PHILOSOPHY TRIPOS Part II

Thursday 9 June 2005 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.

STATIONERY REQUIREMENTS
20 Page Answer Book x 1
Rough Work Pad

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)* 'If you can spray them, they are real' (HACKING). Are they?

Or *(b)* Is Fine's 'Natural Ontological Attitude' coherent? Does it represent a revolutionary approach to understanding science?

2 Is arguing that a theory is likely to be true because it is empirically successful any better than arguing that my lottery ticket is likely to be a winner because the first two of its six numbers have come up?

3 What sense can we make of the claim that one false theory is nearer the truth than another?

4 What is the best sense you can give to the Kuhnian claim that theories before and after a scientific revolution are incommensurable? Is the claim thus understood true?

5 **Either** *(a)* Are laws of nature in any sense necessary?

Or *(b)* Is the Ramsey-Lewis account of laws the best 'Humean' account?

6 When, if ever, should we seek to reduce one theory to another?

7 What, if anything, is wrong with the Bayesian account of theory confirmation?

8 **Either** *(a)* Do the biological sciences feature a distinctive kind of explanation?

Or *(b)* 'Explanation is unification.' Discuss.

9 Does physics raise insurmountable difficulties for the relationist view of spacetime?

10 How far does our choice of a geometrical theory of the world depend on adopting arbitrary conventions?

11 In what sense, if any, does quantum mechanics need an interpretation?

12 What is the philosophical significance of Bell's Theorem?

END OF PAPER