

Assignment

Submission Date: 24-09-2025

Q1. Define propositional logic with an example.

Q2. Explain Truth Table of Propositional Logic.(Negation, Conjunction, Disjunction ,Implication, Biconditional)

Q3. Explain Applications of Propositional Logic.

Q4. Give differences between predicates and quantifiers in logic.

Q5. Explain Rules of Inference.

Q6. Let $D = \{1, 2, 3, 4, \dots, 9\}$ Determine the truth value of each of the following statement,

(a) $(\forall x \in D), x + 4 < 15$

(b) $(\exists x \in D), x + 4 = 10$

(c) $(\forall x \in D), x + 4 \leq 10$

(d) $(\exists x \in D), x + 4 > 15$