6.1 Origins of the Universe: 30-minute Pack

AQA 8062 · about 30 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions.

1 Explain two contrasting religious beliefs about the relationship between the Big Bang theory and religious teachings about creation. Refer to a source of wisdom and authority in your answer.

(Total for Question 1 is 5 marks)

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2 This question is about religious and non-religious perspectives on the origins of the universe. It is the AQA-style 24-mark, five-part question: parts (a) to (d) are worth 12 marks; part (e) is the 12-mark evaluation.

(a) State one piece of scientific evidence used to support the Big Bang theory. **(1)**

(b) Give two reasons why some religious believers do not think the Big Bang theory contradicts belief in God as creator. **(2)**

(c) Explain two religious teachings about God's role in the origins of the universe. Refer to a source of wisdom and authority in your answer. **(4)**

(d) Explain two contrasting views, religious and/or non-religious, about whether the design argument shows that the universe was created by God. Refer to a source of wisdom and authority or another source in your answer. **(5)**

(e) Evaluate this statement: 'Scientific explanations of the origins of the universe make religious explanations unnecessary.' In your answer you should: refer to religious teaching, refer to different points of view, reach a justified conclusion. **(12)**

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(Total for Question 2 is 24 marks)

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Mark scheme · 6.1 Origins of the Universe: 30-minute Pack

Question 1

belief 1: some Christians and Muslims interpret their scriptures literally, believing God created the universe in a fixed and relatively short period of time, and see this as in conflict with the Big Bang theory, oe **B1**

development: on this view, Genesis 1 gives an accurate historical account of how and when the universe was made, so a 13.8-billion-year process cannot also be true, oe **B1**

belief 2: many other Christians and Muslims interpret their scriptures non-literally, and accept the Big Bang theory as a scientific account of how God created the universe, oe **B1**

development: on this view, Genesis 1 and the Qur'an explain why the universe exists, because God willed it, rather than giving a scientific account of the mechanism or exact timescale, so there is no real conflict, oe **B1**

reference to a source of wisdom and authority made accurately, oe **B1**

Answer: Contrast: literalist rejection of the Big Bang as incompatible with a fixed-period creation vs non-literal acceptance of the Big Bang as the mechanism God used.

Question 2

(a) the observation that galaxies are moving apart from each other/the universe is expanding, or the existence of cosmic microwave background radiation, oe **B1**

(a) Answer: E.g. the observation that galaxies are moving apart from each other.

(b) some believe the Big Bang explains how the universe began, but not why it began or why conditions were right for it to exist, which they attribute to God, oe **B1**

(b) some believe God could have chosen to create the universe through a natural process such as the Big Bang, rather than instantaneously, oe **B1**

(b) Answer: E.g. the Big Bang answers how but not why; God may have used the Big Bang as his chosen method of creation.

(c) point 1: many Christians believe God is the omnipotent creator of the universe, who brought it into being out of nothing, oe **B1**

(c) development: Genesis 1:1 teaches that 'in the beginning God created the heavens and the earth', oe **B1**

(c) point 2: many Muslims believe Allah is the sole creator of everything that exists, and that the universe depends entirely on him, oe **B1**

(c) development: the Qur'an describes the heavens and the earth as once having been joined together before being separated (Qur'an 21:30), which some Muslims read as consistent with a universe that had a beginning, oe **B1**

(c) Answer: E.g. God as omnipotent creator from nothing (Genesis 1:1); Allah as sole creator, the heavens and earth once joined (Qur'an 21:30).

(d) view 1: many religious believers accept the design argument, believing that the order and complexity of the universe are best explained by an intelligent, powerful designer, oe **B1**

(d) development: William Paley argued that just as a complex watch implies a watchmaker, the complex order of the universe implies a creator, oe **B1**

(d) view 2: many non-religious people, including Humanists, reject the design argument, arguing that the order in the universe can be explained by natural scientific laws without needing a designer, oe **B1**

(d) development: some point out that if the universe's conditions had not allowed life to exist, there would be no one present to observe and question them, so apparent fine-tuning is not by itself evidence of a designer, oe **B1**

(d) reference to a source of wisdom and authority or another appropriate source made accurately, oe **B1**

(d) Answer: Contrast: religious acceptance of the design argument (Paley's watch analogy) vs non-religious rejection based on natural law and the 'no one to observe otherwise' objection.

(e) **L4** A well-argued, balanced answer that considers more than one point of view in a developed way, using accurate and detailed references to religious teaching and/or scripture to support each point, and reaches a clear, justified conclusion. **10-12**

(e) **L3** A clear and reasoned answer that considers more than one point of view, supported by relevant references to religious teaching and/or scripture, though the justification of the conclusion may be less developed. **7-9**

(e) **L2** A reasoned answer that considers at least one point of view, with some relevant supporting evidence, but with limited or no consideration of an alternative view. **4-6**

(e) **L1** One or more relevant points are made, but with little or no supporting evidence and no reasoned conclusion. **1-3**

(e) **L0** No relevant content. **0**

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(e) Indicative content:

- Agree: the Big Bang theory is supported by extensive observational evidence, such as cosmic microwave background radiation and the observed expansion of the universe, giving a complete natural account that leaves no obvious gap for a religious explanation to fill.
- Agree: many Humanists argue that as scientific understanding has grown, the explanatory role religious accounts once played for natural events has steadily been replaced by testable science, and the origin of the universe is no exception.
- Agree: a scientific explanation can be tested, checked and revised in light of new evidence, which some argue makes it more reliable than a religious explanation that depends on faith and cannot be tested in the same way.
- Agree: if the existence and development of the universe can be fully explained without referring to God, some conclude that belief in a creator becomes an unnecessary extra step in explaining the universe.
- Disagree: many religious believers argue that the Big Bang explains how the universe began, but not why it began at all or why the initial conditions were exactly right for it to exist, and that God is the answer to that deeper question.
- Disagree: some Muslims read the Qur'an's description of the heavens and earth as once being joined together (Qur'an 21:30) as showing that scripture and modern cosmology are compatible rather than in competition.
- Disagree: the design argument, e.g. Paley's watch analogy, is still used by some to argue that even a full scientific account of the universe's development leaves room for, or even supports, belief in a designer behind it.
- Disagree: many Christians hold that Genesis 1:1's teaching that God created the heavens and the earth remains true regardless of the scientific mechanism involved, since 'who/why caused it' and 'how did it unfold' are different questions.
- A balanced answer might conclude that whether science makes religion 'unnecessary' depends on whether the two are seen as rival explanations of the same question, or as compatible answers to different questions (how the universe developed vs why it exists at all).

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