

## Teacher Resource Bank

GCE General Studies A

Second Specimen Question Papers and Mark

Schemes:

- GENA1



General Certificate of Education  
Advanced Subsidiary Examination



**GENERAL STUDIES (SPECIFICATION A)**  
**Unit 1 AS Culture and Society**

**GENA1**

**For this paper you must have:**

- a Source Booklet for Section A and Section B (enclosed)
- an objective test answer sheet for Section A
- a 4-page answer book for Section B.

Time allowed: 1 hour 30 minutes

**Instructions**

- Use black ink or black ball-point pen.
- Write the information required on the front of your answer book for Section B. The *Examining Body* for this paper is AQA. The *Paper Reference* is GENA1.
- Answer **all** questions.
- Answer Section A (Questions 1.1 to 1.30) using the answer sheet provided and Section B (Questions 2, 3 and 4) in your separate answer book.
- Do any rough work in your answer book
- Hand in **both** your answer sheet **and** your answer book separately at the end of the examination.

**Information**

- The maximum mark for this paper is 65.
- This paper consists of **two** sections.  
**Section A** contains 30 objective test questions based on **Source A**. There is 1 mark for each question. You will not lose marks for wrong answers.  
**Section B** contains structured questions based on **Sources B, C and D**. Marks are shown after each question and total 35.

**SECTION A**

Each of the 30 questions carries 1 mark.

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Read the source entitled **Do TV detectives hold the clue to our times?** which is printed in the separate Source Booklet and answer **Questions 1.1 to 1.30** by choosing the answer represented by the letter **A, B, C** or **D** that you think best. Mark your responses on your objective test answer sheet.

**1.1** Which of the following linguistic devices does the author employ in the title?

- 1** metaphor
- 2** pun
- 3** rhetorical question
- 4** alliteration

Answer

- A** if **1** and **3** only are correct.
- B** if **2** and **3** only are correct.
- C** if **2** and **4** only are correct.
- D** if **3** and **4** only are correct.

**1.2** What purpose is served by reminding us of the number of detectives on television (paragraph 1)?

- 1** to show how many series there have been recently
- 2** to command the range and variety available to the viewer
- 3** to illustrate the limitations of choice of genre available to the viewer
- 4** to suggest the genre has become too common

Answer

- A** if **1** and **2** only are correct.
- B** if **2** and **3** only are correct.
- C** if **1, 3** and **4** only are correct.
- D** if all of them are correct.

1.3 Which of the following are suggested by the author in paragraphs 2 and 3?

- 1 The market for detective programmes is saturated.
- 2 It is difficult to find fresh titles.
- 3 The popularity of such programmes is short-lived.
- 4 Viewers identify strongly with the leading characters.

Answer

- A if 1 and 2 only are correct.
- B if 1 and 3 only are correct.
- C if 2 and 3 only are correct.
- D if 2 and 4 only are correct.

1.4 The phrase ‘on the box’ (paragraph 3) is an example of the use of

- A colloquialism.
- B invective.
- C brevity.
- D humour.

1.5 ‘the genre has proliferated’ (paragraph 4) means that

- A TV crime-based dramas have become increasingly popular.
- B the increase in TV crime-based dramas reflects the rise in crime in society.
- C the number of TV crime-based dramas has increased rapidly.
- D there are too many crime-based dramas on TV.

1.6 In paragraph 4 the author gives each of the following as a reason for the increase in the number of detective dramas **except**

- A their potential for interesting plots.
- B the growth of television in general.
- C the opportunities they offer writers.
- D their popularity with the viewers.

1.7 In paragraph 5, the reference to ‘in a coded way’ means that writers make use of

- A opportunities to discuss difficult social issues.
- B impenetrable scripts which are hard to follow.
- C stereotypical plots that have the same theme.
- D scripts that do not dare to be controversial.

1.8 The main point being made in paragraph 5 is that

- A only commercially popular TV dramas are being commissioned.
- B the increase in detective dramas reflects their increasing popularity.

- C there is a lack of political awareness in detective dramas.
- D too few risks are taken when commissioning new TV dramas.

1.9 ‘Trojan horse drama’ (paragraph 6) implies that Tony Garnett

- A has the freedom to choose which subjects he can write about.
- B is a hugely successful and popular writer of TV drama.
- C is using a crime based TV series to write about other social issues.
- D wants to understand the popularity of crime based TV drama.

1.10 Paragraphs 6 and 7 imply that television executives

- 1 are happy to have more detective dramas.
- 2 prefer to remain loyal to a genre which attracts large audiences.
- 3 want to avoid controversy.
- 4 are only interested in money.

Answer

- A if 1 and 3 only are correct.
- B if 2 and 4 only are correct.
- C if 1, 2 and 3 only are correct.
- D if all of them are correct.

1.11 In paragraphs 6 to 8 the author suggests that people like Garnett and Marquess may be subverting TV programmes because they

- 1 use them for political and social comment.
- 2 adapt them for their own purposes.
- 3 breach the ITC code.
- 4 corrupt the viewers.

Answer

- A if 1 and 2 only are correct.
- B if 1 and 3 only are correct.
- C if 2 and 3 only are correct.
- D if 2 and 4 only are correct.

1.12 Thomas Kyd’s *The Spanish Tragedy* ‘spoke to the cultural moment’ (paragraph 10) because it

- A responded to the needs of its audience.
- B offered a new form of entertainment.
- C was unsophisticated and easy to follow.
- D contained sex and violence.

**1.13** 'Post-Reformation people had lost the comforts of the confessional and, burdened with conscience, turned their guilt inwards' (paragraph 10) is a reference to the

- A enjoyment of a new form of sensationalist drama.
- B lack of censorship which existed in 16<sup>th</sup> century England.
- C need to reform political and cultural institutions of the time.
- D rejection of the doctrines of the Roman Catholic Church.

**1.14** The phrase in paragraph 10 that refers **specifically** to a culture of hatred of women by men is

- A 'misogynistic ideology'.
- B 'corrupt authority figures'.
- C 'gender power struggle'.
- D 'comforts of the confessional'.

**1.15** In the context of paragraph 11 'the values of *Dad's Army*' might best be described as

- A comical.
- B innocent.
- C pornographic.
- D religious.

**1.16** In the ‘morally ambiguous world’ mentioned in paragraph 11

- A** good and bad actions are easily identified.
- B** all characters are evil.
- C** depraved villains are brought to justice.
- D** clear judgements are difficult to make.

**1.17** Paragraph 11 suggests that audiences want programmes about

- A** complex social issues.
- B** psychologically complex characters.
- C** the pornography industry.
- D** someone who has the answers to problems.

**1.18** The term ‘maverick copper’ used in paragraph 11 describes a character who is particularly

- A** sympathetic.
- B** perceptive.
- C** emotional.
- D** individualistic.

**1.19** According to the author in paragraphs 10 and 11 which of the following problems has affected both Jacobean England and contemporary society?

- A** political revolution
- B** religious upheaval
- C** moral uncertainty
- D** social instability

**1.20** In paragraphs 10 and 11 the author suggests that revenge tragedy and detective drama were beneficial because they provided

- A** escapism.
- B** excitement.
- C** fear.
- D** reassurance.

**1.21** In paragraphs 9 to 11 the author compares the popularity of detective drama to revenge tragedy for each of the following **except**

- A** audiences enjoyed gruesome murders.
- B** the power struggle between male and female appealed to people.
- C** there is a common fascination with corruption in high places.
- D** they represent an ideology which reflects distrust of foreigners.

**1.22** The phrase ‘woman detective hitting glass ceiling’ used in paragraph 12 is a reference to female police officers’

- A** ability to take responsibility.
- B** chances of promotion.
- C** frustrations with male colleagues.
- D** unreliable temperament.

**1.23** ‘puritanical certainties’ (paragraph 13) refers to

- A** a secular based attitude to morality.
- B** a strict religious code of behaviour.
- C** the changing position of women in society.
- D** the decline in the popularity of revenge tragedy.

**1.24** The phrase ‘without recourse to the detective fig leaf’ (paragraph 13) means that

- A** new detective stories are difficult to write.
- B** writers wish to be more open about their subject.
- C** television drama will become more explicit.
- D** new writers will find it easier to have their work produced.

**1.25** The author’s reference to ‘fig leaf’ in paragraph 13 draws its imagery from

- A** history.
- B** literature.
- C** scripture.
- D** nature.

**Turn over for the next question**

**Turn over ►**



**1.26** Paragraphs 13 and 14 suggest that there will be a reduction in the number of television detective dramas because

- 1** there are too many badly written scripts.
- 2** there is too much coverage of the genre between BBC and ITV.
- 3** writers are keen to explore new forms.
- 4** society will change.

Answer

- A** if **2** alone is correct.
- B** if **2** and **3** only are correct.
- C** **1**, **2** and **3** only are correct.
- D** if **1**, **3** and **4** only are correct.

**1.27** According to the source, TV detective dramas have treated the changing role of women

- A** accurately.
- B** critically.
- C** sarcastically.
- D** sympathetically.

**1.28** The success and value of detective stories for the television audience are that they

- A** allow widespread exploration of contemporary issues.
- B** are the most popular form of drama.
- C** have won many major television awards.
- D** are able to by-pass the 9.00 pm watershed.

**1.29** Which of the following represent views put forward by the author of the source about television drama?

- 1** Social and cultural change can be explored through television drama in a variety of ways.
- 2** Police and detective drama is the only way to examine difficult contemporary issues.
- 3** The individualistic and independent policeman is a useful character model for reflecting the spirit of our times.
- 4** More variety in the social themes and settings used in television drama is desirable.

Answer

- A** if **2** alone is correct.
- B** if **1** and **3** only are correct.
- C** if **1**, **3** and **4** only are correct.
- D** if all of them are correct.

**1.30** The main purpose of the source is best described as

- A** academic analysis.
- B** challenge and controversy.
- C** evaluation and discussion.
- D** satirical review.

**End of Question 1**

**Turn over for Question 2**

**SECTION B**

Study **Sources B** to **D** provided in the separate Source Booklet and then answer **all** the following questions.

Wherever possible **use your own words** to show you understand the arguments.

You will be marked on your ability to use good English, to organise information clearly and to use specialist vocabulary where appropriate.

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**2 Read Source B**

- (a) Using your own words, give three reasons from **Source B** why church leaders believe that there has been a decline in morality. *(4 marks)*
- (b) Using your own knowledge, give three reasons why some people believe that there has not been such a decline in morality. *(4 marks)*

**3 Read Source C**

Using evidence from **Source C**, and your own knowledge, examine the extent to which people feel a need for religion in their lives. *(13 marks)*

**4 Read Source D**

Using evidence from **Source D**, and your own knowledge, discuss why some people believe that religion is in serious decline while others argue that religion is thriving. *(14 marks)*

**END OF QUESTIONS**

General Certificate of Education  
Advanced Subsidiary Examination



**GENERAL STUDIES (SPECIFICATION A)**  
**Unit 1 AS Culture and Society**

**GENA1**

## Source Booklet

Sources for use with **Questions 1.1 to 1.30** and **Questions 2 to 4**.

## SECTION A

### PASSAGE FOR QUESTIONS 1.1 TO 1.30

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#### Source A

#### Do TV detectives hold the clue to our times?

- (1) Why are there so many detectives on British television? Every week brings DCI this, DS that or DC the other. Are writers really interested only in showing us the inside of a murder room with mutilated torso pictures on the wall? In the past 12 months alone, we have sat through Pascoe, Borne, Linley, Jordan, Aspinall, Frost, North, Satchell, Ross, Poirot, Dalziel, Havers, Ketman, Boyd, Pullman, McAllister, Reid, Metcalfe, Meadows, Barnaby, Bain, Hedges, Foyle, Davies, Fraser, Blake, O’Hanlon, Pearson, Struthers, Milner, Burke and Sharpe. And that is before even counting one-off dramas or American shows or all those series that pretend not to be detectives, but are really, such as *Jonathan Creek* and *Red Cap*.
- (2) Next week sees the launch of, yes, you guessed it, a new detective series. DC McManus and DI Friend are the latest state-of-the-art cops from Jackie Malton, who is part of the team that has devised a new series that was going to be called *Think Murder* until ITV ruled that there are far too many programmes already with “murder” in the title. Well, there are: *Mapping Murder*, *Murder Trail*, *Murder in Mind*, *The Murder Game* and, of course, just plain *Murder*. The series was renamed *MIT: Murder Investigation Team*, which at least relegates murder to the sub-title.
- (3) Clearly, we British love a good murder, and there have always been detectives on the box. As long ago as 1965, the BBC tried to take off *No Hiding Place* after six years, but public pressure forced them to give DCI Lockhart a further two-year run; even when it did come off, his popular sidekick, DS Baxter, was given his own spin-off series, *Echo Four Two*.
- (4) Nonetheless, it is measurably the case that from the 1980s to the present day the genre has proliferated. Why is this? There seem to be three perfectly good reasons: the straightforward, the political, and the cultural. TV executives tend to give you the straightforward explanation: “TV expanded in the 1980s and so did the detective. This is a naturally dramatic form of storytelling for which viewers have an undiminished appetite.” This is not how all the writers see it, however. Roy Mitchell, for example, wrote two cop series and swore he would never write another, but has just completed BBC1’s *New Tricks* which contains not one but four detectives.
- (5) “Nobody in TV drama is interested in what is happening in the world,” he says, pointing out that after all these years of New Labour, television has still come up with only one drama (Peter Kosminsky’s *The Project*) discussing contemporary politics. “Detectives are accessible to TV executives and I think the proliferation is a sign of a lack of daring,” he says. “There are so few arenas for writers in television, and detective shows offer the chance to write in a coded way. In *New Tricks* detectives come out of retirement to re-examine old crimes, so in a coded way I was able to write about the 1980s and how things have changed since.”

- (6) All of this would strike a chord with Tony Garnett, the TV god and doyen of television drama, who may once have made *Cathy Come Home*, but is now following up *The Cops* with, yes, a detective series. He tells his co-workers that they are engaged in “Trojan horse drama”. In television, power has shifted from the writers to the marketing department, and if Garnett had told the BBC he wanted to make a series about a sink estate in the north-west of England examining three generations of poverty and deprivation since the oil crisis, what do you suppose the reply would have been?
- (7) Instead he said: “We want to make a show called *The Cops*,” and got an immediate thumbs up. Each week he sent his police into a sink estate in the north west of England where there have been three generations of poverty and deprivation since the oil crisis. He survives by subverting the genre, but is it desirable that human experience is so routinely seen on television through the eyes of cops (or docs, which is the other TV staple Garnett subverted in *Cardiac Arrest*)?
- (8) At Thames TV, Paul Marquess, producer of *The Bill* and *MIT*, says: “Phil Redmond (the creator of *Brookside*) contends that the ITC (Independent Television Commission) code is destroying drama on British TV. I’m in sympathy with this. Police drama has given me a licence on *The Bill* to deal with paedophile rings, girls murdered, mutilated and abused before 9pm, and we have not had a murmur of disapproval. We are in an easier place in terms of regulation. People will accept anything if there is a detective involved, but I think there would be complaints about very dark storytelling if it was in soap or mainstream drama.”
- (9) There might, however, be a more positive explanation for the glut: detective drama performs exactly the same function today as did revenge tragedy in Jacobean England. Between 1588 and 1641 there flourished on the English stage this bizarre dramatic form in which a violent and/or sexual crime is committed. For various reasons, law and justice cannot punish it and so (generally after a tip-off from a ghost) the hero is faced with the dilemma of whether or not to take revenge.
- (10) Thomas Kyd was mocked by sophisticated fellow writers when he invented this formula in *The Spanish Tragedy*, but audiences lapped it up because its sinister atmosphere, misogynistic ideology, corrupt authority figures, gender power struggle, macabre deaths and taste for total depravity spoke to the cultural moment. Like us, they perceived that a golden age had been replaced by a more uncertain world. Like us, they had diminished faith in justice. Like us, their value system had been turned upside down. Post-Reformation people had lost the comforts of the confessional and, burdened with conscience, turned their guilt inwards.
- (11) For our part, psychology has shown us darker motivations at a time when we have lost the Christian certainties to manage them. In a very short period of time, we have gone from the values of *Dad’s Army* to what Armando Iannucci described as “our great pornography economy”. Like revenge tragedy, detective drama asks perplexing moral questions about justice and the individual while registering the strains of life in an increasingly fragile social hierarchy. With its corrupt policemen, depraved villains and good characters who turn out to be evil, the form enables writers to describe a morally ambiguous world that conventional TV drama struggles to access. When we lack certainty, we want heroes who reflect self-reliance and will make it all right again – enter the maverick copper.
- (12) Women’s changing place in society has also been meticulously plotted not in mainstream, but in detective drama. It has gone from *Juliet Bravo* (first woman detective inspector on television) to *Commander* (woman in charge, but fell in love with a serial killer, so dodgy) to Jackie Malton's *MIT* (women unquestionably in control).

(13) The analogy with revenge tragedy falters slightly towards the end. That genre disappeared as suddenly as it had arrived in 1641, swept away by Cromwell's puritanical certainties. No one is suggesting that detective drama will similarly disappear, but there are signs of a backlash. The BBC, for example, is taking an axe to the genre. "We are in the process of cutting back on quite a lot of our detective drama after ITV's recent surge," says Jane Tranter, head of BBC drama commissioning. "It is too much. The good pieces are in danger of getting lost." Even Jackie Malton is working on a project that discusses contemporary issues without recourse to the detective fig leaf. "I am trying to do it in the form of a modern fairy story," she says.

(14) At Thames TV, Paul Marquess, recently appointed as head of drama, has the stated ambition to find ways of exploring contemporary issues that also do not involve policemen. "I am trying to develop a drama series about prostitution looking at the emotional cost to the women of their work. If it had a detective, I could get it accepted without a problem. Maybe it is impossible to do this without one. Ask me again in a year's time and I will tell you."

Source: adapted from an article by STEPHEN PILE, *The Daily Telegraph*, 26 April 2003

**END OF PASSAGE**

## SECTION B

### SOURCES FOR QUESTIONS 2 TO 4

Read **Sources B to D** on **morality and religion** and answer **Questions 2 to 4**.

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#### Source B

Politicians are playing a very dangerous game when they start to listen to religious leaders. The latter are, all too frequently, under the impression that they represent the sole voice of morality. What these religious leaders mean is the way that they, themselves, interpret the meaning of 'morality'. In areas like abortion where the churches have insisted that morality has been swept aside, what they really mean is that ethical views that might be different from their own have been listened to.

The slow establishment of sexual liberties over the last 40 years, the decline of marriage as an institution, the simplification of divorce, the decriminalisation of homosexuality are not the triumph of immorality over morality, as church leaders would argue; they represent the establishment of values which, for many people, are more ethically just than anything the churches can offer.

Source: Adapted from PHILIP HENSHER, 'Politicians should not listen to religious leaders', *The Independent*, March 2005

#### Source C

The extraordinary success of scientific rationalism has made reason the only path to truth. When the existence of God cannot be proved as an objective fact, we lose faith.

Such a situation, however, creates a distinct void. Human beings are so constructed that they need the sense of utter joy that faith and worship can bring – a feeling of ecstasy. There is more to life, they insist, than physical existence. Life on Earth needs a direction and purpose. Religion provides a framework for both spirituality and morality, and fulfils humanity's longing for community. Religion fosters the compassionate within mankind which emphasises the special value of every human being. We abandon religion at our peril.

But to activate an experience of the sacred, we do not need to believe in a supernatural deity. The search for ecstasy continues with or without God. People turn to art and music to take them to another level. Rock music can give the young an ecstatic experience and the drug culture shows a yearning for another dimension of existence. Sport has become a national religion of sorts and demonstrates mankind's need for community. People demonstrate compassion for others in many different ways and continue the search for self-knowledge and self-fulfilment. In an ever more uncertain world, science, patently, fails to answer all our questions.

Source: Adapted from KAREN ARMSTRONG, 'Where has God gone?', *Newsweek International*, 12 July 1999



**Source D**

The institutions of Christianity have long been in decline. Church attendance has dwindled by more than 30% since 1980 and, in a recent poll, over 50% said that religion was not important to them. At times the Church has been its own worst enemy stonewalling over paedophilia scandals and adopting judgemental attitudes on current social trends. There has been too much emphasis on a God who was very much to be feared.

It may seem strange, however, but, in some ways, Britain's, indeed Europe's, faith has survived the Church. Faith, now, is more private and more personal. In all but a handful of countries, more than two thirds of people believe in God. Immigrant congregations are thriving. Britain's newest residents are among its most faithful, a trend not exclusive to Christianity. Many Muslim immigrants arrive with little more than a suitcase and their religious devotion.

Places of worship are becoming more user-friendly and emphasise accessibility. The success of ventures like the Alpha course in recruiting young Christians is partly down to packaging, in an age where marketing matters. Young people might be seen as the least religious of all but they are also the most vulnerable and seek reassurance.

Many people today are rediscovering spirituality but not necessarily within the Church. More and more people look at the different religions selectively and create their own belief systems.

Source: Adapted from JEFF CHU, 'O Father where art Thou', *Time International*, 16 June 2003

**END OF SOURCES**



## **General Certificate of Education**

# **General Studies** *Specification A*

**GENA1**

**Unit 1 AS Culture and Society**

## **Second Specimen Mark Scheme**

The specimen assessment materials are provided to give centres a reasonable idea of the general shape and character of the planned question papers and mark schemes in advance of the first operational exams

Further copies of this Mark Scheme are available to download from the AQA Website: [www.aqa.org.uk](http://www.aqa.org.uk)

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**GENERAL STUDIES A (AS)**

**SECOND SPECIMEN UNIT**

**UNIT 1 : SECTION A**

**List of keys**

<b>1.1 B</b>	<b>1.11 A</b>	<b>1.21 D</b>
<b>1.2 C</b>	<b>1.12 A</b>	<b>1.22 B</b>
<b>1.3 D</b>	<b>1.13 D</b>	<b>1.23 B</b>
<b>1.4 A</b>	<b>1.14 A</b>	<b>1.24 B</b>
<b>1.5 C</b>	<b>1.15 B</b>	<b>1.25 C</b>
<b>1.6 C</b>	<b>1.16 D</b>	<b>1.26 B</b>
<b>1.7 A</b>	<b>1.17 D</b>	<b>1.27 A</b>
<b>1.8 D</b>	<b>1.18 D</b>	<b>1.28 A</b>
<b>1.9 C</b>	<b>1.19 C</b>	<b>1.29 C</b>
<b>1.10 C</b>	<b>1.20 D</b>	<b>1.30 C</b>

**Unit 1 Section B (Culture and Society)****INTRODUCTION**

The nationally agreed assessment objectives in the QCA Subject Criteria for General Studies are:

- AO1** Demonstrate relevant knowledge and understanding applied to a range of issues, using skills from different disciplines.
- AO2** Marshal evidence and draw conclusions; select, interpret, evaluate and integrate information, data, concepts and opinions.
- AO3** Demonstrate understanding of different types of knowledge, appreciating their strengths and limitations.
- AO4** Communicate clearly and accurately in a concise, logical and relevant way.

- The mark scheme will allocate a number or distribution of marks for some, or all, of the above objectives for each question according to the nature of the question and what it is intended to test.
- In most cases mark schemes for individual questions are based on *levels* which indicate different qualities that might be anticipated in the candidates' responses. The levels take into account a candidate's knowledge, understanding, arguments, evaluation and communication skills as appropriate.
- Examiners are required to assign each of the candidates' responses to the most appropriate level according to **its overall quality**, then allocate a single mark within the level. When deciding upon a mark in a level examiners should bear in mind the relative weightings of AOs (see below). For example, in question three more weight should be given to AOs 2 and 4 than to AO1, and AO1 should have more weight than AO3.
- *Indicative content* is provided as a guide for examiners. It is not intended to be exhaustive and other valid points must be credited. Candidates do not have to cover all points mentioned to reach Level 3.
- A response which bears no relevance to the question should be awarded no marks.

**Distribution of marks across questions and assessment objectives for Unit 1, Section B**

Question Numbers		Q2	Q3	Q4	Total marks for Section B
<b>Assessment Objectives</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>10</b>
	<b>2</b>	<b>3</b>	<b>4</b>	<b>3</b>	<b>10</b>
	<b>3</b>	<b>-</b>	<b>2</b>	<b>3</b>	<b>5</b>
	<b>4</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>10</b>
<b>Total marks per Question</b>		<b>8</b>	<b>13</b>	<b>14</b>	<b>35</b>

**Q1 Question 1 is an objective test section marked separately by AQA.**

**Q2 Read Source B**

- (a) Using your own words, give three reasons from *Source B* why church leaders believe that there has been a decline in morality. (4 marks)
- (b) Using your own knowledge, give three reasons why some people believe that there has not been such a decline in morality. (4 marks)

Full credit can only be given for answers written predominantly and accurately in a candidate's own words.

**Indicative content**

**(a) Reasons for a decline in morality**

- Greater sexual freedom in recent years.
- Fewer people getting married / more couples co-habiting.
- Easier divorce.
- Legalisation of same-sex relationships.
- Easier access to abortion.

Award 1 mark for each of the above, to a maximum of 3 marks + 1 mark for accurate communication, predominantly in own words.

**(b) Reasons against a decline in morality**

- Society's morals have simply changed rather than declined.
- Moral standards today reflect a more open and relaxed society.
- Society today is fairer and more tolerant.
- Public attitudes in the past were often based on prejudice and oppression.

Award 1 mark for each of the above, or for any other valid point drawn from own knowledge, to a maximum of 3 + 1 mark for accurate communication.

**Questions 3 and 4: Level mark scheme for all assessment objectives**

<b>Level of response</b>	<b>Mark Range</b>	<b>Criteria and descriptors for Assessment Objectives 1-4</b>
LEVEL 3	11-13(14)	<p><b>Good response to question</b>                      Good to comprehensive knowledge and understanding and approach demonstrating overall grasp of the range and nature of issues (AO1). Capacity to interpret evidence and sustained ability to present relevant arguments, analysis and exemplification, focusing on the main points of the question (AO2). Some understanding of different types of knowledge, with some appreciation of their limitation in seeking to reach a reasoned and logical conclusion (AO3). Ability to communicate clearly and accurately in a fluent and organised manner (AO4).</p>
LEVEL 2	6-10	<p><b>Reasonable attempt to answer question</b>                      Modest to quite good knowledge and understanding demonstrating some grasp of the nature of some key issues (AO1). Moderate range of arguments, analysis and exemplification covering some of the main points of the question (AO2). Limited understanding of different types of knowledge but some ability to work towards, or achieve, a conclusion (AO3). Mostly clear and accurate communication and organisation (AO4).</p> <p>Maximum of 8 marks for only using source or only using own knowledge.</p>
LEVEL 1	1-5	<p><b>Limited response to question</b>                      Restricted/narrow knowledge and understanding of key issues (AO1). Simple, perhaps mostly unexplained points – or very narrow range – with limited interpretation or analysis and exemplification (AO2). Lacking in understanding of different types of knowledge with little or no evidence of ability to work towards a conclusion (AO3). Variable levels of communication and organisation (AO4).</p>
LEVEL 0	0	<p><b>No valid response or relevance to question</b></p>

**Q3 Read Source C**

**Using evidence from *Source C*, and your own knowledge, examine the extent to which people feel a need for religion in their lives. (13 marks)**

When using their own knowledge, candidates might choose to expand points from the source, adding examples and additional information, or might make entirely new points. Credit should be given for either approach. Candidates are expected to address 'the extent', mentioned in the question, by offering some judgement or opinion.

**Indicative content**

**Case for needing religion**

***From source***

- Humans long for ecstatic experience
- Religion provides a moral code
- It fulfils spiritual needs
- It offers direction and a sense of purpose
- It gives a feeling of belonging
- It encourages respect and compassion for others
- Science cannot answer all of life's questions.

***From own knowledge***

- Faith and belief are considered more important than proof
- Religion provides certainty and stability in an ever-changing world
- It can remove the fear of death
- It provides comfort and support in difficult times.

**Case against needing religion**

***From source***

- Ecstasy can be experienced outside of religion
- Activities like sport can foster a sense of community
- There are many opportunities to show care for other people.

***From own knowledge***

- Social and legal pressures rather than religion create a moral code for many people
- Advance of science continues to undermine religious belief
- Society has become more materialistic and less spiritual
- The state has replaced religion in the provision of welfare/support services.



- **Read Source D**

**Using evidence from Source D, and your own knowledge, discuss why some people believe that religion is in serious decline while others argue that religion is thriving.**

**(14 marks)**

**Indicative content:**

**For religion in serious decline**

***From source***

- Church attendance has shrunk
- Majority regard religion as unimportant
- Church has been hit by scandal
- Church seen as intolerant and severe.

***From own knowledge***

- People turn to science for answers
- Religion seen as out-of-date
- Extremists give religion a bad name
- Most religions are weakened by internal divisions
- People focus on busy lifestyles and acquisition of wealth.

**For religion thriving**

***From source***

- Most people believe in God
- Many develop their own particular faith or worship in private
- Many immigrants are religious
- Young people are turning to God.

***From own knowledge***

- Science and technology seen as dangerous and going too far
- Growth of new/alternative cults and belief systems
- Revival of religion in post-communism era
- Church seen as champion of poor and disadvantaged
- Growth in popularity of evangelical faiths.

Any other valid points should be credited.

General Certificate of Education  
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**GENERAL STUDIES (SPECIFICATION A)**  
**Unit 2 AS Science and Society**

**GENA2**

**For this paper you must have:**

- a Source Booklet for Section A (enclosed)
  - an objective test answer sheet for Section A
  - a 4-page answer book for Section B.
- You may use a calculator

Time allowed: 1 hour 30 minutes

**Instructions**

- Use black ink or black ball-point pen.
- Write the information required on the front of your answer book for Section B. The *Examining Body* for this paper is AQA. The *Paper Reference* is GENA2.
- Answer Section A (Questions 1.1 to 1.30) using the answer sheet provided **and one** question from Section B (Question 2, 3 or 4) in your separate answer book.
- Do any rough work in your answer book.
- Hand in **both** your answer sheet **and** your answer book separately at the end of the examination.

**Information**

- The maximum mark for this paper is 65.
- This paper consists of **two** sections.  
**Section A** contains 30 objective test questions based on the material in the separate Source Booklet. There is 1 mark for each question. You will not lose marks for wrong answers.  
**Section B** contains three alternative structured questions. Marks are shown after each question and total 35.

**SECTION A**

Each of the 30 questions carries 1 mark.

---

Read the passage entitled **Democratic Difficulties** which is printed in the separate Source Booklet and answer **Questions 1.1 to 1.30** by choosing the answer represented by the letter **A, B, C** or **D** that you think best. Mark your responses on your objective test answer sheet.

**1.1** Which of the following pairs shows an r-strategist followed by a k-strategist (paragraphs 2 and 3)?

- A** panda, lion
- B** forget-me-not, bacterium
- C** dandelion, cow
- D** duck, herring

**1.2** Which of the following correctly describes properties of the two different strategies (paragraph 2)?

	<b>r-strategy</b>	<b>k-strategy</b>
<b>A</b>	rear their young	have few offspring
<b>B</b>	large number of eggs	do not rear their young
<b>C</b>	do not rear their young	offspring quite mature
<b>D</b>	most mammals	most birds

**1.3** What is the meaning of cold-blooded (paragraph 2)?

- A** colder than the environment
- B** temperature varies with the environment
- C** warmer than the environment
- D** always at the same temperature

- 1.4 Which of the following is a fact rather than an opinion?
- 1 If organisms do not reproduce they will become extinct after one generation.
  - 2 For a species to be more advanced it must operate a k-strategy reproductive style.

Answer

- A if neither is a fact.
- B if 1 alone is a fact.
- C if 2 alone is a fact.
- D if both are facts.

- 1.5 Which of the following must be true when the carrying capacity of a human population is reached?

- 1 the birth rate is equal to the death rate.
- 2 environmental pressures prevent further growth.
- 3 existing medical knowledge cannot reduce infant mortality.
- 4 people are generally living longer

Answer

- A if 1 and 2 only must be true.
- B if 1 and 3 only must be true.
- C if 2 and 4 only must be true.
- D if 1, 2 and 3 only must be true.

- 1.6 The carrying capacity of an environment will remain stable **only** if

- A the organisms have no predators.
- B food production is unchanged.
- C the organisms are not overcrowded.
- D the environment does not change.

- 1.7 The population growth illustrated in **Figure 1** can best be described as

- A slow, fast, slow.
- B fast, slow, fast.
- C a steady increase.
- D a steady population.

**Turn over for the next question**

- 1.8** Which of the following provides the strongest confirmation that the world's population has not yet reached its carrying capacity (paragraph 6 and **Figure 2**)?
- A** The population is getting older.
  - B** The birth rate is still high in some places.
  - C** The birth rate is falling in some countries.
  - D** The graph's curve has not begun to flatten.
- 1.9** Referring to **Figure 2** and paragraph 6, approximately how many times greater is today's population than in the year zero?
- A** 5
  - B** 20
  - C** 50
  - D** 100
- 1.10** De Wit's 1967 estimate based on photosynthesis of the world's carrying capacity (**Figure 3**) is likely to be wrong because
- A** photosynthesis is dependent on rainfall.
  - B** insects and animals eat plants.
  - C** many plants cannot be eaten by humans.
  - D** humans cannot survive on a plant diet.
- 1.11** Looking at the estimates of the carrying capacity for the human population (**Figure 3**), which of the following is likely to be the most accurate?
- A** Ravenstein in 1891
  - B** Penck in 1925
  - C** Hulett in 1970
  - D** Kates in 1991
- 1.12** The estimates of the world's carrying capacity by Revelle, Clark and Higgins were all larger than those of Ravenstein and Penck over half a century earlier (**Figure 3**). This is likely to be because
- 1** food production increased more than was anticipated during the intervening time.
  - 2** the mathematical model used for the earlier predictions was wrong.
  - 3** people are living longer than had been expected.
  - 4** health care is better than would have been predicted.

Answer

- A** if **2** and **4** only are correct.
- B** if **1**, **2** and **3** only are correct.
- C** if **1**, **3** and **4** only are correct.
- D** if all are correct.

**1.13** If the population of a country increases as many people live longer

- A** a large fall in the birth rate would be of little concern.
- B** there could be significant changes in the structure of its society.
- C** a higher proportion of the population is likely to emigrate.
- D** a higher proportion will contribute towards the country's national income.

**1.14** Referring to **Figure 4**, which of the following statements is/are correct?

- 1** A high birth rate and a high death rate can produce a low population.
- 2** If the death rate falls then the population may rise.
- 3** If the birth rate and the death rate both fall then the population must fall.
- 4** A low birth rate and a low death rate can produce a high population.

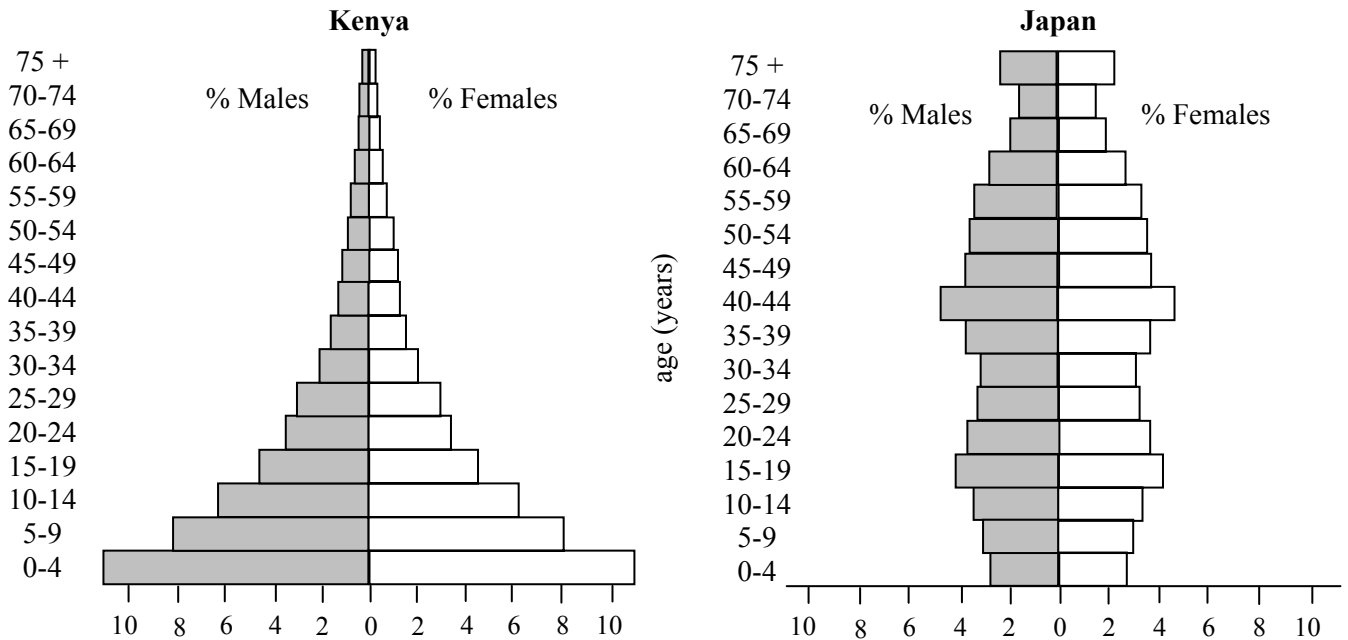
Answer

- A** if **2** and **3** only are correct.
- B** if **1**, **2**, and **3** only are correct.
- C** if **1**, **2** and **4** only are correct.
- D** if all are correct.

**Turn over for the next question**

**Questions 1.15 and 1.16**

Populations can be represented by population pyramids. The diagrams show the population pyramids for Kenya and Japan.



**1.15** Which of the following conclusions is implied by the population pyramids for Kenya and Japan?

- A Kenya has high maternal mortality.
- B Japan has high maternal mortality.
- C Kenya has high child mortality.
- D Japan has high child mortality.

**1.16** Which of the following statements must be true about demographic transition in Kenya and Japan?

- A Neither has undergone a demographic transition.
- B Both have undergone a demographic transition.
- C Kenya has undergone a demographic transition but Japan has not.
- D Japan has undergone a demographic transition but Kenya has not.

- 1.17** Consider a country with a population of 20 million with a birth rate of 40 per 1000 per year and a death rate of 20 per 1000 per year (as illustrated near the centre of the time line in **Figure 4**). If other factors are not taken into account, in 10 years time the population will have increased by
- A** 400 000
  - B** 4 000 000
  - C** 8 000 000
  - D** 12 000 000
- 1.18** According to **Figure 5**, the highest recorded birth rate per thousand of the population in England and Wales since 1700 is
- A** 30
  - B** 33
  - C** 35
  - D** 38
- 1.19** India and China acted to lessen their birth rates believing that
- A** economic growth would increase if adults spent less time caring for children.
  - B** mass unemployment was likely if the population continued to grow at its previous rate.
  - C** a rapidly growing population always restricts a country's development.
  - D** HIV would become widespread had they not done so.
- 1.20** Assuming that 30% of the population of Zimbabwe are HIV positive, what is the probability that if two people are selected randomly and independently then just one of them will be HIV positive?
- A** 15%
  - B** 21%
  - C** 30%
  - D** 42%
- 1.21** If fertility rates are below replacement level in 75% of the world by 2050 (paragraph 10) it implies that
- A** the other 25% will be reproducing rapidly.
  - B** population growth will slow.
  - C** famine will increase.
  - D** demand for clean water will reduce.



**1.22** Which of the following is an opinion rather than a fact (paragraph 10)?

- 1** The world's population will continue to increase significantly in the next 50 years.
- 2** The maximum length of life will not increase significantly in the next 50 years.

Answer

- A** if neither is an opinion.
- B** if **1** alone is an opinion.
- C** if **2** alone is an opinion.
- D** if both are opinions.

**1.23** Each of the following is a cause of death rates increasing **except**

- A** the number of AIDS cases in Africa continues to rise.
- B** some diseases are becoming resistant to existing antibiotics.
- C** new diseases are always evolving.
- D** people are living longer.

**1.24** The head of the United Nations Population Division has reduced the estimate of the world's population from 9.3 billion to

- A** 9.1 billion.
- B** 9.0 billion.
- C** 8.9 billion.
- D** 6.3 billion.

**1.25** How is the overall conclusion of the passage best summarised?

- A** Urgent measures to increase birth control should be adopted.
- B** The world's population may not grow as quickly as earlier predictions suggested.
- C** People will live longer and longer.
- D** The carrying capacity will soon be reached.

**Questions 1.26 to 1.30**

For each of **Questions 1.26 to 1.30** you are given an assertion followed by a reason. Consider the assertion and decide whether, on its own, it is a true statement. If it is, consider the reason and decide if it is a true statement. If, and only if, you decide that *both* the assertion and the reason are true, consider whether the reason is a valid or true explanation of the assertion. Choose your answer (**A to D**) as follows and indicate your choice on the answer sheet.

<b>Directions summarised</b>			
	<b>Assertion</b>	<b>Reason</b>	<b>Argument</b>
<b>A</b>	True	True	Reason is <b>a correct</b> explanation of assertion
<b>B</b>	True	True	Reason is <b>not a correct</b> explanation of assertion
<b>C</b>	True	False	Not applicable
<b>D</b>	False	–	Not applicable

**ASSERTION****REASON**

- |             |                                                                                                      |         |                                                                                 |
|-------------|------------------------------------------------------------------------------------------------------|---------|---------------------------------------------------------------------------------|
| <b>1.26</b> | Human reproductive style is described as following the k-strategy                                    | because | a lot of energy is used in the rearing of offspring.                            |
| <b>1.27</b> | The fertilised eggs of aquatic animals (paragraph 2) will be suited to the even temperature of water | because | most r-strategy animals are cold blooded and cannot regulate their temperature. |
| <b>1.28</b> | According to paragraph 8, more young people going to university will increase the birth rate         | because | they will be dependent on their parents for longer.                             |
| <b>1.29</b> | Serious epidemics could reduce the world population                                                  | because | the death rate could become greater than the birth rate.                        |
| <b>1.30</b> | The writer implies (paragraph 10) that the world's population will rise                              | because | a high proportion of people will survive AIDS.                                  |

**END OF QUESTION 1****Turn over for Question 2**

**SECTION B**

Answer **one Question** from **2, 3 and 4**.

Wherever possible **use your own words** to show you understand the arguments.

You will be marked on your ability to use good English, to organise information clearly and to use specialist vocabulary where appropriate.

---

**EITHER**

**2**

Climate change is already happening, and managing its future impact requires a radical de-carbonisation of the economy and a move away from fossil fuels. UN research shows that most of the increase in average global temperature over the past few decades is due to greenhouse gas emissions. Without immediate action, there is a real risk that we will reach a tipping point beyond which uncontrollable climate change will occur.

The Stern Review in 2006 outlined the economic case for action. It estimated that if we do not act, the cost will be 5–20 per cent or more of global GDP each year; whereas, if we do act, the cost of reducing greenhouse gas emissions to avoid the worst impacts of climate change would be around one per cent of global GDP by 2050. The future security of energy supply is another pressing driver for reducing energy use.

Source: adapted from *Report of Climate Change Commission*, Local Government Association, November 2007

- (a) Explain the causes and consequences of climate change. (17 marks)
- (b) Discuss the economic and political issues involved in reducing global carbon emissions. (18 marks)

**OR**

**3**

Never before has the threat of intrusion into people's privacy been such a risk. As technology develops within a globalised 24/7 culture, the power exists to build comprehensive insights into our daily lives, and more and more information is accumulated about us. According to one estimate, information about the average working adult is stored on some 700 databases.

The vast majority of information that is held on adults, and increasingly on children, serves a useful purpose and is well intentioned. But everyone recognises that there must be limits. What is the right balance between public protection and private life? How long, for example, should phone and internet traffic records be retained for use by police and intelligence services fighting against terrorism? Whose DNA should be held, and for how long, to help solve more crimes?

Source: adapted from *Information Commissioner's Office Annual Report 2006*

- (a) Explain how government and businesses are able to gather information about individuals. (17 marks)
- (b) Discuss the benefits and problems of large amounts of personal information being held by governments and businesses. (18 marks)

**Turn over for the next question**

**OR**

**4**

There were just over three million scientific procedures using animals in 2006. The exact figure was 3,012,032. The number of animals used is slightly less as some animals are used more than once. This does not happen often, and is strictly controlled.

The annual number of animal experiments has almost halved over the last 30 years. This is due to higher standards of animal welfare, scientific advances and stricter controls. There have been small rises in the last five years, so there now seems to be a gradual upwards trend following a few years when the numbers appeared to level off. While UK bioscience and medical research funding has increased in real terms by at least 50% since 1995, animal procedures have risen by just 11%.

Source: adapted from 'Animal Research Facts', Research Defence Society, [www.rds-online.org.uk](http://www.rds-online.org.uk)

- (a) For what reasons do many scientists consider that animal experiments are essential research methods? *(17 marks)*
- (b) Discuss moral, scientific and political issues that arise from the use of animals in scientific experiments. *(18 marks)*

**END OF QUESTIONS**

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General Certificate of Education  
Advanced Subsidiary Examination

**GENERAL STUDIES (SPECIFICATION A)**  
**Unit 2 AS Science and Society**

**GENA2**

## Source Booklet

Passage for use with **Questions 1.1 to 1.30**

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**SOURCE FOR QUESTIONS 1.1 TO 1.30**

---

Consider the following passage, including **Figures 1 to 5** and then answer **Questions 1.1 to 1.30**.

**Demographic Difficulties**

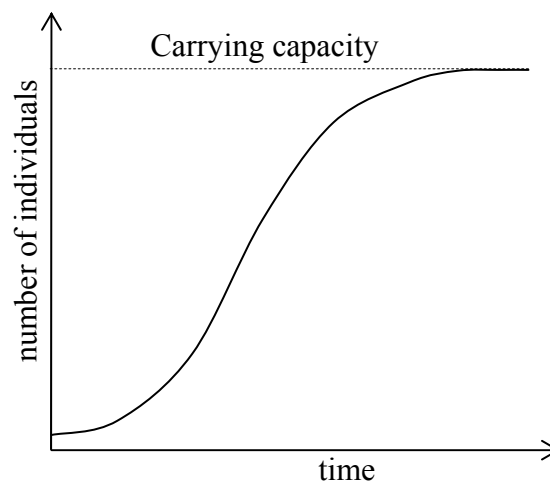
(1) The world's human population has been growing significantly during the last century, and at present is continuing to do so at a significant rate. This growth cannot continue indefinitely, however, and this passage considers some of the issues associated with the size of the world's population in the future.

(2) If organisms do not reproduce they will become extinct within one generation. For reproduction, all organisms use a proportion of the energy they have available to them. They may use this energy to produce large numbers of fertilised eggs, which are then left to develop on their own, or they may produce fewer offspring at a more mature stage, and use more energy to rear them. We describe these alternative reproductive styles as 'r-strategy' – where many offspring are produced, and 'k-strategy' – where the energy is used in rearing. R-strategists tend to be plants, or animals which are both aquatic and cold-blooded, since an aquatic environment will provide nutrients, support and a constant temperature.

(3) K-strategists vary in the number of offspring. For instance, ground-nesting birds often have larger numbers of offspring and at a more developed stage (i.e. able to run about and feed themselves on hatching) than do tree-nesting birds. Parent tree-nesters spend many hours providing food for their relatively undeveloped young.

(4) For all organisms, however, whether r-strategists or k-strategists, in a perfect and limitless environment population size increases exponentially, but in practice when populations reach a certain size environmental pressures prevent further growth. Births and deaths then balance and the population stabilises. The size of this stable population is known as the carrying capacity.

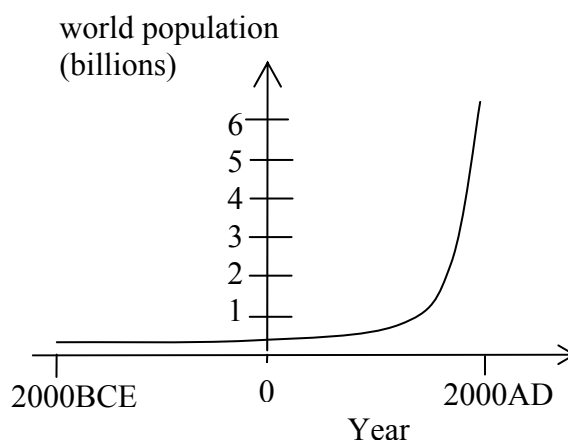
**Figure 1: Pattern of population growth**



(5) Human beings operate a k-strategy, and human infants have a long period of dependency on their parents. The natural gap between offspring is in the region of two years, which implies that each woman is capable of producing in the region of fifteen living offspring. Very few women, however, ever used to reach that maximum and even fewer do so now. In primitive societies the population grows only slowly because of high infant mortality and high maternal mortality, both of which result in the mean number of living offspring per woman falling well short of the maximum. However, even small improvements in public health can cause a rapid population rise as fewer infants and mothers die.

(6) Globally, the human population does not yet seem to have reached its carrying capacity. Estimations of the world's carrying capacity have varied from 1 billion to 1000 billion. Currently the world population is approximately 6300 million and it is estimated that this will rise to about 9 billion by 2050.

**Figure 2: World Population over the last 4000 years**



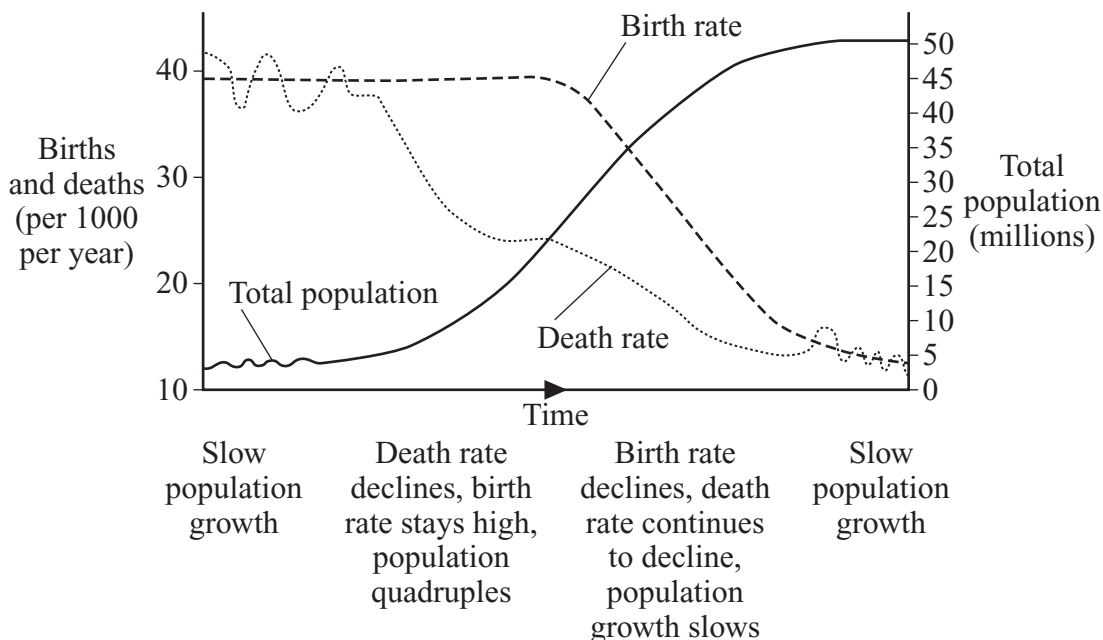
**Figure 3: Estimated world Carrying Capacity**

<b>Predictions for the world's future carrying capacity</b>			
<b>Author</b>	<b>Year</b>	<b>Predicted carrying capacity (billion)</b>	<b>Basis of prediction</b>
Ravenstein	1891	6	Food production
Penck	1925	8–16	Food production
De Wit	1967	1000	Photosynthesis
Hulett	1970	1	Food production
Revelle	1976	40	Food production
Clark	1977	28–157	Food production
Higgins et al	1983	33	Food production
Kates et al	1991	2.9–5.9	Food production



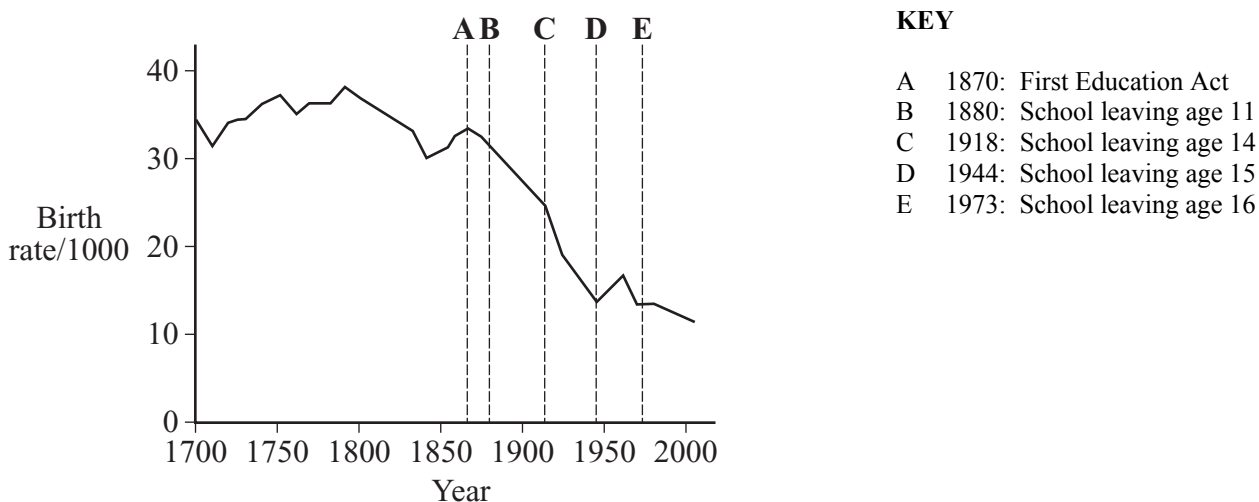
(7) This ‘global picture’ masks huge variations in population patterns across the world. In many developed countries (including the UK) birth rates are now below replacement levels. Populations are still growing only because people are living longer – they have undergone a demographic transition. This ageing of the population in developed countries has been referred to as a ‘demographic time bomb’.

**Figure 4: An example of demographic transition**



(8) Elsewhere, in societies dependent on subsistence agriculture, children are able to contribute to the family welfare from a very young age, and to provide a net gain to the family from the age of puberty. In developed countries, however, the period of dependency of children has been artificially extended. Prolonging the period of dependency increases the demand on k-strategy reproducers and the biological response is to have fewer offspring. This implies that any action that increases the period of dependency, for instance raising the school-leaving age, will result in a lowered birth rate, and that this effect will occur before the later-leaving students themselves reach reproductive age.

**Figure 5: Birth rate in England and Wales since 1700**



(9) Consequently, in recent years most of the world's population growth has come from the less economically developed regions, particularly from China, Africa and the Indian sub-continent. While China has responded with the 'one child' policy and India has used many strategies to encourage the use of birth control, in much of Africa little or nothing has been done.

(10) Is it likely that the world population will increase by almost 50% in the next 50 years? The greying of the population in developed countries will reach its natural halt long before 2050 – all the evidence seems to indicate that while many more people will reach very old age (90+), the maximum length of life is unlikely to be greatly extended. Demographic predictions assume that there is no increase in death rates and that the determinant of population size is the birth rate. However, across sub-Saharan Africa the AIDS epidemic is raging unchecked; in Zimbabwe it is estimated that 30% of the population is HIV positive. Many lethal diseases are developing resistance to the drugs used to treat them, and there is always the possibility of the evolution of a new and untreatable disease. The head of the United Nation's Population Division reduced his 2002 estimate of 9.3 billion by 400 million in March 2003, and it may yet need to be further reduced. He also stated that "fertility rates will be below replacement level in three quarters of the world by 2050".

### END OF SOURCE

#### ACKNOWLEDGEMENT OF COPYRIGHT-HOLDERS AND PUBLISHERS

Figure 1: WT PHILLIPS and TJ CHILTON, *A Level Biology*, Oxford University Press, 1994

Figure 2: KEVIN BYRNE, *Environmental Science*, Nelson, 1997

Figure 3: Environmental Challenges in Farm Management (ECIFM) Website

Figure 4: amended from MICHAEL WITHERICK, *Environment and People*, Stanley Thornes, 1995





**General Certificate of Education**

**General Studies**  
*Specification A*

**GENA2**

**Unit 2 AS Science and Society**

**Second Specimen Mark Scheme**

The specimen assessment materials are provided to give centres a reasonable idea of the general shape and character of the planned question papers and mark schemes in advance of the first operational exams

Further copies of this Mark Scheme are available to download from the AQA Website: [www.aqa.org.uk](http://www.aqa.org.uk)

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**GENERAL STUDIES A (AS)**

**SPECIMEN UNIT**

**UNIT 2 : SECTION A**

**List of keys**

<b>1.1</b>	<b>C</b>	<b>1.11</b>	<b>B</b>	<b>1.21</b>	<b>B</b>
<b>1.2</b>	<b>C</b>	<b>1.12</b>	<b>C</b>	<b>1.22</b>	<b>D</b>
<b>1.3</b>	<b>B</b>	<b>1.13</b>	<b>B</b>	<b>1.23</b>	<b>D</b>
<b>1.4</b>	<b>B</b>	<b>1.14</b>	<b>C</b>	<b>1.24</b>	<b>C</b>
<b>1.5</b>	<b>D</b>	<b>1.15</b>	<b>C</b>	<b>1.25</b>	<b>B</b>
<b>1.6</b>	<b>D</b>	<b>1.16</b>	<b>D</b>	<b>1.26</b>	<b>A</b>
<b>1.7</b>	<b>A</b>	<b>1.17</b>	<b>B</b>	<b>1.27</b>	<b>A</b>
<b>1.8</b>	<b>D</b>	<b>1.18</b>	<b>D</b>	<b>1.28</b>	<b>D</b>
<b>1.9</b>	<b>B</b>	<b>1.19</b>	<b>B</b>	<b>1.29</b>	<b>A</b>
<b>1.10</b>	<b>C</b>	<b>1.20</b>	<b>D</b>	<b>1.30</b>	<b>C</b>

## Unit 2 Section B (Science and Society)

### INTRODUCTION

The nationally agreed assessment objectives in the QCA Subject Criteria for General Studies are:

- AO1** Demonstrate relevant knowledge and understanding applied to a range of issues, using skills from different disciplines.
- AO2** Marshal evidence and draw conclusions; select, interpret, evaluate and integrate information, data, concepts and opinions.
- AO3** Demonstrate understanding of different types of knowledge, appreciating their strengths and limitations.
- AO4** Communicate clearly and accurately in a concise, logical and relevant way.
- The mark scheme will allocate a number or distribution of marks for some, or all, of the above objectives for each question according to the nature of the question and what it is intended to test.
  - In most cases mark schemes for individual questions are based on *levels* which indicate different qualities that might be anticipated in the candidates' responses. The levels take into account a candidate's knowledge, understanding, arguments, evaluation and communication skills as appropriate.
  - Examiners are required to assign each of the candidates' responses to the most appropriate level according to **its overall quality**, then allocate a single mark within the level. When deciding upon a mark in a level examiners should bear in mind the relative weightings of AOs (see below). For example, in questions 2-4 the most weight should be given to AO1, then AO4, then AO2 and finally AO3.
  - *Indicative content* is provided as a guide for examiners. It is not intended to be exhaustive and other valid points must be credited. Candidates do not have to cover all points mentioned to reach Level 3.
  - A response which bears no relevance to the question should be awarded no marks.

### Distribution of marks across questions and assessment objectives for Unit 2, Section B

Question Numbers		Q2	Q3	Q4	Total AO marks Section B
Assessment Objective	1	12	12	12	12
	2	8	8	8	8
	3	5	5	5	5
	4	10	10	10	10
Total marks per Question		35	35	35	35

**GENERAL MARK SCHEME**

<b>Level of response</b>	<b>Mark Range</b>	<b>Criteria and descriptors for Assessment Objectives 1-4</b>
LEVEL 3	13-17(18)	<p><b>Good response to question</b></p> <p>Good to comprehensive knowledge, understanding and approach demonstrating overall grasp of the range and nature of issues (AO1). Capacity to interpret evidence and sustained ability to present relevant arguments, analysis and exemplification, focusing on the main points of the question (AO2). Shows some understanding of different types of knowledge, with some appreciation of their limitation in seeking to reach a reasoned and logical conclusion (AO3). Ability to communicate clearly and accurately in a fluent and organised manner (AO4).</p>
LEVEL 2	7-12	<p><b>Reasonable attempt to answer question</b></p> <p>Modest to quite good knowledge and understanding approach demonstrating some grasp of the nature of some key issues (AO1). Moderate range of arguments, analysis and exemplification covering some of the main points of the question (AO2). Limited understanding of different types of knowledge but some ability to work towards or achieve a reasoned conclusion (AO3). Mostly clear and accurate communication and organisation (AO4).</p>
LEVEL 1	1-6	<p><b>Limited response to the question</b></p> <p>Restricted/narrow knowledge and understanding of key issues (AO1). Simple, perhaps mostly unexplained points – or very narrow range – with limited interpretation or analysis and exemplification (AO2). Lacking in understanding of different types of knowledge with little or no evidence of ability to work towards a conclusion (AO3). Variable levels of communication and organisation (AO4).</p>
LEVEL 0	0	<p><b>No valid response or relevance to the question</b></p>



**Question 1 is an objective test section marked separately by AQA.**

**Question 2**

**2(a) Explain the causes and consequences of climate change.**

**(17 marks)**

**Causes:**

- the greenhouse effect is a natural process by which heat is retained in the atmosphere by greenhouse gases, such as carbon dioxide, water vapour and methane, creating a climate which allows life on Earth to exist in its present forms.
- although there are many influences on climate change, it is widely accepted that human activity, particularly since the beginning of the industrial age, has led to an increase in the amount of these gases in the atmosphere, creating an enhanced greenhouse effect which is having an impact on the Earth's climate.
- the sources of anthropogenic greenhouse gases include:
  - combustion of fossil fuels in power-stations and manufacturing industry produces significant CO<sub>2</sub> emissions
  - use of fossil fuels to power transport produces CO<sub>2</sub> and (in the case of aircraft) water vapour
  - deforestation by burning (which also has the effect of limiting the reduction of CO<sub>2</sub> by photosynthesis)
  - agricultural practises (e.g. rice cultivation, ruminant animals) lead to the production of methane
  - fertiliser use leads to the release of nitrous oxide.

**Consequences:**

- average global temperatures have risen by 0.75°C over the last 100 years; estimates of increases over the next 100 years range from 1.1°C to 6.4°C
- sea-levels are expected to rise (increased water temperature)
- increase in extreme weather events, including flooding and droughts
- melting of glaciers and polar ice caps
- impact on biodiversity – extinction of some species, expansion of others
- effect on agriculture – both positive and negative
- increase in the range of disease vectors, leading for example to the spread of malaria
- an indirect consequence may well be large-scale movements of population, from areas badly affected by climate change to more temperate areas.

Any other valid points should be credited.

**2(b) Discuss the economic and political issues involved in reducing global carbon emissions.**

It is widely accepted that reducing carbon (and other) emissions is necessary to limit the impact of global warming and climate change.

**Economic issues**

- the economic consequences of reducing emissions could include
  - the slowing (or reversal) of economic growth in major economies such as USA
  - the slowing of growth in emerging economies such as China, India and Brazil
  - increased economic conflict between nations
  - high costs of re-engineering manufacturing industry, vehicles, aircraft, etc
  - countries dependent on the production of fossil fuels could suffer reduced income
  - high costs of alternative fuels (nuclear, renewables).
- on the other hand, there could be positive opportunities for economic growth:
  - technological innovation in new vehicle design
  - development of renewable energy.
- the economic consequences of not reducing emissions could include:
  - disruption and costs of damage to infrastructure by extreme weather
  - costs of healthcare to cope with disease
  - loss of food production as a result of desertification, droughts, floods
  - control of and adjustment to large-scale population movements.

**Political issues**

- international political issues might include:
  - difficulty in reaching international consensus on reducing emissions – e.g. Kyoto Protocol (1997) and the UN Conference in Bali (December 2007)
  - the attempt by the US to protect its current pre-eminence by resisting targets for reduction of carbon emissions
  - concerns about the political stability of the main oil-producing regions
  - the demands of developing nations to be able to 'catch-up' with more advanced economies.
- domestic political issues might include:
  - decisions on whether to construct more nuclear power stations
  - decisions on type and location of wind farms, tidal barrages, etc
  - need to improve public transport infrastructure
  - policies to encourage the use of public transport
  - decisions on whether to discourage the use of air travel
  - policies to influence individual behaviour – e.g. on recycling, consumer decisions, etc.

Any other valid points should be credited.

### Question 3

**3(a) Explain how government agencies and businesses are able to gather information about individuals. (17 marks)**

Information is held by government agencies and businesses on computer databases. These are collections of records or data stored in a computer system so that information may be accessed and cross-referenced with other databases.

- there are a number of government databases holding information, provided by the individual concerned, on taxation, national insurance, pensions and other welfare benefits
- biometric recognition systems are increasingly used, currently on passports and in the future on national identity cards; they are also used by commercial organisations for security purposes
- government agencies hold a variety of types of record – for example, of employees, NHS patients, those convicted of criminal offences, etc
- the national DNA database holds profiles of 3.5 million people in the UK (5.2% of the population), mainly of people convicted of criminal offences, but also of those arrested but not charged or convicted; the information is used to help identify offenders and secure convictions
- credit reference agencies compile databases containing financial information on individuals which is used to determine access to loans and other financial services
- number plate recognition cameras are used to enforce speed limits and the London congestion charge, by linking to the DVLA database
- CCTV cameras record to tape or digitally; they are used in town centres, shops, car parks, residential and play areas, on roads and motorways, stations, airports, in buses and taxis, etc for the purpose of identifying possible offences and for use in any subsequent legal proceedings
- store loyalty cards contain personal details on magnetic stripes which enable stores to gather information on purchases by cardholders to be used for future marketing purposes
- cash machines (ATMs) record the account being accessed via an electronic chip on the card, the user by a PIN number and the time and location; in some locations, security cameras record images of the user
- mobile phone records can show who was called and when, and the location of the caller based on proximity to particular cell base stations

Any other valid points should be credited.

**3(b) Discuss the benefits and problems of large amounts of personal information being held by governments and businesses. (18 marks)**

**Benefits:**

- accurate databases of information are necessary for equitable and efficient operation of the taxation and benefit systems
- vehicle and motorist databases are necessary for the safe operation of the private transport system
- speed and congestion charge cameras are used to ensure the safe and efficient functioning of the road system
- a number of systems are valuable in the prevention and detection of crime (criminal records, DNA database, CCTV, etc)
- biometric passports and (potentially) ID cards are said to be necessary for enhanced security and protection against terrorism
- commercial records can be used for better marketing and improved services for consumers

**Problems:**

- many of these technologies can be seen as an intrusion into personal privacy
- the cost to government of such large databases is very high, and they are not always effective for the purposes for which they were created
- the proliferation of information held digitally has led to rapid growth in crimes of identity theft
- details on databases, both public and private, can be sold to commercial organisations, leading to unwanted marketing pressure on individuals
- information on databases, particularly financial information, may be inaccurate but still be used to the detriment of individuals who are unaware of the inaccuracies
- some minorities may be (or appear to be) targeted – for example, black males are much more likely to be on the DNA database than white males
- there have been a number of cases in which large amounts of data on individuals has been lost, increasing the possibility of fraud and identity theft

Any other valid points should be credited.

#### Question 4

- 4(a) **For what reasons do many scientists consider that animal experiments are essential research methods?** **(17 marks)**

Animal experiments fall into three main (and overlapping) categories:

- basic or pure research
- applied research, studying diseases and developing medicines
- toxicological testing of chemicals (safety testing)

Some of the reasons that scientists consider animal experiments are essential for research include:

- animals are useful surrogates for humans in the study of living systems, including cells, tissue and organs
- testing on animals can be used to determine whether a particular drug should be tested on humans
- animals have shorter life and reproductive spans, meaning that several generations can be studied in a relatively short time
- laboratory animals are bred specifically for animal testing purposes, meaning that they will be free of diseases and other factors which might undermine the accuracy of an experiment
- many of the greatest medical advances have been the result of animal experiments – for example:
  - anaesthetics
  - organ transplants
  - vaccines
- current areas of research using animals include:
  - AIDS
  - cancers
  - cystic fibrosis
- there have been significant advances in veterinary science as a result of animal testing

Any other valid points should be credited.

**4(b) Discuss moral, scientific and political issues that arise from the use of animals in scientific experiments. (18 marks)**

**Moral issues** include:

On the one hand

- the view that human beings are unique amongst animals, and are therefore morally entitled to use them for their own purposes
- it is, however, accepted that, while they may be in some sense superior to animals, humans have a moral duty not to inflict unnecessary harm on animals without good cause
- it is morally right that we should seek to develop medical and veterinary science for the relief of suffering, both human and animal
- it would be unethical to test substances or drugs with potentially adverse side-effects on humans without first testing them on animals
- controlled experiments usually require confinement in a laboratory – human beings could not be confined in this way

On the other hand

- there is a different moral view that animals have rights that are equivalent to those of humans, and should therefore be treated similarly to humans
- animals are sentient beings who can experience physical and emotional pain
- animals are incapable of giving reasoned consent to testing
- any potential benefits to human beings have to be set against the harm to animals – the suffering of animals is excessive in relation to any benefits gained

**Scientific issues** include:

- it is accepted by scientists who use animals in this way that they should seek to
  - reduce the numbers used
  - refine their techniques to minimise suffering
  - replace the use of animals wherever possible with other methods of testing
- There is a view that scientific testing is bad science because:
  - animal diseases are not directly comparable to human diseases
  - drugs may have different effects on animals compared to humans
  - the stress of animal testing undermines the validity of the results
- it is argued that scientists can use alternative research methods which do not involve animal testing, for example
  - computer simulations
  - use of cell culture techniques

**Political issues** include:

- governments have accepted that this is an issue requiring regulation, and animal testing in the UK is tightly controlled by legal requirements and restrictions
- despite the legal framework, opponents claim that inspection regimes are not sufficiently strong to prevent abuse
- animal testing has been the focus of pressure group activity and protest actions, sometimes involving violence against people and property

Any other valid points should be credited.