

PHILOSOPHY TRIPOS Part II

Wednesday 26 May 2004

9 to 12

Paper 6

PHILOSOPHY OF SCIENCE

Answer **three** questions only.

Write the number of the question at the beginning of each answer. If you are answering an either/or question, indicate the letter as well.

**You may not start to read the questions
printed on the subsequent pages of this
question paper until instructed that you
may do so by the Invigilator**

- 1 **Either** (a) 'Scientific realism is the only philosophical view which doesn't make the success of science a miracle.' Discuss.
Or (b) Does the history of science refute scientific realism?
- 2 'Structural realism is the best of both worlds.' What does this mean and is it true?
- 3 **Either** (a) 'The aim of science is empirical adequacy, not truth.' Discuss.
Or (b) If a pair of theories are empirically equivalent, can we have reasons to prefer one to the other?
- 4 What fixes the reference of theoretical terms in scientific theories?
- 5 Is there a problem with the concept of approximate truth?
- 6 Does Bayesian confirmation theory vindicate inductive reasoning?
- 7 **Either** (a) 'Laws of nature are not mere regularities.' Discuss.
Or (b) How are the notions of causation and law related?
- 8 Is the notion of a natural kind necessary to understand scientific laws?
- 9 Critically discuss the Heisenberg-Bohr debate concerning epistemological versus ontological interpretations of the Indeterminacy Relations.
- 10 How does the EPR paradox challenge the Copenhagen Interpretation of Quantum Mechanics?
- 11 Does the existence of non-Euclidean geometries show that we cannot know the shape of space a priori?
- 12 What is the most compelling argument in favour of being either a substantivalist or a relationist about space-time?