

PHILOSOPHY TRIPOS Part IB

Friday 22 May 2015

09.00 – 12.00

Paper 2

LOGIC

*Answer **three** questions only.*

Write the number of the question at the beginning of each answer. If you are answering the 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. 'Meaning must be compositional, since a meaningful sentence is nothing more than a meaningful arrangement of meaningful parts.' Discuss.
2. Is there any sentence whose meaning is given by its verification conditions?
3. 'The problem with the correspondence theory of truth is vacuity rather than falsehood.' Discuss.
4. EITHER (a) What is the logical form of the common saying 'nothing comes from nothing'?

OR (b) Is there anything wrong with empty singular terms such as 'Vulcan' or '1/0'?
5. Is there an important difference between the grammatical and logical forms of an argument?
6. What is the philosophical significance of the fact that in ordinary language we sometimes give one object two different names?
7. Using Kripke models, provide a semantics for the modal logic S4. Give an axiomatization of S4 and, using the semantics, argue that it is sound.
8. 'Intuitionists cannot deny the law of excluded middle because $\neg(A \vee \neg A)$ is contradictory even in intuitionistic logic.' Discuss.
9. To what extent do Hilbert's axioms provide a theory of geometry?
10. Show that any truth function of propositional logic can be expressed using only conjunction, disjunction and negation. Argue that there is a truth function that cannot be expressed using only material implication.

END OF PAPER