Kanoria PG Mahila Mahavidyalaya, Jaipur

Department of Philosophy

Question bank

B.A. Pt. 2 Sem 4

Logic

Section 1: Basic Concepts

1. What is the difference between deductive and inductive reasoning?
2. Define the terms "argument" and "inference" in logic.
3. What is a syllogism, and how does it work?
4. Explain the concept of validity and soundness in deductive arguments.
5. What is a logical fallacy, and how can it affect an argument?

Section 2: Propositional Logic

6. What are the basic logical operators (AND, OR, NOT, etc.)?
7. How do you construct a truth table for a compound proposition?
8. Explain the concept of tautology and contradiction.
9. What is the difference between inclusive and exclusive disjunction?
10. How do you determine the validity of a propositional argument?

Section 3: Predicate Logic

11. Explain the concept of quantifiers (for all, exists) in predicate logic.
12. How do you translate natural language statements into predicate logic?
13. What is the difference between universal and existential quantification?
14. How do you prove validity in predicate logic?

Section 4: Informal Logic and Critical Thinking

15. What is the difference between formal and informal logic?
16. How do you identify and avoid ad hominem attacks?
17. Explain the concept of straw man fallacy.
18. What is the role of context in logical reasoning?
19. How do you evaluate the strength of an argument?

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Truth Table

1. What is a truth table, and how is it used in logic?

2. How do you construct a truth table for a given logical statement?

3. What are the basic logical operators used in truth tables ?

Truth Table Construction

1. How do you determine the number of rows in a truth table?

2. What is the difference between a conjunction (AND) and a disjunction (OR) in a truth table?

3. How do you evaluate the truth value of a compound statement using a truth table?

Logical Operators

1. How does the NOT operator (negation) affect the truth value of a statement?

2. What is the difference between an inclusive OR and an exclusive OR in a truth table?

3. How do you evaluate the truth value of a statement involving multiple logical operators?

Applications and Implications

1. How are truth tables used in digital electronics and computer science?

2. What are the implications of truth tables for understanding logical arguments and reasoning?

3. How can truth tables be used to simplify complex logical expressions?

Challenging Questions

1. How do you construct a truth table for a statement involving multiple variables and logical operators?

2. What are some common pitfalls or mistakes to avoid when working with truth tables?

3. How can truth tables be used to prove or disprove logical equivalences between statements?

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