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AS-LEVEL

# Religious Studies

RSS04 Religion, Philosophy and Science  
Mark scheme

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2060  
June 2015

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Version 1: Final Mark Scheme

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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.

Further copies of this mark scheme are available from [aqa.org.uk](http://aqa.org.uk)

## 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   |
|--------------|---|--------------|--|--------------|--|
| <b>7</b>     | 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                  | <b>28-30</b> | 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. | <b>14-15</b> | 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.   |
| <b>6</b>     | 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)                    | <b>24-27</b> | 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. | <b>12-13</b> |  |
| <b>5</b>     | 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). | <b>20-23</b> | 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.   | <b>10-11</b> | 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.        |
| <b>4</b>     | A generally satisfactory treatment of the topic within the time available. Key ideas and facts are included, showing some understanding and coherence.  | <b>15-19</b> | 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.  | <b>7-9</b>   | 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. |
| <b>3</b>     | A summary of key points. Limited in depth or breadth. Answer may show limited understanding and limited relevance. Some coherence.  | <b>10-14</b> | A basic attempt to justify a point of view relevant to the question. Some explanation of ideas and coherence.  | <b>5-6</b>   |  |
| <b>2</b>     | 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.                                      | <b>5-9</b>   | A superficial response to the question with some attempt at reasoning.   | <b>3-4</b>   | 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.  |
| <b>1</b>     | Isolated elements of partly accurate information little related to the question.  | <b>1-4</b>   | A few basic points, with no supporting argument or justification.  | <b>1-2</b>   |  |
| <b>0</b>     | Nothing of relevance.   | <b>0</b>     | No attempt to engage with the question or nothing of relevance.  | <b>0</b>     |  |

## RSS04 Religion, Philosophy and Science

### Indicative content

**Note: This content is indicative rather than prescriptive and students are not obliged to refer to all the material contained in this mark scheme. Any legitimate answer will be assessed on its merits according to the generic levels of response.**

### Question 1 Miracles

0

1

**Explain the argument that some events are miracles only because they are interpreted as such.**

- Different people have different ideas about miracles, eg that they are extraordinary coincidences; that they are events caused by God; that they break the laws of nature, etc
- Hume defined them as events which break natural laws, brought about by a supernatural agent for a reason, and used that definition to argue that miracles do not happen
- so to say that miracles happen depends simply on how you define them
- for someone who says that miracles are extraordinary coincidences, then these events are miracles only because they interpret them as such: others will not
- equally, for every other definition, miracles are miracles only because some people interpret them in a particular way
- the problem is that there is no agreed definition of miracles
- also there is no way to prove that miracles break natural laws
- so to define an event as a miracle depends on someone's interpretation.

**[30 marks] AO1**

|   |   |
|---|---|
| 0 | 2 |
|---|---|

**2** ‘God does perform miracles.’

**How far do you agree?**

**In support**

- An all-loving God would wish to perform miracles
- God is all-powerful, so has the ability to perform miracles
- God made natural laws, so can break them if he wants to
- for example God answers prayer, eg by miracles of healing (examples)
- God has acted in history through miracles (examples)
- all religions include miracles, so God must perform them
- religious miracles are too well documented not to happen.

**Other views**

- Why would God create the world to work by natural laws and then break them?
- miracles only happen to some people, so if God performs miracles then God is unfair (eg Wiles). Why did God not intervene with miracles in the Holocaust?
- how could a metaphysical / spiritual God intervene in a physical universe?
- God is held by some to be outside time, so how could a timeless God act within time to perform miracles?
- a law is a law, so natural laws can't be broken
- there are natural explanations for many miracles (eg in miracles of healing, the person just got better, maybe by mind over matter)
- Hume's arguments show that there is not enough evidence for miracles
- There is no God to perform miracles in the first place
- some might go on to argue that it depends on how miracles are defined as to whether or not God performs them, eg the view that miracles are not acts of God but events interpreted in a special way.

**[15 marks]**

**AO2**

**Question 2    Creation**

0

3

**Explain:**

- **the Big Bang theory of the origin of the universe**
- **the evolutionary theory for the origin and development of life.**

**Big Bang**

- The theory that the universe began in a very hot / very tiny / very dense state (known as a Singularity)
- we can see the expansion of the universe – galaxies are moving apart
- some might refer to red shift (the faster a galaxy is moving, its light appears redder, which shows us that the galaxies are moving apart from each other at increasing speeds the further away they are)
- can calculate it back to about 13.7 billion years ago
- some students might refer to ‘cosmic microwave background radiation’, being the heat left over from the Big Bang (i.e. the temperature of space is about 3 degrees above absolute zero)
- some might know that the Big Bang is not an explosion as such, but an expansion of space.

**NB** do not expect scientific exactness: mark in terms of what a candidate might be expected to produce in the time available.

**Evolution**

- Complex life forms (such as people) developed about 3.5 billion years ago from very simple life forms (single-celled amoebae)
- some might suggest that these primitive life-forms developed from chemical soup at the edge of the oceans / or else that life was seeded from space
- the trend was to develop increasingly complex creatures, eg from sea-creatures to mammals to apes and humans
- organisms develop by natural selection
- natural selection favours mutations that produce some advantage
- evolution promotes the survival of species
- all creatures compete for resources (eg food), and those that are best adapted to compete are those that do survive and have more offspring
- parents can pass on their successful genes to their offspring
- some might refer to DNA
- humans and apes developed from a common ancestor.

**NB** again, credit accurate comments from candidates and do not expect scientific exactness.

Maximum Level 5 if only one part addressed.

**[30 marks]****AO1**

|   |
|---|
| 0 |
|---|

|   |
|---|
| 4 |
|---|

**‘God is no longer needed to explain the origin of the universe.’**

**Assess this claim.**

**In support**

- It is just as likely that the Big Bang caused itself, so God is not needed
- in some theories, the universe has always existed, so God is not needed to start it
- we do not have to say that God caused the universe to exist – it is just as easy to say that the universe caused itself, or is a ‘brute fact’ that can’t be explained (Russell)
- ‘God’ is becoming a ‘God of the gaps’ – the more science learns about the origins of the universe, the less room there is for God, so eventually God will not be needed as an explanation.

**Other views**

- Science cannot explain why there is something rather than nothing, whereas the idea of a creator God can
- even if the universe has always existed, that still doesn’t explain why it exists, so God is still needed as an explanation
- at the Big Bang, the universe was ‘programmed’ to produce life, otherwise no life would have emerged: God did the programming
- there are only two real possibilities about the universe: either something made it or else it made itself. That ‘something’ was probably God.

**NB** Some students will use the design and cosmological arguments to claim that God created the universe. Such answers are valid so long as they answer the question. Other relevant points will be credited.

**[15 marks]**

**AO2**

**Question 3 The design argument**

0

5

**Outline Hume's objections to the design argument and explain Swinburne's defence of the design argument.**

**Hume**

- One of Hume's main principles was that 'like causes demand like effects'
- so the universe might have been designed, but the designer does not have to be the God of Christian theism
- for example the designer does not have to be a single designer / doesn't have to be all-powerful – just powerful enough to design a universe / or metaphysical - for all we know, the designer might have had 'eyes, a nose, mouth, ears, etc.'
- the designer might even have designed the universe, then died
- the designer cannot have been perfect, because this universe contains much evil and could have 'botched and bungled' many worlds before producing this one
- most design arguments assume that the universe is like a machine, but Hume says that it is more like a giant vegetable, and vegetables do not need designers, they just reproduce themselves
- Hume uses a version of the Epicurean hypothesis to argue that the universe could have evolved into an ordered state by itself
- all talk about God is nonsense anyway: we know only what our senses tell us.

**Swinburne**

Swinburne uses different arguments. Students might use a specific argument or a combination of parts of more than one argument, with or without the technical terms:

- **The argument from temporal order ('regularities of succession')**  
There are vast amounts of order in the universe / that order is in nature: we didn't invent it: we just record it as the laws of nature / science can describe those laws but cannot explain why they exist / so if there is an explanation it must be personal, ie an intelligent being / this is the simplest explanation and we should accept the simplest explanation / so the universe was probably designed by a single agent of infinite power, knowledge & freedom: God.
- **The argument from spatial order ('regularities of co-presence')**  
All living things have a machine-like complexity / humans themselves have evolved to be able to make machines / by looking at ourselves, we can see how God designed the universe: not only has nature been designed to work through strict scientific laws, it has been designed to produce intelligent beings like ourselves, who in fact operate as machine-making machines / the most likely explanation of all this order is, again, God.
- **The argument from fine-tuning**  
If only one of the 30 or more 'universal constants' (like the stickiness of gravity) had been different, no life would ever have formed / so this universe seems to have been fine-tuned for life / the most probable explanation is a designer / again, this is God.

Maximum Level 4 for outline only and Level 5 for Swinburne only.

**[30 marks]**

**AO1**



0

6

**‘Swinburne was right about the design argument.’****How far do you agree?****In support**

- Evolution is controlled by strict laws of biology, genetics, chemistry, etc. It explains nothing about the world, as Swinburne says, so a ‘designer’ of evolution is needed: this is God
- we can either say that the universe designed itself, or that God designed it. Design by an intelligent mind seems more likely than saying ‘it just happened’
- some might use Swinburne’s thought experiment of the card-shuffling machine to show that the universe has been fine-tuned to produce life.
- Swinburne argues that the design argument is probably true because it is both simple and inductive. This seems a reasonable stance to take.

**Other views**

- A major argument against Swinburne is the problem of evil. As Hume says, the amount of evil seems to show that if there was a designer, then the designer designed evil
- Hume’s argument that the designer (if there is one) doesn’t have to be the God of Christian theism is a strong one. A lesser being could conceivably have designed this universe. Hume uses the principle ‘like causes demand like effects’
- some might argue in favour of other versions of the design argument, eg Paley / Aquinas
- some might reject all versions of the design argument.

**[15 marks]****AO2**

**Question 4 Quantum mechanics and a religious world view**

|   |   |
|---|---|
| 0 | 7 |
|---|---|

**Explain the idea that quantum mechanics and mysticism give similar insights into the nature of reality.**

Answers might be specific, general, or both

**In general terms**

- Quantum mechanics has some mystical aspects, eg the two-slit experiment, where photons have to go through every possible path to reach the screen
- by observing a quantum system, the observer affects reality
- quantum particles appear and disappear mysteriously in the quantum vacuum
- quantum entanglement suggests ‘non-local’ causation, where particles light-years apart have a mysterious connection, which some see as similar to Buddhist claims about the inter-linked nature of reality as a whole.

**In specific terms**

- Fritjof Capra: ‘The Tao of Physics’ (1975), draws specific parallels between modern physics and eastern mysticism, eg his comments on the unity of all things; the idea that both quantum mechanical and mystical language are paradoxical; in quantum mechanics and mysticism, interconnections in the ‘cosmic web’ are dynamic and not static – matter cannot be separated from activity; the ‘energy dance’ of every subatomic particle is like the cosmic dance of Shiva: the ceaseless dance of creation and destruction; science doesn’t need mysticism and mysticism doesn’t need science, but humans need both, etc
- the idea that quantum mechanics might unite scientific and mystical ideas about consciousness
- answers might include a wide range of material, including Zukav’s 1979 book ‘The Dancing Wu Li Masters’, the 2004 film ‘What the Bleep Do We Know?’, Deepak Chopra’s 1989 book ‘Quantum Healing’, etc. Judge simply by clarity of argument.

Students may achieve the highest Levels without reference to these or any other writers.

**[30 marks]**

**AO1**

0

8

**‘Quantum mechanics has simply discovered something about reality that mystics already knew.’**

**Assess this claim.**

**In support**

- Students might look at any of the parallels drawn in answer to Question 07 and argue that the mystics’ view of reality shown in many centuries-old eastern texts is remarkably similar to the insights of quantum mechanics, which did not appear until the early 20th century
- people are not separate from the world observed by science. They are composed of the same particles, and mystics have always known this
- quantum mechanics shows that reality is inter-connected, eg through quantum entanglement. This was always a main teaching of eastern mysticism.

**Other views**

- Many mainstream physicists (eg Stephen Hawking) argue that the so-called parallels between mysticism and quantum mechanics are ‘pseudo-science’
- where the mystics do seem to be saying something sensible, it is either something fairly obvious (eg that all of reality is inter-connected) or else is a very weak parallel (eg that Shiva’s cosmic dance is like the energy dance of subatomic particles)
- if parallels with mysticism really do exist, then we should be able to do physics through mysticism, and clearly we cannot.

Credit any coherently expressed arguments which answer the question.

**[15 marks]**

**AO2**