Assumptions, Implications and Logical Conclusions

These are important concepts in logical reasoning and reading comprehension, particularly for CAT, IIM admission tests and other competitive examinations.

1. Assumptions

An assumption is an unstated idea or belief that must be accepted for an argument or statement to hold true.

Key principle: An assumption is something the author takes for granted but does not explicitly state.

Example:

Statement: The government should improve public transport to reduce traffic congestion.

Possible assumptions:

1. Improved public transport will encourage people to use buses and trains.
2. Traffic congestion is partly caused by excessive private vehicle use.
3. Better public transport can reduce dependence on private vehicles.

How to identify assumptions:

- Look for unstated conditions.
- Identify what the argument depends upon.
- Ask: What must be true for the argument to make sense?

2. Implications

An implication is a meaning, consequence or result that follows from a statement, even if it is not directly expressed.

Example:

Statement: Most students who attended the additional coaching sessions performed better in the examination.

Possible implications:

1. Additional coaching may contribute to better performance.
2. Students who attended coaching might have benefited from extra preparation.
3. Coaching alone cannot necessarily explain the improvement.

An implication should be logically supported by the statement, not merely imagined.

3. Logical Conclusions

A logical conclusion is a statement that necessarily or reasonably follows from the given facts, premises or evidence.

Example:

Statements:

- All doctors in Hospital A are registered medical practitioners.
- Dr. X works as a doctor in Hospital A.

Conclusion:

Dr. X is a registered medical practitioner.

This conclusion necessarily follows from the two premises.

4. Difference between the three concepts

Feature	Assumption	Implication	Logical conclusion
Meaning	Unstated belief	Indirect meaning	Inference from facts
Direction	Supports an argument	Follows from a statement	Follows from premises
Explicitly stated?	Usually no	Usually no	May be stated as an answer
Key question	What is taken for granted?	What does this suggest?	What must follow?

5. Important techniques for solving questions

A. Assumption questions

- Apply the negation test.

- If denying the assumption destroys the argument, it is likely a necessary assumption.

B. Implication questions

- Avoid extreme interpretations.
- Distinguish what is suggested from what is merely possible.
- Do not introduce outside information.

C. Logical conclusion questions

- Accept the given statements as true.
- Do not use personal knowledge or external facts.
- Choose only conclusions supported by the premises.

6. Practice questions

CAT-style MCQ practice

0/5 answered

Q1. All successful candidates prepared systematically. Ravi is a successful candidate. What follows?

A. Ravi prepared systematically.
B. Everyone who prepares systematically succeeds.
C. Ravi studied for ten hours daily.
D. Ravi attended coaching.

Q2. A company introduced flexible working hours to improve employee satisfaction. Which is the necessary assumption?

A. All employees prefer working from home.
B. Flexible working hours can improve employee satisfaction.
C. Employees are dissatisfied with their salaries.
D. Productivity always increases with flexibility.

Q3. The city recorded a substantial reduction in road accidents after installing traffic signals at major intersections. What is a reasonable implication?

A. Traffic signals eliminate all accidents.
B. Traffic signals may have contributed to accident reduction.
C. All accidents occur at intersections.
D. Drivers never violate traffic signals.

Q4. All mammals are warm-blooded. Whales are mammals. Which conclusion follows?

A. All warm-blooded animals are mammals.
B. Whales are warm-blooded.
C. All mammals live on land.

D. Whales are fish.

Q5. A survey found that students who read newspapers regularly had better vocabulary scores. Which conclusion is NOT justified?

A. Regular newspaper reading may help vocabulary development.
B. Newspaper readers in the survey had better vocabulary scores.
C. Newspaper reading is the only way to improve vocabulary.
D. There is an association between reading and vocabulary scores.
Submit answers

Examination tip: Remember the distinction:

- Assumption = What must be believed?
- Implication = What does it suggest?
- Conclusion = What logically follows?

These three concepts are particularly important in CAT Reading Comprehension and Logical Reasoning.