

Question - 1: What is the primary aim of Information Representation and Reasoning?

- a. To enable computers to process vast amounts of data efficiently.
- b. To develop advanced machine learning algorithms.
- c. To understand the nature of intelligence and cognition to simulate human-like abilities in computers.
- d. To create complex robotic systems for automation.

Question - 2: Which type of reasoning is described as "jumping to conclusions based on some default assumptions" when information is insufficient, potentially leading to unsound conclusions that may need to be withdrawn?

- a. Deductive thinking
- b. Abductive thinking
- c. Epistemic thinking
- d. Default thinking

Question - 3: In propositional logic, what is an "element"?

- a. A logical connective like 'and' or 'or'.
- b. A formula composed of multiple propositions.
- c. The smallest unit to which a truth value (true/false) can be assigned.
- d. A symbol representing a numerical value.

Question - 4: Which of the following connectives is considered a unary propositional connective?

- a. Conjunction (\wedge)
- b. Implication (\rightarrow)
- c. Disjunction (\vee)
- d. Not (\neg)

Question - 5: A propositional formula F is a universal if:

- a. At least one interpretation satisfies F.
- b. F can be reduced to a Conjunctive Normal Form (CNF).
- c. Every interpretation satisfies F.
- d. Its negation ($\neg F$) is satisfiable.

Question - 6: What does it mean for a propositional formula F to be satisfiable?

- a. F is true for all possible interpretations.
- b. There exists at least one interpretation that satisfies F.