

Examiners' Report  
June 2015

GCE General Studies 6GS01 01

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## Introduction

This paper was structured in the same style as all previous papers for this unit. Section A provided a wide coverage of the specification and tested AO1, AO2, and AO3. Section B, the data response section, dealt with conflict between science and religion and was based mainly on Unit 1:5 of the specification, 'How does science affect society'.

The paper contained four short answer questions testing knowledge and understanding (AO1) and the ability to select relevant material from a passage (AO2). The section concluded as usual with two longer questions testing AO3 and AO4 respectively. These two questions were used to assess communication skills (AO4). The AO2 question (Q25) proved to be rather more straightforward and higher scoring than the AO3 question (Q26). Answers to Q26 showed that many candidates either lacked the necessary skills to evaluate the strengths and weaknesses of evidence/argument or had not learned how to apply these skills to specific instances, rather than have a general understanding of them.

Section C contained two structured essays which tested AO1, AO2 and AO4. Of these Q28 proved the more straightforward and higher scoring. Candidates appeared less certain of the detail needed to answer Q27 than they did for Q28. In both questions candidates seemed to be somewhat better able to present evidence of AO2 than for AO1. Q27 was focussed on Unit 1:6, 'What makes a humane society?' and Q28 was based on Unit 1:4, 'How does science affect society?'

Many candidates were able to display a good range of knowledge and understanding of the topics, but a significant number seemed either to lack such knowledge as it affected parts of the specification or failed to recognise the importance of deploying such knowledge to support their claims and arguments, (especially in the longer questions). Candidates were also generally well able to meet the demands of AO2, both in multiple-choice and short-answer questions, as well as in the extended writing. The main area of weakness and uncertainty continues to be with AO3. Candidates who have been well-prepared are usually able to produce good answers to AO3 questions, but too many candidates seem to lack such preparation and can often struggle.

The standard of communication is generally very good, but the quality of written legibility appears to be getting worse. Candidates must recognise that, however good their knowledge and ideas may be, and however well they are presented in good English, they will not be able to earn the marks they deserve if their work cannot be read. This comment applies to legibility in the sense of letter construction and in terms of the size of writing. Miniscule writing appears to be increasingly prevalent.

### Multiple Choice Questions (Section A)

Most candidates were able to score well in this section. Over 50% of all candidates were able to select correct answers for 15 of the 20 questions. The questions most regularly answered correctly, with between 85 and 97% of candidates selecting the correct answers were Q19, Q11 and Q7. Other relatively easy questions which scored better than 75% of correct responses were Q2, Q8, Q15 and Q18. The most difficult question was Q11. Surprisingly, a smaller proportion of more able candidates were able to identify technological developments than the overall percentage of correct responses, indicating perhaps that guessing, rather than knowledge, came into play. Q4 and Q17 both attracted only 36% correct responses overall. Q17 (types of argument) was correctly answered by two-thirds of candidates. Other questions where fewer than 50% of all candidates provided correct responses were Q1 and Q19. Perhaps the best discriminators were Q8 (Marie Curie), Q9 (funding for cancer research), Q12 (Utilitarianism), Q13 (animal treatment) and Q16 (argument by analogy). In each of these the majority of able candidates selected the correct answer. Overall candidates seemed to cope better with those questions which tested knowledge but questions testing AO3 often proved rather more challenging.

## Question 21

This question tested knowledge about differences between the Copernican and earlier models of the solar system. Marks were awarded for recognising and explaining differences between a geocentric and heliocentric system.

It was generally well answered with almost 60% of all candidates achieving 2 or 3 of the marks available. A minority of candidates lost marks by confusing the Ptolemaic and Copernican systems. A somewhat larger majority got confused with religion and others managed to introduce the Big Bang theory. Others failed to score with answers which referred to continental drift and plate tectonics or discussed Newton, Darwin or Galileo. Some candidates lost marks by describing the two systems but failing to identify specifically which was which. Most candidates showed some familiarity with the two models but often failed to provide sufficient detail, especially about the role of planets.

### SECTION B

Answer ALL questions.

You should aim to spend no more than 30 minutes on this section.

Read Source 1 on the separate insert and then answer questions 21–26.

- 21 Use your own knowledge to describe how the Copernican model of the Solar System differed from earlier models.

The Copernican model of the solar system differed from earlier models because it challenged the traditional Christian view, which placed humanity at the centre of the Universe. Another contrasting example is provided by Isaac Newton's 17<sup>th</sup> century work in mechanics and optics. It could have also challenged other beliefs and religions that had their own views of the solar system like the Greeks or ~~ancient~~ ~~Mayans~~ who used the ~~sun~~ Sun and solar system in many ~~of~~ ways including a calendar.

(Total for Question 21 = 3 marks)



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**Examiner Comments**

This answer failed to earn any marks. The reference to humanity at the centre of the universe is too vague to earn any credit. The candidate should have been able to show that the main difference related to whether the Earth and the planets circled the Sun or whether the Sun and planets orbited the Earth. References to Newton and other ancient civilisations has no relevance to the question and cannot be credited.



**ResultsPlus**  
**Examiner Tip**

To score marks, answers need to be specific and clearly related to the question.

## SECTION B

Answer ALL questions.

You should aim to spend no more than 30 minutes on this section.

Read Source 1 on the separate insert and then answer questions 21–26.

- 21 Use your own knowledge to describe how the Copernican model of the Solar System differed from earlier models.

The Copernican model states that the sun is the centre of the solar system and that planets, including the earth, orbit around it. This differs with the earlier models which says that the earth was the centre of the universe and everything orbits around the earth.



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**Examiner Comments**

This is a good answer which gained all three marks. Marks are awarded for marking point 4, showing the Sun is the centre of the system; marking point 3 for showing that Earth orbits the Sun and marking point 2 for showing that the older model saw Earth as the centre of the system.



**ResultsPlus**

**Examiner Tip**

Note that full marks can be earned for a fairly concise answer.

## Question 22

The two required items of evidence for Q22a found in paragraph 2 were, 'the fossil record' and 'knowledge of genetics'. There were no acceptable alternatives. There was a wider choice of answers available for Q22b including references to mutations/adaptations; natural selection; as responses to or because of changes in the environment; and survival of the fittest. To gain marks candidates were required to be fairly precise in the phrases they used. Over 75% of candidates achieved at least 3 of the 4 marks allocated. Less able responses were more likely to score 2 or 3 marks with just 10% being restricted to 1 or 0. Even though fairly straightforward, this question proved to be quite an effective discriminator.

For part (a), most candidates were able to recognise the significance of the fossil record but significantly fewer recognised that better understanding of genetics also provided supporting evidence. Most were able to cope well with the demands of part (b), many favouring survival of the fittest and the idea of adaptation. Some candidates lost marks because they were distracted into referring to environmental factors, which were not relevant to the question. The wide variety of possible answers meant that many candidates achieved both marks.

22 (a) Identify two pieces of evidence in paragraph 2 used to support Darwin's theory of evolution.

(2)

Fossil record and natural selection

(b) Use information from paragraph 2 to explain how new species arise.

(2)

Through the processes of evolution & natural selection which means the progressive mutation of genetics & the process of survival of the fittest.



### ResultsPlus Examiner Comments

This answer gained 3 marks. In part (a), 1 mark was awarded for reference to the fossil record, but natural selection was not an acceptable answer. Two marks were awarded in part (b) for reference to natural selection and mutation. Reference to survival of the fittest was also creditworthy but as the 2 available marks had already been credited no further marks could be added. There is no transfer of marks between part (a) and part (b).



### ResultsPlus Examiner Tip

The mark allocated to a question indicates the number of points that need to be made. Additional points can not earn additional marks.

22 (a) Identify two pieces of evidence in paragraph 2 used to support Darwin's theory of evolution.

(2)

- Evidence in fossils & records show change in ~~species~~ species.
- Evidence from genetics also can show adaptations.

(b) Use information from paragraph 2 to explain how new species arise.

(2)

- Changes in environment can lead to ~~adaptations~~ adaptations in certain species as for example in cold environment the ~~animals~~ <sup>animal</sup> with the best adaptation eg thick fur survive and reproduce.

(Total for Question 22 = 4 marks)



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Examiner Comments

This response gained all 4 marks. Both points made in part (a) met the mark scheme requirements. In part (b) credit was awarded for reference to changes in the environment and adaptations.

### Question 23 (a)

This question, about intelligent design, was very poorly answered. Almost 90% of candidates failed to score. The points required by the mark scheme were that some complicated or complex mechanisms implied a designer or creator. References to creationism were not relevant. References to a designer without reference to complexity of organisms did not achieve any marks. Many candidates identified the existence of a creator but failed to identify the complex aspect of the question. Some did identify complexity and so scored 1 mark, but failed to establish the way this might appear to demand a designer or creator.

23 Use the information in paragraphs 2 and 4 to explain what is meant by these terms:

(a) intelligent design

(2)

Intelligent design is the belief, that comes from creationist theory belief, that the world was formed in Creation and therefore has a Creator, namely God. This theory is based on faith in God rather than evidence.



**ResultsPlus**  
Examiner Comments

This answer failed to earn any marks. It is more about creationism than intelligent design. There is no reference to complexity of organisms and so the second mark for reference to a designer cannot be credited. The question is not asking about faith but about evidence which might lead to a conclusion.

23 Use the information in paragraphs 2 and 4 to explain what is meant by these terms:

(a) intelligent design

(2)

The world is so complex and wonderful that only a 'creator' eg (God) could create it. It is too complex to arise by its own.



**ResultsPlus**  
Examiner Comments

This answer gains a mark for the reference to the complexity of the world as evidence to justify the belief that a creator must have designed it. Both marks are awarded.

## Question 23 (b)

This was easily the most successful part of Q23. Question 23(b) asked for a definition of 'empirical'. Almost 60% of candidates were able to access the mark. The mark scheme gave, 'based on experiment or experience or observation'. Reference to any of these words could earn the mark, but 'evidence based' was not considered creditworthy. The most frequent response was 'observation'.

(b) empirical

(1)

The scientific method of ~~proving~~ backing up theories with evidence. The idea that the universe can be explained through scientific findings.



**ResultsPlus**  
Examiner Comments

This answer, which refers only to evidence, was insufficient to earn a mark.

(b) empirical

(1)

empirical means ~~no~~ something is based on observations and discoveries, not like teleological where there is no observations.



**ResultsPlus**  
Examiner Comments

This answer correctly refers to 'something based on observations' and so is credited with the mark.

### Question 23 (c)

Few candidates appeared familiar with the term 'teleological'. Over 80% of candidates failed to offer an acceptable response. About a quarter of the more able responses were able to explain the term. The mark scheme looked for responses such as something 'having an end, or purpose or aim or intention, or outcome'. Responses which suggested 'consequence' were not deemed creditworthy. Some mistook teleological for technological and so failed to score. A few were able to say that it was a Greek word.

(c) teleological

(1)

Theories supported by religion that believes life has a purpose and that life was created by Creation and a Creator.



**ResultsPlus**  
Examiner Comments

This short answer earned a mark for saying life has a purpose. The final phrase on its own would not be creditworthy.



**ResultsPlus**  
Examiner Tip

Questions such as this require careful reading. It is easy to mistake the word and write down the wrong meaning. This would earn no credit.

(c) teleological

(1)

'tele' <sup>means</sup> ~~derives~~ from mind, so teleological is everything is an idea created in the mind; logic from an idea.



**ResultsPlus**  
Examiner Comments

This answer clearly does not understand the meaning of the term but has attempted to apply some understanding of the meaning of words to work out the correct meaning. Unfortunately there is insufficient understanding to justify a mark.

## Question 24

The meaning of a scientific theory is a central part of the specification and has been tested on many occasions. The mark scheme listed five possible points that could be made to earn the 4 marks available. There was no requirement for candidates to name stages in a correct hierarchy. This meant that a number were able to achieve marks which might otherwise have been lost. Evidence and/or research were not accepted as alternatives to 'observation'. The question proved to be an effective discriminator. Responses showed clearly those candidates who had studied the topic and been well-drilled in how to produce a desirable answer. Some candidates wasted time by writing about examples of scientific theories and too many referred to evidence, so limiting the mark they achieved. A significant number referred to 'ideas' rather than 'hypothesis'. Some used appropriate terms such as 'hypothesis' and 'falsifiable' but clearly did not understand them.

Many were able to refer to hypotheses but relatively few showed that these could be used to make predictions. The other most commonly referred to aspect was testing but few showed that theories may not be completely proven. The best answers presented the correct order of events leading to a proven theory. Some were able to supply more points than the required 4. Marks were fairly evenly spaced with almost 50% scoring 0 or 1 and 40% scoring 2 or 3 marks. The less able responses scored 2 or less while almost half of the more able responses scored 3 or 4 marks.

24 Use your own knowledge to explain what is meant by a scientific theory.

A scientific theory is a discovery with not enough evidence to be proven.

Scientific theories are constantly changing due to changes in evidence and other theories.

These scientific theories have the capability to change what everyone knows and thinks about the world. Once they have been proven they will be so influential for science itself. It will open up many doors for new scientific discoveries and ~~theories~~ theories.



**ResultsPlus**  
Examiner Comments

This answer did not earn any marks as it focuses on evidence rather than observation. The answer is vague, lacking in specific detail which might have accessed points made in the mark scheme.

24 Use your own knowledge to explain what is meant by a scientific theory.

A scientific theory is a reasoning that has been produced for why something happens. The theory may begin as a hypothesis that someone has come up with, and this hypothesis may be tested for results, so the scientific theory therefore may be the explaining or the reasoning behind the results that have resulted from the testing of the hypothesis.



**ResultsPlus**  
Examiner Comments

This answer gained 2 marks for reference to hypothesis and testing. It fails to discuss observation as a basis for the hypothesis, does not refer to prediction or revision. There is no indication that a theory may not be completely proven because of the possibility of new observations which may challenge what has been previously accepted.

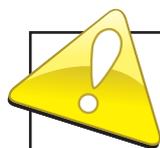
24 Use your own knowledge to explain what is meant by a scientific theory.

A scientific theory is first based on observation, then a hypothesis then testing the hypotheses.



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Examiner Comments

This very short answer produced sufficient justification for the award of three marks. It includes observation (bullet A), hypothesis (bullet B) and prediction (bullet D).



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Examiner Tip

An answer does not have to be long provided sufficient information is given to justify the award of marks.

## Question 25

This question about conflicts between religion and science was firmly based on extracting information/evidence from the passage. Candidates who moved away from the text were unlikely to score well. Overall, 50% of candidates scored 3, 4 or 5 marks out of 8 with a further 33% scoring between 6 and 8.

Most candidates were able to cope well with the demands of the question but some appeared to have difficulty in restricting themselves to the passage. Most were able to see the general conflicts between science and religion, focussing especially on the contribution of Darwin. A few candidates simply quoted lengthy sections from the passage without offering explanation. Consequently they often failed to score well. The question appeared to be quite accessible to the majority of candidates.

**25** Using information from the source, explain why some scientific developments have led to conflict between science and religion, whereas others have not.

Depending on the conclusions made from scientific developments, conflict between science and religion can arise. Scientific developments that challenge traditional religious beliefs and ideas lead to conflict between science and religion. However, scientific developments that don't challenge religion don't lead to conflict.

Darwin's theory of evolution driven by natural selection denies the need for a deity (God) to explain the variety of life on Earth. It goes against the core belief of most religions that God made humans in his own image and ~~he~~ <sup>that God</sup> created the Earth. ~~Explain~~ Therefore, conflict between science and religion arises as the scientific theory challenges a major belief of most religions. Similarly, Nicolaus Copernicus' heliocentric model of the universe caused conflict between religion and science. The Bible suggests in Genesis that the Earth was the centre of the solar system, so the Christian view placed humanity at the centre of the universe. ~~Explain~~ The Copernican model challenged this view, so caused conflict. On the other hand, Isaac Newton's work in mechanics and optics; and research by Rutherford and Thompson among others in atomic structure, didn't lead to conflict between science and

religion because ~~they~~ these scientific developments don't present a challenge to religious teachings.



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**Examiner Comments**

This answer scored 4 marks for AO2 and 3 marks for AO4 (communication). The first paragraph says little and does not earn any marks. The first four lines of paragraph 3 cover marking points A (Darwin's clash with religion), B (link between evolution and aspects of religion) and C (the origin of humankind). The final paragraph earns a mark for D (Newton, Thompson and Rutherford did not clash with religion) but E (their areas were not relevant to religion) could not be awarded because there is insufficient detail. AO4: 3 marks awarded for communication for meeting the descriptors for band 3.

25 Using information from the source, explain why some scientific developments have led to conflict between science and religion, whereas others have not.

Scientific developments may lead to conflict between science and religion because these discoveries may go against and prove why ~~fast~~ a religion is not correct. Scientific discoveries such as Copernicus's model of the solar system and the big bang theory causes conflict as it goes against religious teachings and beliefs. This means that these ideas are rebuffed by religious people, however scientists provide evidence and think that their theories are correct and therefore have a clash of opinion.

On the other hand some scientific discoveries such as Thomas Edison and the development of electricity do not interfere ~~with~~ with religious views and therefore don't produce any conflict between science and religion.

<sup>in conclusion</sup> ~~also~~ religious beliefs do not have any evidentiary support and this is why there is conflict between science and religion. Science has led to many other great discoveries and does not ~~need~~ need other than ~~these~~ theories which conflict religious teaching but there will always be conflict as science uses its evidence to support theories which go against religion.

(includes 3 marks for Quality of Written Communication)



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AO2 earns 2 marks, as does AO4. The first paragraph is awarded marks for marking points A and B but not C. Paragraph 2 makes a valid point but since Thomas Edison is not taken from the source, no further marks can be credited. The final paragraph does not answer the question. AO4: Communication is awarded 2 marks for meeting the band 2 criteria.

25 Using information from the source, explain why some scientific developments have led to conflict between science and religion, whereas others have not.

~~The~~ Scientific evidence is based on discoveries, ~~the~~ conclusions and theories change when observations change. This shows how when evidence changes, theories change due to new findings. This shows how science does not follow a linear narrative as it is always changing. On the other hand this can cause conflict between science and religion. Religions are forced to argue against any change of view this ~~to~~ is due to a large amount of people ~~believing~~ sharing the same belief. This shows an argument of belief and can be deemed as a strong argument depending on the amount of people supporting.

Research by Rutherford and Thompson lead to a discovery of atomic structure allowing scientists to build a new nuclear structure. This raised many ethical issues, the scientific developments behind them were not seen as presenting a challenge to religious teachings.



### ResultsPlus Examiner Comments

Much of this answer is irrelevant and marks cannot be credited. The only mark-worthy point is the reference to Rutherford in paragraph 2. The communication mark is restricted to band 1 because much of the answer is irrelevant. This answer is credited with 2 marks.



### ResultsPlus Examiner Tip

Questions which ask for answers to be based on material taken from the source will not earn marks if the source is not used.

## **Question 26**

This question tests AO3 and follows a well-trying format based on the analysis of the strengths and weaknesses of argument and evidence used in a written source. Candidates ought to be familiar with the demands and how appropriately to respond to this form of question.

Responses normally fall into three main types. A considerable number have clearly not been properly prepared, often lacking knowledge of correct terminology. Many of these responses ignored the question completely and give their own opinions on the issue raised, rather than the evidence and arguments used by the author of the passage. Others have learnt the appropriate terminology but apply it in a general rather than specific sense. The third group of responses understand and are able to apply AO3 skills to the source material. They usually score well.

Weaker responses failed to score or achieved only 1 or 2 marks. More able responses scored 2 or fewer. Since 3 of the 7 marks are allocated to communication (AO4) the figures suggest that many candidates achieved very few AO3 marks.

Candidate responses indicate that careful teaching of AO3 terminology is essential if high scores are to be achieved. Responses should be clearly targeted and well structured. At the least, candidates should be able to identify relevant evidence, distinguish between fact and opinion, detect bias and be aware of different types of argument. A key element of the question concerns strengths and weaknesses and this must be addressed with regard to the evidence and arguments in the passage if full marks are to be achieved. Centres would be well advised to make use of the marking points in the mark scheme to inform their guidance to students.

26 The author uses different types of evidence and arguments to support the view that the theory of evolution will eventually be universally accepted.

Assess the strengths and weaknesses of these different types of evidence and arguments, using examples from the source.

There is evidence that religious views will change and the theory of evolution will eventually be universally accepted. With Nicolaus Copernicus' work the 'Catholic Church responded by banning Copernicus' work until 1835.' But today, the text says, 'today, nobody doubts the essential facts of the Copernican model of the solar system.' This leads to an argument of causation as the text implies that if one theory which was once rejected is now accepted then the same could happen to Darwin's theory of evolution. ~~This is the~~ This argument of causation is only as strong as it is close. The text says 'To a scientist, belief in Darwin's theory is based on confirmatory evidence such as the fossil record.' This argument is from authority, which can be weak as <sup>different authorities can</sup> ~~it can~~ contradict one another. The argument of ~~fact~~ 'science is empirical not teleological' is a fact and therefore is a strong argument.



### ResultsPlus Examiner Comments

This answer gained 5 marks, 2 of which were for A03 and 3 for communication. The answer contains evidence of knowledge of some of the appropriate terminology but they are used indiscriminately and not necessarily accurately to the passage. Marking point B is awarded for reference to Darwin and Copernicus. Marking point C is credited for 'today nobody doubts the accuracy of the Copernican model'. Marking point E cannot be awarded because, although the answer correctly makes comparison between Darwin and Copernicus, it is an example of argument by analogy and not of causation. Similarly there is no justification for discussing argument from authority. The final sentence would have merited marking point B, but it has already been awarded.

**26** The author uses different types of evidence and arguments to support the view that the theory of evolution will eventually be universally accepted.

Assess the strengths and weaknesses of these different types of evidence and arguments, using examples from the source.

Facts are used such as the presence of "fossil records" and "recent understanding of genetics". These present strong arguments as the evidence is definite.

However, opinion is present as "Creation... is based on faith rather than evidence" is his ~~own~~ view as some would argue that holy books are all the evidence one could ever need.

The use of inverted commas around "theory" when addressing religion leads one to believe the author is bias towards science resulting in a distrust of how realistically and fairly they're going to portray events.



### ResultsPlus Examiner Comments

This answer was awarded all 4 marks for AO3 and 2 marks for communication (AO4). Marking points B and D are awarded for paragraph 1. Paragraph 2 earns marking point C and marking point A is credited to the third paragraph. This is not a perfect answer but the candidate shows an understanding of some of the key AO3 skills and is able to apply them clearly to this source. The answer could have been strengthened with reference to the types of argument used by the author.



### ResultsPlus Examiner Tip

It is not enough simply to know and be able to list AO3 terms. To earn marks it is essential that they are applied specifically to the source material provided.

## Question 27

Of the two essays this was generally the less well-done and usually produced shorter answers. More able responses scored 11 or less out of 20. Weaker responses scored 4 or less and the majority of these achieved fewer than half marks.

A significant number of candidates mistakenly thought the UK is a secular country. Many appeared not to understand the meaning of secular, often assuming that it meant religion was not allowed. Many failed to recognise that the UK is not a secular state. Such misunderstanding often led to unbalanced, and at times confusing, arguments. Several took a one sided view so were only able to secure a maximum of 6 marks.

Syria, ISIS, 9/11 and the Holocaust were quoted to variable extents. Some just repeated the stimulus information in the question. It was good to read that specific religious clothes were referred to when discussing religious heritage and customs linked to freedom of choice. A significant number did not provide a conclusion so missed out on marks. Too often candidates showed strong anti-Muslim feelings and made negative references to migration issues. In a few cases the essay was used as an excuse for an unbalanced rant against Muslims, or the policy/attitudes of the USA and France, or even religion in general. To achieve high marks on essays candidates must be able to put aside personal prejudices and seek a balanced and well-supported approach.

Relatively few candidates scored well on AO1 (knowledge and understanding) but answers were slightly better on AO2 (argument).

**27** Although the United States is officially secular, the religious background of presidential candidates is examined closely. In France, the wearing of religious dress is restricted in public buildings. In the UK, the monarch is Head of the Church of England, but arguably society is more tolerant of various religious beliefs and practices.

Discuss the view that individuals have less religious freedom in a secular state.

(20)

In a secular state it could be argued that individuals have less freedom than in a non secular state.

It could be said that in fact, no matter what country <sup>are in you</sup> you have the same freedom to ~~to~~ practice religion. For example many religious practices such as prayer are often practiced in the home or in a private place. Therefore no matter what the nature of the country, many religious acts ~~beliefs~~ can be practised.

The UK is a clear example of how many people are still free to practice

religion despite the Queen being head of the Christian Church. ~~The idea~~ Especially in this age where migration to other countries and ~~an~~ integration into different cultures is widely accepted and common, it could imply that in fact religious freedom is a part of this, with diverse communities and people learning <sup>more</sup> about ~~new~~ religions all the time. Therefore it could be argued that being a secular state is not a barrier to expression of religious belief.

However, ~~if~~ there are examples such as the implementation of ~~faith~~ <sup>faith</sup> schools by governments and countries which could potentially be seen as an attempt to perhaps internalise freedom of expression of religious beliefs, and this could, when implemented by a secular state, could be an example of how the country's status can affect religious belief expression.



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This answer was awarded 6 marks, earning 2 marks each for the three AOs. AO1 marks are awarded for the reference in paragraph 2 to religious practices taking place "in a private place" and in paragraph 3 for saying that a "secular state is not a barrier" to religious freedom. Two AO2 marks were credited in the final paragraph for the reference to "faith schools" and for the conclusion. Communication (AO4) was awarded 2 marks for meeting the descriptor for band 2.

## SECTION C

Answer BOTH questions.

You should aim to spend no more than 40 minutes on this section.

- 27 Although the United States is officially secular, the religious background of presidential candidates is examined closely. In France, the wearing of religious dress is restricted in public buildings. In the UK, the monarch is Head of the Church of England, but arguably society is more tolerant of various religious beliefs and practices.

Discuss the view that individuals have less religious freedom in a secular state.

(20)

Secular states are often seen as a way to offer more freedom as ~~every~~ all religions are seen to have a place, just in private. However, this does prevent people from

People in a secular state have the freedom to practice their faith to their hearts content so long as it's not influencing others in public. However, is it not wrong to prevent someone from being themselves in public? The idea that a person who is in power can't express a huge part of their identity just because it's frowned upon is similar to when it was frowned upon for women to wear trousers.

Although, religion has been known to cause many conflicts both in the past and present. When one looks at the middle east and sees ISIS, for example, one is presented with tales of

~~execute~~ executions just because of their religious ~~executions~~ standing or other part of their identity. It's wrong for the ruling body to persecute on the basis that someone doesn't share the same beliefs as they do.

Non the less, religion is often credited for being the basis of modern laws and morals. Without religion at the heart of our society would it be as advanced? In the past it served as a way to bring whole ~~countries~~ countries together and even multiple countries too. No one can deny ~~deny~~ the religion's ability to hold people together.

But, it's this ability to bring people together ~~and~~ under one faith that lead to events such as the crusades. Events where countless people were murdered because someone in authority who shared the same faith as you said so. It's this ~~ability~~ possibility for corruption to occur and manipulation to follow that should scare anyone.

To conclude, the individual has more religious freedom in a secular state as they can practice what

over religion they desire in private. Although some items of attire may be banned, one has freedom to choose countless others and is not forced to wear those deemed ~~as~~ essential by a <sup>single</sup> religion. One is also free to live peacefully and not be fearful of religious conflicts resulting in a freer individual.



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The answer scored much better for AO2. Marks were awarded for saying that "all religions are seen to have a place", in paragraph 1. The references to ISIS in paragraph 3 and the Crusades in paragraph 5 earned further marks, as did the reference in the final paragraph that people are "not forced to wear those [clothes] deemed essential by a single religion". The final paragraph is an effective conclusion and earned a further 3 marks. Communication is clear and meets the criteria for the award of band 4, (4 marks).

## **Question 28**

This essay produced better results than Q27. More able responses scored at least 8 or more marks out of 20 with very few gaining between 15 and 20, and over half of these gaining between 11 and 14 marks. Only a small number of responses scored fewer than 7 marks with a minority of these gaining more than half marks.

Candidates generally produced longer responses, often showing excellent knowledge. Good practice was seen in the production of a balanced response with reference to specific case studies backed up with facts and information. Reference was sometimes made to greenhouse gases but none were specifically named. Some candidates were prompted to discuss rising sea levels, ice caps melting and Bangladesh sinking. Chernobyl was the most frequently referred to accident and others addressed the problem of waste disposal and the effects of accidents. Some gave very detailed explanations of how nuclear fusion works and others discussed the difficulty of harnessing nuclear fusion. Few recognised that nuclear is an expensive option when compared to fossil fuels, but often recognised the huge potential of nuclear energy and the benefits of research. Others referred to renewables in general but failed to name any specific types. Fossil fuels were the most frequently quoted power sources.

**28** Nuclear power stations have operated in many countries since the 1950s. When in operation, these power stations do not release greenhouse gases. However, problems with the disposal of radioactive waste have yet to be resolved, and some disastrous accidents in the USA and Russia, and more recently Japan, caused widespread pollution. There are serious disagreements about the continued use of nuclear power as part of our mixed energy supply.

Examine arguments for and against shutting down nuclear power stations and ending all research into nuclear fission and fusion.

(20)

I believe that shutting down nuclear power stations would be a bad idea,

Shutting down nuclear power stations would be disastrous for the world! They have been operating for over 60 years now and they are a huge and valuable source of power. Many people think that they are a lot more dangerous to the environment than they actually are, but in fact they bring more good than bad.

On the other hand, shutting down the stations would dramatically reduce the pollution in our environment and also there would be less of a build up of radioactive waste, which is still sitting there! Also this would stop anymore disastrous accidents to countries such as the USA and Russia.

To conclude, I believe that the shutting down of the power station would be ridiculous and more people should be informed on the benefits it brings us, rather than just focusing on the negatives. Without them, I wouldn't know what we'd do.



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**Examiner Comments**

This response scored 7 marks, including 3 for AO4. AO1 marks were awarded for saying that nuclear plants have been operating for over sixty years in paragraph 2 and in paragraph 3 for the continued existence of nuclear waste. AO2 marks were credited for the existence of a huge and valuable source of power (paragraph 2) and for the conclusion. Communication met the descriptor for band 3, earning 3 marks.

**28** Nuclear power stations have operated in many countries since the 1950s. When in operation, these power stations do not release greenhouse gases. However, problems with the disposal of radioactive waste have yet to be resolved, and some disastrous accidents in the USA and Russia, and more recently Japan, caused widespread pollution. There are serious disagreements about the continued use of nuclear power as part of our mixed energy supply.

Examine arguments for and against shutting down nuclear power stations and ending all research into nuclear fission and fusion.

(20)

<u>For</u>	<u>Against</u>
accidents eg Chernobyl	can create lots of energy
free radicals produced - destroys ozone layer - harms environment	don't release greenhouse gases
disposal of waste	<del>other sources of energy are safer</del>
weaponry	
safer things could be used	

Since they began operating in the 1950's, nuclear power stations have caused great debate across the world, as to whether or not they should remain open, and if their benefits are enough to outweigh their potentially earth-destroying risks.

It can be argued that without nuclear power plants, the world wouldn't have been affected by disaster large scale disasters such as Chernobyl. This cost thousands of lives and affected families all across <sup>Europe</sup> ~~the~~. Therefore, the Chernobyl disaster indicates that nuclear power stations should be shut down because just a simple mishap can have massive implications.

Also, nuclear power can be used in ~~weaponry~~ <sup>weaponry</sup> and armaments. An example of this is in the Cold War in the 1960's, when USA and Russia tried to rival each other with having the most nuclear weapons.

However, they ended up with so much that if they had begun to use them, the world would have been destroyed. This could also suggest that nuclear power should be stopped because it encourages war and rivalry with other countries, not peace.

Furthermore, the testing and research done into nuclear fission can produce free radicals, which destroy the ozone layer. Thus, this is a reason to end nuclear research because without the ozone layer we are the victims of more radiation from the sun which can lead to cancer and health problems.

However, nuclear power does have its uses. With the population in the world increasing, the demand for energy is higher than ever. Nuclear power can provide vast amounts of energy, whilst not using up too much space relative to the amount it produces. Consequently, there is more space for housing and land for growing crops. This is a factor that could indicate that nuclear power is beneficial not detrimental to the earth and its development.

Also, nuclear power doesn't produce greenhouse gases. This is vital, as the amounts of  $\text{CO}_2$  and methane in the atmosphere are rapidly rising without the help of nuclear fuels as well, and this is leading to a rise in sea levels, and global warming of the planet. Therefore, it could be argued that nuclear power ~~should~~<sup>stations</sup> should remain operational because if they weren't, another <sup>energy</sup> ~~power~~ source would have to be used, which would likely contribute towards

global warming.

Overall, whilst it can be argued that the use of nuclear power stations, and the undertaking of research into nuclear fission, has positive and negative outcomes. However, I believe that the negative outcomes outweigh the positive ones, and <sup>the use of</sup> nuclear power should be ended, as they could cause total destruction to the Earth and there is a large risk of this occurring, ~~and~~ although they don't release greenhouse gases, there are other energy sources eg solar and hydroelectric, that don't either, and these come without the severe health hazards of nuclear power.



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This answer earned 17 marks, including 4 marks for AO4. Two AO1 marks were awarded for the reference to Chernobyl and the cost of thousands of lives affecting families all across Europe (paragraph 2). Increased demand for energy (paragraph 5) and references to CO<sub>2</sub> and Methane each received a mark (paragraph 6). Two final AO1 marks were credited for references to solar and hydroelectric power in the final paragraph. AO1 is therefore credited with 7 marks.

AO2 earned marks for the use of nuclear power in weaponry and the vast amounts of energy required (paragraph 3 and 5). Two additional marks are awarded for the need for an alternative energy source and the contribution to global warming (paragraph 6). The conclusion is awarded 2 further marks. AO2 earns 6 marks. Communication meets the criteria for AO4 band 4 and so earns 4 marks.

## Paper Summary

Based on their performance on this paper, candidates are offered the following advice:

- Take more care with reading and deconstructing the questions. Too often marks were lost because questions were misread or key command words were ignored.
- Improve understanding and application of the key aspects of AO3. Candidates can usually cope with short questions used in Section A to test aspects of AO3, but frequently have difficulty in applying their knowledge when asked to evaluate the strengths and weaknesses of evidence or arguments used in source material.
- Ensure that, in essay writing, candidates deploy factual knowledge to provide supporting evidence for the claims they make.
- Ensure that writing is clear, legible and of a size which can be read easily.

## **Grade Boundaries**

Grade boundaries for this, and all other papers, can be found on the website on this link:

<http://www.edexcel.com/iwantto/Pages/grade-boundaries.aspx>



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