

Final



**General Certificate of Education (A-level)
January 2013**

**General Studies A
(Specification 2760)**

Unit 4: Science and Society

Final

Mark Scheme

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

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Set and published by the Assessment and Qualifications Alliance.

Unit 4 (A2 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 Section B more weight should be given to AOs 1 and 2 than to AOs 3 and 4.
- *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 the highest level.
- A response which bears no relevance to the question should be awarded no marks.

Distribution of marks across the questions and assessment objectives for this unit

Question Numbers		Q1	Q2	Q3	Q4	AO marks for Sec. A	AO marks for Sec. B	AO marks for A + B
Assessment Objectives	AO1	2	2	3	3	10	8	18
	AO2	4	6	4	4	18	7	25
	AO3	4	1	2	2	9	5	14
	AO4	2	2	2	2	8	5	13
Total marks per Question		12	11	11	11	45	25	70

GENERAL MARK SCHEME FOR SECTION A

Level of response	Mark range	Criteria and descriptors for Assessment Objectives 1 – 4
LEVEL 3	10 – 11 (12)	<p>Good response to question</p> <p>Good to comprehensive knowledge and understanding demonstrating overall grasp of the range and nature of issues (AO1).</p> <p>Capacity to interpret evidence and sustained ability to present relevant arguments, analysis and exemplification, focusing on the main points of the question (AO2).</p> <p>Some understanding of different types of knowledge, with some appreciation of their limitation in seeking to reach a reasoned and logical conclusion (AO3).</p> <p>Ability to communicate clearly and accurately in a fluent and organised manner (AO4).</p>
LEVEL 2	5 – 9	<p>Reasonable attempt to answer question</p> <p>Modest to quite good knowledge and understanding demonstrating some grasp of the nature of some key issues (AO1).</p> <p>Moderate range of arguments, analysis and exemplification covering some of the main points of the question (AO2).</p> <p>Limited understanding of different types of knowledge but some ability to work towards a conclusion (AO3).</p> <p>Mostly clear and accurate communication and organisation (AO4).</p>
LEVEL 1	1 – 4	<p>Limited response to question</p> <p>Restricted / narrow knowledge and understanding of key issues (AO1).</p> <p>Simple, perhaps mostly unexplained points – or very narrow range – with limited interpretation or analysis and exemplification (AO2).</p> <p>Lacking in understanding of different types of knowledge with little or no evidence of ability to work towards a conclusion (AO3).</p> <p>Variable levels of communication and organisation (AO4).</p>
LEVEL 0	0	<p>No valid response or relevance to the question.</p>

SECTION A

- 01 On the basis of evidence provided by the data and other information in Source A (Figures 1–7), consider whether you would either support or oppose an increase in the number of CCTV cameras in operation in the UK. (12 marks)**

There are seven separate figures in Source A, each providing data/images/information which might be used to answer the question.

- Level 1 answers may be very brief/narrow and/or have a tendency to re-write the data/information descriptively instead of using the data/information more analytically to build a case for or against an increase in CCTV cameras. Candidates who only use one figure will not reach Level 2.
- Level 2 answers are likely to cover at least half of the figures in Source A, perhaps with a combination of some descriptive writing and some analytical comment in the context of building a case in favour/against an increase in CCTV cameras.
- Level 3 answers will use data/information from most of the figures in Source A with clear and relevant interpretation/analysis leading to a logically argued conclusion in the context of building a case in favour/against an increase in CCTV cameras.

Indicative content to support an increase in CCTV cameras

- Need to keep up with new surveillance technology [timeline Figure 1].
- Success of CCTV in London [Figure 2(a)].
- Need for additional security at 2012 Olympics [Figure 2(b)].
- Important to take counter-terrorist measures [Figure 3].
- Captures images on camera [Figure 4(a)].
- Effective in safeguarding road safety [Figure 5(a)].
- Perceived chances of being a victim of crime might mean that CCTV helps people to feel more secure [Figure 5 (b)]
- Claim that commonly-used figures for CCTV cameras are significantly over-estimated [Figure 7], giving scope for more expansion.

Indicative content to oppose an increase in CCTV cameras

- Orwell's *1984* published in 1949 [bullet point 2 Figure 1].
- Liberty raises the 'who's watching you?' /civil liberties questions [bullet point 8 Figure 1, Figure 4(b)].
- Obtrusive nature of some systems [Figure 2(b)].
- Cost of installing and operating the cameras [Figure 3].
- Unwarranted focus on Muslim neighbourhoods/stereotyping/create tensions with minority groups [Figure 3].
- People's fear of crime far greater than likelihood of crime actually happening. [Figure 5(b)].
- Trends suggest that crime is falling so CCTV cameras less necessary [Figure 6].
- CCTV claimed to be part of an 'Orwellian Society' [Figure 7].
-

Candidates should be able to achieve marks in the highest level by using a selection of relevant points, not necessarily the complete range.

In Question 1, only information contained in Source A should be credited.

Any other valid points from Source A not included in the indicative content should be credited.

02 Using information from Source B, and your own knowledge, consider whether the use of new technologies will make car theft a thing of the past. (11 marks)

- Candidates who use either Source B and/or their own knowledge to write in a very brief, or mainly descriptive (and/or general) fashion about new technologies and car thefts are likely to be placed in Level 1.
- Those who demonstrate some ability to use Source B and their own knowledge to produce some arguments relating to the extent to which new technologies might make car theft a thing of the past will reach Level 2. (Candidates who use evidence only from Source B or only from their own knowledge will not reach Level 3.)
- Those who demonstrate the capacity to use both Source B and their own knowledge to produce a wide range of examples of the extent to which new technologies can be used to make car theft a thing of the past, leading to a conclusion, will reach Level 3.

Indicative content (Source B)

- As the source makes clear, “the motor industry believes it is winning the war against car crime” (paragraph 1) and stolen car figures show a significant reduction over the last 20 years.
- Old methods of car theft are much less likely to be successful because of improved security (*paragraph 1*).
- Immobilisers are compulsory on cars manufactured since 1997 (*paragraph 1*).
- Modern thieves use laptops to plot and execute car thefts (*paragraph 1*).
- Modern thieves can use electronic manipulation of passive/smart keys (*paragraph 5*).
- Linking-up of technologies (eg crash avoidance systems, stability control systems and sat-navs) to owner’s mobile or police (*paragraph 9*).
- Link ups with automatic number plate recognition (*paragraph 9*).

Indicative content (own knowledge)

- Clearly technology has had an impact, even though thieves are more and more likely to exploit it. In some ways it is a race between thieves and the police and motor/insurance industries to keep up with new technological developments.
- What new technology can never do is to eliminate the human factor in car thefts (e.g. leaving keys where they can easily be stolen, or leaving keys in cars on petrol station forecourts).
- Older cars remain vulnerable to more traditional methods of ‘taking and driving away’. (Cars may be stolen by opportunists, for joyriding, for parts and spares etc.)
- There is a highly specialised, and often sophisticated, market in the theft of certain types of cars ‘to order’.
- Car hijacking might take place, perhaps when lone drivers stop at traffic lights.

Candidates should be able to achieve marks in the highest level by using a selection of relevant points from Source B and own knowledge, not necessarily the complete range.

Any other relevant points from Source B and own knowledge not included in the indicative content should be credited.

03 Using information from Source C and Source D, examine the obstacles that might limit the take-up of vaccines, even if they seem to have a proven record of success.

(11 marks)

- Candidates who use either Source C, or Source D (or both), to write in a very brief, or mainly descriptive and/or general fashion about obstacles to the take-up of vaccines are likely to be placed in Level 1.
- Those who demonstrate the capacity to use Source C and Source D to provide some examples of obstacles to the take-up of vaccines will reach Level 2. (Those who use only one of the two sources will be limited to 6 marks.)
- Those who demonstrate the capacity to use Source C and Source D to provide a wider range of examples to show why the take-up of successful vaccines might be limited, leading to a conclusion, will reach Level 3.

Source C: Indicative content

- Funding levels (*paragraphs 1 and 3*).
- Political disagreement over extent of government financial support (*paragraph 4*).
- Cultural opposition (*paragraph 5*)/ rumours of plot against Muslims (*paragraph 7*).
- Scares about vaccine safety (*paragraph 5*)/ fears about sterility (*paragraph 7*).
- Perception that there are no tangible “gains” from vaccines other than the absence of disease (*paragraph 5*).
- Drug prices might prove prohibitive (*paragraph 9*).

Source D: Indicative content

- Contrary views about ‘conventional wisdom’ are expressed such as the queries raised by Dr Andrew Wakefield about the MMR triple vaccine (*paragraphs 1 and 2*).
- “Fear and ignorance” might always exist and these may be enhanced if supposedly ‘scientific’ research suggests that a vaccine may have unintended consequences (*paragraph 2*) even if a researcher might be deemed to have acted “dishonestly and irresponsibly” (*paragraph 5*) or to have a vested interest (*paragraph 7*).
- Impact and influence of media reporting in shaping opinion (*paragraphs 2 and 9*).

Candidates should be able to achieve marks in the highest level by using a selection of relevant points from Sources C and D, not necessarily the complete range.

Any other valid points from Sources C and D not included in the indicative content should be credited.

04 Using evidence from Source E and Source F, discuss what could be done to enable British inventors and scientists to compete successfully in global markets.

(11 marks)

- Candidates who use either Source E, or Source F (or both), to write in a very brief, or mainly descriptive, and/or general fashion about British inventions, technology and science are likely to be placed in Level 1.
- Those who demonstrate the capacity to use Source E and Source F to provide some discussion of factors likely to influence the success of British inventions/technology/science globally are likely to be placed in Level 2. (Those who use only one of the two sources will be limited to 6 marks.)
- Those who demonstrate the capacity to use Source E and Source F to provide a more detailed discussion of the factors influencing the ability of British inventions/technology/science necessary to succeed globally, leading to a conclusion will reach Level 3.

Source E: Indicative Content

- Rebalance the economy more towards manufacturing (*paragraph 1*).
- More investment in education (*paragraphs 1, 4 and 7*).
- Need for investment in Research and Development [R&D] (*paragraphs 1 and 5*).
- More incentives for firms/industry [eg tax credits, tax relief] (*paragraph 3*).
- Government to be more supportive to encourage business [eg via technology strategy board] (*paragraphs 3, 4 and 8*).
- Tackling the skills shortage in the economy (*paragraph 7*).

Source F: Indicative Content

- Need to find ways of turning invention into innovation, avoiding the “valley of death” (*paragraph 6*).
- Encourage more favourable attitudes to science among venture capitalists (*paragraph 6*).
- Reduce patent fees charged by lawyers (*paragraph 7*).
- Change rules/regulations affecting VAT, EU patent fees and approval time for clinical trials (*paragraphs 7 and 10*).
- Encourage more positive attitudes in universities to commerce and entrepreneurial academies (*paragraphs 7 and 8*).
- Reduce bureaucracy in university technology departments (*paragraph 9*).
- Encourage scientific high achievers to market themselves and their discoveries/inventions (*paragraphs 11*).

Candidates should be able to achieve marks in the highest level by using a selection of relevant points from Sources E and F, not necessarily the complete range.

Any other valid points from Sources E and F not included in the indicative content should be credited.

GENERAL MARK SCHEME FOR SECTION B

Each essay should be awarded a single mark out of 25. In awarding the mark examiners should bear in mind the overall assessment objectives for General Studies (see INTRODUCTION) which the essay questions are intended to test in the following proportions:

AO1 – 8 marks: AO2 – 7 marks: AO3 – 5 marks: AO4 – 5 marks.

Level of response	Mark range	Criteria and descriptors: knowledge, understanding, argument, evaluation, communication
LEVEL 4	20 – 25 (6)	Good to very good treatment of the question: Wide ranging and secure knowledge of the topic (AO1); good range of convincing and valid arguments and supporting illustrations, effective overall grasp and logically argued conclusion (AO2); good understanding and appreciation of material, nature of knowledge involved and related issues (AO3); coherent structure and accuracy of expression (AO4).
LEVEL 3	13 – 19 (7)	Fair to good response to the demands of the question: Reasonable knowledge of topic (AO1); a range of arguments with some validity, appropriate illustrations with reasonable conclusions (AO2); some understanding and appreciation of material, nature of knowledge involved and related issues (AO3); mostly coherent structure and accuracy of expression (AO4).
LEVEL 2	6 – 12 (7)	Limited to modest response to the demands of the question: Limited / modest knowledge of topic (AO1); restricted range of arguments and illustrations but some awareness and attempt at conclusion (AO2); little understanding and appreciation of material, nature of knowledge involved and related issues (AO3); weak structure and variable quality / accuracy of expression (AO4).
LEVEL 1	1 – 5 (5)	Inadequate attempt to deal with the question: Very limited knowledge of topic (AO1); little or no justification or illustration, no overall grasp or coherence (AO2); inadequate understanding and appreciation of material, nature of knowledge involved and related issues (AO3); little or no structure / frequent expression (AO4).
LEVEL 0	0	No valid response or relevance to the question.

Section B questions are set in two parts.

Candidates need to answer both parts of the question well to gain access to a Level 4 mark.

An unbalanced response with one part answered very well and the other answered significantly less well could only gain access to a maximum Level 3 mark.

SECTION B

05 'It is inevitable that shopping in British high streets will continue to decline as personal incomes fall and more people switch to online buying and out-of-town retail parks.'

Examine the extent to which the survival of the British high street is under threat from falling incomes and the challenge of retail competitors.

Discuss what can be done to counter the threats to high street traders.

Indicative content

Examine the extent to which the survival of the British high street...

- For a great many people wage increases have been very low or non-existent in recent years. As prices have risen, real incomes have been reduced. Consumer spending makes up over 60% of GDP, with over 30% of that going through shops.
- Public sector spending and employment is declining sharply as the government seeks to eliminate the structural hole in Britain's budget by 2015. Inevitably this has an impact on consumer demand.
- Faced with income pressures, consumers have had to shop more carefully and selectively. At the same time, costs to retailers have risen and high street rents have often remained high.
- Not all parts of the country, or socio-economic groups, have been hit equally by sluggish economic growth and public spending cuts, especially those who have benefitted through low interest rates and cheaper mortgages.
- More than 10% of Britain's workforce is employed in the retail sector but, in 2011 alone, a number of retailers cut the number of branches/closed/went into administration: Henleys Clothing, Officers Club Clothing, Oddbins, Focus DIY, HMV (closed branches), Mothercare (closed branches), Habitat, Thorntons (closed stores), Jane Norman Fashion, T J Hughes Department Stores, Carpetright (closed branches). The trend has continued in 2012, hitting major retailers such as Comet.
- Profit margins have been squeezed as shops seek to absorb their own rises in costs to keep their prices competitive.
- Poor and unpredictable weather can act as a deterrent to shopping.
- Absence/cost of parking may keep people away from high streets.
- Out-of-town retail centres can offer a number of advantages such as convenient grouping of different retail outlets, competitive prices and free parking.
- Online shopping is easy and convenient. Prices are usually very competitive and organizations like Amazon offer very speedy delivery and efficient service.

Discuss what can be done to counter the threats to high street traders.

- In 2011, the retail consultant Mary “Queen of Shops” Portas accepted David Cameron’s invitation to conduct an independent review of the state of the UK’s shopping centres and to report to the PM. She reported in 2012.
- Following the Portas Report some towns received a grant of £300 000 for high street improvements.
- Development of more pedestrian areas/cheaper and accessible parking.
- Councils can pay their bills to traders more quickly, speed up planning permission and help with start-up costs.
- Councils could have differential rates for town centres and out-of-town outlets.
- Discount selling as shoppers become more “canny”. As bigger supermarkets have struggled to maintain retail growth, the German discount supermarkets Lidl and Aldi have seen a significant increase in customers. Another remarkable success story is Poundland.
- Retailers can develop their own online services.
- Many retailers have developed some form of home delivery service.
- Improve shop design/ambience. (As set out in 1999 by George Ritzer in his book *Enchanting a Disenchanted World, Revolutionising the Means of Consumption.*) ‘Allure’/‘create buzz’ widely practised by US retailers.
- Quality of personal service could be improved. Some retailers, such as John Lewis, have a reputation for high quality service that is likely to be the exception rather than the rule.
- Measures to prevent too many charity shops although many are now modernised and attractive and may bring people to the high street.

Candidates should be able to reach marks in the highest level with a selection of relevant points, not necessarily the complete range.

Any other valid points not included in the indicative content should be credited.

06 ‘The failure of the family was all too evident in the rioting, looting and social disorder that took place in a number of English cities in the summer of 2011. However, family failure is just one reason why Britain has been called a broken society.’

Examine the extent to which social disorder in 2011 was a result of failures of the family.

Discuss the assertion that Britain is ‘a broken society’.

Indicative content

Examine the extent to which social disorder in 2011.....

- The structure of the family has undoubtedly changed in the last 50 years although the consequences of such changes continue to be debated.
 1. there are fewer extended families;
 2. many more people co-habitate rather than marry;
 3. those who do marry are less likely to do so in church;
 4. same sex relationships have been recognised;
 5. as couples separate, there are more single-parent families and lack of male role models or authority figures;
 6. illegitimacy no longer carries a social stigma.
- Hence ‘family breakdown’ has become a mantra used to explain a range of more complex social changes and problems. Changes in family structure are translated by some as ‘family breakdown’ and lack of parental control.
- In 2010, David Cameron appointed the entrepreneur Emma Harrison as a “family champion” to lead a drive to get workless families back into employment. ‘Problem families’ have become ‘troubled families’. Her appointment was short-lived. In 2012, Louise Casey reported on ‘troubled families’.
- Poor parenting is often criticised. Parents are accused of failing to take responsibility for their children and many of the rioters were young people.
- The causes of social disorder in the summer of 2011 were much more complex, and varied, than ‘family failures’.
- Research available at the end of 2011 indicated that ‘family failure’ was less significant as a cause of the riots than
 - hostility against the police
 - simple opportunism and an opportunity to acquire luxury goods (free shopping)
 - poverty/unemployment/inequality
 - boredom/greed/criminality.

Indicative content

Discuss the extent to which you agree that Britain is ‘a broken society’.

- It is helpful if candidates explore what is meant by the phrase ‘a broken society’. (It is often associated with David Cameron who became Conservative leader in 2005 and PM after the general election of 2010.)
- By 2007, part of Cameron’s core political message centred on “social breakdown” and “increased social responsibility”. He encouraged the strengthening of families and communities.
- Writing in the right of centre magazine *The Spectator* in 2007, Andrew Neil wrote “people fear that we have become an increasingly fragmented, boorish and more violent society...which stalks not just the dilapidated parts of our inner cities but the high streets of once placid market towns”.
- The 2010 Conservative Manifesto contained a whole chapter on mending the broken society and the need to replace “an irresponsible society” with “a responsible society”. In government, Cameron floated the concept of ‘The Big Society’.
- Following the 2011 city riots, Cameron spoke of the need to tackle a “moral collapse”, pledging a war on gangs. He also stressed the need to turn around the lives of 120 000 “troubled families”, families without fathers and schools without discipline. “The broken society is back at the top of my agenda,” Cameron said.
- At the same time, Labour leader Ed Miliband warned against “knee-jerk gimmicks” and the dangers of “wheeling out old prejudices”.
- Alternative views of the ‘broken society’ have stressed issues such as MPs’ expenses, media transgressions, growing inequalities especially in the distribution of wealth and the behaviour of senior bankers.
- Others have pointed out the importance of greater social inclusion and helping young people to raise their self-esteem.
- Certainly consensus on what is meant by the ‘broken society’ and how to deal with social problems is difficult to achieve. A blogger posting on 15 August 2011 claimed that Cameron’s ‘Big Society’ “is in fact lots of very small ones. Some law abiding, some not. Some black and some white. Some affluent, some poor. *But in fact there are no generalisations to make here*”.
- Ultimately, views on what is meant by ‘a broken society’ differ considerably. Some commentators look back wistfully on a more ordered and deferential age. Others point to the complexities of rapidly changing values influenced by the media, social networking, consumerism and the cult of celebrity.

Candidates should be able to achieve marks in the highest level with a selection of relevant points, not necessarily the complete range. Any other valid points not included in the indicative content should be credited.

07 ‘The meltdown at the Fukushima complex in Japan in 2011 was yet another reminder of the dangers of relying on nuclear power.’

Examine the advantages of using nuclear power as a means of generating energy.

Discuss the arguments against expanding, or even continuing with, nuclear power as a source of energy.

Indicative content

Examine the advantages of using nuclear power.....

- In stark contrast to most renewable energies which depend on the weather, as long as there is uranium there will be uninterrupted power.
- Nuclear power is regarded as a ‘clean’ fuel in that it does not produce harmful greenhouse gas emissions such as CO₂. (Although the mining and transport of uranium does.)
- Significant reserves of uranium still exist.
- Nuclear power is relatively cost effective on a par with coal generating costs.
- Produces significant amounts of energy from small amounts of fuel.
- Compared to fossil fuels, nuclear power produces relatively small amounts of waste.
- Reduces dependency on foreign oils and natural gas – products which suffer from price volatility.
- Supporters argue that relatively small amounts of waste are produced and these can be stored safely underground.
- Some countries, most notably France, have made a significant commitment to nuclear power.
- The UK could not abandon its current nuclear power programme without having a major impact on power supplies and on employment in some parts of the country.

Indicative content

Discuss the arguments against expanding.....

- Fukushima, a consequence of an earthquake and tsunami, was the third major nuclear disaster in recent years. (The other two were Three Mile Island and Chernobyl.) It is impossible to say that a further disaster will not take place.
- Fukushima was described by Arnold Gunderson, a former nuclear industry senior vice president, as “the biggest industrial catastrophe in the history of mankind”. It had 3 nuclear reactors, and 4 fuel cores, exposed.
- Very significant amounts of radiation have been released. This can affect a large number of people over a wide area but many of the effects are likely to be long-term.
- In reaction to Fukushima, Germany is phasing out all its nuclear reactors over the next decade and a referendum in Italy voted 95% in favour of blocking a nuclear revival.
- Nuclear power plants are very expensive to build and have a limited lifespan.
- Decommissioning costs are similar to, or greater than, building costs.
- Opponents regard nuclear waste disposal as a continuing and unresolved safety hazard.
- Constant fear that terrorists will try to strike a nuclear power plant.
- Dangers that more countries might seek to develop nuclear weapons.

Candidates should be able to achieve marks in the highest level with a selection of relevant points, not necessarily the complete range.

Any other valid points not included in the indicative content should be credited.

08 ‘Despite all the efforts of governments and charities to relieve drought and famine in countries like Ethiopia and Somalia in the east of Africa, the only real answer to the problems of such countries is population control.’

Examine the extent of the success of governments and charities in relieving drought and famine in developing countries.

Discuss the obstacles to controlling population growth in parts of the world such as the east of Africa.

Indicative content

Examine the success of governments and charities.....

- Somalia is an example of a country hit by severe drought, a population exhausted by years of civil war, extreme lawlessness, previous dry spells and economic crises.
- World governments and charities do a great deal in terms of aid and relief of periodic crises brought about by natural hazards such as drought and famine but are under pressure as economic recession affects many countries. Chronic hunger and intermittent famines require substantial relief aid especially if accompanied by a rapidly growing population.
- Resources spent on relief aid might otherwise have gone on health, education, crop improvement, agricultural research, and improved farming technology.
- Financial support may address short-term effects rather than tackling longer-term prevention.
- We see repeated adverts from international charities and many people donate generously to charity but the scale of the problem is large and often recurring – Ethiopia has gone through several such crises often as a result of drought. (There are famines reported in Ethiopia almost as long as we have had records, and these are increasing in frequency and intensity.) Livestock are severely affected by lack of rain and water. Those that survive are of poor quality and children lack milk as a source of protein. Rates of severe malnutrition are high.
- Increasingly charities complain about ‘donor fatigue’.
- Many international humanitarian organizations have stopped activities in parts of war-torn Somalia because of the dangers to their personnel and the scale of the problem is too great for the few agencies left. Co-operation between warlords and western governments, in terms of providing relief, is extremely limited.
- The elusive goal is to find a way to break the cycle of poverty, hunger and disease which threatens to get much worse if present population growth continues.

Indicative content

Discuss the obstacles to controlling population growth

- World population, now over 7 billion, is estimated to rise to 9.5 billion by 2050.
- Assumption that Africa is necessarily over-populated, or that “less population equals more development”, given the continent’s size, may be challenged.
- According to the UN report *World Population 2008*, there are 170 people per square km in Western Europe and 33 people per square km in Africa.
- However, population growth is rapid in many parts of Africa – for some countries, with very high fertility rates, as high as 4% per annum. Sub-Saharan Africa had a population of 510 million in 1990. In 2015, it is estimated that the figure will have increased to 890 million.
- Cost of birth control. Who will be responsible for funding birth control programmes?
- Education/ignorance especially about birth control methods. How far is it possible that education about family planning could be improved?
- High fecundity rates might be an established part of a country’s culture.
- Influence of Roman Catholic church and its teaching against birth control.
- Economic argument – large families necessary to provide support through their earnings and in old age.
- Right of developed countries to interfere in the affairs of other sovereign states.
- Changing, volatile and often highly dangerous political situations in countries such as Somalia deter charities and western governments thus jeopardising birth control programmes.

Candidates should be able to achieve marks in the highest level with a selection of relevant points, not necessarily the complete range.

Any other valid points not included in the indicative content should be credited.