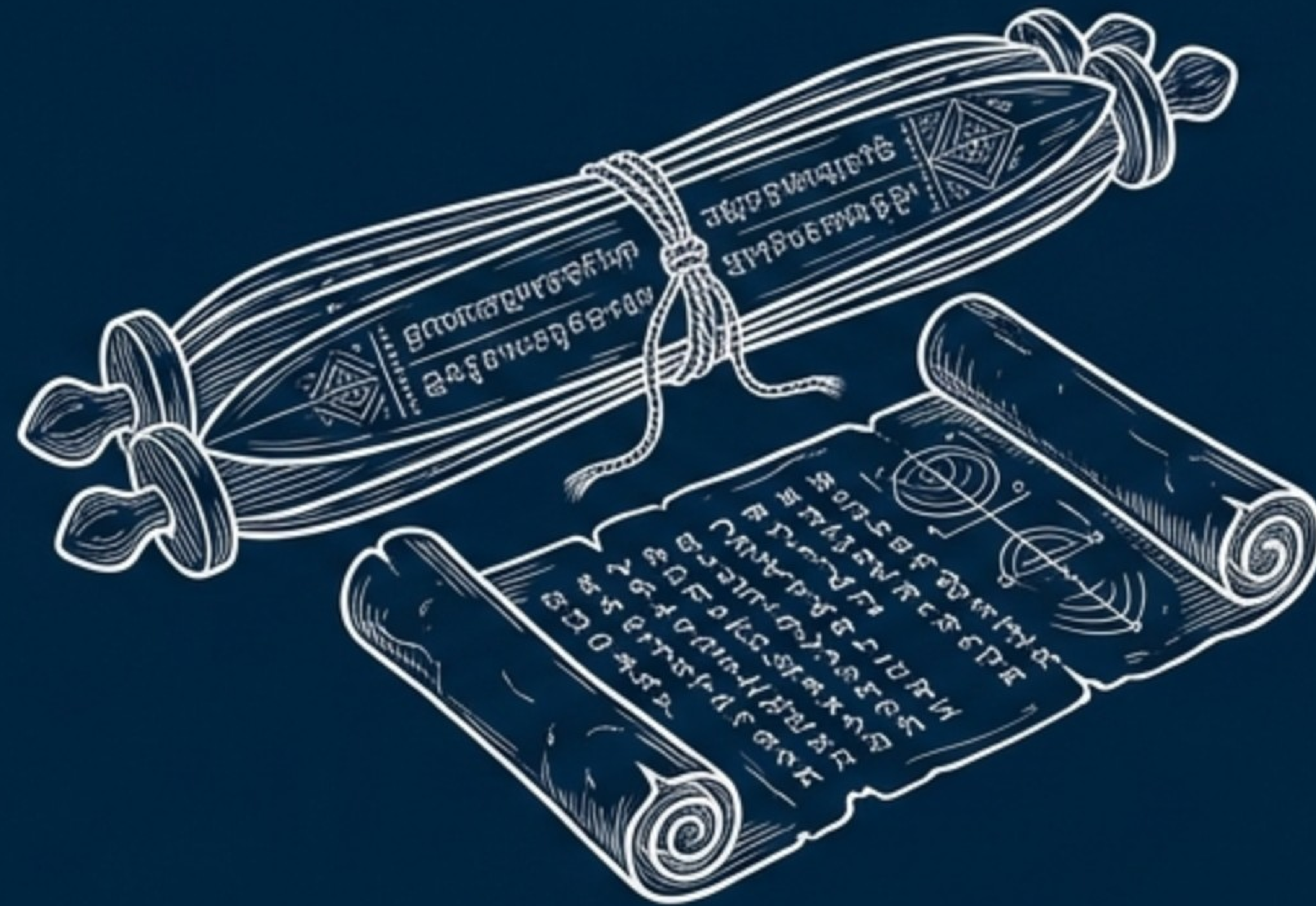


LOGICAL REASONING: IMMEDIATE INFERENCE



Mastering Converse, Obverse, and Contraposition

A Guide to Logical Equivalence for Competitive Exams

The Exam Context: “Logically Equivalent”



- **The Problem:** Questions asking “Which statements are logically equivalent?” cannot be solved by intuition alone.
- **The Solution:** Applying rigid rules of Immediate Inference (Converse, Obverse, Contraposition).
- **The Scope:** Manipulating a single statement to derive a conclusion without a middle term.

Foundations: The Four Propositions

A (Universal Positive)

All S are P

E (Universal Negative)

No S are P

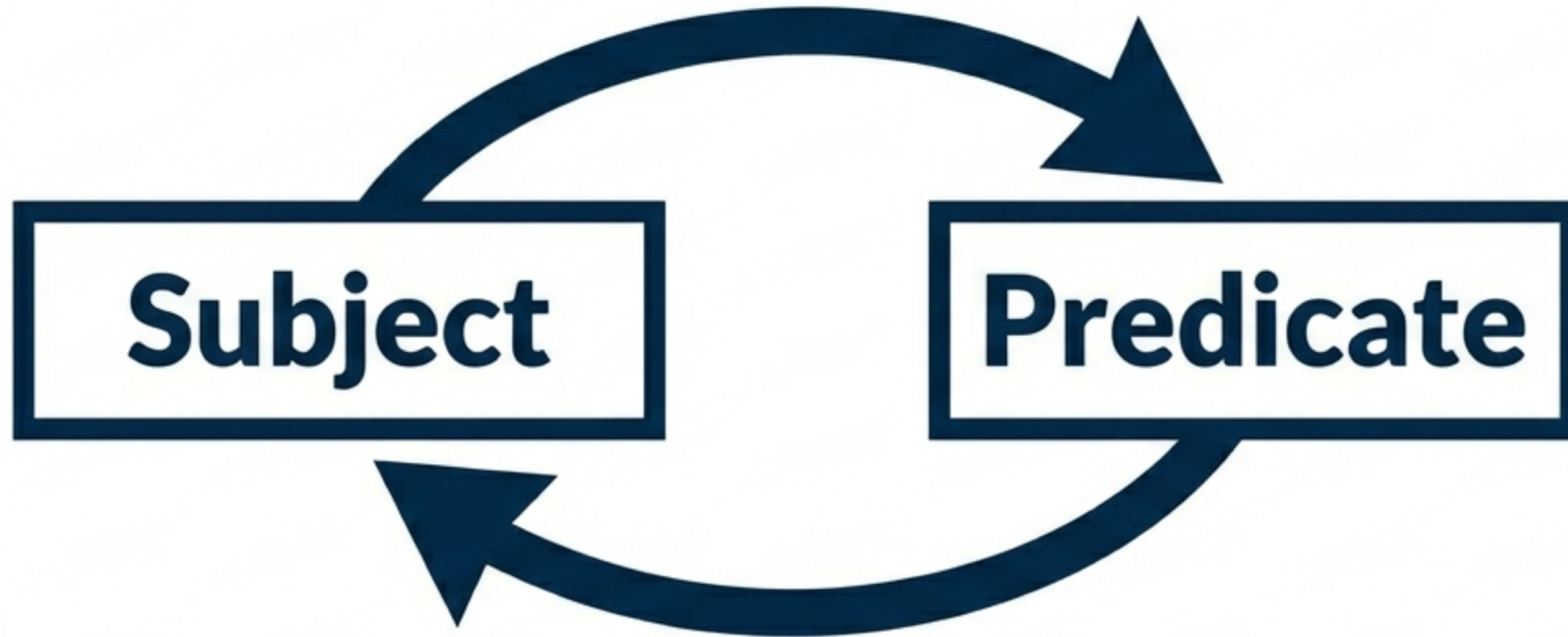
I (Particular Positive)

Some S are P

O (Particular Negative)

Some S are not P

Operation 1: The Converse



The Rule: Simply reverse the Subject and Predicate.

Mechanism: • Subject becomes Predicate • Predicate becomes Subject

Structure: $S - P \rightarrow P - S$

Converse Validity: Universal Propositions

Type A (All S are P):

- Conversion: All P are S
- Status: INVALID (Logically NOT Equivalent)
- Exception: Valid only by limitation ('Some P are S')



Type E (No S are P):

- Conversion: No P are S
- Status: VALID



Converse Validity: Particular Propositions

Type I (Some S are P):

- Conversion: Some P are S
- Status: VALID



Type O (Some S are not P):

- Conversion: Some P are not S
- Status: INVALID



Operation 2: The Obverse



The Concept: Changing the 'Version' (Quality) + Complementing.

The 2-Step Rule:

1. **Change Quality:** Affirmative $\leftrightarrow$ Negative
(All $\leftrightarrow$ No / Some $\leftrightarrow$ Some Not).
2. **Complement Predicate:** Add 'non-' to the Predicate.

Note: Subject Position Remains Unchanged.

Obversion: Universal Propositions

Type A: All S are P



Type E: No S are P



Obversion: Particular Propositions

Type I: Some S are P



Type O: Some S are not P



SUMMARY: ALL Obverse statements (A, E, I, O) are logically equivalent to their originals.

Operation 3: The Contrapositive



The Concept: A hybrid operation.

The Rule:

1. **Reverse:** Swap Subject and Predicate positions.
2. **Negate Both:** Add 'non-' to **BOTH** terms.

Important: The **Quality** (Positive/Negative) does **NOT** change.

Contrapositive Validity: The Valid Types

Type A (All S are P):

- Result: All non-P are non-S

- Status: VALID



Type O (Some S are not P):

- Result: Some non-P are not non-S

- Status: VALID



Contrapositive Validity: The Invalid Types

Type E (No S are P):

- Result: No non-P are non-S
- Status: INVALID



Type I (Some S are P):

- Result: Some non-P are non-S
- Status: INVALID



The Master Validity Matrix

Proposition	Converse (Swap)	Obverse (Quality + Non-P)	Contrapositive (Swap + Non-Both)
A (All)	Invalid*	Valid	Valid
E (No)	Valid	Valid	Invalid
I (Some)	Valid	Valid	Invalid
O (Some Not)	Invalid	Valid	Valid

**Valid only via limitation ('Some')*

Procedure Recap



1. Converse

- Reverse S & P



2. Obverse

- Change Quality
(All $\leftrightarrow$ No)
- Complement
Predicate (non-P)



3. Contrapositive

- Reverse S & P
- Complement Both
(non-S, non-P)

Exam Strategy & Conclusion



- Do not rely on language intuition.
- Identify the Proposition Type (A, E, I, O) first.
- Apply the specific rule (Converse/Obverse/Contrapositive) mechanically.
- Check the Validity Matrix.

Next Steps: Practice applying these rules to past year questions (PYQs).