Name: _____   Date: _____

Think Like a Philosopher: Formal Logic and Epistemology Quiz for College

Metalogic, Bayesian synthesis, and predicate calculus—these 10 advanced problems require rigorous structural evaluation and the elimination of complex cognitive biases.

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1. In the context of the Problem of Induction, specifically concerning Nelson Goodman's 'New Riddle of Induction,' why does the predicate 'grue' challenge the validity of inductive inferences?

    A. It demonstrates that inductive reasoning is inherently circular because it relies on the principle of the uniformity of nature.

    B. It suggests that any set of data can support an infinite number of mutually exclusive hypotheses depending on the choice of predicates.

    C. It proves that deductive logic is superior to inductive logic in empirical scientific research.

    D. It identifies a categorical error in how we perceive secondary qualities like color versus primary qualities like shape.

2. In a system of Higher-Order Logic, a 'sound' argument must possess a valid structure AND all premises must be empirically verifiable through direct observation.

    A. True

    B. False

3. The _____ fallacy occurs when an interlocutor assumes that because a specific property is true of the individual components of a system, it must necessarily be true of the system as a whole.

    A. Fallacy of Division

    B. Fallacy of Composition

    C. Naturalistic Fallacy

    D. Ecological Fallacy

4. Consider the following scenario: A prosecutor argues that because fingerprints matching the defendant were found at the crime scene, it is highly probable he is guilty. However, the prosecutor fails to account for the total population size and the frequency of similar prints. This error is known as:

    A. The Prosecutor's Fallacy (Base Rate Neglect)

    B. The Availability Heuristic

    C. Affirming the Consequent

    D. The Gambler's Fallacy

5. In Propositional Logic, the rule of _____ allows one to conclude 'Q' from the premises 'P 'Q' and 'P'.

    A. Modus Tollens

    B. Hypothetical Syllogism

    C. Modus Ponens

    D. Reductio ad Absurdum

6. Which of the following best describes the 'No True Scotsman' fallacy in an academic debate regarding political theory?

    A. Using an ad hominem attack to discredit a political scientist's nationality.

    B. Appealing to the popularity of a policy to prove its ethical validity.

    C. Arbitrarily excluding counter-examples to a generalization by redefining the criteria for membership in a group.

    D. Arguing that a policy is good simply because it has been a tradition for a long time.

7. In Bayesian epistemology, 'Prior Probability' refers to the updated belief in a hypothesis after new evidence has been integrated into the model.

    A. True

    B. False

8. An argument that concludes a claim is true simply because it has not yet been proven false relies on which fallacy?

    A. Argumentum ad Ignorantiam

    B. Post Hoc Ergo Propter Hoc

    C. Petitio Principii

    D. Cum Hoc Ergo Propter Hoc

9. In the study of Rhetoric and Logic, the process of _____ involves reducing an opponent's argument to its simplest form to demonstrate that its logical conclusion leads to an impossibility or a contradiction.

    A. Deconstruction

    B. Reductio ad Absurdum

    C. Dialectical Synthesis

    D. Syllogistic Deduction

10. The 'Law of Non-Contradiction' states that contradictory propositions cannot both be true in the same sense at the same time.

    A. True

    B. False