

Sample A Level Questions: Scientific Method

1. "Scientific knowledge can never be certain knowledge." Discuss. (25 marks)
2. Discuss the claim that scientific observation is dependent on theory and that scientific observation is not therefore neutral or objective. (25 marks)
3. Why has the problem of action been seen as central to the question of whether or not the social sciences can properly be called sciences? (25 marks)
4. Is falsifiability an adequate criterion of a scientific theory? (25 marks)
5. Is there good reason for thinking that a science of society is unattainable?
6. If scientific laws go beyond experience, can they be justified by observation and experiment? (25 marks)
7. "A scientific experiment is an observation or body of observations made in chosen circumstances for a scientific purpose."
 1. Does this definition of a scientific experiment make a satisfactory distinction between observation and experiment? (12 marks)
 2. For what scientific purposes are experiments conducted? (13 marks)
8. In the social sciences things are often explained by pointing to their functions; for example, an explanation might be offered for the custom of marriage by pointing to its function in providing security for children. Do such explanations commit the error of offering the effect of something as its cause? (25 marks)
9. "Scientific theories cannot be observed to be true."
 1. Outline three features that a scientific theory may have, each of which seems to support this view. Explain, in the case of each feature, why it seems to do so. (15 marks)
 2. If scientific theories cannot be observed to be true, what purpose do they have? (10 marks)
10.
 1. What difficulties are involved in the problem of induction? (10 marks)
 2. What bearing does the problem have on the practice and claims of science? (15 marks)
11.
 1. What differences and similarities do you find between the subject matter of the social sciences and the subject matter of the natural sciences? (13 marks)
 2. What are the implications of these differences and similarities for the study of the social sciences? (12 marks)

12. "The more falsifiable a theory is, the better it is." What are the merits of falsificationism? (25 marks)