Self-Assessment Quiz (Conceptual)
Based on Lecture 05 (1).pdf

Ungraded — Practice Only

Instructions: Choose the most appropriate answer for each question. This quiz is for self-assessment only; it will not be graded.

Q1. In propositional logic, an **argument** consists of:

    (a) Only one statement that can be true or false.

    (b) A set of premises and a conclusion.

    (c) A truth table and a conjunction.

    (d) A logical equivalence between two statements.

Q2. An argument is said to be **valid** if:

    (a) All of its premises are true.

    (b) It has at least one true premise.

    (c) Whenever all premises are true, the conclusion must also be true.

    (d) Its conclusion is true regardless of its premises.

Q3. Which of the following best defines a **critical row** in a truth table?

    (a) A row where the conclusion is false.

    (b) A row where all premises are true.

    (c) A row where all premises are true and the conclusion is false.

    (d) A row where the premises and conclusion have opposite truth values.

Q4. The purpose of a **truth table** in testing arguments is to:

    (a) Determine the number of propositions in an argument.

    (b) Verify whether the argument's form is valid or invalid.

    (c) Translate arguments into English.

    (d) Show only the true rows of the argument.

Q5. Which of the following argument forms is **valid**?

(a) $p \rightarrow q$, q therefore p

(b) $p \rightarrow q$, $\neg q$ therefore $\neg p$

(c) $\neg p \rightarrow q$, p therefore q

(d) $p \rightarrow q$, $\neg p$ therefore $\neg q$

Q6. The argument form "If p then q; not p; therefore not q" is known as:

(a) Converse error

(b) Inverse error

(c) Modus ponens

(d) Modus tollens

Q7. The argument form "If p then q; q; therefore p" is known as:

(a) Converse error

(b) Inverse error

(c) Disjunctive syllogism

(d) Modus ponens

Q8. The argument "If it rains, the ground gets wet. It is raining. Therefore, the ground gets wet." is an example of:

(a) Converse error

(b) Modus ponens (valid)

(c) Inverse error

(d) Invalid argument

Q9. The argument "If it rains, the ground gets wet. The ground is not wet. Therefore, it did not rain." is an example of:

(a) Modus tollens (valid)

(b) Converse error

(c) Inverse error

(d) Invalid argument

Q10. What is the main purpose of translating English arguments into symbols?

(a) To make them shorter.

(b) To easily apply truth tables and test validity.

(c) To eliminate the need for reasoning.

(d) To replace natural language with programming syntax.

Q11. A truth table with 3 simple propositions (p, q, r) will have how many rows?

  (a) 4
  (b) 6
  (c) 8
  (d) 10

Q12. In testing argument validity, the argument is **invalid** if:

  (a) The conclusion is always true.
  (b) At least one critical row exists where all premises are true and the conclusion is false.
  (c) The premises are contradictory.
  (d) The conclusion is a tautology.

Answer Key

Question	Correct Answer
1	(b)
2	(c)
3	(c)
4	(b)
5	(b)
6	(b) Inverse error
7	(a) Converse error
8	(b) Modus ponens (valid)
9	(a) Modus tollens (valid)
10	(b) To easily apply truth tables and test validity
11	(c) 8
12	(b) At least one critical row exists where all premises are true and the conclusion is false