

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 chosen 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 number of the question.*

*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.

<p>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</p>
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## HISTORY AND PHILOSOPHY OF SCIENCE (1)

### History of Science

#### SECTION A

1. To what extent does the concept of “Big Science” apply to historical periods other than the decades following World War II?
2. Does the history of science provide a firm basis for the distinction between “science” and “technology”?

#### SECTION B

3. Compare attitudes to the origins and purpose of science and scholarship in ancient versus medieval Iraq.
4. **Either** (a) “The passages and variations of nature cannot appear so fully in the liberty of nature, as in the trials and vexations of art” (Francis Bacon, 1605). Discuss.  
**Or** (b) How did the limits of what could be known about the natural world change between 1500 and 1700?
5. What was new about natural philosophy and medicine in early modern Europe?
6. How globalised were the sciences in the eighteenth century?
7. What effect did the French Revolution have on the sciences and medicine?
8. **Either** (a) What did the success of the *Origin of Species* owe to earlier debates about evolutionary theories?  
**Or** (b) To what extent is the Modern Synthesis in evolutionary theory based on Mendel’s work?
9. **Either** (a) How did germs become objects of science?  
**Or** (b) “Medical science was exactly like other sciences, except that it took as its object the human in health and disease.” Assess this claim for nineteenth-century Europe.

**PLEASE TURN OVER/**

10. Why was the ether so important in nineteenth and early twentieth-century physics?
11. Why did James Watson and Francis Crick hope to solve the problems of biology using the “sharp, non-emotional thinking” of physics and chemistry? (Watson)
12. What do the histories of electroconvulsive therapy and psychoanalytic psychotherapy tell us about the broader history of psychiatry?

**END OF PAPER**

HISTORY AND PHILOSOPHY OF SCIENCE (2)

Philosophy of Science

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## HISTORY AND PHILOSOPHY OF SCIENCE (2)

### Philosophy of Science

#### SECTION A

1. "Common-sense beliefs hinder science." Discuss.
2. Is there a unitary philosophy for all the sciences, or are there only specialised philosophies for each of the sciences?

#### SECTION B

3. What is the best account of causation?
4. Are explanations arguments?
5. "Scientific theories are good if, and only if, their predictions are true." Discuss.
6. **Either** (a) Can we have knowledge of the future?  
**Or** (b) Do laws of nature tell us what must happen?
7. How should one choose between the Newtonian and the Leibnizian conceptions of space?
8. Critically evaluate the Platonist view of mathematics.
9. "The acceptance of a scientific theory is a social phenomenon, which cannot be explained without reference to social causes." Discuss.
10. Is Darwin's argument for evolution by natural selection an instance of "inference to the best explanation"?
11. Is the precautionary principle unscientific?
12. Is it wrong to undertake biomedical research on humans without their consent?

**END OF PAPER**