4.6 Religion, Science and Ideology as Competing Belief Systems

AQA 7192 · about 70 minutes · Write-in edition

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Write at least three full-sentence answers for the three extended questions (Q7, Q11, Q16). Use sociological terms where relevant. Spend about 70 minutes in total.

1 Explain Horton's distinction between open and closed belief systems and give one example of each in the context of religion, science or ideology.

(Total for Question 1 is 4 marks)

2 Analyse two ways in which science can be seen as a belief system similar to religion.

(Total for Question 2 is 12 marks)

3 Outline and explain two ways political ideology can function like religion as a belief system, naming at least one relevant sociological perspective.

(Total for Question 3 is 6 marks)

4 State one common criticism of Popper's falsification as a complete account of scientific practice.

(Total for Question 4 is 2 marks)

5 Describe one way Marxist sociologists argue ideology supports the ruling class.

(Total for Question 5 is 3 marks)

6 Discuss how far sociologists would agree that religion can still be meaningfully distinguished from science and ideology as belief systems.

(Total for Question 6 is 12 marks)

7 Define what sociologists mean by a 'paradigm' in the context of Thomas Kuhn's account of science as a belief system.

(Total for Question 7 is 2 marks)

8 Identify and explain one way Horton distinguishes between open and closed belief systems when comparing science and religion.

(Total for Question 8 is 4 marks)

9 Describe one practical implication for scientific research if Popper's falsificationism is accepted as the proper scientific method.

(Total for Question 9 is 3 marks)

10 Outline and explain two differences between science and religion as belief systems, using Popper, Kuhn or Horton where relevant.

(Total for Question 10 is 6 marks)

11 Define Popper's idea of falsification as it applies to scientific claims.

(Total for Question 11 is 2 marks)

Mark scheme · 4.6 Religion, Science and Ideology as Competing Belief Systems

Question 1

explains open belief systems, e.g. open systems allow criticism and testing of beliefs	**B1**
gives an example of an open system, e.g. modern empirical science	**B1**
explains closed belief systems, e.g. closed systems defend core beliefs and reject contradictory evidence	**B1**
gives an example of a closed system, e.g. certain religious doctrines or totalising political ideologies	**B1**

Answer: Horton says open belief systems allow criticism and testing of beliefs, for example empirical science; closed systems defend core beliefs and reject contradictory evidence, for example many religious doctrines or totalising political ideologies.

Question 2

Level 1 Simple, limited analysis identifying basic similarities with little or no sociological explanation or examples.	**1-3**
Level 2 Some analysis of two similarities with basic use of sociological ideas, but development is limited or one similarity is stronger than the other.	**4-6**
Level 3 Clear analysis of two similarities with relevant sociological ideas and some evidence or example, showing awareness of nuance or limits.	**7-9**
Level 4 Detailed, well-developed analysis of two similarities, using Popper, Kuhn, Horton and other relevant ideas, with good examples and consideration of counter-arguments or limits.	**10-12**

Indicative content:

- Similarity 1: both can create strong communities with shared commitments and rituals, for example scientific conferences and peer review compared with religious worship; reference to Durkheimian function of social cohesion as relevant background if used cautiously
- Similarity 2: both rely on core beliefs or assumptions that guide practice, e.g. Kuhn's paradigms create presuppositions in science similar to doctrines in religion
- Use of Popper: science claims to be open via falsifiability but in practice some scientific routines resist falsification, making it appear faith-like to outsiders
- Use of Horton: closed characteristics can appear in scientific communities, for example protection of core theories until anomalies force change; thus science can show closed system features similar to religion
- Social processes: authority and social hierarchy shape what counts as legitimate knowledge in both systems, for example senior scientists or religious leaders
- Counter-arguments: stress the genuine methodological differences, such as empirical testing, institutional mechanisms for criticism and self-correction in science; Kuhn's paradigm shifts show scientific change unlike religious revelation
- Examples: historical episodes such as resistance to plate tectonics or to early heliocentric ideas as cases where science behaved like a belief system before eventual shift
- Balance and evaluation: students should weigh similarities against real differences and conclude with a supported judgement

Question 3

identifies way one, e.g. ideology can provide totalising moral frameworks and sacred symbols **B1**

explains way one with example, e.g. nationalism uses flags, ceremonies and myths similar to religious rituals **B1**

identifies relevant perspective, e.g. functionalist view that ideology integrates society or Marxist view that ideology legitimises power **B1**

identifies way two, e.g. ideology can demand unquestioning loyalty and suppress dissent like religion **B1**

explains way two with example and perspective, e.g. fascist regimes created cults of leadership and used propaganda to enforce belief, a point emphasised by Marxist critiques of false consciousness **B1**

additional development linking example to perspective, e.g. how ideology fulfils social needs or maintains class domination **B1**

Answer: Political ideology can act like religion by providing totalising moral frameworks and sacred symbols, for example nationalism uses flags and ceremonies similar to religious rituals, a point functionalists note about social integration or Marxists use to show legitimisation. It can also demand unquestioning loyalty and suppress dissent, for example fascist cults of leadership enforced by propaganda, which Marxists analyse as producing false consciousness that maintains class power.

Question 4

identifies a criticism, e.g. that scientists rarely discard theories immediately when an apparent falsifying result appears **B1**

brief development, e.g. Kuhn and others argue science is social and complex so anomalies are often set aside or explained away until a paradigm shift **B1**

Answer: A common criticism is that scientists rarely discard theories immediately after an apparent falsifying result; Kuhn and others argue science is socially complex so anomalies are often set aside or explained until a paradigm shift occurs.

Question 5

identifies a Marxist claim, e.g. ideology legitimises existing inequalities **B1**

develops with example, e.g. media or education present capitalist values as natural **B1**

further development, e.g. this creates false consciousness among working classes **B1**

Answer: Marxists argue ideology legitimises existing inequalities by presenting ruling-class values as natural; for example media or education can promote capitalist values as common sense, creating false consciousness that prevents workers from recognising their exploitation.

Question 6

Level 1 Limited comment with few sociological ideas, little or no argument, assertions unsupported. **1-3**

Level 2 Some relevant sociological points and a basic attempt to weigh agreement and disagreement, but limited development and weak conclusion. **4-6**

Level 3 Clear argument with several sociological perspectives used to weigh similarities and differences, some evaluation and a supported conclusion. **7-9**

Level 4 Detailed, balanced discussion using multiple sociological perspectives and theorists, strong evaluation of the extent of agreement, and a clear, justified conclusion. **10-12**

Indicative content:

- Arguments that religion is meaningfully distinct: Horton on closed belief systems vs science open systems; religion based on faith, revelation and sacred texts rather than empirical testing; functionalist points about religion offering collective conscience and rituals not matched by science
- Arguments that religion overlaps with science or ideology: Kuhn shows science has paradigmatic commitments and communal authority similar to religious doctrine; Popperian ideal of falsification is not always followed, so science displays belief-like features; political ideologies can be totalising and ritualised like religion, as Marxists and critics note
- Postmodernist critique: Lyotard argues grand narratives, including science and religion, are contestable, reducing sharp divides between them
- Marxist perspective: ideology and religion both serve to legitimise social arrangements, so distinction is analytical but functionally similar
- Examples and evidence: historical resistance to scientific ideas (e.g. Galileo, heliocentrism) where religious and scientific boundaries overlapped; examples of ideology using sacred language and rituals, e.g. fascist cults and national myths
- Evaluation points: consider methodological differences and institutional mechanisms for testing in science, but also note social processes that make belief systems similar; assess the degree of distinction rather than a binary yes/no
- Possible conclusion: a qualified position that some meaningful distinctions remain, especially in method and institutional testing, but sociologists emphasise important overlaps and social similarities, so the divide is not absolute

Question 7

identifies a paradigm as a shared set of theories, methods and assumptions used by a scientific community (oe) **B1**

development, e.g. it guides what counts as valid questions and acceptable answers within a field **B1**

Answer: A paradigm is a shared set of theories, methods and assumptions used by a scientific community; it guides what counts as valid questions and acceptable answers within that field.

Question 8

identifies a qualified difference, e.g. Horton contrasts science as an open system with many religious belief systems as closed **B1**

explains what open means, e.g. open systems allow criticism and testing of beliefs **B1**

explains what closed means, e.g. closed systems defend core beliefs from disproof **B1**

links the distinction to comparing science and many religious belief systems, e.g. science changes in response to evidence while closed religious systems protect core beliefs from contradictory evidence **B1**

Answer: Horton contrasts science as an open belief system with many religious belief systems as closed: open systems allow beliefs to be criticised and tested, while closed systems defend core beliefs from disproof. Thus science changes in response to evidence, whereas closed religious systems protect core beliefs from contradictory evidence; this does not describe every religious belief system.

Question 9

identifies a practical implication, e.g. researchers design tests that could refute a hypothesis **B1**

development, e.g. risky predictions expose a theory to refutation by specifying results that would contradict it; this does not mean refutation is likely **B1**

further development or example, e.g. peer review focuses on attempts to disprove rather than confirm results **B1**

Answer: If Popper is accepted, researchers design tests that could refute hypotheses. They make risky predictions that specify results which would contradict a theory, exposing it to refutation without claiming that refutation is likely. Peer review then scrutinises attempts to disprove results rather than only confirm them.

Question 10

identifies difference one, e.g. science is open to falsification while religion is often closed **B1**

explains difference one with reference, e.g. Popper's falsificationism says scientific claims must be refutable, Horton says open systems allow testing, whereas religious doctrines are frequently protected from refutation **B1**

identifies difference two, e.g. science uses paradigms and communal agreement within research communities while religion relies on faith and revelation **B1**

explains difference two with reference, e.g. Kuhn shows science operates under paradigms that can change after debate and evidence, whereas religion often bases belief on sacred texts or revelation not empirical paradigm testing **B1**

additional development for either difference, e.g. science changes through empirical crisis and paradigm shifts, whereas religion may change slowly or reinterpret doctrine **B1**

further explanation or illustration of either difference, e.g. contrasting a scientific paradigm shift with continued reliance on a sacred text; a specific example is one route to credit, not compulsory **B1**

Answer: One difference is openness to refutation: Popper argues science requires falsifiability and Horton calls science an open system, while religion often protects core doctrines from refutation. A second is method and authority: Kuhn shows science works within changing paradigms and debates within communities, whereas religion often depends on faith, revelation or sacred texts rather than empirical testing; science therefore changes via crisis and paradigm shifts, while religious change tends to be slower or via reinterpretation. For example, a shift from an Earth-centred to a Sun-centred model changes a scientific framework, whereas a religious community may continue to treat its sacred text as authoritative even while reinterpreting it.

Question 11

identifies falsification as refutation of a scientific claim by an observation or test result that contradicts its prediction **B1**

develops the definition, e.g. distinguishes an actual refuting result from falsifiability, which is the capacity of a claim to be tested and potentially refuted **B1**

Answer: Falsification occurs when an observation or test result contradicts a scientific claim's prediction and thereby refutes the claim. This differs from falsifiability, which is the capacity of a claim to be tested and potentially refuted, whether or not a refuting result has occurred.