

**Mid-term Examination**

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

*The Historical Background to Logical Empiricism*

1. Why do empiricists traditionally have a problem explaining the nature of mathematical truth?
2. Sketch the kind of argument that Henri Poincaré employed to motivate his brand of conventionalism. What did Poincaré mean when he wrote that conventions are “disguised definitions”?
3. There are at least two ways of interpreting Ernst Mach’s philosophical program, one that emphasizes the phenomenalist moment in his thinking and one that emphasizes the historical-critical and biological-economic moment. Describe these two readings of Mach and the evidence supporting each.
4. The task confronting logical empiricists in the early 1920s is said to have been that of developing a new form of empiricism capable of defending the empirical integrity of Einstein’s general theory of relativity in the face of neo-Kantian reactions to relativity. What was the issue under debate here?

*The Vienna Circle and Its Friends*

5. In the 1920s, two views emerged within the Vienna Circle regarding (a) the role of conventions in scientific theories and (b) the empirical content of scientific theories. We termed these views “epistemological holism” and (for want of a better term) “epistemological atomism.” Explain and contrast these two views.
6. Otto Neurath and the other members of the “left wing” of the Vienna Circle disagreed with the “right wing” about both the structure and empirical interpretation of scientific theories and about the place of social and political values in theory choice. What were these differences and how were the two debates connected with one another?
7. In what sense is logical positivism or logical empiricism “logical”?
8. What was the protocol-sentence debate all about? Be sure to explain the positions of Otto Neurath and Moritz Schlick.

*Do Some Philosophy*

9. The young Hans Reichenbach argued that a contingent a priori played a significant role in scientific cognition. More recently, Michael Friedman has made Reichenbach’s notion of the contingent a priori the starting point of his own attempted Kant revival. Assess the prospects for success of such a program.
10. Is scientific realism compatible with the view that theory choice is underdetermined by evidence?
11. In the course of the protocol-sentence debate, Schlick leveled against Neurath the charge that, because it was committed to a coherence theory of truth, epistemological holism devolves into an anything-goes relativism. Is this a fair and accurate criticism?
12. Neurath argued that there is a proper role for social and political values in theory choice. So, too, have some contemporary feminist philosophers of science, some of them, such as Helen Longino, adducing arguments strikingly like those of Neurath. Others worry that allowing a role for social and political values in theory choice necessarily compromises the objectivity of science. What is your view?