



**General Certificate of Education
January 2011**

Religious Studies

RSS04

Religion, Philosophy and Science

AS Unit D

Final

Mark Scheme

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Examination Levels of Response

Religious Studies (Advanced Subsidiary) AS Level Descriptors

Level	AS Descriptor AO1	Marks	AS Descriptor AO2	Marks	AS Descriptors for Quality of Written Communication in AO1 and AO2
7	A thorough treatment of the topic within the time available. Information is accurate and relevant, and good understanding is demonstrated through use of appropriate evidence / examples	28-30	A well-focused, reasoned response to the issues raised. Different views are clearly explained with supporting evidence and argument. There is some critical analysis. An appropriate evaluation is supported by reasoned argument.	14-15	Appropriate form and style of writing; clear and coherent organisation of information; appropriate and accurate use of specialist vocabulary; good legibility; high level of accuracy in spelling punctuation and grammar.
6	A fairly thorough treatment within the time available; information is mostly accurate and relevant. Understanding is demonstrated through the use of appropriate evidence / example(s)	24-27	A mostly relevant, reasoned response to the issues raised. Different views are explained with some supporting evidence and argument. There is some analysis. An evaluation is made which is consistent with some of the reasoning.	12-13	
5	A satisfactory treatment of the topic within the time available. Key ideas and facts are included, with some development, showing reasonable understanding through use of relevant evidence / example(s).	20-23	A partially successful attempt to sustain a reasoned argument. Some attempt at analysis or comment and recognition of more than one point of view. Ideas adequately explained.	10-11	Mainly appropriate form and style of writing; some of the information is organised clearly and coherently; there may be some appropriate and accurate use of specialist vocabulary; satisfactory legibility and level of accuracy in spelling, punctuation and grammar.
4	A generally satisfactory treatment of the topic within the time available. Key ideas and facts are included, showing some understanding and coherence.	15-19	A limited attempt to sustain an argument, which may be one-sided or show little ability to see more than one point of view. Most ideas are explained.	7-9	Form and style of writing appropriate in some respects; some clarity and coherence in organisation; there may be some appropriate and accurate use of specialist vocabulary; legibility and level of accuracy in spelling, punctuation and grammar adequate to convey meaning.
3	A summary of key points. Limited in depth or breadth. Answer may show limited understanding and limited relevance. Some coherence.	10-14	A basic attempt to justify a point of view relevant to the question. Some explanation of ideas and coherence.	5-6	
2	A superficial outline account, with little relevant material and slight signs of partial understanding, or an informed answer that misses the point of the question.	5-9	A superficial response to the question with some attempt at reasoning.	3-4	Little clarity and organisation; little appropriate and accurate use of specialist vocabulary; legibility and level of accuracy in spelling, punctuation and grammar barely adequate to make meaning clear.
1	Isolated elements of partly accurate information little related to the question.	1-4	A few basic points, with no supporting argument or justification.	1-2	
0	Nothing of relevance.	0	No attempt to engage with the question or nothing of relevance.	0	

RSS04: Religion, Philosophy and Science

Question 1

- 01 Explain religious and scientific challenges to the idea of an interventionist God.**

Challenges from science

The universe works according to impersonal laws of nature. Miracles cannot be accommodated within this system.

Science can now explain things which at one time were considered to be miraculous so miracles should be seen as stories from a more primitive age.

Candidates may refer to Dawkins etc and those who argue that miracles are never objective but are simply interpretations of natural events through religious eyes.

Challenges from religion

Expect arguments from Wiles.

If God were loving, he would intervene more often so why doesn't he?

If God were omnipotent, he would either not have to intervene in the first place or he would show that he is able to break the laws of nature to perform a miracle.

If God were to intervene, how much would such an intervention damage our capacity for free will?

Candidates should make use of examples to illustrate their answers.

Maximum Level 5 (23) if only religious or scientific challenge dealt with.

(30 marks)

AO1

- 02 'If God does not intervene, then there are no miracles.' Assess this claim.**

Agree

Miracles can only be seen to be events which break the laws of nature. If such events happen, it shows that God is omnipotent and loving. If religious believers believe God to have these characteristics it is important to believe that God can break the laws of nature.

A candidate may argue that there are no miracles because they are impossible (perhaps because a scientific understanding of laws of nature makes more sense) so this demonstrates that God either does not intervene or that he does not exist.

Don't agree

Miracles can also be seen to be matters of interpretation. God does not have to intervene in order for an event to be considered miraculous by someone who has religious faith.

The better discussions will focus on the extent to which it is important to believe that a miracle must break a law of nature.

(15 marks)

AO2

Question 2**03 Explain scientific views of the origin and end of the universe.****Origin**

Big Bang theory – universe began 15 billion years ago. Scientists can stretch back to the time when it was 10^{-43} of a second old. Expanded from a point of singularity. Cooled to form the stars and galaxies. Remnants of the Big Bang exist in the background radiation. Evidence of the Big Bang in the ratio of hydrogen to helium.

End

Big Crunch theory – that the gravitational forces in the universe will eventually halt the expansion and begin to drag everything back into a Big Crunch.

Heat Death Theory – that the universe will continue to expand until it reaches a point of total thermal equilibrium (entropy) and will just be in a super-cold state of nothingness.

Oscillating universe – that there is no end to the universe and that there will just be an endless cycle of Big Bangs and Big Crunches.

NB Candidates are not required to express this information in technical terms. Maximum Level 5 (23) if only origin / end dealt with.

(30 marks)**AO1****04 ‘Scientific views of the origin of the universe leave no room for God.’
How far do you agree?****Agree**

Clearly, science does not take the route of Genesis or a creationist position. It explains the origin of the universe using scientific laws not religious beliefs.

Do not agree

Big Bang theory only describes what happens *after* the moment of creation. Science cannot travel beyond the moment of creation so it is possible for God to be the initiator. In addition, accounts of the origin of the universe do not undermine the religious view that God sustains the universe from moment to moment. In addition, some candidates may argue that Big Bang science does not rule out the concept of a deistic god.

(15 marks)**AO2****Question 3****05 Explain Dawkins’ arguments against the design argument and Swinburne’s arguments in support of the design argument.****Dawkins**

Evolution better explanation than design. Clear signs of impersonal processes in nature. Natural processes seem cruel if there is a Designer (e.g. the example of the ‘digger wasp’). Only purpose of nature is DNA replication. Evidence of evolution is overwhelming. No evidence for a Designer.

Swinburne

Regularity of co-presence and regularity of succession. Temporal and spatial order in the universe is not explained by evolution. Evolution can only explain the workings of nature. It can't explain the whole framework of how nature operates. Chances of the design in the universe being entirely a matter of chance are very low (kidnapper analogy).

Some candidates may refer to Bayes' theorem of probability: it is far more probable that God not science is an explanation for design.

Maximum Level 5 (23) if only Dawkins or Swinburne dealt with.

(30 marks) AO1

06 'It is not reasonable to believe in God because of the design argument.'
Assess this claim.

Is not reasonable

Suffering/'design faults' make belief in a Designer unreasonable.
Alternative explanations for design in nature available from science.

Is reasonable

Design argument still exists in new forms today (Swinburne, Tenant, Anthropic Principle etc)

Possible to accept both evolution and involvement of a Designer.

(15 marks) AO2

Question 4

07 Explain how the scientific understanding of both the nature of light and the nature of the electron may have implications for religious belief.

Thomas Young demonstrated light as a wave and Einstein demonstrated that it is particulate. Dualism created. Demonstrates that the measuring process (i.e. personal involvement of the observer) determines the outcome. Not possible to produce a simple reductionist scientific principle for light. Need for models to describe what is happening.

Electron seen as a particle until de Broglie demonstrates the possibility that it acts like a wave around the nucleus of the atom. Double slit experiment confirms duality in electron's behaviour.

So, models of behaviour and subjective interpretation of scientists now important in science. Parallels with religious beliefs. Science no longer able to claim itself as the repository of absolute truth but must now accept that it is a human view of the world. Faith also a human response to the divine. Faith also using metaphor and story to express itself.

Some candidates may refer to Heisenburg's Uncertainty Principle: the fact that things do not appear to be mechanistically determined in the way conceived of by Newtonian science allows a measure of freedom to return to the created order. This matches the purposes of a loving Creator.

Maximum Level 5 (23) if only light or electron dealt with.

Maximum Level 5 (20) if no reference to religious belief.

(30 marks) AO1

08 “Quantum mechanics makes agreement between science and religion possible.” How far do you agree?

Can make agreement possible

Both are human responses to nature and both rely on non-literal descriptions of reality. Neither need to be in conflict with each other: religion reminds science that it is a fundamentally human and contingent process and science reminds religion that the processes of nature are governed by recognisable scientific principles. Quantum mechanics confirms the unity of reality – supported by religious beliefs in the created nature of the universe.

Can not make agreement possible

Quantum mechanics is still governed by scientific principles and uses many traditional scientific methods to acquire knowledge. Religion is still about faith or trust in something which cannot be scientifically tested. The two disciplines are not close enough for agreement to be possible.

(15 marks)

AO2