

NST1
Natural Sciences Tripos Part IB

Monday 4 June 2018 13:30–16:30

Paper HPS/1

HISTORY AND PHILOSOPHY OF SCIENCE (1)

History of Science

Before you begin, read these instructions carefully.

*Answer **one** question from **Section A** and **three** questions from **Section B**. Begin each answer on a separate sheet. Write legibly and on only **one** side of the paper.*

Answers must be tied up in separate bundles, marked 1, 2, 3, etc. according to the question number.

*Attach a completed coversheet to each bundle and complete a master coversheet listing all questions attempted. It is essential that you write your examination number and **not** your name on the cover sheet and on **each** bundle.*

STATIONERY REQUIREMENTS

Script paper, blue coversheets, yellow master coversheet, and tags.

You may not start to read the questions printed on the next page of this question paper until instructed to do so.

SECTION A

1. What is the role of experiment in the development of scientific knowledge?
2. In what ways have the histories of science and medicine contributed to an understanding of the categories of gender, race and class?

SECTION B

3. What was the relationship between religion and science in the early modern period?
4. How and why did the study of the natural world change in early modern Europe?
5. What does the history of early modern anatomical knowledge tell us about the history of early modern medicine?
6. Why did mechanical philosophers study hidden actions and invisible spirits?
7. Explain the eighteenth-century reception of Isaac Newton's natural philosophy.
8. How did new kinds of instruments affect the development of electricity and chemistry in the eighteenth century?
9. What made it possible for Charles Darwin to write the *Origin of Species*?
10. How did transformations in theories of disease causation in the late nineteenth century depend on work in colonial environments?
11. Was there a second scientific revolution in early nineteenth century Europe?
12. “中体西用” (Zhongti xiyong) (“Chinese values, Western uses.”) What does this quote suggest about the history of science in China during the late Qing Dynasty?
13. Is “big science” primarily a phenomenon of the period since World War II?
14. What led to the creation of molecular biology as a distinct discipline? What was the role of the discovery of the structure of DNA?
15. Why was Alfred Wegener's theory of continental drift widely rejected, and what led to the acceptance of plate tectonics half a century later?

END OF PAPER

NST1
Natural Sciences Tripos Part IB

Tuesday 5 June 2018 13:30–16:30

Paper HPS/2

HISTORY AND PHILOSOPHY OF SCIENCE (2)

Philosophy of Science

Before you begin, read these instructions carefully.

*Answer **one** question from **Section A** and **three** questions from **Section B**. Begin each answer on a separate sheet. Write legibly and on only **one** side of the paper.*

Answers must be tied up in separate bundles, marked 1, 2, 3, etc. according to the question number.

*Attach a completed coversheet to each bundle and complete a master coversheet listing all questions attempted. It is essential that you write your examination number and **not** your name on the cover sheet and on **each** bundle.*

STATIONERY REQUIREMENTS

Script paper, blue coversheets, yellow master coversheet, and tags.

You may not start to read the questions printed on the next page of this question paper until instructed to do so.

SECTION A

1. Is it reasonable to be sceptical of the claims of contemporary science?
2. What contribution, if any, does philosophy make to science?

SECTION B

3. What is falsificationism and is it defensible?
4. Is it appropriate to approach science from a political standpoint, such as feminism?
5. What, if anything, is special about social sciences?
6. Is space a substance?
7. Is the possibility of time travel a question for physics or philosophy?
8. What is Kuhn's theory of scientific change? Is it compelling?
9. Does research in evolutionary biology show that we should abandon the notion of human nature?
10. Why prefer lovely explanations?
11. Can the problem of induction be solved?
12. Is depression a genuine disease?
13. Can ethical and political values play a legitimate role in the internal phases of science?
14. How should the biomedical research agenda be set?
15. What is the most plausible account of causation?

END OF PAPER