

**Final Examination**

*General Directions:* This examination is divided into four sections of three questions each. You are to answer a total of four questions, choosing one from each section.

***Logical Empiricism, Neo-positivism, Explanation, Laws, and Confirmation***

1. What was the protocol-sentence debate all about? Be sure to explain the positions of Otto Neurath and Moritz Schlick.
2. What is the deductive-nomological (D-N) or covering-law model of explanation?
3. Some would argue that scientific laws are distinguished from accidental generalizations by virtue of the fact that laws support corresponding subjunctive conditionals whereas accidental generalizations do not. Explain this argument and then outline the more important issues involved in assessing the argument.

***Critiques of Logical Empiricism***

4. What is Goodman's "New Riddle of Induction" and why does it represent a challenge to logical empiricism? What is Goodman's own solution to the "New Riddle"?
5. Quine's "two dogmas" are the analytic-synthetic distinction and what Quine terms "reductionism." What is the latter, and why does Quine think that "the two dogmas are, indeed, at root, identical"?
6. Some would argue that any version of epistemological naturalism is guilty of a vicious circularity because it employs, as tools, some of the very same scientific theories that it aims to investigate. Quine seeks to sidestep this objection by disavowing any justificatory ambition for epistemology. What is your view?

***Kuhn's Structure of Scientific Revolutions and the Critical Reaction to It***

7. What are Kuhn's reasons for maintaining that the paradigm disputes typical of revolutionary science are not wholly rational? Are there any shared beliefs or values to which the advocates of competing paradigms can retreat in trying to settle their differences?
8. Explain, briefly, why Kuhn's model of the development of science constitutes a fundamental challenge to some of the basic assumptions that underlie the logical empiricist picture of both the nature of science and the task of the philosophy of science.
9. In your opinion, is it possible to maintain some conception of scientific rationality consistent with Kuhn's basic model of the development of science?

***Realism and Anti-realism***

10. Why is it so important for instrumentalists to defend a strong theory/observation distinction? You might want to use the Craig elimination theorem in explaining your answer.
11. Explain McMullin's argument for "structural realism" and Hacking's argument for "entity realism."
12. Give a brief characterization of van Fraassen's "constructive empiricism" (remember to define carefully the concept of "empirical adequacy") and then explain how it differs from both instrumentalism and realism.