

SPECIMEN PAPER FOR 2017

Paper 1: Early Science and Medicine

Answer **one** question from Section A and **three** questions from Section B.
All questions carry equal weighting.

SECTION A

1. How and why did medical and/or scientific knowledge change in medieval and early modern Europe?
2. Do available sources give us more information about the experiences of early modern patients or of medical practitioners?
3. In medieval and early modern Europe, could men and women suffer the same diseases?

SECTION B

4. What was the impact of ancient and Islamic science and medicine on medieval and early modern Europe? Show how the terms “transmission”, “reception”, “assimilation” and “systematization” can be effective tools for understanding it.
5. Was prognosis more important than diagnosis for medieval practitioners and patients?
6. Were sites of learning or sites of practice more important to medieval science and medicine?
7. Was humanism the primary driver of medical and scientific innovation in the sixteenth and seventeenth centuries?
8. How far did new ingredients and the rise of advertising change the practice of medicine in early modern Europe?
9. Could early modern people understand the structure of the human body through the study of printed images?
10. How and to what extent did institutional change drive change in medicine in early modern and/or medieval Europe?
11. What was the relevance of astronomical books and instruments for medical practitioners?
12. How did the invention of printing contribute to the development of science and medicine before 1600?

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Paper 2: Sciences in Transition: Renaissance to Enlightenment

Answer **one** question from Section A and **three** questions from Section B.
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SECTION A

1. Was the world “disenchanted” between 1550 and 1800?
2. What kinds of people studied nature in early modern Europe?
3. Why did early modern European patrons support the pursuit of natural knowledge?

SECTION B

4. What was the relationship between natural philosophy and mixed mathematics?
5. To what extent did the practices of early modern natural philosophy abandon textual traditions?
6. How did women shape early modern sciences?
7. “Astrologie is an Arte Mathematicall, which reasonably demonstrateth the operations and effectes, of the natural beames, of light, and secrete influence, of the Starres and Planets, in euery element and elementall body, at all times, in any Horizon assigned.” (John Dee, *Preface to Euclid’s Elements of Geometry*, 1570) Discuss.
8. How did new kinds of visual imagery affect the development of natural history and natural philosophy between 1550 and 1800?
9. What were the benefits and pitfalls of transplanting exotic animals and plants from one continent to another?
10. What effect did Newton’s work have on eighteenth-century natural philosophy and astronomy?
11. Is there any connection between eighteenth-century industrialization and the development of enlightened sciences?
12. What were the main issues in eighteenth-century debates on the generation of animals? Why was the topic so controversial?

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Paper 3: Science, Medicine and Empire

Answer **one** question from Section A and **three** questions from Section B.
All questions carry equal weighting.

SECTION A

1. To what extent did change originate within nineteenth-century medicine, and to what extent from without?
2. How did relations between experts and their audiences change during the nineteenth century?
3. How did different nineteenth-century sciences define the notion of progress?

SECTION B

4. "The innovations credited to the post-revolutionary Paris clinical school were not nearly so revolutionary as historians have claimed." Do you agree?
5. To what extent did the rise of experimental physiology depend on institutions outside the laboratory?
6. How did the doctrine of evolution naturalise human differences in European nations and empires?
7. Was Darwinism an agent of secularization?
8. "The Royal Observatory is quietly contributing to the punctuality of business through a large portion of this busy country." (George Airy) What were the functions of nineteenth-century observatories?
9. "The rise of medicine as a profession in the mid-nineteenth century sounded the death knell for women's participation in healing practices." Assess this claim.
10. In what ways were disciplines important to the practice of science in the nineteenth century?
11. Discuss the significance for the history of medical science of the chemical compound tested as "606" and marketed as the drug "Salvarsan."
12. How did physiology inform understandings of perception, and technologies of vision, in the later nineteenth and early twentieth centuries?

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Paper 4: Science, Medicine and Technology since 1900

Answer **one** question from Section A and **three** questions from Section B.
All questions carry equal weighting.

SECTION A

1. "The history of science in the twentieth century divides neatly in two, with 1945 as the crucial turning point." Assess this claim.
2. "[S]ince health, well-being, and security are proper concerns of Government, scientific progress is, and must be, of vital interest to Government. Without scientific progress the national health would deteriorate; without scientific progress we could not hope for improvement in our standard of living or for an increased number of jobs for our citizens; and without scientific progress we could not have maintained our liberties against tyranny." (Vannevar Bush, 1945) How important was the idea that scientific progress is "of vital interest to Government" to the development of science, technology and medicine in the twentieth century?
3. "We shall not discuss to what extent medicine deserves to be called a 'science', for it is certain that, however scientific it be or may become, it is also and will always remain an 'art'." (George Sarton, 1935) Discuss with respect to the history of medicine since 1914.

SECTION B

4. The events of the early twentieth century show that science was only ever international by repute. Discuss.
5. Have the social forms of scientific life shaped biological life forms since 1914?
6. What can we learn from the history of ecology and environmentalism about the engagement of scientists with politics?
7. How and with what consequences did methods of assessing the safety and effectiveness of pharmaceuticals change in the twentieth century?
8. Why was there so much optimism about the power of medical science to improve health after World War II? When and why did this optimism decline?
9. How did decolonization in the twentieth century affect medicine and public health in former European colonies?
10. Leaving office in 1961, Dwight Eisenhower famously drew attention to what he described as both a technological revolution and a revolution in the conduct of scientific research. Why was he concerned about the power of scientific-

technical elites, and would the subsequent history of the sciences have allayed his fears or confirmed them?

11. "The history of reproduction is a history of ever increasing medical and state control." Assess this claim for the period since 1800.
12. Should we focus on the origins of new machines in telling the history of computing?

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Paper 5: Philosophy of Science

Answer **one** question from Section A and **three** questions from Section B.
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SECTION A

1. "The recipe for doing good science is simple: choose the theory that fits the observational data!" Discuss.
2. What is the most significant challenge for scientific realism? Can it be met?
3. When, if at all, is reduction to a more fundamental level desirable?

SECTION B

4. "Psychology can never truly be scientific." Discuss.
5. "There does remain the fact that even in endorsing a simple perceptual judgement, and certainly in accepting any theory as empirically adequate, I am sticking my neck out. There is no argument there for belief in the truth of accepted theories, since it is not an epistemological principle that one might as well hang for a sheep as for a lamb." (Bas van Fraassen) How strong is this defence of constructive empiricism?
6. Why might ontological reduction not lead to epistemological reduction?
7. Is the only thing that all good explanations have in common the feeling of understanding that they generate in the listener?
8. Are animal models reliable guides for making inferences about humans?
9. Randomized controlled trials are necessary and sufficient for justifying causal inferences in medicine. Do you agree?
10. Are there biological laws?
11. "The best way to understand the mind is by investigating the brain." Do you agree?
12. Is there a non-circular justification for induction? Should we be worried if there isn't?

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Paper 6: Ethics and Politics of Science, Technology and Medicine

Answer **one** question from Section A and **three** questions from Section B.
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SECTION A

1. In what sense (or senses) if any should science strive for value-freedom?
2. Is there a useful distinction between pure scientific research and its application?
3. "Science is indeed politics by other means." (Bruno Latour) Is it?

SECTION B

4. Compare and contrast the ways in which the philosophy of dialectical materialism influenced the organization of scientific research in the Soviet Union and People's Republic of China.
5. "The place of science is everywhere and nowhere." Discuss the significance of the location of scientific work for a sociological account of scientific knowledge.
6. Does Longino provide a plausible account of how to overcome bias in scientific research?
7. Is the economic conception of choice scientifically valid?
8. Debates about the climate are as old as civilisation itself. Is our current preoccupation with climate any different?
9. Could there be a right to die?
10. What conception of well-being should science and policy employ?
11. What is "high modernism" and how does this idea help us to understand the relationship between technology and politics?
12. Is paternalism in medicine justified?