

Directions: Closed book, closed notes. Please answer everything in the exam booklet provided. Anything written on this sheet will not be graded

I. Terms: Please provide short answers (several sentences, up to a paragraph if necessary) describing and defining such terms. Do not provide critical analysis (“Just the facts, ma’am/sir.”) Choose 5 from the following 6 (@ 5 pts each).). If you do all 6 I’ll grade the best 5.

- a.) Methodological/logical [a/]symmetry
- b.) Retrorecognition
- c.) Empirical adequacy (Both the “informal sense” and van Fraassen’s notion)
- d.) Ontology
- e.) Scientific Realism
- f.) Anomaly/crises (Aside from defining both in a simple sentence or two, state in 1-2 sentences their relation)

ESSAY QUESTIONS: Please choose 2 from the following 3 (@25 pts each) and answer completely as possible

1.) Explain briefly what is meant by scientific realism versus scientific anti-realism. Just give a few brief sentences here, without listing all of their garden varieties. Then, in the case of realism, state briefly (without explaining in depth) what Boyd’s essential take is (i.e. what underwrites Boyd’s “Lex Orandi Est Lex Credenti) and Ian Hacking’s essential take. In the case of anti-realism, describe without explaining in depth what Bas Van Fraassen’s (BVF’s) position is. Then, in a paragraph or two: a) Either argue for anti-Realism (wherein you may or may not agree with BVF¹ or for realism (where you’re welcome to defer to Boyd or Hacking and point out briefly why you think their arguments prove the most effective. b) Argue against the realism/anti-realism in which you defend Fine’s NOA stance and mention why you think Musgrove’s criticisms against Fine are unjustified.

2.) Explain briefly what Longino meant by ‘cognitive’ versus ‘contextual’ values, and what relation they have (if any) with Kuhn’s notions as discussed in his essay on Values and Theory-Choice. Make sure you give (at least) a brief mention of what Kuhn meant by ‘background.’ List Kuhn’s five criteria (without explaining them in depth) and Longino’s criteria of ‘transformative criticism’ (without explaining them in depth). Make sure you state in a sentence or two whether (or not) Kuhn or Longino believe objectivity in theory-choice is a process that is irrational or logically regimented. Then, in a paragraph or two, argue either: a) Kuhn against Longino: I.e. who do think provides a more effective account of objectivity/theory choice and why? or b) Neither K nor L: I.e. argue that both attempts fall seriously short either because (on one extreme) objectivity is untenable or (another extreme) there are reliable procedures in place to secure such notions (i.e. inductive logic).²

3.) Explain briefly what is meant by the problem of conceptual change and how Popper, Kuhn, and Laudan sought to deal with it. For the latter, simply give a brief description without explaining in depth their ‘takes’ or programmes. Feel free to use any convenient analogy concerning how the ‘ontology’ of their variously fundamental explanatory notions fit together. Then, in a paragraph or two, argue either: a) Why one of the above three has the most effective approach and why, or b) Why all of them fall short in significant ways. Feel free to mention (without explaining in much detail) whether or not you feel Giere/Nersessian have a better ‘take’ and why (or why not, i.e. that you believe the problem of conceptual change is insurmountable).

¹ If you disagree with BVF, make sure you at least mention in passing Musgrove’s criticism against BVF

² If you choose this option, you need not explain in any depth what inductive logic is. Just give 1-2 sentences giving the gist of its aims.