

UNIVERSITY OF LONDON

MA PHILOSOPHY
for Internal Students

PHILOSOPHY OF SCIENCE

Monday 13th September 1999
10.00 – 13.00

Answer THREE questions

1. Give an account of the Bayesian approach to scientific reasoning, explaining how the Duhem problem is dealt with on this approach.
2. Is the claim that science progresses through conjectures and refutations true always, sometimes, or never?
3. Feyerabend denies that there are any valid rules of scientific method, and maintains that in science anything goes. Is there any merit in these claims?
4. Do revolutions occur in science? If so, what, if anything, do they have in common?
5. Is specifying the causes of an event the key to giving a successful scientific explanation of it?
6. Can a distinction be made in science between what is observational and what is theoretical? If so, what is the significance of the distinction?
7. Give an account of one version of the propensity theory of probability. What are the principal difficulties which this version faces, and can they be overcome?
8. Is it a good argument against scientific realism to point out that nearly all the scientific theories accepted before 1900 were subsequently shown to be false in some respects?
9. “The principles of dynamics appeared to us first as experimental truths, but we have been compelled to use them as definitions” (Poincaré). Discuss.
10. Quantum mechanics seems to show that an electron is both a wave and a particle, and yet this is a contradiction. How would you attempt to resolve this problem?
11. Can biological evolution by natural selection explain the emergence of altruistic behaviour?

END OF PAPER