

A-LEVEL **RELIGIOUS STUDIES**

RSS04 Religion, Philosophy and Science
Mark scheme

2060
June 2014

Version/Stage: 1.0 Final

Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts: alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Assessment Writer.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

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Examination Levels of Response

Religious Studies (Advanced Subsidiary) AS Level Descriptors

<i>Level</i>	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	
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	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.
0	Nothing of relevance.	0	No attempt to engage with the question or nothing of relevance.	0	

RSS04: Religion, Philosophy and Science**Question 1 Miracles**

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1

Explain the implications of the view that God performs miracles by violating the laws of nature.

The implications for religion may be both positive and negative. Students might refer to some of the following:

Positive:

- If God violates the laws of nature presumably does so for a good purpose, so the implication is that God is all-loving.
- To violate the laws of nature shows that God is all-powerful: having created the laws of nature, he is able to break them.
- Responding in this way means that God has a personal relationship with humans, acting for example in response to prayer.
- In the New Testament, God acts through Jesus to perform miracles in this way, so this would confirm Jesus' miracles.
- If God intervenes in this way it must be because he decides that it is necessary. Keith Ward thinks that God does so in order to increase faith – miracles are signposts to faith.

Negative:

- Hume's view is that we define a miracle as a violation of a law of nature, but there are no violations of the laws of nature, so this implies that there is no God.
- What would be the point of creating unbreakable laws and them breaking them? This might show an arbitrary God with a changeable nature. God sustains the world by consistent natural laws. Breaking them would mean that we live in a universe where we can never be sure that the laws of nature will work.
- Breaking natural laws suggests that God acts selectively rather than generally. Why would God intervene in this way to help individuals or groups but not intervene in times of great evil, such as the Holocaust?
- Violating laws would portray God as more of a magician than a benevolent being.

Students might also make general points:

- Hick argues that God does not break natural laws by performing miracles. Miracles are rare exceptions to the laws, so when one happens, the law just expands to include the exception. This implies that God can work in any way he chooses.
- Some would argue that God is a spiritual / metaphysical being, and such a being cannot intervene in the physical universe, so there are no implications for God violating natural laws: he cannot do so.
- Students might discuss some of these views with regard to specific miracles from the Bible or elsewhere.

[30 marks]**AO1**

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2

'Miracles make belief in God reasonable.'**How far do you agree?****Agree:**

- Only God performs miracles. Miracles happen; therefore they make belief in God reasonable.
- An all-powerful and all-loving God would naturally wish to intervene in human affairs for the good, so the occurrence of miracles shows the intervention of an all-powerful and all-loving God.
- Miracles are God's direct revelation, and those who experience them need no further evidence that God exists.
- Students might refer to specific miracle claims, e.g. miracles of healing.
- Some miracles bring about physical and/or spiritual changes in individuals. These are most reasonably explained by the existence of God.

Other views:

- God would not perform miracles selectively (Maurice Wiles), so miracles do not happen.
- Hume's arguments against miracles might be supported or rejected by students. For example his main argument that it is always more likely that the witnesses are lying or deceived than that a miracle has occurred; also his subsidiary arguments that miracle stories come from 'ignorant and barbarous nations', or show that people are naturally credulous, or psychologically become part of the spiral of belief, etc..
- Different people have different definitions of miracles, e.g. as 'signs' of God's Kingdom, or extraordinary coincidences, or events of religious significance, etc., and this will affect whether or not people see them as a reasonable indication of God.

[15 marks]**AO2**

Question 2 Creation**0****3****Examine differing religious views of the creation of the world and of human beings.****Creation of the world.**

- Students are likely to explain the teachings of one or more religions, e.g. the accounts in Genesis 1-3.
- The Genesis accounts are said to show that God created the world from nothing, but others argue that like the Babylonian creation stories, Genesis is talking about God bring order to an already-existing chaos.
- Some might suggest that God's creation of the world is on-going, through God's activity in sustaining the world.
- Some Process theologians similarly argue that God did not create the universe: both God and universe exist alongside each other, or else the universe might be seen panentheistically as God's 'body'.
- Some might argue that Genesis is mythological or symbolic, and that God created the world through the Big Bang.
- Creationists argue for various literal understandings of Genesis, e.g. Young Earth and Old Earth Creationism.
- Some might refer to the theistic view that God created the universe in order to have a personal relationship with humans; or else to the deistic view that God created the universe and allowed it to develop freely by remaining at an epistemic distance.
- Different religious views e.g. Hinduism, Islam.

Creation of human beings.

- Students are likely to explain this in connection with the Genesis stories or other accounts, e.g. that humans are created from earth/dust, as living beings possessing a soul, etc.
- Some will argue that God created humans using the natural processes of evolution.

In practice, students are likely to conflate the above accounts and explanations. Max L5 (23) if no diversity of religious views or only one of world/ human beings is considered.

[30 marks]**AO1**

0

4

'Science makes belief in God as creator irrelevant.'**Assess this claim.****Agree:**

- Science has produced a 'God of the gaps'. As science explains more about the origins of the universe, there is less room for belief in creative activity by God.
- Big Bang Cosmology undermines a literal interpretation of Genesis.
- There are various other cosmologies which make a creator God possibly irrelevant, e.g. any model where time is cyclic, or where matter comes into existence spontaneously, from nothing, or where the universe (or some form of) it is eternal.
- Hume suggests that there might have been more than one creator, in which case the idea of an all-powerful Creator God might not be needed.
- Evolution shows that God is not needed as the creator of humans or of any other life form.

Other views:

- No scientific model of the origins of the universe can satisfactorily explain why there is something rather than nothing, so there will always be a place for the idea of a Creator God.
- Even if the universe is eternal, to say that it has no explanation cannot be shown. An eternal universe might best be explained by 'God'.
- Bertrand Russell suggests that the existence of the universe is just a 'brute fact', but how is it that everything in the universe seems to be subject to scientific laws and explanation. Russell says that what is true for parts of the universe need not be true for the whole, but gives no reason as to why the whole has no explanation.
- As Swinburne argues, evolution is not an explanation of the origins of life: it is just a process governed by strict laws, and is as much in need of an explanation as anything else.
- Students might ask, 'Irrelevant to what?' The idea of a Creator God will always be relevant to ideas about the origin and purpose of the universe.

[15 marks]**AO2**

Question 3 The design argument

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5

Explain the design argument as presented by Aquinas.**Aquinas' argument is as follows:**

- Everything in nature has a natural tendency towards its goal, whatever that goal is
- this cannot be by chance
- because all order requires a designer
- things that lack knowledge / aren't intelligent, etc., cannot move towards *any* end by themselves
- for example an arrow does not arrive at its target by chance
- an arrow reaches its target only because it is directed and aimed by an archer
- so each natural body / everything has a designer
- the designer / the archer is God / by this we understand God

Candidates might refer to some of the following points in order to explain, illustrate, or show the background to Aquinas' argument:

- Aquinas' design argument is his Fifth Way / so is part of a series of five Ways to show that God exists
- Aquinas used each of the five Ways to support the others
- they are a series of (inductive) 'proofs' / arguments based on reason
- Aquinas argues from the natural world / nature to God
- some might refer to Aristotle's 4 causes, through which Aquinas argued that all things go towards an end cause / the archer hitting the target is analogous to the achievement of God's purpose in designing the universe
- some might suggest that Aquinas' argument shows an immanent / interventionist God
- some might expand on the analogical form of the argument - archer // God – target // purpose
- some might argue that Behe's 'intelligent design' theory is a version of Aquinas' argument
- accept reference to similarities with Swinburne's design argument, e.g. God's control of the laws of nature / evolution
- some will expand on design qua regularity / design qua purpose, etc.

N.B. The best answers are likely to use appropriate evidence and examples to illustrate Aquinas' argument.

[30 marks]**AO1**

0

6

To what extent does design in the universe make it reasonable to believe in God?

In favour of the view that design makes belief in God reasonable:

- The sheer amount of design in the universe needs an explanation. The best explanation seems to be a designer.
- Students might use Swinburne's argument, that there is a huge amount of 'temporal order' in the world (i.e. the laws of nature, which appear to control everything in the universe). This needs to be explained, and the best explanation is God.
- There are only two possibilities – the universe designed itself, or a being such as God designed it. 'God' is perhaps more likely.
- Students might focus on 'reasonable'. A reasonable argument does not have to be a proof, just as reasonable probability. Swinburne argues that the probability of 'God' is greater than 50%.
- Some might argue that the design argument has the support of other arguments for the existence of God, which make it more likely to be true.
- Some might point to the complexity of the universe. Complexity requires explanation. God is a good explanation.
- The universe might easily have ended up chaotic, but it is ordered, which suggests God as the 'orderer'.
- Students might support this by referring to the Anthropic Principle, that the universe appears to have been 'fine tuned' to produce intelligent observers such as ourselves.

Other views:

- Students might reject any or all of these arguments, e.g. several arguments for the existence of God are no better than one if they are all weak.
- The Anthropic Principle' does not work, because however great the odds are against the universe appearing designed purely by chance, there may be trillions of universes, and those which appear ordered have become so purely by chance.
- Some will refer to evolutionary arguments to reject (or support) the idea of God's design of living things.
- Students might refer to Hume's various arguments, e.g. that like causes demand like effects, so even if there is a designer, it doesn't have to be the all-powerful, all-knowing, all-loving God of theism.
- Some might reject analogical design arguments, on the grounds (as Hume says) that we have no experience of what a designed universe looks like, so analogies do not work.
- Some might refer to a version of the Epicurean hypothesis, that physical systems settle down into ordered states over time.

[15 marks]

AO2

Question 4 Quantum mechanics and a religious world view

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Explain the key ideas in the world view of quantum mechanics.**Students might refer to some or all of the following:**

- Quantum mechanics is the study of the mechanics of how quantum physics works.
- Quantum physics is that branch of science which deals with discrete units of energy called quanta.

Main ideas in Quantum physics:

- Energy is not continuous; it comes in discrete units: quanta.
- The elementary quantum particles behave both like particles and waves. Young's experiments established light as a wave and Einstein's photo-electric experiment showed the particulate nature of light. The wave/particle duality is at the heart of reality, and appears in other fundamental particles such as electrons.
- Students might refer to the two-slit experiment to illustrate particle/wave duality. When we observe the electron in the two-slit experiment, it behaves like a particle; each possible route that an electron can take can be described by a wave function. When the system is not observed, the electron takes every possible route; when the system is observed, it is forced to take one route, which Bohr called the "collapse of the wave function". Nature is forced to take one path only when it is observed
- The movement of the fundamental particles is inherently random.
- It is physically impossible to know simultaneously both the position and the momentum of a particle (the Heisenberg Uncertainty Principle). The more precisely one of these is known, the less precise is measurement of the other.
- The world of quanta is completely different from the macro universe in which humans exist.
- The Copenhagen Interpretation of quantum physics basically says that nothing is real unless it is observed, when the observer collapses the wave function. Quantum mechanics tells us nothing about what reality is like beyond measuring/observing quanta. Randomness is fundamental to the quantum world.
- We have very little idea how the quantum world gives rise to the physics of everyday life.

[30 marks]**AO1**

0

8

'Quantum mechanics has nothing at all in common with religion.'**Assess this view.****Disagree:**

- Some people argue that consciousness begins at the quantum level, and that when people die, consciousness continues. Some take this to mean that humans can have a non-physical soul, and if there's a soul, there's probably a God.
- In connection with the previous point, near-death experiences are sometimes taken as evidence that the soul continues after death. Hameroff & Penrose argue that during NDEs, quantum elements that form the soul leave the nervous system and 'leak out' into the universe. They argue that souls are formed from the quantum fabric of the universe, so may always have existed. This is similar to religious claims about the soul.
- Some argue that quantum mechanics shows the unity of all things, and so is compatible with themes in the eastern religions such as Dharmakaya in Buddhism and Tao in Taoism.
- The discovery of quark symmetries – symmetric patterns in the particle world – has led some to suggest that symmetries underlie reality in a way that has been anticipated in eastern mysticism (e.g. Frijtof Capra).
- Broadly speaking, quantum mechanics can be taken to mean that creation is the work of one underlying force, such as God.
- Some might argue that science is already religious: many physicists and mathematicians (such as Einstein) were led to a belief in God through the beauty of the equations and the complexities of reality, so the two systems are compatible.

Other views:

- Science is concerned with evidence and experiment, whereas religion is concerned with faith, so quantum mechanics and religion have nothing in common.
- The discoveries of quantum mechanics have been made by looking at the data. Religion has no data as such. Religion cannot prove anything. Quantum mechanics makes statements that can be shown to be true.
- The quantum world is so strange that it is difficult to see God in it. How can we see God in 'quantum weirdness'?
- The world's religions contain myths, legends, and folk stories, and these cannot be compatible with quantum mechanics, which deals with the nature of the micro-universe.

[15 marks]**AO2**