Teacher Resource Bank

GCE General Studies A

Second Specimen Question Papers and Mark Schemes:

- GENA4

General Certificate of Education
Advanced Level Examination

GENERAL STUDIES (SPECIFICATION A) GENA4
Unit 4 A2 Science and Society

Case Study Source Material

For use with **Section A**

- The material consists of five sources (A, B, C, D and E) on the subject of *World Food Supplies*. These extracts are being given to you in advance of the Unit 4 examination to enable you to study the content and approach of each extract, and to consider issues which they raise, in preparation for the questions based on this material in Section A.

- A further Section A source (F) will be provided in the examination paper.

- Your teachers **are** permitted to discuss the material with you before the examination.

- You may write notes in this copy of the Source material, but you will **not** be allowed to bring this copy, or any other notes you may have made, into the examination room. You will be provided with a clean copy of the Source Material at the start of the Unit 4 examination.

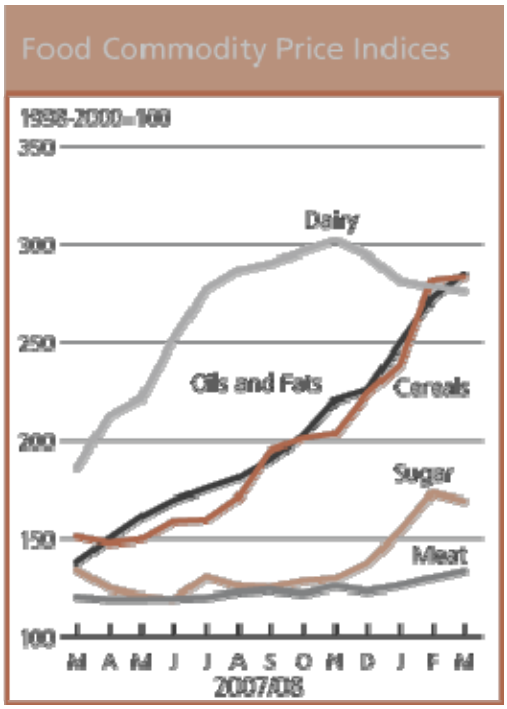
- You are not required to carry out any further study of the material than is necessary for you to gain an understanding of the detail that it contains and to consider the issues that are raised. It is suggested that three hours' detailed study is required for this purpose.

- In the examination room you will have approximately one hour and fifteen minutes in which to read a previously unseen extract and answer a range of questions based on all the source material.

Case Study Source Material on **World Food Supplies**

SOURCE A

Figure 1: Food commodity price indices



Source: United Nations Food and Agricultural Organisation (FAO)

Figure 2: Global Food Crisis

- Food riots have recently erupted in countries including Haiti, Egypt, Cameroon, Ivory Coast, Senegal, Burkina Faso, Ethiopia, Indonesia, Madagascar and the Philippines
- In Pakistan and Thailand, army troops have been deployed to avoid food being seized from fields and warehouses.
- Prices for foodstuffs in these countries such as rice and wheat have doubled.
- Causes of the crisis range from financial speculation on food commodities, desertification, population increases, China and India's economic growth and use of grains to make biofuels.
- Cost of funding projects enabling governments to tackle food crises could be up to $1.7 billion.
- However, world cereal production in 2008 is projected to increase by 2.6% to a record 2164 million tonnes.

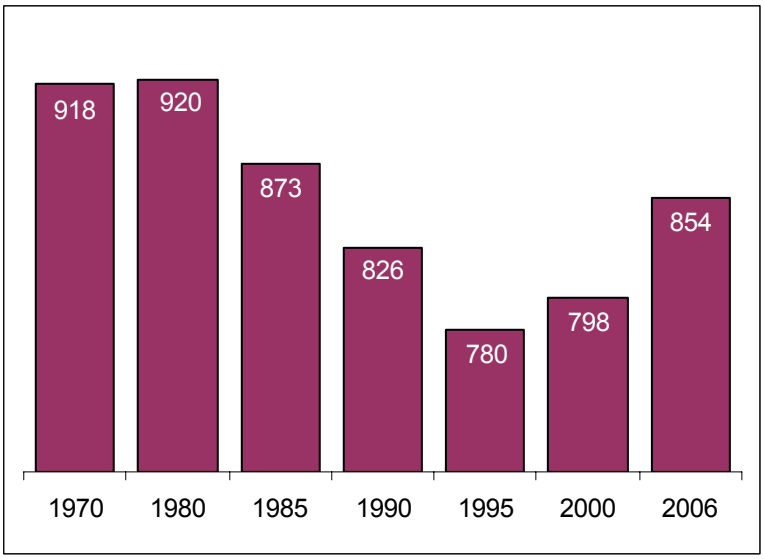
Source: United Nations Food and Agricultural Organisation (FAO) 2008

Figure 3: Food in Figures

Figures	Comment
93 000 000	Acres of corn planted by US farmers in 2007, up 19% on 2006
8 kg	Amount of grain it takes to produce 1 kg of beef
20%	Portion of US corn used to produce five billion gallons of ethanol in 2006-07
50 kg	Quantity of meat consumed annually by the average Chinese person, up from 20kg in 1985
10%	Anticipated share of biofuels used for transport in the European Union by 2020
$500 million	The UN World Food Programme's shortfall this year, in attempting to feed 89 million needy people
9.2 billion	The world's predicted population by 2050. It is currently 6.6 billion
130%	The rise in cost of wheat in 12 months
16 times	The overall food consumption of the world's richest 20% compared with that of the poorest 20%
58%	Jump in the price of pork in China in the past year
$900	The cost of one tonne of Thai premier rice, up 30% in a month.

Source: CAROLINE DAVIS, 'Food in Figures', *The Observer*, 13 April 2008

Figure 4: Number of undernourished people in developing countries (millions)



Source: United Nations Food and Agricultural Organisation (FAO) 2008

Figure 5: Food Facts

- 852 million people still go hungry. In 1990 the figure was 824 million
- Six million children die from hunger each year
- We have enough food to provide everyone in the world with at least 2 720 kilocalories per person per day
- Rich countries provide $330 billion (£1.78 billion) in subsidies annually – six times the money the rich countries give in aid.

Source: PHILIP THORNTON, 'More are hungry despite world leaders' pledge', *The Independent,* 16 October 2006

Figure 6: Bread facts

Average price for 800g white sliced loaf in UK

Date	Price
Feb 2005	£0.69
Feb 2006	£0.78
Feb 2007	£0.85
Feb 2008	£1.13

Variation in bread prices in Britain and around the world

Location	Bread price
Manchester	£1.11 / kg
London	£1.45 / kg
Japan	£3.29 / kg
United States	£3.37 / kg
Russia	£3.51 / kg
Austria	£4.22 / kg

Average UK bread consumption

Date	Weekly consumption
1960	1300 g
1980	950 g
2000	800 g

Source: Office for National Statistics 2008

SOURCE B

Our hunger for biofuels is starving the poor

We drive, they starve. The mass diversion of the North American grain harvest into ethanol plants for fuel is reaching its political and moral limits. "The reality is that people are dying already," said Jacques Diouf, of the United Nation's Food and Agriculture Organization (FAO). "Naturally people won't be sitting dying of starvation, they will react," he said.

The UN says it takes 232 kg of corn to fill a 50 litre car tank with ethanol. That is enough to feed a child for a year. Last week, the UN predicted "massacres" unless the biofuel policy is halted. We are all part of the drama whether we fill up with petrol or ethanol. The substitute effect across global markets makes the two morally identical.

Mr Diouf says world grain stocks have fallen to a 25-year low of 5 million tonnes – rations for 8 to 12 weeks. America – the world's food superpower – will divert 18% of its grain output for ethanol this year, chiefly to break the dependency on oil imports. It has a 45% biofuel target for corn by 2015. Argentina, Canada and Eastern Europe are joining the race.

The European Union has targeted a 5.75% biofuel share by 2010, though that may change. Europe's farm ministers are to debate a measure this week ensuring "absolute priority" for food output.

The global fuel bill has risen 57% in the last year. Soaring freight rates make it worse. The cost of food "on the table" has jumped by 74% in poor countries that rely on imports according to the FAO. Roughly 100 million people are tipping over the survival line. The Malthusian crunch has been building for a long time. We are adding 73 million mouths a year.

Asia's bourgeoisie is also switching to an animal-based diet. If they follow the Japanese, protein intake will rise by 9 times. It takes 8.3 grams of corn feed to produce 1 g of beef, or 3.1 g of pork. China's meat demand has risen to 50 kg per capita, from 20 kg in 1980. However, this has been gradual.

Is there any more land? Yes, in Russia, Ukraine and Kazakhstan, where acreage planted has fallen 12% since Soviet days. Existing grain yields are 2.4 tonnes per hectare in Ukraine, 1.8 in Russia and 1.1 in Kazakhstan, compared with 6.39 in the United States. Investment would do wonders here. But the structure is chaotic.

Brazil has the world's biggest reserves of "potential arable land" with 483 million hectares but it currently cultivates only 67 million, and Colombia has 62 million – both offering biannual harvests. The catch is obvious. "The idea that you cut down rainforest to actually grow biofuels seems profoundly stupid," said Professor John Beddington, Britain's chief scientific adviser.

Goldman Sachs says the cost of ethanol from corn is $81 a barrel (oil equivalent) with wheat at $145 and soybeans $232. New technology may open the way for the use of non-edible grain stalks to make ethanol, but for now the only biofuel crop that genuinely pays its way is sugar cane ($35). Sugar is carbohydrate: ideal for fuel. Grains contain proteins made of nitrogen: useless for fuel but vital for people.

Whatever the arguments, politics is intruding. Food export controls have been imposed by Russia, China, India, Vietnam, Argentina, and Serbia. We are disturbingly close to a chain reaction that could shatter our assumptions about food security.

The Philippines – a country with ample foreign reserves of $36 billion (Britain has $27 billion) – last week had to enlist its embassies to hunt for grain supplies after China withheld shipments. Washington stepped in, pledging "absolutely" to cover Philippine grain needs. A new Cold War is taking shape, around energy and food.

Source: Adapted from AMBROSE EVANS, 'Our hunger for biofuels is starving the poor', *Daily Telegraph,* 14 April 2008

SOURCE C

How the rush to biofuels has driven up the price of food

The world's most powerful finance ministers and central bankers are meeting in Washington tomorrow; but as they preoccupy themselves with the global credit crunch, another crisis, far more grave, is facing the world's poorest people. A dramatic rise in the worldwide cost of food is provoking riots throughout the Third World where millions more of the world's most vulnerable people are facing starvation as food shortages grow and cereal prices soar. It threatens to become the biggest crisis of the 21st century.

This week crowds of hungry demonstrators in Haiti stormed the presidential palace in the capital, Port-au-Prince, in protest over food prices. And a crisis gripped the Philippines as massive queues formed to buy rice from government stocks. There have been riots in Niger, Senegal, Cameroon and Burkina Faso, and protests in Mauritania, Ivory Coast, Egypt and Morocco. Mexico has had "tortilla riots" and, in Yemen, children have marched to draw attention to their hunger.

The global price of wheat has risen by 130% in the past year. Rice has rocketed by 74% in the same period. It went up by more than 10% in a single day last Friday – to an all-time high as African and Asian importers competed for the diminishing supply on the international markets in an attempt to head off the mounting social unrest.

Rising prices have triggered a food crisis in 36 countries, says the UN Food and Agriculture Organization. The hike in prices means the World Food Programme is cutting food handout rations to some 73 million people in 78 countries. The threat of malnutrition on a massive scale is looming.

Governments have begun to negotiate secretive barter arrangements as the price of agricultural commodities leaps to record highs. Ukraine and Libya are close to a deal on wheat. Egypt and Syria have signed a rice-for-wheat swap. The Philippines has just failed in a rice deal with Vietnam. Prices are likely to remain high for at least 10 years, the Food and Agriculture Organisation is projecting.

A complex interaction of factors has provoked the panic in international markets. Diets are changing radically in nations such as China, India, Brazil and Russia and the demand for meat from across all developing countries has doubled since 1980.

The new market for biofuels has raised grain prices. Corn is being used to produce energy and the market is anticipating increased production in the coming decade with George Bush wanting 15% of American cars to run on biofuels by 2017 – which will mean trebling maize production. Europe has set a transport fuels target of 5.75% from biofuels by 2010. As a result, the price of corn has begun to track that of oil quite closely. Last week a barrel of oil topped $105 (£53) for the first time.

Climate change is taking its toll and so is increasing demand from a growing world population. Worldwide, an area of fertile soil the size of the Ukraine is lost every year because of drought, deforestation and climate instability. World population is predicted to grow from 6.2 billion to 9.5 billion by 2050.

There is an increasing gravity of all this among the leaders of the industrialised world. In Britain, there is increasing concern about the rush to biofuels. Britain's new chief scientist, Professor John Beddington, has said that cutting down

rainforest to produce biofuel crops was "profoundly stupid" and found it hard to imagine "how we can see a world growing enough crops to produce renewable energy and, at the same time, meet the enormous increase in the demand for food".

Lennart Bage, president of the UN's International Fund for Agricultural Development, suggested that those opposed to GM crops should take another look at the productivity gains they can unleash and bring changes as massive as the "green revolution" of the 1960s, when crop yields in India and other developing nations jumped because of better seeds, fertilisers and improved irrigation.

Source: Adapted from: PAUL VALLELY, 'How the rush to biofuels has driven up the price of food', *The Independent,* 12 April 2008

Turn over for the next source

SOURCE D

Free trade can stop world food crisis turning into a tragedy

Protectionism has failed people in poor countries, but getting rid of tariffs will boost production and cut prices. Rising food prices have caused street protests from Mexico to India to Senegal. But this could be a blessing in disguise if it makes governments eliminate the trade barriers that exacerbate high prices: the poorest countries will benefit most from dropping their own tariffs.

Economics expert Gary Becker estimates that a 30% rise in food prices over five years would cause living standards to fall by 3% in rich countries and by more than 20% in poor countries. A few countries have already temporarily eased tariffs on agricultural imports to soften the blow for consumers. Thailand is considering a cut of 50% for maize, soy beans and other animal feed.

These tariff reductions will offset price increases, not just by lowering prices, but by increasing supply. Increased trade in agricultural goods (not just food) could even help avert famine where produce is subject to intense government control, such as North Korea, Ethiopia, Kenya and many others. But many countries resist free trade in food – domestically, or with neighbours.

In Africa, 200 million people are underfed, according to the United Nations Food and Agriculture Organization. They have born the brunt of counter-productive state management of agriculture that has damaged farmers and economies.

For years, governments in Africa forced farmers to surrender their crops to state-run marketing boards at below market rates. Some of these corrupt and inefficient institutions have been weakened or abolished but many other restrictions on agriculture remain.

Many development analysts are obsessed with subsidies paid to farmers in rich countries, now extended to biofuels, and the damage it inflicts on the world's poor. But it is the world's poorest countries that impose the highest barriers to trade with each other: agricultural exports between sub-Saharan countries face an average tariff the highest of any region. A whopping 70% of the world's trade barriers are imposed by governments in poor countries on people in other poor countries.

High food prices are a clear and immediate reason to cut tariffs but that does not mean that it will happen. For decades, protectionism has been imposed against the interests of local consumers, because of an unholy alliance between western activists and local vested interests.

Trade barriers of any kind, including "green" subsidies, tariffs and quotas, harm both consumers and producers. They artificially increase costs, leading to unnecessary waste of scarce natural and human resources. Consumers and producers spend more to purchase the same goods and services, so have less to invest in the new technologies or to save for the future.

Although some claim trade barriers would help the environment, they are actually counter-productive. They favour the status quo by rewarding inefficient producers and thus delaying

the adoption of cleaner, resource-saving technologies.

Under the slogan "Make Trade Fair", groups such as Oxfam and Christian Aid claim that protecting local industries and agriculture with tariffs will allow them to grow and become competitive – with local consumers, especially the poorest, suffering higher prices. But decades of protectionism have done little for sub-Saharan Africa.

It is no surprise that crop yields – like income and life expectancy – have steadily decreased across much of Africa since the 1980s. The technologies that could turn their fortunes around, such as fertiliser, irrigation and genetically-modified crops, remain largely out of reach. Worse – and contrary to trends in Asia and Latin America – fertiliser use has actually fallen in many African countries in the past two decades. Whereas an average of 107 kg of fertiliser is used per hectare in the developing world as a whole, African countries use only 8 kg. The consequence has been disastrous: 70% of the continent's workforce is still in agriculture, mainly subsistence farming, contributing only about 25% of gross domestic product.

Demand and prices for food are rising, so freeing trade would be the best remedy for the world's poor, cutting prices at a stroke and boosting production. High food prices are putting pressure on protectionist governments to free their trade or face angry mobs. The choice is obvious – lest a crisis turn into a tragedy.

Source: Adapted from: CAROLINE BOIN and ALEC VAN GELDER, 'Free trade can stop world food crisis turning into a tragedy', *The Scotsman,* 19 April 2008

Turn over for the next source

SOURCE E

Fields of gold

Call it the revenge of Marie Antoinette, the French queen, who on being told that her subjects had no bread suggested they eat cake instead. She has gone down in history as callous, unworldly and fully deserving of the guillotine. Last year, however, farmers in Pennsylvania began following her advice.

Since standard animal feed had become too dear, they started giving their pigs and cows chocolate – and banana chips and cashews and yoghurt-covered raisins, any of which were cheaper than run-of-the-mill corn and beans. One farmer even supplied his cattle a special 'party mix' of popcorn, pretzels, cheese curls and crisps. This, he told reporters, saved 10% on feed costs.

From hogs in the US to shoppers in the UK, we are all being hit by higher food costs. Bread, milk and other foodstuffs which consumers think of as basic are nothing of the sort; instead they are subject to a complex range of pressures stretching from London to China, from America to Australia. The price of the daily loaf is fluctuating according to what happens on the Minneapolis Grain Exchange, or the outlook for the Indian economy.

What all that means is that if you think bread is already pricey, think again: it will almost certainly go higher. A loaf of Hovis Classic White, the staple of school lunchboxes, now goes for around £1, already far above what it fetched a year ago. But the company behind Hovis, Premier Foods, warned last month that it would have to raise prices again. Premier also admitted that its profits from bread sales had nearly halved, thanks to what it termed 'an exceptional level of cost inflation'.

Where shoppers see a loaf of sliced bread, experts think of US hard red winter wheat. But the basic picture is stark. Wheat prices, which were already creeping up, have doubled in the past year. And some types of the crop have risen more than that: spring wheat (a protein-rich variant that apparently goes into the better class of sandwich) has shot up from $220 (£110) a tonne last April to $578 (£289) now. The most immediate reason for the rise is a traditional one: poor harvests. There was barely any rain in Australia in 2006 and 2007 so stockpiles of wheat have hit a 30-year low. This year's harvest, however, is set to be a lot better, but that in itself would not account for such a dramatic surge in prices.

Another factor is more recent: biofuels. As of yesterday, 2.5% of all petrol and diesel sold in the UK must be made from plants. And that will rise to 5.75% by 2010. This is part of the government's push to combat climate change. In comparison with fossil fuels, energy derived from plants is touted as cleaner and greener. The problem is that they take up land and crops that might otherwise feed people.

It's not just the UK that has got on the biofuel bandwagon. America is easily the biggest country on board, as it looks to reduce demand for petrol. The result has been that 20% of the American maize crop has gone not into feeding people, but fuelling machines. Some experts claim that the effect of this on prices has been minimal. Others feel that the impact on prices has been far greater.

So, if you want to bring down food prices, one obvious thing to do is to call a halt to biofuels. But that would probably not reverse the trend. The long-term reason why prices are going up is simply that more people are eating more - especially in the increasingly prosperous developing countries such as China and India.

There are two responses to this. One is to quote Thomas Malthus and to argue that a rising population always means scarcity of precious resources. But that is probably melodramatic. The truth is that, for a long time, the west has had access to cheap resources. Once you strip out inflation, what we paid for wheat dropped by more than 80% between 1973-2000. Even now, after the record rises for wheat prices, what we pay for wheat is still below the levels of the 1970s.

In an ideal world, we would simply adjust for the new wealth of the east by adjusting our spending: eat slightly less meat, or not throw away our leftovers. But this transition is unlikely to be so smooth. For one, while British shoppers have to pay more at the till, poor countries such as Bangladesh are struggling to feed themselves. And the consequences could be brutal.

Joseph Gazzano owns an Italian delicatessen in London. He says that one of his suppliers, who had been in the business for 50 years, has said that he's never seen an inflationary period like this. "All the stuff I buy has gone sky-high. I can absorb some of the price rises, but not all. And it worries me: it doesn't matter if the price of petrol goes up – you can bike it. But food going up matters because you have to eat."

Source: Adapted from: ADITYA CHAKRABORTTY, 'Fields of gold', *The Guardian*, 16 April 2008

END OF SOURCES

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General Certificate of Education
Advanced Level Examination

ASSESSMENT and QUALIFICATIONS ALLIANCE

GENERAL STUDIES (SPECIFICATION A) GENA4
Unit 4 A2 Science and Society

For this paper you must have:
- a copy of the Pre-release Case Study Source Material (enclosed)
- a 12-page answer book

Time allowed: 2 hours

Instructions
- Use black ink or black ball-point pen.
- Write the information required on the front of your answer book. The *Examining Body* for this paper is AQA. The *Paper Reference* is GENA4.
- Answer **all** questions in Section A and **one** question from Section B.
- Use your own words, rather than simply repeating those used in the sources, to show your understanding of the points being made.

Information
- The maximum mark for this paper is 70 (45 for Section A and 25 for Section B).
- This paper consists of **two** sections.
  Section A contains four compulsory questions based on the pre-release Case Study Source Material provided earlier and the new source provided in this examination paper; (a new copy of the pre-release material is provided as an insert to this question paper).
  Section B contains four alternative essay questions based on aspects of Science and Society.
- Write your answers in continuous prose as if you are addressing the intelligent general reader. You will be marked on your ability to use good English, to organise information clearly and to use specialist vocabulary where appropriate.
- Where appropriate use examples to illustrate your answer.

SECTION A

Answer **Questions 1** to **4** using pre-release **Sources A** to **E** and new **Source F** provided below.

The total for this Section is 45 marks.

Source F

Thailand

The price of rice in the world's largest exporter rose to $1000 per tonne yesterday and experts warned that it will continue to rise. This is because of the massive demand from the Philippines which is struggling to secure supplies after India and several other producers halted exports. The government has said it can meet the export requests. Indonesia has said it is withholding purchases for a year because prices are so high.

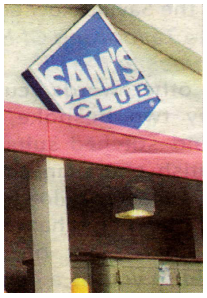
Brazil

On Wednesday Brazil became the latest major rice producer to temporarily suspend exports because of soaring costs and domestic shortages. In recent weeks Latin American countries and African nations have asked for up to 500 000 tonnes of rice from Brazil which will now not be delivered. Brazil's agricultural ministry has said it has to ensure that the country has at least enough rice reserves to last the next six to eight months.

China

The booming economy and ever expanding middle class have had a particularly profound effect on food prices, particularly rice and wheat. Because of industrialisation, rice planting fell from 33 million hectares in 1983 to 29 million by 2006 and China now imports more than ever, placing a major strain on international supplies. Despite freezing prices, rampant inflation means cost of food has risen by 21 per cent this year.

USA



In a land where supposedly the rich are thin and the poor are overweight, one of the largest cash and carry stores, Sam's Club, announced this week it would limit customers to take home a maximum of four bags of rice. The move came a day after Costco Wholesale Corp, the biggest US warehouse-club operator, limited bulk rice purchases in some stores and warned that customers had begun stockpiling certain goods.

Europe

Less vulnerable to food price fluctuations than emerging nations, but food prices across Europe have nonetheless increased. In Britain wholesale prices of food have increased by 7.4 per cent over the past 12 months, roughly three times the headline rate of inflation.

According to the government's own statistics grocery bills have gone up by an average of £750 over the same period, the equivalent of a 12 per cent rise.

Source: Adapted from Jerome Taylor, 'The Food Crisis Begins to Bite', *The Independent*, 25 April 2008

1 How far do the data and other information in **Source A** support the claim that there was a global food crisis in 2008? *(11 marks)*

2 How far does evidence from **Sources B** and **C** support the claims of their authors that the rush towards developing biofuels has "driven up the price of food" and is "starving the poor"? *(12 marks)*

3 To what extent do you agree with **Source D** that a move towards less protectionism and more free trade would be beneficial to poorer countries? *(11 marks)*

4 Using information from **Sources E** and **F**, consider whether governments are likely to be successful in tackling the effects of rising world food prices in their own countries. *(11 marks)*

SECTION B

Answer **one Question** from **5** to **8**.

There are 25 marks for each question.

Where appropriate use examples to illustrate your answer.

EITHER

5 "If the poor and the starving in the world are to get real and lasting help and relief they will do so only by the further testing, development and production of genetically modified crops on a large scale."

Explain why genetically modified crops might help to increase food supplies.

Examine the difficulties surrounding the further testing, development and production of genetically modified crops.

OR

6 "There is increasing concern about what some politicians have described as 'the breakdown of family life' and they have suggested that the only way to fix 'a broken society' is to place more emphasis on marriage and a return to traditional values."

Examine what are commonly believed to be 'traditional values'.

How far, and for what reasons, do you agree that we are currently witnessing 'the breakdown of traditional family life' in Britain?

OR

7 "Changing the diet of people in the UK and improving their fitness levels can bring about many benefits such as a reduction in obesity, cutting the demands on the National Health Service and even helping to resolve global food crises."

Discuss the extent to which you consider better diet and fitness regimes among the UK population would have the benefits claimed in the statement above.

Explain the difficulties involved in persuading people to follow a healthier diet and to exercise regularly.

OR

8 "Whatever the need for more foreign aid, and even for measures to protect the environment, the world's greatest need is for improved security against the threat of terrorism."

To what extent do you agree that "the world's greatest need is for improved security against the threat of terrorism?"

Discuss the difficulties in countering the threats and actions of terrorists.

END OF QUESTIONS

General Certificate of Education

General Studies

Specification A

GENA4

Unit 4 A2 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

Set and published by the Assessment and Qualifications Alliance.

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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 overleaf). 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 Unit 4

Question Numbers	1	2	3	4	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	6	4	4	4	18	7	25
AO3	1	4	2	2	9	5	14
AO4	2	2	2	2	8	5	13
Total marks per Question	11	12	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)**	**Good response to question** 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).
LEVEL 2	**5-9**	**Reasonable attempt to answer question** 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).
LEVEL 1	**1-4**	**Limited response to question** 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).
LEVEL 0	**0**	**No valid response or relevance to question.**

GENA4 CASE STUDY SUMMARY OF SOURCES ON SPECIMEN PAPER

SOURCE A (Pre-released): Data relating to World Food Supplies

Figure 1: Food commodity price indices

Graph shows the dramatic rise in world food prices during 2007. The rises are most pronounced for dairy products, oils & fats and cereals. Price rises are least evident in sugar and meat.

Figure 2: Global food crisis

Protests and riots demonstrating against rising prices have taken place in a number of countries across the world after prices of staples such as wheat and rice doubled in a fairly short time. However, the situation may be eased if favourable predictions for the 2008 world harvest are realised.

Causes include financial speculation on food commodities, the switch of crops from food to biofuel production, population increases and growing demand from those whose incomes are rising in countries enjoying greater economic prosperity such as China and India.

Financial intervention by governments to reduce the impact of rising prices will be costly (up to $1.7 billion).

Figure 3: Food in figures

Variety of figures reflecting growing demand for meat from China, projected increase in world population, comparative food consumption in richer and poorer countries, price rises in rice, wheat and pork and the growing use of biofuels in transport.

Figure 4: Number of undernourished people in developing countries

Bar graph indicating that the steady fall in the number of undernourished people in developing countries between 1980 and 1995 had given way to a steady rise in the period after that date up to 2006.

Figure 5: Food facts

Growing number of hungry people in the world and high death rate from starvation among children. Yet, in aggregate terms, there is enough food in the world. Rich countries spend six times more in subsidies than they give in aid.

Figure 6: Bread facts

There has been a sharp rise in UK bread prices with a standard sliced loaf going up from £0.69 in February 2005 to £1.13 in Feb 2008 although the rise has been more pronounced in London than Manchester and UK bread prices are markedly lower than those certain other countries. Demand for bread in the UK between 1960 – 2000 has dropped significantly.

SOURCE B (Pre-released): Our hunger for biofuels is starving the poor

The author draws a stark contrast between comparative luxury (driving) and starving because an increasing proportion of corn is being used to produce the biofuel, ethanol. World grain stocks are at a 25-year low and both the US and the EU have targets to produce more biofuels so that they are less dependent on oil. However, policies might change with the realisation that corn for biofuels is having an adverse impact on world food prices.

However, other factors are also contributing to rising world food prices. Fuel bills have risen dramatically; more affluent Asians are switching more to meat – which requires corn to feed animals; and some countries are slow to develop land reserves. It is relatively expensive to produce ethanol from corn and only sugar cane seems a viable commercial option for the production of biofuel.

SOURCE C (Pre-released): How the rush to biofuels has driven up the price of food

As the world's finance ministers meet to discuss "the global credit crunch" they must pay attention to an ever graver crisis – rapidly rising world food prices especially in commodities such as wheat and rice. Such rises have led to protests and riots in a number of developing countries.

Some countries have reacted by trying to set up secret arrangements but the situation is exacerbated by the wider use of corn for biofuels, population increases, changing tastes and climate change.

The UK's new chief scientist has questioned the wisdom of switching corn to produce biofuels and the head of the UN's IFA has called upon people to reconsider the potential advantages of GM methods.

SOURCE D (Pre-released): Free trade can stop world food crisis turning into a tragedy

The writers come out firmly in favour of more free trade and less protection. As it is poorer countries that tend to use protective import tariffs they are more exposed to artificially high prices. Such tariff reduction could help to avert famine and there are 200 million people underfed in Africa alone.

Protection limits supplies and protects those who might be inefficient and corrupt and the authors argue that "trade barriers of any kind, including "green" subsidies, tariffs and quotas harm producers and consumers" and they are often protected by vested interests. Consequently there is less incentive to modernise and, in retaining the status quo, it is usually the least efficient producers who are protected.

The result is that incomes, life expectancy and crop yields are all falling and the use of fertiliser has also dropped off sharply especially in African countries. There is already a crisis and, according to the authors, if protectionist barriers are not jettisoned sharply, the crisis is likely to turn into tragedy.

SOURCE E (Pre-released): Fields of gold

This source switches the focus from poorer countries to those which are among the wealthiest such as the US and the UK. In line with other rising world food prices, wheat prices have risen dramatically, again partly because of the switch of crops like maize to produce biofuels and because of drought, especially in traditional supply areas such as Australia.

Because of the rising cost of raw materials such as wheat, bread prices have risen and a standard sliced loaf in the UK is now at least £1 although the situation may be eased by predictions that the 2008 harvest might be better. People in richer countries are unlikely to adjust their spending habits dramatically in the face of higher prices – the choice is far more

stark in poorer countries. In poorer countries, the combination of high food prices and low wages is likely to result in starvation.

SOURCE F (Released with the examination)

This is the withheld source featuring 5 countries/geographic areas.

Thailand. As the world's leading rice exporter, has seen the price of rice rise to $1000 a tonne as a result of demand from the Philippines and following the halting of rice exports by India and other countries.

Brazil. Latest major rice producer to suspend rice exports temporarily, to build up domestic stocks, because of domestic shortages and increasing demands from Latin American and African countries.

China. Demand stimulated by economic success and growing middle classes have contributed to price rises in foodstuffs such as rice and wheat. Rice planting in China has fallen because of industrialisation and the country has become more reliant on imports. Chinese government has frozen prices, inflation is such that food prices have risen by 20% in a very short time.

USA. One of the country's biggest stores, *Sam's Club,* began a limit on the amount of rice customers can buy following the example of Costco which made a similar move because some customers had begun stockpiling certain goods.

Europe is less vulnerable to changing food prices than poorer nations but food prices have increased significantly with UK household grocer bills rising by about 12% in a year.

SECTION A

1 How far do the data and other information in Source A support the claim that there was a global food crisis in 2008? (11 marks)

- There are six separate figures in Source A, each providing data and comments which might be used as the basis of a discussion relating to the claim that a global food crisis exists in 2008. Level 1 answers may be very brief/narrow and/or have a tendency to re-write the data/comments with little analysis.
- Level 2 answers are likely to cover most of the Figures in Source A, perhaps with a combination of some descriptive writing and some analytical comment in the context of the claim concerning the global food crisis.
- Level 3 answers will use data and information from all Figures in analytical form with clear analysis leading to a logically argued conclusion - which can go either way depending on how the evidence is interpreted - on the balance between prices which are undoubtedly rising and the extent that this yet constitutes a crisis.

Indicative content

- Figure 1 gives a clear, month-by-month, indication of the rise in selected food commodity prices during 2007. While meat and sugar prices remained relatively stable over the year the same cannot be said of the prices of dairy products, oils & fats and cereals. Worrying trends for many consumers but not enough in itself to constitute a crisis.
- Figure 2, as its title suggests, gives more indication of crisis mentioning food riots, the deployment of troops to keep order, the doubling of rice and wheat prices and the cost of food aid/subsidies to individual governments. However, it should be noted that a crisis might be averted by the predicted increase in cereal production in 2008 which might help to offset shortages.
- Figure 3 also refers to the rise in certain food prices and the increasing use of US corn for ethanol production, thus reducing the amount available for food. In addition the UN World Food Programme has also indicated a shortfall and the situation is further exacerbated by anticipated growth in world population, thus increasing the demand for food.
- Figure 4 demonstrates just how many people in the world (in excess of 800 million) might be described as 'undernourished'. After a gradual, but sustained reduction in numbers between 1970 and 1995, there has been an equally steady rise since then. Rising prices for staples could lead to crisis.
- Figure 5 reinforces the point about the world's hungry with an indication that some 6 million children die of starvation annually. Although it is suggested that, in aggregate, there is sufficient food for everyone, the figures are for 2006 - prior to the start of price rises. Rich countries might spend even more on internal subsidies than on aid to poorer countries.
- Figure 6 shows a rapid rise since 2007 in UK bread prices although they are not as high as in some other countries. However, bread consumption in the UK is falling so people may eat less bread or have the incomes to absorb the rise.

Conclusion Much of the evidence certainly points towards a crisis for poorer countries where disposable incomes are much lower. Supplies of staple foods may increase, and other measures may be taken. A crisis is likely - perhaps it already exists - but not certain.

2 How far does evidence from Sources B and C support the claims of their authors that the rush towards developing biofuels has "driven up the price of food" and is "starving the poor"? (12 marks)

Both sources are writing, in slightly different ways about the rise in global food prices and the contribution that the use of corn to produce biofuels has contributed to this. Both headlines might be deemed to be rather misleading, perhaps attributing a greater significance to the development of biofuels in price rises than might be justified by the evidence.

- Candidates who write in a very brief, or mainly descriptive (and/or general) fashion about the causes of price rises are likely to be placed in Level 1.
- Those who demonstrate some limited analytical and critical awareness of the contribution of diverting foodstuffs to the production of biofuels, using information from both sources (maximum of 6 marks if only one source is used) will reach Level 2.
- Those who provide critical analysis over a wider range with a clear focus on the contribution of foodstuffs used for biofuels, relative to other factors, based on both sources, will satisfy the criteria to be placed in Level 3.

Indicative content (Source B)

- Refers to "the mass diversion of the North American grain harvest into ethanol plants for fuel".
- High quantity of corn to fill a 50 litre car tank with ethanol, representing enough to feed a child for a year.
- World grain stocks have fallen to a 25-year low. Both US and EU have targets to develop more biofuels, thus diverting an increasing amount of potential food.
- Other factors are contributing to rising food prices: better-off Asians switching to more meat; rising food transport costs; growing world population; failure to bring sufficient land reserves in Latin America and Eastern Europe into more productive cultivation.
- Also argues that biofuel production is subsidised and that only sugar cane "genuinely pays its way".

Indicative content (Source C)

- Gives clear indication of rising world food prices especially in wheat and rice.
- Attributes these price rises to "a complex interaction of factors".
- These include changing diets, climate change and an increasing world population.
- States clearly that "the new market for biofuels has raised grain prices". Refers also to future US and EU targets.

Any other valid points should be credited.

Conclusion: The headlines from both sources are dramatic and eye-catching. Source B is headlined **Our hunger for biofuels is starving the poor** while Source C's equivalent is **How the rush to biofuels has driven up the prices of food.** The articles themselves are rather more circumspect and balanced so that the headlines are rather misleading. While both identify the diversion of corn from a raw material for foodstuffs to a key production

element in biofuel, both sources identify a range of other factors such as climate change, population growth, higher freight charges and a switch in more prosperous Asian countries to a higher proportion of meat in their diets.

3 To what extent do you agree with Source D that a move towards less protectionism and more free trade would be beneficial to poorer countries? (11 marks)

Source D argues that the way ahead for poorer countries, in the face of rises in essential commodity prices, is for such countries to abandon protectionism and to move towards free trade.

- Level 1 answers might describe a few parts of the argument or write in general terms without ever really making clear the difference between protectionism and free trade, and the potential advantages of the latter.
- Level 2 answers are likely to show some understanding of the differences between protectionism and free trade with some grasp of how the latter might be advantageous to poorer countries even if such candidates are unlikely to challenge the arguments of the authors.
- More developed answers, at Level 3, are likely to demonstrate a clear understanding of the difference between protectionism and free trade. Level 3 candidates will have a secure grasp of the potential benefits of free trade to poorer countries but within a wider critical framework which might challenge some of the arguments of the writers of Source D.

Indicative content

- Protectionism has failed people in poor countries (but doesn't say how).
- The world's poorest countries are those most likely to impose tariffs and other barriers to trade. Argues that "70% of the world's trade barriers are imposed by governments in poor countries on people in poor countries".
- Trade barriers have exacerbated high prices (but doesn't give examples).
- Price rises threaten living standards – cutting protective tariffs on agricultural imports is likely to increase supplies and reduce prices.
- Increased trade, by freeing it from controls, could help to avert famine.
- State management of agriculture, with its system of controls, conceals inefficiency and corruption at a time when, according to the UN, 200 million people are underfed.
- Trade barriers in any form affect both producers and consumers who, in the face of high prices and protectionism, have less to spend or invest.
- Dismisses claims by Oxfam and Christian Aid that local industries and agriculture in poorer countries need protection so that they can grow and become competitive in the longer term. Claims that "decades of protectionism have done little for sub-Saharan Africa" (but does not substantiate the claims).
- Protectionism discourages investment in technology and fertilisers.
- Trade needs to be freed as demand and food prices continue to rise.

Any other valid points/arguments should be credited. Not all points have to be covered to gain the highest marks.

Conclusion Caroline Boon and Alec van Gelder produce a number of claims about the importance of poorer countries switching from protectionism to free trade. However, they only give one side of the argument and do not always substantiate their assertions. It is unlikely that one change will be sufficient to make a major impact on the economy of poorer

countries and lack of protection could give considerable advantages to stronger competitors and make aspects of their own economy vulnerable.

4 Using information from Sources E and F, consider whether governments are likely to be successful in tackling the effects of rising world food prices in their own countries. (11 marks)

- Level l answers are likely to rely more on narrative and description of rising food prices with little consideration of how governments might tackle the situation.
- Level 2 answers will show some ability to identify some of the reasons why food prices have increased with a limited grasp of how governments might seek to tackle them.
- Level 3 responses will do this in a more developed and evaluative way appreciating the complexity of the causes of rising food prices and recognising that governments may be limited in what they can do to deal with them successfully.

Indicative content

Source E

- Prices of key foodstuffs "are subject to a complex range of pressures stretching from London to China, from America to Australia" suggesting that solutions are unlikely to be easy to find for governments.
- A key reason for higher prices has been drought, notably in Australia in 2006 and 2007. Such natural causes are beyond the control of individual governments.
- The use of maize, not least in the US, for biofuels rather than food may lead to further shortages. Governments could change their biofuel policies, setting lower targets but this would do less to tackle environmental pressures.
- People are eating more especially in countries such as India and China where population is growing rapidly in times of greater economic prosperity. China has experimented, with varying degrees of success, with 'one child' family policies which have not been popular.

Source F

- Governments in western liberal democracies might be reluctant to intervene and may not wish to interfere with market forces. Particular companies such as *Sam's Club* and *Costco* might take action to limit individual purchases.
- Thai government (Thailand is the world's largest rice exporter) has said that it can continue to meet export requests for rice,
- Brazilian government suspended rice exports. This may help to increase supplies and decrease prices for the people of Brazil but this may lead to a worsening of the world situation.
- Chinese government has frozen prices but inflation remains rampant. Indonesian government has said it will withhold purchases for the rest of the year because prices are so high.

Any other valid points/arguments should be credited. Candidates do not have to cover all points to gain the highest marks.

Conclusion The situation is worrying and governments will do as much as they can to reduce the impact of rising commodity prices although European governments need not act with the urgency that may be associated with the governments of poorer countries.

However, in protecting their own citizens they may be making the world situation worse by adding to shortages. They cannot, though, turn drought into heavy rain. It is unlikely to be possible to increase supplies rapidly nor can demand from a rising population be easily suppressed. There may be plenty of political rhetoric largely unmatched by effective policies. World problems require world solutions and these are notoriously difficult to solve.

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
		Good to very good treatment of the question
LEVEL 4	20 – 25 (6)	Wide ranging and secure knowledge of 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); well structured, accurate and fluent expression (AO4).
		Fair to good response to the demands of the question
LEVEL 3	13 – 19 (7)	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).
		Limited to modest response to the demands of the question
LEVEL 2	6 – 12 (7)	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).
		Inadequate attempt to deal with the question
LEVEL 1	1 – 5 (5)	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 errors of expression (AO4).
LEVEL 0	0	**No valid response or relevance to the question**

Section B questions are set in two related 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 well and the other less well could only gain access to a maximum Level 3 mark.

5 "If the poor and starving in the world are to get real and lasting help and relief they will do so only by the further testing, development and production of genetically modified crops on a large scale."

Explain why genetically modified crops might help to increase food supplies.

Examine the difficulties surrounding the further testing, development and production of genetically modified crops,

Indicative content (Explain why GM crops might help to increase food supplies.)

- Genetically modified food products are plants (or animals) produced from genetically modified organisms which have had their genome altered through genetic engineering techniques. Thus, scientists are able to change the plants' characteristics by putting new genetic material into them. In effect, plants can be 'tailor made' to show desirable characteristics.
- Sweet corn, rice, tomatoes, soybeans and rape plants are some of the most well-known examples of food that has been genetically modified.
- Plants can be modified to make them more resistant to unfavourable conditions, using less water and fertilisers.
- Modified plants can produce higher yields.
- More modified crops will survive because they can have greater pest resistance (reducing the amount of pesticide needed to protect them) and herbicide tolerance. (Herbicides used to kill weeds can often kill crops as well.)
- Genetic modification can also be used to give crops greater immunity against viruses or to improve a plant's nutritional value.

Indicative content (Examine the difficulties ...)

- Genetic modification is very complex and takes a number of years to perfect.
- Public suspicion is still widespread.
- Sections of the media run scare stories about 'Frankenstein foods'.
- Testing in the UK and much of Europe is controversial. Sites are often kept secret for fear of damage by protestors. There is far less resistance in countries like the USA where GM foods are widely consumed.
- Because GM foods are still relatively new (the first, a tomato, reached the American market in 1994 and has been developed so that it can remain fresh longer and also tolerate a lengthier transport time), potentially undesirable secondary effects which might affect humans or the surrounding environment are, to a degree, unknown.
- Some scientists believe that, because nature is a complex and inter-related chain, the introduction of genetically modified genes might have irreversible effects such as giving rise to 'super weeds' which may come to dominate the fields and affect other crops.
- Genes could be transferred from the genetically modified food to pests which could then become resistant to pesticides rendering them useless.

- Biotechnology is a controversial area. There may be religious/moral arguments about the extent to which humans should be permitted to interfere with the course of nature.

Any other valid points/arguments should be credited in both parts of the question.

Conclusion

In scientific terms, GM crops have great potential for increasing production and helping to meet the world's growing demand for food. The British public seem far more sceptical but this may be because of the ways some newspapers have distorted the portrayal of GM crops. Testing is difficult because opponents are vociferous and well-organised. Development is much more advanced in the US and parts of South America. Large scale development is difficult. Less developed countries could be used as an outdoor laboratory and there are defects, real and potential, which help to fuel resistance.

6 "There is increasing concern about what some politicians have described as 'the breakdown of family life' and they have suggested that the only way to fix 'a broken society' is to place more emphasis on marriage and a return to traditional values."

Examine what are commonly believed to be 'traditional values'.

How far, and for what reasons, do you agree that we are currently witnessing 'the breakdown of traditional family life' in Britain?

Indicative content for 'traditional values'.

- 'Traditional values' are rarely closely defined. They certainly refer to a past age – perhaps pre 1960s which was looked on by some as a decade when behaviour became much more permissive.
- Some look back much further, equating 'traditional values' with 'Victorian values' of the nineteenth century.
- 'Traditional values' might include:
    - clearer and closer adherence to a well-defined, perhaps absolute, moral code;
    - more conspicuous religious observance and behaviour based on religious teaching and principles;
    - less promiscuous sexual behaviour;
    - polite behaviour, good manners and restraint from swearing;
    - greater deference and more respect to older people;
    - respect for private property and more restrained public behaviour;
    - knowing one's place in the social order;
    - greater emphasis on order, discipline and authority.
- Critics might argue that society is a constantly changing dynamic and that it is pointless to look back to another age. Sometimes those calling for more 'traditional values' are accused of backing a political ideology, short-sightedness, ignorance or offering a simple solution to a much more complex question.
- Nevertheless, a poll of voters might easily show considerable support for the principle of returning to traditional values even if most people might find them difficult to define.

Indicative content for witnessing 'the breakdown in traditional family life'.

- There is no doubt that the structure of the traditional family (father, mother and 2.4 children) is changing. There has been a decline in marriage and an increase in cohabitation.
- Although there are fluctuations in divorce rates the trend is to divorce becoming more and more frequent.
- There is far less stigma attached to illegitimacy. Some couples don't see the need to marry.
- There is now provision for civil partnership involving couples of the same sex.
- Various reasons have been advanced for the decline of marriage and rise in divorce. These include:
    - diminishing influence of religion;

- casual disregard of marriage vows;
- easier divorce as a result of changing divorce law;
- changing values and attitudes;
- greater equality between men and women;
- increasingly, many women are less economically dependent on men;
- less willingness to 'work through' difficulties in a relationship.

Any other valid points/arguments should be credited and candidates do not have to cover all points mentioned to get the highest marks.

Conclusion

A re-alignment of family life is taking place and new patterns and structures are being established. How far this constitutes a 'breakdown', in the sense that it leads to more social problems and anti-social behaviour is fiercely contested. It is unlikely that what seemed to be the case in the past may have differed in reality or not have applied as widely as some claim. Society today is more diverse, more mobile and subject to a wider range of communication channels than ever before.

7 "Changing the diet of people in the UK, and improving their fitness levels, can bring about many benefits such as a reduction in obesity, cutting the demands on the National Health Service and even helping to resolve global food crises "

Discuss the extent to which you consider better diet and fitness regimes among the UK population will have the benefits claimed in the statement above.

Explain the difficulties involved in persuading people to follow a healthier diet and to exercise regularly.

Indicative content (healthier diets and more exercise will reduce obesity, demands on the NHS and help to resolve the global food crisis)

- The benefits of a healthy lifestyle and regular exercise are widely publicised. They help to maintain a healthy weight; lower cholesterol levels; boost the immune system; reduce blood sugar levels; reduce blood pressure, raise life expectancy and improve sleep patterns.
- Obesity is a growing problem at all levels. Childhood obesity is increasing and obesity among adults is leading to more chronic heart disease, high blood pressure and type 2 diabetes. Any measures to reduce the growth of obesity are worth promoting.
- Regular food and exercise routines will help to reduce weight and lessen obesity. Bodily functions are improved and people often live more rewarding lives.
- A healthier diet and more exercise improves mental health and is likely to mean that fewer people will need to depend on cardiac care, consumption of statins to reduce cholesterol, treatment for liver disease etc.
- Potentially there are considerable savings for the NHS in terms of fewer prescriptions, less GP time, a fall in expensive hospital treatment, less depression etc.
- If more people ate less, or ate smaller portions, more food would be available. How far this would help people in poorer countries is debateable. There the problem is often distribution, chronic poverty and low disposable incomes.

Indicative content (healthier diet and regular exercise)

- What constitutes a healthier diet? Generally agreed to be a balanced diet. No single food will produce a healthy diet so it will need to be varied.
- A healthy diet will usually contain plenty of fruit and vegetables and some starchy foods such as wholegrain bread, pasta and rice. It will be low in saturated fat, salt and sugar.
- Junk food is extensively advertised and attractively packaged.
- Foods that are high in saturated fat, salt and sugar are usually tasty and tempting. Many people see low fat foods as far less tasty.
- A healthy diet will mean less dependence on alcohol at a time when more people seem to be involved in dangerous binge drinking.
- In a society that seems to put a premium on speed and immediate results, many potential dieters are tempted to go for a 'quick fix' which may not be appropriate,

worthwhile or even safe. Quick-fixes, if they work at all, are almost invariably short-term.

- Good diet and exercise habits start young. Many young people are used to fizzy drinks, ready meals and a couch potato existence built around passive pursuits such as computers and TV.
- Young women and those classed as overweight often have a low body image and are reluctant to exercise in public.
- Regular exercise requires commitment - even for minimum recommendations such as 5 30-minute weekly sessions of brisk walking.
- Gyms may be expensive or inconveniently located. Exercising out-of-doors can depend on clement weather and might be dangerous to undertake.
- Levels of regular commitment and discipline required for success are high. Most people are more apathetic or make promises for 'tomorrow'.
- Preparing meals from fresh ingredients may cost more and is likely to be time consuming.

Any other valid points/arguments should be credited. It is not necessary for candidates to cover all points to get the highest marks.

Conclusion

Although the importance of a balanced diet and regular exercise is now widely known and extensively promoted there remains a high, and growing proportion of the population who are overweight or clinically obese. Seemingly the barriers to achieving better health are greater than the incentives. The NHS is coming under increasing pressure to treat the overweight, the obese and heavy drinkers and the cost of this provision is high. Ultimately, though, people exercise their choice to consume food and drink as they wish although they might be less aware of their responsibilities.

8 " Whatever the need for more foreign aid, and even for measures to protect the environment, the world's greatest need is for improved security against the threat of terrorism."

To what extent do you agree that "the world's greatest need is for improved security against the threat of terrorism?"

Discuss the difficulties in countering the threats and actions of terrorists.

Indicative content (world's greatest need)

- Tackling terrorism is certainly a very high priority:
  - its uncertainty and unpredictability breeds fear;
  - extensive counter-terrorist measures are expensive to maintain;
  - major cause of world political instability;
  - threat to key world energy resources;
  - terrorist activity emanating from within countries such as Iraq and Afghanistan has tied up many military personnel;
  - counter-terrorist measures, particularly at places like airports, causes disruption, delay and inconvenience;
  - suspicion of terrorism sours community relations and may lead to phenomena such as Islamophobia.

- Even taking into account all the costs of terrorism it is very difficult to substantiate a claim that 'the world's greatest need' is better counter-terrorist measures. There will inevitably be other claims from people with different beliefs and values.
- 'Saving the environment' (in whatever form) is thought by many to be the greatest threat to the world. Perhaps this is sometimes seen as a rather longer term threat than terrorism.
- 'Feeding the world's population' in the context of rising food prices, growing demand as population in LEDCs continues to increase and the disruption of food supplies by factors such as drought, floods, earthquakes and hurricanes may also be seen as 'the world's greatest need'.

Indicative content (difficulties in tackling world terrorism)

- Terrorists often operate in conditions of extreme secrecy.
- Terrorist groups are often organised in small, independent cells, often using 'sleepers' who may blend with the local community for years before being called into action.
- Terrorist groups from the Middle East are difficult to infiltrate because there are insufficient security officers of the same background and culture.
- The increasing use of suicide bombers either on foot, or in vehicles, is very difficult to guard against especially as these may include women and children.
- So-called 'soft targets' (e.g. tube stations and large public gatherings) are very difficult to protect.
- Sophisticated delayed timing devices are also difficult to detect.
- Despite considerable airport security, terrorists are very mobile and make extensive use of modern communications.

- Some governments are suspected of being unduly sympathetic to terrorist groups.
- Counter-intelligence is a difficult operation for individual countries faced by a global threat. Co-operation between different national security bodies is not high.

Any other valid points/arguments should be credited. It is not necessary to cover all points mentioned to gain the highest marks.

Conclusion The phrase 'the war on terror' is less commonly used by political commentators and security staff but it exists because terrorists will continue to generate fear, disregard human life and cause suffering and misery on a large scale. It may not be the world's greatest problem but it seems so at the time of a major atrocity like 9/11 and it is one that many people fear can have a direct, unpredictable and potentially catastrophic impact on everyone's life.